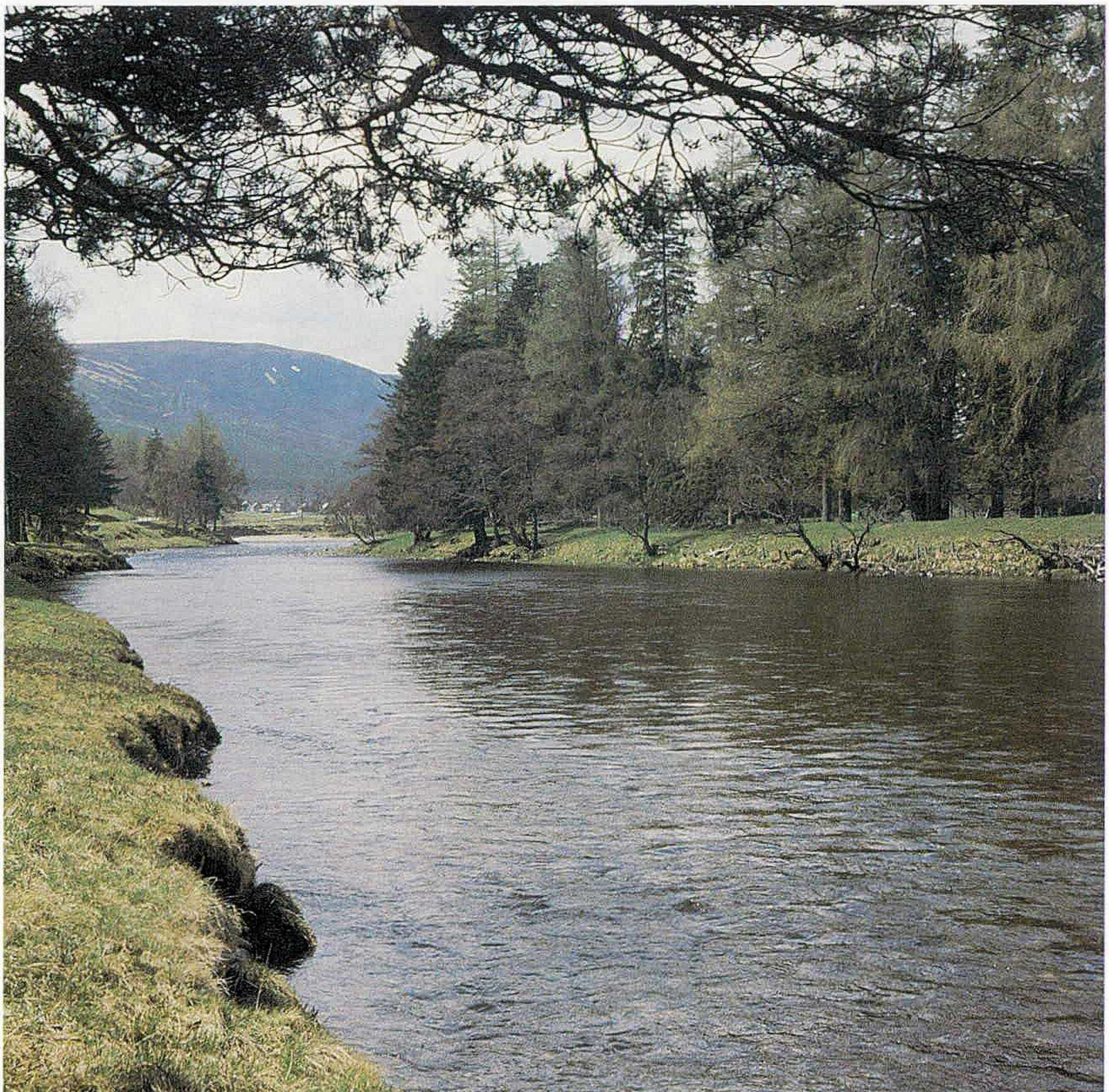
Hydrological data UK



1988 YEARBOOK

INSTITUTE OF HYDROLOGY • BRITISH GEOLOGICAL SURVEY

HYDROLOGICAL DATA
UNITED KINGDOM

1988

YEARBOOK

HYDROLOGICAL DATA UNITED KINGDOM

1988 YEARBOOK

An account of
rainfall, river flows, groundwater
levels and river water quality
January to December 1988

Institute of Hydrology British Geological Survey

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FOREWORD

The last eighteen months has been a period of major re-organisation for the water industry in England and Wales. The creation, under the Water Act 1989, of a new body – the National Rivers Authority – to assume the regulatory and river management functions of the former regional Water Authorities represents a major new departure. One important thread of continuity is the degree to which the rational development and exploitation of water resources depends on access to hydrological data. Such data underpin operational water management and serve as the raw material which hydrological science uses to develop prediction techniques and design procedures and to support strategic research. The ready availability of basic data – together with information to aid their interpretation – is of particular importance at a time of growing public awareness of water issues. This Yearbook, together with the data retrieval facilities which complement it, is a vehicle for the dissemination of a range of hydrometric data; a principal objective is the promotion of the fullest exploitation of such data across a broad spectrum of applications.

The Hydrological data UK series of Yearbooks and reports was launched in 1985 as a joint venture by the Institute of Hydrology (IH) and the British Geological Survey (BGS); both organisations are component bodies of the Natural Environment Research Council (NERC). Such a collaborative enterprise arose naturally from the close liaison maintained between those responsible for the management of the national Surface Water Archive, at IH, and their counterparts at BGS concerned with the national Groundwater Archive. The work is overseen by a steering committee which includes representatives of Government departments, the National Rivers Authority and the water industry from England, Wales, Scotland and Northern Ireland.

The published series – *Hydrological data UK* – includes an annual yearbook and, every five years, a catalogue of river flow gauging stations and groundwater level recording sites together with statistical summaries. These six volumes of the 5-year cycle are available individually but are also designed to be inserted in a ring binder. Further details of these arrangements are given on page 191.

The series – but not the binder – also includes occasional reports dealing with significant hydrological events and analyses.

Professor W.B. Wilkinson
Director, Institute of Hydrology


National Rivers Authority region or River Purification Board boundary
Hydrometric area number and boundary
HIGHLAND R.P.B.
NORTH EAST R.P.B.
TAY R.P.B.
FORTH R.P.B.
CLYDE R.P.B.
TWEED R.P.B.
SOLWAY R.P.B.
NORTHERN IRELAND
NORTHUMBRIAN
YORKSHIRE
NORTH WEST
SEVERN-TRENT
ANGLIAN
WELSH
THAMES
WESSEX
SOUTHERN
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INTRODUCTION

This volume is the eighth Yearbook in the Hydrological data UK series and the third volume in the second five-year publication cycle (1986-90).

The 1988 Yearbook represents the twenty-ninth edition in the series of surface water publications which began with the 1935-36 Surface Water Yearbook. As a result of the incorporation of groundwater data in the Yearbook, this volume is also the thirteenth edition in the series of groundwater data publications which began with the 1964-66 Groundwater Yearbook.

Apart from summary information, surface water and groundwater data on a national basis were published separately prior to the introduction of the Hydrological data UK series. In common with the earlier editions, the 1988 Yearbook brings together the principal data sets relating to river flow, groundwater levels and areal rainfall throughout the United Kingdom. Also included are water quality data for a selection of monitoring sites throughout the UK.

A description is given of the surface water and groundwater archives together with illustrative examples of a range of standard data retrieval options developed to service user requirements.

A special feature article is devoted to two remarkable flood events which caused considerable damage in Truro (Cornwall). The floods are examined within a hydrological framework and emphasis is placed on the value of historical information when assessing the rarity of such extreme events.

Publication of river flow data for Great Britain started with the series of Surface Water Yearbooks. The first edition, which was published in 1938 for the water year (October-September) 1935-36, also included selected data for the previous fifteen years; the edition for 1936-37 followed in 1939. Both these publications were prepared under the direction of the Inland Water Survey Committee. Assisted by the Scottish Office, the Committee continued to publish hydrological data after the Second World War; the Yearbook for the period 1937-45 was published as a single volume in 1952. Due to economic stringency, the Survey was suspended in 1952 for a period of two years but was then reformed as the Surface Water Survey Centre of Great Britain. A Yearbook covering the years 1945-53 was published in 1955.

In 1964 the Survey was transferred to the Water Resources Board where it remained until the Board was disbanded in 1974. The work of collecting and publishing surface water information in England and Wales then passed to the newly created Water Data Unit of the Department of the Environment (DOE). Yearbooks were published jointly each year by these organisations and the Scottish Office for the water years 1953-54 to 1965-66; thereafter information for the five calendar years 1966 to 1970 was published in one volume in 1974. Following editions were renamed 'Surface Water : United Kingdom' to mark the inclusion of the first records from Northern Ireland and in recognition of the move away from single year volumes. Two volumes of Surface Water: United Kingdom, covering the years 1971-73 and 1974-76 were published jointly by the Water Data Unit, the Scottish Development Department and the Department of the Environment for Northern Ireland.

Following the transfer of the Surface Water Archive to the Natural Environment Research Council in 1982, the final edition of Surface Water : United Kingdom, for the years 1977-80, was prepared by the Institute of Hydrology at the request of the Water Directorate of the Department of the Environment, and published in 1983.

The 1981 and 1982 Yearbooks were prepared concurrently and were, in 1985, the first Yearbooks published by the Natural Environment Research Council. Further Yearbooks - the editions for 1983, 1984, 1985, 1986 and 1987 - were published over the following four years.

A compilation of 'Groundwater levels in England during 1963', which was produced by the Geological Survey of Great Britain prior to its incorporation into the Institute of Geological Sciences, was the precursor to the publication of groundwater level data on a national basis. The more formal Groundwater Yearbook series was instigated by the Water Resources Board which published the inaugural edition, and a further volume for 1967, both covering England and Wales. In 1975 a third Yearbook, for 1968-70, was published by the Water Data Unit. The Groundwater: United Kingdom series was introduced in 1978 with the production of the 1971-73 volume, also published by the Water Data Unit.

Following the transfer of the Groundwater Archive to the Institute of Geological Sciences (now the British Geological Survey), the second edition of Groundwater: United Kingdom, covering the period 1974-80, was prepared by the Institute of Hydrology at the request of the Water Directorate of the Department of the Environment. Subsequently, groundwater level data have been included in the Hydrological data UK publications.

The Natural Environment Research Council acknowledges and extends its appreciation to all who have assisted in the collection of information for this publication.

SCOPE AND SOURCES OF INFORMATION

The format of the 1988 Yearbook follows that of the recent editions in the Hydrological data UK series. The rainfall, runoff and groundwater review material – compiled in separate sections prior to 1986 – is incorporated in a single hydrological review of the year. Data presentation in the water quality section is consistent with the established Yearbook pattern – data are given both for the featured year and, to provide a suitable perspective, for the preceding period of record.

Emphasis is placed upon ready access to basic data both within the Yearbook and through the complementary data retrieval facilities.

A companion publication to the individual Yearbooks – the 'Hydrometric Register and Statistics' volume provides a comprehensive reference source for hydrometric information which does not change materially from year to year; the first edition (for 1981–5) was published in 1987, see page 191.

The Yearbook contents have been abstracted primarily from the Surface Water and Groundwater Archives. Water quality data have been provided from the Harmonised Monitoring Archive which is maintained by Her Majesty's Inspectorate of Pollution (DOE – see page 181).

Much of the data for England and Wales featured in this volume were assembled, initially, under the aegis of the former regional Water Authorities. From the 1st September 1989 their regulatory and river management functions passed formally to a new body, the National Rivers Authority (NRA). The NRA is now responsible for the initial collection and processing of most river flow and groundwater level data. The new Water Service PLCs have assumed responsibility for a small number of important monitoring sites for which historical – and a few contemporary – data sets are held on the Surface Water and Groundwater Archives. The seven River Purification Boards (RPBs) are responsible for most hydrometric data acquisition in Scotland. In Northern Ireland responsibility is shared between the Departments of Environment and Agriculture. These organisations also supplied valuable material relating to significant hydrological events during 1988.

The majority of the rainfall data, and some of the material incorporated in the hydrological review, has been provided by the Meteorological Office. For historical comparisons of the rainfall over England and Wales, a data set based upon the homogeneous series derived by the Climatic Research Unit of the University of East Anglia has been used.

Additional material has been provided by the Geological Survey of Northern Ireland, the Borders Regional Council and by various research bodies and public undertakings.

Most of the rainfall data published in the Hydrological data UK series are in the form of monthly rainfall totals for catchment areas (see page 37). For details of monthly and annual rainfalls associated with individual raingauge sites reference should be made to the 'RAINFALL' series published regularly by the Met. Office. Brief details of the contents and availability of this publication, together with a short description of other rainfall and climatological data sets published by the Met. Office, are given below.

Some slight variations from the contributors' figures may occur; these may be due to different methods of computation or the need for uniformity in presentation.

Rainfall and Climatological Data

The Meteorological Office maintains the national archives of rainfall and climatological data at its headquarters at Bracknell. Specific items, such as daily and hourly rainfalls from gauges and radar (from the PARAGON system) may be obtained by application to the Advisory Services Branch Met. O. 3b. Summaries of the data are also published regularly and a list of current titles is given below:

1. *RAINFALL 19__/__*
   This contains monthly and annual rainfall totals for some 5000 raingauges and is available approximately one year after the title year at a cost of about £8.
2. *Snow Survey of Great Britain 19__/__*
   This contains the daily and monthly reports of snow conditions from selected stations covering the winter and costs about £4.
3. *Monthly Weather Report*
   This is published monthly and contains climatological means for more than 550 UK observing stations, in addition an introduction and annual summary are produced yearly. The publication should be available 6 to 9 months after the month concerned, costs around £2 and is available only from Her Majesty's Stationery Office (HMSO) or their stockists.
4. *M.O.R.E.C.S. (Meteorological Office Rainfall and Evaporation Calculation Service).*
   This is a weekly issue of maps and tables of evaporation, soil moisture deficit, effective rainfall and the weather variables used to calculate them. The data are used to provide values for 40 km squares and various sets of maps and tables are available according to customer requirements.

Further information about these and other publications may be obtained from:

Meteorological Office, Advisory Services,
London Road, Bracknell,
Berks RG12 2SZ Tel. (0344) 420242

Summary

United Kingdom rainfall and runoff totals for 1988 fell well within the normal range and notable rainfall and flood events were relatively rare. Nonetheless 1988 was - in hydrological terms - exceptional, principally as the result of the remarkably uneven spatial and temporal distribution of rainfall throughout the year. Regional and seasonal variations in runoff and infiltration rates were large with a particularly striking contrast between the first three months of 1988 - when rivers were in spate and groundwater levels, generally, stood at their highest for at least five years - and late December by which time a substantial winter drought had developed over an extensive area of southern Britain.

United Kingdom rainfall in 1988 totalled 1155 mm, a little above average and the ninth occasion since 1976 when annual precipitation has exceeded the 1941-70 mean. Scotland, Wales and Northern Ireland were somewhat wetter than average and lowland England a little drier, but most regions recorded annual rainfall totals within 10 per cent of the average. On a yearly basis, no regions registered substantial rainfall deficits although annual totals were a little below normal in the outcrop areas of most major aquifers. Conversely, some tendency could be identified for the higher percentage rainfalls to favour the important reservoir gathering grounds in the west and north. However, the very atypical temporal distribution was a more significant factor with regard to the adequacy of water supplies - both within the year and in relation to prospects for 1989. January and March were both wet, the former especially so in the South-East. Total precipitation over the January to March period for the UK is unsurpassed this century and only three corresponding periods, in a data series extending back to 1766, have produced more abundant rainfall over England and Wales; the years concerned were 1937, 1951 and 1977. Hence, early in 1988, the replenishment of reservoirs and aquifers was plentiful and the water resources outlook was reassuring. Subsequently, regional rainfall totals in England remained below the average for almost all of the ensuing months; July was a notable exception but the hydrological effectiveness of the sustained rainfall was limited by evaporative losses. In southern Britain conditions became particularly dry from early August as many of the rain-bearing low pressure systems followed a north-easterly track distant from the English lowlands. By late autumn, dry and seasonally very warm conditions predominated over most of the UK. The combined November and December rainfall total was less than one-third of the long term average in parts of lowland England; a shortfall of this magnitude may be expected perhaps once in every 30-50 years. For England and Wales as a whole, the two months were the driest this century with the exception of the notable drought of 1933/34.

In response to the unusual rainfall pattern, the temporal distribution of runoff differed markedly from the normal seasonal cycle. Early in the year, very high - sometimes unprecedented - runoff rates obtained throughout much of the UK. As a consequence, and notwithstanding the substantial rainfall deficits which developed over the latter part of the year, a relatively large number of catchments registered new maximum annual runoff totals in 1988. By late March steep recessions had become established. In the South, these recessions - although interrupted by a number of significant runoff events - continued into the early autumn. Nonetheless, with some important exceptions, summer flows did not diverge greatly from the seasonal average and, after June, summer runoff rates in northern Britain were well above the average for the fourth year in succession. From a water resources viewpoint, the most significant aspect of the 1988 runoff distribution was the absence of any substantial recovery in river flows as evaporative demands declined into the autumn. Over wide areas, especially in central and southern England, the limited autumn and early-winter rainfall resulted in very meagre increases in river discharge and monthly flow rates showed a remarkable stability over a period when a strong seasonal upturn would normally be expected. In Scotland and north-west England river discharges certainly increased through the autumn and large within-month flow variations were common but, by December, runoff rates in some areas had declined to their lowest - in winter - for a decade or more. Entering 1989, river flows especially in lowland catchments were more characteristic of a typical summer and, in some districts, below comparable flows recorded at the same stage during the 'Great Drought' of 1976.

In 1988 a number of observation boreholes registered their largest annual variation in groundwater levels for a decade or more as water tables initially responded to abundant infiltration over the winter of 1987/88 and then, in most areas, declined throughout the rest of the year. During the late-winter of 1987/88 near-record levels typified large parts of the outcrop areas of some major aquifers, especially the Chalk and Upper Greensand. From late-March the dry, mild spring led to a rapid decrease in infiltration rates and water tables began a steep decline. By May, groundwater levels were well within the normal range in most areas. Near-average levels characterised much of the summer although some recharge to shallow, fissured aquifers resulted in temporary rises in July. A moderate amount of

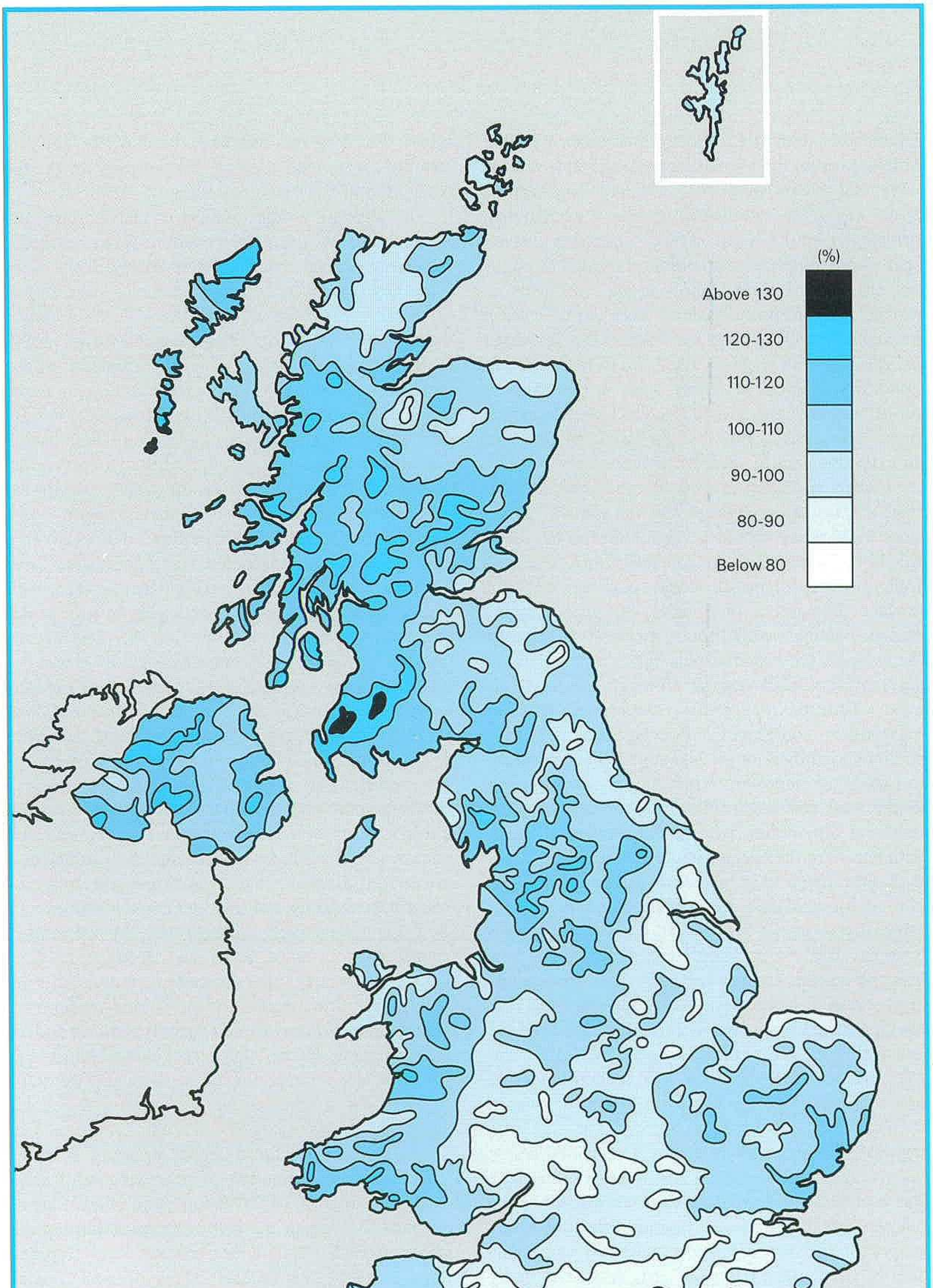


Figure 1. Annual rainfall in 1988 as a percentage of the 1941–70 average.

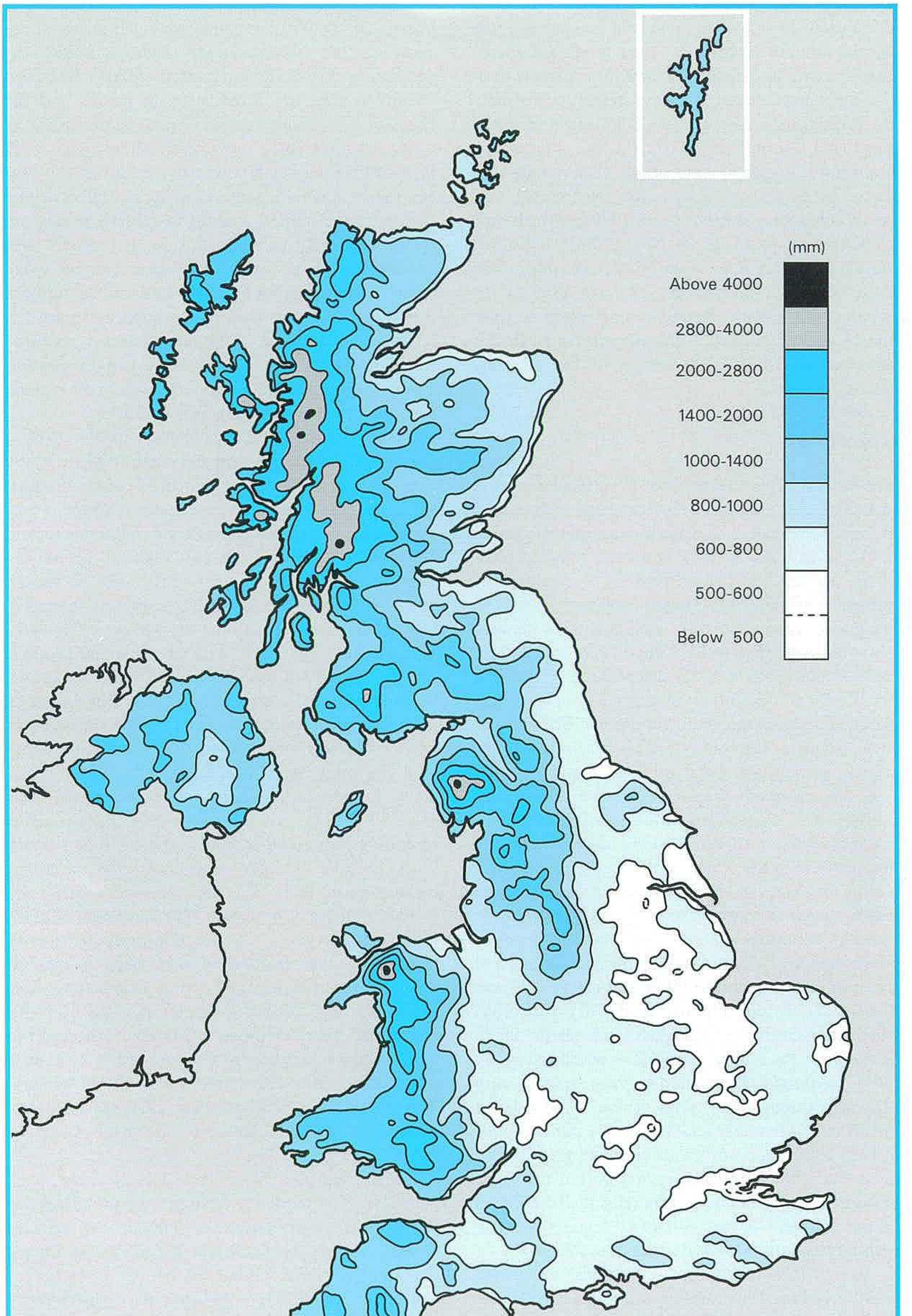


Figure 2. Annual rainfall in 1988.

infiltration in October appeared to presage the normal autumn increase in water levels but subsequently, with significant soil moisture deficits continuing in most areas, the upturn stalled and virtually no further increases occurred. In some southern areas, and also in the Yorkshire Chalk, the modest infiltration amounts were more than counterbalanced by natural outflows to low level springs and gentle recessions continued into 1989 by which time groundwaters stood at, or below, those registered during the drought of 1975/76. Many springs and winterbournes remained dry entering 1989 giving rise to concern about the continuing loss of amenity and of aquatic habitats - this assumed a particular importance with the imminence of the breeding season.

Rainfall

The rainfall pattern throughout the United Kingdom in 1988, relative to the 1941-70 average is illustrated in Figure 1; Figure 2 illustrates actual annual rainfall totals. In contrast to 1987, a general reinforcement of the normal west to east gradient - reflecting the influence of relief on rainfall amounts - may be recognised. Also noticeable - in Figure 2 - is the very restricted area, the smallest since 1976, enclosed by the 600 mm isohyet. Only a few districts received below 85 per cent of mean annual rainfall. These included areas in the lee of the Brecon Beacons and to the south of the Moray Firth where rain shadow effects would have been influential; precipitation over the mountains themselves tended to be above average. The exaggerated influence of relief was in part associated with the predominance of westerly low pressure systems which, especially in the latter part of the year, tended to skirt the western seaboard leaving much of southern and eastern Britain dominated by anticyclonic conditions. The persistence of a high pressure cell over Europe throughout much of the autumn and well into the winter of 1988/89 was a major factor contributing to the dry conditions which characterised the English lowlands for much of the year. As a result, rainfall - which is usually fairly uniformly distributed - was spread very unevenly through the year. Table 1 provides a breakdown of monthly and half-yearly rainfall totals in 1988 both on a countrywide basis and according to the major administrative divisions within the water industry (see frontispiece; generally the boundaries of the National Rivers Authority regions coincide with those of the new Water Services PLCs).

Examination of Table 1 reveals that more than one-third of the 1988 rainfall for England and Wales fell before the end of March; in a more typical year the proportion is 20-25 per cent. In some southern districts almost half of the 1988 rainfall occurred during the first 13 weeks. Northern Ireland experienced its wettest opening three months to the year this century. An appreciation of the peculiar distribution of rainfall in 1988 may be obtained by comparing the corresponding ranking for the November and December rainfall totals; Northern Ireland ranked the fifth driest on record and the England and Wales rainfall series, commencing in 1766, contains only one lower total since 1879. Scotland was rather less dry at the end of the year and the most notable features of the rainfall distribution were the limited amount of rainfall in the late spring and early summer and the subsequent wet episode stretching well into the autumn; the combined rainfall total for the three months beginning in July was the third wettest such sequence in a rainfall series extending over 120 years. The net result of this extremely uneven distribution of precipitation was near-normal annual rainfall totals in all regions with the exception of western Scotland.

The spatial rainfall distribution during 1988 - wetter in the maritime west and north (relative to the average) and drier throughout much of the English lowlands - has been a recurring theme in the recent past. As a result of this contrast, rainfall totals for the UK tend to obscure important regional differences in rainfall trends. Over the last decade - including 1988 - average UK rainfall has been approximately five per cent greater than the average for 1900-1978. In much of central and southern England rainfall, overall, since 1978 has been close to the average or, in some districts, a little below. Such minor deficits are more than counterbalanced by the sequence of remarkable yearly rainfall totals registered for Scotland since the mid-1970s. Rainfall in 1988 was the eighth highest this century and every annual total since 1976 falls into the upper quartile of a series extending back to 1869. The average for the last ten years is some 15 per cent above the twentieth century mean; there is no modern precedent for the recent sequence of wet years. The additional rainfall, relative to the average, is not uniformly distributed throughout the year; there has been a marked tendency for the winter and spring periods to register especially high precipitation totals. The 1987/88 winter half-year (October to March) registered the tenth highest rainfall total since 1869 but was, nonetheless, drier than five of the last eight winters. Winter rainfall in Scotland since 1978 has been over 20 per cent greater than the mean for the preceding record.

In England and Wales there has also been, over recent years, a tendency for a greater proportion of the annual precipitation to fall in the winter. Considering the England and Wales rainfall series, the average winter rainfall for the ten years up to, and including, 1987/88 is 541mm - this closely approaches the wettest ten-year sequence of winters (ending in 1916) in the entire record. Conversely, summer rainfall beginning in 1979 is marginally below the full record mean. Thus, the ratio of winter to summer precipitation has risen in recent years. 1987/88 was notable in this respect; the winter was

TABLE 1 1988 RAINFALL IN MM AND AS A PERCENTAGE OF THE 1941-70 AVERAGE

1988													D	Year	Oct-Mar Rainfall 1987/88	Apr-Sep Rainfall 1988
United	mm	169	91	127	53	57	37	148	115	93	118	65	82	1155	728	503
Kingdom	%	162	116	181	76	75	51	170	111	91	111	58	72	105	125	99
England and	mm	154	64	103	41	59	39	129	85	63	89	48	47	921	629	416
Wales	%	179	98	175	71	88	64	177	94	76	107	49	52	101	131	96
Scotland	mm	199	138	172	77	56	32	190	172	149	170	99	149	1603	924	676
	%	145	133	187	86	61	35	170	133	109	114	70	95	112	118	104
Northern	mm	169	112	139	39	43	46	127	122	105	140	56	89	1187	706	482
Ireland	%	163	149	199	57	59	58	137	118	98	131	55	78	108	123	92
North West	mm	184	86	139	56	61	34	194	145	111	120	69	117	1316	793	601
(NRA)	%	164	106	193	73	74	41	188	116	90	102	57	97	108	127	101
Northumbrian	mm	117	56	70	39	63	25	169	71	63	101	74	53	901	512	430
(NRA)	%	146	85	135	71	98	41	219	70	80	135	79	71	103	116	98
Severn Trent	mm	123	51	93	37	55	45	117	67	47	62	38	33	768	508	368
(NRA)	%	178	96	179	71	86	80	180	83	70	95	48	47	99	131	95
Yorkshire	mm	117	79	91	32	51	39	129	86	53	90	55	47	869	529	390
(NRA)	%	152	123	172	57	84	67	184	96	74	130	62	63	104	124	96
Anglian	mm	108	33	74	30	47	38	97	43	37	52	35	22	616	411	292
(NRA)	%	208	79	185	75	100	78	170	67	71	100	57	41	101	137	94
Thames	mm	131	39	68	31	48	41	96	53	46	66	28	16	663	494	315
(NRA)	%	211	83	48	67	86	79	160	76	74	103	38	24	94	138	91
Southern	mm	177	52	85	42	42	18	83	46	46	84	32	19	726	634	277
(NRA)	%	233	91	163	87	76	36	141	63	65	108	34	23	91	145	78
Wessex	mm	143	66	86	34	52	40	101	80	49	101	33	22	807	580	356
(NRA)	%	170	112	148	63	77	74	163	98	62	123	34	24	93	123	89
South West	mm	228	105	139	54	75	45	144	122	71	144	55	59	1241	925	511
(NRA)	%	177	117	165	76	89	69	171	121	68	127	41	44	104	135	100
Welsh	mm	236	95	165	56	96	46	170	144	109	125	69	73	1384	1004	621
(NRA)	%	173	99	190	65	105	56	179	121	87	97	48	50	104	136	104
Highland	mm	218	175	214	76	50	41	189	193	179	185	115	230	1865	1083	728
R.P.B.	%	133	132	188	67	49	37	149	130	113	99	68	117	108	113	96
North East	mm	140	87	114	74	48	25	126	106	81	138	66	51	1056	582	460
R.P.B.	%	154	118	184	121	62	36	137	99	93	142	64	50	103	110	93
Tay	mm	188	102	144	79	58	22	197	151	115	197	89	89	1431	773	622
R.P.B.	%	159	111	176	105	61	27	193	128	100	161	75	66	114	116	106
Forth	mm	152	88	113	81	65	19	189	140	109	130	77	81	1244	673	603
R.P.B.	%	153	114	164	119	77	25	193	121	101	123	71	74	111	118	110
Clyde	mm	246	167	216	77	62	35	223	221	195	191	115	191	1939	1148	813
R.P.B.	%	153	148	206	75	64	34	171	156	111	104	69	103	117	125	108
Tweed	mm	139	74	72	56	67	23	189	96	87	93	67	51	1014	572	518
R.P.B.	%	149	107	124	92	88	34	212	84	93	106	64	57	101	114	103
Solway	mm	218	133	159	92	64	28	220	191	156	169	100	122	1652	997	751
R.P.B.	%	156	143	175	105	70	31	200	147	103	117	69	81	116	130	114
Western Isles	mm	152	146	147	67	47	28	153	155	141	152	124	142	1454	907	591
Orkney and Shetland	%	112	142	160	81	69	37	182	165	112	106	91	93	112	119	111

the tenth wettest this century and some 1.58 times the rainfall total for the ensuing summer. The mean ratio for the ten years ending in 1988 is 1.33; this is significantly above the mean for the period 1900–1978 and in marked contrast to the nineteenth century when, on average, winter and summer rainfall totals were similar. The somewhat arbitrary division of the year into winter and summer periods tends to obscure some important variations within seasons, for instance, much of the recent increase in 'winter' rainfall is due to enhanced rainfall in the autumn or the early spring rather than over the December to February period. Equally, too much can be made of the apparent strengthening of the seasonal rainfall contrasts. Although 18 of the 22 winters following the series of dry winters up to 1964/65 have registered above average rainfall (relative to the full record mean), this represents an increase in winter rainfall of only 10 per cent. Interestingly, this wet sequence has included several very dry winters, notably those of 1972/3 and 1975/6.

Evaporation and Soil Moisture Deficits

The highly seasonal nature of evaporation was, as usual, clearly evident in 1988 but the unusual rainfall distribution, especially away from the highland regions, led to the shortfall between potential evaporation (PE) and actual evaporation (AE) being considerably larger than in a typical year and substantially greater than in the preceding three years. Although soil moisture deficits (SMDs) were often modest in early spring they increased sufficiently to inhibit transpiration rates significantly by late May and June. Many western and northern parts of the UK recorded their maximum deficits for 1988 in early July. Deficits then declined – spectacularly in western areas – but throughout the Midlands and the South-East they increased again in August and continued to build into the autumn. Exceptionally high SMDs obtained over wide areas in late September and no real approach to field capacity (which was reached early in the west) was evident at the turn of the year; the only recent parallel to this situation occurred in 1975.

Figure 3 shows 1988 potential evaporation totals for a network of climate stations throughout the United Kingdom together with the corresponding percentage of the 1956–75 mean (values are omitted where the historic record is incomplete or short). With the exception of Northern Ireland, PE totals are generally above average – this has been a recurring feature, especially in the South-East, of annual totals for the last seven years. By contrast, actual evaporative losses were often below average particularly throughout lowland England. This is a reflection of the persistence of substantial SMDs throughout the latter part of the year. Figure 4

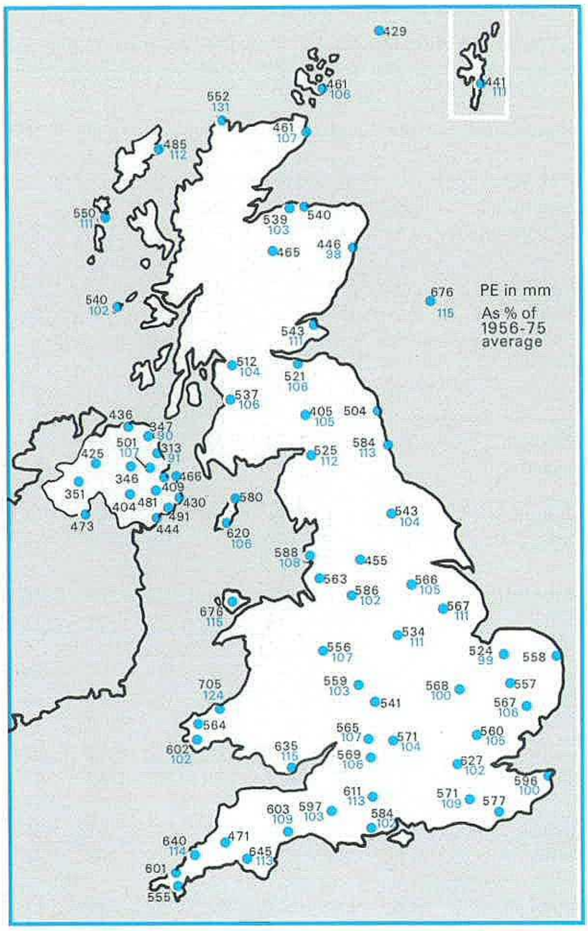
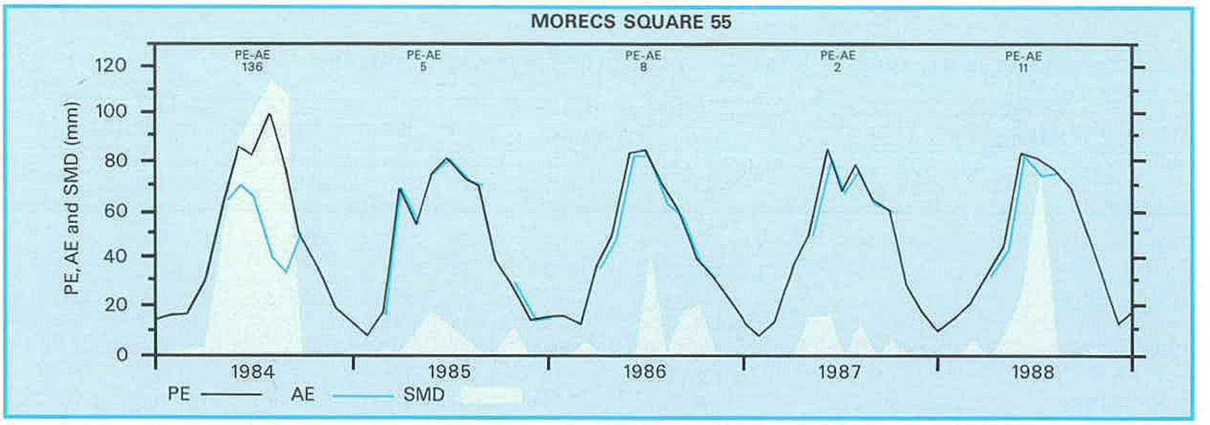
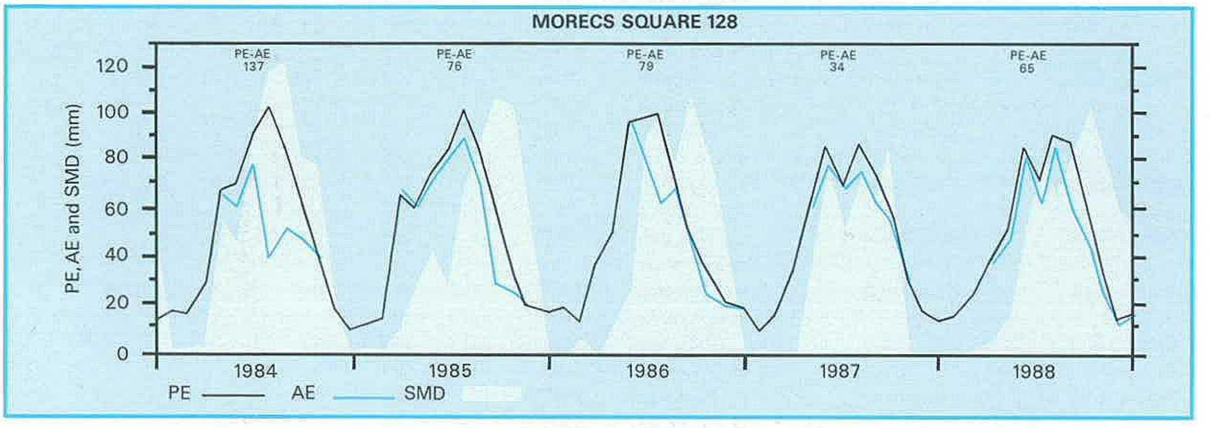


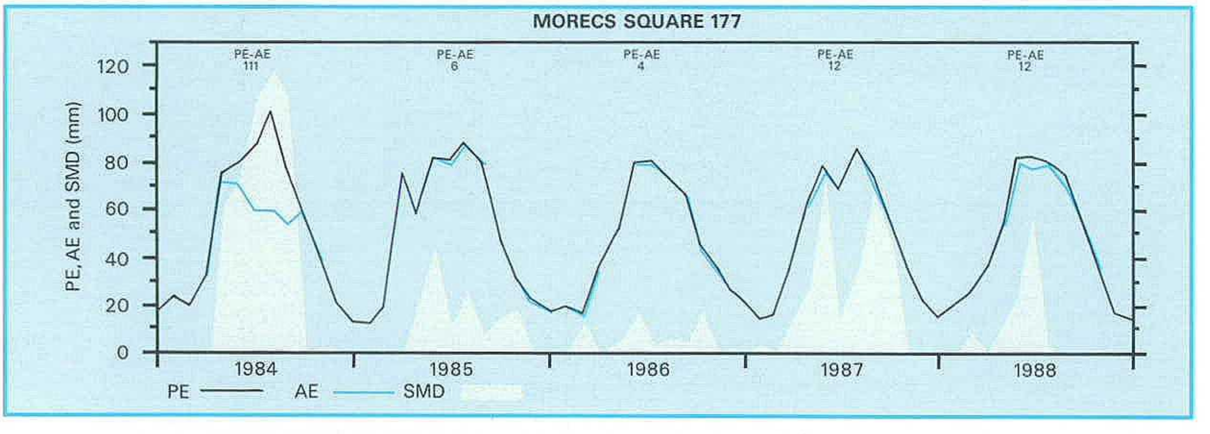
Figure 3. Potential evaporation in 1988—in mm and as a percentage of the long term average.

illustrates the variation in PE, AE and SMD for three MORECS (Meteorological Office Rainfall and Evaporation Calculation Service – see page 2) grid squares for the period 1984–88. A clear distinction may be drawn, especially after June, between the more maritime areas – as represented by squares 55 and 177 – where evaporation profiles are typical of recent years and those regions more remote from the westerly influence where actual evaporation fell well short of PE, and substantially below the average, from August to December. The large spatial variations in the limited rainfall in the autumn and early winter led to important regional and local variations in SMDs; calculated deficits for some parts of lowland England were 50 mm above average at the end of the year. Not since 1975 has there been such a substantial carryover of SMDs into the following year.

The difference between catchment rainfall and runoff is known as the 'loss'. Because of the natural and artificial storages in most catchments, annual 'losses' rarely equate closely to yearly totals of actual evaporation. Where baseflow is limited however, and the net effect of abstractions and discharges on annual runoff is negligible, the loss may normally be considered a reasonable guide to the annual evaporation total provided that – as in 1988 – SMDs had been practically eliminated by the end of the previous year. Catchment losses for a selection of







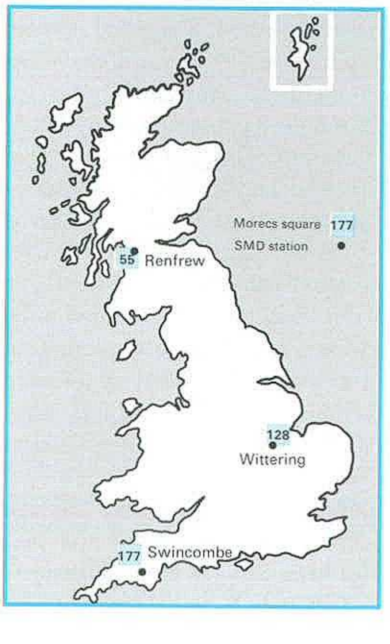


Figure 4. Potential and actual evaporation with soil moisture deficits for three MORECS squares.
(The location of the featured grid squares is shown on the map.)

TABLE 2 1988 WATER BALANCES FOR SELECTED CATCHMENTS IN GREAT BRITAIN

Station Number	River and Station Name			Rainfall	Runoff	Loss	Runoff as % of Rainfall 1988	Runoff as % of Rainfall lta	Abstractions* and Discharges
12001	Dee	Woodend	1988 mm	1219	943	276	77	74	N
			as a % of lta	109	112	98			
21012	Teviot	Hawick	1988 mm	1266	912	354	72	68	N
			as a % of lta	107	112	96			
27002	Wharfe	Flint Mill Weir	1988 mm	1306	798	508	61	62	S R P I
			as a % of lta	113	110	118			
28008	Dove	Rochester Weir	1988 mm	1109	693	416	62	57	G E
			as a % of lta	106	116	93			
30001	Witham	Claypole Mill	1988 mm	598	204	394	34	30	P
			as a % of lta	95	107	89			
34003	Bure	Ingworth	1988 mm	624	262	362	41	31	G I
			as a % of lta	91	121	77			
37001	Roding	Redbridge	1988 mm	638	233	405	36	31	S E I
			as a % of lta	101	117	94			
39007	Blackwater	Swallowfield	1988 mm	653	300	353	45	36	E
			as a % of lta	91	114	77			
42004	Test	Broadlands	1988 mm	719	314	405	43	42	N
			as a % of lta	89	92	87			
50001	Taw	Umberleigh	1988 mm	1261	768	493	60	60	S P E
			as a % of lta	109	110	107			
55008	Wye	Cefn Brwyn	1988 mm	2574	2327	247	90	84	N
			as a % of lta	105	112	65			
57004	Cynon	Abercynon	1988 mm	1927	1421	506	73	68	S E
			as a % of lta	106	114	88			
62001	Teifi	Glan Teifi	1988 mm	1421	1136	285	79	74	S P
			as a % of lta	105	113	81			
75002	Derwent	Camerton	1988 mm	1974	1406	568	71	68	S P
			as a % of lta	113	116	104			
84005	Clyde	Blairston	1988 mm	1221	881	340	[illegible]	65	
			as a % of lta	106	116	86			

lta = long term average

* For an explanation of the code letters see page 38.

representative catchments in the UK are given in Table 2. Particular care needs to be exercised when interpreting the figures for high rainfall catchments; the annual loss is very sensitive to relatively small systematic errors in the assessment of rainfall and runoff totals. In some northern and western catchments where, for all but a few weeks, evaporation was able to proceed at the potential rate, annual losses exceeded the long term mean. Elsewhere, a more complex picture emerges. Transpiration rates were relatively high during the mild conditions early in 1988 but then the persistence of large SMDs served as an inhibiting factor and, in some areas, the enhanced baseflows arising from above average recharge in 1987 provided a further counterbalancing effect. Overall, the dominating influence was the concentration of runoff during a period when evaporative losses were only moderate. Consequently low, or very low, losses characterised most regions and runoff constituted an unusually high proportion of annual rainfall.

Runoff

Runoff in 1988 for the United Kingdom totalled approximately 750 mm; about 15 per cent above the long term average. Figure 5 provides a guide to annual runoff totals for 1988 expressed as a percentage of the 1961-87 average. The map is least precise in northern Scotland and in the Welsh mountains where the gauging station network is sparse; insufficient flow data exist for the Scottish islands to allow the drawing of isopleths with any confidence. The main features of the map are the limited area registering below average runoff - most catchments recorded between 100 and 120 per cent of the long term mean - and the notably high runoff rates experienced in parts of Northern Ireland, western Scotland, South Wales and East Anglia. Annual runoff totals are normally below 200 mm in East Anglia and exhibit considerably greater year-on-year variability than in northern Britain; the high percentage runoff isopleths shown on Figure 5 are the result

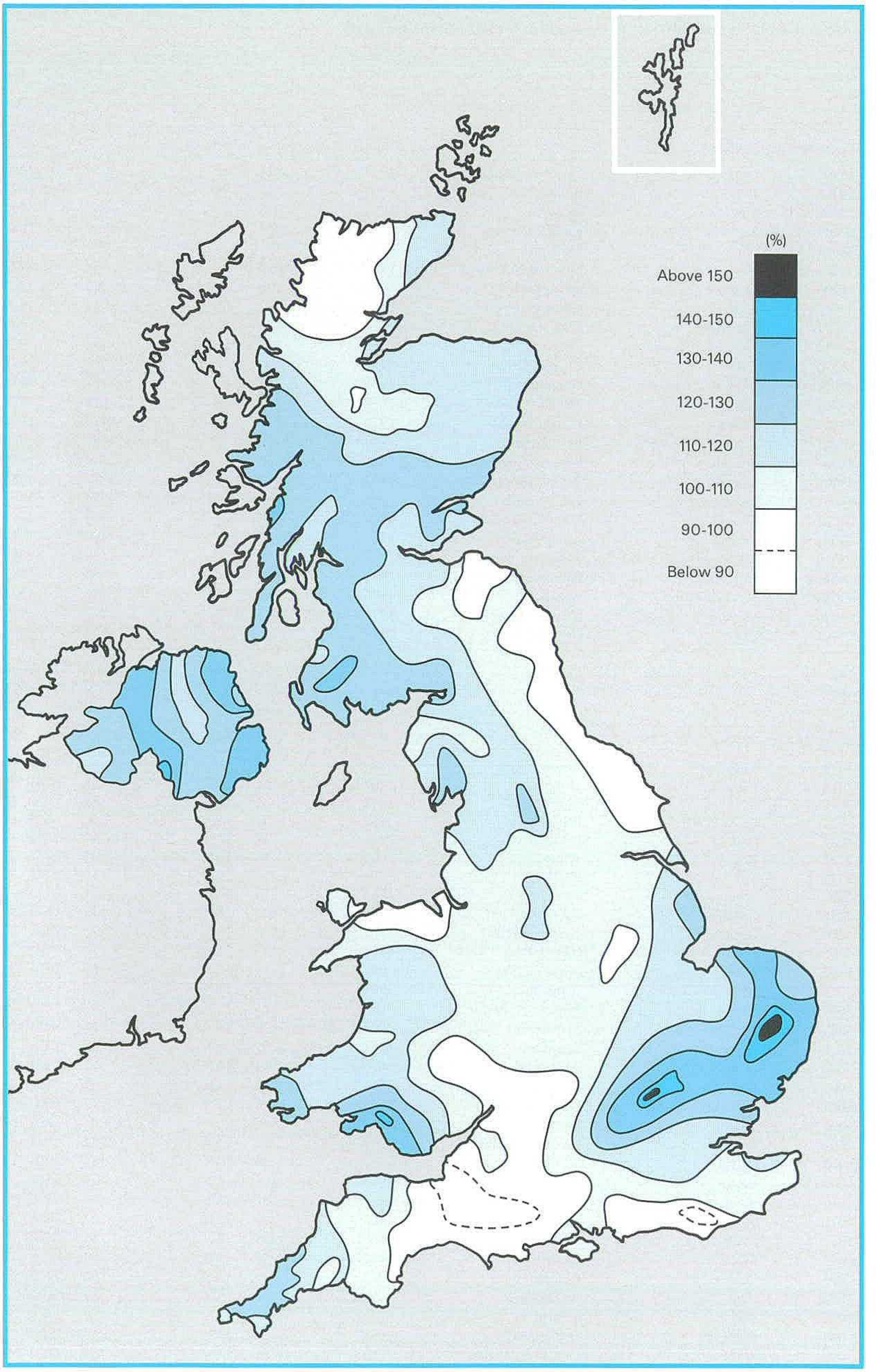


Figure 5. A guide to 1988 runoff expressed as a percentage of the 1961–87 average.

TABLE 3 RIVER FLOW AND RUNOFF RECORDS ESTABLISHED IN 1988

Station Number	River and Station Name		First Year of Record	New Record (mm)	Pre-1988 Record (mm)	Year
Highest Annual Runoffs						
16004	Earn	Forteviot Bridge	1972	1371	1354	1986
25001	Tees	Broken Scar	1956	972	895	1979
27028	Aire	Armley	1961	885	858	1966
27035	Aire	Kildwick Bridge	1968	912	900	1981
33028	Flit	Shefford	1966	271	266	1987
34014	Wensum	Swanton Morley	1969	299	289	1979
37008	Chelmer	Springfield	1965	238	236	1987
37009	Brain	Guithavon Valley	1962	297	244	1970
38017	Mimram	Whitwell	1970	125	116	1979
39010	Colne	Denham	1952	247	244	1979
39030	Gade	Croxley Green	1970	250	217	1983
41023	Lavant	Graylingwell	1971	164	151	1977
49002	Hayle	St Erth	1957	818	811	1982
54028	Vyrnwy	Llanymynech	1970	1127	1110	1986
58005	Ogmore	Brynmenyn	1970	1912	1888	1981
58009	Ewenny	Keepers Lodge	1971	1186	1179	1981
59002	Loughor	Tir-y-dail	1967	1882	1817	1986
64002	Dysynni	Pont-y-garth	1966	2288	2274	1981
73002	Crake	Low Nibthwaite	1963	2189	2155	1981
81003	Luce	Airyhemming	1967	1478	1410	1980
203010	Blackwater	Maydown Bridge	1970	793	669	1986
203012	Ballinderry	Ballinderry Bridge	1970	869	804	1986
203018	Six Mile Water	Antrim	1970	864	859	1981
203020	Moyola	Moyola Bridge	1971	1093	992	1981
205004	Lagan	New Forge	1972	745	742	1981

Station Number	River and Station Name		First Year of Record	New Record (mm)	Month	Pre-1988 Record (mm)	Month/ Year
Highest Monthly Runoffs							
33013	Sapiston	Rectory Bridge	1949	46	JAN	39	FEB 79
33014	Lark	Temple	1960	44	JAN	36	MAR 69
33021	Rhee	Burnt Mill	1962	41	JAN	41	JAN 69
33023	Lea Brook	Beck Bridge	1962	36	JAN	30	MAR 69
33024	Cam	Dernford	1949	49	JAN	47	DEC 60
33027	Rhee	Wimpole	1965	60	JAN	47	MAR 79
33028	Flit	Shefford	1966	50	JAN	41	FEB 77
33050	Snail	Fordham	1961	34	JAN	27	MAY 83
33055	Granta	Babraham	1963	41	JAN	33	OCT 87
34006	Waveney	Needham Hill	1963	103	JAN	70	FEB 79
34007	Dore	Oakley Park	1966	99	JAN	80	FEB 79
35002	Deben	Naunton Hall	1964	97	JAN	63	FEB 79
35003	Alde	Farnham	1961	113	JAN	85	OCT 87
35004	Ore	Beversham Bridge	1965	113	JAN	92	FEB 79
35008	Gipping	Stowmarket	1964	91	JAN	66	FEB 79
35010	Gipping	Bramford	1969	59	JAN	48	FEB 79
36002	Glem	Glemsford	1960	84	JAN	61	FEB 79
36003	Box	Polstead	1960	72	JAN	45	FEB 79
36004	Chad Brook	Long Melford	1965	96	JAN	77	FEB 79
36006	Stour	Langham	1962	75	JAN	61	OCT 87
36007	Belchamp Brook	Bardfield Bridge	1960	83	JAN	64	OCT 87
36008	Stour	Westmill	1960	85	JAN	83	FEB 79
36009	Brett	Cockfield	1968	103	JAN	85	FEB 79
36010	Bumpstead Brook	Broad Green	1968	92	JAN	90	OCT 87
36011	Stour Brook	Sturmer	1968	93	JAN	67	FEB 79
36012	Stour	Kedington	1968	91	JAN	83	MAR 73
36015	Stour	Lamarsh	1972	75	JAN	53	FEB 79
37005	Colne	Lexden	1959	74	JAN	60	NOV 60
37006	Can	Beachs Mill	1962	86	JAN	73	NOV 74
37007	Wid	Writtle	1964	105	JAN	79	DEC 65
37008	Chelmer	Springfield	1965	82	JAN	62	NOV 74
37009	Brain	Guithavon Valley	1962	86	JAN	84	OCT 87
37010	Blackwater	Appleford Bridge	1962	78	JAN	54	OCT 87

TABLE 3—(continued)

Station Number	River and Station Name		First Year of Record	New Record (mm)	Month	Pre-1988 Record (mm)	Month/ Year
Highest Monthly Runoffs (continued)							
37011	Chelmer	Churchend	1963	84	JAN	70	OCT 87
37019	Beam	Bretons Park	1965	76	JAN	68	NOV 74
38007	Canons Brook	Elizabeth Way	1965	96	JAN	92	NOV 74
38014	Salmon Brook	Edmonton	1956	100	JAN	85	OCT 87
38020	Cobbins Brook	Sewardstone Road	1971	105	JAN	93	OCT 87
38021	Turkey Brook	Albany Park	1971	75	JAN	71	NOV 74
39012	Hogsmill	Kingston upon Thames	1956	89	JAN	74	NOV 74
39038	Thame	Shabbington	1968	69	JAN	53	FEB 77
39053	Mole	Horley	1961	159	JAN	143	OCT 87
40008	Great Stour	Wye	1962	104	JAN	92	MAR 75
40011	Great Stour	Horton	1964	85	JAN	71	DEC 66
40018	Darent	Lullingston	1968	45	JAN	42	AUG 68
41001	Nunningham	Tilley	1950	176	JAN	175	JAN 84
41002	Ashbourne	Hammer Wood Bridge	1951	176	JAN	170	NOV 60
41013	Huggletts Stream	Henley Bridge	1950	180	JAN	159	NOV 63
41016	Cuckmere	Cowbeech	1939	163	JAN	159	OCT 87
41018	Kird	Tanyards	1969	212	JAN	181	NOV 74
41026	Cockhaise Brook	Holywell	1971	128	JAN	121	NOV 74
39016	Kennet	Theale	1961	58	FEB	53	FEB 74
39019	Lambourn	Shaw	1962	40	FEB	37	FEB 69
39020	Coln	Bibury	1963	87	FEB	82	FEB 77
40012	Darent	Hawley	1963	27	FEB	25	SEP 68
41023	Lavant	Graylingwell	1971	75	FEB	48	FEB 75
42008	Cheriton Stream	Sewards Bridge	1970	49	FEB	46	FEB 75
39023	Wye	Hedsor	1964	39	MAR	36	APR 75
39030	Gade	Croxley Green	1970	32	MAR	26	MAY 79

Station Number	River and Station Name		First Year of Record	New Record (mm)	Month	Pre-1988 Record (mm)	Month/ Year
Lowest Monthly Runoff							
94001	Ewe	Poolewe	1970	22	JUN	24	MAY 80

Station Number	River and Station Name		First Year of Record	New Record (m^3s^{-1})	Day/ Month	Pre-1988 Record (m^3s^{-1})	Day/Month/ Year
Highest Instantaneous Flows							
28026	Anker	Polesworth	1966	75.630	24 JAN	74.010	30 DEC 81
28086	Sence	South Wigston	1971	30.210	24 JAN	24.420	19 JUN 87
33029	Stringside	White Bridge	1965	4.580	29 JAN	4.552	28 MAR 79
36003	Box	Polstead	1961	10.050	29 JAN	8.987	01 FEB 79
36007	Belchamp Brook	Bardfield Bridge	1964	12.150	29 JAN	11.360	09 OCT 87
37010	Blackwater	Appleford Bridge	1962	26.800	29 JAN	26.080	11 OCT 87
39010	Colne	Denham	1952	17.700	29 JAN	15.400	21 OCT 87
49002	Hayle	St Erth	1957	9.160	31 JAN	6.730	14 FEB 74
42006	Meon	Mislingford	1958	4.102	01 FEB	4.020	20 FEB 77
23004	South Tyne	Haydon Bridge	1962	598.810	28 JUL	538.050	26 AUG 86
47007	Yealm	Puslinch	1963	28.370	31 AUG	27.860	25 AUG 86
48005	Kenwyn	Truro	1968	30.400	11 OCT	13.350	27 DEC 79
58009	Ewenny	Keepers Lodge	1971	59.450	05 OCT	57.638	25 AUG 86

Station Number	River and Station Name		First Year of Record	New Record (m^3s^{-1})	Day/ Month	Pre-1988 Record (m^3s^{-1})	Day/Month/ Year
Highest Daily Mean Flows							
54028	Vyrnwy	Llanymynech	1971	278.190	02 JAN	250.100	06 AUG 73
09003	Isla	Grange	1969	56.110	25 JAN	39.630	01 DEC 85
33023	Lea Brook	Beck Bridge	1962	4.370	29 JAN	4.330	26 AUG 87
36005	Brett	Hadleigh	1962	19.240	29 JAN	19.220	10 OCT 87
38001	Mimram	Panshanger Park	1952	2.050	29 JAN	1.810	15 SEP 68
39035	Churn	Cerney Wick	1969	4.530	04 JAN	4.360	31 MAR 79
39019	Lambourn	Shaw	1962	4.020	14 FEB	4.010	09 MAR 67

TABLE 3 - (continued)

Station Number	River and Station Name		First Year of Record	New Record (m^3s^{-1})	Month	Pre 1988 Record	Day/Month/Year
Lowest Daily Mean Flows							
82001	Girvan	Robstone	1963	0.023	29 JUN	0.100	21 AUG 84
75004	Cocker	Southwaite Bridge	1968	0.255	06 JUL	0.280	07 SEP 76
41002	Ashbourne	Hammer Wood Bridge	1960	0.022	17 SEP	0.025	28 AUG 53

Notes: New record entries appear in date order.
Highest daily mean flows are featured only where there is no corresponding highest instantaneous flow entry.
Only the highest or lowest value is featured where more than one record was established at a station during the year.
Due to rounding, some new runoff records appear equivalent to the previous record.

of runoff totals around 50-70 mm greater than normal. Runoff increments of this magnitude would be of minor significance throughout much of Scotland where runoff totals of several hundred millimetres above average were common, particularly in the west. Unprecedented runoff totals were registered in Galloway and parts of the Clyde valley and the annual mean flow for the River Tay very nearly reached the highest on record. In England and Wales there is far less evidence of the gradation from maritime to more continental regions which characterises the corresponding rainfall map (Figure 1). Although rainfall totals were below 90 per cent of the mean in large parts of southern and eastern England, runoff throughout most of the English lowlands was generally more than ten per cent above average especially in East Anglia. This partly reflects the greater natural ability of catchments in eastern England to store water (which is subsequently released as baseflow); this ability enabled the high recharge rates experienced in the autumn of 1987 - October was exceptionally wet - to contribute significantly to 1988 runoff totals. Geological controls over runoff were also important at the subregional scale. For instance, streams draining the Chiltern Hills (a chalk escarpment) remained close to, or above, previous maximum flows for much of the spring reflecting the lagged response to the winter rainfall. The abundant recharge to the Chalk and Upper Greensand aquifer in recent years (see page 21) will also have contributed to the enhanced baseflows. Runoff totals were more modest in the Cotswolds where the fissured nature of the Jurassic Limestone aquifer allows it to respond more rapidly to rainfall but reduces its ability to sustain spring flows over prolonged periods without further infiltration. Some of the lowest runoff totals in the UK, both in absolute terms and relative to the average, were found in parts of Sussex and Kent where limited rainfall coincided with low baseflow rivers draining catchments situated mostly on Tertiary clays.

Table 3 provides a summary of river flow and runoff records established at primary gauging stations in 1988; entries are confined to monitoring sites having at least 15 years of data on the Surface Water Archive. New maxima, both in terms of annual and monthly flows are relatively common; the former are well distributed but the record monthly flows are concentrated in hydrometric areas 33 to 42 (see frontispiece). As with most extreme flows, the uncertainty associated with some of the quoted runoff or discharge rates can be considerable; large extrapolations of the stage-discharge relation may be involved and, in the case of low flows, artificial disturbances to the natural flow regime can exert a substantial influence. A number of the entries in Table 3 may be subject to review; subsequent revisions to the listed flows will appear in future yearbooks.

Although in terms of annual runoff totals 1988 was fairly typical of recent years, the distribution of river flows throughout the year was very unusual. Figure 6 (a-d) illustrates the variation in flows through 1988 for four representative gauging stations in Scotland, England, Wales and Northern Ireland. Daily and monthly hydrographs are shown for each monitoring site. The monthly mean flows are shown together with the corresponding maximum and minimum flows for the preceding record. The 1988 trace is shown as a solid black line and the blue line represents the 30-day running mean for the pre-1988 record. Data featured for the Kingston gauging station have been adjusted to account for the major public water supply abstractions from the Thames above London (see page 16).

UK rivers exhibit a clear seasonal flow pattern with runoff generally peaking in late winter or early spring, and the summer six months (April to September) contributing typically only about 30 per cent of the annual runoff total. An exaggerated measure of seasonal variation characterised the January-June half-year throughout much of the UK. Most rivers were in spate early in 1988 with sustained sequences of bankfull, or above, flows until mid-February. Some notable peak flow rates were registered at the end of January (see Table 3) and flows in the River Thames - at Kingston - remained above 300 m^3s^{-1} for 13 successive days beginning on the 25th of January. This is the longest such

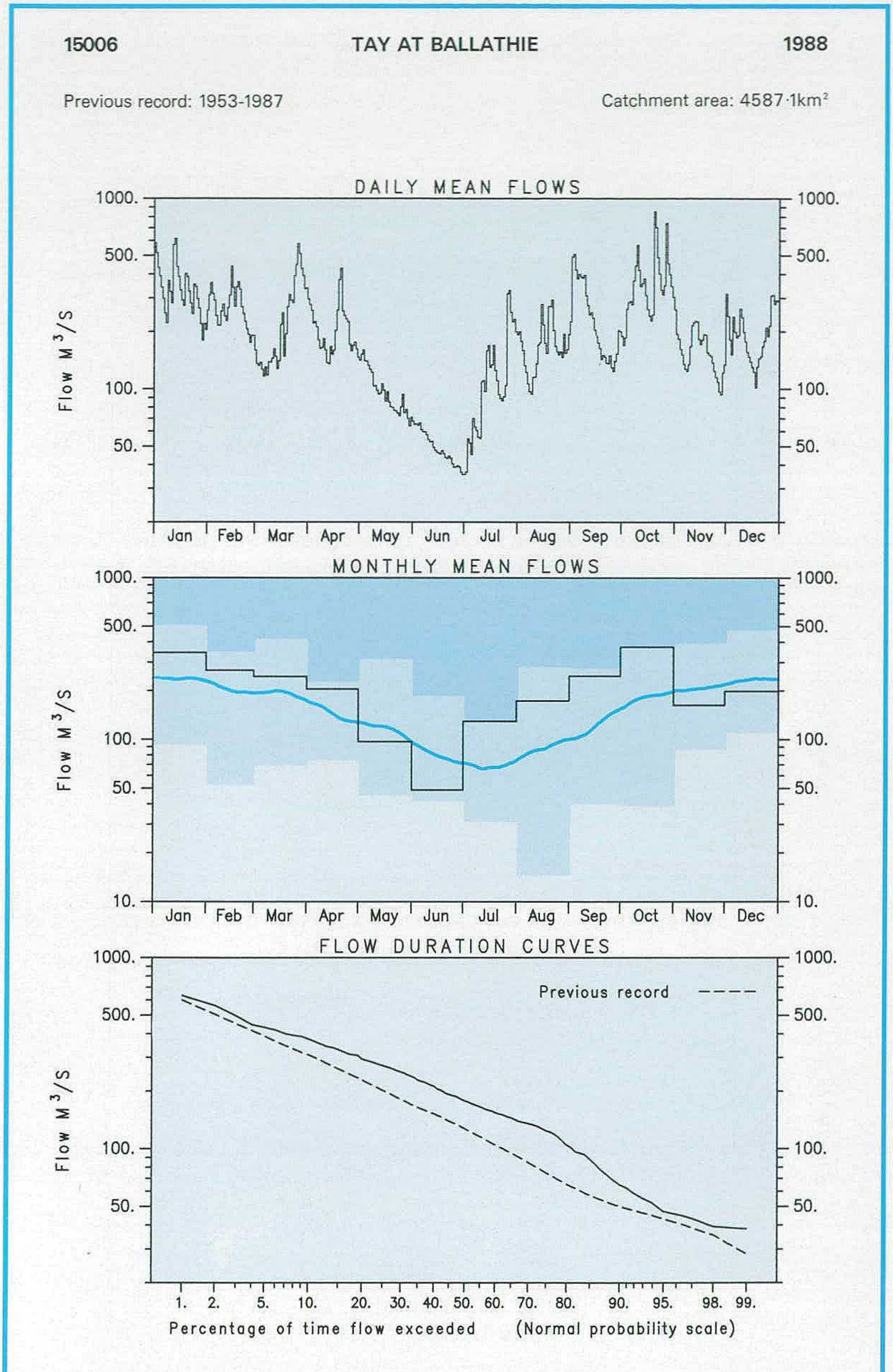


Figure 6(a). River flow patterns: Tay at Ballathie.

39001 **THAMES AT KINGSTON** **1988**

(Naturalised)

Previous record: 1883-1987

Catchment area: 9950·0km²

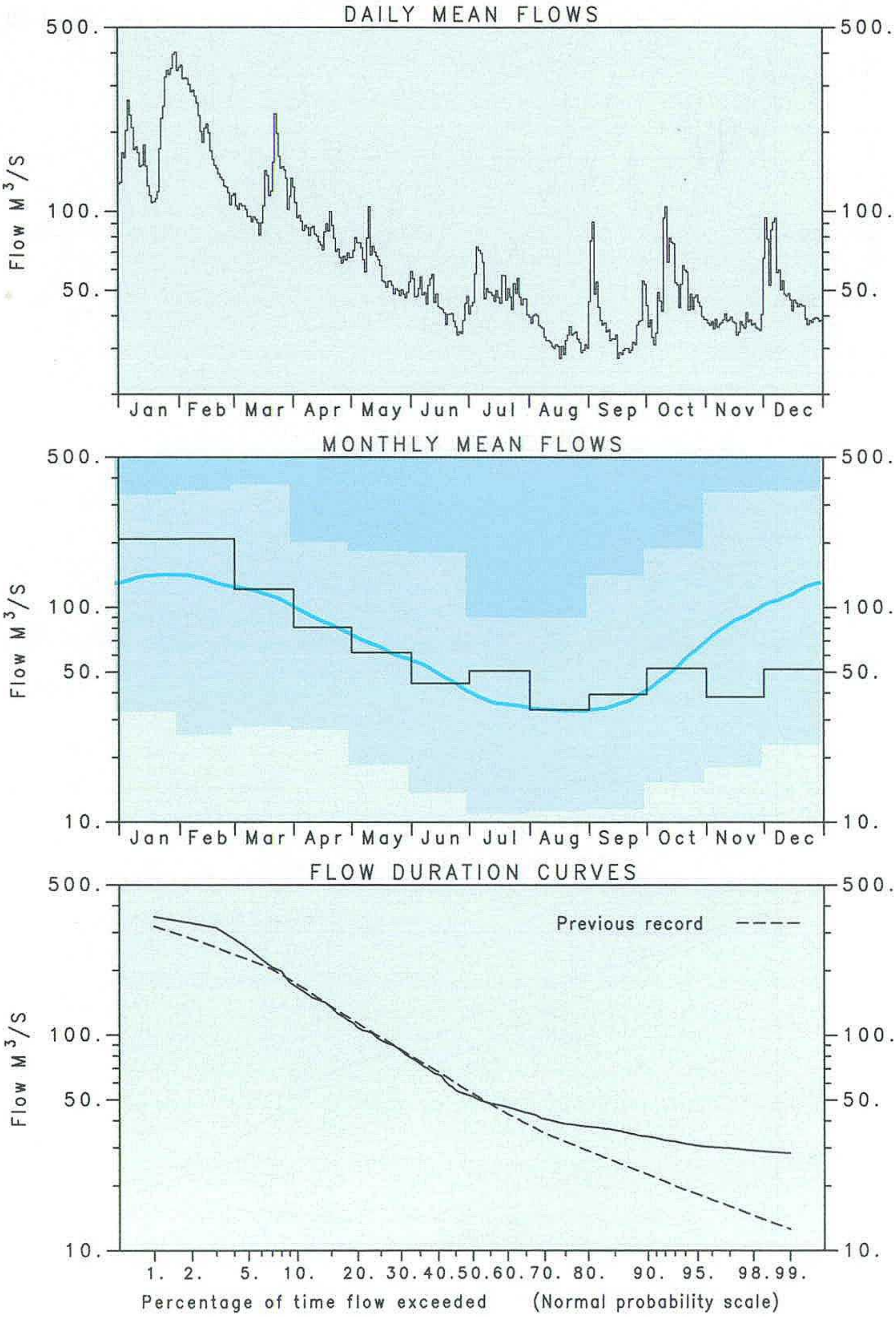


Figure 6(b). River flow patterns: Thames at Kingston.

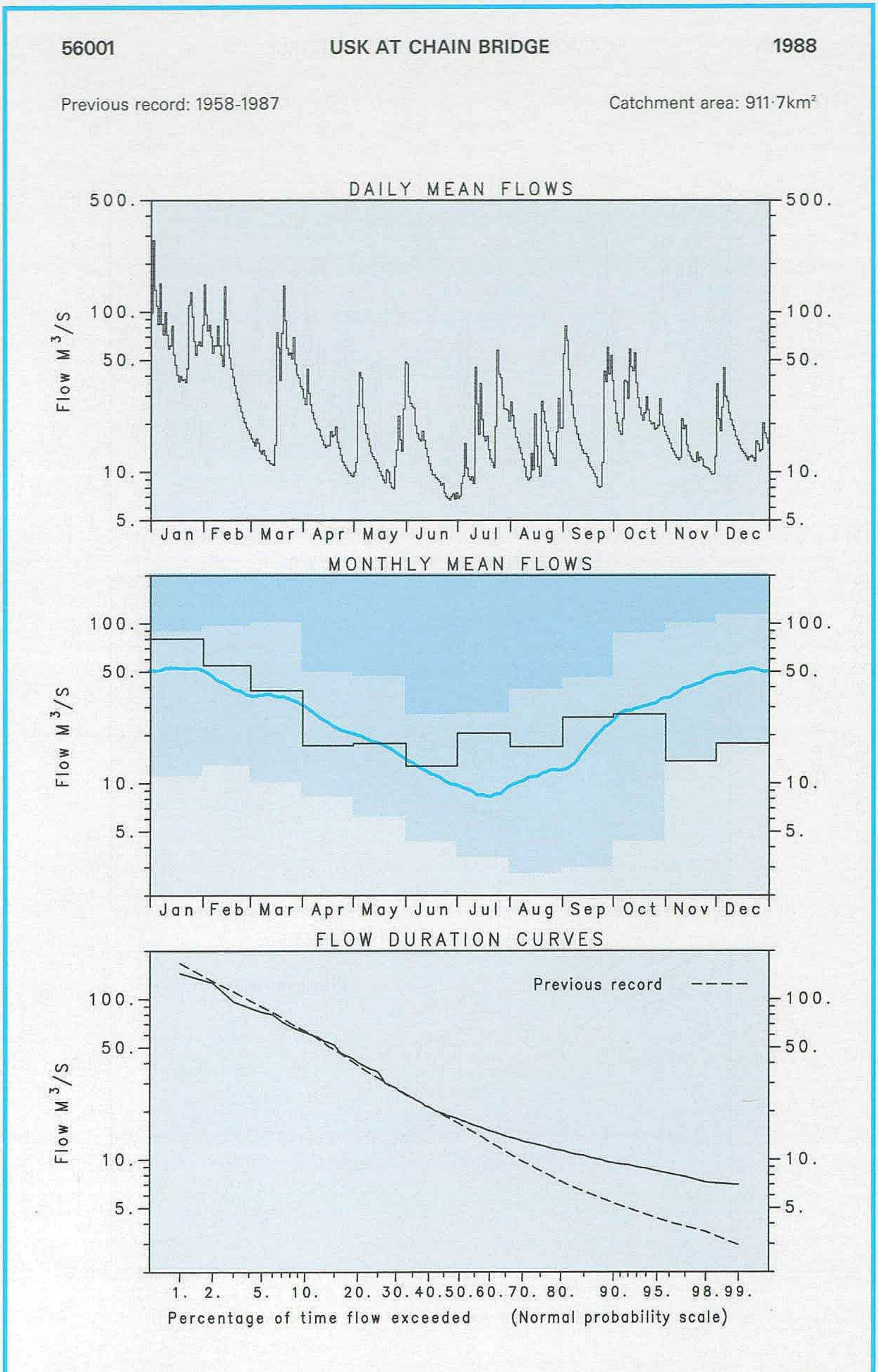


Figure 6(c). River flow patterns: Usk at Chain Bridge.

201005 **CAMOWEN AT CAMOWEN TERRACE** **1988**

Previous record: 1973-1987 Catchment area: 274·6 km²

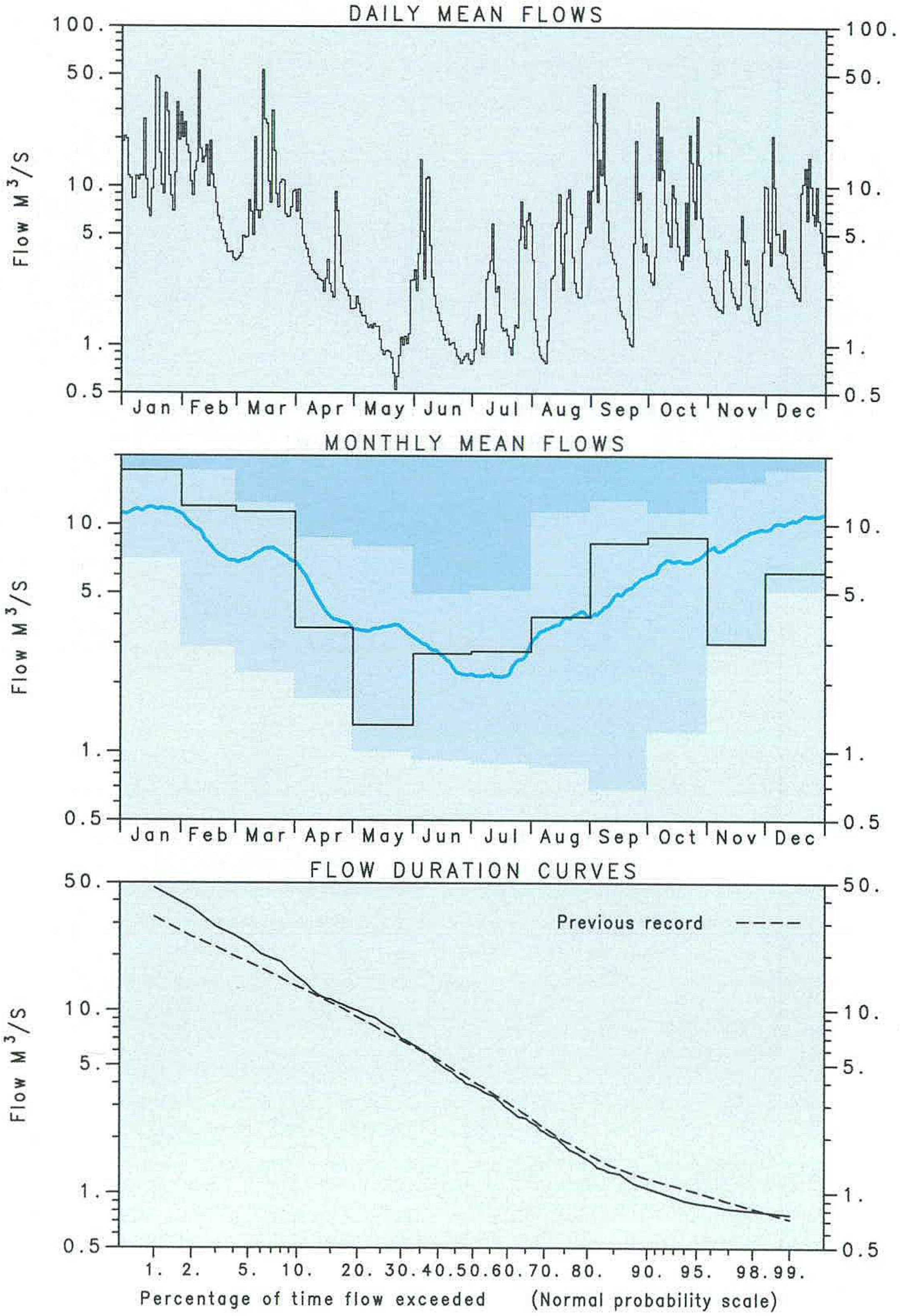


Figure 6(d). River flow patterns: Camowen at Camowen Terrace.

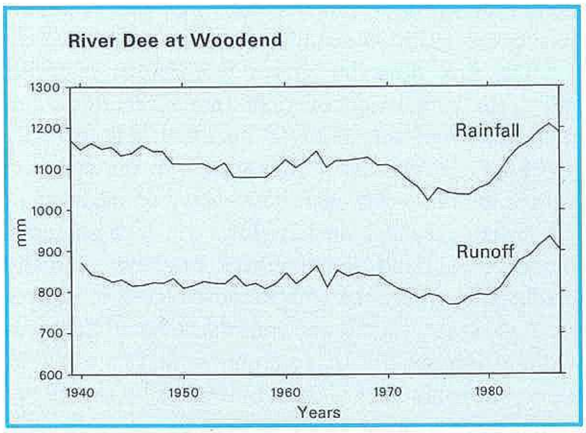
sequence since the major flooding of March 1947. Many catchments recorded their highest combined January and February runoff totals for at least a decade; sustained periods of high discharge rates were especially common in East Anglia. High baseflows in England and snowmelt in Scotland contributed significantly to discharge rates over this period, and well into the spring. From late-March, the decline in discharge rates was dramatic. By the end of May, and especially in June, some exceptionally low flows were reported in Scotland although to the south, runoff rates remained well within the normal seasonal range. July was to prove something of a watershed. The sustained and heavy rainfall produced very brisk flow increases in western and northern regions but, by and large, failed to satisfy the existing SMDs in lowland England. Thereafter, monthly runoff totals displayed a remarkable stability especially in rivers with a large baseflow component; this implies an increasing divergence from the monthly mean flows such that by December runoff rates were very depressed over wide areas. Monthly runoff totals during the latter half of 1988 serve to illustrate how the persistence of relatively uniform mean discharge rates can change the hydrological perspective dramatically. In northern and western Britain, and in Northern Ireland, substantial flow rates were recorded in the autumn, October especially, when the River Tay (at Ballathie) peaked at over 1000 m^3s^{-1}, but by mid-November runoff rates had declined to below average and December flows fell into the lowest quartile - for the month - at most gauging stations.

One measure of the uneven distribution of lowland runoff in 1988 is the inordinate proportion of total runoff attributable to the initial half-year. In Scotland runoff totals for the first and last six months of the year were broadly similar; catchments in the far north tended to record slightly higher totals in the second half of 1988. A relatively balanced runoff division could be recognised in upland catchments of England and Wales also, especially those draining to the west, but a tendency for a disproportionate part of the total runoff to occur early in the year became increasingly evident in a southerly direction. This characteristic achieved an extreme expression in some southern and eastern catchments where its significance was enhanced by the very limited flow rates late in the year. The River Medway (Kent), for example, recorded only 20 per cent of its 1988 runoff during the six months beginning in July. This lack of balance is most extraordinary and somewhat understates the peculiar temporal distribution of runoff. For instance, almost three-quarters of the annual runoff of the Medway is attributable to the January to March period. In terms of runoff volume, this three-month total is unsurpassed in a thirty-year record and stands in stark contrast to the flows experienced in November and December; runoff over this period was also unprecedented being significantly lower than that recorded during the 1975/76 drought.

The flow duration curves featured in Figure 6 allow the proportion of time that river flows fell below a given threshold to be identified. Broadly speaking, the most striking element in the duration curves for 1988 - not just those shown on pages 15 to 18 - is the very high median flows which characterise much of Scotland and northern England; in many catchments where the gauged flow record is shorter than 15 years, the 50 per cent exceedance flow was without precedent. In common with the previous three years, low flows - as represented by the 95 per cent exceedance flow rate - were also significantly greater than average in northern Britain and, especially, in south-west England and South Wales. Median flows in lowland England were less notable than further north and were somewhat below the mean in parts of the South-East. Even here, however, although flows declined to near to the seasonal minima in November and December, the 95 per cent exceedance flows generally remained considerably above those likely to occur in a more typical year.

The above average runoff totals in 1988 have given a greater emphasis to the contrast between the recent abundant runoff and that experienced up to the mid-1970s. Since 1978, only 1987 has registered below average runoff (and then only marginally so) and the mean annual runoff for the last decade is some 15 per cent higher than for the preceding record; the United Kingdom runoff series commences in 1961. The increase in annual runoff displays important regional differences with the greatest increases occurring in northern Britain. Over the last decade, for instance, the Clyde shows a 22 per cent increase relative to the preceding average; at the Blairston gauge the 1988 runoff total has been exceeded on only four occasions - all in the post-1976 period.

The few long runoff records available in the UK provide a broader historical perspective within which to examine the significance of the 1980s runoff patterns. Figure 7 illustrates the ten-year running mean annual rainfall and runoff totals for the Rivers Dee (Grampian Region) and Thames; the ten-year mean is plotted against the final year in the sequence. Both rainfall and runoff plots for the Dee exhibit no definite overall trend but the upward movement in both traces, is a feature of recent years. Annual runoff for the period 1979 to 1988 is about ten per cent greater than for the preceding record; the associated increase in runoff exceeds the additional rainfall over the same period. Partly, this reflects the greater hydrological effectiveness of the recent precipitation - a higher proportion falling in the winter half-year when evaporative losses are greatly reduced. Much of the increased runoff is concentrated in the March-June period and, at least in the spring months, this may - in addition to greater rainfall - be associated with meltwater arising from



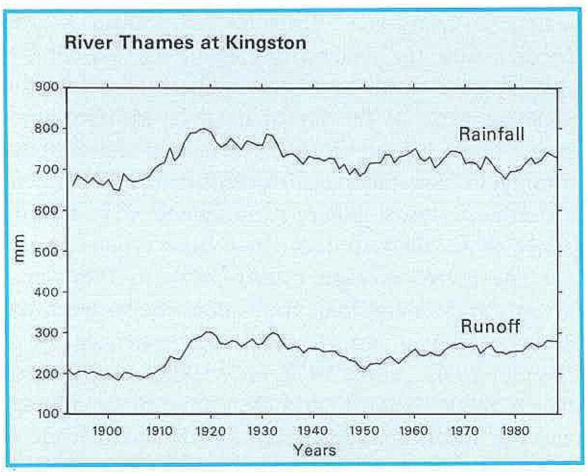


Figure 7. Ten-year running means of annual rainfall and runoff for the River Dee and the River Thames.

increased accumulations of snow. Hydrologically, the Thames is very different from the Dee but a recent, if rather subdued, increase in runoff may also be detected from the running mean trace. Rainfall over the Thames catchment during the last decade has been only a little in excess of the 1941–70 mean but, again, a greater proportion has fallen during the October-March period. As a consequence baseflows in the Thames have increased and the benefit, in terms of increased runoff, is most noticeable during the spring and summer periods.

Although moderate runoff increases over the last 15 years or so may be identified in many catchments, the natural variability of runoff is such that interpretation of any apparent trend needs to be undertaken with caution. Where flow records commence during a particularly dry period – the mid-1960s and 1973–1976 are recent examples – it is necessary to examine the time series in conjunction with other, substantially longer, hydrometric records to place any apparently compelling trends in an appropriate context. In relation to water resources, the recent high runoff is clearly beneficial but, within a framework of enhanced runoff, river flows have displayed a notable volatility. Exceptionally low discharge rates have been experienced during the summer droughts of 1975, 1976 and 1984; equally important, in terms of hydrological stress, has been the limited runoff during the winters of 1975/76 and 1988/89.

Groundwater

Since the drought of 1976, when record low groundwater levels were registered throughout both major and minor aquifers, water tables have generally stood near to, or above, average levels. This is a response to the relatively abundant winter rainfall over the last dozen years; typically, October-March rainfall over the major aquifers has been ten per cent greater than the preceding average. In the winter 1987/88 half-year, many aquifer outcrops received their highest rainfall since 1976/77 with a few chalk areas registering their second wettest winter since 1940. Hence, peak groundwater levels in the spring of 1988 stood above, to well above, the seasonal mean. As a result of the unusually high water tables, especially in parts of the Chalk, bourne flows broke in some districts, particularly in the South-East where they had not previously been seen for many years. Table 1 confirms that rainfall during the winter half-year was well above the 1941–70 mean, with the Southern region reaching 145 per cent of the average. However, the overall winter rainfall totals create a rather misleading picture since the months of October, January, and March were particularly wet, whilst November and December were dry, April 1988 was also dry. Recharge was consequently somewhat erratic and this gave rise to marked 'peaking' as some well hydrographs responded to both wet and dry periods; see, for example, the hydrographs for the Compton (Sussex), New Red Lion (Lincolnshire) and Bussels (Devon) boreholes – pages 166 to 171. Notwithstanding the interrupted nature of the winter infiltration, overall recharge was heavy in most regions. In the 'Hydrometric Register and Statistics 1981–5' (see page 191), a method was proposed which both permitted comparisons between groundwater levels in different observation wells and related those fluctuations to aquifer replenishment expressed as a percentage of the long term average. Using the same methods, the apparent replenishment for the winter of 1987/88 has been estimated and is shown in the Register of Observation Wells (pages 172 to 175). In interpreting these figures account should be taken of the period over which the mean annual recharge has been established; 1987/88 recharge will, for instance, appear less impressive for boreholes whose records commence during the sequence of wet winters following the 1975/76 drought. The *'Indicated % Annual Recharge'* figures listed in the Register confirm that abundant percolation typified most monitoring boreholes but there were some important regional variations; for instance, recharge to the Permo-

Triassic aquifer in the Midlands and in the Lincolnshire Limestone was below average. For the main outcrop of the Chalk and Upper Greensand aquifer, the percentage mean annual recharge is also shown areally on Figure 8. A feature of the recharge map is the particularly high replenishment to the Chalk in parts of the Chilterns and to the north of London – one consequence was the very high 1988 spring runoff rates recorded in these areas (see page 14). Using the observed groundwater level fluctuations, and the unit mean annual replenishment figures[1] the actual volume of recharge for the four major aquifers has been estimated and is shown in Table 4.

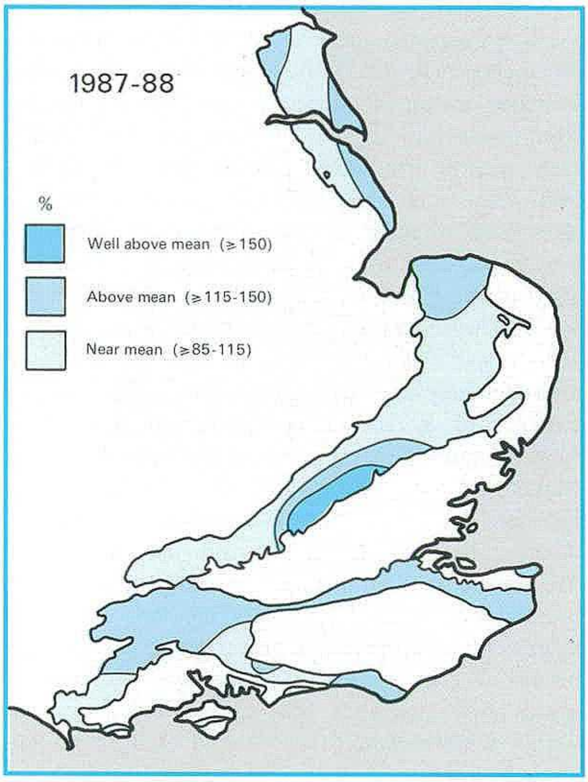


Figure 8. Generalised percentage of the mean annual replenishment to the Chalk and Upper Greensand aquifer for 1987/88.

In the spring, water tables stood generally at their highest levels for at least five years. Groundwater levels were especially high in the Chalk and Upper Greensand; the Compton site registered its highest level since 1974 and the Washpit Farm (Norfolk) borehole recorded a new maximum level in a 30-year record. Recharge in some areas continued beyond the 'normal' infiltration season (October to March) but then accelerating evaporation rates and the limited rainfall resulted in steep groundwater level recessions which, in most areas, left water tables well within the normal range by early summer. Although in general recharge does not occur between April and September, summer infiltration can take place under favourable conditions. The latter usually entails a fissured aquifer with the water table fairly close to the ground surface, together with higher than normal rainfall. The Ampney Crucis (Gloucestershire) well hydrograph – see page 168 – shows a response to the heavy rainfall of July 1988 and minor responses, believed to be related to locally intense rainfall, also characterise the 1985–88 hydrograph for Rushyford (Northumbria).

The decline in groundwater levels was arrested and, in some regions, reversed in October when infiltration appears generally to have restarted; an upturn in a few wells could be recognised as early as September or even August (see, for example, the Ampney Crucis, Redbank and Killyglen hydrographs – pages 166 to 171). However, the anticipated strong increase in groundwater levels through the autumn failed to materialise as notably low infiltration rates created a very unusual situation by November and December. With few exceptions, well hydrographs for sites in eastern and southern England showed no significant upturn by the end of the year, inviting comparisons with the similar conditions pertaining towards the end of 1975. Table 5 compares the

TABLE 4 ANNUAL REPLENISHMENT TO THE MORE IMPORTANT AQUIFERS IN ENGLAND AND WALES FOR THE YEAR 1987/88

(Units are in $m^3 10^6$. Figures in parentheses are percentages of the annual mean.)

NRA Region	Mean annual Replenishment	1987–88 Replenishment
Chalk and Upper Greensand aquifer		
Anglian	953	1103 (116)
Southern	1231	1551 (126)
South West	202	148 (73)
Thames	975	1157 (119)
Wessex	947	1070 (113)
Yorkshire	322	357 (111)
Total	4630	5385 (116)
Lincolnshire Limestone aquifer		
Anglian	86	68 (79)
Permo-Triassic sandstones aquifer		
Northumbrian	123	135 (91)
North West	331	378 (114)
Severn Trent	528	509 (96)
South West	205	207 (101)
Welsh	27	34 (124)
Wessex	39	35 (92)
Yorkshire	301	372 (123)
Total	1554	1491 (96)
Magnesian Limestone aquifer		
Northumbrian	80	65 (81)
Severn Trent	40	34 (84)
Yorkshire	127	120 (94)
Total	247	219 (89)

October-December rainfall figures for 1975 and 1988; all the 1988 values are substantially below the 1941-70 means, while those for the Severn-Trent, Anglian and Thames regions are very close to the 1975 values, and for the Southern region the value is well below that for 1975. At the turn of the year groundwater levels were depressed over wide areas, particularly in the Chalk. The Dalton Holme borehole (Yorkshire), which has a 100-year record, registered its lowest ever groundwater level in mid-December, marginally below the minima recorded during the droughts of 1905, 1921 and 1976. Levels elsewhere were generally less extreme but water tables throughout the major aquifers fell to levels last experienced during the 1984 drought. The groundwater situation at the end of 1988 suggested that, unless there was substantial infiltration in the spring, overall recharge through the 1988-89 winter would be markedly less than average, while for eastern and southern England it was likely to approach the negligible infiltration recorded, in most areas, over the winter of 1975/76.

TABLE 5 OCTOBER TO DECEMBER RAINFALL FOR 1988 AND 1975 IN MM AND AS A PERCENTAGE OF THE 1941-70 AVERAGE

	1988		1975	
	mm	(%)	mm	(%)
England and Wales	184	(68)	159	(59)
Scotland	418	(94)	296	(66)
Northern Ireland	285	(88)	203	(63)
NRA Region:				
North West	306	(85)	229	(64)
Northumbrian	228	(93)	113	(46)
Severn Trent	133	(62)	128	(60)
Yorkshire	192	(83)	148	(64)
Anglian	109	(65)	104	(62)
Thames	110	(54)	105	(52)
Southern	135	(53)	154	(61)
Wessex	156	(58)	130	(48)
South West	258	(68)	220	(58)
Welsh	267	(64)	220	(53)

The majority of observation boreholes for which contemporary data are held on the Groundwater Archive monitor the natural variation in groundwater levels. However, in parts of the United Kingdom, groundwater levels have been influenced, sometimes over long periods, by pumping at rates exceeding the natural rate of replenishment. As a consequence the regional water table may become substantially depressed.

Equally, where such depressions have become established, groundwater levels may be expected to rise in response to a decrease in the pumping rate to below the rate of natural replenishment. In the confined Chalk and Upper Greensand aquifer beneath London, groundwater levels - as evidenced by the hydrograph for the Trafalgar Square well (see page 171) - had been depressed by some 60 metres by 1940 relative to the late eighteenth century when the first deep wells penetrated the Chalk. Following the Second World War abstracters increasingly switched to piped supplies drawn predominantly from reservoirs in the Thames and Lee basins. Consequently groundwater levels gradually stabilised and, from about 1965, began a discernible recovery[2]. In recent years a contributory factor will have been the above average recharge in the outcrop areas of the Chalk on the periphery of the London Basin. The annual mean groundwater levels for this site show that the recovery is continuing at a rate of approximately one metre a year. Given the changing patterns of groundwater exploitation throughout England and Wales it is to be expected that such rises would not be confined to the London Basin; increased groundwater levels have been reported for other urban areas including Birmingham, Leeds and Merseyside. The implications of rising groundwater levels range from the more immediate water resources effect on potential groundwater supplies (in terms of both water quantity and quality) to geotechnical problems relating to foundation and tunnel flooding and to the design of deep underground structures[3,4].

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1988 Hydrological Diary

January

2nd-4th: A series of active frontal systems brought gale force winds and heavy rainfall to all parts of the UK. The River Vyrnwy (Powys) recorded its highest daily mean flow in 18 years and many rivers throughout Wales overtopped their banks. Flooding was particularly severe in the upper Severn Valley where roads were impassable and farmland inundated. A flood warning was issued for the River Severn, when it reached its highest level in Shropshire for 20 years. In the centre of York, the Ouse rose several metres flooding river-side roads and some buildings.

19th-31st: Low pressure dominated the British Isles for several weeks and associated frontal systems gave rise to widespread and often heavy rainfall. Rivers consequently remained in spate during this period and several notable discharge rates (see page 12) were registered. Floodplain inundation was common. In the South-East many rivers recorded their highest January runoff on record.

19th: The Colebrooke, gauged at Ballindarragh (County Fermanagh) recorded its highest flow in a 14-year record. Four days later, the River Camowen (County Tyrone) also recorded a peak flow which surpassed all previous January discharge rates in its 17-year record.

24th: Discharge rates increased throughout the Midlands; the Sence at South Wigston and the Anker at Polesworth both recorded new maximum levels in records which began in 1971 and 1966 respectively.

26th-27th: An active low pressure system brought heavy rainfall and strong winds to the South. Much of central Cornwall was affected and intense rainfall on the 27th, following significant precipitation during the previous week, caused serious flooding in Truro (see page 27).

29th-31st: In the Thames region, where baseflows were already high, sustained precipitation caused rivers draining the lower Thames catchment, in particular, to exceed bankfull. The Colne, gauged at Denham, recorded its highest peak flow and, in the Lee Basin, the Mimram registered its highest daily mean flow; both rivers have 37-year records. In Kent, notably high river levels were recorded on the Stour and Medway. Several small villages in Gloucestershire were cut-off as the Severn, already in spate due to a large meltwater contribution from the headwaters, overtopped its banks causing floods almost two metres deep near Tewkesbury. Further south, the River Hayle, gauged at St Erth (Cornwall) recorded its highest flow (on the 31st) since records began in 1957.

February

1st: The passage of active frontal systems continued and many rivers remained in spate. In Devon, the Otter, Clyst, Ax and Culm overtopped their banks and in Helston (Cornwall) homes were flooded to a depth of more than a metre - the second time in less than a week.

The weather system which had affected southern areas moved rapidly northwards causing heavy rainfall in the Scottish Borders. Rivers draining the Southern Uplands peaked; the Teviot, gauged at Hawick, exceeded its previous February maximum flow rate in a 25-year record. In Dumfries, properties were flooded when the River Nith rose above bankfull.

9th-10th: A deep Atlantic depression tracked due east across the UK bringing storms and widespread, although moderate, flooding to many areas as river levels exceeded bankfull. In Northern Ireland several rivers recorded their highest February peak flow on record.

13th-14th: A continuation of cyclonic conditions brought heavy frontal rainfall to the South and the West. On the 14th, the Lambourn, gauged at Shaw (Berkshire), recorded its highest daily mean flow since monitoring began in 1962.

March

Throughout most of the UK, steep flow recessions, many of which began in mid-February continued into early March as dry conditions prevailed. By the end of the first week, daily mean flows in Devon and Cornwall approached the minimum on record for the month. Thereafter however, river levels quickly recovered in response to frontal rainfall.

April

A decline in river levels became re-established in many parts of the UK as high pressure dominated southern Britain. In Scotland and the north of England a notable interruption in the flow recession occurred in mid-month as a result of heavy rainfall associated with a vigorous Atlantic depression.

May

8th: In the early hours a shallow low pressure system moved northwards from France causing hot humid air to abut a colder air mass over south-east England. A series of intense thunderstorms were triggered along a front extending through the Thames Valley; particularly active convective cells were located over London. At Ruislip, two separate storms were registered. During the first - when 53 mm was recorded in a two and a half hour period beginning at 05.00 hrs - a peak intensity of 11.8 mm in 15 minutes was recorded. A return period of over 100 years was associated with the whole storm. At 17.00 hrs, a separate downpour produced over 30 mm of rain (with a maximum intensity of 16 mm in 15 minutes). Several districts recorded rainfall totals exceeding 70 mm for the two events. With both storm cells centred over urban areas, runoff was extremely rapid and localised flooding was common together with widespread transport disruption. Flooding along the Silk Stream in north London was exacerbated by the inability of a downstream culvert to cope with the floodwaters - local roads were inundated to a depth of one metre. The impact of the storms in the nearby River Yeading catchment (close to the centre of the storm) was ameliorated by the recently completed channel widening scheme which substantially increased the carrying capacity of the channel in a vulnerable reach.

Several other rivers also registered high discharge rates and the Colne recorded a highest instantaneous flow which exceeded all previous peaks with the exception of the January maximum.

June

Anticyclonic conditions dominated the weather pattern throughout the UK for most of June. A gradual decline in river levels was noticeable over many parts of the country following frontal rainfall at the start of the month. Flows in Scotland and in the north-west of England were particularly low and several rivers registered their lowest June runoff on record. In the Highland Region, the Ewe at Poolewe recorded its lowest monthly runoff in a 19-year record and the River Cocker, gauged at Southwaite Bridge (Cumbria), recorded a new minimum daily mean flow - in a 21-year record - on the 30th; six days later an even lower flow was recorded. A Drought Order was obtained for Ennerdale Water - West Cumbria's main water supply - as a precautionary measure to help conserve the diminishing reservoir storage.

July

Early in the month there was a marked change in river flow patterns as the first of a succession of depressions and associated frontal systems crossed the UK giving rise to widespread thunderstorms and heavy rainfall. Rivers in western and northern areas exhibited an abrupt increase in flow and discharges remained high throughout the month in many areas; some rivers had their highest July runoff on record.

On the 28th, both the South Tyne (at Haydon Bridge) and the Tees (at Middleton in Teesdale) recorded new maximum instantaneous flows in records which began in 1962 and 1971 respectively.

August

12th: Fronts associated with an Atlantic low pressure system moved eastwards across parts of Great Britain. Exceptionally heavy rainfall was recorded at Dingwall in the north of Scotland. The resulting runoff caused sewers to surcharge - consequently several properties and roads were flooded. The storm was of a remarkable intensity - during seven hours, commencing at 17.23 hrs, 76 mm of rain (equivalent to the average monthly rainfall for August) was recorded at the Highland River Purification Board's climatological station in Dingwall. Associated intensities approached those ascribed to the 1000-year event for a number of durations ranging up to five hours.

31st: Thunderstorms associated with an active frontal system moved eastwards across the country during the last few days of the month. Rainfall amounts were greatest in South Wales and the South-West. The River Lwyd, which has been gauged at Ponthir (Gwent) since 1966, registered a peak discharge which exceeded its previous August maximum by over 35 m^3s^{-1}.

September

1st-2nd: A deep depression moved north across Ireland bringing heavy rainfall and flooding to many parts of the UK. Nantmor, in Gwynedd, received more than 50 mm of rain and the Glaslyn, at Beddgelert, subsequently recorded a flood discharge of 155 m^3s^{-1}, some 50 m^3s^{-1} greater than its previous September maximum.

October

5th: Cyclonic conditions prevailed and significant rainfall was associated with a sequence of troughs crossing all areas from the west. In South Wales, the Rivers Ewenny and Thaw both recorded new maximum flows in 18 and 12-year records respectively.

10th-11th: A depression which became slow moving over southern England resulted in the second intense rainfall episode this year in Cornwall and again the impact on Truro was severe (see page 27).

19th: Thunderstorms prevalent over Liverpool and the Wirral resulted in localised flooding. The only 'very rare'* daily rainfall registered during 1988 was associated with these storms - 82 mm of rain fell in Crosby - with most of the rain falling in less than 2 hours. A return period of 175 years was attributed to the event.

25th: More than 80 mm of rain was recorded in parts of the Mourne Mountains (Northern Ireland), including 97 mm at Trassey. The Upper Bann, gauged at Bannfield, subsequently registered its highest October peak flow since records began in 1975. Flooding was reported throughout the Province.

November

Anticyclonic conditions prevailed throughout the greater part of the month and rainfall amounts were well below normal in all regions of the UK; southern areas were particularly dry and river flows declined steadily. Only widespread, heavy rainfall on the 29th prevented the month from being remarkably dry over England and Wales as a whole; many places in Wales and south-western England had falls over 30 mm and rivers peaked in response.

December

In England and Wales, rainfall was largely confined to the first five days of the month when river flows remained relatively high. Subsequently, most frontal systems failed to penetrate much beyond western Scotland and parts of northern England; lowland England, in particular, remained very dry. Recessions were steep and sustained and, by late December, some concern was expressed in relation to the declining river flows; many rivers throughout England and Wales recorded new low runoff totals for the last two months of the year. A few small rivers draining predominantly impervious catchments recorded flows less than 25 per cent of their mean December flow and discharge ceased in many chalk springs.

* The Meterological Office designates as 'very rare' all daily rainfall totals with return periods assessed as greater than 160 years.

HYDROLOGICAL ANALYSIS OF THE TRURO FLOODS OF JANUARY AND OCTOBER 1988

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Introduction

On the 27th of January 1988 heavy rainfall over much of Cornwall caused flooding in many places including Helston, Penryn and Perranporth. The most serious flooding occurred in the city of Truro from the River Kenwyn. Fifteen residential and 50 commercial properties were flooded. Using procedures recommended in the Flood Studies Report[1], a return period of 350 years was assigned to the Truro flood; thus most residents considered that it would be unlikely to occur again in their lifetime. On the 10th and 11th of October 1988 further heavy storms occurred. The distribution of rainfall over Cornwall was different to that in January thus, although many properties in Perranporth were again inundated, Penryn did not suffer the same fate. In Truro flooding was even more severe than in January causing further disruption and anxiety. Taken together the two events resulted in damage estimated at over two million pounds.

Given the small probability of experiencing two such extreme floods within 10 months, a major investigation was undertaken to assess the future flood risk in Truro. An important facet of this study was the appraisal of contemporary reports of historical floods in order to refine the assessment of the rarity of the 1988 events.

Truro and the Kenwyn Catchment

The city of Truro is sited on the banks of the Rivers Kenwyn and Allen in central Cornwall. Flow measurement facilities have existed on the Kenwyn since 1968; the gauging station is situated just inside the city limits. Flows are measured by a three-bay compound Crump weir which allows flood flows, up to a stage of 1.98 metres (the height of the piers and wing walls), to be measured accurately. Some 30 metres downstream of the station a low twin-arch bridge carries the main road over the river. It is thought that throttling of flows by the bridge culverts may cause drowning of the gauging structure during extreme floods.

Above the flow measurement station, water levels are controlled by the natural variations in channel geometry and roughness. Within the city, the river flows in an easterly direction and is confined within artificial banks. Some 200 metres downstream of the gauging station, in Waterfall Gardens, a pair of sluice gates, which are normally closed, are used to provide sufficient head to supply water to the Truro leat system. These can be opened (raised) in times of high flows to alleviate flooding upstream. Below the sluices, the river flows between a high right-bank retaining wall and a vertical left bank which carries a footpath. The wall protects basement properties in St George's Road which, given their very low level relative to the river bed, are at risk from surcharging drains and, more seriously, from failure of the wall (see Figure 9).

Further downstream the river is culverted under the city centre for about 250 metres. The culvert was constructed in Victorian times, a period of major change in Truro with the development of River Street and the construction of St George's Road. The original capacity of the culvert was around 15 m^3s^{-1}. Inevitably, silting occurred over the years and a major clearance operation was undertaken in February 1956 removing silt and debris from the culvert. Substantial structural improvements and maintenance were also carried out around 1971. In particular the tunnel was lined to improve its hydraulic efficiency and thus its capacity was increased to around 18 m^3s^{-1}. A debris screen in the Waterfall Gardens prevents material from entering the culvert and is regularly cleaned. However, its blockage may have contributed to flooding immediately upstream in the Gardens on a few occasions.

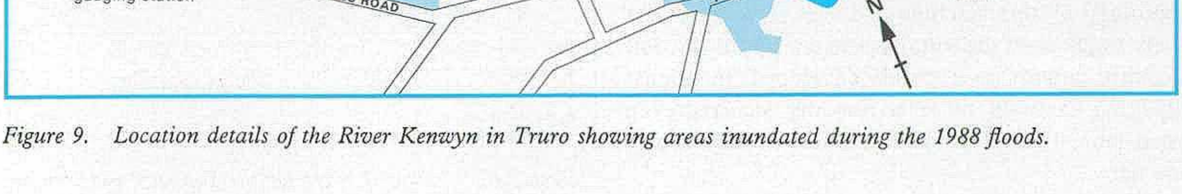

Figure 9. Location details of the River Kenwyn in Truro showing areas inundated during the 1988 floods.

Physical Characteristics

The catchment above the flow measurement station has a drainage area of 19.1 km^2. At present, just over six per cent of the catchment is urbanised. Upstream of the centre of the city the catchment area is 19.4 km^2. The extra 0.3 km^2 is entirely developed and, in total, just over seven per cent of the catchment is urbanised.

There is an abrupt change in land use at the city limits. Outside the city the catchment is almost entirely rural with only a few small villages and farms. Land use is predominantly pasture though there are small areas of copse and woodland. The terrain is broadly rolling, with rounded hills, though locally steep.

The Kenwyn and Allen catchments are underlain by rocks of Devonian age, predominantly slates and greywackes. Soils are mostly typical brown earths consisting of slightly stony clay loam[2]. These soils are permeable, naturally well drained and accept most rainfall, but temporary water storage capacity is limited by rock or, locally, compact drift at less than 0.8 metre depth which causes some runoff.

Hydrological Characteristics

A typical hydrograph describing the response of the River Kenwyn to rainfall, over a period of a month or so, is dominated by a slow rise in baseflow which lasts for many days before recessing slowly to a residual level. There are a number of wells and springs along the watercourse. However, the hydrogeology of the catchment is not well understood. Geological survey records indicate that several exploratory boreholes sunk in the area have yielded little commercially exploitable water; thus there is no evidence for a large deep aquifer. Nevertheless subsurface storage is clearly sufficient to delay runoff for several days.

Superimposed on the baseflow are short-lived, fairly steep rises, followed, within a few hours, by a recession to a slightly higher baseflow level. Analysis has shown[3] that the quick response runoff typically comprises only a small percentage (less than 10 per cent) of the rainfall volume, due mainly to the permeable soils. The major proportion of rainfall supplies the slowly responding baseflow component. The flow at the peak of the flood is therefore controlled by a combination of the quick response from immediately preceding rainfall and the slower response from rainfall several days earlier. Thus antecedent conditions are very important in the flood hydrology of this catchment. Large floods are less likely to occur in the summer when a significant soil moisture deficit has normally developed. In August 1959, for example, no river flooding occurred even when more than 50 mm of rainfall was recorded in one day.

There is a daily-read raingauge in Truro, but the nearest autographic gauge is at Rosewarne, some 20 km WSW of the city. Until the summer of 1988 a weather radar was operating at Camborne. It was then moved to Predannack. The average annual rainfall for the Kenwyn catchment is around 1120 mm, for the period 1941–70, with the major proportion (over 70 per cent) falling in the months September to March[4]. These are therefore the critical months for flooding.

The Flood of the 27th January 1988

On the afternoon of the 27th January 1988 an occluded front moved very slowly eastwards across Cornwall. The Meteorological Office at Plymouth warned that heavy rainfall was likely over north Devon where the front could become stationary. In the event the heaviest rain fell over central Cornwall with an area of 100 km^2 receiving more than 50 mm (Figure 10) on the 27th. The highest daily fall recorded on the 27th was 91mm at Trevince, 10 km

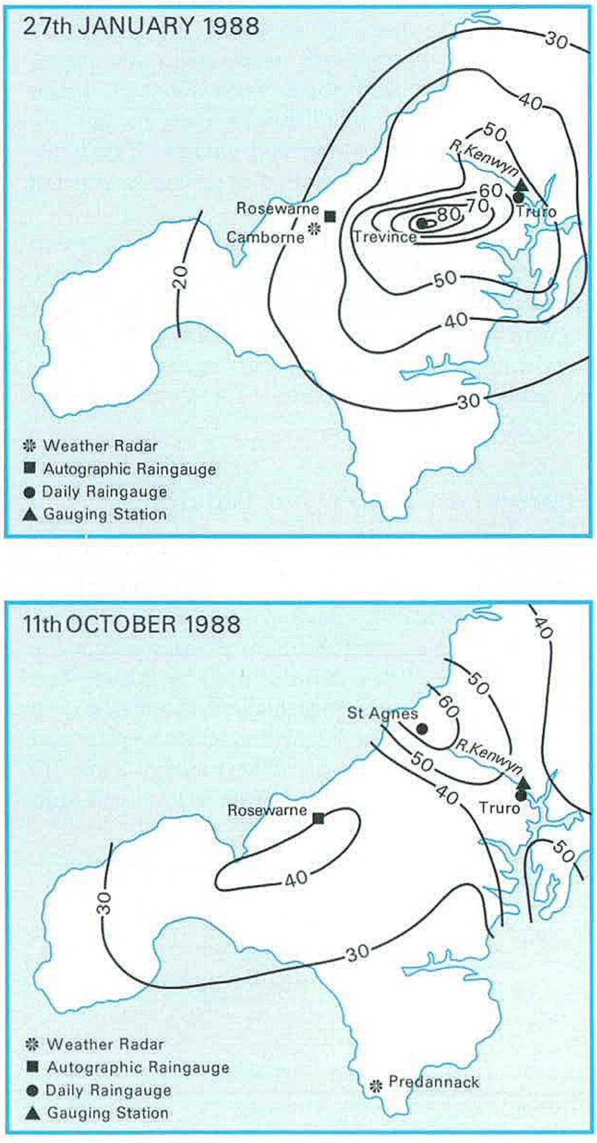

Figure 10. Isohyetal maps for the January and October Truro floods—rainfall totals are in mm.

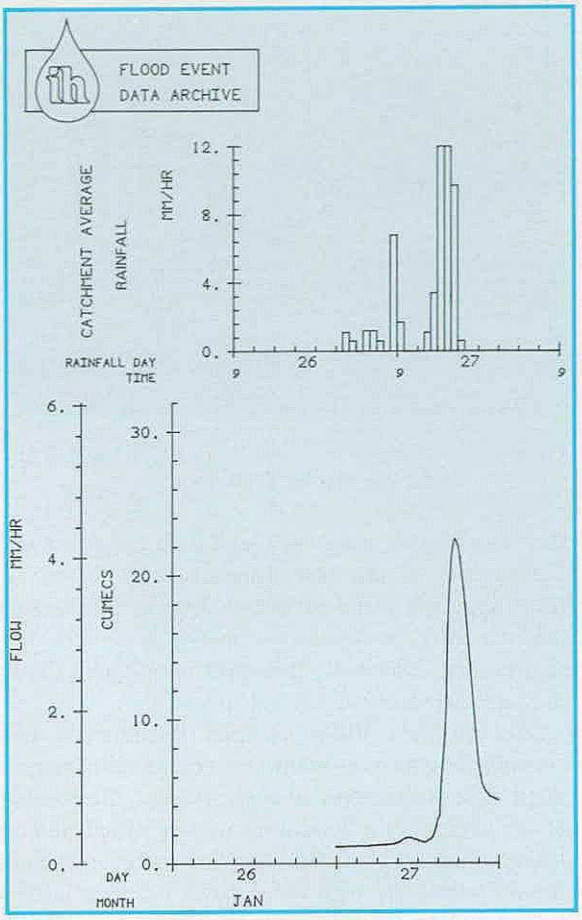

Figure 11(a). *Rainfall hyetograph and runoff hydrograph for the January, 1988 flood.*

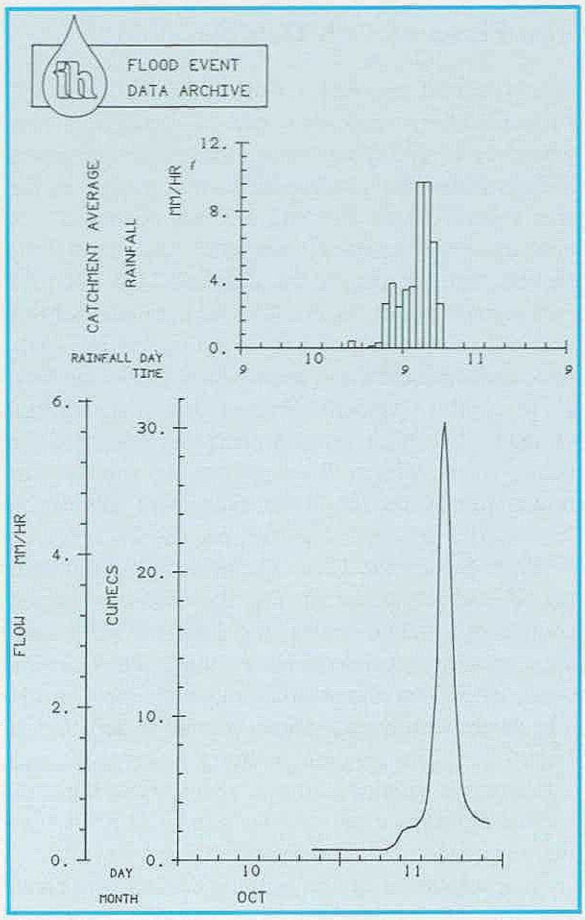

Figure 11(b). *Rainfall hyetograph and runoff hydrograph for the October, 1988 flood.*

WSW of Truro, whilst 58.1 mm was measured in Truro itself. During the previous five days over 68 mm had fallen in Truro, saturating the Kenwyn catchment. A catchment average rainfall of 67 mm was calculated for the two rainfall-days starting at 09.00 hrs on the 26th. This total was apportioned between the 48 hours using data from the Camborne weather radar. It is noteworthy that, when compared with raingauge data, the weather radar generally underestimated rainfall totals, although it gave a good indication of the relative amounts at different times and of the areas worst affected. The catchment average rainfall hyetograph for the event is shown in Figure 11a. The peak intensity is almost 12 mm hr^{-1}, lasting for two hours. Also shown in Figure 11(a) is the runoff hydrograph for the Kenwyn at the Truro gauging station. After rising at a rate of 10 millimetres per minute, a peak stage of 2.12 m was reached at 17.30 hrs. Extrapolation of the stage-discharge relation to this level gives a flow of over 30 m^3s^{-1}. However, the peak flow was revised to 22.5 m^3s^{-1} following evidence that the water level had been elevated by debris which had collected across the weir[5]. This may also have contributed to the flooding which occurred upstream of the gauging station at St George's Villas.

Further downstream, the force of the flood led to the failure of the river retaining wall behind St George's Road. The resultant rapid surge of water flooded several basement flats to a depth of 1.5 m, endangering the life of one of their residents. The leat sluices were already open, perhaps preventing more serious flooding upstream. At around 16.45 hrs the culvert beneath the city centre reached capacity and the excess water flooded approximately 50 commercial properties in River Street and Victoria Place, some to a depth of over half a metre. The total cost of damage exceeded one million pounds. A post-flood survey of the city centre culvert found no evidence of obstructions or debris.

The largest flow previously recorded at the gauging station was only 13.4 m^3s^{-1}, hence a standard assessment by South West Water*, based on the annual maximum flood series from the gauging station and the Flood Studies Report recommended procedures, put the return period of the flood at 350 years. Although flows were high in most other watercourses in the area, the next largest flood recorded was on the River Kennel at Ponsanooth where the return period was of the order of 10 years.

* South West Water had operational responsibility for the gauging station prior to the transfer of hydrometric activities to the National Rivers Authority (see page 188).

The Flood of 11th October 1988

Heavy rainfall returned to Cornwall on the 10th and 11th October, associated with a trough of low pressure, following a week of widespread rain which had saturated the catchment; several gauges in the area recorded over 100 mm in seven days and one, Hessary on Dartmoor, exceeded 200 mm. The highest two-day fall on the 10th and 11th was 68.3 mm recorded at St Agnes. The vast majority of this rain fell between 06.00 and 17.00 hrs on the 11th, thus spanning the two rainfall-days. As in January, all of central Cornwall received more than 30 mm (Figure 10). High flows were again recorded on many rivers with a flood of around the 20-year return period on the River Gannel at Gwills. In Truro, 31.9 mm was recorded for the 24 hours up to 09.00 hrs on the 12th. The average rainfall over the Kenwyn catchment for the two-day period commencing 09.00 hrs on the 10th was 45.1 mm. This total was apportioned amongst the 48 hours using data from the weather radar at Predannack. The catchment average storm rainfall is depicted in Figure 11b. The level of the River Kenwyn reached 2.11 m at the gauging station at 15.15 hrs on the 11th, corresponding to a peak flow of almost 31 m^3s^{-1}. The flood hydrograph is also shown in Figure 11b.

A photograph of the gauging station was taken just after the peak of the flood (Plate 1), showing that water levels were very high both upstream and downstream of the measuring structure. However, there appeared to be sufficient drop in head across the structure to assume that the weir was not significantly drowned. The lower photograph shows the same structure at normal flow.

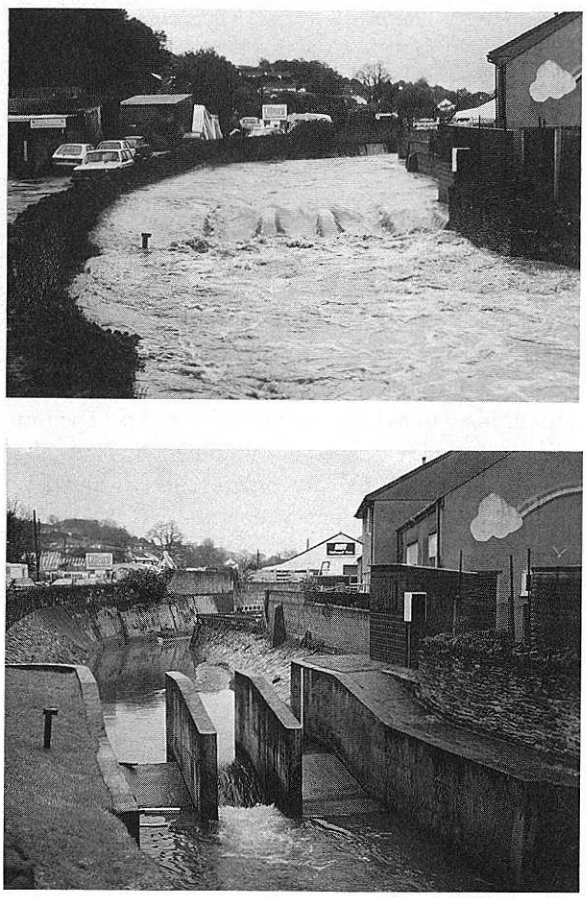

Plate 1. The Truro gauging station—during the October 1988 flood and close to median flow conditions.

Plate 2. Surcharging of manholes in River Street, Truro during the October 1988 flood.

St George's Villas escaped flooding on this occasion due to river maintenance after the January flood. The leat sluices had been raised on the evening of the 10th, after a flood warning was issued, and no major blockages of the channel were reported. Nevertheless, the high river flows led to a further failure of the retaining wall behind St George's Road, immediately downstream of the section re-built following the January event, and one basement property was flooded. However, other flooding in the St George's Road area appears to have been primarily the result of surcharging drains. As in the January event, flooding in the city centre occurred once the capacity of the culvert had been exceeded. Plate 2 shows the culvert surcharging through access manholes in River Street.

Assessment of Return Period using Annual Maximum Floods

The return period – the average interval between years containing a flood equal to, or greater than, a given discharge rate – can be estimated by analysing records of previous floods.

The Flood Studies Report recommends that for return periods greater than twice the length of record (in this case 42 years) the mean annual flood should be calculated from the flood data and then scaled up to the required return period using an appropriate regional growth factor. New growth factors were produced by Whiter[6] as part of a revision of the flood frequency estimation procedures for the South West region using the Flood Studies Report methodology. Excluding both floods from the calculation of the mean, since they could be considered as outliers, results in the 350-year return period assessment of the January flood obtained by South West Water. However, return periods for the January and October floods of 100 and 400 years respectively are given when these events are included.

If the period of record is considered to be representative of the long-term flow regime, the entire flood frequency curve may be derived directly from the observed flood data. Table 6 shows the results of fitting a generalised extreme value (GEV) distribution to the 21 annual maximum floods from 1968 to 1988. This gives a flood frequency curve much steeper than using the regional average growth factors (see Figure 12). For example the 100-year flood is 5.4 times larger than the mean annual flood (which is 7.7 m^3s^{-1}). The South West area growth curve suggests that the regional average 100-year flood is only 2.93 times the mean.

TABLE 6 FLOOD QUANTILES FROM FITTING A GEV DISTRIBUTION (1968–1988)

Return Period (years)	Peak Flow (m^3s^{-1})	Return Period (years)	Peak Flow (m^3s^{-1})
5	8.67	50	28.82
10	12.41	100	41.72
25	19.99		

The fact that the two 1988 floods are considerably larger than all previously recorded floods strengthens the possibility that they may be considered outliers and therefore the period of flow record may not be representative of the long-term flow regime. Under such circumstances the flood frequency curve based on the regional analysis should normally be adopted. Individual events were analysed in order to check whether there was a physical justification for adopting the steeper curve based on the local data.

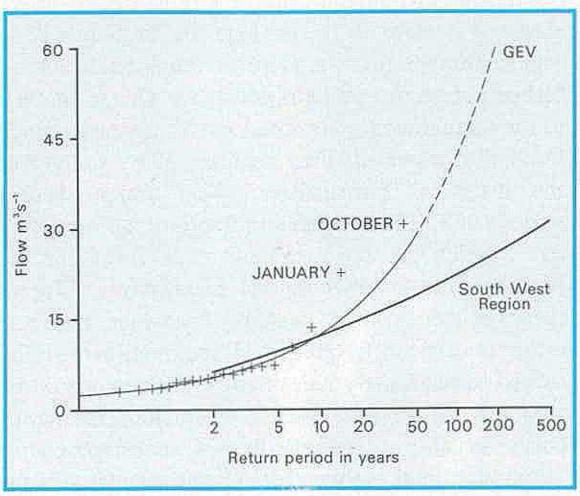

Figure 12. Flood frequency diagram for the River Kenwyn at Truro based on data for the water years 1968/69 to 1988/89.

Analysis of Event Data

Individual flood events on the River Kenwyn have been studied on several occasions, most recently by Boorman[3] as part of a revision of the Flood Studies Report rainfall-runoff model[7]. The percentage runoff (PR) was found to be less than 20 per cent for all events. These findings are comparable with values of PR evaluated for five events by MacGregor and Cameron[8] on the Kenwyn catchment which ranged from six per cent for a July event to 20 per cent for a January event. For both the 1988 events PR was around 40 per cent. It is important to note that relative to the 1988 events all these other events were small in terms of peak flow, the largest being only 4.3 m^3s^{-1}.

Data collected on these individual events showed that the 1988 floods were not particularly extreme in terms of rainfall intensity. The physical nature of the Kenwyn catchment is such that it is particularly susceptible to the amount of rain falling over a 5-hour period. This is thus the critical duration for flood generation. The Flood Studies Report gives the 5-year return period rainfall, of 5 hours duration, as 31 mm, the 10-year as 37 mm and the 20-year as 44 mm. The January storm, for which the maximum five-hour rainfall was 38.2 mm, thus has a return period of around 12 years, whilst the October storm (32.5 mm) would occur once, on average, about every seven years. Both are considerably more frequent than the resulting floods. Furthermore, the peak flow for the January event was less than that for the October flood despite the higher rainfall. Thus 5-hour storm rainfall intensity is not the only important flood producing factor. This is clear from the event of the 13th September 1975, in Boorman's data set, which exceeded both 1988 events in terms of rainfall but only resulted in a peak flow of 3.7 m^3s^{-1} because of low antecedent wetness. Percentage runoffs and hence peak flows have a wide range and are strongly influenced by antecedent rainfall. Heavy rainfall alone is rarely sufficient to both satisfy the soil moisture deficit and generate high river flows. Large floods result from the joint occurrence of a saturated catchment and heavy rainfall.

The Flood Studies Report rainfall-runoff model can also be used to estimate floods of various return periods. Results suggest that the January flood has a return period of around 17 to 30 years whilst the October flood would be exceeded once, on average, every 70 to 110 years, supporting the case for adopting a steep flood frequency curve. This suggests that the Kenwyn may not be typical of catchments in the South West region and that the regional growth curve may be inapplicable. To examine this hypothesis further information on historical floods was sought.

Historical information

The 1988 events showed that when flood flows exceed the capacity of the city centre culvert, water overflows into the streets and properties causing obvious damage and distress. It may be assumed, therefore, that if the culvert capacity had been exceeded in the past (a flow of at least 15-18 m^3s^{-1}) the event would have made local news. Truro is fortunate in having an extensive archive containing rainfall records, manuscripts, journals and newspapers. The historical rainfall data were used to indicate potential dates of flooding, and a search of papers was undertaken for reports of flooding in the city on those days. Unfortunately newspaper accounts do not always differentiate between flooding from blocked or inadequate surface drains and river flooding. Another problem is that there has not been a consistent relationship between level and flow, because of changes in the culvert capacity, so that the events are not directly comparable hydrologically. During the search, additional flood events were discovered showing that flooding in Truro is not a new phenomenon. A summary of the history of flooding in Truro described in the newspapers is given in Table 7.

TABLE 7 SUMMARY OF FLOODING HISTORY IN TRURO 1830–1987

Date			Subjective assessment
c 1830–1870			Development of River Street, construction of St George's Road and culvert.
13	November	1875	Gales and floods. High tide.
04/05	October	1880	Heavy rain. Surface water?
28	September	1882	High tide.
02	February	1885	Extreme tide.
12	November	1894	Serious flood. Wet catchment.
06	February	1899	Heavy rain. Surface water?
07/08	October	1924	Heavy rain. Mainly River Allen.
25–30	November	1954	Storms across Cornwall. Flooding from Kenwyn and Allen.
12	January	1955	Serious flooding from Kenwyn. Channel and tunnel capacities exceeded.
		1956	Improvements to culvert, removal of silt.
25	December	1956	Flooding St George's Villas.
10/11	August	1959	Heavy rain. Surface water?
		1971	Hydraulic improvements, culvert capacity increased.
29	November	1971	Heavy rain. Surface water.
08	August	1975	Thunderstorm. Surface water.
23/24	August	1977	Heavy rain. Surface water.
05/06	October	1977	Heavy rain. Surface water.
27/28	December	1979	Flooding of River Allen.

Serious flooding from the River Kenwyn certainly occurred both in November 1894 and again in January 1955, however, the impact of the November 1954 flood is less clear. The most likely interpretation of the history of flooding is that between 1870 and 1967 there were only two events, 1894 and 1955, which exceeded 18 m^3s^{-1} (the present culvert capacity). This historical information, combined with the annual maximum flood peaks recorded at the gauging station, can be used in a statistical analysis to better determine the shape of the flood frequency curve[9]. Results, using this approach, suggest that the return period of the January flood is approximately 50 years and that for the October flood is around 100 years. Various other scenarios were investigated, for example that there were three events in the same period which exceeded 15 m^3s^{-1} (the previous culvert capacity), though this only marginally altered the resulting return period assessments.

Conclusions

The most recent recorded event which caused serious river flooding prior to 1988 would appear to have been in 1956. Consequently, residents of the city, many of whom will have moved into the area since 1956 would - before January 1988 - have assumed that Truro had no river flooding problem, and others may simply have forgotten. It is not surprising, therefore, that the residents were somewhat alarmed to experience two very serious floods within 10 months. The small degree of urbanisation of the catchment is not sufficient to have caused a significant change in its response. Other characteristics of the catchment, such as land use practices do not appear to have altered for many years; for example there is little evidence of widespread artificial drainage, afforestation or mining. Furthermore, despite evidence for global temperature changes, it is unlikely to have been sufficient to have altered the climate of Cornwall to such an extent as to radically change the flood frequency. Thus, there is no reason to suppose that the two 1988 floods were other than chance occurrences.

Assuming that the relative size of floods on the Kenwyn is close to the average for the South West region, implies that the October flood would have a return period in excess of 400 years. Direct analysis of the annual maximum flood series suggests a much lower return period. This is supported by analysis of the historical information which assigns return periods of 50 and 100 years to floods of 22.5 and 30.4 m^3s^{-1} which are the estimated peak flows for the January and October floods respectively. Use of these historical data probably provides the best estimate of flood frequency, although only a lengthy record of accurately measured peak flows would be able to confirm this. Such a steep flood frequency curve is also suggested by an investigation of individual flood events which showed the large range in response to rainfall occurring between events is strongly influenced by antecedent catchment conditions. It is unrealistic to expect all catchments in a region to have identical flood growth curves. However, unless strong evidence is available, it is advisable to use the regional growth curve. In the Truro case, departure from the standard procedure was justified through the analysis of historical data and an understanding of the hydrological response of the catchment during extreme events.

It may be small comfort to the residents of Truro to know that the probability of getting both a 100-year and a 50-year flood in consecutive water years is 0.0004 (or 1 in 2500), but it is important in relation to the development of any future flood alleviation strategy. Thus the occurrences in 1988 were exceptional, but not implausibly so.

Acknowledgements

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The views expressed in this report are those of the author and not necessarily those of South West Water or its successor bodies.

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Computation and Accuracy of Gauged Flows

Gauged flows are generally calculated by the conversion of the record of stage, or water level, using a stage-discharge relation, often referred to as the rating or calibration. Stage is measured and recorded against time by instruments usually actuated by a float in a stilling well. The instrument records the level either continuously by pen and chart, or digitally on punched-tape or solid-state logger, generally at regular (normally 15 minute) intervals. These stage data are normally collected routinely, typically at weekly or monthly intervals, and taken to a regional centre for processing. At more than half of the gauging stations in the United Kingdom provision is made for the routine transmission of river levels directly to the processing centre, by telephone line or, less commonly, by radio; on occasions, satellites have been used to receive and re-transmit the radio signal. The rapid growth in the use of the public telephone network for the transmission of river level - and, occasionally, river flow - data is enabling hydrometric data acquisition to proceed on a near real-time basis in many areas. Typically, the data are stored on site, using a solid-state logger, and transmitted overnight for initial processing the following day. Normally, both digital and analogue recording devices are deployed at gauging stations to provide a measure of security against loss of record caused by instrument malfunction.

The stage-discharge relation is obtained either by installing a gauging structure, usually a weir or flume with known hydraulic characteristics, or by measuring the stream velocity and cross-sectional area at points throughout the range of flow at a site characterised by its ability to maintain the relationship.

The accuracy of the processed gauged flows therefore depends upon several factors:

i. accuracy and reliability in measuring and recording water levels,
ii. accuracy and reliability of the derived stage-discharge relation, and
iii. concurrency of revised ratings and the stage record with respect to changes in the station control.

Flow data from ultrasonic gauging stations are computed on-site where the times are measured for acoustic pulses to traverse a river section along an oblique path in both directions. The mean river velocity is related to the difference in the two timings and the flow is then assessed using the river's cross-sectional area. Accurate computed flows can be expected for stable river sections and within a range in stage that permits good estimates of mean channel velocity to be derived from a velocity traverse set at a single depth, or at a series of fixed depths.

Flow data from electromagnetic gauging stations may also be computed on-site. The technique requires the measurement of the electromotive force (emf) induced in flowing water as it cuts a vertical magnetic field generated by means of a large coil buried beneath the river bed, or constructed above it. This emf is sensed by electrodes at each side of the river and is directly proportional to the average velocity in the cross-section.

British and International Standards are followed as far as possible in the design, installation and operation of gauging stations. Most of these Standards include a section devoted to accuracy, which results in recommendations for reducing uncertainties in discharge measurements and for estimating the extent of the uncertainties which do arise.

The Surface Water Archive exists to provide not only a central database and retrieval service but also an extra level of hydrological validation. To further this aim, project staff at the Institute of Hydrology liaise with their counterparts in the water industry on a regional basis and, by visiting gauging stations and data processing centres, endeavour to maintain the necessary knowledge of local conditions and problems.

Scope of the Flow Data Tabulations

River flow data are presented in two parts. In the first, daily mean gauged flows are tabulated for 50 gauging stations; daily naturalised flows (see page 42) are also tabulated for the River Thames at Kingston. Monthly flow data for a further 159 gauging stations are given in the second part. The featured gauging stations have been selected to give a broad geographical coverage and to typify a wide range of catchment types found throughout the United Kingdom. A map (Figure 13) is provided on page 40 to assist in locating the gauging stations featured in this section.

For each gauging station, basic reference information is given together with comparative average and extreme river flow and rainfall figures based upon the archived record.

Explanatory notes precede the two sets of tables and are provided to assist in the interpretation of particular items. The notes relating to the daily flow tables are given overleaf; those relating to the monthly data are given on page 93.

Part (i) - the daily mean flow tabulations

Station Number

The gauging station number is a unique six-digit reference number which serves as the primary identifier of the station record on the Surface Water Archive. The first digit is a regional identifier being 0 for mainland Britain, 1 for the islands around Britain and 2 for Ireland. This is followed by the hydrometric area number given in the second and third digits. Hydrometric areas are either integral river catchments having one or more outlets to the sea or tidal estuary or, for convenience, they may include several contiguous river catchments having topographical similarity with separate tidal outlets. In Britain they are numbered from 1 to 97 in clockwise order around the coastline commencing in north-east Scotland: Ireland has a unified numbering system from 1 to 40, commencing with the River Foyle catchment and circulating clockwise; not all Irish hydrometric areas, however, have an outlet directly on the coast.

The numbers and boundaries of the United Kingdom hydrometric areas are shown in the frontispiece.

The fourth, fifth and sixth digits comprise the number, usually allocated chronologically, of the gauging station within the hydrometric area.

Where the leading digit, or digits, are zero they may be omitted giving rise to apparent four or five-digit reference numbers.

Measuring Authority

An abbreviation referencing the organisation responsible for the provision of river flow data to the Surface Water Archive. Most stations designated with 'Water Authority' codes in previous yearbooks have been transferred to the National Rivers Authority. In a few cases responsibility for individual stations remains a matter for further discussion between the NRA and the relevant Water Services PLC. A list of measuring authority codes together with the corresponding names and addresses for all organisations currently contributing data to the Surface Water Archive appears on pages 188 to 190.

Grid Reference

The initial two-letter and two-figure codes each designate the relevant 100 kilometre National Grid square or Irish Grid square (distinguished by the italicised two-figure code); the standard six-figure map reference follows.
Note: The Irish Grid has only one prefix letter but it is common practice to precede it with the letter I to make the identification clear.

Catchment Area

The surface catchment area, in the horizontal plane, draining to the gauging station in square kilometres. There are a few gauging stations where, because of geological considerations, the groundwater catchment area differs appreciably from the surface water catchment area and, in consequence, the baseflow, whether augmented or diminished, may cause the runoff values to appear anomalous.

First Year

The year in which the station started producing daily mean flow data, usually the first year for which data are held on the Surface Water Archive. Earlier data, often of a sporadic nature or of poorer quality, may occasionally be available from the measuring authorities or other sources.

Level of Station

The level of the station is, generally, the level of the gauge zero in metres above Ordnance Datum, or above Malin Head Datum for stations in Northern Ireland. Although gauge zero is usually closely related to zero discharge, it is the practice in some areas for an arbitrary height, typically one metre, to be added to the level of the lowest crest of a measuring structure to avoid the possibility of false recording of negative values by some digital recorders.

Maximum Altitude

The level to the nearest metre of the highest point in the catchment.

Table of daily mean gauged (or naturalised) discharges

The mean flow in cubic metres per second (abbreviated to m^3s^{-1} and sometimes also referred to as 'cumecs') in a water-day, normally 09.00 to 09.00. The naturalised discharge is the gauged discharge adjusted to take account of net abstractions and discharges upstream of the gauging station.

Peak Flow: The highest flow in cubic metres per second for each month. The day of peak generally refers to the water-day but the calendar day is also used, particularly in Scotland. Normally the peak flow corresponds to the highest fifteen-minute flow where water levels are recorded digitally, or the highest instantaneous flow associated with maximum stage where analogue recorders are used.

Runoff: The notional depth of water in millimetres over the catchment equivalent to the mean flow for the month as measured at the gauging station. It is computed using the relationship:

$$\text{Runoff in mm} = \frac{\text{Average Flow in Cumecs} \times 86.4 \times n}{\text{Catchment Area (km}^2\text{)}}$$

where n is the number of days in the month. The runoff total is rounded to the nearest millimetre.

Rainfall: The rainfall over the catchment in millimetres for each month. Except for the Institute of Hydrology's research catchments each areal rainfall total is derived from a one kilometre square grid of rainfall values generated from all available daily and monthly rainfall data - these data are provided by the Meteorological Office. Validation procedures allow for the rejection of obviously erroneous raingauge observations prior to the gridding exercise. A computer program then calculates catchment rainfall by averaging the values at the grid points lying within the digitised boundary of the catchment.

Statistics of monthly data for previous record

Only complete monthly records are used in the derivation of the average, low and high values of river flow, runoff and rainfall. The rainfall and runoff statistics are normally directly comparable but full equivalence will not obtain where the pattern of missing data differs between the archived rainfall and runoff data sets.

Where applicable, a guide to the amount of missing data is given following the section heading.

Summary statistics

Current year flow statistics are tabulated alongside the corresponding values for the previous record. Where appropriate, the current year figures are expressed as a percentage* of the preceding average.

Mean Flow: The average of all available daily mean flows during the term indicated.

Lowest Daily Mean: The value and date of occurrence of the lowest mean flow in cubic metres per second in a water-day during the term indicated. In a record in which the value recurs, the date is that of the last occasion.

River flow measurement tends to become more imprecise at very low discharges. Very low velocities, heavy weed growth and the insensitivity of stage-discharge relations combine with the difficulty of accurately measuring limited water depths to reduce the accuracy of computed flows. The reliability of both the lowest daily mean flow and the 95% exceedance flows (see below) as representative measures of low flow must, therefore, be considered carefully and the values used with caution in view of the increasing proportional variability between the natural flow and the artificial influences, such as abstractions, discharges and storage changes as the river flow diminishes.

Peak: The peak flow in cubic metres per second during the term indicated. The date of occurrence, normally the water-day, is also indicated. Generally, the peak flows are derived from the record of monthly instantaneous maximum flows stored on the Surface Water Archive. As a result of particular flow measurement difficulties in the flood range, this peak flow series is often incomplete. Reference to Volume IV of the Flood Studies Report[1] should be made to check for historical flood events which may exceed the peak falling within the gauged flow record.

10% exceedance: The flow in cubic metres per second which was equalled or exceeded for 10 per cent of the specified term - a high flow parameter which, when compared with the mean may give a measure of the variability, or 'flashiness', of the flow regime. The 10 per cent exceedance value is computed using daily flow data only for those years with ten days, or less, missing on the Surface Water Archive.

50% exceedance: The flow in cubic metres per second which was equalled or exceeded for 50 per cent of the specified term - the median value. The same conditions for completeness of the annual records apply as for the 10 per cent exceedance flow.

95% exceedance: The flow in cubic metres per second which was equalled or exceeded for 95 per cent of the specified term - a significant low flow parameter relevant in the assessment of river water quality consent conditions. The same conditions for completeness of the annual records apply as for the 10 per cent exceedance flow.

Factors affecting flow regime

An indication of the various types of abstractions from, and discharges to, the river operating within the catchment which alter the natural flow is given by a standard set of abbreviated descriptions. In Part (ii) - the monthly flow data - each description is shortened to a code letter. An explanation of the abbreviated descriptions and the code letters is given overleaf. With the exception of the induced loss in surface flow resulting from underlying groundwater abstraction, these codes and descriptions refer to quantifiable variations and do not include the progressive, and difficult to measure, modifications in the regime related to land-use changes.

* As a consequence of leap years the runoff and mean flow percentage may not be identical.

[1] Flood Studies Report 1975. Natural Environment Research Council (5 vols.).

CODE	EXPLANATION	ABBREVIATED DESCRIPTION
N	Natural, i.e., there are no abstractions and discharges or the variation due to them is so limited that the gauged flow is within 10 per cent of the natural flow at, or in excess of, the 95 per cent exceedance flow.	Natural within 10 per cent at the 95 per cent exceedance flow.
	Storage or impounding reservoir. Natural river flows will be affected by water stored in a reservoir situated in, and supplied from, the catchment above the gauging station.	Reservoirs in catchment.
R	Regulated river. Under certain flow conditions the river will be augmented from surface water and/or groundwater storage upstream of the gauging station.	Augmentation from surface water and/or groundwater.
	Public water supplies. Natural river flows are reduced by the quantity abstracted from a reservoir or by a river intake if the water is conveyed outside the gauging station's catchment area.	Abstraction for public water supply.
	Groundwater abstraction. Natural river flow may be reduced or augmented by groundwater abstraction or recharge. This category includes catchments where mine-water discharges influence the flow regime.	Flows influenced by groundwater abstraction and/or recharge.
	Effluent return. Outflows from sewage treatment works will augment the river flow if the effluents originate from outside the catchment.	Augmentation from effluent returns.
	Industrial and agricultural abstractions. Direct industrial and agricultural abstractions from surface water and from groundwater may reduce the natural river flow.	Flow reduced by industrial and/or agricultural abstraction.
	Hydro-electric power. The river flow is regulated to suit the need for power generation.	Regulation for HEP.

Except for a small set of gauging stations for which the net variation, i.e. the sum of abstractions and discharges, is assessed in order to derive the 'naturalised' flow from the gauged flow (see page 36), the record of individual abstractions, discharges and changes in storage as indicated in the code above is not held centrally.

Station and catchment description

A short commentary providing a guide to the characteristics of the station, its flow record and the catchment it commands; refer to page for an explanatory listing of the abbreviations and acronyms used. The principal objectives of this summary information are to assist data users in the selection of gauging station records appropriate to their needs and to assist in the interpretation of flow variability at individual gauging stations particularly where the natural flow pattern is significantly disturbed by artificial influences.

The descriptive material will be updated and revised to reflect the availability of more information and in response both to changing hydrometric conditions at the measuring site and changing patterns of land use and water utilisation in the catchment.

A comprehensive set of gauging station and catchment descriptions is provided in the 'Hydrometric Register and Statistics 1981–5' (see page 191).

Comment

A summary of any important factors influencing the accuracy of the current year's flow data specifically; for instance, the reconstruction of a gauging station or the use of extrapolated stage-discharge relations during periods of very low or very high flows.

STATIONS FOR WHICH DAILY OR MONTHLY DATA ARE GIVEN IN THE RIVER FLOW SECTION

STATION NUMBER	RIVER NAME AND STATION NAME	SEE PAGE
3003	OYKEL AT EASTER TURNAIG	94
4001	CONON AT MOY BRIDGE	94
7002	FINDHORN AT FORRES	94
D 8006	SPEY AT BOAT O BRIG	42
8007	SPEY AT INVERTRUIM	94
9001	DEVERON AT AVOCHIE	95
10002	UGIE AT INVERUGIE	95
11001	DON AT PARKHILL	95
D 12001	DEE AT WOODEND	43
13007	NORTH ESK AT LOGIE MILL	95
13008	SOUTH ESK AT BRECHIN	96
14001	EDEN AT KEMBACK	96
D 15006	TAY AT BALLATHIE	44
15011	LYON AT COMRIE BRIDGE	96
16003	RUCHILL WATER AT CULTYBRAGGAN	96
16004	EARN AT FORTEVIOT BRIDGE	97
17001	CARRON AT HEADSWOOD	97
17002	LEVEN AT LEVEN	97
18003	TEITH AT BRIDGE OF TEITH	97
18005	ALLAN WATER AT BRIDGE OF ALLAN	98
D 19001	ALMOND AT CRAIGIEHALL	45
20001	TYNE AT EAST LINTON	98
21006	TWEED AT BOLESIDE	98
D 21009	TWEED AT NORHAM	46
21012	TEVIOT AT HAWICK	98
21018	LYNE WATER AT LYNE STATION	99
21022	WHITEADDER WATER AT HUTTON CASTLE	99
D 22001	COQUET AT MORWICK	47
22006	BLYTH AT HARTFORD BRIDGE	99
23001	TYNE AT BYWELL	99
D 23006	SOUTH TYNE AT FEATHERSTONE	48
23007	DERWENT AT ROWLANDS GILL	100
24004	BEDBURN BECK AT BEDBURN	100
24009	WEAR AT CHESTER LE STREET	100
D 25001	TEES AT BROKEN SCAR	49
25006	GRETA AT RUTHERFORD BRIDGE	100
25019	LEVEN AT EASBY	101
25020	SKERNE AT PRESTON LE SKERNE	101
26003	FOSTON BECK AT FOSTON MILL	101
26005	GYPSEY RACE AT BOYNTON	101
D 27002	WHARFE AT FLINT MILL WEIR	50
27007	URE AT WESTWICK LOCK	102
27025	ROTHER AT WOODHOUSE MILL	102
27030	DEARNE AT ADWICK	102
D 27035	AIRE AT KILDWICK BRIDGE	51
D 27041	DERWENT AT BUTTERCRAMBE	52
27042	DOVE AT KIRKBY MILLS	102
27043	WHARFE AT ADDINGHAM	103
D 27053	NIDD AT BIRSTWITH	53
27059	LAVER AT RIPON	103
27071	SWALE AT CRAKEHILL	103
D 28009	TRENT AT COLWICK	54
28018	DOVE AT MARSTON ON DOVE	103
28024	WREAKE AT SYSTON MILL	104
28026	ANKER AT POLESWORTH	104
28031	MANIFOLD AT ILAM	104
28039	REA AT CALTHORPE PARK	104
28080	TAME AT LEA MARSTON LAKES	105
28082	SOAR AT LITTLETHORPE	105
D 28085	DERWENT AT ST MARY'S BRIDGE	55
29003	LUD AT LOUTH	105
D 30001	WITHAM AT CLAYPOLE MILL	56
30004	PARTNEY LYMN AT PARTNEY MILL	105
31002	GLEN AT KATES BRIDGE (TOTAL)	106
31007	WELLAND AT BARROWDEN	106
32003	HARPERS BROOK AT OLD MILL BRIDGE	106
D 32004	ISE BROOK AT HARROWDEN OLD MILL	57
D 33002	BEDFORD OUSE AT BEDFORD	58
33012	KYM AT MEAGRE FARM	106
33013	SAPISTON AT RECTORY BRIDGE	107
33024	CAM AT DERNFORD	107
33032	HEACHAM AT HEACHAM	107
34001	YARE AT COLNEY	107
34002	TAS AT SHOTESHAM	108
D 34006	WAVENEY AT NEEDHAM MILL	59
35002	DEBEN AT NAUNTON HALL	108
D 36006	STOUR AT LANGHAM	60
37001	RODING AT REDBRIDGE	108
37005	COLNE AT LEXDEN	108
37010	BLACKWATER AT APPLEFORD BRIDGE	109
38001	LEE AT FEILDES WEIR	109
D 38003	MIMRAM AT PANSHANGER PARK	61
38007	CANONS BROOK AT ELIZABETH WAY	109
38021	TURKEY BROOK AT ALBANY PARK	109
D 39001	THAMES AT KINGSTON	62
39002	THAMES AT DAYS WEIR	110
39005	BEVERLEY BROOK AT WIMBLEDON COMMON	110
D 39007	BLACKWATER AT SWALLOWFIELD	63
39014	VER AT HANSTEADS	110
39016	KENNET AT THEALE	110
39019	LAMBOURN AT SHAW	111
D 39020	COLN AT BIBURY	64
39021	CHERWELL AT ENSLOW MILL	111
39023	WYE AT HEDSOR	111
39029	TILLINGBOURNE AT SHALFORD	111
39049	SILK STREAM AT COLINDEEP LANE	112
39069	MOLE AT KINNERSLEY MANOR	112
D 40003	MEDWAY AT TESTON	65
40004	ROTHER AT UDIAM	112
40009	TEISE AT STONE BRIDGE	112
40011	GREAT STOUR AT HORTON	113
40012	DARENT AT HAWLEY	113
41001	NUNNINGHAM STREAM AT TILLEY BRIDGE	113
41005	OUSE AT GOLD BRIDGE	113
41006	UCK AT ISFIELD	114
D 41016	CUCKMERE AT COWBEECH	66
41019	ARUN AT ALFOLDEAN	114
41027	ROTHER AT PRINCES MARSH	114
42003	LYMINGTON AT BROCKENHURST PARK	114

continued on page 41

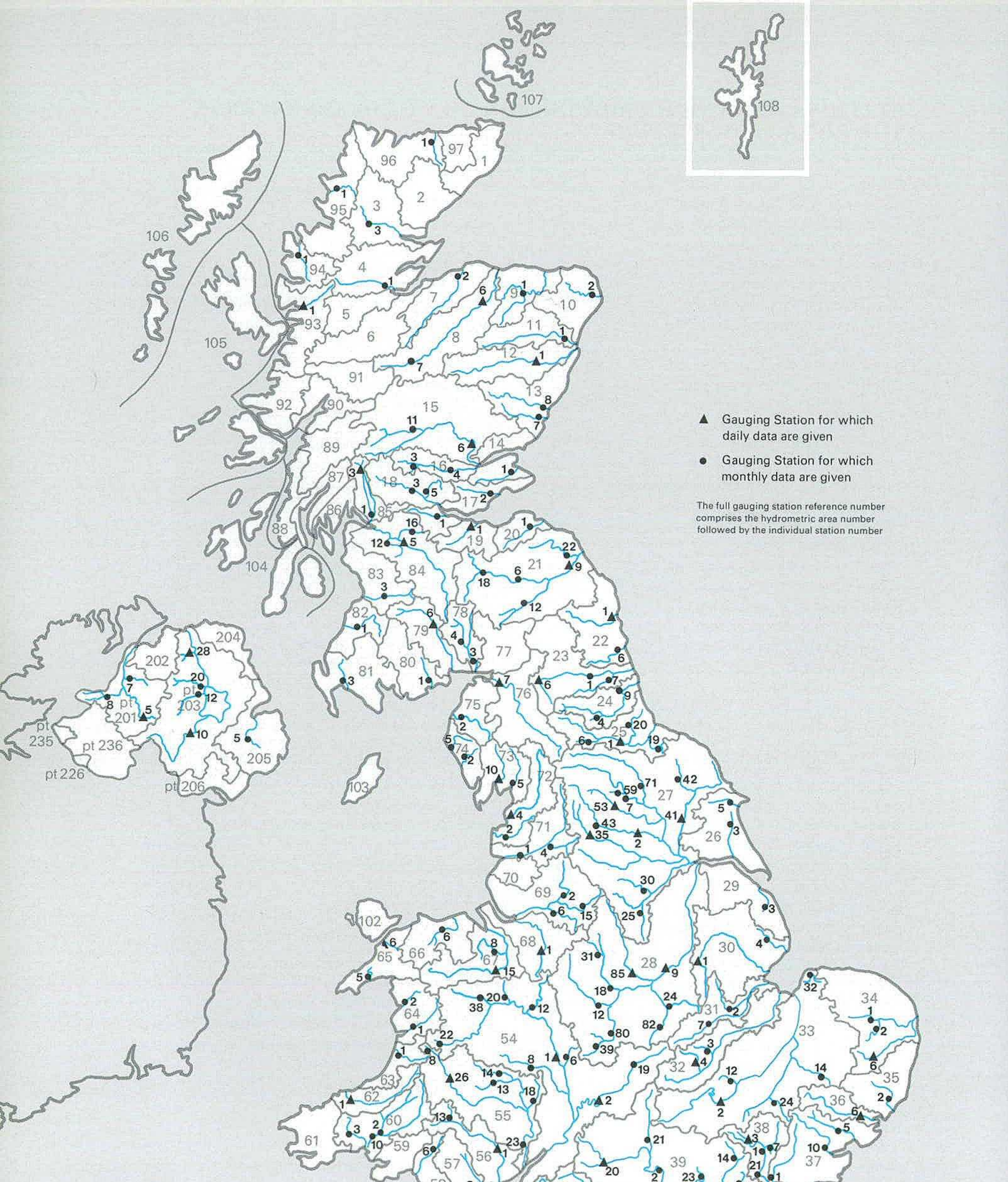


Figure 13. Gauging station location map.

RIVER FLOW DATA

STATION NUMBER	RIVER NAME AND STATION NAME	SEE PAGE
42004	TEST AT BROADLANDS	115
42006	MEON AT MISLINGFORD	115
42008	CHERITON STREAM AT SEWARDS BRIDGE	115
D 42010	ITCHEN AT HIGHBRIDGE AND ALLBROOK	67
D 43005	AVON AT AMESBURY	68
43006	NADDER AT WILTON PARK	115
43007	STOUR AT THROOP MILL	116
44002	PIDDLE AT BAGGS MILL	116
D 45001	EXE AT THORVERTON	69
45003	CULM AT WOODMILL	116
45005	OTTER AT DOTTON	116
46003	DART AT AUSTINS BRIDGE	117
D 47001	TAMAR AT GUNNISLAKE	70
47007	YEALM AT PUSLINCH	117
47008	THRUSHEL AT TINHAY	117
48004	WARLEGGAN AT TREGOFFE	117
48005	KENWYN AT TRURO	118
48011	FOWEY AT RESTOMEL	118
49001	CAMEL AT DENBY	118
49002	HAYLE AT ST ERTH	118
D 50001	TAW AT UMBERLEIGH	71
50002	TORRIDGE AT TORRINGTON	119
D 52005	TONE AT BISHOPS HULL	72
52006	YEO AT PEN MILL	119
52007	PARRETT AT CHISELBOROUGH	119
52010	BRUE AT LOVINGTON	119
53004	CHEW AT COMPTON DANDO	120
53006	FROME (BRISTOL) AT FRENCHAY	120
53007	FROME (SOMERSET) AT TELLISFORD	120
D 53018	AVON AT BATHFORD	73
D 54001	SEVERN AT BEWDLEY	74
D 54002	AVON AT EVESHAM	75
54006	STOUR AT KIDDERMINSTER	120
54008	TEME AT TENBURY	121
54012	TERN AT WALCOT	121
54019	AVON AT STARETON	121
54020	PERRY AT YEATON	121
54022	SEVERN AT PLYNLIMON FLUME	122
54038	TANAT AT LLANYBLODWEL	122
55008	WYE AT CEFN BRWYN	122
55013	ARROW AT TITLEY MILL	122
55014	LUGG AT BYTON	123
55018	FROME AT YARKHILL	123
55023	WYE AT REDBROOK	123
D 55026	WYE AT DDOL FARM	76
D 56001	USK AT CHAIN BRIDGE	77
56013	YSCIR AT PONTARYSCIR	123
57008	RHYMNEY AT LLANEDERYN	124
58006	MELLTE AT PONTNEDDFECHAN	124
60002	COTHI AT FELIN MYNACHDY	124
60003	TAF AT CLOG-Y-FRAN	124
60010	TYWI AT NANTGAREDIG	125
D 62001	TEIFI AT GLAN TEIFI	78
63001	YSTWYTH AT PONT LLOLWYN	125
64001	DYFI AT DYFI BRIDGE	125
64002	DYSYNNI AT PONT-Y-GARTH	125
65005	ERCH AT PENCAENEWYDD	126
D 65006	SEIONT AT PEBLIG MILL	79
66006	ELWY AT PONT-Y-GWYDDEL	126
67008	ALYN AT PONT-Y-CAPEL	126
D 67015	DEE AT MANLEY HALL	80
D 68001	WEAVER AT ASHBROOK	81
69002	IRWELL AT ADELPHI WEIR	126
69006	BOLLIN AT DUNHAM MASSEY	127
69015	ETHEROW AT COMPSTALL	127
71001	RIBBLE AT SAMLESBURY	127
71004	CALDER AT WHALLEY WEIR	127
72002	WYRE AT ST MICHAELS	128
D 72004	LUNE AT CATON	82
73005	KENT AT SEDGWICK	128
D 73010	LEVEN AT NEWBY BRIDGE	83
74002	IRT AT GALESYKE	128
74005	EHEN AT BRAYSTONES	128
75002	DERWENT AT CAMERTON	129
D 76007	EDEN AT SHEEPMOUNT	84
78003	ANNAN AT BRYDEKIRK	129
78004	KINNEL WATER AT REDHALL	129
D 79006	NITH AT DRUMLANRIG	85
80001	URR AT DALBEATTIE	129
81003	LUCE AT AIRYHEMMING	130
82001	GIRVAN AT ROBSTONE	130
83003	AYR AT CATRINE	130
D 84005	CLYDE AT BLAIRSTON	86
84012	WHITE CART WATER AT HAWKHEAD	130
84016	LUGGIE WATER AT CONDORRAT	131
85001	LEVEN AT LINNBRANE	131
D 85003	FALLOCH AT GLEN FALLOCH	87
D 93001	CARRON AT NEW KELSO	88
94001	EWE AT POOLEWE	131
95001	INVER AT LITTLE ASSYNT	131
96001	HALLADALE AT HALLADALE	132
101002	MEDINA AT UPPER SHIDE	132
D 201005	CAMOWEN AT CAMOWEN TERRACE	89
201007	BURN DENNET AT BURNDENNET BRIDGE	132
201008	DERG AT CASTLE DERG	132
D 203010	BLACKWATER AT MAYDOWN BRIDGE	90
203012	BALLINDERRY AT BALLINDERRY BRIDGE	133
203020	MOYOLA AT MOYOLA NEW BRIDGE	133
D 203028	AGIVEY AT WHITE HILL	91
205005	RAVERNET AT RAVERNET	133

A 'D' indicates that the featured station is in the daily flow section.

008006 Spey at Boat o Brig 1988

Measuring authority NERPB
First year 1952

Grid reference 38 (NJ) 318 518
Level stn (m OD) 43 10

Catchment area (sq km) 2861.2
Max alt (m OD) 1309

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	136 600	66 300	67 290	99 950	57 720	37 810	18 380	72 920	61 720	44 730	66 430	53 210
2	128 900	76 040	65 980	145 700	110 400	35 520	25 450	60 790	80 740	40 050	59 570	43 440
3	102 200	104 200	75 040	102 400	121 800	35 760	28 220	50 940	68 680	41 890	49 110	39 370
4	76 550	92 080	60 560	86 440	101 500	36 260	27 540	43 690	60 930	50 580	44 050	47 780
5	59 770	70 310	81 570	80 310	77 240	35 410	81 340	38 440	54 940	48 940	42 350	66 320
6	52 090	63 020	133 800	89 480	70 240	31 790	61 350	34 950	49 350	48 240	40 550	53 500
7	48 870	54 150	90 170	93 380	75 380	30 350	50 190	32 170	45 810	119 300	39 800	53 300
8	44 280	51 120	111 300	89 210	79 970	29 580	56 540	29 950	44 750	201 900	39 630	76 670
9	78 180	56 820	110 400	69 990	72 950	28 620	41 730	30 410	47 280	307 400	43 890	75 930
10	99 440	88 360	92 060	72 150	68 070	27 580	40 490	30 980	43 720	181 400	43 800	74 610
11	73 930	77 070	100 300	89 030	62 940	26 550	40 620	30 600	41 210	115 000	60 060	60 780
12	101 700	61 160	98 940	76 070	63 680	25 660	39 270	38 340	97 640	100 200	54 360	56 730
13	149 200	68 470	73 230	60 300	71 480	24 830	38 820	92 290	146 000	109 900	58 910	51 560
14	100 900	93 640	60 730	55 460	73 840	24 350	106 600	66 760	88 620	75 720	52 540	46 570
15	75 690	209 300	88 540	80 420	65 410	23 820	119 200	63 960	60 750	62 380	46 120	43 320
16	62 010	150 600	131 900	114 700	56 200	23 510	70 340	49 340	49 600	55 100	41 880	42 290
17	53 490	106 400	83 800	121 900	52 310	23 180	96 620	41 810	43 390	50 490	44 060	41 480
18	46 370	143 100	69 240	152 800	47 230	22 220	67 570	94 700	39 410	46 500	62 290	45 220
19	52 350	169 600	130 900	197 700	43 180	21 660	53 300	103 600	36 360	76 340	48 420	61 830
20	73 640	146 400	159 000	171 300	39 870	21 700	43 670	169 200	34 020	74 720	43 200	63 460
21	57 380	121 000	118 400	185 800	37 350	22 480	38 640	203 200	32 290	57 920	38 840	57 940
22	46 940	111 700	96 360	112 300	35 830	21 880	35 590	103 700	31 160	50 560	40 630	56 790
23	40 360	94 460	147 700	84 960	35 940	20 440	32 860	77 840	31 040	46 310	52 020	53 870
24	86 850	76 510	144 400	70 450	37 120	19 570	31 990	62 930	32 430	45 270	51 000	56 830
25	162 600	67 380	154 500	67 180	40 530	19 020	50 530	69 690	30 870	47 250	54 670	62 800
26	119 700	108 300	220 200	76 010	38 540	18 650	86 510	93 600	31 810	102 500	48 520	75 900
27	75 570	179 800	206 400	63 990	37 610	18 580	60 470	85 130	31 870	85 280	43 170	76 580
28	60 180	136 500	140 100	55 730	35 960	18 220	46 450	68 820	42 520	142 800	45 710	65 510
29	54 710	84 390	109 100	51 170	35 150	17 830	51 590	57 330	84 720	86 220	50 700	67 320
30	87 440		101 200	48 760	38 550	17 730	68 600	52 910	58 780	66 260	61 210	70 490
31	72 000		94 100		39 270		78 200	54 720		63 420		67 070
Average	80 000	101 000	110 200	95 500	58 810	25 350	54 470	67 930	53 410	85 290	48 920	58 340
Lowest	40 360	51 120	60 560	48 760	35 150	17 730	18 380	29 950	30 870	40 050	38 840	39 370
Highest	162 600	209 300	220 200	197 700	121 800	37 810	119 200	203 200	146 000	307 400	66 430	76 670
Peak flow	187 100	249 300	300 200	262 500	140 700	41 500	173 300	299 800	160 300	383 900	74 120	84 120
Day of peak	25	15	26	21	2	[illegible]	14	21	13	9	1	9
Monthly total (million cu m)	214 30	253 00	295 20	247 50	157 50	65 71	145 90	181 90	138 40	228 40	126 80	156 30
Runoff (mm)	75	88	103	87	55	23	51	64	48	80	44	55
Rainfall (mm)	142	114	141	75	44	23	150	126	96	140	64	87

Statistics of monthly data for previous record (Oct 1952 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	84 540	69 770	73 940	69 670	59 450	42 930	39 740	49 180	50 060	68 340	76 720	87 680
	Low	41 080	26 470	35 760	33 580	26 910	17 900	17 910	11 310	14 090	13 350	30 130	38 780
	(year)	1979	1963	1964	1974	1960	1961	1984	1955	1972	1972	1958	1976
	High	145 900	159 100	145 300	135 200	103 400	103 000	79 860	119 600	105 500	153 900	147 000	198 600
	(year)	1983	1962	1978	1979	1968	1966	1980	1956	1965	1981	1984	1954
Runoff	Avg	79	59	69	63	56	39	37	46	45	64	69	82
	Low	38	22	33	30	25	16	17	11	13	12	27	36
	High	137	135	136	122	97	93	75	112	96	144	133	186
Rainfall	Avg	108	69	81	63	78	75	86	98	96	115	115	119
	Low	38	26	29	19	24	26	20	21	21	30	33	46
	High	185	123	179	128	146	181	158	188	178	205	213	211

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	69 920		64 340		109
Lowest yearly mean			44 700	1972	
Highest yearly mean			82 810	1954	
Lowest monthly mean	25 350	Jun	11 310	Aug 1955	
Highest monthly mean	110 200	Mar	198 600	Dec 1954	
Lowest daily mean	17 730	30 Jun	9 311	16 Aug 1955	
Highest daily mean	307 400	9 Oct	1089 000	17 Aug 1970	
Peak	383 900	9 Oct	1675 000	17 Aug 1970	
10% exceedance	120 400		120 000		100
50% exceedance	60 390		49 800		121
95% exceedance	24 980		19 450		128
Annual total (million cu m)	2211 00		2030 00		109
Annual runoff (mm)	773		710		109
Annual rainfall (mm)	1202		1103		109
(1941-70 rainfall average (mm)			1184)		

Factors affecting flow regime

- Regulation for HEP

Station and catchment description

Lowest station currently operating on the Spey. Cableway rated 65m wide section with natural control, extreme floods bypass station on left bank. 380 sq km developed for hydro-power with diversions and storage. Mainly granites and Moinian metamorphics. Some Dalradian and a little Old Red Sandstone. Mountain (includes all northern slopes of Cairngorms), moorland, hill grazing and some arable. Forestry.

012001 Dee at Woodend 1988

Measuring authority: NERPB
First year: 1929

Grid reference: 37 (NO) 635 956
Level stn. (m OD): 70.50

Catchment area (sq km): 1370.0
Max alt. (m OD): 1310

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	71 270	58.940	33.220	50 090	43.760	25 100	9 459	51 610	113 700	18 350	41 570	35 480
2	59 020	55 410	34 250	57.480	60 680	21.480	21.060	35.290	82.700	19 380	38 240	28.090
3	41.990	55 460	35.760	46 630	54 750	22.520	18.570	28.560	52.960	20 450	32 060	28.300
4	32 600	45 980	29.000	42 150	48 490	27.960	28.100	23.700	39 580	30 700	29.100	46 450
5	26 920	36 860	32 680	44 980	42 750	23 040	83 050	21.150	39 800	32.670	28 430	42.780
6	26 490	31.620	58 210	60 510	45 310	18.880	41 860	19.650	31.880	28 560	26 050	29 520
7	24 300	27.660	42 140	64 010	54 320	17 680	25.540	17.690	32 980	61 460	24 840	29 730
8	21 880	27 880	51 460	57 070	56.660	17 030	24 440	15 970	48 440	106 600	25.250	63.920
9	68 300	28 740	62 120	40 390	49 800	16.490	20 560	16 250	35 150	118 600	45 580	45 860
10	47 870	35 730	46 770	41 010	47 460	15.570	32.120	15 360	29 950	57.690	35 070	52 060
11	31 060	29 410	56 080	51 570	41 710	14.810	28 670	16 350	25 860	41.740	41.560	39.020
12	105 000	25 100	51 600	40 730	41 470	14.230	22 140	17 320	47 020	68 910	37 730	35 390
13	108.500	35.720	35 450	31 180	48 650	13 600	30 480	38 640	67 030	55.540	42.410	30 990
14	53 450	46 960	29 560	28 500	51 430	13 340	42 980	47.320	42 450	40 800	31.790	77.460
15	42.930	115 800	51 460	49 180	44.970	12 890	40 480	40 560	32 310	33 840	27 410	25 290
16	34 030	68.750	64 830	78 670	38 110	12 360	30 570	24 510	27 230	29 950	24.880	24 560
17	29 460	46.100	40.940	90 860	35.140	12.260	55 610	21.220	23.760	27 190	33 480	23 050
18	23 880	64.990	35 410	115 700	29.170	11.560	34.210	51 430	21.760	25 500	45 400	23 800
19	59 460	93.740	81 050	128 200	25.360	10 850	26 060	64 360	19 710	159 200	29.320	28 540
20	47 080	75 860	104 700	94 590	22.390	10 790	21 360	71 380	18 300	89 580	26 340	26 360
21	31 330	59.800	67 660	98 740	20.390	11.210	20 010	86 320	17 250	61 250	23 450	27.320
22	25 220	53 410	56 100	61 390	20 150	10 930	18.740	47 290	16 660	48 680	24 450	27 520
23	21.450	43 940	99 750	48 040	21.370	9 632	17 650	38 170	18 990	41 430	27 450	24 250
24	68 220	35 430	90 570	41 190	24 070	9 276	19 440	32 110	20 150	47 640	26 700	24 210
25	69 610	31 660	84 480	39 320	32.320	9.058	69 660	34 240	16 630	88 410	31 900	30.970
26	54 730	39 080	91 050	44 010	25 220	8 993	54 910	33 920	18 070	218 600	28 520	41 440
27	41 020	108 700	86 360	37 260	25 430	8 653	31 970	36 340	15 830	75 680	25 400	35.100
28	35 840	75 400	75.530	32 040	23 020	8 037	25.560	28 150	17.810	82 480	32 280	27.810
29	34 050	40 540	55 840	29 300	27 530	7.696	34 400	24 520	37 430	57 620	36 350	33 070
30	58 780		52 790	27 990	34 230	7 519	41 420	23 620	22 960	48 820	49 180	35 360
31	44.210		49 590		28 140		47 280	27 650		45 480		34 700
Average	46 450	51 540	57 630	55.760	37 400	14 110	32 850	33 890	34 480	60 740	32 410	33.170
Lowest	21.450	25 100	29 000	27 990	20 150	7.519	9 459	15 360	15 830	18 350	23 450	23 050
Highest	108 500	115 800	104 700	128 200	60 680	27 960	83 050	86 320	113 700	218 600	49 180	63 920
Peak flow	169 300	148 500	148 100	240 400	80 010	31.630	137 500	126 400	227 500	439 900	78 290	73.100
Day of peak	13	15	26	8	1	4	25	19	1	26	17	8
Monthly total (million cu m)	124 40	129 10	154 30	144 50	100 20	36 59	87 98	90 77	89 37	162 70	84 00	88 85
Runoff (mm)	91	94	113	105	73	27	64	66	65	119	61	65
Rainfall (mm)	167	100	127	73	55	25	162	104	93	178	81	54

Statistics of monthly data for previous record (Oct 1929 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	47 590	39 840	42 320	45 220	36 370	22.640	18 350	22 450	25 930	39 390	47 040	49.370
	Low	15 450	13 420	15 160	11 380	12 130	7 340	7.258	5 141	6 491	6 798	12.230	22 020
	(year)	1940	1947	1973	1938	1946	1940	1984	1984	1972	1972	1983	1976
	High	127 800	90 110	88 680	113 300	85 950	56 080	36 710	63 850	71 830	138.200	127 500	108 400
	(year)	1937	1945	1977	1947	1986	1948	1958	1948	1930	1982	1984	1954
Runoff	Avg	93	71	83	86	71	43	36	44	49	77	89	97
	Low	30	24	30	22	24	14	14	10	12	13	23	43
	High	250	159	173	214	168	106	72	125	136	270	241	212
Rainfall	Avg	119	75	76	69	81	68	89	95	94	118	115	120
	Low	36	10	16	12	21	16	24	13	13	8	22	43
	High	374	148	175	196	179	160	206	185	227	310	320	282

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	40.880		36 360		112
Lowest yearly mean			24 190	1973	
Highest yearly mean			49 050	1982	
Lowest monthly mean	14.110	Jun	5 141	Aug 1984	
Highest monthly mean	60 740	Oct	138 200	Oct 1982	
Lowest daily mean	7.519	30 Jun	3.536	27 Aug 1976	
Highest daily mean	218.600	26 Oct	648 500	24 Jan 1937	
Peak	439 900	26 Oct	1133.000	24 Jan 1937	
10% exceedance	69.740		72.600		96
50% exceedance	34 700		25 640		135
95% exceedance	13 730		8.410		163
Annual total (million cu m)	1293 00		1147 00		113
Annual runoff (mm)	944		838		113
Annual rainfall (mm)	1219		1119		109
(1941-70 rainfall average (mm)			1194)		

Factors affecting flow regime

- Natural to within 10% at 95% exceedance flow.

Station and catchment description

Cableway rated, fairly stable natural control. Present station, built in 1972, replaced earlier station (flow records from 1929, chart records from 1934) on same reach (Cairnton; c/m measurements at Woodend) - established by Capt. McClean. Earlier staff gauge record dates from 1911. No regulation, little natural storage, minor abstractions. Dalradian and Moinian metamorphic along most of the valley, flanked by igneous intrusive. Mountain, moorland, forestry, pastoral and some arable in the valley bottom.

015006 Tay at Ballathie 1988

Measuring authority TRPB
First year. 1952

Grid reference 37 (NO) 147 367
Level stn (m OD): 26 30

Catchment area (sq km) 4587 1
Max alt. (m OD) 1214

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	583 067	258 677	135 854	277.115	151 979	65.239	36 633	199 466	493.747	169 413	194 063	240 129
2	515 911	311.573	132 983	258 721	159 857	65 640	54.802	177.683	509 094	185 726	183 192	180 993
3	432 616	359 952	137 413	221 858	140 842	64 406	52 133	159 144	421 265	262 490	161 645	151 522
4	391 775	316 123	126 364	225 316	139 757	66 355	45.337	132 422	378 899	284 278	151 489	238 493
5	341.379	291 297	116 922	211.895	132 975	61.167	69 932	121 930	399 445	288.271	135 190	199 003
6	298 771	241 827	130 246	180 161	126 786	59 687	63 113	106.267	386 773	277 060	127 199	186 391
7	250 102	215 680	117 986	163 105	122 099	59 429	60.454	96 794	381 391	370 119	124 174	191 052
8	222 384	215 305	138 567	165 114	103 717	57 488	55 782	93 938	394 323	442 863	134 251	262 819
9	369 203	255 354	138 393	183 352	104 049	54 084	55 015	115 087	308 368	567 703	166 973	237 388
10	324 599	277 484	144 818	159 937	98 423	52 744	109 396	115.405	274 015	419 720	215 625	198 007
11	282 940	241 106	162 385	137 521	93 904	53.103	110 679	135 984	244.849	345.671	222 870	177 048
12	571 658	228.299	148.129	136 039	95.401	49 435	97 097	170 227	251 286	358 613	227 383	156 174
13	614 384	267 147	127 441	166 964	106 411	47 682	158 822	174 944	235 334	377 782	225 292	147 036
14	437 793	310 710	140 325	152 134	98 635	46 649	168 717	277 873	203.957	309 579	182 241	138 707
15	387 828	439 910	216 918	159 678	86 195	45.947	130 045	216 312	189 313	261 784	171 633	130 382
16	329 370	340 469	249 889	203 010	96 803	45.618	134 119	173 254	174 453	240 799	180 866	122 442
17	292 168	270 874	148 371	258 699	85 396	47 480	169 282	153 592	163 031	228 018	193 237	101 817
18	273 763	342 680	194 288	374 153	80 800	45 749	125 019	270 383	143 231	244 739	191 928	131 049
19	403 325	364 373	270 240	429 455	80 114	43 718	110 718	271 079	150 163	852.439	155 269	144 131
20	388 274	332 285	311.946	255.735	77.386	43 235	93 403	292.993	146.829	703 773	151.286	147 952
21	325 477	269 402	291 629	242.731	76 756	44 370	89 325	203 009	136.843	488 728	148 422	167 158
22	281 508	248 680	283 786	233 164	74 733	43 253	86 415	167 446	135 861	401 885	136 923	178 143
23	247 898	226 212	391 220	225 729	72 355	40 413	91 151	157 023	149.362	330 415	124 025	209 386
24	353.756	206 289	448.584	171.210	80 527	38.882	104.178	151 053	129 348	312 658	115 206	188 586
25	344 249	193 197	577 717	158 452	93 659	39 026	314 712	156 390	123 529	348 639	108 716	213 867
26	297 207	175 063	514 038	169 073	75 206	39 547	328 901	146 245	139.823	739.918	96 683	308 177
27	265 298	190 230	429 113	176 020	78 111	38 966	251.986	193.738	152.666	454 794	93 314	310 180
28	219 491	190 303	394 039	162 124	70 061	36.443	225 241	154 267	202 894	398 734	121 426	278 439
29	179 880	159 474	335 483	146 772	64 077	35 531	232.145	160 972	199.962	345 076	134 055	290 730
30	219 625		338 690	141 582	71 053	35.554	199 632	193 412	188 671	302 617	314 746	287 343
31	204 293		296 625		67.799		192 423	225.523		260.759		251 750
Average	343 500	266 900	244 900	204 900	96 960	48.890	129 600	173 000	247 000	373 400	163 000	198 900
Lowest	179 880	159 474	116 922	136 039	64 077	35 531	36 633	93 938	123 529	169.413	93 314	101 817
Highest	614 384	439 910	577 717	429 455	159 857	66.355	328.901	292 993	509 094	852 439	314 746	310 180
Peak flow	761.161	484 503	606 753	640 310	196 474	70 995	514 243	415 391	745.307	1087 570	365 736	347 832
Day of peak	12	15	25	18	2	4	25	19	1	19	30	27
Monthly total (million cu m)	920 20	668 70	655 80	531 10	259 70	126 70	347 00	463 40	640 10	1000 00	422 40	532 80
Runoff (mm)	201	146	143	116	57	28	76	101	140	218	92	116
Rainfall (mm)	212	128	185	70	56	23	219	161	137	215	94	131

Statistics of monthly data for previous record (Oct 1952 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows.	Avg	235 900	198 500	200 400	144 500	122 000	81 470	66 920	86 650	121.900	186 400	215 000	247 100
	Low	92 900	52 560	69 380	75 210	45 500	42 080	31 390	14 700	40 660	39 690	89 160	112 800
	(year)	1963	1963	1953	1974	1980	1957	1984	1955	1955	1972	1972	1952
	High	515 800	353 700	424 800	231.200	321 100	190 400	126.100	286 100	283 900	390 500	407 700	491 400
	(year)	1974	1962	1967	1960	1986	1966	1985	1985	1985	1987	1984	1954
Runoff	Avg	138	106	117	82	71	46	39	51	69	109	121	144
	Low	54	28	41	43	27	24	18	9	23	23	50	66
	High	301	187	248	131	188	108	74	167	160	228	230	287
Rainfall	Avg	153	98	117	71	99	84	92	107	133	150	148	170
	Low	33	29	39	10	26	49	21	14	11	63	38	64
	High	393	182	224	150	214	181	169	250	266	269	311	304

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	207 700		158 800		131
Lowest yearly mean			107.300	1955	
Highest yearly mean			207 900	1954	
Lowest monthly mean	48 890	Jun	14.700	Aug 1955	
Highest monthly mean	373.400	Oct	515 800	Jan 1974	
Lowest daily mean	35 531	29 Jun	11 460	6 Aug 1955	
Highest daily mean	852.439	19 Oct	1223.000	27 Nov 1954	
Peak	1087 570	19 Oct	1570 000	30 Jan 1974	
10% exceedance	376.200		310.500		121
50% exceedance	178 800		128 000		140
95% exceedance	47 210		43 210		109
Annual total (million cu m)	6568 00		5011 00		131
Annual runoff (mm)	1432		1092		131
Annual rainfall (mm)	1631		1422		115
[1941-70 rainfall average (mm)			1443]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Regulation for HEP
- Abstraction for public water supplies
- Flow reduced by industrial and/or agricultural abstractions.

Station and catchment description

Velocity-area station with cableway. 90m wide. The most d/s station on the Tay, records highest mean flow in UK. Since end of 1957, 1980 sq km (43%) controlled for HEP; there was some control prior to this. 73 sq km controlled for water supply. Catchment is mostly steep, comprising mountains and moorland; exceptions are lower valleys. Mainly rough grazing and forestry. Geology: mainly metamorphics and granites, but lower 20% (Isla valley) is Old Red Sandstone

019001 Almond at Craigiehall 1988

Measuring authority: FRPB
First year: 1957

Grid reference: 36 (NT) 165 752
Level stn. (m OD): 22.90

Catchment area (sq km): 369.0
Max alt. (m OD): 518

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	45.911	39.468	2.374	6.639	3.320	1.884	2.057	3.307	3.783	2.968	2.984	12.016
2	31.747	31.761	2.222	6.879	3.543	1.690	1.988	2.588	5.504	2.753	2.751	7.597
3	30.450	30.210	2.604	4.686	10.020	1.884	1.477	2.182	5.173	3.786	2.573	7.586
4	14.370	14.679	2.399	3.817	13.116	2.099	1.465	1.950	4.797	4.853	2.650	24.163
5	10.991	10.587	2.306	3.357	6.734	1.709	3.270	1.708	13.294	4.823	2.738	10.270
6	12.657	8.811	2.293	3.087	4.309	1.478	1.847	1.532	11.142	31.087	2.582	6.397
7	8.056	8.170	1.997	2.739	3.311	1.533	3.293	1.381	12.248	17.133	2.541	5.148
8	7.881	11.195	2.052	3.245	3.324	1.579	2.227	1.710	10.252	10.279	2.847	5.020
9	17.947	36.137	2.052	3.007	3.218	1.661	2.091	2.056	5.943	8.426	4.095	4.887
10	9.670	16.241	2.013	2.832	2.783	1.669	3.624	2.010	4.281	5.430	8.150	4.754
11	8.566	8.296	2.365	2.632	2.643	1.508	2.361	1.847	4.099	4.233	6.606	4.185
12	10.217	6.302	2.991	2.462	2.831	1.571	2.511	6.019	4.630	8.777	4.282	3.501
13	7.311	5.792	2.714	2.202	2.452	1.642	4.002	4.818	3.174	6.910	3.489	3.126
14	5.548	7.570	2.518	1.803	2.192	1.591	6.121	15.767	2.489	4.942	3.171	2.998
15	5.248	15.894	19.725	1.988	2.039	1.545	3.689	7.948	2.122	3.958	2.990	2.999
16	4.571	12.349	21.598	2.770	1.919	1.461	5.239	3.938	1.968	3.464	2.931	2.978
17	4.190	7.582	7.856	2.858	1.928	1.482	5.670	3.946	1.753	3.246	3.679	2.794
18	4.257	6.593	6.260	31.026	1.908	1.430	3.229	20.505	1.664	3.202	4.401	3.711
19	16.913	5.494	17.713	31.723	1.820	1.400	2.408	21.420	1.681	4.738	4.072	5.349
20	8.253	4.663	8.223	12.012	1.644	1.427	2.077	16.189	1.754	6.319	4.079	3.900
21	5.936	4.202	5.988	7.044	1.481	1.602	4.089	6.966	1.786	5.475	3.394	4.210
22	5.016	3.826	4.998	5.150	1.475	1.473	9.755	4.449	2.526	4.401	3.167	6.233
23	4.367	3.557	4.653	3.967	2.280	1.287	10.534	3.356	24.066	7.431	3.979	13.221
24	31.732	3.263	14.053	3.371	3.308	1.228	10.363	2.887	11.523	11.791	5.847	7.507
25	25.110	3.070	12.383	3.020	3.201	1.239	9.897	2.680	8.989	8.586	4.720	7.026
26	24.105	2.730	12.523	3.505	2.315	1.535	8.959	2.492	8.175	13.770	3.781	30.263
27	11.071	2.708	6.687	2.985	2.179	1.271	5.786	3.095	7.128	7.439	3.558	15.408
28	8.032	2.598	10.059	2.588	1.910	1.213	6.372	2.322	7.602	5.138	5.868	8.590
29	9.091	2.516	7.938	2.397	2.964	1.152	8.499	2.658	4.554	3.931	20.760	6.125
30	8.250		6.189	2.208	2.909	1.059	6.056	3.307	3.316	3.520	30.912	4.692
31	7.614		4.655		2.200		4.670	3.498		3.180		3.951
Average	13.070	10.910	6.594	5.600	3.267	1.510	4.698	5.178	6.047	6.967	5.320	7.439
Lowest	4.190	2.516	1.997	1.803	1.475	1.059	1.465	1.381	1.664	2.753	2.541	2.794
Highest	45.911	39.468	21.598	31.723	13.116	2.099	10.534	21.420	24.066	31.087	30.912	30.263
Peak flow	57.763	67.216	38.989	71.247	20.580	2.519	14.158	26.559	42.314	44.243	79.382	43.838
Day of peak	1	1	15	18	3	3	22	19	23	6	29	26
Monthly total (million cu m)	35.00	27.33	17.66	14.52	8.75	3.91	12.58	13.87	15.67	18.66	13.79	19.92
Runoff (mm)	95	74	48	39	24	11	34	38	42	51	37	54
Rainfall (mm)	107	69	82	61	58	15	151	97	91	77	61	59

Statistics of monthly data for previous record (Jan 1957 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	9.150	7.270	6.381	4.309	3.166	2.469	2.303	3.159	4.614	6.355	9.370	9.299
	Low	3.574	1.782	1.918	1.410	1.091	0.817	0.950	0.869	0.668	0.668	1.862	3.016
	(year)	1963	1963	1973	1974	1961	1961	1960	1983	1959	1972	1972	1975
	High	16.300	15.450	14.300	9.840	11.170	8.572	9.223	8.568	20.360	15.120	21.660	19.860
	(year)	1984	1984	1979	1986	1968	1966	1958	1985	1985	1981	1963	1986
Runoff	Avg	66	48	46	30	23	17	17	23	32	46	66	67
	Low	26	12	14	10	8	6	7	6	5	5	13	22
	High	118	105	104	69	81	60	67	62	143	110	152	144
Rainfall	Avg	79	54	67	51	62	61	72	83	89	89	93	87
	Low	28	17	22	8	16	24	23	19	14	23	19	21
	High	145	107	127	89	123	136	173	142	195	177	190	179

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	6.377		5.647		113
Lowest yearly mean			2.890	1973	
Highest yearly mean			8.199	1986	
Lowest monthly mean	1.510	Jun	0.668	Oct 1972	
Highest monthly mean	13.070	Jan	21.660	Nov 1963	
Lowest daily mean	1.059	30 Jun	0.241	9 Oct 1959	
Highest daily mean	45.911	1 Jan	142.300	21 Sep 1985	
Peak	79.382	29 Nov	199.600	3 Nov 1984	
10% exceedance	13.300		12.900		103
50% exceedance	3.945		2.840		139
95% exceedance	1.492		0.876		170
Annual total (million cu m)	201.70		178.20		113
Annual runoff (mm)	546		483		113
Annual rainfall (mm)	928		887		105
[1941-70 rainfall average (mm)			909]		

Factors affecting flow regime

- Abstraction for public water supplies.
- Flow reduced by industrial and/or agricultural abstractions
- Augmentation from effluent returns.

Station and catchment description

The recorder is well sited on a straight even reach with steep banks which have contained all recorded floods. Stable rating over the period of record. Weed growth in summer some adjustment to stage is required. Low flows substantially affected by sewage effluent especially from Mid Calder. Abstraction at Almondell to feed a canal. A number of storage reservoirs are situated in the catchment. Geology - predominantly Carboniferous rocks. Land use - mainly rural. Livingston new town and several small mining towns in catchment.

021009 Tweed at Norham 1988

Measuring authority: TWRP
First year: 1962

Grid reference: 36 (NT) 898 477
Level stn (m OD): 4.30

Catchment area (sq km): 4390.0
Max alt. (m OD): 839

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	252.655	451.375	45.314	54.826	36.903	33.127	14.787	117.573	81.032	43.933	67.593	214.207
2	424.354	461.537	42.452	63.182	59.251	26.939	17.306	90.126	116.622	48.470	59.911	140.315
3	321.194	259.526	44.710	55.058	53.931	25.423	17.293	68.527	82.014	61.986	55.713	115.827
4	228.786	204.839	39.991	50.285	108.997	29.887	18.681	56.832	85.325	56.323	52.551	246.650
5	170.743	160.616	37.656	46.300	80.938	27.780	36.133	48.600	159.182	53.952	49.184	154.959
6	462.372	138.207	37.885	43.961	58.307	23.979	34.897	43.673	113.400	102.194	45.773	116.468
7	331.242	120.376	36.360	40.499	49.194	21.903	33.611	39.733	126.177	132.637	43.834	93.437
8	198.116	122.229	34.361	40.521	56.218	20.178	34.529	36.551	94.788	84.887	41.804	83.930
9	270.992	258.508	33.995	42.820	65.492	19.330	28.951	35.220	79.897	97.302	69.941	81.413
10	221.215	268.738	35.288	38.608	48.723	21.851	49.060	33.210	68.476	74.404	102.447	78.755
11	182.111	159.496	34.812	36.367	43.193	19.783	37.372	32.315	63.976	62.746	92.347	67.567
12	200.306	127.131	53.905	34.993	49.000	18.285	31.136	43.423	58.181	91.225	61.951	59.814
13	215.749	154.056	48.390	33.739	43.621	17.568	31.888	56.826	53.161	95.975	54.916	55.977
14	160.267	179.334	42.501	31.943	38.463	16.794	42.659	114.719	46.625	71.561	48.566	53.240
15	160.825	164.696	79.454	30.567	34.535	16.255	45.100	102.164	43.522	58.649	44.762	49.931
16	133.884	151.182	147.367	34.255	32.744	18.365	31.423	58.848	38.794	53.430	42.058	47.683
17	117.767	116.337	87.605	45.742	31.275	19.611	83.420	46.863	37.153	48.840	40.213	45.506
18	105.979	109.782	66.709	125.601	30.922	16.897	46.842	57.684	33.515	45.476	48.929	43.698
19	209.831	106.162	102.571	213.071	30.268	15.942	34.880	113.451	32.387	127.847	45.017	50.154
20	167.366	94.589	87.378	89.200	28.743	15.488	30.157	143.401	31.167	143.638	46.808	47.083
21	130.328	83.634	77.906	69.925	27.089	15.735	30.623	106.229	30.210	116.306	45.188	43.520
22	109.400	74.025	70.681	61.064	25.997	15.318	207.366	74.496	31.047	85.887	41.133	48.310
23	96.706	67.512	68.960	52.684	24.721	15.891	203.159	60.485	63.935	74.868	41.967	74.539
24	158.887	62.960	80.939	46.584	28.517	17.063	198.057	54.249	72.726	98.239	57.775	73.055
25	150.721	60.720	87.227	43.934	33.978	14.420	205.860	49.526	53.912	105.494	83.379	58.218
26	131.108	57.880	78.167	45.036	33.449	15.834	175.491	45.201	122.079	335.341	69.695	83.101
27	117.759	60.032	70.042	44.820	37.918	15.999	133.963	46.518	67.995	188.354	58.384	126.981
28	105.140	54.861	71.112	40.048	30.850	14.954	172.982	44.936	74.161	133.016	77.953	93.073
29	124.995	48.442	71.186	37.275	26.495	14.741	212.604	40.045	67.176	103.237	71.798	78.023
30	127.677		65.328	34.874	35.038	15.877	132.091	51.402	50.627	86.253	272.550	66.423
31	129.538		62.361		35.256		111.720	98.802		75.055		58.378
Average	190.900	151.000	62.660	54.260	42.580	19.370	80.130	64.890	69.310	95.400	64.470	85.490
Lowest	96.706	48.442	33.995	30.567	24.721	14.420	14.787	32.315	30.210	43.933	40.213	43.520
Highest	462.372	461.537	147.367	213.071	108.997	33.127	212.604	143.401	159.182	335.341	272.550	246.650
Peak flow	747.970	835.560	171.323	476.697	131.313	38.193	331.171	173.440	238.536	478.326	351.945	299.486
Day of peak	6	1	15	18	4	1	22	14	5	26	30	4
Monthly total (million cu m)	511.30	378.30	167.80	140.60	114.00	50.22	214.60	173.80	179.60	255.50	167.10	229.00
Runoff (mm)	116	86	38	32	26	11	49	40	41	58	38	52
Rainfall (mm)	136	75	72	55	65	20	186	100	86	97	69	54

Statistics of monthly data for previous record (Oct 1962 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	122.100	98.700	103.300	70.840	57.370	38.490	31.920	45.170	55.310	80.700	112.900	116.100
	Low	50.320	37.180	26.290	25.190	17.950	15.550	11.650	9.881	10.990	10.170	24.710	40.690
	(year)	1973	1963	1973	1974	1980	1974	1984	1976	1972	1972	1973	1975
	High	249.700	173.300	236.400	142.200	153.300	66.200	85.330	146.300	179.900	176.300	271.700	197.900
	(year)	1982	1978	1963	1979	1967	1981	1985	1985	1985	1967	1963	1979
Runoff	Avg	74	55	63	42	35	23	19	28	33	49	67	71
	Low	31	20	16	15	11	9	7	6	6	6	15	25
	High	152	99	144	84	94	39	52	89	106	108	160	121
Rainfall	Avg	94	62	83	60	76	70	73	91	94	93	102	94
	Low	45	15	21	12	22	25	24	21	19	25	16	23
	High	165	125	138	98	181	129	160	188	164	163	224	175

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre 1988
Mean flow (m^3s^{-1})	81.650		77.660		105
Lowest yearly mean			33.920	1973	
Highest yearly mean			102.400	1963	
Lowest monthly mean	19.370	Jun	9.881	Aug 1976	
Highest monthly mean	190.900	Jan	271.700	Nov 1963	
Lowest daily mean	14.420	25 Jun	7.427	28 Aug 1976	
Highest daily mean	462.372	6 Jan	1138.000	4 Jan 1982	
Peak	835.560	1 Feb	1518.000	4 Jan 1982	
10% exceedance	162.300		165.400		98
50% exceedance	57.970		52.450		111
95% exceedance	17.700		14.260		124
Annual total (million cu m)	2582.00		2451.00		105
Annual runoff (mm)	588		558		105
Annual rainfall (mm)	1015		992		102
(1941-70 rainfall average (mm)			1009)		

Factors affecting flow regime

- Reservoir(s) in catchment
- Abstraction for public water supplies

Station and catchment description

Lowest station on River Tweed. Velocity-area station at very wide natural section. Complex control. Moderate seasonal weed growth effects on rating. Reservoirs in headwaters have only a small impact on the flow regime - monthly naturalised flows available. Geology: mixed but principally impervious Palaeozoic formations. Moorland and hill pasture predominates; improved grasslands and arable farming below Melrose.

022001 Coquet at Morwick 1988

Measuring authority: NRA-N
First year. 1963

Grid reference: 46 (NU) 234 044
Level stn. (m OD): 5.20

Catchment area (sq km). 569.8
Max alt. (m OD): 776

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	15 504	23 153	4 446	4.153	3.280	4 611	1.746	15 429	4.786	3 629	6 801	57.701
2	24 401	24 564	4 487	4 277	4 641	3 053	2.508	9.105	7 508	3.156	6.075	27 987
3	18 464	13 848	4 286	4 474	10 432	3 461	2.369	6.581	4 306	2.929	5.390	26.274
4	13 662	11.703	4 000	4.277	9.626	4 975	3.809	5 097	4.479	3.358	5 073	39.705
5	10 340	11.367	4 120	3 896	5.822	3.145	7.345	4 287	5 549	6 250	4 938	17 303
6	116 028	10 451	4 024	3 676	4 274	2 567	4.720	3.747	4.764	8.183	4.787	12.016
7	38 560	9 187	3 827	3.563	3 649	2.303	5 427	3 279	7 983	7.781	4.454	9 900
8	19.931	9 271	3 888	3.551	3 636	2.143	5.179	3.050	5 857	5.158	4.620	8.872
9	21 850	26 402	4 396	3.682	4.177	2 006	3.630	3 110	5.258	6 143	7 667	8.309
10	15 624	28 577	4 245	3 453	3 678	1.974	3.355	2 853	4 047	7.295	5 913	7 732
11	12 202	13 904	8 787	3 216	3.213	1.955	3 459	2 720	4.388	6 000	5.216	6 735
12	11 563	10 290	6 597	3.150	4 035	1.935	3 412	2.739	3 969	33.030	4.638	6.091
13	10.564	8 977	5 622	3 042	3 917	1 784	3.819	3.063	4 198	18.834	4.391	5.783
14	8 967	11 966	18 493	2.919	3 297	1 717	4 474	3 626	3.431	9 838	4 146	5.358
15	8 165	10 887	32 195	2.902	2.859	1.717	5 163	5 264	3 003	7.254	3.964	5 196
16	7.549	10 290	13 372	3.135	2 871	1 717	3.599	3 240	2 768	6.190	3 815	4.917
17	7 038	8 092	10 528	3 143	2.515	1 717	3 463	2.715	2 577	5.380	3 698	4 649
18	9 360	7.286	13 610	3.297	2 489	1.717	3.380	3 663	2 387	6 514	4 463	4 511
19	21 915	6 902	9.651	8.275	2 492	1.615	2 754	6 493	2 286	60 345	4 943	4 712
20	12 269	6 262	9 608	4 426	2 647	1 577	2 530	7 212	2 251	53 434	7 065	4 279
21	9.189	5 771	8 828	3.623	2.410	1.577	3.178	7 916	2 201	23 363	6 532	4 151
22	7.831	5.336	8 226	3 310	2 270	1.564	32.448	4 921	2 210	13.699	5 881	4 191
23	7.180	5 065	7 399	3 070	2 180	1 506	21 386	3 848	4 274	10.710	8 832	11 458
24	21 452	5 021	6 793	2.888	2 494	1 447	9 155	3 406	6 256	31.729	11 799	7 920
25	13 453	5 684	5 727	2.771	2 804	1.444	6.456	3 089	4 023	22 615	15 915	6 258
26	10 775	6 270	5.210	2 954	2.875	1 590	6 935	2 910	6 429	45.301	11 844	6 825
27	9 770	8 773	5 099	3 792	5.311	1 714	5 489	2 889	4 118	24.728	9 482	9 082
28	9 139	6 978	4 946	3 630	3 363	1.563	24.555	2 853	7 678	14 133	16 434	7 996
29	24 317	5 300	4.600	3 091	2 677	1 504	38 647	2 850	6 969	10 214	22 397	7 139
30	17 774		4 323	2 906	2 633	1 534	15 801	3 307	4.415	8 568	121 170	5 834
31	14 215		4 153		3.697		12.077	3 435		7.574		5 156
Average	17 710	10 950	7 596	3 618	3.750	2 104	8 138	4 474	4.479	15 270	11 080	11 100
Lowest	7 038	5 021	3 827	2 771	2 180	1.444	1 746	2 715	2 201	2 929	3 698	4 151
Highest	116 028	28 577	32.195	8 275	10 432	4 975	38.647	15.429	7 983	60 345	121.170	57 701
Peak flow	155 246	44 670	44 925	13.764	12 494	7 385	88 252	37 164	15.110	81.608	163 316	86 305
Day of peak	6	9	15	19	3	3	29	1	28	19	30	1
Monthly total (million cu m)	47 44	27 44	20 35	9 38	10 05	5 45	21.80	11 98	11 61	40 90	28.7'	29 72
Runoff (mm)	83	48	36	16	18	10	38	21	20	72	50	52
Rainfall (mm)	120	48	61	39	67	19	169	70	74	119	89	43

Statistics of monthly data for previous record (Nov 1963 to Dec 1987—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean	Avg	15 180	13 050	13.000	9 186	5 837	3 859	3 299	4.570	4.765	7.686	12 410	13 210
flows	Low	5 420	2 672	1 729	2.929	2 039	1 140	1.168	1.232	1 418	1 084	1.926	4.563
	(year)	1973	1973	1973	1974	1984	1970	1984	1983	1972	1972	1973	1971
	High	32 310	26 350	31.390	20 980	15 410	6 441	7 969	12 950	14 240	26 860	31 370	33 340
	(year)	1982	1978	1979	1987	1983	1987	1968	1986	1965	1976	1965	1978
Runoff	Avg	71	56	61	42	27	18	16	21	22	36	56	62
	Low	25	11	8	13	10	5	5	6	6	5	9	21
	High	152	112	148	95	72	29	37	61	65	126	143	157
Rainfall	Avg.	90	58	81	57	67	58	65	77	78	75	87	85
(1966-	Low	38	15	18	8	18	8	19	18	15	19	19	31
1987)	High	140	120	144	118	127	129	108	161	215	176	214	251

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	8 374		8 820		95
Lowest yearly mean			3 716	1973	
Highest yearly mean			11 380	1969	
Lowest monthly mean	2 104	Jun	1 084	Oct 1972	
Highest monthly mean	17.710	Jan	33 340	Dec 1978	
Lowest daily mean	1 444	25 Jun	0 721	20 Jun 1970	
Highest daily mean	121 170	30 Nov	203 200	3 Jan 1982	
Peak	163.316	30 Nov	289 700	4 Jan 1982	
10% exceedance	16 630		19 230		86
50% exceedance	5.000		5 050		99
95% exceedance	1 799		1 378		131
Annual total (million cu m)	264 80		278 30		95
Annual runoff (mm)	465		488		95
Annual rainfall (mm)	918		878		105
[1941-70 rainfall average (mm)			884]		

Factors affecting flow regime

- Natural to within 10% at 95 percentile flow

Station and catchment description

Velocity-area station with 34m wide concrete Flat V weir made with pre-cast segments (installed 1969). Cableway. Fairly straight section with high banks. Replaced earlier station at Guyzance. Natural catchment

023006 South Tyne at Featherstone 1988

Measuring authority: NRA-N
First year: 1966

Grid reference: 35 (NY) 672 611
Level stn. (m OD): 131.70

Catchment area (sq km): 321.9
Max alt. (m OD): 893

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	44.003	110.571	3.072	7.034	4.376	2.742	2.120	8.783	24.960	5.401	4.425	16.317
2	98.292	34.760	8.592	6.521	9.015	3.644	2.086	6.315	21.091	4.656	4.053	8.052
3	49.602	23.590	10.090	7.112	10.511	17.609	1.810	5.214	11.390	4.134	3.655	51.236
4	18.321	16.959	4.576	5.329	17.195	9.888	10.555	4.510	7.990	3.802	3.341	27.559
5	11.970	11.328	4.068	4.550	8.471	6.331	13.562	3.978	8.070	5.391	3.243	10.881
6	62.097	9.136	14.201	4.121	4.668	3.548	6.942	3.461	5.967	32.081	3.137	7.077
7	13.340	7.844	6.414	3.883	3.642	2.756	6.652	3.121	4.978	22.718	3.102	6.064
8	30.413	9.903	7.684	4.693	10.402	2.314	11.865	2.841	5.011	20.968	3.009	10.375
9	34.636	33.607	20.563	4.627	5.797	2.125	10.637	2.988	4.339	11.288	4.861	17.087
10	16.785	26.001	13.736	4.147	4.271	2.015	10.692	2.668	4.254	9.316	7.642	9.353
11	13.800	10.780	38.932	3.802	3.682	1.942	7.101	2.625	6.615	6.401	6.166	6.311
12	20.154	7.939	25.452	3.413	3.955	1.803	7.233	5.617	5.942	12.129	4.472	5.277
13	15.448	41.476	10.471	3.149	3.322	1.657	21.792	4.744	4.274	11.963	4.278	5.100
14	9.944	29.224	9.512	2.853	2.954	1.594	25.068	9.740	3.501	6.548	3.636	4.779
15	8.906	28.654	47.616	2.809	2.583	1.512	8.312	5.156	3.170	5.193	3.267	4.417
16	6.884	17.719	25.218	3.324	2.351	1.482	11.968	3.262	2.937	4.632	3.011	5.879
17	7.497	11.298	10.167	4.283	2.275	1.482	13.853	2.711	2.793	4.213	3.570	5.063
18	8.831	20.715	12.439	21.628	2.279	1.465	16.307	10.231	2.667	4.370	6.729	22.270
19	25.991	13.428	19.500	10.569	2.250	1.406	7.564	22.182	2.571	8.157	4.275	20.256
20	9.439	10.280	11.128	11.946	2.139	1.403	5.532	33.137	2.490	19.829	3.971	7.772
21	7.000	8.255	8.477	15.928	2.042	1.432	12.489	11.402	2.436	8.016	3.306	16.260
22	5.832	6.930	8.857	6.376	1.966	1.395	54.891	5.805	2.686	5.664	3.319	80.935
23	6.979	5.825	13.861	4.698	2.091	1.331	16.980	4.792	42.953	4.918	3.323	54.261
24	50.546	4.711	14.408	3.741	5.929	1.302	14.540	5.358	21.451	13.702	10.920	12.327
25	11.554	4.321	7.229	3.350	5.689	1.463	14.271	22.618	21.975	17.339	7.513	14.301
26	11.204	4.129	14.760	5.866	11.356	1.967	15.771	9.503	13.792	26.491	4.911	66.425
27	7.533	5.016	9.888	5.389	6.594	1.494	10.778	16.316	10.485	17.487	5.017	17.465
28	6.145	5.347	13.965	4.218	3.332	1.410	104.102	8.753	51.913	9.687	17.881	11.729
29	6.635	3.603	11.429	3.405	2.684	1.382	32.330	13.170	11.350	6.364	21.319	8.174
30	47.792		12.729	3.139	2.962	1.351	36.871	33.028	6.931	5.295	38.417	6.472
31	38.795		8.937		2.981		17.621	15.397		4.764		5.652
Average	22.790	18.050	13.810	5.863	4.960	2.775	17.170	9.336	10.700	10.420	6.659	17.580
Lowest	5.832	3.603	3.072	2.809	1.966	1.302	1.810	2.625	2.436	3.802	3.009	4.417
Highest	98.292	110.571	47.616	21.628	17.195	17.609	104.102	33.137	51.913	32.081	38.417	80.935
Peak flow	195.078	198.069	137.155	66.141	29.008	42.124	273.593	126.262	107.580	65.559	67.165	253.057
Day of peak	6	1	11	18	26	3	28	30	28	25	29	22
Monthly total (million cu m)	61.03	45.22	36.98	15.20	13.29	7.19	45.99	25.01	27.73	27.90	17.26	47.10
Runoff (mm)	190	140	115	47	41	22	143	78	86	87	54	146
Rainfall (mm)	212	131	136	59	72	39	253	131	176	107	69	139

Statistics of monthly data for previous record (Oct 1966 to Dec 1987—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg	15.790	11.370	13.680	8.975	6.318	5.333	4.909	6.926	9.731	12.790	15.930	15.310
	Low	7.738	3.380	5.861	1.851	1.312	1.465	1.255	0.960	1.467	1.182	6.616	5.110
	(year)	1985	1986	1975	1974	1980	1978	1984	1976	1972	1972	1983	1971
	High	25.510	19.760	30.210	16.210	13.850	12.740	11.060	19.240	23.670	30.330	24.670	28.810
	(year)	1975	1974	1979	1979	1983	1980	1987	1985	1985	1967	1984	1974
Runoff:	Avg	131	86	114	72	53	43	41	58	78	106	128	127
	Low	64	25	49	15	11	12	10	8	12	10	53	43
	High	212	148	251	131	115	103	92	160	191	252	199	240
Rainfall:	Avg	133	80	122	74	87	93	97	113	130	140	147	136
	Low	74	28	44	11	40	44	43	25	40	27	63	42
	High	213	166	200	133	178	215	165	248	239	331	245	253

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	11.700		10.590		110
Lowest yearly mean			7.629	1971	
Highest yearly mean			12.920	1979	
Lowest monthly mean	2.775	Jun	0.960	Aug 1976	
Highest monthly mean	22.790	Jan	30.330	Oct 1967	
Lowest daily mean	1.302	24 Jun	0.713	26 Aug 1976	
Highest daily mean	110.571	1 Feb	177.200	21 Sep 1985	
Peak	273.593	28 Jul	309.900	3 Nov 1984	
10% exceedance	25.270		25.330		100
50% exceedance	6.914		5.406		128
95% exceedance	1.881		1.391		135
Annual total (million cu m)	370.00		334.20		111
Annual runoff (mm)	1149		1038		111
Annual rainfall (mm)	1474		1352		109
[1941-70 rainfall average (mm)			1464]		

Factors affecting flow regime

- Natural to within 10% at 95% exceedance flow.

Station and catchment description

Compound Crump weir. Lower crest 15.2m, upper crest 29.5m. Theoretical rating. Natural flow regime.

025001 Tees at Broken Scar 1988

Measuring authority: NRA-N
First year: 1956

Grid reference: 45 (NZ) 259 137
Level stn. (m OD): 37.20

Catchment area (sq km): 818.4
Max alt. (m OD): 893

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	110.586	176.551	13.064	19.206	8.681	4.975	3.939	23.030	38.164	8.143	10.681	80.533
2	185.670	107.034	13.092	19.987	23.805	3.286	3.823	18.307	26.796	6.227	9.320	37.001
3	128.027	67.419	15.392	19.262	34.285	3.841	3.235	15.436	19.473	6.958	8.317	91.190
4	61.439	62.188	12.001	17.583	40.203	5.794	4.356	11.368	16.721	5.453	7.377	97.695
5	42.302	48.946	11.376	15.735	21.642	8.171	12.612	9.507	15.855	8.595	7.014	40.970
6	140.922	41.917	20.551	14.644	11.232	4.498	5.404	8.153	10.126	41.710	6.637	29.306
7	46.950	38.948	16.111	14.285	7.554	2.862	13.660	5.559	7.313	60.515	7.511	24.838
8	36.930	42.396	12.603	16.748	6.076	2.835	4.967	4.974	5.652	42.438	8.322	27.660
9	66.996	101.475	21.997	22.617	5.951	3.607	8.465	4.870	5.218	27.546	27.268	30.252
10	43.652	91.919	22.834	19.787	5.274	3.437	13.663	4.675	4.352	17.792	14.883	25.376
11	31.490	49.562	18.379	13.726	4.572	3.277	6.732	4.761	7.912	14.397	16.266	20.980
12	42.745	41.355	44.020	12.798	4.334	3.287	10.366	7.026	6.791	53.770	16.168	17.475
13	47.110	81.776	19.419	12.793	4.211	2.870	28.484	7.516	5.175	39.397	16.509	14.561
14	27.562	82.983	17.501	11.850	3.587	3.130	22.649	18.072	4.104	17.854	10.001	14.339
15	26.343	64.871	90.691	11.667	3.065	3.477	15.864	11.412	3.400	12.954	7.943	12.835
16	21.936	52.601	55.533	11.650	2.880	3.206	7.660	4.976	3.704	9.181	7.225	9.742
17	20.265	40.622	27.031	16.459	2.925	4.058	14.575	4.286	3.920	8.226	8.029	9.208
18	31.363	54.096	22.265	17.284	3.024	3.426	10.470	10.739	3.558	13.746	12.211	16.845
19	68.377	46.834	53.237	18.595	3.695	3.126	6.189	23.155	3.764	54.509	13.763	47.565
20	38.631	39.638	33.800	9.814	3.275	3.457	6.163	24.127	3.932	96.436	13.782	18.614
21	27.933	34.840	27.741	19.555	2.334	3.554	23.399	16.898	3.975	34.087	12.811	21.132
22	24.325	32.479	31.215	12.347	2.466	5.382	67.585	7.793	4.197	21.174	11.208	49.946
23	24.525	27.581	43.760	9.290	2.934	4.820	44.224	4.936	29.547	15.377	12.549	109.180
24	98.985	17.644	51.352	6.508	4.822	3.721	30.004	4.469	32.385	28.081	19.627	37.053
25	56.416	17.133	30.488	5.463	5.554	3.218	29.697	22.963	14.573	29.749	25.241	29.492
26	46.699	15.632	45.557	7.324	6.363	4.236	38.791	19.216	28.987	92.349	16.701	78.730
27	37.924	15.939	33.094	12.417	13.313	3.362	23.190	29.186	17.491	67.079	12.680	45.634
28	36.461	18.310	27.079	9.803	5.514	3.179	149.166	14.345	34.956	37.941	25.530	33.099
29	44.634	14.723	27.481	5.672	3.627	3.160	82.282	21.439	21.560	21.582	29.943	26.027
30	73.534		23.085	4.209	13.907	3.463	52.454	31.245	12.358	15.855	149.704	22.822
31	93.901		22.885		8.354		33.829	28.536		11.832		21.065
Average	57.570	52.670	29.180	13.450	8.692	3.822	25.090	13.640	13.200	29.710	18.170	36.810
Lowest	20.265	14.723	11.376	4.209	2.334	2.835	3.235	4.286	3.400	5.453	6.637	9.208
Highest	185.670	176.551	90.691	22.617	40.203	8.171	149.166	31.245	38.164	96.436	149.704	109.180
Peak flow	285.045	290.944	162.009	42.172	54.111	12.097	380.732	50.005	84.814	155.864	228.559	251.107
Day of peak	6	1	15	18	3	5	28	27	1	20	30	3
Monthly total (million cu m)	154.20	132.00	78.16	34.87	23.28	9.91	67.21	36.54	34.21	79.57	47.11	98.60
Runoff (mm)	188	161	96	43	28	12	82	45	42	97	58	120
Rainfall (mm)	186	111	103	51	66	27	206	105	84	139	89	107

Statistics of monthly data for previous record (Oct 1956 to Dec 1987—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	28.950	22.520	23.180	18.700	10.480	6.690	6.302	10.140	11.270	18.010	23.190	28.190
	Low	2.907	2.803	5.480	2.538	2.009	0.502	1.794	0.458	0.636	2.709	4.061	5.780
	(year)	1963	1963	1975	1957	1959	1957	1969	1959	1959	1969	1958	1971
	High	50.240	51.540	68.660	60.870	27.020	15.270	15.090	28.520	25.800	53.940	51.580	50.040
	(year)	1982	1966	1979	1977	1967	1972	1961	1985	1985	1967	1963	1979
Runoff	Avg	95	67	76	59	34	21	21	33	36	59	73	92
	Low	10	8	18	8	7	2	6	2	2	9	13	19
	High	164	152	225	193	88	48	49	93	82	177	163	164
Rainfall	Avg.	119	82	96	76	80	76	81	102	99	104	114	123
	Low	51	16	29	10	18	22	28	23	19	27	25	43
	High	183	175	224	150	167	182	150	190	222	226	221	268

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	25.160		17.290		146
Lowest yearly mean			9.382	1973	
Highest yearly mean			23.220	1979	
Lowest monthly mean	3.822	Jun	0.458	Aug 1959	
Highest monthly mean	57.570	Jan	68.660	Mar 1979	
Lowest daily mean	2.334	21 May	0.023	16 Oct 1959	
Highest daily mean	185.670	2 Jan	391.500	3 Jan 1982	
Peak	380.732	28 Jul	709.829	26 Aug 1986	
10% exceedance	54.030		43.050		126
50% exceedance	16.240		8.295		196
95% exceedance	3.267		1.408		232
Annual total (million cu m)	795.60		545.60		146
Annual runoff (mm)	972		667		146
Annual rainfall (mm)	1274		1152		111
[1941-70 rainfall average (mm)			1248]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Abstraction for public water supplies
- Augmentation from surface water and/or groundwater

Station and catchment description

Compound Crump weir with total crest length of 63.9m. Two low-flow crests total 9.1m. Theoretical rating. A mainly impervious catchment developed on Millstone Grit and Carboniferous Limestone. Headwaters drain the Pennines. Moorland and rough pasture give way to more intensive agriculture in the lower reaches.

027002 Wharfe at Flint Mill Weir 1988

Measuring authority: NRA-Y
First year: 1936

Grid reference 44 (SE) 422 473
Level stn (m OD) 13 70

Catchment area (sq km): 758.9
Max alt. (m OD): 704

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	85.050	95 600	6 801	13 020	4.805	3 915	2 340	15 190	39 430	9 636	9 977	42 410
2	144 300	115.700	6 448	17 410	7 190	3 399	2 317	11 870	40 400	7 527	8 784	24 650
3	106 000	76.180	12 230	13.450	15 850	3 392	2 449	8 926	41 550	6.298	7 800	26 900
4	82 030	71.660	11 110	12.170	17 110	3 197	4 245	7 117	40 460	6 493	7 319	88 140
5	54 040	47 040	7 831	10 470	12.930	3 190	3 564	6 828	23.830	7 383	7 087	43 470
6	67 030	35 300	7 439	9 236	8 188	3 025	3 936	6 129	14 940	30 070	6 795	24 490
7	37 300	28 000	10 440	8 490	6 532	2 956	9 510	5 825	11 390	67 950	6 526	17 270
8	25 670	30 310	7 547	8 238	5 943	5 086	10 620	5 229	9.379	36 850	6 537	14.730
9	30 320	63.840	8 655	7 899	5 407	3 022	9 835	4.662	7 838	31.960	30 740	18 860
10	27 870	103 100	13 990	7.167	4 991	2 800	11 560	4 204	6.893	23 080	19 470	16 410
11	28 880	48 680	12 580	6 825	4 433	2 665	9 756	3 975	7.231	16 230	21 130	12 480
12	29 760	31 420	13 720	6 507	4 836	2 564	5 915	20 960	7 293	23 240	11 920	10 950
13	31.460	53.870	16 090	6 086	4 861	2 352	26 410	20 240	7 014	25 250	11 270	9 572
14	20 220	71.640	17 970	5.731	4 474	2 183	15 370	55 230	5 952	16 230	9.517	8.710
15	15 580	43 570	62 330	5 498	4 072	2 091	10 810	24 520	5 313	12.190	8 176	7 964
16	13.760	36 650	47 600	5 434	3 599	2 283	7 543	12 410	4 932	10 230	7 340	7 537
17	14 100	23 820	20 770	5 493	3 518	2 241	12 130	8 345	4 568	8 906	7 170	7 208
18	36 720	21 600	15 240	5 861	3 697	2 234	8 857	32 040	4 494	9 052	16 530	7 353
19	35 310	21.350	35 720	6 614	3 809	2 193	6 609	48 880	4.152	18 900	11 840	60 580
20	22.970	16 620	35 320	6 171	3 478	2 189	5 524	82 650	4 126	39 760	10 160	23 060
21	19 450	13 640	24 950	5 400	3 036	2 168	16 800	33 290	4 242	26 050	8 584	16 400
22	16 710	12 000	24 490	5 137	2 956	2 159	12 780	18 270	4 210	15 630	7 512	19 950
23	15 900	10 940	47 150	5 192	2 938	2 357	27 470	12 650	7 276	12 280	7 449	116 500
24	86 000	9 638	40 860	5 149	3 164	2 049	17 610	10 380	27 860	14 120	7 629	56 470
25	46.160	8 658	27 460	4 906	3 288	2 003	14 500	9 353	19 490	16 010	9 413	29 140
26	28.780	7.983	19 650	4 899	4 782	3 428	11 120	10 160	52 700	61 510	9 863	38.020
27	20 650	7 919	22 250	4 834	5 992	2 373	7 867	34 040	16 340	50 780	8 054	49 900
28	16 850	8 157	25 240	5 289	4 965	2 135	36 140	17 910	30 770	31 810	17 070	23 650
29	20 330	7.594	24 480	4 495	3 794	2 224	51 430	44 460	28 550	19 090	17 230	17 130
30	28 280		17 270	4 027	3 817	2 790	40 980	31 580	14 520	14 070	51 950	13 500
31	55 340		15 860		4 297		31 340	35 190		11.530		10 830
Average	40 740	38 710	21 270	7 236	5 573	2 689	14 110	20 730	16.570	21 940	12 360	27 880
Lowest	13 760	7 594	6 448	4 027	2 938	2 003	2 317	3.975	4 126	6 298	6 526	7.208
Highest	144 300	115 700	62 330	17 410	17 110	5 086	51 430	82 650	52 700	67 950	51 950	116 500
Peak flow	168.900	185.400	95 590	23 260	22 390	6 786	123 500	143 300	96 160	99 040	70 120	175 500
Day of peak	2	1	15	2	3	8	28	20	26	6	30	23
Monthly total (million cu m)	109.10	96 98	56 98	18.76	14 93	6 97	37 79	55 51	42 95	58 76	32 04	74 67
Runoff (mm)	144	128	75	25	20	9	50	73	57	77	42	98
Rainfall (mm)	187	130	119	36	61	32	185	154	93	127	69	113

Statistics of monthly data for previous record (Oct 1955 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows.	Avg	27 390	22.430	21 290	16 160	11 310	7 603	7 475	11.580	13 610	18 200	23 830	27 540
	Low	4 472	2 974	6 741	4 390	2 312	1 545	1 674	0 991	1 419	3 026	6 876	10.230
	(year)	1963	1963	1961	1982	1980	1957	1976	1976	1959	1972	1958	1963
	High	42.880	54 590	53 940	35 240	26.750	18 520	16 440	41 340	33 520	54 000	51 090	62 090
	(year)	1984	1966	1981	1970	1967	1972	1963	1956	1968	1967	1963	1965
Runoff	Avg.	97	72	75	55	40	26	26	41	46	64	81	97
	Low	16	9	24	15	8	5	6	4	5	11	23	36
	High	151	174	190	120	94	63	58	146	115	191	174	219
Rainfall	Avg	113	79	90	76	78	76	83	100	104	108	113	124
	Low	41	14	28	8	13	18	20	18	8	32	33	41
	High	217	194	222	147	181	183	185	226	241	225	211	233

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	19.150		17 350		110
Lowest yearly mean			11 420	1975	
Highest yearly mean			23 300	1966	
Lowest monthly mean	2 689	Jun	0 991	Aug 1976	
Highest monthly mean	40 740	Jan	62 090	Dec 1965	
Lowest daily mean	2 003	25 Jun	0 425	23 Jun 1957	
Highest daily mean	144 300	2 Jan	233 600	4 Dec 1960	
Peak	185 400	1 Feb	380 000	3 Jan 1982	
10% exceedance	44 670		41 380		108
50% exceedance	11.270		9 695		116
95% exceedance	2 444		2 221		110
Annual total (million cu m)	605 60		547 50		111
Annual runoff (mm)	798		721		111
Annual rainfall (mm)	1306		1144		114
[1941-70 rainfall average (mm)			1168]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Abstraction for public water supplies
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from surface water and/or groundwater

Station and catchment description

The control is a broad-crested masonry weir 47m wide with a current meter cableway 1 5km upstream Insensitive at low flows Level data only from June 1936 to October 1955 Pre-October 1965 rating may be less reliable Headwaters contain numerous reservoirs which exert a substantial influence on flows. Mixed geology comprising mainly Carboniferous Limestone, grits and Coal Measures with some Permian sand and Magnesian Limestone and marls in the lower catchment. Predominantly rural catchment with moorland headwaters

027035 Aire at Kildwick Bridge 1988

Measuring authority: NRA-Y
First year: 1968

Grid reference: 44 (SE) 013 457
Level stn. (m OD): 87.30

Catchment area (sq km): 282.3
Max alt. (m OD): 594

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	39.890	38.670	1.961	4.781	1 389	1 094	0 602	7.320	19.890	4 599	4 504	11.790
2	58.920	38.990	2.118	4 835	2 714	0 844	0.595	4 890	27.550	3.745	3.885	7.761
3	50 410	30 610	3 921	5.044	3.710	0.767	0 565	3 721	23 110	3.188	3 423	15 660
4	44 460	24 790	2.494	4.435	3.377	0 839	1.579	3.190	13 790	2 957	3.116	26.870
5	28.790	20.310	2 099	3 645	2.200	0 804	1.581	2.667	8 890	3 389	2.870	15.660
6	28.580	14 200	3 206	3.215	1.750	0 719	1.105	2 244	6 490	22 490	2.668	9 264
7	16.550	16.690	2.866	2.978	1 521	0 655	5 644	1 914	5.175	32.880	2 623	7 210
8	13.620	19 440	2.411	2 814	1 449	0 652	5 156	1.723	4.380	21 980	8 694	7.112
9	13.560	38 000	3 517	2 613	1.346	0 665	2.750	1 688	3 673	18 060	15 610	8.780
10	12 270	36 560	4.189	2.370	1.249	0 634	2 460	1 499	3.775	22.730	7.606	7 008
11	13 080	21.760	3 289	2.145	1 239	0 630	1.844	1 653	3.725	11 070	6 432	5 716
12	10 080	14 340	3 894	1.977	1 378	0 609	1.669	9 297	3 420	12.940	5 204	4 785
13	8.383	16 350	9 046	1 841	1.174	0.568	12 250	13 840	2 794	13.780	4 839	4 293
14	6.888	19 870	9.987	1 890	1 043	0 538	4.301	15 310	2 403	8 341	4 093	3.869
15	6 722	13.910	24 820	1 887	0 999	0.525	2 686	7 467	2 157	6 438	3 571	3 534
16	5 960	12.140	12 430	1 929	0 952	0 536	3 668	4.516	1 998	5 347	3.110	3 445
17	8 727	9 015	7 226	1 852	0 948	0.565	5 820	3 321	1.866	4 617	3 677	3 189
18	17 260	7.944	9.444	1.887	0 935	0 549	2.889	19.940	1.719	5 668	7 028	13 360
19	12 020	6.590	18.120	1 850	0 892	0 527	2.108	30 880	1 605	9 188	4 550	30 410
20	9.168	5 463	12 770	1 691	0 861	0 482	1 847	43 770	1 552	22 740	4 469	11.770
21	10.170	4.708	11 050	1.637	0 836	0 461	7.590	21 010	1 500	10 400	3 771	9 232
22	8.199	4 234	11.910	1 610	0 821	0 429	5.192	11 810	1 536	7 344	3 297	17 670
23	12 980	3 662	12 790	1.504	0 977	0 414	7 150	7 447	3 160	6 162	3 100	48 200
24	46 630	3 196	12.780	1 426	1 100	0 411	4 993	5.895	7.197	8 572	3 794	29 130
25	25.400	2 905	8 675	1 386	0 996	1 941	3 829	5.413	11 040	7 584	3 948	16 420
26	14 560	2.758	7.683	1.419	1.408	3 035	2 794	5 856	14 890	22 500	3 450	24.580
27	9 853	2 697	6.573	1 489	1 347	0 902	2 579	14.740	7 161	16 020	2 946	19 930
28	8 039	2 541	9 386	1 289	0 989	0.684	19 390	7 027	15 590	10 970	4 355	11 390
29	8 294	2 299	8 392	1.254	0 903	0.588	15 250	16 430	10 150	7.606	10 500	8 477
30	13.850		6.381	1 273	1.104	0 593	19.740	11 890	6 129	6 205	25 970	6 813
31	19 470		5 382		1 462		15.930	9 804		5 156		5 745
Average	18 800	14 990	7.768	2 332	1 389	0 755	5 341	9 618	7 277	11 120	5 570	12 870
Lowest	5 960	2.299	1 961	1.254	0 821	0 411	0 565	1 499	1 500	2 957	2 623	3 189
Highest	58 920	38 990	24 820	5 044	3 710	3 035	19.740	43 770	27 550	32 880	25 970	48 200
Peak flow	62 360	56 770	28 800	5 488	4 958	6 090	38 530	53 480	42 730	49 200	40 420	56 500
Day of peak	2	9	15	1	3	25	28	19	2	6	8	22
Monthly total (million cu m)	50 35	37 55	20 81	6.04	3 72	1 96	14 30	25 76	18.86	29 78	14 44	34 48
Runoff (mm)	178	133	74	21	13	7	51	91	67	105	51	122
Rainfall (mm)	186	114	112	27	59	32	179	155	101	127	66	125

Statistics of monthly data for previous record (Dec 1968 to Dec 1987—incomplete or missing months total 0 2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	10 710	7 739	7 564	5 066	3 028	2 444	1 719	3 108	3 813	7 154	10 490	10 810
	Low	4.463	3 529	2.391	0 923	0 611	0 604	0 298	0 289	1.147	0 789	3 583	3 175
	(year)	1973	1986	1985	1974	1974	1970	1984	1976	1971	1972	1975	1971
	High	18.580	13.220	22.520	11 400	8 174	6 416	5 927	11 410	10 360	17 570	16 540	20 820
	(year)	1984	1984	1981	1986	1983	1982	1973	1985	1974	1981	1984	1979
Runoff	Avg	102	67	72	47	29	22	16	29	35	68	96	103
	Low	42	30	23	8	6	6	3	3	11	7	33	30
	High	176	117	214	105	78	59	56	108	95	167	152	198
Rainfall	Avg	120	71	104	70	75	78	74	93	111	114	130	124
	Low	45	13	44	3	10	23	17	17	22	37	55	42
	High	222	139	233	135	142	155	151	171	250	213	187	238

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	8 161		6.133		133
Lowest yearly mean			3 655	1971	
Highest yearly mean			8 060	1981	
Lowest monthly mean	0.755	Jun	0 289	Aug 1976	
Highest monthly mean	18 800	Jan	22 520	Mar 1981	
Lowest daily mean	0 411	24 Jun	0 180	23 Aug 1976	
Highest daily mean	58 920	2 Jan	79 900	27 Oct 1980	
Peak	62 360	2 Jan	98 130	5 Dec 1972	
10% exceedance	19 790		15 620		127
50% exceedance	4 554		3 124		146
95% exceedance	0 623		0 540		115
Annual total (million cu m)	258 10		193 50		133
Annual runoff (mm)	914		686		133
Annual rainfall (mm)	1283		1164		110
[1941-70 rainfall average (mm)			1134]		

Factors affecting flow regime

- Reservoir(s) in catchment.

Station and catchment description

Velocity-area station rated by current meter cableway 150m downstream. Low flow control is the sills of the bridge. Washland storage and headwater reservoirs influence the flow pattern. Geology is mainly Carboniferous Limestone with some Millstone Grit series. Rural catchment draining part of the eastern Pennines.

027041 Derwent at Buttercrambe 1988

Measuring authority: NRA-Y
First year 1973

Grid reference: 44 (SE) 731 587
Level stn (m OD) 9.50

Catchment area (sq km) 1586.0
Max alt. (m OD) 454

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	20.520	43.500	24.510	22.250	13.470	9.436	17.630	11.100	11.780	7.102	12.630	50.870
2	24.000	53.590	28.630	21.500	18.280	9.148	15.080	10.530	22.670	7.056	12.040	39.780
3	29.720	38.660	35.410	20.930	20.230	8.791	10.480	10.170	15.970	6.936	11.460	37.220
4	35.400	55.570	33.060	20.260	18.190	8.785	10.840	9.512	11.990	6.985	11.100	42.590
5	35.150	61.000	25.520	19.350	17.180	8.713	12.870	8.924	10.660	7.401	10.890	31.340
6	45.700	45.240	27.290	18.670	14.300	8.313	10.910	8.558	9.870	7.994	10.660	23.440
7	45.870	36.050	30.340	18.540	13.030	8.226	12.900	8.180	9.450	12.030	10.340	20.390
8	32.270	37.370	24.720	18.200	13.340	9.221	10.650	7.967	9.213	10.500	10.310	18.850
9	29.810	36.440	26.000	17.870	16.260	8.502	9.780	7.890	9.049	8.702	14.810	17.830
10	26.660	38.120	33.620	17.370	14.270	8.119	8.977	7.630	8.948	8.274	14.860	17.250
11	25.590	31.450	26.830	16.770	13.160	7.868	8.526	7.712	9.687	9.385	12.660	16.160
12	23.730	26.900	33.000	16.200	13.080	7.682	7.915	8.299	9.361	10.090	11.410	15.150
13	24.150	28.800	34.680	15.640	12.320	7.623	10.050	8.604	9.285	12.860	10.810	14.420
14	22.860	35.770	34.500	15.270	11.730	7.474	13.340	8.734	10.850	11.210	10.240	14.010
15	20.890	32.720	44.110	15.210	11.180	7.346	10.610	8.407	9.455	9.305	9.790	13.630
16	19.730	32.200	55.560	15.190	10.890	7.297	9.273	7.502	8.479	8.795	9.701	13.290
17	19.460	28.030	42.130	14.800	11.100	7.282	9.156	7.169	8.052	8.530	9.755	12.760
18	27.250	24.980	32.270	14.620	10.730	7.147	9.226	11.250	7.807	8.529	10.120	12.480
19	29.190	23.090	46.410	16.180	10.620	6.969	8.314	21.570	7.646	18.770	11.060	12.390
20	24.360	21.850	58.390	19.580	10.460	6.853	7.829	23.570	7.507	27.200	13.420	11.710
21	21.380	20.810	56.750	15.300	10.140	6.856	8.327	19.010	7.508	23.470	14.910	11.500
22	19.730	19.950	49.960	14.140	9.957	6.695	11.270	13.870	7.717	16.610	13.200	11.370
23	20.200	19.350	59.270	13.740	9.768	6.451	21.990	11.400	8.778	14.120	12.010	11.700
24	36.160	24.290	47.910	13.380	10.050	6.260	27.240	10.660	10.950	13.890	12.510	11.790
25	42.290	28.940	38.850	13.070	9.751	6.121	15.930	9.982	9.690	14.240	13.690	11.140
26	29.060	26.560	32.440	13.900	9.866	6.116	11.250	9.393	8.713	20.630	14.170	11.060
27	24.920	30.810	28.860	14.170	10.100	6.158	9.802	9.849	8.199	29.650	13.020	11.380
28	23.510	32.000	28.000	13.730	9.491	6.022	9.554	10.750	7.877	21.280	13.380	11.020
29	27.930	23.780	26.800	13.040	9.318	6.002	28.100	10.340	7.823	16.140	16.920	10.530
30	27.870		24.850	12.690	9.835	6.099	20.310	9.592	7.368	14.180	38.760	10.230
31	26.190		23.260		9.651		13.150	9.578		13.310		9.919
Average	27.790	33.030	35.930	16.390	12.310	7.451	12.620	10.570	9.745	13.070	13.020	17.970
Lowest	19.460	19.350	23.260	12.690	9.318	6.002	7.829	7.169	7.368	6.936	9.701	9.919
Highest	45.870	61.000	59.270	22.250	20.230	9.436	28.100	23.570	22.670	29.650	38.760	50.870
Peak flow	52.340	66.290	63.300	22.570	21.580	10.080	34.400	25.110	24.750	31.100	49.930	52.270
Day of peak	6	5	20	1	3	8	29	20	2	27	30	1
Monthly total (million cu m)	74.44	82.76	96.24	42.47	32.98	19.31	33.80	28.31	25.26	35.01	33.75	48.14
Runoff (mm)	47	52	61	27	21	12	21	18	16	22	21	30
Rainfall (mm)	83	74	98	29	53	26	138	81	49	76	60	24

Statistics of monthly data for previous record (Oct 1973 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg.	30.230	27.410	27.080	21.310	15.750	10.940	7.815	8.391	8.265	14.240	16.040	25.460
	Low	16.780	15.260	8.799	6.928	7.849	5.342	3.882	3.214	4.729	5.555	7.401	13.460
	(year)	1983	1982	1976	1976	1987	1974	1976	1976	1975	1975	1978	1984
	High	48.190	49.280	56.110	37.540	29.840	21.260	11.810	15.430	14.710	36.820	25.220	42.740
	(year)	1977	1978	1979	1986	1979	1979	1981	1980	1976	1976	1980	1978
Runoff	Avg	51	42	46	35	27	18	13	14	14	24	26	43
	Low	28	23	15	11	13	9	7	5	8	9	12	23
	High	81	75	95	61	50	35	20	26	24	62	41	72
Rainfall	Avg.	77	47	73	53	62	57	59	68	73	78	68	84
	Low	34	5	6	11	22	11	18	10	21	21	28	36
	High	132	101	143	113	142	149	123	126	192	158	111	180

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	17.470		17.710		99
Lowest yearly mean			11.720	1975	
Highest yearly mean			25.320	1979	
Lowest monthly mean	7.451	Jun	3.214	Aug 1976	
Highest monthly mean	35.930	Mar	56.110	Mar 1979	
Lowest daily mean	6.002	29 Jun	2.697	23 Aug 1976	
Highest daily mean	61.000	5 Feb	121.400	29 Dec 1978	
Peak	66.290	5 Feb	124.800	5 Jan 1982	
10% exceedance	33.130		35.600		93
50% exceedance	13.100		13.380		98
95% exceedance	7.246		5.036		144
Annual total (million cu m)	552.40		558.80		99
Annual runoff (mm)	348		352		99
Annual rainfall (mm)	791		799		99
[1941-70 rainfall average (mm)			784]		

Factors affecting flow regime

- Abstraction for public water supplies

Station and catchment description

Compound Crump weir, 20m wide, with current meter rating for high flows. Supersedes 27015. Peak flows from the headwaters upstream of Forge Valley (8% catchment) are diverted down the Sea Cut (27033). Mixed geology of clays, shales and limestone. Rural catchment draining the North York Moors.

027053 Nidd at Birstwith 1988

Measuring authority: NRA-Y
First year: 1975

Grid reference: 44 (SE) 230 603
Level stn. (m OD): 67.40

Catchment area (sq km): 217.6
Max alt. (m OD): 705

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	49.820	56.480	2.555	2.451	2.235	1.267	0.974	2.400	12.250	1.904	5.781	20.480
2	84.180	56.790	1.978	2.486	4.152	1.195	0.976	2.469	10.780	1.824	5.522	12.210
3	40.110	32.130	2.309	2.484	3.303	1.176	0.963	2.128	8.814	1.790	5.338	18.880
4	34.630	25.670	1.884	2.401	3.576	1.198	1.572	1.996	8.070	1.909	5.192	17.850
5	21.500	17.180	1.797	2.271	2.480	1.171	1.365	1.847	6.662	2.045	3.167	13.550
6	26.280	13.720	1.853	2.200	2.109	1.127	1.126	1.752	2.879	9.009	2.234	11.750
7	13.710	14.440	1.735	2.164	1.970	1.096	1.398	1.661	2.364	17.800	2.463	10.940
8	14.900	16.130	1.687	2.276	1.950	1.069	1.295	1.647	2.392	7.996	2.994	10.520
9	14.680	36.780	1.815	2.199	1.897	1.064	1.146	1.613	2.240	6.825	3.613	6.562
10	14.050	30.030	1.884	2.108	1.831	1.057	1.281	1.571	2.572	6.670	6.327	5.723
11	14.130	16.440	1.771	2.040	1.826	1.048	1.096	1.625	2.352	7.263	3.462	3.695
12	8.568	13.390	1.871	1.983	1.848	1.036	1.138	2.591	2.180	9.372	2.530	2.795
13	7.763	17.110	4.984	1.917	1.778	1.013	3.199	3.389	2.051	7.556	2.495	2.702
14	6.993	18.050	4.516	1.893	1.712	1.011	1.762	6.155	1.953	6.635	2.415	2.605
15	6.659	15.690	9.600	1.891	1.654	1.005	1.739	5.558	1.865	6.361	2.339	2.540
16	6.408	12.850	7.376	1.909	1.627	1.005	1.639	5.118	1.823	6.144	2.288	2.569
17	8.383	11.590	6.767	1.839	1.643	1.006	1.766	2.348	1.781	5.354	2.312	2.590
18	8.542	11.130	4.241	2.445	1.620	0.995	1.272	5.959	1.754	8.346	2.613	3.381
19	11.790	6.929	5.866	2.154	1.646	0.973	1.162	20.670	1.720	11.040	2.393	4.624
20	12.280	6.021	6.513	1.902	1.587	0.975	1.263	10.160	1.727	15.000	2.516	2.965
21	7.163	5.784	6.789	1.834	1.559	0.973	3.529	6.628	1.750	8.227	2.441	2.811
22	4.322	3.514	7.862	1.832	1.415	0.952	2.848	5.630	1.780	6.868	2.370	4.384
23	4.252	3.074	8.493	1.781	1.248	0.938	4.366	5.242	2.139	6.608	2.467	13.110
24	23.740	3.062	12.540	1.739	1.267	0.932	2.191	5.058	2.559	7.362	3.125	12.210
25	13.680	2.997	7.331	1.722	1.238	1.027	1.603	4.876	2.914	7.844	3.193	7.139
26	9.408	2.944	6.584	1.759	1.373	1.095	1.374	2.860	2.890	33.630	2.776	6.853
27	6.867	2.941	4.101	2.014	1.295	0.973	1.334	3.556	2.183	18.120	2.575	6.395
28	5.787	2.764	4.063	1.833	1.207	0.959	9.505	2.664	5.305	10.090	3.439	5.825
29	6.068	2.622	3.649	1.743	1.437	0.948	3.673	4.607	6.236	6.860	8.412	5.575
30	5.611		2.690	1.786	1.687	0.957	5.321	6.108	4.113	6.338	17.070	3.413
31	7.108		2.364		1.486		3.210	6.084		6.034		2.921
Average	16.110	15.800	4.499	2.035	1.860	1.041	2.164	4.385	3.670	8.349	3.862	7.405
Lowest	4.252	2.622	1.687	1.722	1.207	0.932	0.963	1.571	1.720	1.790	2.234	2.540
Highest	84.180	56.790	12.540	2.486	4.152	1.267	9.505	20.620	12.250	33.630	17.070	20.480
Peak flow	111.500	134.700	17.190	3.375	7.111	1.389	29.500	67.770	20.960	49.240	32.090	42.370
Day of peak	2	1	22	18	4	25	28	19	1	26	30	3
Monthly total (million cu m)	43.15	39.59	12.05	5.27	4.98	2.70	5.80	11.74	9.51	22.36	10.01	19.83
Runoff (mm)	198	182	55	24	23	12	27	54	44	103	46	91
Rainfall (mm)	186	158	110	44	68	23	191	148	98	144	78	104

Statistics of monthly data for previous record (Apr 1975 to Dec 1987—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	9.605	7.229	8.111	4.540	3.001	1.911	1.218	1.869	2.207	4.999	7.314	10.040
	Low	4.432	3.068	1.915	1.681	1.064	1.015	0.814	0.655	1.263	1.508	1.893	3.612
	(year)	1985	1986	1985	1984	1984	1975	1984	1984	1977	1978	1975	1975
	High	15.960	16.010	21.140	12.770	7.061	3.131	1.556	5.690	3.955	15.120	12.830	20.280
	(year)	1984	1984	1979	1986	1983	1982	1982	1985	1985	1976	1984	1979
Runoff	Avg	118	81	100	54	37	23	15	23	26	62	87	124
	Low	55	34	24	20	13	12	10	8	15	19	23	44
	High	196	184	260	152	87	37	19	70	47	186	153	250
Rainfall (1976-1987)	Avg	143	82	133	76	86	83	54	106	118	136	138	163
	Low	57	16	75	11	27	16	18	22	22	36	62	80
	High	250	182	243	165	149	185	114	192	253	223	208	258

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	5.914		5.168		114
Lowest yearly mean			3.775	1987	
Highest yearly mean			7.148	1979	
Lowest monthly mean	1.041	Jun	0.655	Aug 1984	
Highest monthly mean	16.110	Jan	21.140	Mar 1979	
Lowest daily mean	0.932	24 Jun	0.392	21 Aug 1984	
Highest daily mean	84.180	2 Jan	109.400	28 Dec 1978	
Peak	134.700	1 Feb	204.400	13 Jan 1984	
10% exceedance	13.580		12.520		108
50% exceedance	2.682		2.633		102
95% exceedance	1.022		1.017		100
Annual total (million cu m)	187.00		163.10		115
Annual runoff (mm)	859		749		115
Annual rainfall (mm)	1352		1318		103
[1941-70 rainfall average (mm)			1209]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Abstraction for public water supplies.
- Augmentation from surface water and/or groundwater.

Station and catchment description

Velocity-area station approximately 17m wide, rated with current metering from bridge at the section. Heavily reservoired catchment with substantial effect on flows. Geology is mostly Millstone Grit. Rural catchment.

028009 Trent at Colwick 1988

Measuring authority NRA-ST
First year 1958

Grid reference: 43 (SK) 620 399
Level stn (m OD) 16 00

Catchment area (sq km) 7486 0
Max alt (m OD) 636

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	113 670	246 718	68.826	100 036	69 760	52.720	49 682	46 929	77 518	48 671	45 913	199 590
2	264 556	273 044	64 737	95 604	94 457	45 431	43 234	44 453	114 543	43 927	49 374	135 873
3	343 415	204 636	68 417	93 577	91 078	44 369	40 628	43 405	99 785	41 088	48 744	116 824
4	311 635	261 276	72 876	88 710	108 531	69 333	68 928	40 916	64 313	40 969	47 342	124 168
5	278 892	324 360	63 782	83 302	116.560	56 488	83.249	40.221	52 263	45 431	43 587	110 177
6	315 435	275 639	61 330	79 320	82.496	45 467	60 429	39 110	46 910	47.491	42 532	99 683
7	330 940	191 802	69 936	76 118	67 203	42 881	59 896	36 492	44 447	65 774	43 317	99 893
8	237 199	196.919	64 572	75 324	67.825	52.258	48.564	36 163	42 809	72.143	43 727	80 367
9	202 771	191.335	65.253	79 168	67 309	68 662	43 771	34 883	40 093	58 666	51 366	76 213
10	181 611	214.548	87 593	76 082	57.162	53 514	70 519	35 493	39 140	56 052	50 978	83 362
11	158 711	195 832	77 692	71 639	54 881	47.522	102 112	36 243	38 081	53 488	45 453	68 498
12	138 434	177 097	92 890	70.421	56 070	43 481	65 855	43 462	36 470	69 613	42 335	65 453
13	128 470	153 702	195.983	60 671	58 853	40 382	79 869	46 089	39 888	84 969	40 263	60 953
14	117 562	214 073	286 446	60.571	50 384	41 173	73 930	39.726	40 543	63 194	39 649	57 282
15	104 450	190 789	401.204	60 933	45 356	39 878	57.902	37.322	36 768	53 240	38 657	56 337
16	97.388	167 299	409 163	70 186	44 889	39 320	57 248	35 820	35 488	47.691	37.982	53 786
17	92 529	144 556	342.770	68 865	44 370	37 516	116 753	34.185	34 491	45 698	37 891	49 721
18	112 875	127 664	200 881	63.469	44.758	38 191	97 757	35 814	33 882	46 724	38 878	47 661
19	119 994	114 572	256 157	67 268	43 407	36 087	66 888	68 614	33 897	89.416	38 935	66 190
20	107 360	101.886	315 945	60 840	42 608	36 935	54 334	56 950	33 036	161 599	46 516	78 452
21	96 460	94 749	264.890	56.942	42 052	36 860	63 997	60 770	33 042	119 026	48 945	62.713
22	110 626	90 884	208 428	55 844	42 081	37 784	142 225	51 912	34 734	80.872	42 216	61 188
23	193 442	87 667	236.262	54 306	40 609	36 049	159 709	44 166	37 064	68 080	39 110	65 479
24	392 539	83.767	208 811	51 107	42.275	31 851	164.703	40 520	44 232	61.817	39 965	73 739
25	489.755	79 018	261 921	50 466	45 266	32 319	112 098	40 530	47 480	59 057	40 610	79.987
26	455 294	74 005	256 361	51.556	51 265	52.518	88 607	39 242	47 958	58 909	38 776	69 976
27	305 322	71.684	187.564	70 204	52.175	56 310	72.543	39 751	58 269	61 044	37 507	82 545
28	219 453	69 921	152 326	77 203	40 779	42 456	59 328	57 088	70 622	62 189	39 395	75 426
29	260 426	69.620	141.006	59 885	41.560	40 744	54 169	76 755	75 307	53 380	55 595	65 193
30	241 301		123 829	55 497	49.901	37.981	51.612	50 045	60.676	46 894	210 842	60 116
31	187 412		112 481		57 669		47 523	52 832		46.912		54 008
Average	216 400	161 700	174 800	69 500	58 500	44 550	76 070	44 710	49 790	63 030	48 880	80 030
Lowest	92.529	69.620	61 330	50 466	40 609	31 851	40 628	34 185	33 036	40 969	37 507	47 661
Highest	489 755	324 360	409 163	100 036	116 560	69.333	164 703	76 755	114 543	161 599	210 842	199 590
Peak flow	520 052	328.116	479 938	107.336	136 373	76 472	183 177	105 871	135 046	190 036	248 456	246 761
Day of peak	25	5	16	1	5	4	24	29	2	20	30	1
Monthly total (million cu m)	579 70	405 10	468.30	180 20	156 70	115 50	203 70	119 70	129 10	168 80	126 70	214 30
Runoff (mm)	77	54	63	24	21	15	27	16	17	23	17	29
Rainfall (mm)	116	49	108	37	51	51	125	66	46	59	42	40

Statistics of monthly data for previous record (Oct 1958 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	140 800	132 000	111 300	93 830	72.780	56 470	44.460	47 790	49 960	67 520	91 270	124 700
	Low	52 910	49 990	47 190	35 220	32 260	24 690	19 460	18 440	23 070	25 260	34 170	46 240
	(year)	1963	1976	1976	1976	1976	1976	1976	1976	1959	1959	1975	1975
	High	210 800	384 000	227 600	179 500	175 100	103 100	104 100	76 480	121 100	187 000	231 700	351 600
	(year)	1959	1977	1981	1966	1969	1987	1968	1966	1965	1960	1960	1965
Runoff	Avg	50	43	40	32	26	20	16	17	17	24	32	45
	Low	19	17	17	12	12	9	7	7	8	9	12	17
	High	175	124	81	62	63	36	37	27	42	67	80	126
Rainfall	Avg	72	53	60	58	61	62	55	72	66	66	74	78
	Low	23	8	13	9	18	14	18	21	3	12	38	15
	High	138	175	116	116	144	148	114	120	149	141	145	173

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	90 690		85.870		106
Lowest yearly mean			47 030	1976	
Highest yearly mean			124 000	1966	
Lowest monthly mean	44.550	Jun	18.440	Aug 1976	
Highest monthly mean	216 400	Jan	384 000	Feb 1977	
Lowest daily mean	31 851	24 Jun	14 700	23 Aug 1976	
Highest daily mean	489 755	25 Jan	854.910	26 Feb 1977	
Peak	520 052	25 Jan	956 684	25 Feb 1977	
10% exceedance	200 500		170 700		117
50% exceedance	60 930		61.230		100
95% exceedance	36.410		28 760		127
Annual total (million cu m)	2868 00		2710 00		106
Annual runoff (mm)	383		362		106
Annual rainfall (mm)	790		777		102
(1941-70 rainfall average (mm)			771)		

Factors affecting flow regime

- Reservoir(s) in catchment
- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from surface water and/or groundwater.
- Augmentation from effluent returns

Station and catchment description

Velocity-area station in the navigable Trent. Main channel approx 62m, cableway span 99m. Holme sluices 750m u/s affect water levels up to medium flows. Bypassed at high flows on rb when gravel workings inundated. Very substantial flow modifications owing to imports, WRW's, cooling water and industrial usage. Very large catchment with the gamut of land usage. Predominantly impervious - glacial clays and Triassic Marls, but some sandstones and limestones. Extensive terrace gravels and alluvium maintain baseflow.

028085 Derwent at St. Marys Bridge 1988

Measuring authority: NRA-ST
First year: 1936

Grid reference: 43 (SK) 355 368
Level stn. (m OD): 44.00

Catchment area (sq km): 1054.0
Max alt. (m OD): 636

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	18.187	59.599	12.899	22.179	12.345	7.542	6.637	8.506	16.804	13.654	13.964	24.046
2	58.717	54.950	12.697	21.693	15.581	7.020	5.185	8.242	26.358	12.211	17.142	24.092
3	57.904	41.414	12.894	20.577	14.196	7.680	4.807	8.223	23.905	11.240	16.566	23.742
4	75.246	63.336	12.332	19.487	20.313	8.406	9.100	7.949	16.160	11.393	15.524	23.638
5	68.115	45.324	11.918	17.891	15.286	8.187	7.926	8.347	13.216	11.319	17.976	20.476
6	80.106	37.546	12.640	16.901	12.500	7.083	7.778	5.951	11.613	11.265	12.665	18.068
7	48.153	34.398	13.043	15.904	11.054	6.789	6.902	6.269	10.525	27.553	13.371	16.204
8	40.475	34.852	11.918	16.620	10.690	11.222	6.711	6.275	9.343	26.608	13.491	14.888
9	39.959	45.525	12.671	16.491	13.241	9.405	7.048	6.107	8.941	20.387	16.151	15.789
10	33.589	63.920	13.263	14.920	9.788	7.314	9.809	5.883	8.561	17.094	13.750	14.832
11	29.774	47.467	11.277	14.233	9.818	7.017	8.424	6.019	8.433	16.130	11.189	13.621
12	27.076	37.592	24.498	15.136	9.873	6.689	7.535	8.048	8.527	22.692	10.870	13.440
13	25.604	44.291	60.354	11.076	9.337	5.967	11.702	6.756	7.903	23.134	10.566	12.578
14	23.352	66.246	65.129	12.694	8.135	5.978	8.752	6.573	7.640	17.115	10.161	12.165
15	19.950	46.377	121.108	12.270	5.407	6.369	8.595	5.990	7.688	15.383	8.857	11.637
16	18.424	40.827	83.569	12.476	8.087	6.044	10.433	5.525	7.389	14.079	8.524	11.114
17	18.573	32.431	47.555	11.537	8.194	6.082	14.326	5.141	7.049	13.179	8.537	9.595
18	24.614	29.700	39.728	12.312	8.069	6.182	10.327	9.410	7.206	14.110	7.544	10.049
19	22.469	26.179	57.227	12.041	7.977	5.148	8.674	11.212	6.873	22.100	8.100	21.348
20	20.016	22.565	57.361	11.045	7.836	4.906	8.506	10.095	6.315	59.861	9.721	18.068
21	18.110	20.428	42.364	10.524	7.441	5.206	9.991	10.347	6.515	31.696	8.242	15.690
22	20.152	18.684	41.783	10.302	8.030	5.321	11.180	9.013	7.065	24.600	8.013	15.820
23	33.815	17.995	53.356	9.286	7.433	4.857	12.287	8.062	9.036	20.720	7.795	17.031
24	104.399	16.906	43.982	9.044	7.923	4.948	16.681	7.827	11.656	19.120	8.322	15.788
25	56.788	15.581	51.634	9.712	7.868	5.565	12.674	7.910	8.862	17.252	8.964	15.122
26	48.535	14.853	44.364	9.971	10.673	7.277	10.924	7.720	14.908	17.633	8.373	15.844
27	36.519	14.305	39.317	10.931	6.593	5.665	8.917	7.877	15.494	17.365	7.943	17.059
28	33.834	13.995	35.058	10.792	5.838	5.637	8.954	11.712	17.377	15.891	8.506	14.997
29	38.883	14.800	31.434	9.368	7.618	5.896	8.939	9.805	19.493	13.503	19.026	14.120
30	34.273		26.650	8.801	8.968	6.400	8.812	8.699	15.999	12.742	41.835	13.481
31	40.868		23.940		8.686		8.594	9.467		13.055		11.771
Average	39.240	35.240	36.390	13.520	9.832	6.593	9.262	7.900	11.560	18.840	12.220	16.000
Lowest	18.110	13.995	11.277	8.801	5.407	4.857	4.807	5.141	6.315	11.240	7.544	9.595
Highest	104.399	66.246	121.108	22.179	20.313	11.222	16.681	11.712	26.358	59.861	41.835	24.092
Peak flow	126.122	85.388	137.702	29.069	36.017	18.023	23.953	16.627	38.679	86.196	54.881	31.504
Day of peak	24	14	15	7	9	8	23	18	2	20	30	19
Monthly total (million cu m)	105.10	88.31	97.46	35.05	26.33	17.09	24.81	21.16	29.97	50.46	31.68	42.86
Runoff (mm)	100	84	92	33	25	16	24	20	28	48	30	41
Rainfall (mm)	161	79	158	41	58	58	38	99	89	105	54	64

Statistics of monthly data for previous record (Jan 1936 to Dec 1987—incomplete or missing months total 0.9 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	30.150	28.590	22.690	18.080	12.930	10.400	8.827	9.230	10.490	13.820	21.880	26.400
	Low	9.749	8.084	9.110	7.678	6.284	4.805	4.211	3.647	3.955	4.155	4.304	8.480
	(year)	1963	1963	1976	1976	1976	1976	1976	1976	1959	1959	1975	1975
	High	67.000	76.780	69.530	39.590	26.410	20.220	28.660	33.840	37.940	35.130	54.320	88.690
	(year)	1939	1977	1947	1966	1967	1987	1958	1956	1946	1960	1940	1965
Runoff	Avg	77	66	58	44	33	26	22	23	26	35	54	67
	Low	25	19	23	19	16	12	11	9	10	11	11	22
	High	170	176	177	97	67	50	73	86	81	89	134	225
Rainfall	Avg	104	78	76	66	70	71	76	84	82	89	106	101
	Low	33	8	16	8	15	15	16	10	3	17	16	20
	High	215	236	185	132	163	188	158	185	199	178	232	246

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	18.030		17.740		102
Lowest yearly mean			9.625	1976	
Highest yearly mean			25.200	1966	
Lowest monthly mean	6.593	Jun	3.647	Aug 1976	
Highest monthly mean	39.240	Jan	88.690	Dec 1965	
Lowest daily mean	4.807	3 Jul	1.663	28 Aug 1984	
Highest daily mean	121.108	15 Mar	334.177	10 Dec 1965	
Peak	137.702	15 Mar			
10% exceedance	40.800		36.400		112
50% exceedance	12.480		12.070		103
95% exceedance	5.954		5.067		118
Annual total (million cu m)	570.20		559.80		102
Annual runoff (mm)	541		531		102
Annual rainfall (mm)	1104		1003		110
[1941-70 rainfall average (mm)			1016]		

Factors affecting flow regime

- Reservoir(s) in catchment
- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies.
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from surface water and/or groundwater.
- Augmentation from effluent returns.

Station and catchment description

Ten channel, interleaved cross path US gauge in the centre of Derby, 1.75km ds of Longbridge Weir (28010). Record continuous with 28010. At high flows Derby may flood but bypassing small. Substantial flow modification owing to Derwent reservoirs, milling and PWS abstractions. Large, predominantly upland catchment draining Millstone Grit and Carb. Lst. Lower reaches drain Coal Measures on the lb and Triassic sandstones and marls on the rb. Peat moorland headwaters, forestry, pasture and some arable.

030001 Witham at Claypole Mill 1988

Measuring authority NRA-A
First year 1959
Grid reference 43 (SK) 842 480
Level stn (m OD) 16.90
Catchment area (sq km) 297.9
Max alt. (m OD) 158

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.843	8.112	2.339	2.598	1.746	1.124	0.755	0.760	1.553	0.538	0.603	1.801
2	12.221	6.217	2.360	2.525	1.734	1.130	0.787	0.747	1.116	0.547	0.580	1.716
3	6.332	5.504	2.336	5.851	1.687	1.251	0.677	0.716	0.831	0.536	0.583	2.213
4	4.868	7.067	2.189	2.679	2.136	1.641	0.773	0.688	0.704	0.520	0.581	1.997
5	4.234	7.040	2.221	2.270	1.590	1.455	0.813	0.692	0.640	0.579	0.565	1.458
6	8.457	5.567	2.148	2.184	1.629	1.249	0.747	0.670	0.604	0.571	0.570	1.056
7	5.703	5.400	2.088	2.132	1.518	1.254	0.793	0.641	0.647	0.571	0.564	0.840
8	4.340	5.240	2.030	2.124	2.746	1.809	0.774	0.665	0.604	0.511	0.579	0.786
9	4.487	5.081	2.137	2.225	2.403	2.528	0.711	0.723	0.524	0.535	0.656	0.956
10	4.012	4.587	2.176	2.068	1.923	2.016	0.777	0.707	0.558	0.571	0.616	0.888
11	3.634	4.239	2.048	2.010	1.597	1.490	1.072	0.742	0.581	0.652	0.552	0.817
12	3.438	3.933	2.494	1.955	1.689	1.385	0.792	0.732	0.590	0.976	0.585	0.804
13	3.322	3.908	5.802	1.898	1.458	1.338	0.998	0.657	0.581	1.007	0.567	0.777
14	3.097	4.449	7.755	1.896	1.382	1.171	1.332	0.673	0.597	0.661	0.560	0.725
15	2.927	4.077	10.779	1.907	1.475	1.205	1.042	0.656	0.579	0.534	0.569	0.723
16	2.742	3.824	6.869	2.012	1.550	1.179	0.915	0.625	0.566	0.544	0.560	0.718
17	2.742	3.629	4.358	2.016	1.550	1.085	1.597	0.640	0.582	0.544	0.557	0.687
18	2.840	3.504	3.672	1.769	1.255	0.983	1.062	0.636	0.592	0.601	0.538	0.671
19	2.874	3.291	4.652	1.784	1.219	0.963	0.849	0.685	0.578	0.591	0.535	0.987
20	2.774	3.119	4.897	1.750	1.176	0.984	0.797	0.792	0.579	1.209	0.765	0.744
21	2.618	3.015	4.106	1.702	1.166	1.012	0.910	0.708	0.585	0.766	0.612	0.783
22	3.235	2.979	3.865	1.700	1.244	0.817	2.056	0.620	0.584	0.709	0.525	0.713
23	9.115	2.914	4.244	1.663	1.143	0.723	1.485	0.663	0.654	0.623	0.544	0.757
24	17.501	2.826	3.867	1.659	1.190	0.747	1.443	0.670	0.635	0.654	0.511	0.693
25	9.059	2.730	4.079	1.634	1.291	0.704	1.244	0.630	0.543	0.643	0.551	0.655
26	7.910	2.652	3.505	1.600	1.372	0.744	1.064	0.578	0.489	0.627	0.510	0.704
27	5.851	2.730	3.025	2.505	1.213	0.827	0.878	0.631	0.533	0.651	0.498	0.738
28	8.690	2.620	3.028	2.011	1.100	0.881	0.863	1.496	0.676	0.631	0.513	0.693
29	13.392	2.516	2.958	1.737	1.298	0.827	0.853	0.761	0.629	0.584	0.775	0.636
30	9.667		2.892	1.712	1.217	0.836	0.824	0.649	0.588	0.577	1.879	0.687
31	6.645		2.596		1.437		0.772	0.749		0.685		0.656
Average	5.857	4.233	3.662	2.119	1.520	1.179	0.982	0.710	0.651	0.643	0.620	0.938
Lowest	2.618	2.516	2.030	1.600	1.100	0.704	0.677	0.578	0.489	0.511	0.498	0.636
Highest	17.501	8.112	10.779	5.851	2.746	2.528	2.056	1.496	1.553	1.209	1.879	2.213
Peak flow	19.855	8.966	13.166	7.016	3.540	2.763	2.936	3.485	2.715	1.826	2.130	2.715
Day of peak	24	4	15	3	8	8	22	28	1	20	30	3
Monthly total (million cu m)	15.69	10.61	9.81	5.49	4.07	3.05	2.63	1.90	1.69	1.72	1.61	2.51
Runoff (mm)	53	36	33	18	14	10	9	6	6	6	5	8
Rainfall (mm)	96	32	66	33	56	45	96	44	30	41	35	24

Statistics of monthly data for previous record (May 1959 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	2.828	3.271	2.953	2.425	1.808	1.149	0.792	0.800	0.732	0.981	1.441	2.151
	Low	0.673	0.492	0.453	0.365	0.311	0.184	0.063	0.136	0.232	0.218	0.278	0.312
	(year)	1965	1976	1976	1976	1976	1976	1976	1976	1959	1959	1959	1964
	High	5.527	10.690	6.995	5.748	4.695	3.141	2.118	2.376	2.885	3.906	6.525	7.879
	(year)	1961	1977	1979	1979	1983	1985	1968	1980	1968	1960	1960	1965
Runoff	Avg.	25	27	27	21	16	10	7	7	6	9	13	19
	Low	6	4	4	3	3	2	1	1	2	2	2	3
	High	50	87	63	50	47	27	19	21	25	35	57	71
Rainfall	Avg	53	39	49	50	52	53	51	64	50	49	57	56
	Low	20	3	8	10	11	3	9	5	3	5	24	13
	High	117	140	92	103	130	148	132	127	127	137	115	142

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	1.922		1.770		109
Lowest yearly mean			0.594	1976	
Highest yearly mean			2.807	1979	
Lowest monthly mean	0.620	Nov	0.063	Jul 1976	
Highest monthly mean	5.857	Jan	10.690	Feb 1977	
Lowest daily mean	0.489	26 Sep	0.021	24 Jul 1976	
Highest daily mean	17.501	24 Jan	31.600	11 Feb 1977	
Peak	19.855	24 Jan	37.540	11 Feb 1977	
10% exceedance	4.250		3.811		112
50% exceedance	1.106		1.074		103
95% exceedance	0.546		0.343		159
Annual total (million cu m)	60.78		55.86		109
Annual runoff (mm)	204		187		109
Annual rainfall (mm)	598		623		96
(1941-70 rainfall average (mm)			631)		

Factors affecting flow regime

- Abstraction for public water supplies.

Station and catchment description

An old weir at three levels with a total width of 24.99m converted into a standard Lea designed broad-crested weir. It is rated theoretically and there is no bypassing or drowning. Low flows in summer are moderately influenced by transfer of water from Rutland Water and abstractions for public supply at Saltersford. The catchment is clay (50%) with limestone (40%) and gravel, and is largely rural.

032004 Ise Brook at Harrowden Old Mill 1988

Measuring authority: NRA-A
First year. 1943

Grid reference: 42 (SP) 898 715
Level stn. (m OD): 45.30

Catchment area (sq km): 194 0
Max alt. (m OD): 197

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1.942	7.653	1.249	1.727	0 914	0 537	0 724	0 523	1.154	0 315	0 365	1 667
2	4 533	5.103	1 205	1.659	0 875	0.512	0.712	0 576	0 865	0.248	0 361	1.636
3	3.666	4.504	1 258	1.553	0 979	0.723	0 683	0 453	0 565	0 276	0.354	2 067
4	2.572	7 850	1 154	1.496	1 332	0.785	0.819	0 439	0 409	0 292	0 354	2 648
5	2 697	4 716	1 061	1.439	0 991	0 615	0 693	0 428	0 369	0 311	0 352	1.748
6	6 078	3 691	1 064	1.382	0 862	0 524	0 751	0 414	0 355	0 602	0.362	1 152
7	4.760	4 242	0.780	1.354	0 829	0 493	0 535	0 398	0 339	0 791	0 356	0 930
8	2.746	4 668	1 009	1.325	2 354	0 926	0 502	0 402	0 339	0 369	0 373	0 874
9	2.673	4 351	0 965	1.334	1 549	0.997	0 460	0.383	0 325	0.746	0 385	0.927
10	2.300	3.448	0 947	1.149	1 065	0 759	0 736	0 365	0 319	0 640	0.377	1 045
11	2.028	3 016	0 925	1 138	0 960	0.606	0.557	0 367	0 310	0.562	0 374	0.920
12	1 864	2 640	1 039	1 060	0 900	0 522	0 615	0 418	0 366	0 795	0 368	0 837
13	1.747	2.554	1 423	1.038	0 825	0 495	0 960	0 351	0.321	0 874	0 361	0 731
14	1.548	2 965	5.149	1 014	0 763	0 434	0 623	0 352	0 313	0 619	0 358	0 685
15	1 426	2 545	8 517	1 060	0 704	0 432	0 727	0 333	0.311	0 481	0.352	0 668
16	1 360	2 279	4 901	1 160	0 671	0 426	0 515	0.320	0 308	0 434	0 341	0 675
17	1 335	2 080	2.500	1 047	0 640	0 417	0 694	0 310	0 305	0 408	0 364	0 618
18	1 404	1.943	2 360	1.244	0 641	0 412	0 604	0 372	0 300	0 406	0 363	0 600
19	1 440	1 826	6 285	1 143	0 618	0.399	0 487	0 348	0 296	0 522	0 366	0 821
20	1 372	1 730	7 526	0 945	0 596	0 414	0 466	0 450	0 794	0 887	0 529	0 688
21	1 325	1.653	6 422	0 899	0 606	0.397	1 017	0 364	0 302	0 665	0 401	0 604
22	2 074	1.608	4 048	0 885	0 571	0 412	1 122	0 335	0.305	0 539	0 405	0 588
23	8.168	1.540	5.838	0.755	0 605	0 399	1.129	0 344	0 377	0 481	0 371	0 575
24	16 512	1.519	4 363	0.580	0 594	0 402	1 490	0 410	0 354	0.445	0 354	0 626
25	11 783	1 340	4 584	0 780	0 569	0 405	0 750	0 334	0 349	0 418	0 362	0 578
26	8 886	0 821	3.343	0 917	0 636	0 468	0 617	0 326	0 342	0 408	0 358	0 629
27	5 132	0 864	2 578	1 016	0 577	0 494	0.536	0 332	0 361	0 407	0 356	0.629
28	8 003	1 309	2 371	0 905	0 541	0 455	0 534	0 358	0 309	0 393	0 395	0 629
29	9 859	1 525	2 074	0 817	0 569	0 445	0 482	0 338	0 295	0.375	1 073	0 617
30	6 615		2 063	0 901	0 734	0 715	0 458	0 338	0 285	0 372	2 901	0 600
31	4 955		1 873		0 639		0 655	0 560		0 366		0 577
Average	4 284	2 965	2.931	1 124	0 829	0 534	0 698	0 388	0 381	0 498	0 480	0 922
Lowest	1 325	0 821	0 780	0 580	0 541	0 397	0 458	0 310	0 285	0.248	0 341	0 575
Highest	16 512	7 850	8 517	1.727	2 354	0 997	1 490	0 576	1 154	0 887	2 901	2.648
Peak flow	17 522	9 687	10.186	2 442	3 649	1 865	2.551	0 976	1 954	1 581	3 764	3 075
Day of peak	24	4	15	2	8	8	21	31	1	10	30	4
Monthly total (million cu m)	11 47	7 43	7 85	2 91	2 22	' 38	1.87	1 04	0.99	1 33	1 24	2 47
Runoff (mm)	59	38	40	15	11	7	10	5	5	7	6	13
Rainfall (mm)	100	34	81	31	43	56	102	49	29	56	33	29

Statistics of monthly data for previous record (Dec 1943 to Dec 1987—incomplete or missing months total 0.8 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	2 487	2 627	2 279	1.561	1 132	0 763	0 564	0 546	0 510	0 757	1 4:0	1 946
	Low	0.459	0 324	0 219	0 330	0 '43	0 128	0 166	0 110	0 128	0 185	0 176	0 218
	(year)	1944	1944	1944	1948	1944	1944	1945	1944	1949	1947	1947	1947
	High	6 441	6 948	7 984	3 835	3 606	2 421	3 018	2 656	2 315	4 384	5 330	5 877
	(year)	1959	1977	1947	1979	1967	1981	1958	1980	1968	1960	1960	1965
Runoff	Avg	34	33	31	21	16	10	8	8	7	10	19	27
	Low	6	4	3	4	2	2	2	2	2	3	2	3
	High	89	87	110	51	50	32	42	37	3'	61	71	80
Rainfall	Avg	54	42	49	45	54	55	50	65	53	53	60	59
	Low	15	3	5	8	10	5	5	3	3	5	10	13
	High	112	115	127	91	130	141	109	139	127	137	132	123

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	1.335		1.376		97
Lowest yearly mean			0 422	1944	
Highest yearly mean			2.337	1960	
Lowest monthly mean	0 381	Sep	0 110	Aug 1944	
Highest monthly mean	4 284	Jan	7 984	Mar 1947	
Lowest daily mean	0 248	2 Oct	0 048	18 Aug 1944	
Highest daily mean	16 512	24 Jan	21 360	15 Aug 1980	
Peak	17 522	24 Jan	28 390	17 Mar 1947	
10% exceedance	2 881		3 033		95
50% exceedance	0 674		0 755		89
95% exceedance	0 315		0.200		158
Annual total (million cu m)	42.22		43 42		97
Annual runoff (mm)	218		224		97
Annual rainfall (mm)	643		639		101
[1941-70 rainfall average (mm)			631]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Augmentation from effluent returns

Station and catchment description

Flume with low flow notch and side weir to 1965, compound Crump weir to April 1976, and theoretically-rated Flat V weir with 5 94m crest since. Crump weir modular to 15.6 cumecs, but bypassed at 14 2. Flat V also bypassed Two small storage reservoirs with minor influence on low flows Underlain by clay (59%) and sandstone (24%), mostly rural but includes Kettering.

033002 Bedford Ouse at Bedford 1988

Measuring authority: NRA-A
First year: 1933

Grid reference: 52 (TL) 055 495
Level stn (m OD) 24.70

Catchment area (sq km): 1460 0
Max alt (m OD): 247

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	22 600	60.300	10 800	11 100	7 700	5 700	6.200	4 500	10 200	5.100	4 400	34 000
2	17 600	62 100	10 200	10 700	7 600	5.000	5 900	4 500	17 900	4 300	4 300	20 300
3	21 000	51 600	9.900	10 100	7 300	4 500	7.200	4 600	13.100	3.900	4 300	16 600
4	21 900	42 300	10 500	9 400	8 500	5 100	8.700	4 400	7 400	3 900	4 100	19 800
5	25.200	54.100	10 500	9 300	9 100	5 600	10.300	4 100	4 600	3.900	4 100	26 500
6	37 000	40 600	9 800	9 900	6 900	5 100	11.100	4 000	4 100	4 000	4 300	18 500
7	52 100	30 500	9 600	9.300	6 300	4 200	14 100	3 900	3 800	4 300	4 300	11 700
8	37 500	32 200	9 500	9 100	7 400	4 600	12.300	3 800	3 500	4 600	4 300	10 100
9	25 200	34 100	9 400	9.800	11 100	5 600	7 700	3 600	3 400	4.900	4 300	8 500
10	26 000	30.100	9 300	10 000	9 800	7 300	6 000	3 600	3 400	10 100	4 600	8 000
11	25 000	27 400	9 200	8 200	7 200	5 300	5 100	3 500	3 500	10 600	4 300	7 600
12	20 800	25 400	8 900	8 600	6 700	5 100	6.500	3 500	3 200	8 700	4 200	6 800
13	18 900	21 800	9 200	8 000	7 100	4 600	6 200	3.500	3 400	10 700	4 300	6 300
14	18 600	23 900	14 100	7 300	6 300	4 200	6 400	3 700	3 600	12 100	4 300	6 000
15	16.900	25 900	30 700	6.300	6 000	4 100	6 700	3 400	3 600	8 200	4.100	5 800
16	14 600	22 500	47 200	8 000	5 600	4 000	6 000	3 300	3 300	6.200	3 800	5 700
17	13 800	19 200	29 900	8 700	5 400	3 900	8 400	3 300	3 300	4 700	3 800	5 700
18	12 400	16 700	18 800	8 200	6 200	3 800	15 700	3 300	3 300	5.100	3 800	5 700
19	12.700	15 300	20 800	8 300	6 400	3 700	10 500	3 300	3 500	5 400	4 300	5 800
20	12 100	14 500	31 100	8 500	5 300	3 600	6 400	3 400	3 400	7 200	4 300	6 000
21	11 400	14 000	54.300	8 300	5 000	3.500	5.900	3 800	3 200	9 500	5 900	5 800
22	17.600	13 500	64 500	7.200	4 300	3 400	8 500	3 800	3 400	6 900	6 000	5 400
23	44 000	13.100	45 400	6 800	4 800	3 300	13 100	3 400	3 500	5 700	5 200	5 600
24	73 700	12 700	33 900	6 400	5 000	3 300	14 000	3 300	4 200	5 300	4 800	5 800
25	88.400	12 300	26 500	6 300	4 900	3 200	10 800	3 600	5 300	5 100	4 500	6 000
26	118 000	11 600	24 100	6 300	5 000	3 200	8 600	3 300	6 800	5 000	4 300	5 600
27	98.600	11 100	16 000	9 100	5 300	5 300	6.900	3 300	5 800	4.900	4 300	5 800
28	65 500	11 100	13 300	10 500	4 800	5 300	6 200	3 200	8 000	4.900	4 400	6 400
29	69 500	11 400	13 900	7 600	4 800	4 900	5 400	3 200	13 400	4 800	6 500	5 900
30	82.100		13 700	7 200	6 400	5 300	5.300	3 300	7 700	4 400	18 900	5 400
31	87 200		11 100		6 200		4 800	4 100		4 300		5 100
Average	38 960	26 250	20 520	8 483	6 465	4 523	8.287	3 661	5 560	6 087	4 967	9 619
Lowest	11 400	11 100	8 900	6 300	4 300	3 200	4 800	3 200	3 200	3 900	3 800	5 100
Highest	118 000	62 100	64 500	11.100	11 100	7 300	15.700	4 600	17 900	12.100	18 900	34 000
Peak flow	125 000	81 500	64 800	12 900	11 900	7 600	16 500	5 800	19 000	13 400	31 400	36 700
Day of peak	26	1	22	27	10	10	18	31	2	14	30	1
Monthly total (million cu m)	104.40	65 78	54 96	21 99	17 31	11 72	22 20	9 81	14 41	16 30	12 87	25 76
Runoff (mm)	71	45	38	15	12	8	15	7	10	11	9	18
Rainfall (mm)	104	31	67	28	50	49	107	47	51	46	33	21

Statistics of monthly data for previous record (Jan 1933 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	19 480	19 970	17 190	11 280	7 243	4 656	3 158	2 812	2 786	5.536	11 390	15 370
	Low	2 608	2 232	2 410	1.996	1 411	0.483	0 100	0 040	0 268	0 454	1 152	1 531
	(year)	1934	1965	1944	1976	1934	1934	1934	1934	1934	1934	1934	1964
	High	55.190	53 300	62 020	31.470	28 280	14 280	19 080	14 400	18 000	30 420	43 800	40 400
	(year)	1939	1977	1947	1951	1983	1985	1968	1980	1968	1987	1960	1960
Runoff	Avg	36	33	32	20	13	8	6	5	5	10	20	28
	Low	5	4	4	4	3	1	0	0	0	1	2	3
	High	101	88	114	56	52	25	35	26	32	56	78	74
Rainfall: (1934-1987)	Avg	57	42	49	44	56	53	52	62	53	60	64	60
	Low	14	3	5	3	10	8	5	3	3	4	10	13
	High	124	111	140	96	113	119	120	138	110	147	178	128

Summary statistics.

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	11 940		10.030		119
Lowest yearly mean			2 401	1934	
Highest yearly mean			18 890	1937	
Lowest monthly mean	3 661	Aug	0 040	Aug 1934	
Highest monthly mean	38.960	Jan	62 020	Mar 1947	
Lowest daily mean	3 200	25 Jun	0.008	31 Aug 1934	
Highest daily mean	118 000	26 Jan	278 100	15 Mar 1947	
Peak	125 000	26 Jan			
10% exceedance	25.430		26 380		96
50% exceedance	6 361		4.609		138
95% exceedance	3 361		0 902		373
Annual total (million cu m)	377 60		316 50		119
Annual runoff (mm)	259		217		119
Annual rainfall (mm)	634		652		97
[1941-70 rainfall average (mm)			648]		

Factors affecting flow regime

- Reservoir(s) in catchment
- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies
- Flow reduced by industrial and/or agricultural abstractions
- Augmentation from effluent returns.

Station and catchment description

3 broad-crested weirs, 30m, 20m and 12m wide supplemented by 3 vertical sluice gates which are either fully open or shut High flow rating confirmed by current meter measurements Records before 1959 based on daily gauge board readings and gate openings In 1972, station built at Roxton (d/s) - to achieve a better record. Significant surface water and groundwater abstractions in catchment for PWS. Geology - predominantly clay Land use - agricultural with substantial urban development over last 15 years (inc. Milton Keynes).

034006 Waveney at Needham Mill 1988

Measuring authority: NRA-A
First year: 1963

Grid reference: 62 (TM) 229 811
Level stn. (m OD): 16.50

Catchment area (sq km): 370.0
Max alt. (m OD): 65

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.514	13.798	10.087	5.318	2.441	0.952	0.703	0.589	0.683	0.499	0.627	3.568
2	6.667	10.272	10.958	4.015	1.924	0.838	0.748	0.601	0.747	0.489	0.609	2.158
3	4.454	6.459	9.981	3.100	2.349	0.803	0.762	0.610	0.568	0.487	0.608	1.835
4	3.135	5.278	8.080	2.681	2.570	0.797	1.072	0.609	0.494	0.474	0.604	3.134
5	4.899	4.172	5.421	2.372	2.417	0.755	1.102	0.594	0.476	0.474	0.596	2.532
6	9.178	3.508	5.536	2.106	1.710	0.720	0.947	0.572	0.476	0.504	0.588	1.832
7	6.400	3.248	5.173	2.014	1.520	0.701	0.882	0.540	0.472	0.484	0.603	1.565
8	4.136	5.510	3.924	1.891	2.038	0.729	0.823	0.542	0.472	0.462	0.609	1.472
9	3.484	4.706	3.208	1.651	1.955	1.029	0.744	0.566	0.477	0.643	0.787	1.679
10	3.363	3.783	2.866	1.617	1.679	0.920	0.652	0.567	0.461	0.780	0.801	1.821
11	4.174	3.840	2.588	1.559	1.562	0.795	0.644	0.547	0.426	0.618	0.712	1.715
12	3.765	3.727	2.482	1.530	1.513	0.722	0.674	0.558	0.428	0.859	0.633	1.511
13	4.470	3.182	2.875	1.396	1.354	0.668	0.917	0.540	0.450	1.458	0.602	1.258
14	10.268	3.615	7.063	1.313	1.173	0.638	0.988	0.512	0.451	0.923	0.598	1.138
15	6.430	3.396	15.644	1.399	1.050	0.622	0.807	0.488	0.457	0.706	0.615	1.085
16	4.326	2.900	14.310	1.448	1.002	0.609	0.748	0.487	0.464	0.597	0.608	1.068
17	3.529	2.542	6.099	1.368	0.991	0.607	0.874	0.485	0.462	0.590	0.641	1.042
18	3.007	2.284	4.048	1.273	0.949	0.598	0.870	0.512	0.455	0.595	0.653	0.930
19	2.914	2.130	3.868	2.665	0.903	0.584	0.785	0.593	0.460	0.905	0.639	1.033
20	2.673	1.967	3.891	6.394	0.855	0.588	0.741	0.665	0.489	8.082	0.772	1.006
21	2.465	1.853	10.536	3.063	0.817	0.577	0.675	0.734	0.490	4.861	0.820	0.914
22	11.976	1.820	11.422	2.138	0.756	0.585	0.728	0.454	0.560	2.235	0.786	0.908
23	22.188	1.967	9.006	1.700	0.791	0.589	0.844	0.563	0.632	1.546	0.742	0.917
24	41.800	4.285	8.327	1.490	0.802	0.586	0.830	0.558	0.610	1.248	0.682	0.937
25	47.838	4.206	9.896	1.370	0.778	0.573	0.749	0.573	0.602	0.970	0.664	0.915
26	37.700	3.094	8.028	1.642	0.795	0.566	0.696	0.560	0.592	0.987	0.642	0.879
27	19.027	2.608	4.829	3.805	0.811	0.589	0.736	0.543	0.567	0.911	0.612	0.922
28	18.969	2.443	3.819	5.379	0.758	0.684	0.703	0.527	0.600	0.831	0.661	0.913
29	57.463	4.874	3.640	4.216	0.790	0.657	0.645	0.517	0.586	0.740	0.930	0.891
30	65.275		8.224	2.918	0.855	0.602	0.614	0.493	0.539	0.668	4.821	0.874
31	21.603		9.954		0.877		0.589	0.523		0.620		0.867
Average	14.260	4.051	6.961	2.494	1.316	0.689	0.784	0.555	0.521	1.169	0.809	1.397
Lowest	2.465	1.820	2.482	1.273	0.756	0.566	0.589	0.454	0.476	0.462	0.588	0.867
Highest	65.275	13.798	15.644	6.394	2.570	1.029	1.102	0.734	0.747	8.082	4.821	3.568
Peak flow	72.100	14.606	17.986	8.118	2.918	1.136	1.215	0.936	0.829	9.783	5.868	4.936
Day of peak	29	1	15	20	4	9	4	21	2	20	30	1
Monthly total (million cu m)	38.20	10.15	18.64	6.46	3.52	1.79	2.10	1.49	1.35	3.13	2.10	3.74
Runoff (mm)	103	27	50	17	10	5	6	4	4	8	6	10
Rainfall (mm)	122	41	81	48	42	24	77	38	38	78	34	24

Statistics of monthly data for previous record (Dec 1963 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	3.894	3.414	2.537	2.059	1.164	0.803	0.538	0.767	0.901	1.234	1.916	2.931
	Low	0.609	0.722	0.591	0.487	0.369	0.285	0.285	0.281	0.261	0.352	0.397	0.492
	(year)	1973	1965	1973	1974	1974	1974	1974	1973	1964	1964	1964	1964
	High	7.132	10.670	7.665	5.646	3.254	4.302	1.197	6.958	9.753	10.260	8.852	8.379
	(year)	1969	1979	1981	1983	1969	1985	1987	1987	1968	1987	1974	1965
Runoff	Avg	28	23	18	14	8	6	4	6	6	9	13	21
	Low	4	5	4	3	3	2	2	2	2	3	3	4
	High	52	70	55	40	24	30	9	50	68	74	62	61
Rainfall	Avg	51	36	43	44	48	52	47	52	53	53	63	55
	Low	16	10	10	9	10	10	11	7	2	4	25	18
	High	90	72	96	86	97	132	93	110	161	118	150	100

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	2.931		1.840		159
Lowest yearly mean			0.537	1973	
Highest yearly mean			3.366	1987	
Lowest monthly mean	0.521	Sep	0.261	Sep 1964	
Highest monthly mean	14.260	Jan	10.670	Feb 1979	
Lowest daily mean	0.426	11 Sep	0.189	23 Aug 1973	
Highest daily mean	65.275	30 Jan	89.760	16 Sep 1968	
Peak	72.100	29 Jan	113.300	16 Sep 1968	
10% exceedance	5.818		4.206		138
50% exceedance	0.912		0.811		112
95% exceedance	0.479		0.328		146
Annual total (million cu m)	92.69		58.06		160
Annual runoff (mm)	251		157		160
Annual rainfall (mm)	647		597		108
[1941-70 rainfall average (mm)			603]		

Factors affecting flow regime

- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from surface water and/or groundwater

Station and catchment description
A compound Crump weir 8.5 m wide in the main channel with a single crested Crump in the mill bypass. Sluice action at a mill 2.4 km upstream is infrequent but is evident in flow records. Surface water abstractions, and the use of river gravels as an aquifer, influence flows but the overall impact is minimal. Predominantly a Boulder Clay catchment with largely rural land use

036006 Stour at Langham 1988

Measuring authority NRA A | Grid reference 62 (TM) 020 344 | Catchment area (sq km) 578.0
First year 1962 | Level stn (m OD) 6.40 | Max alt (m OD) 128

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.956	27.850	3.373	6.077	3.001	2.165	1.495	1.311	1.543	1.322	1.353	5.105
2	5.707	20.650	3.099	5.367	2.865	1.434	1.656	1.366	1.618	1.195	1.343	2.871
3	6.585	11.881	3.280	4.593	3.084	1.615	1.567	1.263	1.418	1.261	1.378	2.374
4	4.775	10.099	3.964	4.206	2.880	2.042	1.857	1.320	1.234	1.265	1.404	4.253
5	9.428	8.225	3.457	3.886	2.768	2.088	2.007	1.268	1.279	1.425	1.393	4.864
6	19.640	6.980	3.402	3.253	2.517	1.973	1.904	1.234	1.205	1.610	1.399	2.979
7	13.775	6.383	3.978	3.301	2.131	1.652	1.839	1.124	1.122	1.548	1.385	2.414
8	7.039	10.470	3.466	3.330	3.255	2.042	1.579	1.054	1.231	1.469	1.424	1.861
9	5.992	9.172	3.444	3.632	3.240	3.601	1.447	1.243	1.245	2.549	1.918	1.913
10	7.697	7.665	3.282	3.381	2.568	3.326	1.350	1.085	1.070	2.973	1.579	2.025
11	7.781	7.010	3.189	3.083	2.224	2.126	1.292	1.060	1.146	2.421	1.258	2.084
12	6.471	5.979	3.144	3.211	2.498	1.995	1.255	1.174	1.112	2.034	1.526	2.006
13	6.345	5.222	3.751	3.122	2.160	1.598	1.477	1.177	1.158	2.653	1.433	1.780
14	13.435	4.993	11.197	3.078	1.533	1.577	1.593	1.248	1.234	2.519	1.452	1.814
15	8.853	4.811	23.065	3.244	2.408	1.574	1.645	1.195	1.179	1.996	1.547	1.860
16	6.258	4.525	22.410	3.428	1.883	1.693	1.786	1.234	1.213	1.619	1.566	2.100
17	5.242	4.352	9.806	3.326	1.845	1.717	2.342	1.180	1.281	1.656	1.172	2.096
18	4.647	3.839	6.490	3.178	1.890	1.722	3.023	1.159	1.172	1.652	1.373	1.981
19	4.592	3.778	7.110	3.226	1.918	1.565	2.156	1.264	1.096	1.719	1.400	1.940
20	4.591	3.705	7.519	3.404	1.811	1.495	1.395	1.304	1.118	2.030	1.524	2.080
21	4.716	3.606	18.125	3.168	1.611	1.566	1.583	1.298	1.189	2.856	1.538	2.066
22	16.040	3.663	17.180	3.029	1.846	1.473	1.658	1.315	1.390	1.997	1.532	1.883
23	28.490	3.525	12.337	3.011	1.837	1.336	1.972	1.120	1.569	1.909	1.624	1.800
24	33.680	3.657	11.358	2.777	1.784	1.265	1.761	1.068	1.647	1.836	1.816	1.798
25	42.870	3.778	7.888	3.161	1.739	1.243	1.648	1.098	2.005	1.643	1.840	1.886
26	40.990	3.646	6.151	2.886	1.859	1.272	1.546	1.124	2.055	1.602	1.796	2.051
27	28.050	3.348	4.940	2.959	1.701	1.378	1.447	1.135	1.634	1.615	1.589	2.099
28	23.980	3.369	4.516	3.065	1.398	1.659	1.383	1.063	1.848	1.633	1.492	2.039
29	36.030	3.326	4.770	2.959	1.948	1.609	1.405	1.087	1.648	1.574	1.909	1.898
30	46.400		9.177	2.603	2.181	1.275	1.371	0.992	1.490	1.770	5.866	1.791
31	42.560		10.211		2.147		1.356	1.306		1.424		1.798
Average	16.080	6.880	7.712	3.431	2.211	1.769	1.671	1.189	1.372	1.831	1.661	2.307
Lowest	4.591	3.326	3.099	2.603	1.398	1.243	1.255	0.992	1.070	1.195	1.172	1.780
Highest	46.400	27.850	23.065	6.077	3.255	3.601	3.023	1.366	2.055	2.973	5.866	5.105
Peak flow	48.470	33.800	26.070	7.411	4.594	5.262	5.175	2.059	2.192	3.740	9.371	8.785
Day of peak	30	1	16	1	8	9	18	9	26	9	30	1
Monthly total (million cu m)	43.08	17.24	20.66	8.89	5.92	4.59	4.47	3.18	3.55	4.90	4.30	6.18
Runoff (mm)	75	30	36	15	10	8	8	6	6	8	7	11
Rainfall (mm)	125	26	75	24	50	44	77	31	52	52	30	26

Statistics of monthly data for previous record (Oct 1962 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg.	5.293	4.908	4.657	3.652	2.424	1.649	1.078	1.177	1.168	2.002	2.945	4.128
	Low	1.398	0.883	1.597	1.217	0.758	0.454	0.191	0.210	0.395	0.510	0.578	0.692
	(year)	1965	1965	1976	1974	1974	1965	1976	1976	1964	1970	1964	1964
	High	9.263	12.980	9.775	9.334	7.253	5.999	2.957	6.236	4.945	13.170	11.340	10.550
	(year)	1971	1979	1981	1983	1983	1987	1987	1987	1968	1987	1974	1965
Runoff	Avg	25	21	22	16	11	7	5	5	5	9	13	19
	Low	6	4	7	5	4	2	1	1	2	2	3	3
	High	43	54	45	42	34	27	14	29	22	61	51	49
Rainfall	Avg	47	34	46	45	49	53	46	53	51	52	61	52
	Low	14	13	12	11	12	10	8	11	1	3	20	13
	High	85	63	93	99	100	132	93	105	118	128	155	107

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	4.015		2.915		138
Lowest yearly mean			1.428	1973	
Highest yearly mean			5.119	1987	
Lowest monthly mean	1.189	Aug	0.191	Jul 1976	
Highest monthly mean	16.080	Jan	13.170	Oct 1987	
Lowest daily mean	0.992	30 Aug	0.094	9 Jul 1976	
Highest daily mean	46.400	30 Jan	50.280	12 Oct 1987	
Peak	48.470	30 Jan	91.000	17 Sep 1968	
10% exceedance	7.546		6.434		117
50% exceedance	1.944		1.676		116
95% exceedance	1.152		0.517		223
Annual total (million cu m)	127.00		91.99		138
Annual runoff (mm)	220		159		138
Annual rainfall (mm)	612		589		104
[1941-70 rainfall average (mm)			598]		

Factors affecting flow regime

- Flow reduced by industrial and/or agricultural abstractions
- Augmentation from surface water and/or groundwater
- Augmentation from effluent returns

Station and catchment description

Twin-trapezoidal flume with throat tapping. Spillway channel with weir constructed Dec 85 takes some flow above 1.45m. Bypassing also occurs over opposite bank above 1.85m. Additional bypassing possible from 0.5km u/s during extreme events. Naturalised flows up to Sept.76. Flow augmented by intermittent pumping from Ely/Ouse Transfer Scheme and occasional SAGS borehole pumping. Predominantly rural catchment underlain by Chalk - outcropping in N, London Clay in S, all covered by semi-pervious Boulder Clay.

038003 Mimram at Panshanger Park 1988

Measuring authority: NRA-T
First year: 1952

Grid reference: 52 (TL) 282 133
Level stn. (m OD): 47.10

Catchment area (sq km): 133.9
Max alt. (m OD): 193

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.720	1.220	1.050	1.080	0.935	0.793	0.749	0.608	0.934	0.476	0.522	0.533
2	0.810	1.110	1.040	1.070	0.891	0.797	0.694	0.610	0.605	0.474	0.518	0.502
3	0.724	1.150	1.130	1.060	0.907	0.827	0.909	0.607	0.568	0.472	0.516	0.657
4	0.796	1.160	1.060	1.060	0.890	0.829	0.885	0.605	0.548	0.482	0.516	0.571
5	0.983	1.090	1.050	1.060	0.872	0.778	0.732	0.595	0.543	0.516	0.513	0.521
6	0.803	1.100	1.050	1.060	0.859	0.792	0.856	0.575	0.535	0.550	0.513	0.502
7	0.738	1.230	1.040	1.040	0.961	0.797	0.719	0.559	0.530	0.485	0.516	0.496
8	0.745	1.150	1.040	1.070	1.340	1.110	0.692	0.555	0.529	0.712	0.540	0.494
9	0.768	1.170	1.040	1.050	0.953	1.010	0.681	0.545	0.522	0.837	0.540	0.493
10	0.738	1.170	1.030	0.993	0.906	0.842	0.753	0.546	0.511	0.567	0.522	0.486
11	0.724	1.110	1.030	0.984	0.920	0.802	0.645	0.560	0.495	0.577	0.528	0.483
12	0.728	1.080	1.040	0.983	0.890	0.761	0.687	0.546	0.508	0.756	0.527	0.481
13	0.854	1.140	1.120	0.974	0.858	0.726	0.779	0.538	0.489	0.620	0.514	0.479
14	0.755	1.090	1.200	0.976	0.833	0.706	0.673	0.538	0.485	0.561	0.513	0.478
15	0.717	1.080	1.300	0.979	0.814	0.705	0.654	0.532	0.481	0.541	0.511	0.477
16	0.711	1.070	1.110	0.994	0.808	0.712	0.809	0.523	0.477	0.536	0.510	0.474
17	0.710	1.060	1.070	0.946	0.867	0.706	0.863	0.523	0.472	0.533	0.508	0.472
18	0.707	1.060	1.140	0.928	0.832	0.699	0.683	0.529	0.470	0.530	0.503	0.473
19	0.712	1.060	1.100	1.010	0.805	0.689	0.655	0.533	0.466	0.857	0.525	0.493
20	0.757	1.060	1.270	0.890	0.793	0.684	0.645	0.542	0.473	0.736	0.536	0.469
21	0.813	1.050	1.170	0.867	0.785	0.679	0.763	0.545	0.480	0.594	0.493	0.469
22	1.000	1.050	1.150	0.848	0.778	0.664	0.732	0.529	0.488	0.569	0.484	0.464
23	1.030	1.050	1.160	0.837	0.780	0.662	0.663	0.535	0.515	0.572	0.505	0.462
24	1.100	1.090	1.170	0.849	0.779	0.662	0.639	0.534	0.691	0.578	0.488	0.455
25	1.100	1.120	1.160	0.849	0.774	0.657	0.637	0.528	0.520	0.560	0.487	0.453
26	0.934	1.050	1.100	0.908	0.923	0.665	0.625	0.524	0.543	0.543	0.484	0.467
27	1.080	1.060	1.090	1.090	0.790	0.791	0.619	0.521	0.586	0.536	0.479	0.460
28	1.160	1.080	1.100	0.951	0.793	0.699	0.619	0.519	0.550	0.531	0.474	0.449
29	2.050	1.050	1.160	0.918	0.932	0.680	0.612	0.511	0.493	0.523	0.699	0.447
30	1.160		1.110	0.910	0.839	0.750	0.604	0.515	0.480	0.526	0.580	0.445
31	1.220		1.080		0.808		0.606	0.792		0.530		0.443
Average	0.898	1.102	1.108	0.974	0.868	0.756	0.706	0.555	0.533	0.577	0.519	0.485
Lowest	0.707	1.050	1.030	0.837	0.774	0.657	0.604	0.511	0.466	0.472	0.474	0.443
Highest	2.050	1.230	1.300	1.090	1.340	1.110	0.909	0.792	0.934	0.857	0.699	0.657
Peak flow	3.500	1.620	1.830	1.550	2.370	2.070	1.730	1.250	1.670	1.940	1.110	1.020
Day of peak	29	7	15	27	8	8	16	31	1	19	29	3
Monthly total (million cu m)	2.41	2.76	2.97	2.53	2.32	1.96	1.89	1.49	1.38	1.54	1.34	1.30
Runoff (mm)	18	21	22	19	17	15	14	11	10	12	10	10
Rainfall (mm)	121	33	63	35	57	48	86	55	50	63	29	19

Statistics of monthly data for previous record (Dec 1952 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	0.577	0.634	0.660	0.651	0.616	0.560	0.485	0.449	0.420	0.415	0.454	0.510
	Low	0.744	0.289	0.259	0.261	0.216	0.187	0.163	0.145	0.195	0.175	0.176	0.189
	(year)	1974	1973	1973	1973	1976	1976	1976	1976	1973	1973	1973	1973
	High	1.102	1.167	1.119	1.050	1.084	0.971	0.803	0.764	0.632	0.638	0.739	1.005
	(year)	1961	1961	1961	1979	1979	1979	1979	1979	1968	1968	1960	1960
Runoff	Avg	12	12	13	13	12	11	10	9	8	8	9	10
	Low	5	5	5	5	4	4	3	3	4	4	3	4
	High	22	21	22	20	22	19	16	15	12	13	14	20
Rainfall	Avg.	54	41	49	45	52	60	53	58	56	62	62	62
	Low	11	3	3	5	15	5	5	7	5	5	20	13
	High	102	96	116	105	115	122	123	127	121	171	151	119

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	0.756		0.535		141
Lowest yearly mean			0.231	1973	
Highest yearly mean			0.767	1961	
Lowest monthly mean	0.485	Dec	0.145	Aug 1976	
Highest monthly mean	1.108	Mar	1.167	Feb 1961	
Lowest daily mean	0.443	31 Dec	0.135	21 Aug 1976	
Highest daily mean	2.050	29 Jan	1.810	15 Sep 1968	
Peak	3.500	29 Jan	3.541	30 May 1979	
10% exceedance	1.093		0.791		138
50% exceedance	0.714		0.507		141
95% exceedance	0.474		0.243		195
Annual total (million cu m)	23.89		16.90		141
Annual runoff (mm)	178		126		141
Annual rainfall (mm)	659		654		101
[1941-70 rainfall average (mm)			641]		

Factors affecting flow regime

- Flow influenced by groundwater abstraction and/or recharge
- Flow reduced by industrial and/or agricultural abstractions

Station and catchment description

Critical-depth flume, 5m overall width. Theoretical calibration confirmed by gaugings. All flows contained. Slight diminution of flows due to groundwater abstraction. Very high baseflow component. A predominantly permeable catchment (Upper Chalk - overlain by glacial deposits near headwaters); mainly rural but some urbanisation in the lower valley.

039001 Thames at Kingston 1988

Measuring authority NRA T
First year 1883

Grid reference 51 (TQ) 177 698
Level stn (m OD) 4 70

Catchment area (sq km) 9948 0
Max alt (m OD) 330

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	105 996	335 996	83 500	87 800	48 400	35 300	25 904	13 299	59 398	21 597	21 400	78 700
2	107 003	341 991	81 300	74 700	57 100	27 300	14 701	16 204	61 401	23 901	20 600	59 700
3	143 993	301 991	86 900	77 000	53 700	27 400	52 397	17 396	16 597	18 495	21 900	32 600
4	137 003	303 994	84 700	72 600	53 300	28 600	52 502	13 796	26 597	19 595	23 300	66 400
5	183 993	301 991	86 400	64 900	53 200	33 500	41 400	12 604	15 602	16 296	27 300	72 700
6	245 996	285 000	79 400	68 500	47 500	29 000	39 505	11 597	12 998	30 405	24 800	74 400
7	218 994	266 991	74 300	75 000	40 600	30 400	34 396	12 604	10 799	26 701	26 000	38 700
8	192 998	272 003	73 300	66 000	60 900	21 000	17 695	9 120	11 505	23 102	26 600	40 100
9	157 003	257 998	68 600	71 800	86 300	28 100	20 200	11 806	8 924	75 301	30 100	34 700
10	160 996	240 996	72 800	72 000	57 000	33 100	20 605	11 700	9 907	84 202	32 900	37 400
11	145 996	215 000	67 800	69 400	61 900	31 300	16 901	10 602	9 201	49 398	33 100	29 700
12	130 000	183 993	62 400	68 700	57 200	22 300	17 501	9 699	14 896	64 398	31 500	28 800
13	132 998	165 000	53 700	65 000	52 000	25 300	19 595	10 995	14 398	60 301	32 400	29 600
14	162 003	188 993	64 100	62 900	50 200	21 900	27 603	10 301	11 701	60 104	26 800	28 100
15	130 996	197 998	79 500	59 500	47 200	20 700	25 104	11 898	9 225	38 796	25 300	23 000
16	107 003	182 003	117 000	71 900	37 800	20 200	22 305	12 002	11 701	37 697	22 200	26 300
17	97 604	152 998	114 000	78 000	35 800	20 000	39 595	10 197	10 706	28 206	20 500	25 500
18	89 595	140 996	93 600	72 400	33 600	15 900	44 004	15 706	11 505	40 706	21 900	24 700
19	90 405	135 996	98 700	87 500	36 800	19 300	29 203	13 704	12 002	49 398	20 700	25 600
20	92 894	127 003	135 000	75 300	36 600	15 900	32 802	13 600	10 405	42 199	21 100	25 100
21	102 003	120 000	215 000	61 900	34 700	14 600	29 803	12 801	9 630	41 100	25 000	21 400
22	155 996	117 998	178 000	52 200	30 700	11 700	25 304	10 301	10 799	25 000	21 700	14 800
23	206 991	115 000	142 000	51 300	34 900	10 800	35 801	10 498	11 898	31 701	22 300	17 400
24	232 003	107 998	125 000	46 000	34 600	9 810	31 899	10 799	14 502	25 602	21 500	19 800
25	305 000	107 003	125 000	42 000	32 900	10 900	39 700	8 657	22 500	30 301	21 000	22 800
26	325 996	100 996	123 000	45 800	36 400	10 500	30 797	20 197	25 498	31 701	19 300	23 800
27	312 998	88 692	113 000	46 000	34 700	22 500	23 104	16 505	26 204	29 005	19 000	21 500
28	332 000	97 697	82 300	48 800	33 000	26 100	25 993	10 405	42 408	27 303	18 800	17 300
29	380 000	97 894	94 800	44 800	35 600	20 200	22 094	10 799	40 600	23 495	26 000	16 200
30	385 000		113 000	43 800	40 600	19 700	19 595	9 780	29 502	22 600	51 300	24 300
31	327 998		103 000		40 300		15 996	23 403		22 500		25 800
Average	190 100	191 500	99 710	64 120	45 020	22 110	28 840	12 680	19 430	36 160	25 210	33 130
Lowest	89 595	88 692	53 700	42 000	30 700	9 810	14 701	8 657	8 924	16 296	18 800	14 800
Highest	385 000	341 991	215 000	87 800	86 300	35 300	52 502	23 403	61 401	84 202	51 300	78 700
Peak flow	399 000	363 000	248 000	124 000	97 400	84 300	98 900	54 900	109 000	136 000	64 700	102 000
Day of peak	30	2	21	17	9	28	3	31	[illegible]	9	30	1
Monthly total (million cu m)	509 30	479 70	267 10	166 20	120 60	57 31	77 24	33 95	50 37	96 86	65 34	88 72
Runoff (mm)	51	48	27	17	12	6	8	3	5	10	7	9
Rainfall (mm)	129	43	67	31	47	42	99	57	47	66	28	16

Statistics of monthly data for previous record (Jan 1883 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	127 100	123 200	104 900	75 600	54 050	37 610	23 650	22 180	23 600	39 020	73 270	102 000
	Low	18 570	12 290	9 426	8 975	4 391	3 302	2 079	1 912	0 688	3 144	7 472	10 210
	(year)	1976	1976	1976	1976	1976	1976	1921	1976	1976	1934	1921	1933
	High	325 300	342 000	359 500	188 800	171 700	171 600	72 290	79 330	123 900	179 800	334 000	333 900
	(year)	1915	1904	1947	1916	1932	1903	1968	1931	1927	1903	1894	1929
Runoff	Avg	34	30	28	20	15	10	6	6	6	11	19	27
	Low	5	3	3	2	1	1	1	1	0	1	2	3
	High	88	86	97	49	46	45	19	21	32	48	87	90
Rainfall	Avg	64	49	53	48	55	53	58	64	58	73	73	72
	Low	14	3	3	3	8	3	8	3	3	5	8	13
	High	137	127	142	104	137	137	130	147	157	188	188	185

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	63 640		66 920		95
Lowest yearly mean			20 410	1934	
Highest yearly mean			120 000	1951	
Lowest monthly mean	12 680	Aug	0 688	Sep 1976	
Highest monthly mean	191 500	Feb	359 500	Mar 1947	
Lowest daily mean	8 657	25 Aug	0 010	11 Oct 1976	
Highest daily mean	385 000	30 Jan	1059 000	18 Nov 1894	
Peak	399 000	30 Jan	430 000	27 Dec 1985	
10% exceedance	148 500		161 800		92
50% exceedance	34 310		42 470		81
95% exceedance	10 610		9 224		115
Annual total (million cu m)	2012 00		2112 00		95
Annual runoff (mm)	202		212		95
Annual rainfall (mm)	672		720		93
[1941-70 rainfall average (mm)			724]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Flow influenced by groundwater abstraction and/or recharge
- Abstraction for public water supplies
- Flow reduced by industrial and/or agricultural abstractions
- Augmentation from surface water and/or groundwater
- Augmentation from effluent returns

Station and catchment description

Ultrasonic gauging station commissioned in 1974; multi-path operation from 1986. Full range. No peak flows pre-1974 when dmfs derived from Teddington weir complex (70m wide), significant structural improvements since 1883 Some underestimation of pre-1951 low flows Substantial baseflow - sustained from the Chalk and the Oolites. Daily naturalised flows available for POR - allowing for major PWS abstractions only. Diverse topography, geology and land use which has undergone important historical changes

039007 Blackwater at Swallowfield 1988

Measuring authority: NRA-T
First year: 1952

Grid reference: 41 (SU) 731 648
Level stn. (m OD): 42.30

Catchment area (sq km): 354.8
Max alt. (m OD): 225

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.910	19.200	3.240	3.920	3.400	2.180	1.970	1.780	7.980	1.880	2.180	2.730
2	6.980	11.400	3.220	3.560	3.040	2.020	2.010	1.830	4.800	1.800	2.150	2.520
3	5.330	8.760	3.690	3.340	3.110	2.240	4.030	1.690	2.860	1.840	2.110	3.650
4	4.680	11.100	3.800	3.240	3.280	2.740	6.090	1.710	2.320	1.730	2.110	4.990
5	9.700	7.500	3.390	3.140	2.960	2.510	5.800	1.680	2.160	2.120	2.130	3.510
6	7.270	6.060	3.370	3.090	2.670	2.110	5.720	1.650	1.960	3.250	2.110	2.960
7	5.020	8.020	3.290	3.010	2.570	1.990	3.630	1.580	1.870	2.460	2.140	2.660
8	4.330	9.810	3.190	3.020	6.950	2.290	2.820	1.580	1.780	2.200	2.110	2.500
9	4.490	9.720	3.210	3.910	4.640	3.180	2.400	1.620	1.750	9.340	2.250	2.480
10	4.460	7.690	3.330	3.290	3.330	2.420	2.450	1.560	1.670	5.640	2.140	2.370
11	4.020	6.580	3.160	3.160	3.020	2.250	2.470	1.550	1.630	4.380	2.140	2.320
12	3.990	5.610	3.140	2.900	3.350	2.080	2.180	1.490	1.670	5.820	2.130	2.390
13	6.740	7.470	3.170	2.730	2.850	1.960	2.860	1.550	1.800	4.310	2.080	2.250
14	5.900	8.070	3.460	2.750	2.630	1.890	2.500	1.550	1.840	3.280	2.060	2.120
15	4.820	6.360	5.650	2.820	2.530	1.820	2.170	1.560	1.680	2.910	2.040	2.110
16	4.120	5.170	5.060	4.080	2.370	1.760	2.410	1.500	1.600	2.680	2.060	2.160
17	3.820	4.680	4.190	3.150	2.320	1.750	3.590	1.500	1.630	2.570	2.060	2.150
18	3.830	4.470	4.630	5.300	2.320	1.740	2.650	1.470	1.610	2.720	1.940	2.110
19	3.700	4.290	5.880	5.230	2.240	1.690	2.150	1.820	1.660	2.990	1.910	2.090
20	4.610	4.110	8.380	4.160	2.160	1.680	2.000	1.770	1.740	2.510	2.250	2.040
21	4.310	3.990	8.550	3.510	2.160	1.680	2.210	1.680	1.670	2.310	2.040	2.020
22	9.430	3.900	5.630	3.200	2.110	1.650	2.860	1.600	1.740	2.330	1.890	2.030
23	6.530	3.980	4.770	2.960	2.170	1.620	3.390	1.540	1.990	2.230	1.890	2.030
24	9.070	3.750	4.320	2.810	2.220	1.630	2.710	1.550	1.860	2.290	1.870	2.010
25	17.600	3.530	5.320	2.710	2.090	1.630	2.290	1.590	1.690	3.490	1.910	1.900
26	9.600	3.440	4.160	2.610	2.100	1.650	2.150	1.570	1.740	2.750	1.920	1.900
27	8.220	3.460	3.740	2.710	2.010	1.700	2.050	1.530	2.100	2.550	1.900	1.990
28	15.300	3.510	3.750	2.660	2.060	2.190	2.260	1.510	3.310	2.390	1.980	1.940
29	22.400	3.400	4.720	2.710	2.310	2.040	2.070	1.470	2.410	2.290	2.880	1.890
30	13.200		5.330	2.780	2.410	1.870	1.910	1.550	1.980	2.220	4.100	1.890
31	9.850		4.300		2.480		1.920	2.950		2.240		1.900
Average	7.330	6.517	4.356	3.282	2.770	1.999	2.830	1.645	2.217	3.017	2.149	2.375
Lowest	3.700	3.400	3.140	2.610	2.010	1.620	1.910	1.470	1.600	1.730	1.870	1.890
Highest	22.400	19.200	8.550	5.300	6.950	3.180	6.090	2.950	7.980	9.340	4.100	4.990
Peak flow	24.800	22.100	13.200	8.790	13.800	3.660	7.020	3.800	9.820	11.500	4.950	5.570
Day of peak	29	1	20	18	8	9	5	31	1	9	30	4
Monthly total (million cu m)	19.63	16.33	11.67	8.51	7.42	5.18	7.58	4.40	5.75	8.08	5.57	6.36
Runoff (mm)	55	46	33	24	21	15	21	12	16	23	16	18
Rainfall (mm)	123	44	65	38	44	31	103	54	43	73	20	15

Statistics of monthly data for previous record (Oct 1952 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg.	4.694	4.062	3.865	3.142	2.582	2.038	1.481	1.522	1.816	2.600	3.424	4.042
	Low	1.757	1.686	1.323	1.520	1.081	0.767	0.712	0.723	0.638	0.907	1.262	1.298
	(year)	1954	1965	1953	1976	1956	1953	1953	1953	1959	1959	1964	1953
	High	8.000	7.292	6.897	5.600	5.946	6.472	2.315	2.621	6.609	7.612	8.019	7.022
	(year)	1975	1966	1979	1966	1978	1971	1968	1977	1968	1960	1960	1960
Runoff	Avg.	35	28	29	23	19	15	11	11	13	20	25	31
	Low	13	12	10	11	8	6	5	5	5	7	9	10
	High	60	50	52	41	45	47	17	20	48	57	59	53
Rainfall	Avg	66	43	54	45	57	53	54	59	65	72	73	73
	Low	14	5	3	3	8	5	18	17	3	6	18	18
	High	124	108	125	106	128	144	104	117	167	208	179	167

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	3.367		2.934		115
Lowest yearly mean			1.466	1953	
Highest yearly mean			3.777	1982	
Lowest monthly mean	1.645	Aug	0.638	Sep 1959	
Highest monthly mean	7.330	Jan	8.019	Nov 1960	
Lowest daily mean	1.470	18 Aug	0.464	18 Aug 1953	
Highest daily mean	22.400	29 Jan	39.200	16 Sep 1968	
Peak	24.800	29 Jan	41.000	16 Sep 1968	
10% exceedance	5.824		5.541		105
50% exceedance	2.496		2.172		115
95% exceedance	1.590		0.879		181
Annual total (million cu m)	106.50		92.59		115
Annual runoff (mm)	300		261		115
Annual rainfall (mm)	653		714		91
(1941-70 rainfall average (mm)			710)		

Factors affecting flow regime

- Augmentation from effluent returns

Station and catchment description

Two Crump weirs (main 4.6m, side 2.7m wide) superseded original flume, plus side-spilling weir, in 1970. Minor bypassing of the side weir in flood conditions; overflows more frequent pre-1970. Some net import of water - sewage effluent augments flows. Exact delineation of the hydrological catchment is difficult. Chalk in the headwaters, clay, sands and alluvium in the valley. Substantial and expanding urban development in the catchment but large rural tracts remain; significant areas of heath and woodland.

039020 Coln at Bibury 1988

Measuring authority: NRA-T
First year: 1963

Grid reference: 42 (SP) 122 062
Level stn. (m OD): 100.60

Catchment area (sq km): 106.7
Max alt. (m OD): 330

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1.520	3.660	2.810	2.320	1.360	0.918	0.720	0.655	0.585	0.521	0.621	0.721
2	1.760	3.730	2.750	2.270	1.300	0.879	0.717	0.636	0.661	0.514	0.621	0.671
3	1.980	3.900	2.710	2.220	1.300	0.880	0.710	0.629	0.640	0.515	0.619	0.637
4	2.070	4.110	2.630	2.180	1.290	0.869	0.763	0.629	0.601	0.517	0.618	0.649
5	2.210	4.150	2.560	2.130	1.260	0.838	0.734	0.625	0.586	0.522	0.618	0.736
6	2.390	4.150	2.510	2.090	1.210	0.833	0.762	0.625	0.569	0.518	0.619	0.755
7	2.470	4.190	2.440	2.060	1.210	0.830	0.766	0.616	0.565	0.518	0.617	0.701
8	2.570	4.150	2.380	2.030	1.190	0.812	0.739	0.611	0.563	0.509	0.615	0.704
9	2.650	4.110	2.320	2.000	1.180	0.826	0.699	0.615	0.559	0.515	0.614	0.714
10	2.690	3.990	2.270	1.950	1.150	0.827	0.688	0.606	0.558	0.527	0.607	0.728
11	2.650	3.970	2.220	1.940	1.100	0.815	0.725	0.609	0.557	0.558	0.602	0.740
12	2.640	3.890	2.190	1.880	1.150	0.801	0.741	0.618	0.553	0.567	0.599	0.747
13	2.630	3.790	2.160	1.860	1.090	0.797	0.696	0.636	0.562	0.657	0.600	0.750
14	2.570	3.910	2.150	1.830	1.060	0.790	0.711	0.618	0.571	0.653	0.597	0.748
15	2.490	3.800	2.300	1.830	1.050	0.779	0.696	0.613	0.555	0.595	0.592	0.752
16	2.430	3.760	2.300	1.870	1.050	0.776	0.683	0.599	0.547	0.582	0.592	0.735
17	2.390	3.790	2.130	1.750	1.030	0.780	0.692	0.516	0.545	0.578	0.593	0.732
18	2.370	3.780	2.120	1.760	1.020	0.781	0.702	0.510	0.546	0.599	0.585	0.727
19	2.330	3.740	2.240	1.710	1.020	0.771	0.679	0.522	0.546	0.647	0.591	0.720
20	2.270	3.660	2.260	1.670	1.000	0.742	0.669	0.541	0.551	0.644	0.595	0.717
21	2.270	3.590	2.260	1.630	0.996	0.744	0.661	0.521	0.544	0.632	0.603	0.729
22	2.420	3.490	2.240	1.610	0.982	0.735	0.667	0.519	0.540	0.634	0.582	0.725
23	2.550	3.380	2.310	1.570	0.958	0.719	0.688	0.510	0.529	0.633	0.582	0.706
24	2.700	3.290	2.350	1.560	0.966	0.717	0.705	0.510	0.546	0.624	0.587	0.699
25	2.860	3.200	2.440	1.530	0.953	0.709	0.682	0.510	0.558	0.629	0.581	0.690
26	2.970	3.130	2.420	1.500	0.940	0.715	0.665	0.505	0.545	0.629	0.576	0.681
27	3.100	3.040	2.390	1.440	0.935	0.728	0.661	0.504	0.540	0.632	0.574	0.680
28	3.320	2.950	2.410	1.390	0.912	0.723	0.653	0.504	0.535	0.645	0.578	0.669
29	3.350	2.860	2.400	1.350	0.904	0.719	0.652	0.507	0.535	0.634	0.579	0.661
30	3.330		2.390	1.360	0.957	0.729	0.654	0.508	0.520	0.640	0.611	0.655
31	3.430		2.360		0.949		0.658	0.549		0.625		0.649
Average	2.561	3.695	2.368	1.810	1.080	0.786	0.698	0.570	0.560	0.587	0.599	0.707
Lowest	1.520	2.860	2.120	1.350	0.904	0.709	0.652	0.504	0.520	0.509	0.574	0.637
Highest	3.430	4.190	2.810	2.320	1.360	0.918	0.766	0.655	0.661	0.657	0.621	0.755
Peak flow	3.690	4.320	2.840	2.340	1.380	1.000	0.857	0.749	0.711	0.730	0.702	0.827
Day of peak	31	7	1	1	1	5	4	2	2	13	4	5
Monthly total (million cu m)	6.86	9.26	6.34	4.69	2.89	2.04	1.87	1.53	1.45	1.57	1.55	1.89
Runoff (mm)	64	87	59	44	27	19	18	14	14	15	15	18
Rainfall (mm)	142	64	81	34	55	27	110	68	47	66	30	24

Statistics of monthly data for previous record (Oct 1963 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg	2.069	2.315	2.139	1.792	1.353	1.142	0.863	0.688	0.597	0.661	1.041	1.619
	Low	0.374	0.380	0.383	0.371	0.334	0.290	0.242	0.207	0.202	0.259	0.344	0.375
	(year)	1976	1976	1976	1976	1976	1976	1976	1976	1976	1976	1973	1975
	High	3.196	3.616	3.385	3.415	2.599	2.290	1.397	1.085	0.908	1.299	2.714	3.015
	(year)	1982	1977	1977	1979	1983	1979	1985	1985	1968	1968	1967	1965
Runoff:	Avg	52	53	54	44	34	28	22	17	15	17	25	41
	Low	9	9	10	9	8	7	6	5	5	7	8	9
	High	80	82	85	83	65	56	35	27	22	33	66	76
Rainfall	Avg	72	56	69	51	71	62	56	69	69	65	77	87
	Low	13	8	19	5	23	9	15	23	17	8	34	25
	High	126	159	143	109	161	158	120	149	149	171	163	159

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	1.327		1.352		98
Lowest yearly mean			0.399	1976	
Highest yearly mean			1.771	1966	
Lowest monthly mean	0.560	Sep	0.202	Sep 1976	
Highest monthly mean	3.695	Feb	3.616	Feb 1977	
Lowest daily mean	0.504	27 Aug	0.190	23 Aug 1976	
Highest daily mean	4.190	7 Feb	4.870	22 Dec 1965	
Peak	4.320	7 Feb	5.000	22 Dec 1965	
10% exceedance	2.797		2.609		107
50% exceedance	0.740		1.121		66
95% exceedance	0.522		0.392		133
Annual total (million cu m)	41.96		42.66		98
Annual runoff (mm)	393		400		98
Annual rainfall (mm)	748		804		93
[1941-70 rainfall average (mm)			819]		

Factors affecting flow regime

- Flow influenced by groundwater abstraction and/or recharge

Station and catchment description

Crump weir (9.1m broad). Modular throughout the range. Some overspill onto floodplain before design capacity reached. Very limited impact of artificial influences on river flows. Baseflow dominated flow regime. Pervious (Oolitic Limestone) catchment on the dip-slope of the Cotswolds, predominantly rural.

040003 Medway at Teston 1988

Measuring authority: NRA-S
First year: 1956

Grid reference: 51 (TQ) 708 530
Level stn. (m OD): 7.00

Catchment area (sq km): 1256.1
Max alt. (m OD): 267

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	11.770	138.869	8 090	17.280	8 727	5 449	4 018	3 236	6 398	2.549	2.457	8 666
2	24 107	118.132	7 525	12.813	8 751	4 085	5 081	3 163	6 555	2.406	2 462	4 632
3	24.611	50 914	7 810	10 632	6 021	3.765	6 585	2 834	3 857	2 424	2.410	4 567
4	18.371	63.576	8 673	9.578	8 357	4 447	8.794	2 986	3 118	2.587	2.841	10 066
5	79 585	53 285	8 063	8.986	7.429	4 139	7 214	2 847	2 957	2 636	3 017	9 539
6	108 847	50.700	7 652	8 636	6 445	4 597	5.197	2 863	2 832	6 069	3 065	5.063
7	52 484	42.781	7 311	8 404	7.190	3 410	4 341	2 840	2 747	4 624	3 400	4 278
8	22.166	65 199	6 468	8.224	12.476	3 871	3 801	2 643	2 705	3.427	3.214	3 616
9	20 644	45 351	6 554	8 243	9 645	3 923	3.843	2 567	2 377	15 311	3.187	3.388
10	25.199	25 091	6 821	7.889	6 419	4 032	3 061	2 678	2 131	7 434	3 317	3 154
11	24 709	25 043	6 524	7 733	6 534	4 262	3.504	2 668	2.470	5 811	3 312	3 046
12	20 752	22.771	6 600	7 075	7 331	3 502	3 440	2.664	3 054	5 299	3.798	2 906
13	72 033	22.049	6 784	6 606	6 509	3 423	3 502	2 657	2 266	8 823	3.798	2 690
14	109 626	25 227	9 664	6 712	5 786	3 518	3 473	2.537	2.049	5 037	3 240	2.641
15	47.174	21.269	16 215	7.883	5 624	3 165	3 377	2.766	2.329	2 913	3 069	2 635
16	21.818	18 324	21 676	9 705	4.768	3.305	3.646	2 295	2.193	3 052	3 240	2.668
17	17.740	15.820	12 726	8 868	4 681	3.313	9 243	2.250	2.382	2 915	2 788	2 628
18	16 471	14 446	10 351	10 072	5.263	3 451	4 306	3 020	2 281	3 663	3 066	2.561
19	12 291	13 348	31 067	16 937	5.170	3.230	3 925	2 657	2 284	2.376	2 901	2 520
20	22.397	12 088	62.850	15 696	4 835	4 369	3 613	2.972	2 355	2 719	3 451	2 762
21	22 790	11 163	71 748	10 184	4 507	2 707	3 927	2 512	2 276	3 028	3 977	2 635
22	100.180	10 746	28 382	7 719	4 440	3 166	4 174	3 006	2 458	2 812	3 077	2 727
23	76.688	10 713	18 340	7 218	5 386	2 729	10 799	1 804	3 216	2 724	2 750	2 776
24	90 671	10 355	14 392	6 835	4 681	3 056	8 386	2 586	3 283	3 314	2 621	2 788
25	64 168	9 606	17 828	6 845	4 474	3 175	4 745	2 569	2 749	4 273	2 895	2 643
26	89 042	10.184	14 178	5.836	5 961	3 668	3 950	2 800	2 602	3 745	2 933	2 569
27	103 067	8 718	10 853	9.522	5 053	2 766	3 972	2 238	3 171	3 094	2 951	2.731
28	45 381	8.867	9 885	12 994	4.510	4 177	3.570	2 651	3 259	2.758	2 934	2 914
29	30.055	8 892	11 708	8 210	5 398	3 861	3 296	2 612	4 265	2.390	4 793	2 986
30	35 745		54 307	6.916	6 435	2 755	3.108	2 489	2 017	2.229	14 605	2 402
31	84 977		24 866		5 556		3.122	2 649		2 398		2 583
Average	48 240	32 190	17 290	9.342	6 270	3 644	4 736	2 679	2 955	4 027	3 519	3 670
Lowest	11 770	8 718	6 468	5.836	4 440	2.707	3 061	1 804	2 017	2 229	2 410	2 402
Highest	109 626	138 869	71 748	17 280	12 476	5 449	10 799	3 236	6 555	15 311	14 605	10 066
Peak flow												
Day of peak												
Monthly total (million cu m)	129 20	80 66	46 30	24.21	16 79	9 44	12 68	7 18	7 66	10 79	9 12	9 83
Runoff (mm)	103	64	37	19	13	8	10	6	6	9	7	8
Rainfall (mm)	187	47	79	38	47	11	86	32	48	68	32	15

Statistics of monthly data for previous record (Oct 1956 to Dec 1987—incomplete or missing months total 1 5 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	22.610	18 690	14 840	10 780	6 986	4 857	2 980	3 423	4 952	8 889	16 050	19 430
	Low	4.911	5 296	3.383	2 328	1 751	1 141	1 118	0 578	1 068	1 401	2 339	4 362
	(year)	1973	1981	1976	1976	1976	1976	1976	1976	1959	1972	1978	1971
	High	45 370	49 160	31 600	23 470	20 820	21 690	7 553	9 875	30 090	53 220	66 830	37 330
	(year)	1975	1957	1975	1983	1978	1964	1980	1985	1968	1987	1960	1965
Runoff	Avg	48	36	32	22	15	10	6	7	10	19	33	41
	Low	10	10	7	5	4	2	2	1	2	3	5	9
	High	97	95	67	48	44	45	16	21	62	113	138	80
Rainfall	Avg	72	49	57	49	54	55	53	60	70	77	83	82
	Low	13	3	3	7	21	8	20	10	5	5	14	23
	High	135	123	113	108	112	127	103	122	183	198	169	168

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	11 510		11.170		103
Lowest yearly mean			7 584	1962	
Highest yearly mean			19.330	1960	
Lowest monthly mean	2 679	Aug	0 578	Aug 1976	
Highest monthly mean	48 240	Jan	66 830	Nov 1960	
Lowest daily mean	1.804	23 Aug	0 383	22 Aug 1976	
Highest daily mean	138 869	1 Feb	269 300	4 Nov 1960	
Peak			294 500	4 Nov 1960	
10% exceedance	24 640		25 120		98
50% exceedance	4 350		5 217		83
95% exceedance	2 385		1 464		163
Annual total (million cu m)	364 00		352 50		103
Annual runoff (mm)	290		281		103
Annual rainfall (mm)	690		761		91
(1941 70 rainfall average (mm)			755)		

Factors affecting flow regime

- Reservoir(s) in catchment
- Flow influenced by groundwater abstraction and/or recharge
- Abstraction for public water supplies

Station and catchment description

Crump weir plus a sharp-crested weir (top of a flood gate) - superseded an insensitive broad-crested weir Flows in excess of about 27 cumecs measured at a well calibrated river section 2km d/s (East Farleigh) but updating of the primary record is incomplete. Teston rating makes an allowance for lock spills. Some monthly naturalised flows available (accounting for the operation of Weir Wood res) A largely impervious (Hastings Beds) catchment; very responsive to rainfall. Mixed land use with significant areas of woodland and orchard

041016 Cuckmere at Cowbeech 1988

Measuring authority NRA-S
First year 1939

Grid reference 51 (TQ) 611 150
Level stn (m OD) 29.80

Catchment area (sq km) 18.7
Max alt. (m OD) 183

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.803	2.432	0.149	0.306	0.171	0.070	0.076	0.035	0.225	0.028	0.056	0.160
2	0.994	0.857	0.144	0.255	0.131	0.069	0.064	0.035	0.125	0.029	0.056	0.127
3	0.420	0.695	0.171	0.218	0.124	0.066	0.089	0.031	0.068	0.033	0.054	0.148
4	0.457	0.791	0.162	0.198	0.126	0.079	0.079	0.033	0.052	0.034	0.053	0.466
5	1.411	1.227	0.145	0.186	0.109	0.068	0.043	0.035	0.040	0.061	0.055	0.231
6	0.935	0.764	0.139	0.186	0.106	0.062	0.038	0.034	0.039	0.209	0.053	0.150
7	0.432	0.769	0.137	0.189	0.114	0.056	0.036	0.026	0.039	0.064	0.055	0.119
8	0.463	0.699	0.117	0.178	0.129	0.047	0.035	0.033	0.038	0.096	0.062	0.115
9	0.739	0.820	0.123	0.160	0.104	0.060	0.031	0.034	0.037	1.117	0.064	0.102
10	1.344	0.785	0.126	0.165	0.102	0.062	0.035	0.035	0.036	0.175	0.068	0.111
11	0.715	0.525	0.122	0.162	0.106	0.052	0.036	0.034	0.036	0.137	0.069	0.112
12	0.470	0.383	0.121	0.152	0.115	0.055	0.034	0.035	0.037	0.297	0.082	0.116
13	2.855	0.566	0.118	0.139	0.101	0.053	0.039	0.030	0.039	0.338	0.078	0.113
14	0.840	0.440	0.122	0.138	0.088	0.052	0.037	0.033	0.036	0.141	0.064	0.114
15	0.498	0.362	0.336	0.159	0.084	0.042	0.037	0.025	0.033	0.101	0.059	0.082
16	0.425	0.312	0.282	0.206	0.081	0.033	0.040	0.025	0.033	0.086	0.045	0.078
17	0.371	0.286	0.180	0.167	0.073	0.033	0.048	0.026	0.034	0.083	0.054	0.082
18	0.334	0.257	0.261	0.166	0.078	0.040	0.038	0.040	0.034	0.080	0.055	0.081
19	0.347	0.249	0.773	0.222	0.069	0.042	0.036	0.067	0.033	0.071	0.050	0.090
20	0.477	0.230	1.970	0.188	0.073	0.042	0.036	0.055	0.033	0.072	0.073	0.089
21	0.990	0.216	0.627	0.154	0.063	0.042	0.037	0.041	0.036	0.069	0.081	0.093
22	1.395	0.214	0.349	0.140	0.070	0.041	0.045	0.035	0.035	0.067	0.073	0.088
23	1.544	0.207	0.321	0.127	0.077	0.040	0.110	0.035	0.053	0.067	0.071	0.080
24	1.953	0.189	0.439	0.126	0.074	0.040	0.046	0.042	0.037	0.066	0.066	0.084
25	1.563	0.176	0.546	0.119	0.068	0.041	0.041	0.038	0.041	0.066	0.066	0.082
26	0.755	0.168	0.294	0.115	0.076	0.041	0.038	0.036	0.039	0.067	0.064	0.084
27	4.574	0.166	0.232	0.165	0.070	0.041	0.044	0.037	0.046	0.057	0.064	0.093
28	1.907	0.165	0.230	0.132	0.072	0.041	0.039	0.039	0.048	0.055	0.068	0.094
29	2.888	0.162	0.767	0.128	0.086	0.042	0.037	0.035	0.039	0.055	0.248	0.094
30	0.726		1.333	0.123	0.078	0.040	0.035	0.040	0.036	0.056	0.353	0.069
31	1.687		0.406		0.080		0.035	0.041		0.056		0.069
Average	1.139	0.521	0.363	0.169	0.093	0.050	0.046	0.036	0.049	0.127	0.079	0.117
Lowest	0.334	0.162	0.117	0.115	0.063	0.033	0.031	0.025	0.033	0.028	0.045	0.069
Highest	4.574	2.432	1.970	0.306	0.171	0.079	0.110	0.067	0.225	1.117	0.353	0.466
Peak flow	13.646	3.753	7.526	0.337	0.215	0.103	0.227	0.096	0.398	3.189	0.571	0.747
Day of peak	27	1	20	1	1	4	23	19	1	9	29	4
Monthly total (million cu m)	3.05	1.31	0.97	0.44	0.25	0.13	0.12	0.10	0.13	0.34	0.20	0.31
Runoff (mm)	163	70	52	23	13	7	7	5	7	18	11	17
Rainfall (mm)	208	58	104	36	44	17	85	54	63	98	40	24

Statistics of monthly data for previous record (Jan 1968 to Dec 1987—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	0.452	0.334	0.280	0.176	0.109	0.074	0.050	0.044	0.064	0.192	0.297	0.342
	Low	0.088	0.068	0.053	0.027	0.018	0.009	0.013	0.009	0.013	0.014	0.013	0.031
	(year)	1973	1981	1973	1976	1976	1976	1976	1976	1978	1978	1973	1971
	High	1.059	0.755	0.574	0.363	0.286	0.393	0.322	0.230	0.394	1.110	0.854	0.695
	(year)	1986	1974	1981	1983	1983	1971	1980	1985	1974	1987	1974	1984
Runoff	Avg	65	44	40	24	16	10	7	6	9	28	41	49
	Low	13	9	8	4	3	1	2	1	2	2	2	4
	High	152	98	82	50	41	54	46	33	55	159	118	100
Rainfall	Avg	91	58	71	49	59	64	56	66	81	93	103	92
	Low	25	23	22	3	21	12	16	7	9	5	19	21
	High	168	155	137	109	114	155	119	144	222	244	199	184

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre 1988
Mean flow (m^3s^{-1})	0.232		0.201		116
Lowest yearly mean			0.050	1973	
Highest yearly mean			0.282	1987	
Lowest monthly mean	0.036	Aug	0.009	Jun 1976	
Highest monthly mean	1.139	Jan	1.110	Oct 1987	
Lowest daily mean	0.025	15 Aug	0.003	21 Jun 1976	
Highest daily mean	4.574	27 Jan	6.658	14 Jan 1968	
Peak	13.646	27 Jan	18.791	7 Oct 1987	
10% exceedance	0.583		0.456		128
50% exceedance	0.081		0.087		93
95% exceedance	0.034		0.012		274
Annual total (million cu m)	7.35		6.33		116
Annual runoff (mm)	393		339		116
Annual rainfall (mm)	832		883		94
(1941-70 rainfall average (mm)			836)		

Factors affecting flow regime

- Flow influenced by groundwater abstraction and/or recharge
- Abstraction for public water supplies

Station and catchment description

Asymmetrical compound Crump weir (crests 2.13m and 2.97m broad) with crest tapping - not currently used. Structure capacity exceeded in large floods. Early data (1939-67) is of poorer quality and relates to low flows only. Catchment is substantially natural but flows are diminished by water supply offtake upstream of the gauging station. A rural catchment developed on mixed geology (Hastings Beds predominate).

042010 Itchen at Highbridge+Allbrook 1988

Measuring authority: NRA S
First year: 1958

Grid reference: 41 (SU) 467 213
Level stn. (m OD): 17.10

Catchment area (sq km): 360.0
Max alt. (m OD): 208

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.772	9.521	9.047	7.473	6.826	5.127	4.425	3.721	5.226	3.065	3.776	3.701
2	6.035	9.010	8.931	7.455	6.608	5.031	4.265	3.731	4.338	3.101	3.755	3.611
3	5.782	9.142	8.935	7.379	6.570	5.023	4.600	3.694	3.849	3.123	3.709	3.691
4	5.918	9.856	8.824	7.307	6.447	5.081	4.536	3.612	3.651	3.158	3.740	4.036
5	6.329	9.574	8.666	7.098	6.334	4.915	4.261	3.593	3.432	3.283	3.691	3.941
6	6.017	9.251	8.543	7.064	6.152	4.879	4.429	3.480	3.480	3.571	3.653	3.726
7	5.779	9.388	8.337	7.042	6.052	4.791	4.348	3.369	3.285	3.477	3.694	3.731
8	5.742	9.226	8.190	6.977	5.911	4.671	4.134	3.351	3.212	3.435	3.511	3.705
9	5.826	9.979	8.153	7.166	5.821	4.721	4.018	3.389	3.250	4.955	3.621	3.617
10	5.844	9.886	8.072	7.017	5.800	4.668	4.153	3.347	3.242	4.210	3.830	3.596
11	5.793	9.766	7.987	6.755	5.740	4.647	4.215	3.392	3.278	3.995	3.920	3.635
12	5.923	9.514	7.921	6.761	5.776	4.570	4.059	3.448	3.316	4.113	3.854	3.597
13	6.549	10.025	7.878	6.869	5.604	4.445	4.158	3.415	3.354	3.898	3.888	3.603
14	6.217	10.012	7.903	6.847	5.529	4.181	4.122	3.429	3.282	3.740	3.888	3.584
15	6.027	9.739	8.219	6.960	5.485	4.146	3.897	3.357	3.227	3.623	3.902	3.576
16	5.887	9.660	7.991	7.358	5.323	4.209	3.967	3.292	3.199	3.551	3.531	3.600
17	5.869	9.503	7.910	7.025	5.285	4.082	4.047	3.232	3.187	3.574	3.439	3.587
18	5.893	9.331	8.068	7.123	5.404	4.128	3.962	3.484	3.137	3.649	3.463	3.555
19	5.894	9.384	8.067	7.145	5.319	4.025	3.808	3.572	3.122	4.146	3.436	3.655
20	6.344	9.436	8.766	6.999	5.247	4.019	3.833	3.418	3.032	3.893	3.777	3.552
21	6.319	9.412	8.775	6.816	5.318	3.966	3.977	3.409	3.102	3.712	3.738	3.534
22	6.941	9.326	8.045	6.710	5.083	3.893	4.138	3.491	3.144	3.701	3.567	3.527
23	6.890	9.267	7.990	6.629	4.985	3.815	4.354	3.546	3.315	3.664	3.516	3.534
24	7.200	9.255	7.826	6.514	5.081	3.790	4.191	3.474	3.179	3.740	3.502	3.500
25	7.740	9.414	7.694	6.388	5.083	3.724	4.048	3.397	3.184	3.806	3.455	3.510
26	7.278	9.358	7.545	6.439	5.100	3.910	3.997	3.450	3.161	3.710	3.417	3.567
27	7.189	9.268	7.521	6.377	5.064	4.146	3.919	3.363	3.394	3.726	3.428	3.632
28	7.967	9.152	7.564	6.318	5.165	4.304	3.939	3.244	3.660	3.722	3.431	3.548
29	8.929	9.095	7.602	6.385	5.423	4.229	3.931	3.299	3.332	3.786	3.632	3.463
30	8.167		7.882	6.541	5.301	4.421	3.840	3.337	3.212	3.754	4.002	3.458
31	8.360		7.642		5.289		3.763	3.808		3.780		3.446
Average	6.530	9.474	8.145	6.898	5.617	4.385	4.108	3.456	3.393	3.699	3.659	3.613
Lowest	5.742	9.010	7.521	6.318	4.985	3.724	3.763	3.232	3.032	3.065	3.417	3.446
Highest	8.929	10.025	9.047	7.473	6.826	5.127	4.600	3.808	5.226	4.955	4.002	4.036
Peak flow												
Day of peak												
Monthly total (million cu m)	17.49	23.74	21.82	17.88	15.04	11.37	11.00	9.26	8.79	9.91	9.48	9.68
Runoff (mm)	49	66	61	50	42	32	31	26	24	28	26	27
Rainfall (mm)	152	59	76	46	38	25	96	66	46	96	28	19

Statistics of monthly data for previous record (Oct 1958 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows.	Avg	6.632	7.183	6.998	6.541	5.769	4.893	4.163	3.862	3.718	4.150	4.885	5.773
	Low	4.208	4.163	3.644	3.203	3.093	2.581	2.474	2.331	2.670	2.702	2.840	3.136
	(year)	1976	1964	1976	1976	1976	1976	1976	1976	1973	1959	1973	1973
	High	10.520	10.850	9.923	8.521	7.311	6.549	5.219	5.244	5.127	7.867	9.858	10.860
	(year)	1969	1969	1977	1969	1966	1979	1979	1979	1968	1960	1960	1960
Runoff	Avg	49	49	52	47	43	35	31	29	27	31	35	43
	Low	31	29	27	23	23	19	18	17	19	20	20	23
	High	78	73	74	61	54	47	39	39	37	59	71	81
Rainfall. (1971-1987)	Avg	89	52	82	47	70	61	56	59	78	83	85	89
	Low	12	12	24	2	19	10	22	18	19	30	31	25
	High	159	137	172	97	131	113	87	120	195	206	197	153

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	5.232		5.371		97
Lowest yearly mean			3.708	1973	
Highest yearly mean			6.594	1960	
Lowest monthly mean	3.393	Sep	2.331	Aug 1976	
Highest monthly mean	9.474	Feb	10.860	Dec 1960	
Lowest daily mean	3.032	20 Sep	2.167	24 Aug 1976	
Highest daily mean	10.025	13 Feb	12.800	29 Jan 1969	
Peak					
10% exceedance	8.623		7.735		111
50% exceedance	4.183		4.981		84
95% exceedance	3.244		3.106		104
Annual total (million cu m)	165.40		169.50		98
Annual runoff (mm)	460		471		98
Annual rainfall (mm)	747		851		88
[1941-70 rainfall average (mm)			873]		

Factors affecting flow regime

- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies
- Augmentation from surface water and/or groundwater.

Station and catchment description

Crump weir (7.75m broad) installed in 1971 (superseded a rated section with weedgrowth problems) plus thin-plate weir (Allbrook). Local bypassing at Allbrook during exceptional flows. Flow augmentation from Gw during droughts. Gw catchment > topographical catchment. Artificial influences have minor, but increasing, impact on the baseflow dominated regime; small net export of water. Very permeable catchment (90% Chalk). Land use is mainly arable with scattered urban settlements.

043005 Avon at Amesbury 1988

Measuring authority: NRA-W
First year: 1965

Grid reference: 41 (SU) 151 413
Level stn (m OD): 67.10

Catchment area (sq km): 323.7
Max alt (m OD): 294

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3 486	10 903	6.889	5 154	4 081	2 796	2 074	1 591	1 873	1 488	2 092	3 058
2	3 636	11 015	6 674	5.142	4 255	2.750	1 965	1 580	2 261	1 451	2 036	2 727
3	4 467	10 915	6 682	5 030	4 301	2 715	2 045	1 527	1 940	1 414	2 031	2.686
4	4 259	11.922	6.575	4 984	4 202	2 959	2 120	1 530	1 676	1.402	2 055	2 914
5	4 388	11 831	6 389	4 945	4 022	3 013	2 064	1 525	1.562	1 439	2 059	3 016
6	5 309	10 806	6 231	4 911	3 742	2 759	2 015	1 512	1.512	1 537	2 076	2.826
7	4 759	10 589	6.082	4 906	3 674	2 507	1 973	1 478	1 525	1 754	2 082	2 680
8	4 367	11 320	5 955	4 861	3 647	2 440	1 897	1.449	1.488	1 820	2 113	2 601
9	4 391	11 472	5 874	4 844	3 551	2 441	1 873	1 395	1 427	2 435	2 144	2 583
10	4.398	11 447	5 789	4 801	3 466	2 439	1 931	1 402	1.427	2 874	2 154	2 550
11	4 332	11 117	5 663	4 757	3 369	2.381	1.994	1 427	1 427	2 479	2 101	2 551
12	4 264	10 124	5 611	4 685	3 363	2 320	1.924	1 455	1 427	2 659	2 187	2 528
13	4 417	10 234	5 612	4 635	3 246	2.264	1 909	1 460	1 439	3 455	2 164	2.502
14	4 371	10 845	5 752	4 593	3 139	2 207	1 920	1 402	1 427	2 689	2 130	2 515
15	4 201	9 972	6 094	4 618	3 049	2.167	1 842	1 355	1 414	2 362	2 134	2 503
16	4 108	9 202	6 173	4 698	3 066	2 138	1 828	1 387	1 414	2 175	2 131	2.445
17	4 074	8 603	5.772	4 651	2.975	2.139	1 816	1 366	1 414	2 022	2.156	2 464
18	4 071	8 352	6 077	4 512	2 906	2 097	1.781	1 498	1 402	2 479	2.140	2 472
19	4 103	8 192	6.568	4 551	2 903	2 061	1 680	1 642	1 366	4 335	2 129	2 476
20	4 108	8 051	6 686	4 388	2 838	2 002	1 640	1 565	1.378	3 466	2 245	2 436
21	4.150	8 092	7 088	4 223	2 817	2 017	1.677	1 489	1.378	2 768	2 284	2 436
22	5 020	8 107	6.355	4 164	2 806	2 011	1 732	1 475	1 390	2 547	2 221	2 440
23	5 098	7 908	6 312	4 083	2 806	1.887	1 817	1 442	1.414	2 426	2 193	2.449
24	5 913	7 680	6 128	4 050	2 796	1 925	1 847	1 447	1 427	2 363	2 178	2 443
25	6 767	7 461	6 138	3 981	2 825	1 891	1 788	1 459	1 402	2 235	2 160	2 420
26	6 561	7 300	5 920	3 853	2 833	1 906	1 733	1 454	1 427	2 245	2 172	2 433
27	5 934	7 236	5 615	3 860	2 801	1 984	1 702	1 448	1 463	2 271	2.167	2 467
28	6 486	7 154	5 525	3 854	2 783	1 985	1 674	1 494	1.512	2 234	2 185	2 441
29	8 553	6 992	5.534	3 892	2 774	1.961	1 664	1 652	1.525	2 170	2 346	2 421
30	8 788		5 461	3 930	2 837	1 877	1 638	2 137	1.512	2 155	3 095	2 424
31	7 847		5 280		2 833		1 613	2 183		2 087		2 415
Average	5 052	9 477	6 081	4 519	3 249	2 268	1 844	1 523	1 508	2 298	2 179	2 559
Lowest	3 486	6 992	5 280	3 853	2 774	1 877	1 613	1 355	1 366	1 402	2 031	2 415
Highest	8 788	11 922	7.088	5 154	4 301	3.013	2 120	2 183	2 261	4 335	3 095	3 058
Peak flow	10 387	12 601	7 325	5 184	4 360	3.111	2 289	2 921		4 488	3 356	3 306
Day of peak	30	4	21	1	3	4	1	30		19	30	1
Monthly total (million cu m)	13 53	23 75	16 29	11 71	8 70	5 88	4 94	4 08	3 91	6 15	5 65	6 85
Runoff (mm)	42	73	50	36	27	18	15	13	12	19	17	21
Rainfall (mm)	129	56	70	27	39	45	91	75	41	103	34	17

Statistics of monthly data for previous record (Feb 1965 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	5 397	5 913	5 518	4 595	3 554	2.742	2 029	1 712	1 601	1 896	2 613	3 989
	Low	1 199	1 188	1 158	1 038	0 834	0 626	0 474	0 372	0 645	1 149	1 090	1 385
	(year)	1976	1976	1976	1976	1976	1976	1976	1976	1976	1970	1973	1975
	High	8 556	9 686	8 352	7 586	5 146	4.259	3 022	2 362	2 528	3 521	6 440	7 259
	(year)	1982	1977	1972	1979	1979	1979	1971	1979	1974	1966	1974	1982
Runoff	Avg	45	44	46	37	29	22	17	14	13	16	21	33
	Low	10	9	10	8	7	5	4	3	5	10	9	11
	High	71	72	69	61	43	34	25	20	20	29	52	60
Rainfall	Avg	77	52	68	46	63	58	49	62	69	69	77	87
	Low	14	6	14	1	24	3	15	22	11	4	31	26
	High	134	134	150	100	121	143	113	152	179	161	185	160

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	3 524		3 451		102
Lowest yearly mean			1 430	1976	
Highest yearly mean			4 476	1977	
Lowest monthly mean	1 508	Sep	0 372	Aug 1976	
Highest monthly mean	9 477	Feb	9 686	Feb 1977	
Lowest daily mean	1 355	15 Aug	0 175	22 Aug 1976	
Highest daily mean	11 922	4 Feb	15 540	25 Feb 1977	
Peak	12 601	4 Feb	17 330	16 Mar 1982	
10% exceedance	6 664		6 574		101
50% exceedance	2 495		2.899		86
95% exceedance	1 418		1 166		122
Annual total (million cu m)	111 40		108 90		102
Annual runoff (mm)	344		336		102
Annual rainfall (mm)	727		777		94
(1941-70 rainfall average (mm))			768		

Factors affecting flow regime

- Natural to within 10% at 95% exceedance flow

Station and catchment description

Compound structure; Crump crest (9.14m broad) flanked by broad-crested weirs. Small bypass channel approx. 2m upstream of weir - included in rating. Full range station. Bankfull - 1.37m. During the summer flows are naturally augmented from groundwater draining from the northern half of the River Bourne catchment. Topographical and groundwater catchments do not coincide. Predominantly permeable (Chalk) catchment with a small inlier of Upper Greensand and Gault. Land use - rural

045001 Exe at Thorverton 1988

Measuring authority: NRA-SW
First year: 1956

Grid reference. 21 (SS) 936 016
Level stn. (m OD). 25.90

Catchment area (sq km). 600.9
Max alt. (m OD): 519

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	46.266	74 086	6.984	16 134	5.957	5 968	4 294	5 884	63.556	22 482	7.000	13.791
2	80.949	65 952	6 510	21 367	10 238	6 210	5 149	5.365	73.731	17.926	6 686	12 249
3	58 934	61.469	7.496	16 266	13.139	6 945	8 904	4.972	46 574	14.896	6 458	14.891
4	47.817	66 043	6.611	14 841	11.647	7 704	14 676	4.780	32.126	13 601	6.107	47.545
5	40 849	58 508	6 045	13 447	9 068	6 362	11.094	4 638	23 478	20.180	5.767	34 787
6	52.833	46 509	5 994	12 464	8 181	6.189	12 062	4.322	18 285	78.573	5.572	28 267
7	40 465	45 998	6 537	11.507	7.835	6 254	9 616	4 042	14 765	56.621	5 405	23 344
8	39.962	51 994	5 815	10 587	7.420	5 793	8 966	3 834	12 487	60.093	5.259	20.509
9	37.933	54 431	5 568	9 803	6 865	6 116	8 110	3 800	10 633	108 871	5 313	17 685
10	33.183	52 917	5.532	9 049	6 350	5 611	23 550	3.598	9 281	59.923	5 157	15 261
11	30.977	45 447	5 239	8 443	6.171	5 060	18 997	3 808	8.282	53.767	5.204	13 433
12	31 325	37.586	5 055	7.887	6 001	4 597	16 341	4.383	7 502	42.769	4 691	11.985
13	31 516	44 611	5 045	7 244	5 680	4 309	25 895	3 886	7 149	33 671	4 782	10 758
14	28.401	40 122	6.550	7 047	5.271	4 073	18 658	4 900	6 325	27 352	4 298	9 907
15	23 725	35 606	14 831	7 459	5 014	3 848	15 773	4 384	5 704	22.253	4 186	9.173
16	20 771	30 795	16 096	10 489	4.569	3 681	14 186	3 622	5 340	19 033	4 107	8.579
17	18 485	25.871	24 931	8 835	4.318	3 614	13 348	3 275	5 000	16 527	4 281	7 869
18	17.173	21.720	50 405	8 357	4 234	3 614	10 821	6 565	4 782	16.907	6 364	7 610
19	15 411	18 420	44 234	7 507	4 438	3 480	9 485	6.195	4 499	15.076	4 851	7.967
20	14 399	15 958	54.167	6 806	4 026	3.343	8 477	12.780	4 270	12.305	4.960	7 405
21	17.235	14 104	43 479	6 389	3 847	3 089	8 259	7 833	4 077	11 093	4 587	7 142
22	27 044	12 576	37.449	6 068	3 661	3 142	11 089	6 892	4 354	11 250	4 301	6 639
23	57 221	11 347	56 016	5 771	3 584	3 112	12 386	6 549	5 380	10 976	4 320	7 338
24	72.937	10 236	46.086	5 529	3 755	2.999	9 403	6 746	8 054	11.132	4 233	6 666
25	64 040	9 296	44 521.	5 316	3 958	2 956	8.975	6 056	13 153	10 516	4 172	6 483
26	47 328	8 481	36 403	5.136	5 191	6 453	8 356	6.838	34 701	9.998	4 144	6 482
27	47 894	8 026	30 713	5 071	3 969	4 710	7.583	8.962	36 580	9 555	4 063	6 625
28	59 934	7 528	27.713	4 847	5.610	3 633	7 401	12 155	34 168	8 813	4 255	6 277
29	73 962	7 135	24.643	5 038	7 610	3 257	7 032	10 788	37 373	8 108	13 067	6 061
30	62 390		21 711	5 125	6 384	3 162	6 664	11 661	28 711	7 684	23 552	5 938
31	75 117		17 885		8 056		6 487	30 179		7.374		5 803
Average	42 470	33 890	21 810	8 994	6 195	4 643	11 360	6 893	19 010	26 430	5 905	12 720
Lowest	14 399	7.135	5 045	4 847	3.584	2 956	4 294	3 275	4 077	7 374	4 063	5 803
Highest	80 949	74 086	56 016	21 367	13 139	7 704	25 895	30 179	73 731	108 871	23 552	47.545
Peak flow	130 263	104 089	84 270	26 634	15 090	9 368	50 052	55.244	93 933	160 905	42 421	77 740
Day of peak	31	1	23	2	3	4	10	31	2	9	29	4
Monthly total (million cu m)	113 70	84 91	58 43	23 31	16 59	12 03	30 42	18 46	49 28	70 79	15.31	34 08
Runoff (mm)	189	141	97	39	28	20	51	31	82	118	25	57
Rainfall (mm)	231	107	148	45	93	58	148	131	114	140	51	57

Statistics of monthly data for previous record (May 1956 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg	29 200	25 180	18 660	13 500	8 843	5 707	4 503	6 555	8 976	16 860	22 720	30 530
	Low	5 438	6 450	6 376	4 341	2 595	1 988	1 154	0 695	1 699	1 560	5 297	12 460
	(year)	1963	1965	1962	1974	1976	1975	1976	1976	1972	1978	1978	1963
	High	57.190	47 220	49 630	28 800	29 380	15 870	19 770	20 550	35 830	59 830	46 170	68 440
	(year)	1984	1957	1981	1966	1983	1958	1968	1985	1974	1960	1986	1965
Runoff	Avg.	130	102	83	58	39	25	20	29	39	75	98	136
	Low	24	26	28	19	12	9	5	3	7	7	23	56
	High	255	190	221	124	131	68	88	92	155	267	199	305
Rainfall:	Avg	143	100	103	74	79	73	79	97	110	126	132	155
	Low	30	7	18	7	25	9	19	31	13	13	48	51
	High	297	196	222	163	175	160	174	181	254	300	239	321

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	16.680		15.900		105
Lowest yearly mean			9 698	1964	
Highest yearly mean			22 600	1960	
Lowest monthly mean	4 643	Jun	0 695	Aug 1976	
Highest monthly mean	42 470	Jan	68 440	Dec 1965	
Lowest daily mean	2 956	25 Jun	0 440	28 Aug 1976	
Highest daily mean	108.871	9 Oct	282 200	4 Dec 1960	
Peak	160 905	9 Oct	492 600	4 Dec 1960	
10% exceedance	46 220		37 720		123
50% exceedance	8 243		9 617		86
95% exceedance	3 742		1 906		196
Annual total (million cu m)	527.50		501.80		105
Annual runoff (mm)	878		835		105
Annual rainfall (mm)	1323		1271		104
(1941-70 rainfall average (mm)			1303)		

Factors affecting flow regime

- Flow influenced by groundwater abstraction and/or recharge
- Abstraction for public water supplies
- Flow reduced by industrial and/or agricultural abstractions
- Augmentation from effluent returns.

Station and catchment description

Velocity-area station with cableway. Flat V Crump weir constructed in 1973 due to unstable bed condition Minor culvert flow through mill u/s of station included in rating. Significant abstractions for PWS. Control point for Wimbleball Reservoir operational releases. Headwaters drain Exmoor Geology predominantly Devonian sandstones and Carboniferous Culm Measures, with subordinate Permian sandstones in the east Moorland, forestry and a range of agriculture.

047001 *Tamar at Gunnislake* 1988

Measuring authority: NRA-SW
First year: 1956

Grid reference: 20 (SX) 426 725
Level stn. (m OD): 8.20

Catchment area (sq km): 916.9
Max alt. (m OD): 586

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	74.185	113 636	10 340	22 346	8 736	4 826	3 121	8.542	107 174	13 576	10 657	27.904
2	115 083	83 775	9 260	67 358	13 503	4.732	3 679	7 743	45.217	11 933	10 118	19 359
3	69.513	75 343	11 060	29 713	12 647	5 062	4 992	7 033	33 091	10 781	9 575	23 718
4	59.396	86 975	10 346	25 165	12 752	4 919	6 814	6 589	24 388	10 950	9 141	97 046
5	57 296	71 196	9 523	21 601	9 051	4 517	8 922	6 206	19 851	21 625	8 754	110.273
6	76 580	63 289	8 860	19.123	8 038	4 062	10 640	5 784	16 880	149 339	8 385	64 761
7	45.552	51 707	8 338	17 233	8 000	4 420	6 742	5.431	14 689	71 411	8.101	40 402
8	47.778	59 921	7 890	15 514	8 312	4 467	5.621	5.186	13 096	85 459	8 284	32 648
9	56 038	62.525	7 687	14.114	7.278	4 210	5 020	5 051	11 780	232 962	8 956	27.913
10	46 483	71 804	7 802	12 887	6 878	4 052	16 028	4.946	10 584	80 206	8 395	23.565
11	46.387	52 863	7 203	12 027	6 699	3 786	15 294	5 074	9 796	116 060	8 720	20.303
12	62 159	42 560	7 023	11 233	6.647	3 469	9 736	5 836	9 067	69 238	7 592	18 010
13	62.285	122 295	6 868	10 228	6 339	3 287	13 819	5 139	8 619	48 395	7 129	16.211
14	50 674	76 874	6 958	9 903	5 943	3 187	11 980	5 668	7 894	36 373	6.818	14 986
15	49 312	53 019	25 854	10 668	5 731	3 024	8 977	5.380	7 155	29 371	6 694	14 016
16	35 061	40 370	22 549	19 428	5 421	2 952	7 984	4 466	6 800	24 941	6 642	13 897
17	30 304	32 820	60 654	13 447	5 132	2 881	8 692	4 136	6 504	21 801	6 829	13 185
18	26 986	27 791	159 058	14 008	5 001	2 771	7 562	10 026	6 166	19 758	7 124	12 042
19	24 479	23 939	77 586	12 508	5 046	2 694	6 418	10 226	5.903	17 957	6 699	12 590
20	24.991	21 001	98 350	11 471	4.765	2.612	5 888	16.455	5 728	15 379	7.553	13 695
21	28.275	18 725	58.311	10 337	4 544	2 560	8 019	10 118	5 603	14 469	7 313	14.024
22	39 537	16 986	41 987	9 628	4 345	2 492	11 799	8 187	6 863	15 089	6 400	12 029
23	67 044	15 624	36 520	8 939	4 347	2 348	22 446	7 956	7 436	15 260	6.278	12.508
24	100 451	14 461	33 629	8 511	4 500	2 280	15 008	8 464	6 078	15 476	6 301	11 470
25	116.501	13 233	45 638	8 172	4 580	2 251	11.993	8 117	7 451	14 250	6.198	10 914
26	77.742	12 026	29 161	7 832	4 460	2 827	10 737	12.174	20 285	13 817	6 057	10 744
27	69 897	11 384	24 849	7 641	4 499	3 022	10 370	17 087	39 149	15 880	5 850	11 261
28	82 875	10 798	24 480	7 423	6 984	2 714	11 688	27.514	27 662	13 949	5 993	10 333
29	132 721	10 374	32 005	7.763	9 407	2 499	10 603	17 559	22 140	12 317	41 585	9 730
30	87.550		25 749	7 951	6 929	2 471	9 445	18 201	16 341	11 610	55.985	9 366
31	119 592		22 881		5 626		8 855	59.573		11 147		9 029
Average	63.960	46 800	30 270	15 140	6 843	3 380	9 642	10 640	17 650	40 030	10 340	23.800
Lowest	24 479	10 374	6 868	7 423	4 345	2 251	3 121	4 136	5.603	10 781	5 850	9 029
Highest	132 721	122 295	159 058	67 358	13 503	5 062	22 446	59 573	107 174	232 962	55.985	110 273
Peak flow	228 943	214 316	193 759	125 134	17 467	5 323	35 487	144 579	177 596	319 502	105 104	155 281
Day of peak	31	1	18	2	4	3	10	31	1	9	29	5
Monthly total (million cu m)	171 30	117 30	81 08	39 24	18 33	8 76	25 82	28 50	45.74	107 20	26 79	63 76
Runoff (mm)	187	128	88	43	20	10	28	31	50	117	29	70
Rainfall (mm)	227	106	140	58	73	41	157	138	76	156	57	70

Statistics of monthly data for previous record (Jul 1956 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	45.360	35 610	25 640	16 870	11 710	7 016	6 045	8 698	11 930	22 480	35 300	45 660
	Low	8 475	9 162	11 250	6 422	3 487	1 994	1 182	0 758	1 117	1 540	4 212	18 340
	(year)	1964	1965	1961	1974	1976	1976	1976	1976	1959	1978	1978	1963
	High	89 410	84 270	65 520	35 200	32 370	20 630	28 720	42 100	59 840	65 080	78 760	91 690
	(year)	1974	1974	1981	1985	1983	1972	1968	1958	1974	1981	1959	1959
Runoff	Avg	133	95	75	48	34	20	18	25	34	66	100	133
	Low	25	24	33	18	10	6	3	2	3	5	12	54
	High	261	222	191	100	95	58	84	123	169	190	223	268
Rainfall	Avg	142	95	99	68	75	72	81	94	104	123	139	147
	Low	23	3	14	7	25	11	13	18	10	12	58	41
	High	301	206	219	151	149	167	160	179	251	258	274	266

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	23 200		22 650		102
Lowest yearly mean			12 520	1964	
Highest yearly mean			34 890	1974	
Lowest monthly mean	3 380	Jun	0 758	Aug 1976	
Highest monthly mean	63 960	Jan	91 690	Dec 1959	
Lowest daily mean	2.251	25 Jun	0 580	23 Aug 1976	
Highest daily mean	232 962	9 Oct	482 300	27 Dec 1979	
Peak	319.502	9 Oct	714 600	28 Dec 1979	
10% exceedance	63 460		55 120		115
50% exceedance	10 940		12 400		88
95% exceedance	3 324		1 868		178
Annual total (million cu m)	733 60		714 80		103
Annual runoff (mm)	800		780		103
Annual rainfall (mm)	1299		1239		105
[1941-70 rainfall average (mm)			1240]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Flow influenced by groundwater abstraction and/or recharge
- Abstraction for public water supplies
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from surface water and/or groundwater.
- Augmentation from effluent returns.

Station and catchment description

Velocity-area station, wide, shallow channel. Cableway span 46 9m. Low flows measured at another, narrower, site. High flow gaugings difficult owing to standing waves. Moderate influence from PWS and diversions. Rural catchment of moderate relief, draining very disturbed lower Carboniferous slates, shales, grits and volcanics. Significant alluvial flats in middle reaches, Devonian slates low down. Fairly responsive. A range of agriculture, grazing and forestry as land use

050001 Taw at Umberleigh 1988

Measuring authority: NRA-SW
First year: 1958

Grid reference: 21 (SS) 608 237
Level stn (m OD): 14.10

Catchment area (sq km): 826 2
Max alt. (m OD): 604

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	52 393	87 795	6.510	19 277	5 262	3.572	2 910	5 739	81 560	25 022	6 655	28 363
2	102.595	75 641	5.778	30 147	8.790	3 737	4 462	5 139	78 673	19 284	6 306	22 296
3	76.087	70 291	7 292	21.107	11 612	3 810	7 486	4 642	50 333	15.617	5 897	24 788
4	61 131	79 541	6 033	18 446	9 623	4.107	32 992	4 418	33 334	14 041	5 621	115 723
5	51 485	71 617	5 379	16 371	6.389	3 596	12 883	4 262	23.789	25 702	5 405	76 088
6	68 567	57 780	5.322	14 637	5 299	3.352	27 142	3 864	18 193	116 481	5 148	50 372
7	47 857	53 855	6.126	13 173	4 950	3 508	14 110	3 577	14 546	79 947	4 985	36 329
8	46.221	75 313	5 297	11.719	4 824	3 348	11 149	3 367	12.198	74.573	4 907	29 266
9	43 652	72 230	5.270	10 525	4 405	3 382	8 883	3 234	10 249	175 030	5 096	24 888
10	40 339	71 550	5.216	9 600	4 160	3 120	27 882	3 138	8 787	75 798	4 898	19 985
11	39 366	55 205	4 778	8 804	4 008	2 787	23 232	3 214	7.784	81 401	4 844	16 855
12	38 672	41 701	4 602	8 056	3 954	2 482	17 304	3 517	6 920	59 456	4 318	14 637
13	42 723	50 557	4 583	7 122	3 852	2 292	25 939	3 166	6 385	39 857	4 046	12 880
14	34.849	42 076	5 850	6 792	3.592	2 163	19 527	3 643	5 649	30 081	3 823	11 649
15	27 446	33 776	19 316	7 557	3 421	2 047	15 558	3 499	5 041	23.613	3 749	10 679
16	23 173	28 198	24 477	12 489	3 182	1 943	13 714	2 785	4 714	19 530	3 722	10 075
17	20.150	23 866	49 962	8 919	2.979	1 856	13 312	2 557	4 429	16 596	3 914	9 117
18	17 993	20 387	105 774	8 711	2 858	1 820	10 171	5 807	4 120	17.795	6 625	8 613
19	16 500	17 460	73.109	8 389	3 059	1 889	8 683	5 851	3 858	16 537	4 799	9 727
20	17 217	15 113	89 384	7 301	3 007	1 641	7 656	11 633	3 687	12 451	5 737	9 214
21	20 360	13 381	61 159	6 827	2 689	1 587	7 743	7 495	3 584	10 831	4 994	9 553
22	29 419	11 772	45 901	6 346	2 514	1 517	11 207	6 369	3 896	10 895	4 263	8 541
23	63 251	10 588	83 004	5 864	2 601	1 562	13 850	6 116	4 601	10 722	4 240	9 947
24	89 389	9 522	57 979	5 517	2 779	1 524	10 016	6 205	4 664	11 485	4 149	8 921
25	89 652	8 562	54 749	5 255	2 866	1 506	9 397	5 451	8 112	10 343	4 034	8 680
26	63 844	7 783	38 999	4 914	3 858	5 311	8 919	7 256	25 093	9 642	3 976	8 814
27	67 290	7 355	30 299	4 753	3 018	3 823	8 603	10 101	35 470	9 560	3 850	9 320
28	78 130	6 888	27 664	4 576	2 892	2 452	8 200	19 859	36 662	8 927	4 234	8 523
29	106 985	6 421	29 188	4 600	7 178	2 050	7 623	17 080	45 221	7 743	24 746	8 021
30	85 244		27 434	4 633	5 000	2 027	6 829	22 262	33 726	7 276	47 178	7 677
31	88 022		21 961		4 532		6 400	44 868		6 972		7 357
Average	53 230	38 840	29 630	10 080	4 489	2 660	13 030	7 746	19 510	33 650	6 872	20 540
Lowest	16 500	6 421	4 583	4 576	2 514	1 506	2 910	2 557	3 584	6 972	3 722	7 357
Highest	106 985	87 795	105 774	30 147	11 612	5 311	32 992	44 868	81 560	175 030	47 178	115 723
Peak flow	148 750	133 210	149 067	38 174	13 735	10 588	67 305	63 586	100 526	250 915	77 070	167 551
Day of peak	31	1	23	2	3	26	4	31	1	9	30	4
Monthly total (million cu m)	142 60	97 31	79 35	26 13	12 02	6 90	34 89	20 75	50 57	90 13	17 81	55 03
Runoff (mm)	173	118	96	32	15	8	42	25	61	109	22	67
Rainfall (mm)	211	99	145	42	75	54	156	123	98	139	53	66

Statistics of monthly data for previous record (Oct 1958 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	35 650	27 830	20 560	14 590	9 601	5 358	4 547	5 966	7 575	19 190	29 330	36 850
	Low	6 657	3 245	7 449	3 888	2 073	1 329	0 793	0 423	0 859	1 043	3 654	13 200
	(year)	1963	1959	1984	1974	1976	1984	1984	1976	1959	1978	1978	1963
	High	62 100	54 760	52 140	32 800	37 000	16 630	23 390	19 130	47 670	77 360	58 500	73 670
	(year)	1984	1970	1981	1966	1983	1972	1968	1985	1974	1960	1963	1965
Runoff	Avg	116	82	67	46	31	17	15	19	24	62	92	119
	Low	22	10	24	12	7	4	3	1	3	3	11	43
	High	201	160	169	103	120	52	76	62	150	251	184	239
Rainfall	Avg.	129	84	91	71	73	68	71	87	92	116	130	139
	Low	28	3	18	8	28	10	23	24	14	14	56	41
	High	242	173	183	145	146	164	152	160	247	278	239	271

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	20 030		18 060		111
Lowest yearly mean			11 310	1964	
Highest yearly mean			27 590	1960	
Lowest monthly mean	2 660	Jun	0 423	Aug 1976	
Highest monthly mean	53 230	Jan	77 360	Oct 1960	
Lowest daily mean	1 506	25 Jun	0 200	28 Aug 1976	
Highest daily mean	175 030	9 Oct	363 800	4 Dec 1960	
Peak	250 915	9 Oct	644 900	4 Dec 1960	
10% exceedance	59 660		46 820		127
50% exceedance	8 743		9 330		94
95% exceedance	2 539		1 219		208
Annual total (million cu m)	633 40		569 90		111
Annual runoff (mm)	767		690		111
Annual rainfall (mm)	1261		1151		110
[1941-70 rainfall average (mm)			1193]		

Factors affecting flow regime

- Reservoir(s) in catchment
- Abstraction for public water supplies
- Augmentation from effluent returns

Station and catchment description

Velocity-area station, main channel 34m wide, cableway span 54·9m. Rock step d/s forms the control. Bypassing begins at about 3 7m on the rb, but a good rating accommodates this. Significant modification to flows owing to PWS abstraction. Some naturalised flow data available. Large rural catchment - drains both Dartmoor (granite) to the south and Devonian shales and sandstones of Exmoor to the north. Central area is underlain mainly by Culm shales and sandstones (Carboniferous). Agriculture is conditioned by the grade 3 and 4 soils.

052005 Tone at Bishops Hull 1988

Measuring authority NRA-W
First year: 1961

Grid reference 31 (ST) 206 250
Level stn (m OD) 16 20

Catchment area (sq km) 202.0
Max alt (m OD) 409

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4 963	26 290	2 523	3 700	2 018	1 249	1 393	1 167	6 313	1 661	1 724	1 785
2	6 947	15 253	2 359	3 628	2 556	1 216	1 237	1 162	4 297	1 618	1 688	1 630
3	5 872	12 697	2 375	3 225	2 742	1 229	2 138	1 043	3 041	1 549	1 666	2 216
4	6 032	15 589	2 296	3 031	2 278	1 307	1 716	1 033	2 511	1 613	1 657	4 730
5	6 646	11 153	2 241	2 746	1 792	1 163	1 756	1 146	2 202	1 874	1 616	3 585
6	9 963	9 250	2 154	2 678	1 666	1 048	2 337	1 069	1 960	4 634	1 592	2 896
7	6 453	10 496	2 142	2 609	1 625	1 090	1 658	1 022	1 842	3 645	1 576	2 565
8	6 223	16 935	2 048	2 510	1 616	1 101	1 372	0 893	1 727	3 846	1 644	2 492
9	5 723	13 326	2 018	2 439	1 550	1 205	1 246	0 902	1 638	14 545	1 644	2 364
10	5 262	15 004	1 978	2 325	1 520	1 168	2 452	0 861	1 562	5 126	1 527	2 228
11	5 062	10 497	1 906	2 276	1 505	1 122	1 963	0 894	1 475	7 121	1 502	2 127
12	5 258	8 289	1 818	2 197	1 505	1 041	1 530	0 992	1 404	5 801	1 433	2 011
13	5 958	11 824	1 816	2 103	1 485	1 030	3 056	0 908	1 418	4 332	1 394	1 915
14	5 507	10 156	1 885	2 083	1 438	0 901	2 230	1 099	1 335	3 707	1 382	1 868
15	4 683	8 344	2 948	2 108	1 386	0 925	1 828	0 978	1 241	3 234	1 375	1 769
16	4 292	7 186	2 555	2 372	1 361	0 921	1 742	0 875	1 221	2 967	1 369	1 704
17	4 055	6 292	4 292	2 166	1 331	0 921	1 650	0 870	1 212	2 762	1 419	1 633
18	3 751	5 648	10 072	2 338	1 309	0 891	1 511	1 367	1 183	3 178	1 632	1 610
19	3 438	4 922	6 592	2 175	1 504	0 854	1 420	1 209	1 167	3 291	1 423	1 588
20	3 275	4 210	11 986	2 063	1 364	0 855	1 365	1 195	1 167	2 554	1 442	1 565
21	3 703	3 936	7 110	1 864	1 304	0 835	1 432	1 002	1 167	2 358	1 346	1 573
22	5 083	3 548	5 708	1 761	1 258	0 826	1 659	0 916	1 186	2 277	1 308	1 532
23	7 790	3 443	7 418	1 691	1 194	0 767	1 761	0 908	1 356	2 242	1 324	1 633
24	9 890	3 172	7 325	1 686	194	0 703	1 460	0 933	1 252	2 265	1 312	1 523
25	11 988	2 979	7 870	1 629	1 223	0 789	1 320	0 887	1 404	2 173	1 300	1 496
26	8 346	2 832	6 327	1 625	1 432	2 933	1 670	0 946	1 598	2 113	1 282	1 508
27	11 240	2 697	5 407	1 613	1 245	1 375	1 432	0 977	1 893	2 025	1 262	1 462
28	16 358	2 598	5 106	1 565	1 646	1 134	1 332	1 363	2 151	1 916	1 295	1 407
29	23 830	2 514	5 116	1 657	1 900	1 140	1 281	1 054	2 095	1 812	1 863	1 380
30	12 608		4 728	1 854	1 462	1 105	1 216	1 025	1 741	1 767	2 721	1 306
31	24 671		4 085		1 335		1 167	1 306		1 736		1 274
Average	7 899	8 658	4 329	2 257	1 572	1 095	1 656	1 032	1 859	3 282	1 524	1 948
Lowest	3 275	2 514	1 816	1 565	1 194	0 703	1 167	0 861	1 167	1 549	1 262	1 274
Highest	24 671	26 290	11 986	3 700	2 742	2 933	3 056	1 367	6 313	14 545	2 721	4 730
Peak flow	67 546	66 513	22 754	3 761	3 151	4 471	4 558	2 724	12 191	29 704	4 007	6 997
Day of peak	31	1	20	2	2	26	13	31	1	9	29	4
Monthly total (million cu m)	21 16	21 69	11 60	5 85	4 21	2 84	4 43	2 76	4 82	8 79	3 95	5 22
Runoff (mm)	105	107	57	29	21	14	22	14	24	44	20	26
Rainfall (mm)	172	92	108	31	68	59	119	89	66	99	31	34

Statistics of monthly data for previous record (Feb 1961 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	6 087	5 940	4 356	3 089	2 157	1 422	1 179	0 961	1 209	2 042	3 401	5 168
	Low	1 246	1 746	1 552	1 176	0 734	0 456	0 326	0 266	0 501	0 580	0 651	1 821
	(year)	1976	1965	1962	1976	1976	1976	1976	1976	1964	1978	1978	1975
	High	14 560	14 000	9 259	6 655	6 562	2 770	5 628	1 685	4 892	9 873	7 611	11 280
	(year)	1984	1978	1981	1966	1983	1972	1968	1965	1974	1976	1982	1965
Runoff	Avg	81	72	58	40	29	18	16	13	16	27	44	69
	Low	17	21	21	15	10	6	4	4	6	8	8	24
	High	193	168	123	85	87	36	75	22	63	131	98	150
Rainfall	Avg	112	79	85	62	68	59	57	70	81	92	99	114
	Low	25	6	5	6	25	8	16	19	8	8	41	40
	High	250	170	170	150	137	147	144	126	202	249	192	205

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre 1988
Mean flow (m^3s^{-1})	3 077		3 071		100
Lowest yearly mean			1 600	1964	
Highest yearly mean			4 084	1974	
Lowest monthly mean	1 032	Aug	0 266	Aug 1976	
Highest monthly mean	8 658	Feb	14 560	Jan 1984	
Lowest daily mean	0 703	24 Jun	0 179	22 Aug 1976	
Highest daily mean	26 290	1 Feb	84 200	23 Feb 1978	
Peak	67 546	31 Jan	112 730	11 Jul 1968	
10% exceedance	6 639		6 637		100
50% exceedance	1 741		1 817		96
95% exceedance	0 910		0 645		141
Annual total (million cu m)	97 30		96 91		100
Annual runoff (mm)	482		480		100
Annual rainfall (mm)	968		978		99
[1941-70 rainfall average (mm)			995		

Factors affecting flow regime

- Reservoir(s) in catchment

Station and catchment description

Crump weir (breadth 12 2m) with crest tapping (not operational) Full range station Pre-March 1968, velocity-area station, flows inaccurate below 1 42 cumecs Clatworthy and smaller Luxhay Reservoir in headwaters Compensation flow maintains low flows Reservoirs not large enough to influence fairly rapid response to rainfall Minor surface water and groundwater abstractions Catchment geology - predominantly sandstones and marls. Land use rural

053018 Avon at Bathford 1988

Measuring authority: NRA-W
First year: 1969

Grid reference: 31 (ST) 786 671
Level stn (m OD): 18.00

Catchment area (sq km): 1552.0
Max alt. (m OD): 305

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	29.144	110 253	14.082	16 062	10.139	6.023	4.776	4 456	28 342	10.957	10 525	21 590
2	51.725	126 471	13.678	15 009	9 885	5 457	5.177	4 312	32 018	9 636	10 313	16.160
3	61 505	84.100	14 173	14 117	9 370	6 973	7 069	4 007	18.594	8 829	9 887	18.197
4	53 220	96 079	13 809	13 918	9.271	9.129	8.778	3 806	13 013	8 848	9 366	36 442
5	47.899	71.132	12.583	13 085	8.545	7.062	6 626	3 637	11 063	11.111	9.163	27.716
6	63 052	49 092	12.597	12 428	7 458	5 435	11 438	3 451	8 907	29 636	9.048	19 692
7	41.804	43 659	12 195	12 049	7 061	4 972	10 083	2 445	8 495	28 637	8.921	16 599
8	33.268	51.788	11 864	11.855	6.932	4 841	8 007	2 213	7.582	20 190	9 092	15.306
9	33 690	59.027	11.611	11.505	6 525	6 680	6 503	2 057	6 974	70 115	8.665	14 243
10	32.541	50 055	11 430	11.182	6 363	6 002	7.674	2 668	6 796	40.227	8 437	13.175
11	28 288	45 429	11 102	10 853	6 190	4 911	10 237	3 001	6.584	29 355	8 130	12.279
12	27 066	35 278	10 029	10 438	5 900	4 650	7 918	3 069	6 351	42.306	8 164	11 972
13	37.234	41.529	10 267	9 935	5 881	3 957	10 259	3.141	6 221	39 575	7.897	11.306
14	31.177	59 008	10 882	9 891	5 392	3.117	9 913	3 426	5.788	25 480	7.724	10.981
15	26.504	39 043	18.774	10 026	5 389	3 014	7 066	3 880	5 572	20 479	7.518	10 337
16	23 751	32 171	21 149	14 201	5 171	3 445	6 278	2.959	5.164	18 135	7 380	10 408
17	21.676	28 714	16 436	11 824	5 012	3 964	6 780	2 545	4 792	16 396	7 598	9 779
18	20 705	26.008	31 006	11 763	5 194	3 819	6 875	3.271	4 616	31.733	8.017	9 581
19	19 687	23 806	38 658	11 397	5 091	3 717	5 623	4 484	4 657	53.714	7 359	9 846
20	18 656	22 246	43.577	10 594	4 779	3.680	5 160	9 024	4 494	29.553	10 170	9 130
21	18 130	20 907	49 620	10 377	4 928	3 558	5 139	5 853	4 360	22 290	9 712	8 835
22	47 036	19.861	30 266	9 496	4 252	3 717	6 314	4 525	4 909	19 257	8 775	8 865
23	53 337	18 799	29 872	9 089	4 575	3.296	9 022	3 560	6 653	17.479	8 265	8 821
24	75 390	17 956	27 889	8 990	4 393	3 150	9 389	3 624	5.781	15 882	8 033	8 402
25	81 099	16 843	36 725	8 770	4 895	3 182	7 552	3 514	7 836	15 564	7.823	7.970
26	53 074	16 001	27 126	8 460	6 154	4 263	7 298	3 148	6 988	14.997	7 540	7 975
27	38.930	15 646	21 927	8 480	5 075	3 992	6 989	3.248	11 748	14 061	7 472	7.757
28	52.356	15.157	20 180	8 190	5 039	3 745	5.779	4.068	20 387	12 781	7 364	7.620
29	74.766	14 458	19 416	8 350	6 310	4 137	6 030	3 733	20.356	11 879	13.778	7 279
30	55.582		19.779	7 792	7 045	4 355	5 133	3 493	13 315	11.157	39.997	7 232
31	50 901		17 475		6 856		4 767	4 858		10.964		6.952
Average	42 040	43 120	20 650	11 000	6 293	4 608	7 279	3 725	9.945	22 940	9 738	12.660
Lowest	18.130	14 458	10 029	7.792	4 252	3.014	4 767	2 057	4 360	8.829	7.359	6 952
Highest	81 099	126 471	49 620	16 062	10 139	9 129	11 438	9 024	32 018	70 115	39.997	36 442
Peak flow	110.909	137 251	61 293	17 081	10 982	10 051	13 860	10 607	41 635	87 097	47 898	42 188
Day of peak	31	2	21	16	1	4	6	20	1	9	30	4
Monthly total (million cu m)	112.60	108 00	55.31	28 52	16.85	11.94	19 50	9 98	25 78	61 45	25 24	33 91
Runoff (mm)	73	70	36	18	11	8	13	6	17	40	16	22
Rainfall (mm)	134	62	81	38	49	48	112	81	64	100	35	20

Statistics of monthly data for previous record (Dec 1969 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	32 600	30.740	25 960	17 280	12 790	9 956	5 802	5 914	6.540	10 800	19 900	29 190
	Low	9 227	11 370	10 080	7 719	5 048	3 897	2 410	1 715	3.320	3 115	4 406	12 110
	(year)	1976	1976	1973	1976	1976	1976	1976	1976	1987	1978	1978	1975
	High	51 270	64.730	54 230	26 520	31 020	30 110	9 956	13 830	25 450	28 180	39 810	48 270
	(year)	1984	1977	1981	1987	1983	1971	1973	1985	1974	1976	1986	1976
Runoff	Avg	56	48	45	29	22	17	10	10	11	19	33	50
	Low	16	18	17	13	9	7	4	3	6	5	7	21
	High	88	101	94	44	54	50	17	24	43	49	66	83
Rainfall	Avg	86	58	78	48	63	67	52	66	77	73	83	92
(1970-1987)	Low	18	7	17	2	29	5	25	18	15	6	38	33
	High	148	143	163	110	142	151	115	140	178	149	178	144

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	16 100		17 230		93
Lowest yearly mean			10 360	1973	
Highest yearly mean			22 160	1977	
Lowest monthly mean	3.725	Aug	1.715	Aug 1976	
Highest monthly mean	43.120	Feb	64.730	Feb 1977	
Lowest daily mean	2.057	9 Aug	1 093	29 Aug 1976	
Highest daily mean	126 471	2 Feb	253 648	28 Dec 1979	
Peak	137 251	2 Feb	300 500	28 Dec 1979	
10% exceedance	39 330		36 350		108
50% exceedance	9 553		11.430		84
95% exceedance	3 448		3 341		103
Annual total (million cu m)	509 10		543 70		94
Annual runoff (mm)	328		350		94
Annual rainfall (mm)	824		843		98
[1941-70 rainfall average (mm)			840]		

Factors affecting flow regime

- Flow influenced by groundwater abstraction and/or recharge
- Augmentation from surface water and/or groundwater

Station and catchment description

Velocity-area station with cableway. (Replacement station for Bath St James) Situated immediately downstream of confluence with Bybrook Section by railway bridge, area widely inundated in flood conditions, but all flows contained through bridge Flows augmented by groundwater scheme in catchment Mixed geology - predominantly clays and limestone with eastern tributaries rising from Chalk. Land use - mainly rural, some urbanisation

054001 Severn at Bewdley 1988

Measuring authority NRA ST
First year: 1921

Grid reference 32 (SO) 782 762
Level stn. (m OD) 17 00

Catchment area (sq km) 4325 0
Max a't (m OD) 827

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	145 954	152 434	25 044	60 189	25 578	60 318	14 680	43.831	58 008	83.174	53 937	130 198
2	220 569	219 257	23 745	60 976	29 377	43 974	13 760	31 110	58 290	73 884	50 074	88 978
3	274 884	242 061	23 164	154 500	34 058	34 660	16 437	26 168	107 971	67.733	45 831	69 656
4	343.127	255 613	24 534	112 640	43 241	31 023	34 743	23 247	132 186	58 119	41.953	80 775
5	353 095	256 735	23 352	77 092	49 368	35 807	40 509	21.481	96 435	44 167	37 482	105 574
6	343 704	232 509	21 517	58 340	38 278	30 559	36 136	18 433	73 104	43 836	33 771	84 282
7	307 580	176 012	23 795	48 371	29 554	25 518	24 933	18 177	58.197	67 349	33.193	73 887
8	252 603	155 618	29 230	42 802	26 746	26 077	35 181	17 843	48 938	111.870	32 251	64.654
9	205 805	145 097	26 513	41 302	26 425	30 766	36 857	16 012	43 131	84 231	35.167	55 979
10	196 891	156.336	29 885	42 760	24 967	33 755	32 838	15 440	39 730	73 589	48 537	50.989
11	180 693	168 904	35 198	36 885	23 478	26 185	35 104	15 056	37 008	71 864	41 406	48.771
12	157 944	152.959	27 567	32 072	23 869	22 386	32 479	16 884	37 695	68 751	38 449	43 365
13	136 206	118 599	29 093	28 893	24 321	21.197	29 252	19 861	38 733	86 603	34 986	39 245
14	132 099	150 930	44 586	26 470	21 533	19 381	40 226	25 066	39 859	71 462	33 098	35.950
15	105 486	180 036	108 404	25 585	19 901	17 910	33 412	30 564	38 721	55 793	32 816	34 017
16	91 290	131 127	198 350	24 318	20 611	16 488	28 409	29 694	33 895	45 448	31 430	32 620
17	83 970	100 986	193 097	24 865	19 752	15 311	30 879	22 188	33 174	40 071	30 008	30 786
18	84 358	80 043	129 757	24 875	19 478	13 004	33 058	21 465	27.249	44 940	30 240	31 901
19	99 739	67 142	141 328	29 159	18 319	12 633	28 604	67 652	23 174	90 272	36 942	30 974
20	92 384	56 662	216 345	33 181	21 367	13 575	23 021	91 233	19 432	120 043	35 668	56 541
21	86 302	47 149	216 480	25 713	19 452	13 031	25 628	99 622	17 685	95 580	39 639	47.562
22	96 026	43 370	144 357	23 452	17 629	12 374	34 603	80 711	17 765	69.784	39 251	39 221
23	156 948	39 035	129 044	21 768	19 787	12 050	42 809	55 917	18 806	56 311	31.419	37 685
24	273 277	36 459	136 263	20 378	19 386	10 862	40 530	42 571	29 734	53.362	31 019	66 192
25	321 124	33 003	137 619	19 994	19 056	9 238	34 184	35 808	89 539	49 531	31 372	93 641
26	366 344	30 353	164 091	19.824	24 656	10 813	29 295	31 621	107 258	67 796	27 787	66 513
27	303 253	27 349	139 429	18 915	28 526	14 485	25 937	28 361	174 429	99 155	26 226	61 836
28	212 651	27 502	101 799	18 315	31 090	15 326	25.297	72 825	140 818	128 225	27 190	73 529
29	176 730	27 700	82 625	17 545	26 030	14 247	26 810	58 071	141 282	95 754	33 447	60.289
30	143 141		74 560	16 391	33 252	14 330	24 638	47 067	117 604	71 749	81.568	54.222
31	134 229		66 436		58 621		35 588	49 245		60 510		47 388
Average	196 100	121 100	89 100	39 590	27 020	21 910	30 510	37 850	63 310	72 610	37 540	59 270
Lowest	83 970	27.349	21 517	16 391	17 629	9 238	13 760	15 056	17 685	40 071	26 226	30 786
Highest	366 344	256 735	216 480	154 500	58 621	60 318	42 809	99 622	174 429	128 225	81 568	130 198
Peak flow	375 245	261 146	234 249	170 693	63 988	65 581	54 129	107.236	183 708	142 924	128 153	143 110
Day of peak	26	4	21	3	31	1	23	19	27	28	30	1
Monthly total (million cu m)	525 20	303 30	238 70	102 60	72 38	56 79	81 72	101 40	164 10	194 50	97 30	158.70
Runoff (mm)	121	70	55	24	17	13	19	23	38	45	23	37
Rainfall (mm)	161	74	116	44	76	41	118	91	75	80	46	44

Statistics of monthly data for previous record (Apr 1921 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	114 100	101 300	73 640	53 070	39 040	29 840	22 930	28.190	36 460	54 570	90 910	101.100
	Low	22 100	21 200	23 200	15 880	10 230	9 804	9 587	7 461	7 668	10 490	21 730	17 850
	(year)	1963	1934	1943	1938	1938	1976	1976	1976	1949	1947	1942	1933
	High	250 600	232 300	261 900	112 400	131 600	117 400	91 240	92 360	126 700	140 700	238 300	297 400
	(year)	1939	1946	1947	1947	1969	1931	1968	1927	1946	1967	1940	1965
Runoff	Avg	71	57	46	32	24	18	14	17	22	34	54	63
	Low	14	12	14	10	6	6	6	5	5	7	13	11
	High	155	130	162	67	81	70	57	57	76	87	143	184
Rainfall	Avg	91	67	63	60	70	61	71	78	78	85	97	95
	Low	23	8	3	5	18	5	10	13	5	13	13	10
	High	226	170	175	128	186	136	193	160	209	174	244	294

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	66 300		61 910		107
Lowest yearly mean			36 460	1964	
Highest yearly mean			94 740	1960	
Lowest monthly mean	21 910	Jun	7 461	Aug 1976	
Highest monthly mean	196.100	Jan	297 400	Dec 1965	
Lowest daily mean	9 238	25 Jun	5 990	4 Sep 1976	
Highest daily mean	366 344	26 Jan	637 130	21 Mar 1947	
Peak	375.245	26 Jan	362 700	7 Dec 1972	
10% exceedance	152 300		148 200		103
50% exceedance	38 860		37.680		103
95% exceedance	16 020		11 340		141
Annual total (million cu m)	2097 00		1954 00		107
Annual runoff (mm)	485		452		107
Annual rainfall (mm)	966		916		105
[1941-70 rainfall average (mm)			936]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Flow influenced by groundwater abstraction and/or recharge
- Abstraction for public water supplies
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from surface water and/or groundwater
- Augmentation from effluent returns

Station and catchment description

Velocity-area station with rock control Stage monitoring site relocated in 1950 and 1970; lowest flows not reliable in earlier record Peak flow record commences 1971. US gauge undergoing calibration Sig. exports for PWS and CEGB; minimum flow maintained by Clywedog releases. Naturalised flow series accommodates major usages. Diverse catchment, wet western 50% from impermeable Palaeozoic rocks and river gravels; drier northern 50% from Drift covered Carboniferous to Liassic sandstones and marls. Moorland, forestry, mixed farming.

054002 Avon at Evesham 1988

Measuring authority: NRA ST	Grid reference: 42 (SP) 040 438	Catchment area (sq km): 2210.0
First year: 1936	Level stn. (m OD): 19.50	Max alt. (m OD): 320

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	29.750	91.546	13.030	16.089	15.284	7.247	8.078	8.376	16.633	5.215	5.968	32.245
2	83.014	75.276	12.505	15.038	16.127	7.131	7.016	7.832	14.822	5.031	6.010	20.641
3	90.748	50.793	13.744	14.071	14.997	7.558	9.231	7.195	9.818	5.012	6.089	19.337
4	58.854	67.742	14.214	13.700	19.381	10.127	16.572	6.885	7.409	5.185	5.741	27.167
5	45.490	56.658	12.768	13.106	19.353	8.443	16.946	6.705	6.428	5.944	5.665	25.625
6	91.437	41.045	12.292	12.904	12.823	7.465	16.867	6.437	5.925	6.125	5.707	20.604
7	90.718	38.495	12.342	12.837	10.399	7.107	12.656	6.042	5.658	6.104	5.693	15.852
8	54.240	53.121	12.079	12.310	10.178	8.521	8.729	5.746	5.714	5.472	5.782	13.042
9	44.565	46.695	12.181	13.542	11.268	10.016	7.687	5.723	5.451	7.963	6.097	11.508
10	38.534	38.401	13.393	12.755	10.263	9.505	10.107	5.632	5.438	12.312	6.203	10.521
11	33.745	32.758	12.197	11.947	9.831	8.105	13.512	6.007	5.300	8.517	5.953	9.803
12	28.094	26.184	12.171	11.176	10.784	7.293	10.085	7.259	5.506	14.496	5.963	9.253
13	28.045	25.468	13.470	10.490	10.089	6.890	12.038	6.802	6.034	14.401	5.660	8.511
14	25.118	42.387	28.417	10.122	9.125	6.365	10.048	6.412	5.519	8.942	5.541	7.972
15	21.636	37.392	74.816	10.564	8.542	6.138	8.767	6.239	5.414	7.047	5.715	7.874
16	19.658	30.588	80.154	15.310	8.194	6.111	8.729	5.988	5.228	6.383	5.712	7.799
17	18.333	25.338	44.871	13.576	7.752	6.133	15.699	5.680	5.177	6.429	5.893	7.471
18	19.246	22.395	32.555	11.845	7.430	6.099	14.075	6.279	5.081	7.830	5.904	7.028
19	20.119	20.726	57.508	12.295	7.343	6.105	10.769	7.494	5.048	10.166	5.897	7.358
20	19.237	19.054	76.785	10.845	7.267	6.128	8.606	6.675	5.060	8.469	7.568	7.440
21	18.207	17.899	79.116	10.176	6.813	5.991	9.931	6.757	4.881	7.193	8.190	7.116
22	68.241	16.992	52.078	9.817	7.009	6.133	21.349	6.389	4.939	6.685	6.741	6.753
23	103.425	16.667	50.178	9.680	7.103	5.926	30.580	5.663	5.352	6.437	6.570	6.864
24	175.939	15.594	46.630	9.145	6.892	5.778	19.989	5.705	7.811	6.358	6.361	7.573
25	167.932	14.507	45.837	9.113	7.044	5.737	13.126	5.677	10.040	6.527	6.056	8.713
26	121.550	13.794	40.880	9.664	8.429	20.715	10.028	5.605	7.360	6.582	5.892	8.211
27	68.026	13.494	27.281	13.585	7.921	16.131	8.775	5.788	6.757	6.928	5.797	9.486
28	76.085	13.559	22.416	11.944	7.034	10.091	7.923	7.668	7.050	6.737	6.694	9.484
29	94.478	13.500	20.886	10.493	7.169	8.139	6.986	7.914	6.604	6.358	13.693	8.556
30	69.625		19.581	10.761	7.822	7.670	6.484	6.268	5.688	6.012	45.512	7.827
31	47.742		18.330		7.850		7.822	10.954		5.886		7.381
Average	60.380	33.730	31.760	11.960	9.920	8.027	11.910	6.639	6.771	7.379	7.676	11.770
Lowest	18.207	13.494	12.079	9.113	6.813	5.737	6.484	5.605	4.881	5.012	5.541	6.753
Highest	175.939	91.546	80.154	16.089	19.381	20.715	30.580	10.954	16.633	14.496	45.512	32.245
Peak flow	192.475	98.989	95.794	18.032	26.145	32.283	34.509	14.908	19.594	21.336	53.901	37.097
Day of peak	24	1	15	16	4	26	23	31	1	12	30	1
Monthly total (million cu m)	161.70	84.50	85.08	31.01	26.57	20.80	31.90	17.78	17.55	19.76	19.90	31.54
Runoff (mm)	73	38	39	14	12	9	14	8	8	9	9	14
Rainfall (mm)	110	35	76	33	41	52	109	54	36	48	34	26

Statistics of monthly data for previous record (Dec 1936 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	27.960	27.580	22.570	15.120	11.600	8.786	6.493	6.793	6.744	9.489	17.770	22.660
	Low	5.143	4.868	2.261	3.237	2.220	1.935	2.256	2.042	1.968	2.485	2.681	3.549
	(year)	1950	1944	1944	1938	1944	1944	1976	1943	1959	1959	1943	1943
	High	73.520	77.930	75.600	36.100	37.690	27.380	42.220	16.100	24.200	45.420	55.910	65.160
	(year)	1939	1977	1947	1987	1983	1977	1968	1969	1960	1960	1960	1965
Runoff	Avg	34	30	27	18	14	10	8	8	8	12	21	27
	Low	6	6	3	4	3	2	3	2	2	3	3	4
	High	89	85	92	42	46	32	51	20	28	55	66	79
Rainfall (1937-1987)	Avg	59	43	48	43	56	54	56	71	55	58	65	60
	Low	13	3	5	5	15	10	8	5	3	6	8	15
	High	127	122	140	94	130	121	122	130	127	150	163	121

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	17.330		15.240		114
Lowest yearly mean			6.895	1944	
Highest yearly mean			25.020	1960	
Lowest monthly mean	6.639	Aug	1.935	Jun 1944	
Highest monthly mean	60.380	Jan	77.930	Feb 1977	
Lowest daily mean	4.881	21 Sep	1.274	9 Oct 1959	
Highest daily mean	175.939	24 Jan	277.082	11 Jul 1968	
Peak	192.475	24 Jan	371.000	11 Jul 1968	
10% exceedance	42.730		34.110		125
50% exceedance	9.180		8.251		111
95% exceedance	5.524		2.582		214
Annual total (million cu m)	548.00		480.90		114
Annual runoff (mm)	248		218		114
Annual rainfall (mm)	654		668		98
[1941-70 rainfall average (mm)			672]		

Factors affecting flow regime

- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from effluent returns

Station and catchment description

Velocity-area station. Recording site, control and gauging site are widely separated, recording at a site where all flows contained. Gauge site can measure out-of-bank flows. Extensive modification to flow regime from abstractions and returns. Large catchment of low relief, draining argillaceous rocks almost exclusively. Contains many large towns, but chief land use is agriculture.

055026 Wye at Ddol Farm 1988

Measuring authority NRA-WEL
First year: 1937

Grid reference 22 (SN) 976 676
Level stn (m OD) 192.80

Catchment area (sq km) 174.0
Max alt (m OD) 752

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	39.361	27.703	1.356	8.777	1.749	5.963	0.850	3.567	15.537	6.955	3.759	8.739
2	57.916	27.166	1.311	15.014	4.018	4.548	0.835	3.035	31.698	5.377	3.305	6.352
3	24.046	25.166	3.058	8.430	3.604	7.648	0.990	2.574	17.919	4.435	2.909	8.546
4	21.909	21.238	1.884	6.499	4.421	6.350	2.923	2.558	10.445	4.541	2.633	14.066
5	17.049	14.564	1.685	5.227	2.811	4.339	1.462	2.232	6.986	9.755	2.431	8.496
6	22.533	10.122	5.025	4.344	2.377	3.698	1.456	1.822	5.270	20.373	2.241	7.337
7	14.685	10.839	3.522	3.704	2.176	3.075	6.566	1.504	4.198	24.211	2.038	5.695
8	13.429	9.976	2.802	3.482	2.085	3.344	5.678	1.286	3.586	13.852	2.985	6.023
9	14.561	11.085	3.449	3.241	1.861	2.924	3.694	1.213	2.996	13.774	3.456	9.078
10	12.506	10.377	3.253	2.725	1.671	2.558	4.685	1.235	2.614	12.488	3.830	5.503
11	9.893	8.948	4.239	2.403	1.508	2.099	3.313	2.230	2.657	9.125	3.199	4.598
12	14.088	7.011	6.792	2.076	1.426	1.693	3.377	4.039	2.374	8.894	2.687	3.944
13	12.401	16.781	15.643	1.858	1.277	1.380	4.152	3.898	5.826	6.181	2.492	3.545
14	9.424	12.941	29.206	1.715	1.124	1.168	2.939	5.241	3.161	5.110	2.318	3.154
15	7.460	9.637	30.066	1.777	1.003	1.013	2.275	3.232	2.513	4.423	2.139	2.842
16	6.140	7.674	16.162	2.247	0.841	0.860	3.787	2.390	2.164	3.922	2.061	2.909
17	6.500	6.060	10.531	1.920	0.715	0.779	4.878	1.911	1.956	3.505	2.815	2.676
18	8.250	5.083	21.890	2.916	0.693	0.747	2.869	14.586	1.742	5.699	3.905	3.434
19	6.324	4.356	34.949	2.410	0.842	0.665	2.554	10.561	1.581	6.732	2.759	10.060
20	7.225	3.826	18.583	1.828	0.692	0.572	2.322	19.095	1.443	4.619	4.034	5.743
21	6.880	3.330	11.395	1.641	0.577	0.494	8.348	11.985	1.361	3.975	2.931	5.597
22	6.628	2.921	11.752	1.498	0.479	0.416	7.917	6.820	1.646	4.042	2.698	5.616
23	52.594	2.639	13.475	1.333	0.857	0.330	7.336	5.271	6.665	3.932	2.852	14.653
24	34.491	2.334	14.452	1.169	1.480	0.291	5.791	5.353	34.454	3.951	2.599	10.729
25	16.815	2.062	22.365	1.071	1.370	0.277	5.068	4.121	34.893	5.943	2.384	7.671
26	11.166	1.944	15.450	0.977	2.550	0.453	4.449	4.296	32.244	8.330	2.243	9.186
27	8.389	1.890	10.188	0.887	1.746	0.377	4.212	10.869	19.826	8.977	2.102	8.241
28	7.873	1.660	9.804	0.844	1.673	0.475	4.272	7.304	21.620	7.446	7.303	6.409
29	7.355	1.447	8.081	0.828	5.150	0.307	4.028	8.731	14.673	5.865	14.920	5.253
30	13.042		8.527	0.976	11.959	0.316	5.307	6.500	9.665	4.929	15.819	4.492
31	18.863		6.168		12.214		4.451	6.212		4.231		3.937
Average	16.440	9.337	11.200	3.127	2.482	1.972	3.961	5.344	10.120	7.600	3.795	6.598
Lowest	6.140	1.447	1.311	0.828	0.479	0.277	0.835	1.213	1.361	3.505	2.038	2.676
Highest	57.916	27.703	34.949	15.014	12.214	7.648	8.348	19.095	34.893	24.211	15.819	14.653
Peak flow	103.923	37.605	54.086	21.401	28.076	12.808	19.932	30.439	119.101	40.362	33.601	29.304
Day of peak	2	1	19	2	30	3	21	18	25	7	29	23
Monthly total (million cu m)	44.05	23.40	29.99	8.11	6.65	5.11	10.61	14.31	26.24	20.36	9.84	17.67
Runoff (mm)	253	134	172	47	38	29	61	82	151	117	57	102
Rainfall (mm)	278	123	251	55	120	45	174	169	203	143	83	110

Statistics of monthly data for previous record (Oct 1937 to Dec 1987—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg.	10.540	8.596	6.535	4.929	3.242	2.732	2.714	3.767	5.211	7.208	10.310	10.970
	Low	1.972	1.476	1.373	1.014	0.485	0.497	0.316	0.177	0.291	0.683	2.011	1.947
	(year)	1940	1947	1943	1974	1980	1975	1984	1976	1959	1972	1945	1963
	High	20.990	18.000	19.610	12.460	8.773	8.867	8.455	10.370	16.830	18.840	22.030	23.930
	(year)	1948	1946	1981	1972	1979	1985	1939	1957	1946	1981	1939	1965
Runoff	Avg.	162	120	101	73	50	41	42	58	78	111	154	169
	Low	30	21	21	15	7	7	5	3	4	11	30	30
	High	323	250	302	186	135	132	130	160	251	290	328	368
Rainfall	Avg	180	131	119	97	99	93	103	123	141	153	186	193
	Low	41	10	25	11	25	21	14	13	13	28	28	28
	High	386	310	310	206	204	202	267	251	325	329	356	452

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	6.841		6.386		107
Lowest yearly mean			4.304	1976	
Highest yearly mean			8.529	1954	
Lowest monthly mean	1.972	Jun	0.177	Aug 1976	
Highest monthly mean	16.440	Jan	23.930	Dec 1965	
Lowest daily mean	0.277	25 Jun	0.083	15 Aug 1983	
Highest daily mean	57.916	2 Jan	147.200	3 Dec 1960	
Peak	119.101	25 Sep	252.200	5 Aug 1973	
10% exceedance	15.100		15.480		98
50% exceedance	4.122		3.520		117
95% exceedance	0.784		0.537		146
Annual total (million cu m)	216.30		201.50		107
Annual runoff (mm)	1243		1158		107
Annual rainfall (mm)	1754		1618		108
[1941-70 rainfall average (mm)			1618]		

Factors affecting flow regime

- Abstraction for public water supplies

Station and catchment description

Initially, gauged nearby at Rhayader (055005 1937-69) - records continuous, resited as a velocity-area station with a rock bar as control. Informal Flat V control installed 1972. Bankfull width approx. 30m. Cableway span 54m. All but exceptional floods contained. Lowest extent of gauging unaffected by Caban Coch. Wet, upland catchment draining impermeable, metamorphosed Silurian sediments. High relief, headwaters reach over 600m, and feature steep sided and high gradient streams. Moorland and forestry

056001 Usk at Chain Bridge 1988

Measuring authority: NRA-WEL
First year: 1957

Grid reference: 32 (SO) 345 056
Level stn (m OD): 22.60

Catchment area (sq km): 911.7
Max alt. (m OD): 886

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	99.015	148.820	15.462	26.490	11.526	29.627	7.087	22.437	81.690	23.211	16.153	21.422
2	279.803	96.491	14.615	43.944	26.054	26.846	8.516	18.854	66.421	20.244	15.142	18.033
3	137.096	76.375	16.163	31.123	41.956	25.791	9.438	16.529	43.780	18.025	14.019	25.331
4	109.279	83.270	15.158	26.408	38.819	25.148	15.074	15.282	32.139	17.126	13.449	44.783
5	83.794	70.125	13.486	23.592	25.298	19.487	10.615	14.156	26.240	21.562	12.794	29.566
6	150.859	55.447	13.021	21.519	19.950	17.428	9.391	13.068	21.759	37.324	12.278	27.666
7	83.897	61.836	13.695	20.055	17.415	16.066	8.934	11.958	19.325	36.636	11.896	23.399
8	72.223	61.582	12.700	18.736	16.139	15.683	9.369	10.748	17.270	28.797	12.305	21.202
9	99.678	81.928	11.891	18.412	14.607	17.991	8.469	9.340	15.988	58.606	21.462	19.537
10	71.898	61.568	11.789	16.867	13.251	15.838	45.144	8.931	14.642	45.335	18.583	18.278
11	58.735	53.812	11.341	15.870	12.557	14.052	26.688	9.199	13.746	42.809	19.549	16.769
12	61.800	45.843	11.256	14.852	11.964	12.512	17.232	13.044	13.069	55.260	14.735	15.884
13	81.928	144.465	11.022	14.254	11.467	11.305	35.773	10.302	13.007	36.084	13.384	14.769
14	54.054	89.981	14.781	14.682	10.668	10.274	21.261	23.094	12.445	29.017	12.536	13.908
15	46.752	62.255	74.530	14.645	10.102	9.640	16.726	14.551	11.313	25.210	12.015	13.414
16	40.544	51.619	59.847	17.943	9.547	9.596	15.729	10.807	10.754	22.692	11.597	13.041
17	36.710	44.055	37.421	16.714	8.942	9.197	16.765	9.430	10.315	21.074	11.544	12.540
18	39.749	39.271	73.738	17.103	8.566	9.026	13.794	27.704	9.796	23.377	13.294	11.840
19	37.573	34.900	145.459	19.152	10.368	8.738	12.113	23.970	9.286	29.438	11.770	12.411
20	38.033	31.360	88.282	15.398	10.021	8.306	11.543	20.370	8.201	24.528	12.364	12.670
21	36.394	28.694	59.375	14.151	8.609	8.518	10.676	18.029	8.009	20.853	12.016	12.248
22	44.341	26.049	54.062	12.783	8.040	7.422	19.325	15.158	8.092	19.921	10.900	11.633
23	110.251	23.837	55.597	11.619	7.857	7.019	57.573	13.513	11.464	20.213	10.689	15.595
24	133.380	21.871	50.813	11.077	10.779	6.866	40.801	13.043	42.536	18.493	10.630	14.902
25	93.303	20.463	69.301	10.593	13.717	6.686	38.909	12.188	36.581	18.773	10.419	13.426
26	65.801	18.969	47.222	10.251	22.376	7.021	30.143	10.990	59.979	19.528	9.999	13.792
27	53.871	18.253	40.749	9.909	15.912	7.328	24.800	17.805	40.904	28.663	9.631	20.169
28	62.234	17.285	38.897	9.532	13.553	6.806	24.669	28.811	53.231	22.813	9.704	17.417
29	65.568	16.179	34.348	9.367	24.845	7.454	24.236	18.848	37.156	19.291	12.496	16.230
30	61.691		33.107	10.012	48.795	6.867	20.803	18.725	27.747	17.893	35.473	15.094
31	83.075		29.076		47.427		27.407	54.619		16.914		13.991
Average	80.430	54.710	38.010	17.240	17.780	12.820	20.610	16.950	25.900	27.090	13.760	17.770
Lowest	36.394	16.179	11.022	9.367	7.857	6.686	7.087	8.931	8.009	16.914	9.631	11.633
Highest	279.803	148.820	145.459	43.944	48.795	29.627	57.573	54.619	81.690	58.606	35.473	44.783
Peak flow	401.198	238.734	229.150	55.735	63.286	34.864	80.901	91.810	104.466	80.033	45.627	63.286
Day of peak	2	13	19	2	30	1	10	31	1	9	30	4
Monthly total (million cu m)	215.40	137.10	101.80	44.67	47.62	33.22	55.21	45.40	67.12	72.55	35.67	47.60
Runoff (mm)	236	150	112	49	52	36	61	50	74	80	39	52
Rainfall (mm)	251	102	161	48	133	45	177	130	100	106	55	58

Statistics of monthly data for previous record (Mar 1957 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	50.750	40.570	34.210	24.140	17.590	11.290	7.945	10.580	16.210	29.290	40.470	50.910
	Low	10.850	12.680	10.010	8.120	6.125	4.273	3.390	2.698	2.939	4.303	16.030	20.380
	(year)	1964	1963	1962	1974	1984	1957	1976	1976	1959	1978	1975	1963
	High	88.650	95.720	100.700	49.330	46.590	26.740	27.490	38.540	45.680	86.350	99.840	112.700
	(year)	1974	1958	1981	1985	1983	1972	1968	1985	1974	1967	1960	1959
Runoff	Avg	149	109	101	69	52	32	23	31	46	86	115	150
	Low	32	34	29	23	18	12	10	8	8	13	46	60
	High	260	254	296	140	137	76	81	113	130	254	284	331
Rainfall	Avg	155	108	114	85	92	77	75	98	125	138	152	170
	Low	28	10	15	8	31	17	21	25	8	19	74	46
	High	331	223	303	175	221	144	137	210	259	325	323	351

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	28.570		27.790		103
Lowest yearly mean			14.880	1973	
Highest yearly mean			44.050	1960	
Lowest monthly mean	12.820	Jun	2.698	Aug 1976	
Highest monthly mean	80.430	Jan	112.700	Dec 1959	
Lowest daily mean	6.686	25 Jun	1.607	27 Aug 1976	
Highest daily mean	279.803	2 Jan	585.400	27 Dec 1979	
Peak	401.198	2 Jan	945.000	27 Dec 1979	
10% exceedance	62.470		63.780		98
50% exceedance	17.820		16.720		107
95% exceedance	8.526		4.330		197
Annual total (million cu m)	903.50		876.90		103
Annual runoff (mm)	991		962		103
Annual rainfall (mm)	1366		1389		98
(1941-70 rainfall average (mm)			1378)		

Factors affecting flow regime

- Reservoir(s) in catchment

Station and catchment description

Velocity-area station; permanent cableway. Low flows measured at complementary station downstream (056010 Trostrey weir). There is a partial impact on flows resulting from three large existing public water supply reservoirs in upper catchment. Intake to canal upstream of gauge. Some naturalised flows available. Geology: mainly Old Red Sandstone. Hill farming in upper areas, with dairy or livestock farming below, forest 3%. Peaty soils in uplands, seasonally wet.

062001 Teifi at Glan Teifi 1988

Measuring authority: NRA-WEL
First year: 1959

Grid reference: 22 (SN) 244 416
Level stn. (m OD) 5 20

Catchment area (sq km) 893 6
Max alt (m OD) 595

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	106 812	83 590	12.732	33 979	8 891	19 635	7 365	21 369	54 552	42 098	38 194	45 259
2	150 439	67 391	11 731	60.755	11 312	15.610	7 746	18 632	71 066	36 678	32.476	41 336
3	129.500	70 162	16 589	45 781	18 543	13 427	8 266	16 443	59 765	30 904	28 121	47 849
4	92 967	70 754	16 401	39 629	19 848	15 105	16.286	15.190	53 117	30 917	25.161	55 595
5	75.035	60 139	14 604	33 560	15 324	13 820	12 880	14 418	43 853	35 658	22 999	47 613
6	106.839	49.957	14 013	28 617	12 714	11 087	9 730	13.283	35 315	45.948	21 170	43 344
7	82 586	51 357	17 388	25 111	11 730	10 378	12 051	12 101	29 157	44 393	19 485	39 765
8	72.430	50 460	17 803	22 530	11 016	9 979	12 708	11 708	25 246	43 402	20 444	35 683
9	82 276	49 859	15 874	20.331	10 354	9 797	11 657	11 047	22 517	49 114	30 266	33 821
10	73.174	43 060	16 958	18 328	9 803	9 354	19 596	10 566	20 268	48 818	31 352	33 098
11	63 207	39 155	15.568	16 875	9 222	8 360	18 109	11 661	18 983	45 538	28 816	28 293
12	81 235	34 489	15 518	15 491	8 838	7.504	25 924	15.967	17 533	43 166	24 275	25 533
13	96.562	83 813	21 536	14 253	8 440	6 894	42 204	15 125	17.117	39 052	21 460	22 750
14	79.746	84.392	51 417	13.138	8 105	6.395	31 833	32 012	16 801	33 094	20 035	21 312
15	66.271	61 768	91.184	13 217	7 811	6 086	25 028	21.911	14 696	28.971	18 306	20 129
16	56 272	52 397	85 762	16 124	7 296	5 832	22 369	17 343	13 508	25 750	17 646	19 248
17	51 774	44 002	70 611	13 966	6 987	5 656	30 006	15 738	12 805	23 404	19 105	18 889
18	62 277	39 264	91 191	15 873	6 794	5 411	26 830	56 525	11 958	21 507	21 945	17 602
19	51.672	33 975	153 154	15 421	6 531	5 233	21 763	50 079	11 175	21.458	21 169	20 510
20	52 595	29 115	150 037	13 024	6 319	5 067	18 919	44 096	10 439	21 216	24 199	23 191
21	52 486	25 594	96 008	11 972	6 089	4 938	19 668	41 845	9 801	20 628	21 638	23 191
22	66 988	22 632	76.748	11 188	5 822	4 674	36 123	38 870	10 620	24 216	18 324	21 564
23	100 518	20 306	65 306	10 398	6 119	4.466	43 304	34 400	13 666	29 457	22 147	26 069
24	128.531	18 309	57 392	9 832	7 793	4 322	40 311	29 443	42 586	33 161	20 739	24 899
25	109 425	16 502	55 392	9 377	9 379	4.225	41 123	26 050	49 695	40 303	19 340	22 939
26	78 124	15 171	47 405	9 005	8 792	4 416	36 709	23 217	63 705	89 090	18 571	27 650
27	59 156	14 322	40 670	8.632	10 298	4 329	29 388	24 638	61 104	112 895	17 951	39 073
28	56 339	13 351	37 956	8 343	9 149	4 225	34 580	27 000	63 526	73 834	20 618	33 028
29	52 042	12 888	33 515	8.134	17 149	4 355	33 177	23 858	56 022	56 584	27 729	28 639
30	51 030		31 842	8 080	19 320	6 299	26 678	21 633	48 918	46 865	51 455	25 426
31	72.914		31 147		23 657		23 824	26.279		41 272		23 048
Average	79.390	43 390	47.530	19 030	10 630	7 896	24 070	23 950	32 650	41 270	24 170	30 200
Lowest	51 030	12 888	11 731	8 080	5 822	4.225	7 365	10 566	9 801	20 628	17 646	17 602
Highest	150 439	84 392	153 154	60 755	23 657	19 635	43 304	56 525	71 066	112 895	51 455	55 595
Peak flow	156 379	101 186	180 070	68 452	25 265	21 525	48 335	65 108	75 227	133 334	55 059	57 445
Day of peak	2	1	19	2	31	1	12	18	2	26	30	4
Monthly total (million cu m)	212 60	108 70	127 30	49 33	28 46	20.47	64 47	64 15	84 63	110 50	62 65	80 90
Runoff (mm)	238	122	142	55	32	23	72	72	95	124	70	91
Rainfall (mm)	244	93	169	54	100	52	166	142	122	135	75	69

Statistics of monthly data for previous record (Jul 1959 to Dec 1987—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	46.700	37.400	30 290	22 590	18 280	11 520	8 045	12 230	16 760	35 920	46 450	54 090
	Low	7.086	11 140	8 280	7 481	4 228	2 975	1 819	1 127	1 073	3 886	16 060	17 820
	(year)	1963	1965	1962	1974	1984	1984	1984	1976	1959	1972	1983	1963
	High	106 000	81 100	96 730	41 810	36 780	41 700	24 930	39 210	48 680	102 000	85 130	93 960
	(year)	1974	1974	1981	1985	1979	1972	1968	1985	1974	1981	1986	1965
Runoff	Avg	140	102	91	66	55	33	24	37	49	108	135	162
	Low	21	30	25	22	13	9	5	3	3	12	47	53
	High	318	220	290	121	110	121	75	118	141	306	247	282
Rainfall	Avg.	143	91	103	85	80	81	78	99	118	151	157	163
	Low	28	2	25	10	29	17	25	16	10	40	76	28
	High	326	213	312	163	168	148	140	180	242	293	279	315

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	32 070		28 330		113
Lowest yearly mean			18 860	1964	
Highest yearly mean			38 230	1974	
Lowest monthly mean	7 896	Jun	1 073	Sep 1959	
Highest monthly mean	79 390	Jan	106 000	Jan 1974	
Lowest daily mean	4.225	25 Jun	0 731	29 Aug 1976	
Highest daily mean	153 154	19 Mar	373 572	18 Oct 1987	
Peak	180 070	19 Mar	448 800	18 Oct 1987	
10% exceedance	66 540		63 530		105
50% exceedance	22 930		18 760		122
95% exceedance	6 269		3 167		198
Annual total (million cu m)	1014 00		894 00		113
Annual runoff (mm)	1135		1000		113
Annual rainfall (mm)	1421		1349		105
[1941-70 rainfall average (mm)			1364]		

Factors affecting flow regime

- Reservoir(s) in catchment
- Abstraction for public water supplies.

Station and catchment description

Velocity-area station. Straight reach (width: 35m), natural control. Flood flows spill over right bank. Public water supply impounding reservoirs in upland area where there is mostly hill farming. Tregaron bog (10 sq km) has partial effect on flows, sensibly natural regime. Geology - mainly Ordovician and Silurian deposits. Dairy farming predominates in southern area. Forest: 5%. Peaty soils on hills, seasonally wet. Apart from Tregaron bog, most of the lower areas have soils with permeable substrate.

065006 Seiont at Peblig Mill 1988

Measuring authority: NRA-WEL
First year: 1976

Grid reference: 23 (SH) 493 623
Level stn (m OD): 18.60

Catchment area (sq km): 74.4
Max alt. (m OD): 1066

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	17.944	14.494	1.423	6.303	1.206	1.893	0.492	3.510	13.709	2.194	2.394	8.068
2	26.277	9.494	1.713	9.414	1.581	2.406	0.462	2.663	26.513	1.809	2.104	6.776
3	14.610	7.382	4.029	7.339	2.958	2.915	0.409	2.125	12.650	1.560	1.798	6.591
4	9.066	7.621	3.781	6.772	4.553	2.264	0.530	1.953	5.946	2.762	2.019	4.987
5	7.594	6.716	3.307	4.315	3.456	1.434	0.577	1.723	3.895	5.622	3.135	3.409
6	12.037	5.051	4.443	3.199	2.276	1.109	0.546	2.216	3.004	5.663	1.870	2.713
7	8.265	5.030	4.398	2.610	1.736	0.864	0.642	2.782	2.383	4.996	1.467	2.332
8	11.072	4.791	3.848	2.394	1.419	0.980	0.719	1.584	3.070	7.781	2.238	3.096
9	21.929	5.975	4.791	2.176	1.226	1.027	0.965	1.335	5.726	7.584	4.675	4.680
10	11.920	4.799	4.727	1.886	1.093	0.821	6.534	1.207	4.321	5.616	8.565	3.530
11	7.263	4.310	4.168	1.678	1.675	0.736	3.051	2.016	3.066	3.935	5.482	2.818
12	7.142	4.822	3.721	1.502	2.754	0.654	2.687	6.871	2.220	3.476	3.230	2.424
13	8.199	16.547	7.889	1.323	1.748	0.577	5.982	5.703	3.441	2.819	2.410	2.202
14	5.795	15.574	16.863	1.225	1.184	0.564	3.426	14.936	2.709	2.335	1.994	2.089
15	6.313	10.297	26.286	1.916	0.860	1.343	2.240	7.107	2.058	1.958	1.710	1.909
16	5.895	7.460	14.587	5.281	0.763	1.311	2.117	3.745	1.703	1.682	1.516	2.536
17	7.888	5.193	7.648	4.240	0.700	0.846	2.314	2.662	1.501	1.542	2.005	2.222
18	11.448	5.793	8.053	5.722	0.642	0.682	1.893	3.287	1.348	1.845	2.353	1.983
19	11.067	5.582	14.030	5.692	0.602	0.578	1.702	3.987	1.209	2.469	2.065	2.089
20	9.358	3.739	9.470	3.962	0.581	0.511	1.597	6.977	1.103	3.492	2.309	2.379
21	6.916	2.949	7.714	4.026	0.567	0.474	1.441	9.436	1.065	5.855	1.960	3.926
22	7.056	2.504	10.047	3.710	0.567	0.440	1.691	5.177	1.318	5.090	1.839	11.676
23	12.850	3.182	8.943	2.954	0.646	0.402	5.065	3.507	4.550	3.355	3.373	21.226
24	18.255	3.278	6.774	2.113	1.420	0.378	4.649	4.271	4.798	3.354	2.885	19.988
25	9.584	2.304	7.517	1.734	1.904	0.379	7.921	4.782	4.745	3.605	3.301	10.273
26	6.251	1.934	5.256	1.527	1.449	0.438	4.520	6.310	6.530	17.145	4.470	23.669
27	6.297	1.809	4.266	1.367	1.156	0.404	3.161	10.165	5.894	16.133	2.423	18.820
28	5.481	1.587	6.290	1.233	1.158	0.376	12.382	5.113	5.672	8.147	6.440	9.374
29	4.519	1.462	4.885	1.114	1.599	0.370	9.824	3.587	3.666	4.895	6.099	7.757
30	3.871		5.009	1.053	1.529	0.426	6.582	6.945	2.765	3.552	10.628	8.763
31	7.113		4.163		2.022		5.554	7.734		2.839		6.074
Average	9.977	5.920	7.098	3.326	1.517	0.920	3.280	4.691	4.753	4.681	3.292	6.786
Lowest	3.871	1.462	1.423	1.053	0.567	0.370	0.409	1.207	1.065	1.542	1.467	1.909
Highest	26.277	16.547	26.286	9.414	4.553	2.915	12.382	14.936	26.513	17.145	10.628	23.669
Peak flow	30.317	20.816	30.965	11.510	5.180	3.513	18.208	17.600	31.978	23.225	12.715	33.465
Day of peak	2	13	15	2	4	2	28	14	2	26	30	26
Monthly total (million cu m)	26.72	14.83	19.01	8.62	4.06	2.38	8.78	12.56	12.32	12.54	8.53	18.18
Runoff (mm)	359	199	256	116	55	32	118	169	166	169	115	244
Rainfall (mm)	343	146	297	99	104	35	301	265	171	191	120	226

Statistics of monthly data for previous record (Aug 1976 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	5.517	4.828	5.610	3.187	2.522	2.252	2.232	3.401	4.304	6.714	7.123	7.726
	Low	3.148	1.852	1.753	0.812	0.487	1.061	0.586	0.411	1.666	2.970	1.880	3.161
	(year)	1985	1986	1984	1984	1980	1984	1984	1976	1986	1978	1983	1976
	High	10.210	11.570	10.860	5.866	5.785	4.386	5.317	8.256	6.687	10.640	11.120	12.060
	(year)	1983	1977	1981	1985	1979	1987	1978	1985	1983	1981	1986	1986
Runoff	Avg	199	158	202	111	91	78	80	122	150	242	248	278
	Low	113	60	63	28	18	37	21	15	58	107	65	114
	High	368	376	391	204	208	153	191	297	233	383	387	434
Rainfall	Avg	220	160	236	113	127	155	129	197	224	294	289	307
	Low	67	25	82	20	47	58	63	29	24	112	93	136
	High	381	388	457	207	275	225	228	373	382	423	454	455

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	4.697		4.621		102
Lowest yearly mean			3.873	1984	
Highest yearly mean			5.126	1986	
Lowest monthly mean	0.920	Jun	0.411	Aug 1976	
Highest monthly mean	9.977	Jan	12.060	Dec 1986	
Lowest daily mean	0.370	29 Jun	0.158	24 Aug 1976	
Highest daily mean	26.513	2 Sep	51.836	18 Oct 1987	
Peak	33.465	26 Dec	64.550	18 Oct 1987	
10% exceedance	9.767		10.570		92
50% exceedance	3.326		3.015		110
95% exceedance	0.569		0.589		97
Annual total (million cu m)	148.50		145.80		102
Annual runoff (mm)	1996		1960		102
Annual rainfall (mm)	2298		2451		94
(1941-70 rainfall average (mm)			2298)		

Factors affecting flow regime

- Regulation for HEP

Station and catchment description

A rated river section in a straight reach which has not yet been bypassed. Control provided by a roughly Crump shaped structure originally built as part of investigations prior to construction of the Dinorwic pumped storage scheme, which very marginally affects the record. A steep catchment with much bare rock surface. Contains two large ribbon lakes, Padarn and Peris, the latter acting as the lower reservoir of the Dinorwic scheme.

067015 Dee at Manley Hall 1988

Measuring authority: NRA WEL
First year 1937

Grid reference 33 (SJ) 348 415
Level stn (m OD) 25 40

Catchment area (sq km) 1019 3
Max alt (m OD) 884

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	99 926	127 917	14 597	37 036	12 964	21 183	10 703	40 125	51 203	41 460	34 304	38 045
2	208 077	121 491	13 323	72 802	17 004	18 548	10 485	30 518	68 869	34 105	30 532	32 757
3	194 987	100 210	16 377	60 590	16 989	16 256	10 424	21 028	78 133	29 572	27 527	36 683
4	166 487	103 728	16 198	53 172	28 620	15 128	12 670	17 280	78 218	26 703	24 919	41 955
5	120 900	98 032	14 838	45 053	24 191	13 202	12 871	15 678	55 348	26 867	22 886	36 649
6	119 435	83 996	17 829	36 706	21 155	12 503	11 283	13 187	37 254	36 322	20 504	36 272
7	91 297	73 120	18 977	29 410	17 585	11 926	18 023	11 360	26 843	48 281	19 463	32 588
8	76 160	64 678	18 936	24 750	15 387	15 196	18 683	10 298	24 918	41 218	21 461	30 072
9	79 850	72 232	19 533	22 757	13 315	14 211	17 378	10 319	27 301	43 507	27 536	28 842
10	75 767	69 952	24 909	19 332	12 051	12 389	21 614	10 576	26 749	42 132	24 639	26 669
11	72 301	63 256	21 964	17 564	11 442	11 783	20 909	11 452	24 944	36 881	24 901	23 456
12	66 639	54 165	22 312	16 232	11 863	11 631	19 538	13 816	22 726	39 047	22 098	21 778
13	69 750	112 609	27 438	14 972	11 579	11 028	24 126	14 083	27 161	33 057	19 044	21 346
14	62 872	110 886	50 703	13 218	10 844	11 020	25 857	26 749	23 403	29 615	18 521	20 641
15	55 050	93 750	100 219	12 979	10 466	11 089	20 995	31 357	21 251	26 987	19 984	19 401
16	48 751	80 617	88 407	12 992	10 798	11 110	17 291	23 015	20 060	25 083	20 374	20 154
17	44 471	61 623	80 763	13 441	10 227	11 442	18 553	15 153	18 827	23 561	22 814	18 837
18	54 799	50 910	77 743	16 789	10 145	11 038	15 275	19 474	17 896	36 212	26 232	16 893
19	50 181	43 398	89 457	18 384	11 642	10 855	12 148	25 018	17 108	37 569	23 270	26 104
20	46 741	37 137	84 123	17 535	10 862	10 687	10 771	40 218	19 374	30 912	24 156	26 061
21	44 802	32 096	81 667	16 922	10 466	10 716	11 143	43 795	19 154	29 802	22 394	24 483
22	41 865	28 532	75 923	14 806	10 284	13 375	11 479	33 471	19 535	29 788	20 735	24 982
23	68 385	26 349	69 754	13 356	10 732	13 303	10 724	26 841	29 116	30 776	20 101	42 439
24	104 206	24 445	65 023	12 660	12 671	13 195	10 425	21 817	34 915	29 625	18 882	83 176
25	87 543	22 788	68 625	11 895	14 482	13 159	11 333	18 204	36 233	35 649	17 684	67 575
26	77 842	21 355	67 432	10 527	17 071	15 662	12 358	17 415	80 265	78 475	16 107	66 166
27	59 744	20 065	55 942	10 312	15 015	13 424	11 641	41 483	73 199	91 269	14 791	68 072
28	52 831	18 229	53 253	10 399	12 946	11 424	18 912	40 738	79 394	82 726	15 952	57 605
29	48 956	16 878	46 757	10 229	19 034	11 193	27 087	37 310	70 489	60 207	27 886	46 003
30	53 092		42 426	10 509	23 598	11 127	36 813	39 801	52 661	47 369	50 603	38 555
31	55 978		39 605		23 463		48 728	43 373		39 719		32 126
Average	80 630	63 260	47 900	22 580	14 800	12 960	17 430	24 680	39 420	40 140	23 340	35 690
Lowest	41 865	16 878	13 323	10 229	10 145	10 687	10 424	10 298	17 108	23 561	14 791	16 893
Highest	208 077	127 917	100 219	72 802	28 620	21 183	48 728	43 795	80 265	91 269	50 603	83 176
Peak flow	229 091	170 082	127 174	88 692	34 892	22 298	58 005	48 392	101 058	119 269	61 043	105 957
Day of peak	2	1	15	2	4	1	31	21	26	26	30	24
Monthly total (million cu m)	216 00	158 50	128 30	58 52	39 65	33 59	46 68	66 09	102 20	107 50	60 51	95 59
Runoff (mm)	212	155	126	57	39	33	46	65	100	105	59	94
Rainfall (mm)	248	131	183	60	101	41	152	139	140	139	74	114

Statistics of monthly data for previous record (Oct 1937 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	51 740	44 330	32 620	24 440	17 630	13 880	13 010	17 300	23 510	33 790	47 490	52 330
	Low	13 460	7 858	8 128	7 841	4 273	3 742	3 113	3 288	3 052	4 216	11 580	18 610
	(year)	1964	1963	1943	1938	1938	1961	1949	1955	1949	1947	1937	1963
	High	109 300	106 700	103 700	61 030	41 940	31 240	40 270	59 400	69 470	92 470	103 000	105 200
	(year)	1948	1946	1947	1970	1969	1972	1957	1957	1950	1967	1960	1965
Runoff	Avg	136	106	86	62	46	35	34	45	60	89	121	138
	Low	35	19	21	20	11	10	8	9	8	11	29	49
	High	287	253	273	155	110	79	106	156	177	243	262	277
Rainfall	Avg	150	106	102	84	93	83	94	109	121	139	161	157
	Low	41	14	33	10	30	13	20	9	13	25	15	36
	High	338	241	251	182	197	168	244	211	306	317	300	314

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre 1988
Mean flow (m^3s^{-1})	35 200		30 950		114
Lowest yearly mean			20 460	1964	
Highest yearly mean			44 600	1954	
Lowest monthly mean	12 960	Jun	3 052	Sep 1949	
Highest monthly mean	80 630	Jan	109 300	Jan 1948	
Lowest daily mean	10 145	18 May	1 926	30 Jul 1949	
Highest daily mean	208 077	2 Jan	521 000	14 Dec 1964	
Peak	229 091	2 Jan	665 400	14 Dec 1964	
10% exceedance	76 640		70 590		109
50% exceedance	24 510		19 470		126
95% exceedance	10 700		4 997		214
Annual total (million cu m)	1113 00		976 70		114
Annual runoff (mm)	1092		958		114
Annual rainfall (mm)	1522		1399		109
(1941-70 rainfall average (mm)			1395)		

Factors affecting flow regime

- Reservoir(s) in catchment
- Abstraction for public water supplies
- Flow reduced by industrial and/or agricultural abstractions
- Augmentation from surface water and/or groundwater

Station and catchment description

Asymmetrical compound Crump weir, checked by current meter. Drowns at flows in excess of 200 cumecs. Low flows maintained by releases from major river regulating reservoirs (Celyn and Brenig). Data prior to February 1970 is of poorer quality - based on the d/s Erbistock (67002, area 1040 0 sq km) flow record. Geology is 75% shales, slates, mudstones and palaeozoic grits, 25% extrusive igneous and Carboniferous rocks. 80% grazed open moorland, 12% forestry, remainder arable, urban negligible.

068001 Weaver at Ashbrook 1988

Measuring authority: NRA-NW
First year: 1937

Grid reference: 33 (SJ) 670 633
Level stn. (m OD): 16.30

Catchment area (sq km): 622.0
Max alt. (m OD): 222

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	8.579	19.170	3.793	7.344	4.054	3.259	2.285	2.556	7.887	2.227	2.341	15.150
2	36.800	16.380	3.653	13.260	4.113	2.760	2.141	2.375	4.956	1.999	2.313	7.914
3	33.690	11.120	3.947	8.848	4.417	3.650	2.225	2.134	3.012	2.003	2.130	6.910
4	22.780	14.120	3.708	7.110	7.206	3.841	3.034	2.065	2.310	2.050	2.116	7.478
5	23.200	13.940	3.512	5.700	5.243	2.686	2.868	2.063	2.089	2.574	2.083	6.561
6	38.850	11.180	3.786	5.514	3.884	2.556	2.269	1.981	1.992	2.698	2.071	12.290
7	28.270	10.430	3.753	5.231	3.432	2.451	2.313	1.906	1.870	2.481	2.188	8.120
8	17.980	12.820	3.808	6.502	3.227	4.025	4.300	1.878	1.828	2.000	2.424	6.656
9	15.290	12.190	5.495	8.578	3.060	3.818	2.934	1.861	1.825	2.075	2.944	15.160
10	12.640	11.340	7.775	6.163	2.931	3.111	2.426	1.904	1.825	2.113	2.771	8.831
11	12.600	15.680	5.318	5.296	2.878	2.698	2.294	1.978	1.825	2.176	2.563	6.201
12	10.400	16.260	9.145	4.997	2.917	2.512	2.492	2.605	1.808	2.484	2.365	4.962
13	8.640	12.630	30.320	4.394	2.816	2.336	3.659	2.120	2.375	2.429	2.292	4.247
14	7.352	12.660	45.530	4.221	2.659	2.216	2.736	1.991	2.313	2.215	2.213	3.928
15	6.506	11.000	44.720	4.098	2.595	2.139	2.300	1.925	2.113	2.036	2.184	3.810
16	6.218	11.610	30.590	4.132	2.612	2.106	8.145	1.869	2.069	1.978	2.181	3.675
17	7.068	9.042	16.050	3.858	2.579	2.081	11.990	1.809	1.950	1.956	2.269	3.464
18	13.830	7.856	16.630	3.856	2.584	2.071	4.806	9.965	1.909	4.634	2.311	3.348
19	10.890	6.963	36.070	3.931	2.627	2.013	3.274	5.422	1.882	7.672	2.279	3.951
20	8.166	6.037	36.500	3.653	2.583	1.933	2.950	4.384	1.878	10.850	3.356	4.001
21	7.779	5.411	20.440	3.626	2.444	1.936	3.156	3.743	1.834	5.479	3.139	3.919
22	18.550	4.964	15.990	3.600	2.396	1.894	3.630	2.889	1.942	3.510	2.772	4.760
23	29.260	4.785	17.880	3.344	3.042	1.819	3.931	2.525	2.319	3.012	2.601	5.700
24	38.230	4.696	12.720	3.090	3.068	1.826	3.392	2.323	2.418	2.762	2.531	11.650
25	24.940	4.566	24.520	2.994	2.705	1.946	2.956	2.185	2.196	3.042	2.421	9.090
26	28.440	4.288	14.280	3.080	3.676	6.628	2.845	2.154	2.326	3.691	2.374	13.030
27	17.810	4.199	9.528	3.297	3.219	2.920	2.350	2.251	2.197	5.396	2.291	17.060
28	12.630	4.238	8.895	3.019	2.708	2.491	2.259	4.729	2.627	3.980	2.691	9.267
29	11.690	4.012	7.860	2.912	3.204	2.356	2.225	3.238	2.735	2.972	11.720	6.575
30	9.543		6.809	2.928	3.381	2.145	2.207	2.543	2.382	2.608	30.750	5.138
31	10.200		6.319		3.737		2.493	2.439		2.427		4.569
Average	17.380	9.779	14.820	4.953	3.290	2.674	3.319	2.768	2.255	3.211	3.689	7.336
Lowest	6.218	4.012	3.512	2.912	2.396	1.819	2.141	1.809	1.808	1.956	2.071	3.348
Highest	38.850	19.170	45.530	13.260	7.206	6.628	11.990	9.965	4.956	10.850	30.750	17.060
Peak flow	43.610	21.000	47.360	16.100	8.001	11.230	17.310	14.740	5.949	13.150	36.000	24.790
Day of peak	2	1	15	2	4	26	16	18	2	20	30	26
Monthly total (million cu m)	46.55	24.50	39.69	12.84	8.81	6.93	8.89	7.41	5.84	8.60	9.56	19.65
Runoff (mm)	75	39	64	21	14	11	14	12	9	14	15	32
Rainfall (mm)	102	37	106	40	55	43	101	74	43	52	42	46

Statistics of monthly data for previous record (Oct 1937 to Dec 1987—incomplete or missing months total 1.8 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows.	Avg	10.330	9.136	6.611	4.931	3.817	2.818	2.774	3.063	3.306	4.561	7.818	9.391
	Low	1.966	2.376	2.183	1.491	0.904	1.125	0.737	0.641	0.918	1.184	1.302	2.430
	(year)	1964	1965	1938	1938	1946	1967	1976	1976	1964	1947	1942	1947
	High	21.950	19.860	18.580	11.760	22.720	6.996	12.750	8.405	16.990	15.970	22.540	22.250
	(year)	1939	1980	1947	1986	1969	1954	1968	1971	1957	1954	1954	1965
Runoff	Avg	44	36	28	21	16	12	12	13	14	20	33	40
	Low	8	9	9	6	4	5	3	3	4	5	5	10
	High	95	80	80	49	98	29	55	36	71	69	94	96
Rainfall.	Avg	67	49	51	49	60	59	68	72	66	69	77	69
	Low	18	2	18	7	18	13	16	6	5	15	13	10
	High	145	145	127	98	194	142	168	175	169	137	170	140

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	6.302		5.698		111
Lowest yearly mean			2.752	1964	
Highest yearly mean			9.209	1954	
Lowest monthly mean	2.255	Sep	0.641	Aug 1976	
Highest monthly mean	17.380	Jan	22.720	May 1969	
Lowest daily mean	1.808	12 Sep	0.394	17 Aug 1976	
Highest daily mean	45.530	14 Mar	84.950	9 Feb 1946	
Peak	47.360	15 Mar	212.400	8 Feb 1946	
10% exceedance	14.010		12.490		112
50% exceedance	3.346		3.261		103
95% exceedance	1.917		1.133		169
Annual total (million cu m)	199.30		179.80		111
Annual runoff (mm)	320		289		111
Annual rainfall (mm)	741		756		98
(1941-70 rainfall average (mm)			765)		

Factors affecting flow regime

- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies.
- Augmentation from effluent returns.

Station and catchment description

Natural river section. Accuracy of early rating curves not known and gaugings lost. However, calibration came under suspicion in 1972 and previous records, particularly low flows, deemed to be of little value. Low flow rating then changed several times before station moved 400m downstream and shallow vee bed control constructed in August 1978. High flow rating (above 40 cumecs) has yet to be defined. Flat catchment includes western half of Crewe. Post glacial deposits over (mostly) Keuper Marl.

072004 Lune at Caton 1988

Measuring authority: NRA-NW
First year 1959

Grid reference: 34 (SD) 529 653
Level stn (m OD) 10.70

Catchment area (sq km) 983.0
Max alt (m OD) 736

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	312 300	253 700	8 458	44 880	8 428	10 650	2 837	31 060	85 490	26 080	16 800	35 100
2	339 800	160 800	9 390	42 190	14 650	8 378	12 780	23.970	78 810	20 870	14 630	23 880
3	166 500	97 090	35 230	32.620	18 230	7 394	6 029	18 950	74 780	17 740	12.850	73.860
4	127 200	74 730	13 730	25 880	28 620	7 110	5 418	15 870	77 580	16 690	12 110	107 200
5	71 060	73 840	10 640	20 200	22 420	6 383	9 947	13 650	48 420	28 180	11 290	49 950
6	149 700	51.790	21 090	17 270	12 560	5 797	10 460	11 970	29 970	156 900	10 540	30 050
7	62 060	50 770	16 610	15 220	10 030	5 257	43 490	10 310	23 010	137 500	10 080	23 050
8	49 810	56 880	12.810	14 170	8 957	4 773	25 920	9 179	18 910	147 900	15 300	27 860
9	99 600	150 900	33 180	13 620	8 890	4 466	17 080	9 481	16 200	89 530	50 240	43 950
10	67 400	121.100	30 250	12 200	8.091	4 306	77 490	8 366	15 970	65 730	68 190	28 610
11	59 090	57 860	19 940	11 260	7 453	3 926	19 920	11 260	27 350	36 290	38 860	22 230
12	44 630	38 910	30 960	10 310	7 640	3 659	18 640	69 220	21 920	32 450	26 160	18 850
13	50 970	125 000	33 550	9.450	7 381	3 508	80 350	72 940	16 400	32 420	25 840	16 520
14	29 820	87 490	33 580	8 810	6 598	3 402	29 490	81.430	12 860	23 620	18 820	14 920
15	25 220	59 490	152.700	8 594	5 909	3 300	19 570	37 610	11 280	19 190	15 980	13 670
16	22 870	52 680	67 510	12 130	5 491	3 236	36 360	20 220	10 220	16 820	14 100	15 020
17	30.750	32 890	31 960	25 060	5 176	3 220	42 130	15 090	9 405	14 940	36 690	14 020
18	56 310	29 310	38 260	30 860	5 126	3 208	20 520	73 470	8 701	24 430	51 190	62 420
19	61 240	25.990	93 030	37 310	5 024	3.133	21 180	139 000	8 103	35 890	22 000	81 920
20	39.760	21 660	50 620	19 270	4 916	2 765	20 240	108 100	7 652	48 610	19 520	28 140
21	40 420	18 690	37 460	17 600	4 667	2 674	62 530	49 920	7 459	27 000	16 330	28 260
22	28.490	16 520	56 360	14 750	4.416	2 624	62 860	28 040	7 747	19 570	13 840	142 200
23	53 890	15.030	73 700	12 600	4 833	2 531	65 310	21 060	46 860	16 540	13 200	290 100
24	209 800	13 120	92 500	10 850	9 212	2 446	62 920	21 080	88 960	20 460	14 590	79 770
25	59 560	12 000	40 040	9 846	12.620	2 520	45 670	41 850	128 500	25 630	17 130	52 470
26	37 240	11 140	40 300	9 448	10 890	4 375	32 990	41 260	93 060	146 800	14 230	301 300
27	28 030	10 730	31.880	8 894	14 670	3 265	23 320	145 400	77 170	94 300	12 250	106 200
28	23 350	10 580	62 890	8.366	8 146	2 745	178 300	43.670	154 900	51 420	55 490	74 840
29	24 140	9 311	42 370	7 716	6 602	2 584	99 860	113 400	66 110	29 800	44 270	43 650
30	52 680		38 240	7 414	11 560	2 532	119 100	100 600	36 310	23 040	86 340	31 950
31	93 130		31.170		17.280		54 190	78.050		19 120		25 980
Average	81 190	60 000	41 630	17 290	9 887	4 206	42 800	47 270	43 670	47 270	25 960	61 550
Lowest	22 870	9 311	8 458	7 414	4 416	2 446	2 837	8 366	7 459	14 940	10 080	13 670
Highest	339.800	253.700	152.700	44 880	28 620	10 650	178.300	145 400	154 900	156 900	86 340	301 300
Peak flow	490 800	403 200	213 900	80 640	61.260	13 190	388 100	295 200	312 300	302 300	160 800	589 100
Day of peak	2	1	15	1	4	1	28	27	25	8	10	23
Monthly total (million cu m)	217.50	150 30	111 50	44 82	26 48	10 90	114 60	126 60	113 20	126 60	67 29	164 80
Runoff (mm)	221	153	113	46	27	11	117	129	115	129	68	168
Rainfall (mm)	236	131	156	55	77	22	245	196	146	155	90	178

Statistics of monthly data for previous record (Jan 1959 to Dec 1987— incomplete or missing months total 4.0 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	52 450	35 180	35 120	28 580	19.220	16 190	18 620	25 570	34 020	44 760	52 360	56 550
	Low	6.622	3 842	11.820	4 203	2 565	3 385	1 882	2 167	2 790	4 314	24 640	18 730
	(year)	1963	1963	1975	1974	1974	1975	1984	1976	1959	1972	1985	1971
	High	86.420	76 630	113 800	67 970	40.700	49.190	41 480	71 330	67 010	134 400	97 220	108 900
	(year)	1983	1966	1981	1970	1986	1972	1960	1985	1985	1967	1963	1986
Runoff	Avg	143	87	96	75	52	43	51	70	90	122	138	154
	Low	18	9	32	11	7	9	5	6	7	12	65	51
	High	235	189	310	179	111	130	113	194	177	366	256	297
Rainfall	Avg	146	84	105	95	92	95	112	127	144	155	154	164
	Low	20	9	48	5	21	37	29	24	26	54	72	55
	High	263	217	246	193	178	169	192	270	262	402	277	333

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	40 310		34 910		115
Lowest yearly mean			24 700	1976	
Highest yearly mean			46 500	1967	
Lowest monthly mean	4 206	Jun	1 882	Jul 1984	
Highest monthly mean	81 190	Jan	134 400	Oct 1967	
Lowest daily mean	2 446	24 Jun	1 166	25 Aug 1984	
Highest daily mean	339 800	2 Jan	718 300	23 Mar 1968	
Peak	589 100	23 Dec	854 000	2 Jan 1982	
10% exceedance	93 500		84 350		111
50% exceedance	23 370		17 310		135
95% exceedance	3 669		3 137		117
Annual total (million cu m)	1275 00		1102 00		116
Annual runoff (mm)	1297		1121		116
Annual rainfall (mm)	1687		1473		115
[1941-70 rainfall average (mm)			1525]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Abstraction for public water supplies
- Augmentation from surface water and/or groundwater

Station and catchment description

Bazin type compound broad-crested weir operated after 10/6/77 as full range station. Previously used for low/medium flows, high flows from Halton 3km d/s. High flows inundate wide floodplain. Transfers to river Wyre under Lancs. Conjunctive Use Scheme. Major abstractions for PWS. Headwaters rise from Shap Fell and the Pennines. Mixed geology: Carboniferous Limestone, Silurian shales, Millstone Grit and Coal Measures, substantial Drift cover. Agriculture in valleys; grassland rising to peat moss in highest areas.

073010 Leven at Newby Bridge 1988

Measuring authority: NRA-NW
First year: 1939
Grid reference: 34 (SD) 367 863
Level stn. (m OD): 37.30
Catchment area (sq km): 247.0
Max alt. (m OD): 873

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	56.630	31.800	4.075	17.630	7.228	4.979	0.941	27.760	40.630	26.830	14.780	16.170
2	69.600	44.470	3.458	17.830	8.333	4.269	0.900	23.440	41.460	20.930	12.620	14.360
3	70.540	45.050	5.615	16.590	8.688	4.416	1.194	20.700	38.100	18.300	10.650	14.290
4	63.750	40.840	5.868	15.040	9.557	4.345	1.074	16.970	34.310	16.370	8.980	19.970
5	53.800	35.260	5.293	13.260	9.707	3.840	0.856	13.790	31.550	16.600	7.659	20.350
6	51.240	30.600	5.907	11.200	9.295	3.417	0.888	11.450	28.210	24.190	6.681	18.510
7	46.710	26.810	6.414	10.270	8.438	3.412	1.005	9.497	24.130	35.530	5.887	16.250
8	41.010	25.280	6.156	9.542	7.367	3.291	1.344	7.556	20.530	40.890	5.596	15.200
9	50.750	26.560	6.891	8.319	6.666	2.354	1.863	6.770	17.360	43.050	7.785	15.450
10	53.210	35.470	7.769	7.394	5.771	1.875	8.302	5.884	14.970	38.160	13.030	14.920
11	46.610	36.000	7.738	6.860	5.251	1.844	10.830	5.380	13.970	32.460	17.230	13.650
12	39.330	31.660	9.949	6.358	4.990	1.579	11.330	8.218	13.610	27.360	16.910	12.370
13	34.810	33.780	11.260	5.435	4.341	1.319	18.890	10.920	12.940	23.530	15.710	10.950
14	78.450	39.900	11.810	4.734	4.233	1.079	20.220	22.720	10.990	17.510	14.170	9.697
15	23.750	38.060	19.200	4.775	3.556	0.968	18.040	26.370	9.395	14.100	12.520	8.584
16	20.120	34.230	26.530	6.817	2.955	1.067	17.350	23.470	8.159	12.040	11.020	8.042
17	18.660	28.170	24.690	10.860	2.832	0.942	18.740	19.850	7.016	10.250	10.960	7.378
18	18.780	23.870	22.250	18.300	2.378	0.846	17.380	20.140	6.041	10.520	13.260	8.887
19	21.480	21.150	26.700	27.200	2.072	0.869	15.520	21.520	5.177	17.480	12.960	16.400
20	22.520	18.330	27.480	25.680	1.899	0.667	13.990	23.060	4.591	20.340	12.270	17.080
21	21.910	15.580	24.880	24.220	1.847	0.707	12.460	23.040	4.163	19.790	10.330	16.260
22	19.880	13.170	22.720	21.640	1.809	0.641	11.650	20.420	4.598	18.030	9.098	19.870
23	19.280	11.600	24.380	18.470	1.946	1.179	11.660	17.660	12.220	16.070	8.120	44.700
24	26.390	9.803	25.650	15.680	2.775	1.068	11.410	15.340	21.130	15.360	7.372	45.030
25	29.690	7.899	24.220	13.240	4.807	1.247	14.340	15.930	24.840	15.390	6.769	39.770
26	27.080	6.821	22.300	11.750	5.737	1.608	16.400	17.800	31.390	25.940	6.094	42.960
27	23.720	5.961	20.450	10.150	5.663	1.384	15.570	25.490	30.340	29.180	5.565	47.030
28	20.360	5.791	20.500	8.493	5.087	1.137	21.970	28.090	35.120	27.580	10.470	42.120
29	17.930	4.586	20.840	7.190	4.914	0.988	36.550	26.840	36.240	24.040	13.200	37.150
30	17.630		20.340	6.461	4.950	0.961	40.560	29.230	31.790	20.570	16.450	29.530
31	21.260		18.510		5.109		39.130	36.710		17.410		24.800
Average	34.740	25.120	15.800	12.710	5.168	1.943	13.300	18.770	20.500	22.450	10.800	21.540
Lowest	17.630	4.586	3.458	4.734	1.809	0.641	0.856	5.380	4.163	10.250	5.565	7.378
Highest	70.540	45.050	27.480	27.200	9.707	4.979	40.560	36.710	41.460	43.050	17.230	47.030
Peak flow	73.550	46.770	28.390	27.830	9.944	11.240	42.120	37.670	43.220	44.590	17.770	48.280
Day of peak	2	3	20	19	4	1	30	31	1	9	11	23
Monthly total (million cu m)	93.04	62.94	42.32	32.95	13.84	5.04	35.63	50.29	53.13	60.12	28.01	57.69
Runoff (mm)	377	255	171	133	56	20	144	204	215	243	113	234
Rainfall (mm)	392	200	226	130	98	32	309	291	238	254	138	252

Statistics of monthly data for previous record (Jan 1939 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg	19.630	16.210	13.240	11.170	7.707	6.548	7.377	10.510	14.480	17.420	20.490	21.300
	Low	1.935	0.974	3.699	1.796	0.641	0.545	0.774	0.652	0.560	1.438	6.873	8.207
	(year)	1963	1963	1962	1974	1980	1978	1941	1984	1959	1972	1983	1963
	High	38.020	31.030	29.970	21.640	18.680	18.730	16.990	31.070	33.930	50.170	36.450	40.110
	(year)	1975	1945	1981	1949	1986	1972	1953	1985	1946	1967	1986	1954
Runoff	Avg.	213	160	144	117	84	69	80	114	152	189	215	231
	Low	21	10	40	19	7	6	8	7	6	16	72	89
	High	412	304	325	227	203	197	184	337	356	544	383	435
Rainfall	Avg.	226	146	159	118	119	127	147	182	219	223	237	239
	Low	26	7	32	12	22	17	40	7	29	30	17	90
	High	439	295	341	243	241	269	287	428	427	557	428	450

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	16.920		13.830		122
Lowest yearly mean			9.234	1973	
Highest yearly mean			21.840	1954	
Lowest monthly mean	1.943	Jun	0.545	Jun 1978	
Highest monthly mean	34.740	Jan	50.170	Oct 1967	
Lowest daily mean	0.641	22 Jun	0.108	7 Oct 1972	
Highest daily mean	70.540	3 Jan	115.900	2 Dec 1954	
Peak	73.550	2 Jan	135.800	2 Dec 1954	
10% exceedance	35.720		30.620		117
50% exceedance	14.910		10.110		147
95% exceedance	1.134		1.228		92
Annual total (million cu m)	535.10		436.40		123
Annual runoff (mm)	2166		1767		123
Annual rainfall (mm)	2560		2142		120
[1941-70 rainfall average (mm)			2215]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Abstraction for public water supplies.
- Augmentation from effluent returns

Station and catchment description

Level record since 1939 from four different sites at Newby Bridge. All flow records from 1939 to 1974 combined into a single sequence. Since 5/5/71 compound Crump weir - increased sensitivity at low flows. Full range. Just d/s of Lake Windermere - highly regulated, compensation flow. Major abstractions for PWS, sewage effluent from Ambleside. Predominantly impervious, Borrowdale Volcanics in north and Silurian slates in south. Boulder Clay along river valleys. Mainly grassland, very wooded in lower reaches

076007 Eden at Sheepmount 1988

Measuring authority NRA-NW
First year. 1967

Grid reference 35 (NY) 390 571
Level stn (m OD) 7 00

Catchment area (sq km) 2286 5
Max alt (m OD) 950

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	194 000	382 300	25 780	44 360	23 760	20 000	11 120	72 310	106 200	46 640	38 470	83 260
2	358 800	265 800	25.730	44 420	26 820	17 270	11 930	56 370	106 300	39 960	34 410	50 100
3	294 000	172 000	35 900	42 350	36 110	26 600	11.670	45 890	90.020	35 530	30 930	60 240
4	157 400	123 200	28 660	37 620	36 410	22 860	12 490	38 790	81 120	32 480	28 480	169 100
5	110 700	102 300	25 060	33 730	41 180	17 730	16.250	33 590	75 560	35 430	26 700	76 060
6	328.600	91 000	30 770	30 930	27.210	15 750	16.410	29.410	58 600	90 970	25 030	55 940
7	138.700	85 960	30 990	28 970	22 740	14 560	17 910	26 130	49 580	119 400	23 800	46 250
8	102 800	107 800	27 300	29 180	29 270	13 690	27 090	23 780	42 720	96 650	22 870	45 240
9	203 500	234 200	48 760	29 810	27 660	13 130	25 200	23 000	37.250	104 300	32 410	56 360
10	149 400	209 900	57 440	27 450	21 680	12 950	35 710	21 220	34 090	70 050	41 880	50 900
11	121 700	105 400	46 200	25 300	19 700	12 680	26 860	27 480	43 120	55 800	54 350	40 460
12	107 500	80 360	91 610	23 600	19 250	12.370	31 110	26.280	39 580	59 670	39 900	35 030
13	124 000	140 400	57 850	22 520	18 570	12 020	66 190	26 380	32 720	66 630	37 300	32 700
14	85 550	150 200	53 830	21 480	17 500	11.690	59 610	41.970	27 310	50 210	32 410	30 450
15	73 790	121 100	126 300	20 980	16 520	11 370	40 730	43 740	24 360	40 890	28 990	28 660
16	63 900	123 300	116 300	21 500	15 860	11 110	41 920	31 030	22 540	36 030	26 840	28 360
17	61 630	85 860	67 620	25 300	15.520	11.160	62.300	26.700	21 220	32.700	26 870	27 580
18	73 540	75 450	56 180	84 010	15 290	11 160	44 010	44 120	20 180	31 460	38 220	34 390
19	131 700	67 550	74 860	81 130	14 990	11 010	33 490	65 390	19.180	41 480	33 080	67 570
20	85 110	59 070	67 590	48 650	14 790	10 930	28 010	93 130	18 460	62 970	31 760	46 220
21	72 440	52 390	55 490	56 390	14 350	11 040	40 370	56 190	18 170	57.820	29 170	46 470
22	60 450	47 310	50 000	42 130	13 910	10 800	117.100	38 510	18.560	43 250	26 030	81 710
23	68 590	42 890	67 580	36 120	13.970	10 530	105 700	32 120	50 120	37 990	25 070	282 700
24	216 000	38 440	76 480	31.520	16 780	10 300	53.780	30 760	91 760	49 820	27 550	98 630
25	108 900	35 450	62.520	28 500	19 880	10 700	59 450	38.760	57 930	49 030	35 220	79 910
26	77 650	32 440	52 880	27 900	19 000	12 680	66 500	39 860	109 000	122 200	31 090	165 200
27	63 740	31 130	51 050	26 190	24 080	11 760	57 060	82 880	56 190	126 900	26 570	164 800
28	55 380	30 330	56 640	25 410	18 830	11 080	217.800	48 240	130 200	84 150	42 090	98 760
29	54 700	27 800	61 260	22 940	17 010	10 770	249 200	68 520	83.560	59 990	49 690	76 870
30	64 480		53 810	21 530	17 810	10 640	139 200	87 580	57 230	49 800	126 400	60 760
31	113 500		51 420		21 070		110 300	109 000		43 080		51 410
Average	126 500	107 600	55 930	34 730	21 210	13 340	59 240	46 100	54 090	60 430	35 790	73 290
Lowest	54 700	27 800	25 060	20 980	13.910	10 300	11.120	21 220	18.170	31 460	22 870	27 580
Highest	358 800	382 300	126 300	84 010	41 180	26 600	249 200	109 000	130 200	126 900	126 400	282 700
Peak flow	442 500	505 800	212 800	147 400	53.210	49.120	492 800	156.700	173 300	159 000	147 800	410 800
Day of peak	6	1	15	18	5	3	28	31	26	27	30	23
Monthly total (million cu m)	338 90	269 70	149.80	90 02	56 81	34 59	158 70	123 50	140 20	161 90	92 76	196 30
Runoff (mm)	148	118	66	39	25	15	69	54	61	71	41	86
Rainfall (mm)	189	112	106	56	61	27	221	122	107	110	60	115

Statistics of monthly data for previous record (Oct 1967 to Dec 1987—incomplete or missing months total 3 0 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg.	84 450	57 580	55 740	41 200	29 280	23 820	22 000	26 170	39 790	65.780	76 730	77 280
	Low	39 880	26 440	24 360	13 070	11 050	10 420	8 377	7 023	9 216	7 961	30 430	32 490
	(year)	1985	1986	1975	1974	1974	1973	1984	1976	1972	1972	1973	1971
	High	151 200	100 000	119 700	63 960	68 940	50 380	46 280	92 380	105 400	225 000	126 400	143 100
	(year)	1975	1974	1968	1970	1983	1972	1987	1985	1985	1967	1984	1986
Runoff	Avg	99	61	65	47	34	27	26	31	45	77	87	91
	Low	47	28	29	15	13	12	10	8	10	9	34	38
	High	177	106	140	73	81	57	54	108	120	264	143	168
Rainfall	Avg	127	66	98	65	73	76	84	91	117	131	130	127
	Low	50	13	43	8	25	37	38	19	25	31	54	43
	High	232	129	179	111	133	126	142	211	231	307	208	371

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	57 330		49 980		115
Lowest yearly mean			28.190	1973	
Highest yearly mean			60 790	1982	
Lowest monthly mean	13 340	Jun	7 023	Aug 1976	
Highest monthly mean	126.500	Jan	225 000	Oct 1967	
Lowest daily mean	10 300	24 Jun	5 468	7 Sep 1976	
Highest daily mean	382.300	1 Feb	772 900	23 Mar 1968	
Peak	505.800	1 Feb	1357 000	24 Mar 1968	
10% exceedance	115 400		106 300		109
50% exceedance	40 820		31 350		130
95% exceedance	11 890		9 828		121
Annual total (million cu m)	1813 00		1577 00		115
Annual runoff (mm)	793		690		115
Annual rainfall (mm)	1286		1185		109
[1941-70 rainfall average (mm)			1225]		

Factors affecting flow regime

- Reservoir(s) in catchment
- Abstraction for public water supplies.

Station and catchment description

Velocity-area station Permanent cableway. Full range. Most floods contained in immediate channel. Pre-1970 (when floodbanks constructed) bypassed via Caldew floodplain. Highly influenced by Ullswater, Haweswater and Wet Sleddale especially at low flows Rural except for Carlisle, Penrith and Appleby. Headwaters in Carboniferous Limestone of Pennines to E, impervious Lower Palaeozoics of Lake District massif to W, moorland Extensive Boulder Clay covered Permo-Triassic sandstones in Vale of Eden Arable and grazing

079006 Nith at Drumlanrig 1988

Measuring authority: SRPB
First year: 1967

Grid reference: 25 (NX) 858 994
Level stn. (m OD): 52.20

Catchment area (sq km): 471.0
Max alt. (m OD): 725

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	62.486	205.945	4.488	31.145	5.426	2.518	1.799	8.908	50.213	8.594	7.826	11.356
2	75.947	80.893	5.656	17.340	5.206	2.522	1.649	6.910	50.007	11.424	6.879	8.576
3	69.032	45.820	9.001	11.521	5.840	10.911	1.332	6.285	26.327	12.329	6.157	50.204
4	39.443	30.515	5.587	9.265	6.766	6.839	1.254	5.686	49.296	14.816	5.819	67.443
5	32.635	22.494	5.341	7.869	5.315	3.711	2.281	5.014	41.879	14.115	5.538	31.840
6	23.579	16.920	10.979	6.978	4.330	2.967	2.619	4.441	57.281	65.129	5.260	19.630
7	16.321	16.850	7.926	6.362	3.984	2.520	5.033	3.935	31.414	54.620	4.986	15.076
8	19.984	31.868	7.018	6.700	4.031	2.065	4.811	3.917	31.626	36.949	22.621	17.081
9	60.703	101.727	8.251	6.135	3.697	1.868	13.133	4.223	18.391	28.196	27.942	47.293
10	22.026	62.427	8.909	5.885	3.343	1.717	18.964	3.636	14.270	18.984	43.531	21.088
11	39.331	32.711	29.075	6.588	3.118	1.605	6.226	4.825	12.360	12.872	17.022	14.461
12	151.068	21.846	32.174	6.100	2.920	1.488	8.789	25.545	17.165	13.094	13.204	11.334
13	79.575	97.114	13.800	5.450	2.711	1.415	20.734	21.587	10.709	11.922	11.886	9.775
14	62.624	56.765	11.449	4.702	2.596	1.347	11.061	65.993	8.043	9.764	9.858	9.249
15	34.161	64.111	99.167	5.338	2.385	1.306	6.663	21.398	6.846	7.972	8.505	8.804
16	22.562	33.070	48.342	9.009	2.161	1.310	12.878	11.359	6.083	7.051	7.791	10.154
17	18.753	24.026	20.060	8.554	2.146	1.308	15.218	22.048	5.411	6.402	14.317	8.935
18	15.491	31.383	33.521	46.805	2.101	1.272	8.841	77.377	4.943	20.808	11.248	86.827
19	80.699	20.649	44.905	23.888	2.040	1.217	6.760	41.081	4.655	45.365	8.507	68.726
20	33.397	15.105	20.129	15.238	1.943	1.217	5.253	43.425	4.233	22.436	7.735	28.102
21	21.421	12.124	17.638	15.589	1.886	1.249	27.882	19.938	4.092	13.437	6.449	23.184
22	16.416	10.978	19.875	10.262	1.798	1.236	55.483	12.854	6.916	17.379	6.684	25.925
23	14.288	9.152	20.462	8.155	2.190	1.163	26.998	10.402	38.218	10.471	9.175	41.182
24	60.557	7.480	27.075	6.893	6.006	1.093	35.967	9.477	29.802	14.196	12.266	22.702
25	29.341	6.735	17.105	6.133	5.213	1.073	47.872	31.171	35.259	77.062	9.577	23.329
26	27.111	6.552	31.009	6.132	4.737	1.200	31.011	9.970	25.008	71.974	7.572	52.207
27	16.087	6.734	16.842	5.328	4.950	1.113	20.076	10.651	14.304	28.236	9.126	25.933
28	12.718	6.052	29.485	4.872	3.211	1.071	25.286	5.338	14.925	18.703	22.858	17.623
29	17.050	4.896	21.947	4.391	3.000	1.050	28.724	6.132	13.164	12.002	17.905	13.164
30	54.686		20.616	4.066	3.028	1.025	21.772	32.405	9.521	10.160	22.449	10.918
31	62.567		13.791		2.547		12.807	21.189		8.850		9.380
Average	41.680	37.340	21.340	10.420	3.569	2.080	15.780	17.970	21.410	22.590	12.360	26.180
Lowest	12.718	4.896	4.488	4.066	1.798	1.025	1.254	3.636	4.092	6.402	4.986	8.576
Highest	151.068	205.945	99.167	46.805	6.766	10.911	55.483	77.377	57.281	77.062	43.531	86.827
Peak flow	184.678	401.478	164.011	119.968	10.668	29.581	113.300	153.224	135.262	252.790	62.528	144.740
Day of peak	12	1	15	19	25	4	22	18	5	26	10	19
Monthly total (million cu m)	111.60	93.57	57.16	27.01	9.56	5.39	42.26	48.13	55.50	60.51	32.03	70.11
Runoff (mm)	237	199	121	57	20	11	90	102	118	128	68	149
Rainfall (mm)	278	168	188	78	64	30	211	194	161	161	92	175

Statistics of monthly data for previous record (Jun 1967 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg.	27.850	18.840	18.220	9.238	8.239	5.486	5.275	7.877	14.160	23.420	27.020	25.540
	Low	9.037	4.288	4.427	2.457	1.390	1.489	0.868	0.841	1.260	2.744	5.268	12.770
	(year)	1985	1986	1969	1974	1980	1984	1984	1984	1972	1972	1983	1971
	High	61.220	38.900	33.190	24.190	27.570	14.660	13.620	38.280	39.000	39.200	49.350	55.190
	(year)	1974	1984	1978	1972	1986	1972	1985	1985	1985	1967	1982	1986
Runoff	Avg.	158	98	104	51	47	30	30	45	78	133	149	145
	Low	51	22	25	14	8	8	5	5	7	16	29	73
	High	348	207	189	133	157	81	77	218	215	223	272	314
Rainfall	Avg	176	102	129	71	99	87	93	104	153	182	179	166
	Low	67	10	34	11	19	52	41	23	20	66	35	69
	High	398	170	217	175	230	163	165	302	247	301	285	345

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre 1988
Mean flow (m^3s^{-1})	19.380		15.930		122
Lowest yearly mean			10.720	1971	
Highest yearly mean			21.700	1982	
Lowest monthly mean	2.080	Jun	0.841	Aug 1984	
Highest monthly mean	41.680	Jan	61.220	Jan 1974	
Lowest daily mean	1.025	30 Jun	0.606	26 Aug 1984	
Highest daily mean	205.945	1 Feb	231.700	19 Dec 1982	
Peak	401.478	1 Feb	538.355	18 Oct 1982	
10% exceedance	47.790		41.220		116
50% exceedance	11.410		7.956		143
95% exceedance	1.360		1.337		102
Annual total (million cu m)	612.80		502.70		122
Annual runoff (mm)	1301		1067		122
Annual rainfall (mm)	1800		1541		117
[1941-70 rainfall average (mm)			1579]		

Factors affecting flow regime

- Reservoir(s) in catchment
- Abstraction for public water supplies

Station and catchment description

Velocity-area station on long straight reach at particularly well confined site. Cableway. Gravel and rock bed. Natural channel control. Sensibly natural flow regime. Afton Reservoir has small influence.

084005 Clyde at Blairston 1988

Measuring authority CRPB
First year 1958

Grid reference 26 (NS) 704 579
Level stn (m OD) 17.60

Catchment area (sq km) 1704.2
Max alt (m OD) 732

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	201.880	252.446	17.345	65.592	25.853	12.477	7.027	26.851	65.665	26.452	23.791	49.754
2	266.746	254.395	18.324	68.313	25.128	11.926	7.904	25.535	112.460	37.517	21.869	33.546
3	192.235	153.526	26.712	41.106	27.061	12.665	6.933	21.005	70.081	50.786	20.112	50.023
4	130.768	95.162	19.459	33.433	42.921	14.166	6.462	20.536	69.236	42.804	19.668	170.137
5	97.806	74.683	16.754	29.180	28.720	12.740	8.024	18.174	164.905	43.871	19.243	80.375
6	90.883	61.855	17.485	26.204	20.515	11.119	8.762	17.911	125.529	168.041	18.339	49.301
7	70.398	62.616	17.565	23.865	17.248	10.401	7.984	16.246	101.261	114.623	17.514	39.574
8	58.958	86.763	16.301	25.126	17.011	9.764	11.617	14.622	81.551	78.397	19.847	42.559
9	110.813	209.885	15.867	23.865	18.910	9.165	9.985	16.158	53.620	60.617	35.178	59.018
10	88.291	184.365	17.398	22.983	16.441	8.650	16.196	14.392	41.284	42.689	86.491	51.293
11	77.886	88.953	20.449	30.284	15.369	8.631	15.409	14.510	38.675	34.704	54.876	37.364
12	148.162	66.475	41.373	24.588	15.011	8.492	11.328	36.698	49.132	41.205	35.444	30.784
13	142.495	99.893	29.716	21.029	14.135	8.334	12.148	33.201	32.215	39.602	30.363	27.353
14	97.497	106.427	25.602	18.978	13.206	7.943	14.173	103.318	25.811	35.549	25.785	25.264
15	91.938	136.507	112.249	19.036	12.355	7.918	14.936	60.960	22.569	31.496	23.263	23.772
16	68.452	103.809	127.290	27.565	11.867	7.827	13.048	31.655	20.369	27.443	22.068	23.880
17	59.056	68.110	54.131	27.681	12.546	7.750	23.286	30.617	18.622	23.394	21.645	22.809
18	54.122	63.073	45.840	104.466	12.473	7.624	17.696	179.186	17.398	31.687	24.239	68.159
19	125.500	55.101	115.531	109.885	12.590	7.450	14.313	144.882	16.523	59.334	23.303	109.130
20	84.513	48.527	57.770	43.383	12.354	7.471	13.126	139.363	16.228	71.769	22.577	51.748
21	63.314	42.638	55.163	46.611	12.040	7.528	15.593	65.496	15.965	47.966	19.375	48.868
22	52.999	38.156	43.321	34.813	11.755	7.461	75.831	41.137	22.267	33.485	17.976	64.260
23	49.239	33.181	44.105	28.277	13.274	7.077	76.680	32.714	96.776	30.547	20.941	108.862
24	161.908	28.790	89.237	23.911	16.357	6.728	65.948	29.177	78.337	37.348	32.185	66.740
25	112.641	25.469	102.512	22.043	19.674	7.251	77.824	43.274	71.233	78.657	28.866	66.571
26	101.536	23.988	130.176	21.282	17.393	7.446	69.833	32.917	89.543	146.610	22.493	156.178
27	62.150	23.441	60.133	19.998	18.489	6.887	53.965	32.128	56.257	66.767	20.606	115.014
28	48.372	24.646	82.188	18.164	15.674	7.354	43.672	26.665	46.621	43.750	50.595	67.969
29	46.861	70.851	64.929	16.991	15.081	6.653	58.586	28.210	34.689	34.576	71.993	51.680
30	46.484		62.853	16.367	15.414	6.564	42.928	45.338	27.211	29.789	108.634	41.746
31	74.872		45.494		13.707		33.515	61.618		26.630		35.783
Average	99.320	87.370	51.400	34.500	17.440	8.782	27.570	43.690	56.070	52.840	31.970	60.290
Lowest	46.484	20.851	15.867	16.367	11.755	6.564	6.462	14.392	15.965	23.394	17.514	22.809
Highest	266.746	254.395	130.176	109.885	42.921	14.166	77.824	144.882	164.905	168.041	108.634	170.137
Peak flow	303.211	337.411	193.900	184.361	51.532	16.021	98.379	186.921	206.041	216.524	162.030	203.105
Day of peak	3	2	16	19	4	5	23	20	6	7	30	5
Monthly total (million cu m)	266.00	218.90	137.70	89.43	46.71	22.76	73.85	117.00	145.30	141.50	82.87	161.50
Runoff (mm)	156	128	81	52	27	13	43	69	85	83	49	95
Rainfall (mm)	160	111	124	65	58	17	160	137	120	101	65	103

Statistics of monthly data for previous record (Oct 1958 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	63.730	48.270	44.810	29.570	23.610	17.440	15.640	24.670	36.840	51.490	65.270	65.460
	Low	11.920	8.854	14.810	10.430	7.994	7.491	5.041	4.536	7.630	8.243	15.870	26.080
	(year)	1963	1963	1969	1974	1980	1984	1984	1984	1972	1972	1983	1963
	High	134.300	97.290	88.940	58.700	56.230	41.190	47.620	82.370	128.400	114.600	129.600	133.400
	(year)	1975	1984	1979	1972	1986	1972	1985	1985	1985	1967	1982	1986
Runoff	Avg	100	69	70	45	37	27	25	39	56	81	99	103
	Low	19	13	23	16	13	11	8	7	12	13	24	41
	High	211	143	140	89	88	63	75	129	195	180	197	210
Rainfall	Avg	111	69	90	64	74	74	80	98	117	123	127	118
	Low	25	16	28	9	18	43	32	24	16	33	24	38
	High	237	127	163	125	150	157	166	206	230	231	221	237

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre 1988
Mean flow (m^3s^{-1})	47.550		40.550		117
Lowest yearly mean			27.090	1973	
Highest yearly mean			53.020	1986	
Lowest monthly mean	8.782	Jun	4.536	Aug 1984	
Highest monthly mean	99.320	Jan	134.300	Jan 1975	
Lowest daily mean	6.462	4 Jul	3.366	23 Aug 1984	
Highest daily mean	266.746	2 Jan	581.659	21 Sep 1985	
Peak	337.411	2 Feb	666.389	22 Sep 1985	
10% exceedance	105.700		95.590		111
50% exceedance	31.960		23.450		136
95% exceedance	7.915		7.914		100
Annual total (million cu m)	1504.00		1280.00		117
Annual runoff (mm)	882		751		117
Annual rainfall (mm)	1221		1145		107
(1941-70 rainfall average (mm)			1152)		

Factors affecting flow regime

Station and catchment description

Recorder moved to present position in Nov 1974 from opposite bank. Section is natural with steep grass and tree covered banks. Velocity profile slightly uneven due to upstream bend. Control - piers of redundant rail bridge, 300m d/s. Section rated by current meter to 3.4m, just below max. recorded stage. Some naturalised flows available. Very mixed geology with the older formations (Ordivician/Silurian) to the south. Hill pasture and moorland predominates but some mixed farming and urban development is found in the lower valley.

085003 Falloch at Glen Falloch 1988

Measuring authority: CRPB
First year: 1970

Grid reference: 27 (NN) 321 197
Level stn. (m OD): 9.50

Catchment area (sq km): 80 3
Max alt. (m OD): 1130

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	24.649	14 577	0.725	5 216	1 097	2 362	0 466	1 423	30 669	8.292	0 901	1.507
2	10.124	29 275	6.725	2.210	1 112	2 323	3 728	1.253	20 504	10 704	0 774	1.115
3	10 467	15 090	1.813	1 497	1.769	3 440	1 281	1.819	14.740	14 114	0 697	21 563
4	2.745	2 891	1.123	1 392	2 098	1 364	0.738	1 290	18.162	12.241	1 158	15.767
5	2.129	3 113	3 256	1.574	1 261	0 810	1.336	3.325	4 885	5 208	1 053	3 632
6	1 522	1 692	4 202	2.381	1.167	4 457	2.604	3.786	19 075	32.569	0 852	2 107
7	1 278	2.018	1 646	2 017	1 262	2.386	3.176	1 458	5 583	26 988	0 763	12 665
8	15 252	4.181	6 079	1 627	1 050	0 947	4.392	3.511	5 924	19 797	4 624	13 442
9	16.585	18 315	2.854	1.532	0 939	0 623	16 057	1.926	3 622	4 698	7.948	19 822
10	4 359	4 667	4.789	3.195	0 790	0 486	15 582	4 966	4.225	1.972	9.678	5 245
11	25.214	1.931	10 680	3 329	0.720	0 417	11 795	8 217	12 782	1.433	5 073	4 281
12	68 158	2.181	2.514	1 506	0 972	0 371	8 602	7 284	4.855	2 867	14 257	2 061
13	6 051	17.500	1 491	1 061	0 874	0 330	9 991	7 953	1.783	2 323	6.092	1.569
14	5 869	11.371	1 273	6 548	0 809	0 308	3 527	15 381	1.250	1.852	2.722	1 277
15	8 370	19 304	9 011	9 460	0 593	0 288	1 420	3 420	1 000	1.290	1.504	2 043
16	4 989	4 624	2.899	12 326	0 461	0 290	2 225	1 682	0.824	1.123	1 242	1 960
17	4 142	9 300	1 492	6 032	0 392	0 303	2 657	7.935	0 680	0 963	2 218	6 818
18	2.516	14 225	9 285	16 120	0 381	0 271	2 204	8 088	0 685	16 838	1 248	21 786
19	20 015	7 913	17 042	3 710	0 378	0 253	2.147	7.953	0.876	14 672	1.195	6 211
20	4.700	8.169	7 492	2.985	0 343	0 264	1 245	3 214	0 849	7 421	1 073	3 805
21	2 274	4 505	5 582	2 858	0 328	0 491	1 418	1 423	1 585	2 314	0 944	9 564
22	1 732	7 039	9 317	1 408	0 332	0 333	5.293	1 066	2.742	2 319	0 935	10 317
23	1 977	1.864	12 496	1 068	1 718	0 278	5 034	0 961	8 834	1 788	1 818	13 188
24	7.439	1.302	39 065	0 930	5.788	0 253	20 375	11.004	3 256	2 932	1 768	10 710
25	4 376	1.166	25 286	1 035	1 390	0 233	54.166	5 017	25.400	39 861	1.224	23 878
26	2 466	1 423	8 368	1 139	0 998	0 235	18 336	6.671	10 440	4 987	0 971	15 246
27	1.278	3 518	11 908	0 829	0 888	0 232	7.695	5 693	19 019	6 103	5 532	8 017
28	1 182	1.519	11 007	0 658	0 650	0 211	9 119	15 865	10.608	2.259	3.643	7 494
29	1.395	0 946	8 203	0 605	13 050	0 211	3 729	20.740	2 325	1 419	5 814	8 071
30	1 846		3 627	0 583	4 728	0 233	6 933	33 692	1.446	1 223	4 332	14 787
31	3 623		6 491		3 256		2 159	13 240		1 054		3 470
Average	8 668	7.435	7 669	3 228	1 664	0 833	7 401	6 815	7.954	8 181	3 068	8 820
Lowest	1.182	0.946	0 725	0 583	0 328	0 211	0 466	0 961	0 680	0 963	0 697	1 115
Highest	68.158	29 275	39 065	16 120	13 050	4 457	54 166	33.692	30 669	39 861	14 257	23 878
Peak flow	121 444	64 315	65 368	28 555	31 919	11 367	144 533	69 497	115.220	198 421	65 872	76 618
Day of peak	13	3	25	15	30	7	25	31	7	26	13	26
Monthly total (million cu m)	23 22	18 63	20 54	8 37	4 46	2 16	19 82	18 25	20 62	21.91	7 95	23 62
Runoff (mm)	289	232	256	104	56	27	247	227	257	273	99	294
Rainfall (mm)	418	299	337	102	104	42	365	303	307	332	148	373

Statistics of monthly data for previous record (Oct 1970 to Dec 1987—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	8 324	4 949	5 997	2 904	2 984	2 371	2 512	3 421	6 590	7 261	9 001	8 556
	Low	1 926	0 489	0 853	0 408	0 133	0 328	0 634	0 339	0 751	1 362	3 326	1 416
	(year)	1985	1986	1975	1974	1980	1977	1984	1983	1972	1974	1983	1981
	High	19 630	8 387	11 750	6 325	10 980	5 609	7.152	10 510	11 210	16 050	14 670	15 740
	(year)	1974	1982	1986	1977	1986	1973	1985	1985	1981	1983	1986	1986
Runoff	Avg	278	150	200	94	100	77	84	114	213	242	291	285
	Low	64	15	28	13	4	11	21	11	24	45	107	47
	High	655	253	392	204	366	181	239	351	362	535	474	525
Rainfall	Avg	345	187	247	120	147	141	160	183	303	315	372	359
	Low	93	11	100	15	19	67	66	42	40	100	117	111
	High	715	310	475	261	439	249	329	507	468	645	614	637

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	5 994		5 411		111
Lowest yearly mean			4.440	1972	
Highest yearly mean			7.003	1986	
Lowest monthly mean	0 833	Jun	0 133	May 1980	
Highest monthly mean	8 820	Dec	19 630	Jan 1974	
Lowest daily mean	0 211	28 Jun	0 032	12 Jul 1977	
Highest daily mean	68 158	12 Jan	113 422	2 Mar 1979	
Peak	198 421	26 Oct	226 684	22 Oct 1971	
10% exceedance	15 550		15 360		101
50% exceedance	2 825		2 025		140
95% exceedance	0 335		0 236		142
Annual total (million cu m)	189 50		170 70		111
Annual runoff (mm)	2360		2126		111
Annual rainfall (mm)	3130		2879		109
[1941-70 rainfall average (mm)			2761]		

Factors affecting flow regime

Station and catchment description

Velocity-area station with artificial low flow control (long broad-crested weir with rectangular low flow notch) - installed 1975 Damage to part of the high flow crest results in a small discharge bypassing the central notch. All but very high flows contained. No significant abstractions or discharges. Very responsive flow regime. A very wet mountainous catchment developed on ancient metamorphic formations - some Drift cover.

093001 Carron at New Kelso 1988

Measuring authority HRPB
First year 1979

Grid reference 18 (NG) 942 429
Level stn (m OD) 5 60

Catchment area (sq km) 137.8
Max alt. (m OD) 1053

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	47 662	5 162	4 001	17 917	1 469	1 523	0 693	5 703	8 052	12 188	3 328	4 153
2	34 361	16 074	22 746	6.781	1 631	2.227	1 716	5 072	11 812	8 979	2 824	2 954
3	16 865	18 414	11 803	4 702	1 719	5 528	1 627	6 899	38.468	9 074	2 282	2 707
4	10 297	8 359	5 882	3 706	1 536	5 999	1 452	5 115	20 756	6 212	3 456	17 988
5	5 690	6.404	23 801	3 583	1 500	3 131	1 752	9 325	7 968	5 057	3 846	12 341
6	6 619	6 099	22 042	3 732	1 567	2 436	3 457	11 047	5 072	20 206	3 152	11 463
7	8 002	4 855	10 065	3 537	1 556	3 064	5.853	5 414	5 516	129 067	2 505	20 539
8	13 216	7 662	14 229	3 016	1.488	6 394	8 345	4 372	14 654	68 135	6 540	44 438
9	31 435	20 610	11.710	2 954	1 426	3 822	4 978	4 119	9 473	37 920	10 503	62 815
10	19.192	28 895	19 267	6 184	1 456	2 356	9 096	5 486	10 313	10 429	20 091	23 709
11	14 211	10 249	32 135	7 072	1 379	1 744	35 336	13 257	17 019	5 748	15 622	25 942
12	40 396	5 647	9 954	4 009	1 350	1 436	19 605	20 610	32 140	4 359	21 645	18 552
13	18 162	21.847	5 262	2 800	1 339	1.140	8 778	12 252	13 943	3 640	11 864	11.967
14	7 309	20 080	3 817	9.558	1 313	0 968	7 834	34 092	6 520	3 220	8 018	6 693
15	13 807	41 726	8 694	25 717	1 157	0 851	4 890	21 615	4 399	2 752	5 885	6 024
16	12 780	16 160	8 032	18 152	1 022	0.764	3 970	7 810	3 480	2 436	3 968	7 103
17	14 419	14 920	4 798	12.915	0 943	0 719	4.377	5 134	3 677	2 212	3 734	13 610
18	6 341	22 460	5 076	7 789	0 939	0.673	5 090	7 486	4 855	1 997	3 785	26 098
19	9 279	19 117	24 921	7 893	0 956	0 617	5.768	10.895	5 660	1 777	3 357	24 224
20	9 975	18 511	14 696	13 352	0 921	0 605	4 136	14 098	7 204	1 611	2 800	10 766
21	6 683	13 244	7.887	11 713	0 861	0 593	3 149	7 880	6 992	1 609	2 333	25 045
22	5 076	23 158	6 392	5 159	0 798	1.586	2 461	5 193	8 294	2 749	3 842	15 423
23	4 044	9 027	19 401	3 445	0 767	1 477	2.456	4 477	8 000	2 060	3 995	14 218
24	11 445	5 471	28 538	2 816	0 812	1 235	2 404	18 946	13 982	1 722	4 744	11 864
25	10.513	4 295	47 840	2 497	0.835	1.055	18 367	25 275	27 003	1 899	5 339	29 446
26	5 452	11 678	31 681	2 309	0 812	0 923	44 687	9 305	24 024	3 330	6 249	28 478
27	3 739	13 837	22 091	2 022	0 786	0 841	33 110	12 336	27 747	26 868	16 083	13 875
28	3 034	8.575	22 188	1 782	0 751	0 689	12 029	14 821	32 333	16 041	31 892	67 795
29	2 621	5 030	10 653	1.614	0 732	0 590	9 496	43.114	21 677	6.532	11 557	57 987
30	2 776		5 869	1 497	3 067	0 556	8 499	30 974	9 015	5 041	7 258	29 138
31	5 333		11 898		2 149		7 897	13 983		4 078		14 343
Average	12 930	14 050	15 080	6 674	1 259	1 851	9 139	12 780	13 670	13 190	7 750	21 340
Lowest	2 621	4 295	3.817	1.497	0 732	0 556	0 693	4 119	3 480	1 609	2 282	2 707
Highest	47 662	41 726	47 840	25 717	3 067	6 394	44 687	43 114	38 468	129 067	31 892	67 795
Peak flow	67 257	60 985	57.975	31 429	3.615	8 289	72 488	59 744	57 975	167 153	44 521	135 211
Day of peak	1	15	25	15	30	4	27	25	4	7	28	29
Monthly total (million cu m)	34 62	35 21	40 38	17 30	3 37	4 80	24 48	34 22	35 43	35 33	20.09	57 17
Runoff (mm)	251	256	293	126	24	35	178	248	257	256	146	415
Rainfall (mm)	293	325	328	111	41	50	238	332	269	283	192	450

Statistics of monthly data for previous record (Jan 1979 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	13 390	8 068	11.620	6 834	5 269	4 336	6 055	7 390	14 540	13 690	17 430	18 890
	Low	6 148	1 361	4 103	2 863	0.698	0 921	2.426	2 703	7 086	6 332	8 851	5.646
	(year)	1985	1986	1980	1980	1980	1982	1984	1984	1986	1979	1985	1981
	High	28 470	13 610	18 250	13 440	14 120	8 623	10 530	15 070	19 100	24 070	31 120	30 710
	(year)	1983	1981	1983	1984	1986	1980	1985	1985	1980	1983	1981	1983
Runoff	Avg	260	143	226	129	102	82	118	144	274	266	328	367
	Low	120	24	80	54	14	17	47	53	133	123	166	110
	High	553	239	355	253	274	162	205	293	359	468	585	597
Rainfall	Avg	283	136	257	124	121	128	153	176	327	319	364	386
	Low	94	6	95	70	36	28	96	85	150	182	133	124
	High	553	225	397	217	295	275	248	321	425	532	629	546

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	10 830		10 640		102
Lowest yearly mean			8 852	1987	
Highest yearly mean			12 770	1983	
Lowest monthly mean	1 259	May	0 698	May 1980	
Highest monthly mean	21 340	Dec	31 120	Nov 1981	
Lowest daily mean	0 556	30 Jun	0 425	27 Jun 1982	
Highest daily mean	129 067	7 Oct	201 081	31 Dec 1983	
Peak	167 153	7 Oct	295 541	31 Dec 1983	
10% exceedance	25.260		26 560		95
50% exceedance	6 450		5 279		122
95% exceedance	0 843		1 015		83
Annual total (million cu m)	342 50		335 70		102
Annual runoff (mm)	2485		2436		102
Annual rainfall (mm)	2912		2774		105
[1941-70 rainfall average (mm)			2498]		

Factors affecting flow regime

- Natural to within 10% at 95% exceedance flow

Station and catchment description

40m wide river section with floodbank on right bank. Any bypassing in extreme floods will be over 30m wide floodplain on left bank. Unstable gravel control requires regular calibration of low flow range. Adequately gauged to bankfull. Computed flows are 100% natural. 70% of catchment drains through Loch Dughaill with little additional surface storage. Typical mix of rough grazing and moorland. One of the wetter Highland catchments currently gauged

201005 Camowen at Camowen Terrace 1988

Measuring authority: DOEN
First year: 1972

Grid reference: 23 (IH) 460 730
Level stn. (m OD): 66.00

Catchment area (sq km): 274.6
Max alt. (m OD): 539

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	18.961	20.142	3.609	9.529	2.022	2.708	0.946	1.469	43.637	2.542	2.361	4.535
2	20.420	24.984	3.789	6.192	1.822	3.764	1.366	1.237	25.061	2.434	2.110	3.243
3	19.726	17.941	4.855	4.876	1.611	14.699	1.561	0.990	8.038	3.615	1.895	20.817
4	11.571	16.011	4.729	4.339	1.526	5.209	1.033	0.874	14.776	33.895	1.774	9.962
5	11.183	10.656	4.778	4.018	1.534	2.616	0.879	0.828	11.860	11.025	1.713	5.095
6	8.330	8.705	8.136	3.571	1.375	11.185	1.260	0.805	38.557	20.616	1.697	5.131
7	8.357	12.341	6.883	3.222	1.292	11.422	2.605	0.776	10.259	12.805	1.627	3.952
8	11.470	14.129	4.917	2.955	1.342	4.246	2.904	1.078	6.140	7.794	3.013	3.893
9	10.930	52.665	20.202	2.853	1.281	2.679	3.396	1.546	4.457	5.982	4.041	5.419
10	11.672	17.102	7.017	2.795	1.368	2.050	5.802	2.654	3.898	4.950	3.678	3.804
11	11.533	14.000	6.268	2.614	1.311	1.742	2.842	2.767	3.496	4.232	2.573	3.101
12	26.218	15.171	7.005	2.589	1.314	1.608	2.183	5.518	3.794	10.262	2.187	2.654
13	10.978	18.018	53.187	2.538	1.088	1.429	2.352	5.946	2.771	8.521	2.045	2.507
14	7.212	9.944	26.079	2.175	0.935	1.313	1.568	8.932	2.031	5.991	1.856	2.356
15	6.432	19.166	24.623	2.621	0.872	1.169	1.299	3.297	1.668	4.241	1.722	2.206
16	9.538	11.748	10.681	3.442	0.920	1.079	1.238	2.240	1.546	3.442	1.828	2.038
17	12.580	9.703	7.863	2.430	0.929	1.101	1.270	5.098	1.492	3.039	6.629	1.954
18	48.409	7.828	29.618	2.159	0.907	1.008	1.158	8.452	1.288	3.714	4.592	9.214
19	46.967	6.423	16.590	2.001	0.833	1.029	0.977	9.597	1.127	7.968	3.268	10.444
20	15.993	5.808	8.932	9.227	0.670	1.040	0.877	6.735	1.023	3.710	3.498	13.148
21	10.127	5.235	7.351	6.984	0.529	0.953	1.100	3.598	0.995	21.000	2.448	6.169
22	8.928	4.626	10.509	4.865	0.635	0.857	1.349	2.485	4.421	14.128	1.875	15.249
23	37.998	4.330	10.968	3.142	0.861	0.829	1.298	2.162	19.390	8.176	1.615	10.025
24	29.032	3.830	10.843	2.438	1.122	0.773	4.628	2.024	8.299	6.332	1.455	6.787
25	11.614	3.830	6.637	2.293	1.006	0.811	8.002	2.008	9.202	27.614	1.367	5.803
26	8.636	3.862	6.394	2.202	1.139	0.855	5.616	4.196	4.856	13.691	1.390	9.995
27	6.952	3.508	6.446	2.040	1.025	0.892	4.092	4.676	3.905	6.364	1.679	6.135
28	12.128	3.408	7.360	1.694	1.183	0.817	6.106	5.589	4.405	4.729	3.912	5.256
29	33.267	3.475	9.254	1.692	2.569	0.763	6.837	9.435	3.721	3.916	10.085	3.909
30	19.444		9.443	1.709	2.576	0.799	5.743	5.149	2.895	3.185	9.917	3.275
31	28.753		6.917		2.981		3.455	9.448		2.582		2.943
Average	17.270	12.020	11.350	3.507	1.309	2.698	2.766	3.923	8.284	8.790	2.995	6.162
Lowest	6.432	3.408	3.609	1.692	0.529	0.763	0.877	0.776	0.995	2.434	1.367	1.954
Highest	48.409	52.665	53.187	9.529	2.981	14.699	8.002	9.597	43.637	33.895	10.085	20.817
Peak flow	107.396	67.168	90.048	15.732	3.593	30.372	9.139	50.400	68.924	61.755	19.649	38.958
Day of peak	19	9	13	20	30	6	9	31	6	25	29	3
Monthly total (million cu m)	46.25	30.12	30.40	9.09	3.51	6.99	7.41	10.51	21.47	23.54	7.76	16.50
Runoff (mm)	168	110	111	33	13	25	27	38	78	86	28	60
Rainfall (mm)	187	111	156	43	42	45	146	131	131	137	57	84

Statistics of monthly data for previous record (May 1972 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	11.420	7.953	7.488	4.352	3.638	2.645	2.110	3.582	4.759	6.702	8.694	10.640
	Low	7.010	2.862	2.210	1.701	0.993	0.911	0.879	0.845	0.680	1.215	3.422	5.062
	(year)	1985	1986	1973	1974	1980	1974	1984	1983	1972	1972	1983	1975
	High	16.170	17.200	12.340	8.687	7.946	4.954	5.114	11.320	12.730	11.260	15.270	17.330
	(year)	1984	1977	1978	1986	1986	1981	1985	1985	1985	1976	1979	1978
Runoff	Avg	111	71	73	41	35	25	21	35	45	65	82	104
	Low	68	25	22	16	10	9	9	8	6	12	32	49
	High	158	152	120	82	78	47	50	110	120	110	144	169
Rainfall	Avg	125	75	104	58	77	71	71	92	105	108	114	124
	Low	55	4	38	20	20	28	20	20	13	55	45	39
	High	194	161	145	118	145	118	131	188	177	171	182	183

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre 1988
Mean flow (m^3s^{-1})	6.753		6.164		110
Lowest yearly mean			4.102	1975	
Highest yearly mean			7.648	1978	
Lowest monthly mean	1.309	May	0.680	Sep 1972	
Highest monthly mean	17.270	Jan	17.330	Dec 1978	
Lowest daily mean	0.529	21 May	0.411	23 Aug 1984	
Highest daily mean	53.187	13 Mar	138.424	21 Oct 1987	
Peak	107.396	19 Jan	183.468	21 Oct 1987	
10% exceedance	15.260		13.570		112
50% exceedance	3.864		4.081		95
95% exceedance	0.882		1.015		87
Annual total (million cu m)	213.50		194.50		110
Annual runoff (mm)	778		708		110
Annual rainfall (mm)	1270		1124		113
(1941-70 rainfall average (mm)			920)		

Factors affecting flow regime

- Abstraction for public water supplies.
- Augmentation from effluent returns

Station and catchment description

Velocity-area station with cableway and weir control - informal broad-crested structure (for angling enhancement), dimensions not known. The net effect of abstractions for public water supply and augmentations from effluent returns is minor. Catchment geology: mixed impermeable rocks (granite, schist and gneiss, and sandstone) overlain by substantial deposits of till, sand and gravel. Largely upland given over mainly to grassland or heath

203010 Blackwater at Maydown Bridge 1988

Measuring authority DOEN	Grid reference 23 (IH) 820 519	Catchment area (sq km) 951 4
First year 1970	Level stn (m OD) 15 00	Max alt (m OD) 380

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	44 410	76 128	12 201	31 429	5 744	10 775	2 062	12 030	71 804	14 281	17 382	25 133
2	58 394	79 866	11 639	25 839	6 877	9 027	2 866	8 657	73 438	12 800	15 271	18 473
3	56 621	87 039	12 499	19 410	7 369	12 255	5 371	6 950	44 524	12 863	13 862	33 799
4	48 734	78 414	12 036	16 861	7 390	15 351	4 790	5 665	28 873	49 365	12 756	54 782
5	40 475	58 868	11 906	15 496	6 802	9 422	2 937	4 932	36 627	47 468	11 795	32 457
6	33 725	44 585	13 145	14 295	5 705	9 692	2 585	4 935	73 581	49 210	10 842	23 514
7	29 045	40 968	14 891	12 552	4 973	41 520	6 244	4 459	68 349	48 005	10 350	19 965
8	33 973	47 779	14 344	11 037	4 374	24 863	9 289	4 368	43 519	36 081	11 025	18 061
9	35 412	111 953	34 511	10 378	4 094	14 655	8 960	7 947	29 266	30 544	17 758	23 976
10	32 348	116 695	31 465	9 566	3 994	10 541	18 884	8 702	21 807	26 974	26 306	20 832
11	29 983	98 769	21 695	8 885	3 440	7 787	12 550	13 273	19 443	21 445	19 351	17 923
12	59 000	68 361	19 143	8 644	3 259	6 058	9 895	26 457	16 503	24 804	14 997	15 840
13	53 529	69 770	56 359	8 747	3 431	4 981	13 613	18 470	14 500	31 836	13 463	14 805
14	34 530	54 797	90 344	8 176	3 834	4 366	8 539	36 459	12 858	26 727	12 171	13 717
15	27 957	54 789	98 805	8 013	2 916	4 078	5 491	20 972	11 516	21 043	11 610	12 710
16	25 318	47 160	69 480	10 744	2 437	3 639	4 282	13 403	10 346	17 750	10 998	11 827
17	32 525	36 335	49 216	10 329	2 310	3 285	3 733	13 069	9 575	15 988	12 557	11 248
18	52 271	30 728	71 564	8 779	1 937	2 970	3 484	26 882	8 859	15 982	16 311	13 610
19	107 145	26 927	70 782	7 599	1 755	2 945	3 012	39 369	8 108	26 652	13 453	27 223
20	90 238	23 812	48 040	10 353	1 951	2 876	2 607	31 868	6 847	22 114	13 296	32 326
21	59 426	21 077	35 969	20 296	1 834	2 626	3 224	20 498	6 589	24 367	12 199	26 603
22	44 637	19 303	36 412	14 955	1 712	2 493	3 781	15 375	7 274	71 139	10 963	48 438
23	77 729	17 491	44 558	11 134	1 848	2 282	4 022	12 855	20 471	59 353	10 155	71 701
24	107 284	16 095	35 282	9 048	3 862	1 886	7 035	11 065	27 843	46 690	9 194	50 771
25	82 671	15 505	28 498	7 779	4 434	1 791	16 529	10 324	18 859	50 126	8 410	40 310
26	55 535	14 955	24 905	6 866	3 064	1 930	19 887	10 576	23 040	80 830	8 022	53 605
27	41 162	14 288	22 392	6 857	2 803	2 033	16 042	17 902	18 581	53 386	8 188	43 844
28	34 219	13 691	22 442	6 048	2 663	1 991	19 733	13 787	26 956	38 309	11 840	34 772
29	79 950	12 459	21 882	5 545	4 157	1 995	18 462	15 262	21 542	28 242	21 944	27 293
30	69 702		21 177	5 393	9 554	1 971	23 196	18 614	16 853	22 973	37 352	21 840
31	64 482		20 751		12 736		20 489	17 207		19 482		19 337
Average	52 980	48 230	34 780	11 700	4 299	7 403	9 148	15 240	26 610	33 770	14 130	28 410
Lowest	25 318	12 459	11 639	5 393	1 712	1 791	2 062	4 368	6 589	12 800	8 022	11 248
Highest	107 284	116 695	98 805	31 429	12 736	41 520	23 196	39 369	73 581	80 830	37 352	71 701
Peak flow	132 805	128 250	111 143	38 133	12 943	52 350	28 815	51 388	95 785	89 325	41 132	89 008
Day of peak	19	9	15	1	31	7	30	19	6	26	30	23
Monthly total (million cu m)	141 90	120 80	93 17	30 33	11 51	19 19	24 50	40 81	68 98	90 45	36 62	76 10
Runoff (mm)	149	127	98	32	12	20	26	43	73	95	38	80
Rainfall (mm)	165	109	138	36	48	43	129	109	100	122	48	83

Statistics of monthly data for previous record (Jul 1970 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	32 640	24 480	21 270	11 930	8 442	5 807	3 509	8 448	10 400	17 270	27 170	30 400
	Low	18 050	7 186	8 772	3 441	1 306	0 973	0 859	0 596	1 920	2 163	8 857	10 570
	(year)	1971	1986	1973	1974	1984	1975	1984	1975	1972	1972	1983	1971
	High	56 780	52 240	43 250	26 850	19 810	17 540	12 690	32 480	30 110	31 470	51 680	50 390
	(year)	1984	1977	1981	1986	1983	1981	1985	1985	1985	1980	1970	1978
Runoff	Avg	92	63	60	33	24	16	10	24	28	49	74	86
	Low	51	18	25	9	4	3	2	2	5	6	24	30
	High	160	133	122	73	56	48	36	91	82	89	141	142
Rainfall	Avg	108	72	84	54	63	61	63	79	88	93	100	97
	Low	46	4	33	14	19	19	17	15	7	43	38	30
	High	185	158	142	122	124	111	115	160	153	168	146	164

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	23 850		16 790		142
Lowest yearly mean			9 712	1975	
Highest yearly mean			20 190	1986	
Lowest monthly mean	4 299	May	0 596	Aug 1975	
Highest monthly mean	52 980	Jan	56 780	Jan 1984	
Lowest daily mean	1 712	22 May	0 043	6 Sep 1975	
Highest daily mean	116 695	10 Feb	143 845	22 Oct 1987	
Peak	132 805	19 Jan	144 847	22 Oct 1987	
10% exceedance	55 720		43 720		127
50% exceedance	15 830		9 828		161
95% exceedance	2 565		0 938		273
Annual total (million cu m)	754 20		529 80		142
Annual runoff (mm)	793		557		142
Annual rainfall (mm)	1130		962		117
(1941 70 rainfall average (mm)			1005)		

Factors affecting flow regime

- Natural to within 10% at 95% exceedance flow

Station and catchment description

Velocity-area station with cableway and natural control A substantial portion of the catchment area is in the Irish Republic where some groundwater may be abstracted but its hydrological significance is uncertain Geology Carboniferous Limestone and Millstone Grit with sandstones overlain by substantial amounts of till A predominantly rural catchment with limited afforestation Monaghan Town (pop 5,000) - in the Irish Republic - is the only significant urban centre

203028 Agivey at White Hill 1988

Measuring authority: DOEN
First year: 1972

Grid reference: 24 (IC) 883 193
Level stn. (m OD): 17.00

Catchment area (sq km): 98.9
Max alt. (m OD): 461

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	6.850	16.918	1.719	2.315	1.180	0.806	0.319	1.078	16.717	1.235	1.627	2.996
2	5.434	14.466	2.373	1.719	0.829	0.736	0.371	0.755	8.898	1.104	1.506	2.004
3	5.662	5.387	2.779	1.304	0.685	3.255	0.538	0.622	2.847	2.466	1.440	15.772
4	2.807	5.420	2.000	1.086	0.611	1.441	0.368	0.555	6.169	17.783	1.344	7.084
5	2.546	4.507	2.541	0.993	0.578	0.880	0.305	0.495	4.400	5.175	1.434	5.590
6	2.752	3.331	4.687	0.946	0.527	6.202	0.460	0.404	14.823	11.816	1.305	5.322
7	2.434	4.670	4.012	0.900	0.490	5.196	1.182	0.376	3.625	6.411	1.201	3.045
8	2.823	7.013	1.963	0.738	0.482	1.428	0.925	0.876	3.500	4.018	1.660	4.837
9	3.323	30.939	4.448	0.683	0.474	0.774	0.940	0.924	2.200	8.737	2.196	6.246
10	2.305	8.921	2.472	0.720	0.448	0.551	1.577	5.704	1.847	4.055	1.980	2.748
11	4.154	5.588	3.751	0.670	0.485	0.455	0.791	4.403	1.652	2.443	1.472	2.218
12	19.584	8.722	11.408	1.176	0.510	0.424	1.464	5.436	2.429	5.841	1.237	1.901
13	3.807	10.598	14.213	0.958	0.526	0.390	1.309	2.716	2.265	4.549	1.146	1.955
14	2.284	5.729	10.784	0.741	0.489	0.360	1.746	4.989	1.494	2.612	1.086	1.833
15	1.704	8.690	11.142	0.763	0.440	0.329	0.695	2.190	1.154	1.890	1.016	1.540
16	1.958	3.406	3.430	1.029	0.401	0.291	2.230	1.284	1.028	1.638	0.964	1.427
17	3.925	2.626	2.436	0.780	0.351	0.254	1.327	2.021	0.932	1.471	7.166	1.373
18	20.752	2.993	8.376	1.866	0.401	0.222	0.830	3.615	0.868	10.539	3.785	9.189
19	16.558	2.595	4.546	1.029	0.421	0.235	0.575	7.984	0.808	12.316	2.010	6.488
20	4.539	1.946	2.674	0.937	0.422	0.277	0.445	11.540	0.764	4.266	1.790	9.887
21	2.892	1.562	2.131	1.007	0.414	0.274	0.670	3.213	0.731	11.527	1.334	4.329
22	2.530	1.534	3.659	0.995	0.448	0.265	0.745	1.574	2.154	7.071	1.312	3.659
23	13.000	1.440	4.050	0.778	0.492	0.255	0.783	1.349	6.435	7.081	1.158	3.953
24	13.640	1.249	3.124	0.621	1.768	0.246	3.858	1.679	3.263	4.849	0.856	3.244
25	3.675	1.593	2.268	0.532	0.888	0.238	3.421	1.731	3.700	23.881	0.828	3.043
26	3.726	1.784	2.709	0.525	0.595	0.234	1.329	3.171	2.408	7.216	0.793	4.488
27	2.475	1.611	2.827	0.505	0.516	0.270	0.752	2.552	1.567	3.398	1.285	3.886
28	5.049	1.504	2.480	0.465	0.484	0.307	0.683	2.013	2.142	3.051	2.295	2.622
29	21.055	1.596	3.537	0.484	0.847	0.279	0.957	2.313	2.276	2.400	5.598	2.166
30	14.275		3.537	0.543	1.226	0.252	1.513	1.932	1.580	2.059	8.292	1.915
31	15.675		2.045		1.257		1.650	4.241		1.809		1.760
Average	6.909	5.805	4.326	0.927	0.635	0.904	1.121	2.701	3.489	5.958	2.021	4.146
Lowest	1.704	1.249	1.719	0.465	0.351	0.222	0.305	0.376	0.731	1.104	0.793	1.373
Highest	21.055	30.939	14.213	2.315	1.768	6.202	3.858	11.540	16.717	23.881	8.292	15.772
Peak flow	86.560	47.527	25.780	2.853	5.065	18.513	8.561	29.665	37.710	62.388	23.677	28.159
Day of peak	18	9	13	18	24	6	24	31	1	25	17	3
Monthly total (million cu m)	18.51	14.54	11.59	2.40	1.70	2.34	3.00	7.23	9.04	15.96	5.24	11.10
Runoff (mm)	187	147	117	24	17	24	30	73	91	161	53	112
Rainfall (mm)	221	178	154	41	51	63	144	159	128	208	69	124

Statistics of monthly data for previous record (Dec 1972 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows	Avg	5.369	3.708	3.132	1.718	1.610	1.017	0.940	1.527	2.357	3.675	3.895	4.623
	Low	2.957	0.847	1.384	0.870	0.282	0.340	0.190	0.212	0.421	1.841	0.815	2.218
	(year)	1985	1986	1973	1984	1984	1984	1984	1983	1986	1973	1983	1987
	High	7.902	7.416	4.770	2.991	3.909	2.389	1.775	5.077	6.371	6.337	8.405	7.077
	(year)	1974	1977	1982	1986	1981	1982	1973	1985	1985	1981	1982	1978
Runoff	Avg	145	92	85	45	44	27	25	41	62	100	102	125
	Low	80	21	37	23	8	9	5	6	11	50	21	60
	High	214	185	129	78	106	63	48	137	167	172	220	192
Rainfall	Avg	147	84	104	60	78	68	75	89	105	126	124	129
	Low	63	5	36	22	20	37	26	23	15	53	33	58
	High	212	195	147	117	161	137	136	218	213	186	196	206

Summary statistics

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	3.247		2.797		116
Lowest yearly mean			2.165	1983	
Highest yearly mean			3.599	1981	
Lowest monthly mean	0.635	May	0.190	Jul 1984	
Highest monthly mean	6.909	Jan	8.405	Nov 1982	
Lowest daily mean	0.222	18 Jun	0.080	7 Sep 1976	
Highest daily mean	30.939	9 Feb	76.503	21 Oct 1987	
Peak	86.560	18 Jan	159.276	21 Oct 1987	
10% exceedance	7.695		6.529		118
50% exceedance	1.854		1.570		118
95% exceedance	0.350		0.300		117
Annual total (million cu m)	102.70		88.27		116
Annual runoff (mm)	1038		892		116
Annual rainfall (mm)	1540		1189		130
[1941-70 rainfall average (mm)			]		

Factors affecting flow regime

- Natural to within 10% at 95% exceedance flow

Station and catchment description

Velocity-area station, no cableway. Geology: mainly basalt overlain by till with some peat. Significant proportion of upland, predominantly grassland or heath. No urban areas or major industry.

039001 Thames at Kingston 1988

Measuring authority NRA-T | Grid reference 51 (TQ) 177 698 | Catchment area (sq km) 9948.0
First year 1883 | Level stn (m OD) 4.70 | Max alt. (m OD) 330

Daily mean naturalised discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	127 000	352.000	105 000	108 000	70 900	55 400	43 600	37 400	77 300	36 200	37 500	94 400
2	129 000	359 000	102.000	94 800	79 400	47 200	44 900	40 000	91.000	38 500	36 700	78 300
3	167.000	319 000	107 000	96 600	75.900	47 600	57 800	40 500	48 400	33 000	37 900	52.200
4	160 000	321 000	105 000	91 900	76 000	50 900	73.100	40 000	53.700	30.900	35 600	84.900
5	203 000	319.000	105 000	84.700	72 600	56 200	71 000	36 800	43 100	34 300	38 800	90 900
6	264 000	303 000	102.000	88 400	65.500	48 100	69 300	36 300	38 400	49 000	36 100	94 000
7	232.000	284 000	95 600	86 900	58 800	49 000	64 000	35 800	36 800	45 500	37 100	58 300
8	208 000	288 000	95 900	81 100	79 000	44 300	46 400	33.100	37 400	41 600	37.600	59.700
9	172.000	274.000	91 400	86.700	104 000	52 300	50 800	32 100	34 700	94 100	38 600	50 200
10	176 000	258 000	95 500	87 600	68 300	55 400	49 300	32 100	35 300	104 000	40 600	54 400
11	167 000	231 000	93 400	81 800	73 700	57.600	49 000	31 600	32.100	63 900	38.100	48 300
12	148 000	201 000	90 600	80 600	69.900	44 900	47 900	30 500	32 600	78 800	38 600	47 600
13	150 000	183 000	81 400	76 700	67 500	48 400	45 400	30 000	32 600	76 200	39 500	48 600
14	179 000	207 000	90 600	74 700	65 400	43 300	49 800	31 000	33 700	75 200	37 900	46 000
15	149.000	215 000	105 000	71 300	62 100	42 800	46 900	30 500	27 400	53 400	37 500	41 800
16	125 000	199 000	143 000	83 600	54 400	42 300	44 600	27 400	28 900	52 400	33 700	45 900
17	115 000	170 000	137 000	89 800	53.700	41 100	57 000	30 500	28 400	42 900	34 600	44.700
18	108 000	158 000	115 000	84 200	51 400	37 000	56 900	28 400	29 500	52 700	38 000	43 300
19	109 000	150 000	120.000	100 000	54.000	40.400	45 900	32 100	30 000	62 100	36 800	44 300
20	112 000	146 000	154 000	88 500	54 200	40 500	50 700	33 700	30 000	59 600	35 900	43 700
21	119 000	139 000	235.000	79 000	52 200	40 800	47 100	36 300	28 900	58 800	41 100	43 600
22	173 000	135 000	198 000	70 500	48 500	38 100	42 200	33.700	29 500	42 000	37 900	38 900
23	226 000	132 000	162.000	71 700	50.700	36.300	53 000	34 200	31 600	48 200	38 600	37 000
24	251 000	125 000	146 000	66 800	49 800	33 700	48 700	34 700	31 000	42 300	36 900	38 400
25	323 000	124 000	148 000	63.500	47 800	34 800	55 600	32.600	36 800	46 900	37.300	37 700
26	343 000	118 000	144 000	67 600	50 200	34 200	47 100	31 600	37 900	47 900	36 000	38 900
27	331 000	106 000	134 000	65 400	48 400	38 400	44.100	28.900	38 400	44 900	35 600	39 300
28	349 000	115 000	102.000	69 500	46.800	44 500	46 300	29 500	54 200	43 400	35 100	39 100
29	394 000	117 000	114 000	66 500	49 200	47 400	46 200	31 000	52 600	39 700	40 400	38 100
30	402 000		134 000	66 700	53 800	40 600	40 200	30 000	43 700	38 800	66 300	38 500
31	342 000		124 000		59 000		39 500	45 300		38 600		40 900
Average	208 200	208.600	121 800	80 840	61.710	44 450	50 780	33 470	39 530	52 120	38 410	51.670
Lowest	108 000	106 000	81 400	63 500	46 800	33 700	39 500	27.400	27 400	30.900	33 700	37 000
Highest	402 000	359 000	235 000	108 000	104.000	57 600	73 100	45.300	91 000	104 000	66 300	94 400
Monthly total (million cu m)	557.50	522 50	326 20	209.50	165 30	115 20	136 00	89 65	102 50	139 60	99 56	138 40
Nat'ised runoff (mm)	56	53	33	21	17	12	14	9	10	14	10	14
Rainfall (mm)	129	43	67	31	47	42	99			66	28	

Statistics of monthly data for previous record (Jan 1883 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean	Avg	137 900	134 100	115 900	86 500	65 300	49 010	35 180	32 710	34.400	50 100	84 170	112 700
nat'ised	Low	32.210	25 100	27.320	26 510	18 200	13 470	10 760	11 040	11 230	15 120	17 750	22 480
flows	(year)	1905	1905	1944	1976	1944	1944	1921	1976	1898	1934	1921	1921
	High	332 900	348 100	370 900	199 800	181 300	178 700	88 840	88.780	139 400	185 300	339 600	343 900
	(year)	1915	1904	1947	1951	1932	1903	1968	1931	1968	1903	1894	1929
nat'ised	Avg	37	33	31	23	18	13	9	9	9	13	22	30
runoff	Low	9	6	7	7	5	4	3	3	3	4	5	6
	High	90	88	100	52	49	47	24	24	36	50	88	93
Rainfall	Avg.	64	49	53	48	55	53	58	64	58	73	73	72
	Low	14	3	3	3	8	3	8	3	3	5	8	13
	High	137	127	142	104	137	137	130	147	157	188	188	185

Summary statistics
(naturalised flows)

	For 1988		For record preceding 1988		1988 As % of pre-1988
Mean flow (m^3s^{-1})	82 280		77 900		106
Lowest yearly mean			30 940	1934	
Highest yearly mean			131.800	1951	
Lowest monthly mean	33 470	Aug	10 760	Jul 1921	
Highest monthly mean	208 600	Feb	370.900	Mar 1947	
Lowest daily mean	27.400	16 Aug	7 370	9 Jul 1934	
Highest daily mean	402 000	30 Jan	1065.000	18 Nov 1894	
10% exceedance	166 800		172 300		97
50% exceedance	52 090		53 700		97
95% exceedance	30 810		18 360		168
Annual total (million cu m)	2602 00		2458 00		106
Annual runoff (mm)	262		247		106
Annual rainfall (mm)	672		720		93
(1941-70 rainfall average (mm)			724)		

Factors affecting flow regime

- Reservoir(s) in catchment
- Flow influenced by groundwater abstraction and/or recharge
- Abstraction for public water supplies.
- Flow reduced by industrial and/or agricultural abstractions
- Augmentation from surface water and/or groundwater
- Augmentation from effluent returns

Station and catchment description

Ultrasonic gauging station commissioned in 1974; multi-path operation from 1986. Full range. No peak flows pre-1974 when dmfs derived from Teddington weir complex (70m wide), significant structural improvements since 1883. Some underestimation of pre-1951 low flows. Substantial baseflow - sustained from the Chalk and the Oolites. Daily naturalised flows available for POR - allowing for major PWS abstractions only. Diverse topography, geology and land use which has undergone important historical changes

Part (ii) - The monthly flow data

The introductory information (measuring authority etc.) is as described in Part (i).

Hydrometric statistics for the year

The monthly average, peak flow, runoff and rainfall figures are equivalent to the summary information following the daily mean gauged discharges in Part (i). Because of the rounding of monthly runoff values the runoff for the year may differ slightly from the sum of the individual monthly totals.

A 'comment' - appearing at the end of the station entry - may be used to draw attention to any particular factors influencing the accuracy of the data for the featured year or, more generally, to indicate that the published hydrometric data are subject to review.

Monthly and yearly statistics for previous record

Monthly mean flows (Average, Low and High) and the monthly rainfall and runoff figures are equivalent to those presented in Part (i). An asterisk indicates an incomplete rainfall series; the first and last years of data are given in parentheses. Due to the rounding of monthly runoff values, the average runoff for the year derived from the previous record may differ slightly from the sum of the individual monthly totals. The peak flow is the highest discharge, in cubic metres per second, for each month. For many stations the archived series of monthly instantaneous maximum flows, from which the preceding record peak is abstracted, is incomplete, particularly for the earlier years, and certain of the peak flows are known to be of limited accuracy. Where the peak value - in an incomplete series - is exceeded by the highest daily mean flow on record, the latter is substituted; such substitutions are indicated by a 'd' flag. An examination of the quality of the peak flow figures is underway and significant revision may be expected as this review proceeds. The figures are published primarily to provide a guide to the range of river flows experienced throughout the year at the featured gauging stations.

Factors affecting flow regime

Code letters are used as described in Part (i)

Station type

The station type is coded by the list of abbreviations given below - two abbreviations may be applied to each station relating to the measurement of lower or higher flows.

B	Broad-crested weir
C	Crump (triangular profile) single crest weir
CB	Compound broad-crested weir. The compounding may include a mixture of types such as rectangular profiles, flumes and shallow-Vs and with or without divide walls
CC	Compound Crump weir
EM	Electromagnetic gauging station
EW	Essex weir (simple Crump weir modified with angled, sloping, triangular profile flanking crests) in trapezoidal channel
FL	Flume
FV	Flat-V triangular profile weir
MIS	Miscellaneous method
TP	Rectangular thin-plate weir
US	Ultrasonic gauging station
VA	Velocity-area gauging station
VN	Triangular (V notch) thin-plate weir

003003 Oykel at Easter Turnaig 1988

Measuring authority: HRPB
First year: 1977
Grid reference: 29 (NC) 403 001
Level stn (m OD): 15 60
Catchment area (sq km): 330 7
Max alt (m OD): 998

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	19.590	24 550	26 240	7 894	3 392	2 753	9 259	16 320	16 820	16 100	13 520	32 280	**15 738**
(m^3s^{-1})	Peak	116.86	150 41	144 44	34 07	34 30	67 46	104 99	288 92	105 99	238 03	139 09	367 73	**367.73**
Runoff (mm)		159	186	213	62	27	22	75	132	132	130	106	261	**1505**
Rainfall (mm)		203	226	231	67	50	48	166	208	170	174	122	294	**1959**

Monthly and yearly statistics for previous record (Nov 1977 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	25.840	14 660	20 220	9 695	6 681	6 331	7 778	9 950	22 090	24 520	28 200	24 290	**16.704**
flows	Low	13 550	2 376	6.649	5 445	1 067	0.751	2 853	2 332	14.540	7 328	14 420	8 245	**13 019**
(m^3s^{-1})	High	43.980	25 370	40 740	17 710	14 380	14 140	15 690	22 590	31 870	41 100	49 380	38 210	**20.249**
Peak flow (m^3s^{-1})		510 66	466 46	470 84	208 27	129 64	169 90	191 07	196 76	423 38	847 50	407.70	394 15	**847 50**
Runoff (mm)		209	108	164	76	54	50	63	81	173	199	221	197	**1594**
Rainfall (mm)		231	94	187	88	84	99	107	129	228	238	268	226	**1979**

Factors affecting flow regime: N
Station type: VA

1988 runoff is 94% of previous mean
rainfall 99%

004001 Conon at Moy Bridge 1988

Measuring authority: HRPB
First year: 1947
Grid reference: 28 (NH) 482 547
Level stn (m OD): 10 00
Catchment area (sq km): 961 8
Max alt (m OD): 1052

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	67 510	66 990	73.290	49 430	16 760	17 020	28 610	41 470	53 940	65 990	53 950	78 730	**51.137**
(m^3s^{-1})	Peak	156 24	118 54	138 27	116 32	62 07	62 38	69 77	99 65	121 04	201 29	137.71	185 72	**201.29**
Runoff (mm)		188	175	204	133	47	46	80	115	145	184	145	219	**1681**
Rainfall (mm)		193	214	225	59	44	37	163	180	146	182	117	290	**1850**

Monthly and yearly statistics for previous record (Oct 1947 to Dec 1987—incomplete or missing months total 5 7 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	66 800	56 950	54 810	40 400	32 080	22 030	20 220	26 980	40 280	53 240	63 670	72 230	**45.769**
flows	Low	31 690	25 810	18 670	13 940	10 940	8 861	2 959	8 162	12 510	23 090	24.090	27 970	**29.991**
(m^3s^{-1})	High	138 300	121 000	127 900	75 730	53 050	47 560	36 690	45 140	94 870	94 030	121 700	165 100	**59.238**
Peak flow (m^3s^{-1})		409 56	467 20	362 90	203 90	232 20	165 20	247 41	254 90	223.72	324 80	411.85	1076 00	**1076.00**
Runoff (mm)		186	145	153	109	89	59	56	75	109	148	172	201	**1502**
Rainfall (mm)*		189	122	157	104	107	96	107	123	170	213	208	227	**1823**

*(1953-1987)

Factors affecting flow regime: H
Station type: VA

1988 runoff is 112% of previous mean
rainfall 101%

007002 Findhorn at Forres 1988

Measuring authority: HRPB
First year: 1958
Grid reference: 38 (NJ) 018 583
Level stn (m OD): 9 60
Catchment area (sq km): 781 9
Max alt. (m OD): 941

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	20 600	34 510	35 650	29 430	16 460	4 106	17 040	24 470	14 550	27 380	12 820	22 920	**21.661**
(m^3s^{-1})	Peak	93 38	99 74	107.92	117 86	141 91	7 43	126 19	229 80	139 42	224 35	43 50	76 98	**229 80**
Runoff (mm)		71	111	122	98	56	14	58	84	48	94	42	79	**876**
Rainfall (mm)		129	116	129	68	48	22	132	138	78	135	66	83	**1144**

Monthly and yearly statistics for previous record (Oct 1958 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	24.200	19 530	22.660	21 380	15 910	10 430	9 704	13 760	15 370	20 780	23 660	25 240	**18.553**
flows	Low	9 429	5 259	8 615	5.560	3 836	3 321	2 744	2 478	2 863	3.547	9 300	8 332	**11.994**
(m^3s^{-1})	High	51 190	44 700	54 320	54 170	41 990	41 900	24 650	58 840	37 870	49 540	39 710	61.550	**25.482**
Peak flow (m^3s^{-1})		361 11	537 70	410 00	173 47	294 32	430 20	469 14	2410 00	861 11	512 03	465 20	616 90	**2410.00**
Runoff (mm)		83	61	78	71	54	35	33	47	51	71	78	86	**749**
Rainfall (mm)		103	62	84	63	74	78	85	104	102	110	118	108	**1091**

Factors affecting flow regime: N
Station type: VA

1988 runoff is 117% of previous mean
rainfall 105%

008007 Spey at Invertruim 1988

Measuring authority: NERPB
First year: 1952
Grid reference: 27 (NN) 687 962
Level stn (m OD): 242 50
Catchment area (sq km): 400 4
Max alt (m OD): 951

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	8.542	7 232	7 213	5 148	2 329	1 426	4 700	4 812	5 153	8 612	3.987	5 505	**5.394**
(m^3s^{-1})	Peak	50 15	34 08	39 61	61 90	6 02	2 87	60 04	21 56	16 59	67 71	9 36	13 44	**67.71**
Runoff (mm)		57	45	48	33	16	9	31	32	33	58	26	37	**426**
Rainfall (mm)		202	149	203	73	36	23	193	162	136	172	87	173	**1609**

Monthly and yearly statistics for previous record (Oct 1952 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	8.719	6 309	6.438	4 170	3 665	2 972	2 833	3 357	4 746	6 862	7 705	9 701	**5.626**
flows	Low	3 314	1 953	2 722	2 075	1 413	1 123	1 042	0 852	1 454	1 638	3 235	3 518	**3 935**
(m^3s^{-1})	High	23 280	21 020	20 600	7 126	6 210	6.269	5 021	7 545	14 650	14 830	15 960	24 970	**8.037**
Peak flow (m^3s^{-1})		153.70	198 20	274 50	60.85	43 92	45 93	72 83	75 00	108 00	106 90	170 60	259 50	**274.50**
Runoff (mm)		58	38	43	27	25	19	19	22	31	46	50	65	**443**
Rainfall (mm)		155	98	117	72	90	77	85	101	135	166	166	180	**1442**

Factors affecting flow regime: H
Station type: VA

1988 runoff is 96% of previous mean
rainfall 112%

009001 Deveron at Avochie 1988

Measuring authority: NERPB
First year: 1959

Grid reference: 38 (NJ) 532 464
Level stn. (m OD): 81.80

Catchment area (sq km): 441.6
Max alt. (m OD): 775

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg:	11.200	17.530	18 770	12.090	6.968	3.903	4 394	4 977	5.655	13.950	8.995	7.844	**9.669**
(m^{3}s^{-1})	Peak	74.69	50 69	66 20	45 03	23 46	7.90	16 45	36 44	32.11	82 47	36 66	18 04	**82 47**
Runoff (mm)		68	99	114	71	42	23	27	30	33	85	53	48	**692**
Rainfall (mm)		134	93	123	85	48	40	100	96	93	157	74	46	**1089**

Monthly and yearly statistics for previous record (Oct 1959 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	12.840	10.670	11.590	10 420	7.836	5 283	4.763	6.188	5.953	8.913	10.920	11.900	**8.935**
flows	Low	3 688	3 052	3 391	4 314	3 631	2 610	1 766	1 621	2 092	1.934	3 389	3 504	**5.233**
(m^{3}s^{-1})	High	24.440	19.720	22.230	21.500	21 930	11.130	9.841	19.110	16.040	28 210	29.790	23.590	**12.437**
Peak flow (m^{3}s^{-1})		120.50	84.90	118 00	76 13	183.70	153 10	146 40	236 50	155 70	221 90	177.70	157.10	**238.50**
Runoff (mm)		78	59	70	61	48	31	29	38	35	54	64	72	**639**
Rainfall (mm)		95	63	76	70	74	67	78	94	84	98	107	94	**1000**

Factors affecting flow regime. N
Station type: VA

1988 runoff is 108% of previous mean
rainfall 109%

010002 Ugie at Inverugie 1988

Measuring authority: NERPB
First year 1971

Grid reference: 48 (NK) 101 485
Level stn. (m OD). 8.50

Catchment area (sq km) 325.0
Max alt. (m OD): 234

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	9.151	7.509	7 990	5.237	4.906	2.389	2.104	2 562	3.501	8.913	5.822	4 971	**5.423**
(m^{3}s^{-1}):	Peak	67 03	22 03	28 96	17 45	25.61	4.38	4 72	5 37	17 52	29 60	11 56	9 60	**67.03**
Runoff (mm)		75	58	66	42	40	19	17	21	28	73	46	41	**528**
Rainfall (mm)		115	62	87	59	51	11	86	74	81	128	67	32	**853**

Monthly and yearly statistics for previous record (Feb 1971 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	8 467	6 444	5 504	4 180	3 138	2 244	1 930	2 092	2 393	4 426	6 620	7 812	**4.598**
flows	Low	2 285	1.999	1 593	1 246	1 542	0 913	0 904	0 764	0 791	0.869	1 942	1 473	**3.003**
(m^{3}s^{-1})	High	13.270	14 320	9 460	7 541	6.197	4 372	4 487	6 404	7 092	8 075	18 350	13 280	**6.445**
Peak flow (m^{3}s^{-1})		61 04	83 56	36 61	40 84	31 64	13 00	23 79	20 75	38.80	87 72	106 10	95 52	**106.10**
Runoff (mm)		70	48	45	33	26	18	16	17	19	36	53	64	**447**
Rainfall (mm)		83	45	67	51	51	54	60	63	83	82	93	83	**815**

Factors affecting flow regime: N
Station type VA

1988 runoff is 118% of previous mean
rainfall 105%

011001 Don at Parkhill 1988

Measuring authority. NERPB
First year 1969

Grid reference 38 (NJ) 887 141
Level stn (m OD). 32 40

Catchment area (sq km): 1273 0
Max alt (m OD) 872

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	32 650	40 890	45 240	29 480	17 280	9 016	10 710	12 220	14 940	34 290	24 040	20 140	**24.204**
(m^{3}s^{-1})	Peak	155 40	82.55	109 20	75 35	39 34	16.33	30 33	41 27	48 15	134 60	59 34	54 77	**155 40**
Runoff (mm)		69	80	95	60	36	18	23	26	30	72	49	42	**601**
Rainfall (mm)		132	76	107	75	43	30	106	89	78	150	70	33	**989**

Monthly and yearly statistics for previous record (Dec 1969 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	31.550	28 300	27 840	25 700	17 080	12 490	10 720	12 120	11.300	18 740	22 860	28 100	**20.535**
flows	Low	9 259	6 557	6 274	9 174	9.544	6 424	5 128	4 644	5 019	4.567	6 856	7 738	**10.694**
(m^{3}s^{-1})	High	48 660	52.240	48 950	44 750	34 770	27.560	27 530	40 150	36 470	51 940	86 230	50 960	**29.185**
Peak flow (m^{3}s^{-1})		185 90	131 00	143.70	107.50	92 06	101 60	118 10	277 40	107.20	273 10	213 20	154 50	**277.40**
Runoff (mm)		66	54	59	52	36	25	23	26	23	39	47	59	**509**
Rainfall (mm)		98	56	74	64	65	61	71	74	76	83	90	83	**895**

Factors affecting flow regime: N
Station type VA

1988 runoff is 118% of previous mean
rainfall 111%

013007 North Esk at Logie Mill 1988

Measuring authority. TRPB
First year 1976

Grid reference: 37 (NO) 699 640
Level stn. (m OD): 10 60

Catchment area (sq km). 730.0
Max alt. (m OD): 939

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	36 150	30.540	25 570	22 430	12 240	5 078	12 230	16 760	21.170	47.060	19 730	15 950	**22.084**
(m^{3}s^{-1})	Peak	162.62	104 46	90 91	230 38	82 34	10 67	59 71	62 62	342.79	452 76	137.44	52 38	**452.76**
Runoff (mm)		133	105	94	80	45	18	45	62	75	173	70	59	**957**
Rainfall (mm)		180	77	97	78	66	25	155	121	99	202	87	28	**1215**

Monthly and yearly statistics for previous record (Jan 1976 to Dec 1987—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	24 290	25 200	30 370	23 140	16 450	9 975	6 806	10 220	11 290	28 020	26 090	31 740	**20.291**
flows	Low	13.770	9 795	16 450	9 071	6.179	3.684	2 993	2 548	3 622	4 099	5 281	17 440	**15.314**
(m^{3}s^{-1})	High	48 590	45 670	42 750	34 750	36 420	24 300	18 060	35 810	30 540	80 410	91 170	59.880	**24.926**
Peak flow (m^{3}s^{-1})		240 80	88 31	169 10	11' 40	180 80	271 90	133 00	199 20	196 00	274 69	462 10	398 10	**462 10**
Runoff (mm)		89	84	111	82	60	35	25	37	40	103	93	116	**877**
Rainfall (mm)		116	78	113	60	83	69	72	82	107	135	114	134	**1163**

Factors affecting flow regime. S P I
Station type: VA

1988 runoff is 109% of previous mean
rainfall 104%

013008 South Esk at Brechin 1988

Measuring authority TRPB
First year 1983

Grid reference 37 (NO) 600 596
Level stn (m OD) 18 00

Catchment area (sq km) 490 0
Max alt (m OD) 958

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	21 180	18 200	14 000	15 840	8 757	3 792	10 010	13 380	16 480	28 630	13 070	11 370	**14 564**
(m^3s^{-1})	Peak	65 25	57 04	44 72	90 85	27 88	7 35	33 20	57 86	122 50	170 58	66 58	26 73	**170.58**
Runoff (mm)		116	93	77	84	48	20	55	73	87	157	69	62	**940**
Rainfall (mm)		168	80	104	76	63	21	175	138	104	210	95	35	**1269**

Monthly and yearly statistics for previous record (Jan 1983 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	15 470	12 100	16 750	14 910	14 130	8 409	4 604	8 007	7 908	10 840	16 840	18 470	**12 376**
flows	Low	10 600	7 069	9 773	10 820	6 099	3 609	1 685	1 405	2 401	3 494	3 949	10 970	**10 340**
(m^3s^{-1})	High	19 770	19 330	26 610	21 340	28 180	11 120	9 048	25 920	21 860	19 050	49 350	23 650	**14.856**
Peak flow (m^3s^{-1})		76 24	72 40	98 91	56 51	103 75	86 79	32 96	127 90	89 54	118 67	172 00	181 10	**181.10**
Runoff (mm)		85	60	92	79	77	44	25	44	42	59	89	101	**797**
Rainfall (mm)		134	59	106	69	95	83	63	90	96	106	128	140	**1169**

Factors affecting flow regime I
Station type VA

1988 runoff is 118% of previous mean
rainfall 109%

014001 Eden at Kemback 1988

Measuring authority TRPB
First year 1967

Grid reference 37 (NO) 415 158
Level stn (m OD) 6 20

Catchment area (sq km) 307 4
Max alt (m OD) 522

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	8 798	7 130	4 767	5 200	3 216	1 786	1 864	3 041	2 831	5 943	4 382	4 074	**4.372**
(m^3s^{-1})	Peak	32 44	19 02	22 01	52 69	6 89	2 44	3 26	11 40	8 41	22 01	29 73	17 27	**52.69**
Runoff (mm)		77	58	37	44	28	15	16	27	24	52	37	36	**450**
Rainfall (mm)		120	47	73	93	58	21	136	98	59	112	65	26	**908**

Monthly and yearly statistics for previous record (Oct 1967 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	6 910	6 294	4 978	3 696	3 136	2 276	1 519	1 698	2 059	3 147	4 665	5 912	**3.847**
flows	Low	2 546	2 170	1 408	1 199	1 406	1 077	0 914	0 799	0 749	0 833	0 830	1 731	**1 446**
(m^3s^{-1})	High	10 890	19 460	8 096	7 243	8 335	6 651	3 390	6 038	11 260	6 880	14 440	12 390	**5.593**
Peak flow (m^3s^{-1})		59 05	71 31	54 89	28 27	47 48	41 93	26 20	17 19	153 64	35 97	39 37	47 82	**71 31**
Runoff (mm)		60	50	43	31	27	19	13	15	17	27	39	52	**395**
Rainfall (mm)		83	53	64	45	68	55	58	59	76	75	76	78	**790**

Factors affecting flow regime S GEI
Station type VA

1988 runoff is 114% of previous mean
rainfall 115%

015011 Lyon at Comrie Bridge 1988

Measuring authority TRPB
First year 1958

Grid reference 27 (NN) 786 486
Level stn (m OD) 92 10

Catchment area (sq km) 391 1
Max alt (m OD) 1215

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	19 740	16 340	15 990	11 160	6 855	3 852	14 380	10 630	12 960	23 580	9 101	13 890	**13 232**
(m^3s^{-1})	Peak	143 89	70 84	85 58	89 80	30 29	8 52	154 66	39 34	145 09	191 88	84 69	48 71	**191.88**
Runoff (mm)		135	105	110	74	47	26	99	73	86	162	60	95	**1070**
Rainfall (mm)		289	187	268	69	55	22	277	206	179	272	112	219	**2155**

Monthly and yearly statistics for previous record (Jan 1958 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	16 900	12 950	13 610	9 975	9 811	6 630	6 025	7 414	10 410	14 760	14 900	15 990	**11 616**
flows	Low	3 596	3 198	4 219	4 002	3 537	3 514	3 062	2 221	2 843	3 662	5 320	6 182	**8.330**
(m^3s^{-1})	High	43 920	28 580	37 440	17 100	24 520	18 870	20 800	28 940	28 120	29 930	30 550	32 780	**19 870**
Peak flow (m^3s^{-1})		271 20	149 10	254 70	62 02	124 86	56 93	84 85	128 70	131 40	160 90	270 40	198 00	**271 20**
Runoff (mm)		116	81	93	66	67	44	41	51	69	101	99	109	**937**
Rainfall (mm)*		250	119	186	80	113	92	98	115	189	211	251	247	**1951**

*(1971-1987)

Factors affecting flow regime H
Station type VA

1988 runoff is 114% of previous mean
rainfall 110%

016003 Ruchill Water at Cultybraggan 1988

Measuring authority TRPB
First year 1970

Grid reference 27 (NN) 764 204
Level stn (m OD) 62 30

Catchment area (sq km) 99 5
Max alt (m OD) 985

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	9 322	7 685	5 952	4 324	1 798	0 568	5 739	6 134	7 012	9 772	3 722	5 446	**5.630**
(m^3s^{-1})	Peak	119 14	53 23	52 15	87 32	21 68	2 10	55 75	58 71	59 67	133 29	60 35	49 24	**133 29**
Runoff (mm)		251	194	160	113	48	15	154	165	183	263	97	147	**1789**
Rainfall (mm)		286	188	222	122	86	19	278	240	208	277	121	181	**2228**

Monthly and yearly statistics for previous record (Oct 1970 to Dec 1987—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	7 428	5 516	6 260	2 915	2 930	1 964	1 608	2 369	4 823	6 101	7 886	7 888	**4.806**
flows	Low	2 263	1 050	1 802	0 758	0 304	0 402	0 239	0 164	0 345	0 789	2 306	1 630	**3.281**
(m^3s^{-1})	High	15 240	9 995	11 100	5 156	10 120	4 562	4 812	9 746	10 260	12 130	16 550	12 350	**6.586**
Peak flow (m^3s^{-1})		250 40	130 20	165 30	61 27	165 00	221 30	160 00	143 00	227 30	136 60	183 30	174 50	**250 40**
Runoff (mm)		200	136	169	76	79	51	43	64	126	164	205	212	**1525**
Rainfall (mm)		226	142	173	85	124	98	109	128	203	207	246	240	**1981**

Factors affecting flow regime N
Station type VA

1988 runoff is 117% of previous mean
rainfall 112%

016004 Earn at Forteviot Bridge 1988

Measuring authority: TRPB
First year: 1972

Grid reference: 37 (NO) 043 184
Level stn (m OD): 7.80

Catchment area (sq km): 782.2
Max alt. (m OD): 985

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	65.720	51.050	33 600	28 290	14 770	5.090	24 620	28 410	34 610	61.980	28.700	29.910	33.908
(m^3s^{-1}):	Peak	226 32	141.31	131.68	162.22	32.63	11.55	103 51	111.53	166 31	238 28	98 90	95.64	238.28
Runoff (mm)		225	164	115	94	51	17	84	97	115	212	95	102	1371
Rainfall (mm)		217	128	148	90	65	19	225	176	134	217	95	110	1624

Monthly and yearly statistics for previous record (Oct 1972 to Dec 1987—incomplete or missing months total 0 3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	45 040	34.640	35.760	19.740	15.500	10 240	7 554	10.900	19 640	30 650	43 050	45.900	26.526
flows	Low	19.630	16 070	12 310	8 389	4.906	4 095	2.658	2 456	5.302	5 984	15.120	15 060	15.508
(m^3s^{-1})	High	85.510	58 640	58 620	33.790	47.200	20 070	18 350	46 660	55 680	59.340	89 750	79 160	33.594
Peak flow (m^3s^{-1})		277 50	214 60	194.10	106 00	155 20	114.90	142.30	169.70	271 80	241 20	328 60	238 69	328 60
Runoff (mm)		154	108	122	65	53	34	26	37	65	105	143	157	1070
Rainfall (mm)		158	93	136	55	88	73	79	98	157	147	173	172	1429

Factors affecting flow regime: P H
Station type: VA

1988 runoff is 128% of previous mean
rainfall 114%

017001 Carron at Headswood 1988

Measuring authority: FRPB
First year: 1969

Grid reference 26 (NS) 832 820
Level stn (m OD): 17 10

Catchment area (sq km) 122 3
Max alt (m OD) 570

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	5 723	6 325	4 371	3 444	1.523	0 839	2 611	4 942	4 428	8 372	2 188	3 286	4.006
(m^3s^{-1})	Peak	44 41	59.66	35 05	39 61	7 78	2 60	19 84	84 48	21 21	67 50	18 66	39 88	84 48
Runoff (mm)		125	130	96	73	33	18	57	108	94	183	46	72	1036
Rainfall (mm)		195	142	193	110	81	15	218	223	157	215	113	142	1804

Monthly and yearly statistics for previous record (Aug 1969 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	5 488	3 549	3 506	1 919	1.570	1 240	1 060	1 450	3.062	3 841	5 694	5 500	3.156
flows	Low	1 943	1 018	1 232	0 807	0.590	0 580	0 549	0 557	0 467	0 424	1 412	1 084	2 108
(m^3s^{-1})	High	10 890	7 576	7 463	3 165	5 724	2.834	4 650	8 092	16 720	10 270	9 759	10.470	4.575
Peak flow (m^3s^{-1})		130 30	63 20	92 83	43 62	51 35	33.74	65 38	61 72	124 30	124 80	105 80	147 90	147.90
Runoff (mm)		120	71	77	41	34	26	23	32	65	84	121	120	814
Rainfall (mm)		165	97	131	71	91	87	85	105	157	160	191	173	1513

Factors affecting flow regime: S E
Station type VA

1988 runoff is 127% of previous mean
rainfall 1'9%

017002 Leven at Leven 1988

Measuring authority. FRPB
First year 1969

Grid reference 37 (NO) 369 006
Level stn (m OD) 4.10

Catchment area (sq km). 424 0
Max alt (m OD). 522

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	14 410	14 170	6 847	7 787	5 076	2 451	3 313	7 782	6 492	9 600	8 659	8 342	7.894
(m^3s^{-1})	Peak	34 69	23 56	20.62	44 68	15 84	4.96	7 80	18 10	10 63	19 08	27 76	20 94	44.68
Runoff (mm)		91	84	43	48	32	15	21	49	40	61	53	53	589
Rainfall (mm)		126	60	88	90	60	18	168	116	81	123	71	47	1048

Monthly and yearly statistics for previous record (Aug 1969 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	11 250	9 803	7.182	4 987	3 685	3.173	1 833	2 997	3 762	5 896	8 558	10 840	6.148
flows	Low	4 786	2 882	1 543	1 413	2 012	1 166	0 902	0 820	0 970	0 795	0 972	3.462	2 269
(m^3s^{-1})	High	20.700	22.660	11 240	9 712	12 050	7 044	5.300	11 840	21 040	13 170	26 510	19.200	9.294
Peak flow (m^3s^{-1})		53 54	128 00	39 19	28 67	44 54	26.93	28 83	25 69	84.25	40.67	56 76	62 69	128.00
Runoff (mm)		71	56	45	30	23	19	12	19	23	37	52	68	458
Rainfall (mm)		93	58	76	49	65	65	63	70	92	86	99	97	913

Factors affecting flow regime: SR EI
Station type: VA

1988 runoff is 129% of previous mean
rainfall 115%

018003 Teith at Bridge of Teith 1988

Measuring authority: FRPB
First year. 1957

Grid reference: 27 (NN) 725 011
Level stn (m OD) 14 70

Catchment area (sq km) 518 0
Max alt (m OD) 1165

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	53 140	43 640	30 510	21 560	8 198	5.549	24 260	29 670	37.190	44.160	16 140	31 790	28.831
(m^3s^{-1})	Peak	176 64	132.24	112 62	93 10	21 96	14 69	75 18	85 33	152 43	144 43	70 00	91.52	176.64
Runoff (mm)		275	211	158	108	42	28	125	153	186	228	81	164	1760
Rainfall (mm)		306	207	225	102	94	26	303	255	2'7	262	12'	218	2336

Monthly and yearly statistics for previous record (Jan 1957 to Dec 1987—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	33 780	26.350	26 070	15 520	15 220	9 611	9.217	12 760	19 760	27 450	31 980	35.180	21.903
flows	Low	9 608	5.743	6 589	5 612	4 017	3 953	3 781	3.135	3 635	5.897	9 842	11 790	15.094
(m^3s^{-1})	High	72 430	54 340	60 190	30 040	55 000	21 520	26 390	54 210	45 020	66 410	70 650	72.370	31 131
Peak flow (m^3s^{-1})		303 90	207 40	2:7 38	89 21	158 00	161 70	118 30	174 40	184 10	242 60	245 10	24: '0	303.90
Runoff (mm)		175	124	135	78	79	48	48	66	99	142	160	182	1334
Rainfall (mm)*		221	132	168	89	126	106	104	126	202	217	230	222	1943

*(1963-1987)

Factors affecting flow regime. S P
Station type: VA

1988 runoff is 132% of previous mean
rainfall 120%

018005 Allan Water at Bridge of Allan 1988

Measuring authority: FRPB
First year: 1971

Grid reference: 26 (NS) 786 980
Level stn (m OD): 11 20

Catchment area (sq km): 210 0
Max alt (m OD): 633

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	12 080	10 670	7 790	6 585	3 129	1 203	5 846	8 856	7.763	10 780	6 417	7 687	**7.403**
(m^3s^{-1})	Peak	52.48	63 11	62 53	69.63	11.25	1 99	26 59	62 05	45 54	68.80	55 56	62 05	**69.63**
Runoff (mm)		154	127	99	81	40	15	75	113	96	137	79	98	**1115**
Rainfall (mm)		181	108	148	100	68	17	218	180	130	179	89	108	**1526**

Monthly and yearly statistics for previous record (Jul 1971 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	10 670	7 953	8 601	4 509	3 974	2 723	1 886	2 820	5 004	7 011	9 486	10 360	**6.246**
flows	Low	4 751	3 631	3 152	1 654	1 189	0 945	0 726	0 648	0 907	0 971	3 642	3 709	**4.269**
(m^3s^{-1})	High	18 550	16 610	18.170	7 717	15.430	5.423	6 309	12 390	14 600	12 420	17 760	17 140	**9.090**
Peak flow (m^3s^{-1})		98 20	67 84	83 43	52 05	72 11	58 10	66 37	67 48	105 60	111 00	97 89	112 60	**112.60**
Runoff (mm)		136	93	110	56	51	34	24	36	62	89	117	132	**939**
Rainfall (mm)		140	82	115	59	83	72	75	87	131	130	147	148	**1269**

Factors affecting flow regime: I
Station type: VA

1988 runoff is 119% of previous mean
rainfall 120%

020001 Tyne at East Linton 1988

Measuring authority: FRPB
First year: 1961

Grid reference: 36 (NT) 591 768
Level stn (m OD): 16 50

Catchment area (sq km): 307 0
Max alt (m OD): 528

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	6 311	4 882	2 878	2 090	1.790	0 788	1 611	1 356	1 002	1 817	1 839	1 977	**2.354**
(m^3s^{-1})	Peak	57 19	39 18	23 55	22 84	8 28	1 22	14 01	10 13	1 88	6 54	30 31	9.73	**57 19**
Runoff (mm)		55	40	25	18	16	7	14	12	8	16	16	17	**242**
Rainfall (mm)		92	36	55	56	49	16	134	78	51	59	50	22	**698**

Monthly and yearly statistics for previous record (Jan 1961 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	4 699	3 806	4 065	2.955	2 495	1 528	1.295	1 727	1.864	2 237	3 666	3 756	**2.838**
flows	Low	1 032	0 783	0 531	0 644	0 926	0 586	0 500	0 468	0 461	0.450	0 523	0 582	**0 709**
(m^3s^{-1})	High	11 540	8 624	8 789	7 824	11.600	6 142	4 393	9 855	8 490	7 000	11 210	8 405	**4.146**
Peak flow (m^3s^{-1})		93 02	39 39	66 17	50 88	119 70	59 12	70 18	112 70	90 84	82.71	127 50	52 02	**127 50**
Runoff (mm)		41	30	35	25	22	13	11	15	16	20	31	33	**292**
Rainfall (mm)		64	40	59	48	61	54	61	78	69	67	73	61	**735**

Factors affecting flow regime: EI
Station type: VA

1988 runoff is 83% of previous mean
rainfall 95%

021006 Tweed at Boleside 1988

Measuring authority: TWRP
First year: 1961

Grid reference: 36 (NT) 498 334
Level stn (m OD): 94 50

Catchment area (sq km): 1500.0
Max alt (m OD): 839

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	83 760	73 270	29 550	25.750	17 100	9 323	35 820	32 820	38 820	44.140	25 530	37 680	**37.744**
(m^3s^{-1})	Peak	240 67	391 59	80 43	178 01	47 30	16 41	149 57	107 91	155 30	248 45	98 53	147 67	**391 59**
Runoff (mm)		150	122	53	45	31	16	64	59	67	79	44	67	**796**
Rainfall (mm)		177	112	98	62	66	22	197	134	115	116	67	85	**1251**

Monthly and yearly statistics for previous record (Oct 1961 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	54 310	42 430	43 570	29.870	24.950	16 700	14 530	21 870	30 150	41.010	51 310	53 180	**35.302**
flows	Low	14 300	10 480	14.930	9 896	7 605	7 413	6 362	5 012	4.572	4 435	11 570	22 450	**18 577**
(m^3s^{-1})	High	110 700	81 860	101 000	57 330	64 330	32 820	40 970	81 400	95 510	96 720	119 800	100 400	**44.323**
Peak flow (m^3s^{-1})		678 60	483 90	470 10	248 90	182 80	126 00	342 60	444 30	496 30	1019.00	486 30	571 90	**1019.00**
Runoff (mm)		97	69	78	52	45	29	26	39	52	73	89	95	**743**
Rainfall (mm)		120	77	101	69	88	79	85	105	120	123	127	121	**1215**

Factors affecting flow regime: S P
Station type: VA

1988 runoff is 107% of previous mean
rainfall 103%

021012 Teviot at Hawick 1988

Measuring authority: TWRP
First year: 1963

Grid reference: 36 (NT) 522 159
Level stn (m OD): 90 10

Catchment area (sq km): 323 0
Max alt (m OD): 608

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	18 440	17 430	6 504	7 072	3 860	1 708	12 300	8 575	8.411	11 580	7 506	8 511	**9.315**
(m^3s^{-1})	Peak	90 05	235 30	50 18	178 96	22 48	3 63	77 98	76 58	70 53	120 75	75 69	73 43	**235.30**
Runoff (mm)		153	135	54	57	32	14	102	71	67	96	60	71	**912**
Rainfall (mm)		161	105	94	74	76	16	236	122	108	120	79	75	**1266**

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	13 270	10 070	9 783	6 147	5 720	4 158	3 229	4 628	6.248	10 090	12 860	13 630	**8.316**
flows	Low	6 981	4 234	2 991	2 189	1 296	1 099	0 751	0 734	0 915	0 816	2 555	4 522	**4.183**
(m^3s^{-1})	High	28 560	18.510	20 250	13 030	17.340	10 500	11 020	19 120	18 960	25 690	29 930	25 460	**10.959**
Peak flow (m^3s^{-1})		185 90	228 60	150.20	86 03	117 79	89 40	148 30	178 60	185 60	273 40	188 60	210 70	**273.40**
Runoff (mm)		110	76	81	49	47	33	27	38	50	84	103	113	**812**
Rainfall (mm)		114	72	101	64	90	80	84	99	108	118	126	124	**1180**

Factors affecting flow regime: N
Station type: VA

1988 runoff is 112% of previous mean
rainfall 107%

021018 Lyne Water at Lyne Station 1988

Measuring authority: TWRP
First year: 1968

Grid reference: 36 (NT) 209 401
Level stn. (m OD): 168.00

Catchment area (sq km): 175.0
Max alt. (m OD): 592

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	7.061	5.863	2.998	2 544	1.940	1.149	2.192	2 813	3.236	3 490	1 953	3 369	3.214
(m^3s^{-1}):	Peak	30.75	22.74	9.15	12 24	5.90	2 32	12.39	17.58	17 01	14.77	14 85	9 21	30.75
Runoff (mm)		108	84	46	38	30	17	34	43	48	53	29	52	581
Rainfall (mm)		127	76	85	52	57	21	153	106	102	82	50	67	978

Monthly and yearly statistics for previous record (Oct 1968 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	4.841	3.993	3.590	2.646	1.797	1.451	1.202	1.400	2 013	2 887	4.338	4 432	2 877
flows	Low	1 682	2.158	1 357	1.127	0 882	0.787	0.713	0 605	0 591	0 597	0.977	1 618	1 428
(m^3s^{-1})	High	8.774	8 698	7.325	5 028	4 104	2 653	3.884	5 364	10 440	5 684	8 611	8 374	3.704
Peak flow (m^3s^{-1})		47 50	41.55	27 65	21 46	17 36	16 46	31.72	20 77	58.74	40 49	53 60	37 98	58.74
Runoff (mm)		74	56	55	39	27	21	18	21	30	44	64	68	519
Rainfall (mm)		89	55	81	53	64	65	69	75	95	96	102	91	935

Factors affecting flow regime. S P
Station type. VA

1988 runoff is 112% of previous mean
rainfall 105%

021022 Whiteadder Water at Hutton Castle 1988

Measuring authority: TWRP
First year 1969

Grid reference: 36 (NT) 881 550
Level stn (m OD) 29.00

Catchment area (sq km). 503 0
Max alt. (m OD) 533

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	16 660	10 620	6 289	4 561	4 554	1 951	4 463	3 524	3 602	8 406	6 502	6 981	6.513
(m^3s^{-1})	Peak	233 58	62 48	32 87	47 79	29 42	2 96	33 67	16 49	11 57	32 80	58 99	50 36	233 58
Runoff (mm)		89	53	33	24	24	10	24	19	19	45	34	37	409
Rainfall (mm)		117	40	62	49	56	22	162	69	67	83	71	23	821

Monthly and yearly statistics for previous record (Sep 1969 to Dec 1987--incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	11 420	10 290	9 913	7 776	5.490	3 658	2 360	3.114	3 204	4 961	7 899	8 748	6 552
flows	Low	2 143	1 557	1 108	1.325	2 113	1.403	1 315	1 162	0 990	1 001	1 100	1 347	4.540
(m^3s^{-1})	High	25 990	27 300	19 220	15.850	24 050	8 835	6 626	8 184	16 360	16 670	27 680	20 660	8.847
Peak flow (m^3s^{-1})		265 90	160 90	133.90	103 06	226 70	75 82	84 85	181.10	105 80	190 00	279.80	108 10	279.80
Runoff (mm)		61	50	53	40	29	19	13	17	17	26	41	47	411
Rainfall (mm)		81	51	75	53	67	60	58	70	69	71	76	72	803

Factors affecting flow regime: S P
Station type: CC

1988 runoff is 100% of previous mean
rainfall 102%

022006 Blyth at Hartford Bridge 1988

Measuring authority NRA-N
First year 1966

Grid reference 45 (NZ) 243 800
Level stn (m OD) 24.60

Catchment area (sq km) 269 4
Max alt (m OD): 259

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	5 352	2.548	2 297	0 818	1 044	0 379	1 800	0 866	0 418	3 569	2 833	3 940	2.165
(m^3s^{-1})	Peak	59 44	8 79	8 75	1 10	3 00	1 47	21 52	4 10	0.96	19.17	43 86	43 31	59.44
Runoff (mm)		53	24	23	8	10	4	18	9	4	35	27	39	254
Rainfall (mm)		83	25	51	31	60	13	158	58	49	92	70	31	721

Monthly and yearly statistics for previous record (Oct 1966 to Dec 1987—incomplete or missing months total 0.4 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	4 707	3 731	3 789	2 408	1 447	0 644	0 405	0 689	0.771	1 649	2 548	3 658	2.199
flows	Low	0 587	0 398	0 245	0 359	0 212	0 177	0 096	0 067	0 107	0 111	0 162	0 274	0.537
(m^3s^{-1})	High	10 150	7 997	11 090	6 281	4 948	1 895	1 250	2.963	2.695	9 680	5 735	12 500	3.410
Peak flow (m^3s^{-1})		146 60	59 52	150 20	80 31	38 86	31.54	12 95	61 09	30 02	56 84	69 20	122 30	150.20
Runoff (mm)		47	34	38	23	14	6	4	7	7	16	25	36	258
Rainfall (mm)		67	45	64	46	57	54	55	71	64	60	66	64	713

Factors affecting flow regime: E
Station type: FV

1988 runoff is 99% of previous mean
rainfall 101%

023001 Tyne at Bywell 1988

Measuring authority: NRA-N
First year 1956

Grid reference: 45 (NZ) 038 617
Level stn. (m OD) 14 00

Catchment area (sq km). 2175 6
Max alt (m OD) 893

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	100 400	70 930	44 590	24 060	18 600	8 537	57 990	32.130	36 660	50 730	37 210	61 430	45 336
(m^3s^{-1})	Peak	930 79	497 14	258 01	125 54	96.79	49 31	1105.12	162 51	186.15	192 64	417 20	628 07	1105.12
Runoff (mm)		124	82	55	29	23	10	71	40	44	62	44	76	659
Rainfall (mm)		144	78	90	45	73	26	209	95	89	102	70	77	1098

Monthly and yearly statistics for previous record (Oct 1956 to Dec 1987—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	73 470	56 610	56 130	39 090	25 730	18.630	18 920	29.880	35 550	47 310	63 130	69 120	44.430
flows	Low	19 220	14 360	20 150	8 461	7 246	4 910	5.199	3 403	4 155	4 727	18 090	23 080	25 849
(m^3s^{-1})	High	150 800	98 140	150 900	75 620	60 650	50 010	46 230	77.360	106 600	147 200	147 000	112.000	63 834
Peak flow (m^3s^{-1})		1525 00	922 10	1472 00	905 60	476 30	440 30	758.90	1561 48	1243 00	1586 00	1382 00	1317 00	1586.00
Runoff (mm)		90	63	69	47	32	22	23	37	42	58	75	85	644
Rainfall (mm)		102	68	86	63	70	70	81	97	92	95	106	105	1035

Factors affecting flow regime S
Station type VA

1988 runoff is 102% of previous mean
rainfall 106%

023007 Derwent at Rowlands Gill 1988

Measuring authority: NRA-N
First year: 1962
Grid reference: 45 (NZ) 168 581
Level stn. (m OD): 29 30
Catchment area (sq km): 242 1
Max alt. (m OD): 560

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	7.692	5 557	2 783	1 788	1 888	1.125	1 911	1 200	1 094	2 251	1 877	2 523	**2.638**
(m^3s^{-1})	Peak	67 29	28 28	1' 41	3 09	3.96	3 96	30 65	2 7'	2 13	23 90	18 02	17 59	**67.29**
Runoff (mm)		85	58	31	19	2:	12	21	13	12	25	20	28	**345**
Rainfall (mm)		124	46	62	42	63	21	150	51	50	110	64	50	**833**

Monthly and yearly statistics for previous record (Nov 1962 to Dec 1987—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	3 687	3 666	4 580	3 484	2 357	1 642	1 349	: 630	1 684	1 994	3 042	3.156	**2.684**
flows	Low	1 148	0.9'1	0 749	1 149	0 973	0 844	0 796	0 656	0 626	0 791	0 903	0 882	**1 119**
(m^3s^{-1})	High	7.320	10 490	13 570	7 760	7 851	4 222	4 087	4 667	7.264	8.971	11 780	7.826	**5.573**
Peak flow (m^3s^{-1})		54 99	34.46	93 73	70 25	36 88	45 91	20 83	60 69	36 41	58 87	97 98	63 02	**97 98**
Runoff (mm)		41	37	51	37	26	18	15	18	18	22	33	35	**350**
Rainfall (mm)		82	58	76	61	64	63	60	85	73	68	89	77	**856**

Factors affecting flow regime: P
Station type: CC

1988 runoff is 98% of previous mean
rainfall 97%

024004 Bedburn Beck at Bedburn 1988

Measuring authority: NRA-N
First year: 1959
Grid reference: 45 (NZ) 118 322
Level stn. (m OD): 109 00
Catchment area (sq km): 74 9
Max alt. (m OD): 531

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	3 007	2 272	1 110	0 543	0 812	0 305	1 523	1 271	1 213	3 776	2 951	3 277	**1.842**
(m^3s^{-1})	Peak	25.31	12 49	6 95	1 41	5 86	0 49	27 72	3 49	3.59	30 10	23 38	18 35	**30 10**
Runoff (mm)		108	76	40	19	29	11	54	45	42	135	102	117	**778***
Rainfall (mm)		125	62	69	41	62	23	174	61	60	125	78	46	**926**

Monthly and yearly statistics for previous record (Oct 1959 to Dec 1987—incomplete or missing months total 0 2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	2.102	1 736	1 845	1 401	0 919	0 568	0 428	0 572	0 594	1 155	1 558	1 781	**1.220**
flows	Low	0 515	0 471	0 436	0 440	0 270	0 196	0 152	0 120	0 157	0 146	0 244	0 444	**0.867**
(m^3s^{-1})	High	4 341	4 011	5 128	2 986	2 231	1 524	1 062	1 465	1 790	4 346	3.722	4 488	**1.633**
Peak flow (m^3s^{-1})		34 67	39 16	38 51	35 09	24 06	21 66	21.92	46 19	32 30	38 06	34 26	42 93	**46.19**
Runoff (mm)		75	57	66	48	33	20	15	20	21	41	54	64	**514**
Rainfall (mm)		90	62	75	59	65	59	63	79	73	80	91	86	**882**

Factors affecting flow regime: N
Station type: CC
Comment: Runoff data for 1988 under review

1988 runoff is 151% of previous mean
rainfall 105%

024009 Wear at Chester le Street 1988

Measuring authority: NRA-N
First year: 1977
Grid reference: 45 (NZ) 283 512
Level stn. (m OD): 5.50
Catchment area (sq km): 1008 3
Max alt. (m OD): 747

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	36 470	26 :70	15 130	7 069	8 437	4 379	14 0'0	6 764	6 268	20 230	13 830	21 :20	**15 006**
(m^3s^{-1})	Peak	281 01	170 83	86 36	12 12	40 90	7 95	226 50	13 92	26 46	153 57	164 65	181.18	**281.01**
Runoff (mm)		97	65	40	18	22	11	37	18	16	54	36	56	**471**
Rainfall (mm)		126	60	68	37	62	27	158	60	56	111	73	49	**887**

Monthly and yearly statistics for previous record (Sep 1977 to Dec 1987—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	24 750	20 230	26 150	18 680	11 360	8 108	5 606	7.695	6 613	11 300	18 620	24 300	**15.270**
flows	Low	15.780	10 210	14 090	5 489	4 386	3 945	2.948	3 335	3 777	4 834	5 022	13 230	**12.556**
(m^3s^{-1})	High	40 980	37 620	64 200	36 800	30.170	14 650	11 790	19 300	12 080	27 060	35 820	50 640	**19.785**
Peak flow (m^3s^{-1})		309 80	248 20	349 60	277 60	157 60	200 60	110 18	354 39	105 55	273 40	254 14	353 10	**354.39**
Runoff (mm)		66	49	69	48	30	21	15	20	17	30	48	65	**478**
Rainfall (mm)		87	52	93	58	66	70	52	86	69	80	94	102	**909**

Factors affecting flow regime: G
Station type: FV

1988 runoff is 98% of previous mean
rainfall 98%

025006 Greta at Rutherford Bridge 1988

Measuring authority: NRA-N
First year: 1960
Grid reference: 45 (NZ) 034 122
Level stn. (m OD): 223.00
Catchment area (sq km): 86.1
Max alt. (m OD): 596

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	5 049	4 755	2 627	0 670	1 041	0 208	2 783	1 183	1 592	3 895	2 165	3 846	**2.487**
(m^3s^{-1})	Peak	37 88	56 40	23 77	5 23	8 76	0 73	52.52	12 52	21.29	28 95	47 04	36 48	**56 40**
Runoff (mm)		157	138	82	20	32	6	87	37	48	121	65	120	**913**
Rainfall (mm)		173	126	102	42	61	25	194	97	78	139	91	106	**1234**

Monthly and yearly statistics for previous record (Oct 1960 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	3 721	2.586	3 283	2 189	1 347	0 898	0.653	1 376	1.520	2.533	3 409	3.607	**2.260**
flows	Low	0 291	0 280	0 842	0 375	0 148	0.130	0 092	0 098	0 146	0 195	0 951	0 944	**1.447**
(m^3s^{-1})	High	7.155	6 881	8 926	4 682	3 951	2 502	2 013	4.107	4 067	6 665	6 878	6.406	**2.926**
Peak flow (m^3s^{-1})		118 00	88 63	79 00	70 36	56 35	51 74	52.83	210 40	109 00	93 85	68 81	73 77	**210.40**
Runoff (mm)		116	73	102	66	42	27	20	43	46	79	103	112	**829**
Rainfall (mm)		118	79	100	76	79	73	70	99	95	104	116	121	**1130**

Factors affecting flow regime:
Station type: CC

1988 runoff is 110% of previous mean
rainfall 109%

025019 Leven at Easby 1988

Measuring authority: NRA-N
First year: 1971

Grid reference: 45 (NZ) 585 087
Level stn. (m OD): 101.30

Catchment area (sq km): 14.8
Max alt. (m OD): 335

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	0.242	0.345	0.394	0.163	0.116	0.081	0.130	0.083	0.069	0.084	0.139	0.153	0.166
(m^3s^{-1})	Peak	1.19	2.03	1.34	0.24	0.29	0.47	0.68	0.19	0.17	0.27	1.15	0.79	2.03
Runoff (mm)		44	58	71	28	21	14	24	15	12	15	24	28	355
Rainfall (mm)		70	75	88	25	43	45	117	56	45	63	71	25	723

Monthly and yearly statistics for previous record (May 1971 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.321	0.298	0.302	0.262	0.187	0.135	0.110	0.138	0.127	0.179	0.204	0.274	0.211
flows	Low	0.115	0.100	0.076	0.085	0.072	0.075	0.044	0.039	0.059	0.063	0.092	0.132	0.143
(m^3s^{-1})	High	0.630	0.729	0.821	0.771	0.544	0.239	0.188	0.427	0.532	0.556	0.507	0.543	0.305
Peak flow (m^3s^{-1})		3.14	4.38	5.68	9.36	7.56	1.99	3.14	15.53	12.83	3.50	4.01	7.66	15.53
Runoff (mm)		58	49	55	46	34	24	20	25	22	32	36	50	450
Rainfall (mm)		82	49	74	59	62	61	62	79	74	78	76	78	834

Factors affecting flow regime: N
Station type: FV

1988 runoff is 79% of previous mean
rainfall 87%

025020 Skerne at Preston le Skerne 1988

Measuring authority: NRA-N
First year: 1972

Grid reference: 45 (NZ) 292 238
Level stn. (m OD): 67.50

Catchment area (sq km): 147.0
Max alt. (m OD): 222

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	2.351	1.438	1.170	0.490	0.511	0.303	0.748	0.419	0.299	0.855	1.427	1.090	0.926
(m^3s^{-1})	Peak	12.82	6.76	4.68	1.07	2.94	0.65	5.60	2.08	1.28	8.80	14.41	12.31	14.41
Runoff (mm)		43	25	21	9	9	5	14	8	5	16	25	20	199
Rainfall (mm)		81	38	56	31	52	27	122	51	38	78	72	25	671

Monthly and yearly statistics for previous record (Dec 1972 to Dec 1987—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	1.608	1.240	1.422	1.056	0.717	0.475	0.395	0.418	0.360	0.835	0.881	1.418	0.902
flows	Low	0.486	0.481	0.293	0.247	0.199	0.117	0.121	0.086	0.082	0.099	0.204	0.553	0.558
(m^3s^{-1})	High	3.376	2.731	4.824	2.734	2.106	1.004	1.125	0.943	0.745	4.290	1.962	4.658	1.510
Peak flow (m^3s^{-1})		20.08	12.93	26.58	19.20	11.93	6.54	15.92	13.69	9.33	21.71	17.40	24.82	26.58
Runoff (mm)		29	21	26	19	13	8	7	8	6	15	16	26	194
Rainfall (mm)		60	36	58	46	54	56	47	65	61	57	58	60	658

Factors affecting flow regime: E
Station type: VA

1988 runoff is 103% of previous mean
rainfall 102%

026003 Foston Beck at Foston Mill 1988

Measuring authority: NRA-Y
First year: 1959

Grid reference: 54 (TA) 093 548
Level stn. (m OD): 6.40

Catchment area (sq km): 57.2
Max alt. (m OD): 164

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	0.632	1.018	1.340	1.416	0.982	0.660	0.506	0.387	0.316	0.312	0.257	0.246	0.671
(m^3s^{-1})	Peak	1.01	1.18	1.80	1.56	1.21	0.90	0.62	0.46	0.38	0.42	0.36	0.32	1.80
Runoff (mm)		30	45	63	64	46	30	24	18	14	15	12	12	371
Rainfall (mm)		79	72	89	26	47	45	92	49	42	66	52	20	679

Monthly and yearly statistics for previous record (Oct 1959 to Dec 1987—incomplete or missing months total 0.6 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.888	1.170	1.094	0.990	0.859	0.670	0.524	0.412	0.342	0.378	0.426	0.599	0.689
flows	Low	0.199	0.183	0.174	0.150	0.174	0.110	0.112	0.105	0.101	0.125	0.148	0.195	0.155
(m^3s^{-1})	High	2.224	2.332	2.242	2.070	1.708	1.231	0.882	0.675	0.567	0.612	1.845	2.379	1.282
Peak flow (m^3s^{-1})		2.89	3.31	2.69	2.70	1.95	2.01	1.47	0.99	0.80	1.22	2.49	2.86	3.31
Runoff (mm)		42	50	51	45	40	30	25	19	15	15	19	28	380
Rainfall (mm)		71	49	57	53	55	52	54	66	59	67	75	76	734

Factors affecting flow regime: N
Station type: TP

1988 runoff is 98% of previous mean
rainfall 93%

026005 Gypsey Race at Boynton 1988

Measuring authority: NRA-Y
First year: 1981

Grid reference: 54 (TA) 137 677
Level stn. (m OD): 16.80

Catchment area (sq km): 240.0
Max alt. (m OD): 211

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	0.092	0.390	0.619	0.722	0.440	0.230	0.119	0.029	0.006	0.005	0.007	0.012	0.221
(m^3s^{-1})	Peak	0.22	0.47	0.87	0.86	0.58	0.38	0.19	0.08	0.01	0.02	0.02	0.02	0.87
Runoff (mm)		1	4	7	8	5	2	1	0	0	0	0	0	29
Rainfall (mm)		81	73	94	27	51	43	101	54	45	67	52	21	709

Monthly and yearly statistics for previous record (Feb 1981 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.274	0.456	0.462	0.613	0.604	0.374	0.213	0.100	0.047	0.021	0.019	0.045	0.268
flows	Low	0.071	0.120	0.116	0.118	0.225	0.132	0.104	0.026	0.013	0.004	0.009	0.018	0.143
(m^3s^{-1})	High	0.475	0.887	0.872	1.585	1.217	0.623	0.351	0.184	0.098	0.055	0.033	0.082	0.349
Peak flow (m^3s^{-1})		0.72	1.00	1.86	1.87	1.58	0.86	0.60	0.28	0.29	0.14	0.08	0.27	1.87
Runoff (mm)		3	5	5	7	7	4	2	1	1	0	0	1	35
Rainfall (mm)		73	41	80	63	60	44	51	71	68	66	76	65	758

Factors affecting flow regime: G I
Station type: FV

1988 runoff is 83% of previous mean
rainfall 94%

027007 Ure at Westwick Lock 1988

Measuring authority: NRA-Y
First year: 1958

Grid reference: 44 (SE) 356 671
Level stn (m OD): 14.20

Catchment area (sq km): 914.6
Max alt (m OD): 713

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	51.740	53.280	24.390	8.480	9.212	3.684	20.130	18.670	19.010	31.750	16.580	36.080	**24.396**
(m^3s^{-1})	Peak	194.40	235.10	112.30	23.94	56.95	8.34	153.30	104.90	113.10	127.70	104.00	195.20	**235.10**
Runoff (mm)		152	146	71	24	27	10	59	55	54	93	47	106	**843**
Rainfall (mm)		175	140	98	39	65	22	176	117	87	136	78	102	**1235**

Monthly and yearly statistics for previous record (Oct 1958 to Dec 1987—incomplete or missing months total 0.5 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	33.370	27.720	27.070	20.630	13.180	8.959	7.754	11.870	13.870	21.910	29.340	32.790	**20.679**
flows	Low	4.009	3.886	10.250	5.674	3.831	3.024	2.202	1.287	1.450	5.856	7.078	11.330	**12.946**
(m^3s^{-1})	High	59.590	84.770	60.330	40.980	29.500	21.400	16.180	31.600	33.030	68.480	65.010	57.370	**27.066**
Peak flow (m^3s^{-1})		537.90	307.30	413.10	263.30	170.80	161.50	144.50	271.90	296.20	266.50	288.80	304.10	**537.90**
Runoff (mm)		98	74	79	58	39	25	23	35	39	64	83	96	**714**
Rainfall (mm)		119	78	96	79	75	72	74	92	97	106	122	125	**1135**

Factors affecting flow regime: S P
Station type: B VA

1988 runoff is 118% of previous mean
rainfall 109%

027025 Rother at Woodhouse Mill 1988

Measuring authority: NRA-Y
First year: 1961

Grid reference: 43 (SK) 432 857
Level stn (m OD): 28.70

Catchment area (sq km): 352.2
Max alt (m OD): 367

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	11.590	9.113	7.589	3.394	3.318	2.478	3.225	2.018	2.093	4.413	2.733	3.614	**4.628**
(m^3s^{-1})	Peak	45.65	42.80	35.09	5.83	19.92	16.44	10.48	6.15	8.81	40.80	27.00	10.55	**45.65**
Runoff (mm)		88	65	58	25	25	18	25	15	15	34	20	27	**416**
Rainfall (mm)		130	57	88	40	52	56	104	66	43	76	41	31	**784**

Monthly and yearly statistics for previous record (Oct 1961 to Dec 1987—incomplete or missing months total 2.5 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	6.874	6.780	6.413	5.259	3.879	3.026	1.950	2.034	2.171	2.865	4.710	6.240	**4.338**
flows	Low	1.287	1.424	1.830	1.400	1.569	1.166	0.934	0.760	0.712	0.693	1.023	2.393	**2.540**
(m^3s^{-1})	High	13.000	22.440	14.330	13.160	10.110	10.840	4.907	3.323	7.786	7.600	8.200	18.140	**6.364**
Peak flow (m^3s^{-1})		60.30	78.80	53.21	78.14	61.40	105.40	45.63	33.55	45.59	41.74	50.55	91.46	**105.40**
Runoff (mm)		52	47	49	39	30	22	15	15	16	22	35	47	**389**
Rainfall (mm)		70	58	68	63	65	65	53	64	64	62	76	75	**783**

Factors affecting flow regime: S PGEI
Station type: VA

1988 runoff is 107% of previous mean
rainfall 100%

027030 Dearne at Adwick 1988

Measuring authority: NRA-Y
First year: 1963

Grid reference: 44 (SE) 477 020
Level stn (m OD): 12.70

Catchment area (sq km): 310.8
Max alt (m OD): 381

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	7.558	7.208	5.222	3.365	2.379	2.007	2.752	1.863	1.568	2.770	1.929	2.743	**3.440**
(m^3s^{-1})	Peak	26.85	35.91	13.65	7.49	5.66	9.24	16.63	7.27	3.30	14.77	13.73	8.91	**35.91**
Runoff (mm)		65	58	45	28	21	17	24	16	13	24	16	24	**350**
Rainfall (mm)		108	66	80	41	37	53	98	63	31	71	37	28	**713**

Monthly and yearly statistics for previous record (Nov 1963 to Dec 1987—incomplete or missing months total 0.7 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	4.932	5.322	4.828	4.288	3.126	2.674	1.881	1.932	1.907	2.476	3.614	4.368	**3.435**
flows	Low	1.946	1.648	1.433	1.223	1.303	1.106	0.806	0.765	0.873	0.922	1.029	1.245	**2.104**
(m^3s^{-1})	High	9.214	14.340	10.750	8.866	7.380	7.299	3.699	3.054	5.658	5.171	7.632	10.980	**5.264**
Peak flow (m^3s^{-1})		51.76	56.32	41.85	58.42	43.97	55.58	31.94	27.40	28.97	26.56	51.52	56.65	**58.42**
Runoff (mm)		43	42	42	36	27	22	16	17	16	21	30	38	**349**
Rainfall (mm)		63	52	61	57	60	58	48	65	59	57	73	67	**720**

Factors affecting flow regime: GEI
Station type: C VA

1988 runoff is 100% of previous mean
rainfall 99%

027042 Dove at Kirkby Mills 1988

Measuring authority: NRA-Y
First year: 1972

Grid reference: 44 (SE) 705 855
Level stn (m OD): 35.60

Catchment area (sq km): 59.2
Max alt (m OD): 429

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	1.738	2.053	2.395	0.865	0.662	0.342	1.021	0.736	0.761	0.993	0.995	1.051	**1.134**
(m^3s^{-1})	Peak	5.80	9.13	9.80	1.31	2.14	0.54	12.30	2.67	4.34	3.33	5.55	4.06	**12.30**
Runoff (mm)		79	87	108	38	30	15	46	33	33	45	44	48	**606**
Rainfall (mm)		93	90	120	32	59	14	175	90	64	85	69	29	**920**

Monthly and yearly statistics for previous record (Feb 1972 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	1.747	1.614	1.692	1.273	0.864	0.662	0.507	0.585	0.678	1.056	1.199	1.660	**1.126**
flows	Low	0.698	0.541	0.347	0.376	0.368	0.279	0.211	0.161	0.245	0.251	0.543	0.853	**0.840**
(m^3s^{-1})	High	2.861	3.180	4.701	2.915	1.702	1.099	0.922	1.397	2.743	2.683	2.032	3.237	**1.554**
Peak flow (m^3s^{-1})		37.45	36.68	40.93	27.63	30.01	7.43	19.33	32.36	56.38	24.71	23.85	53.38	**56.38**
Runoff (mm)		79	67	77	56	39	29	23	26	30	48	52	75	**601**
Rainfall (mm)		99	59	89	64	70	66	66	78	87	92	87	99	**956**

Factors affecting flow regime: N
Station type: FV

1988 runoff is 101% of previous mean
rainfall 96%

027043 Wharfe at Addingham 1988

Measuring authority: NRA-Y
First year: 1974

Grid reference. 44 (SE) 092 494
Level stn. (m OD): 79.70

Catchment area (sq km): 427 0
Max alt. (m OD): 704

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	33 340	28 360	15 990	5.027	4 028	1.722	12.740	18 990	15 010	18.170	9.784	23 890	15.602
(m^3s^{-1}):	Peak	201 30	216 40	92 08	22.12	23 22	3 07	156 10	174 50	108 30	96.89	70 32	236 90	236.90
Runoff (mm)		209	166	100	31	25	10	80	119	91	114	59	150	1155
Rainfall (mm)		221	164	146	41	67	24	217	191	126	142	85	152	1576

Monthly and yearly statistics for previous record (Jan 1974 to Dec 1987—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	25.190	15.830	20 980	10 380	7 597	5.587	4 402	8 688	13 010	18 250	22 930	24.930	14 828
flows	Low	11.760	5 157	6.391	2.453	1 623	1.740	1 245	1.143	3.799	6 422	8.263	5.972	10.487
(m^3s^{-1})	High	32.590	28 410	52 490	21.970	16.100	10 320	9 543	26 270	23 450	37.310	37 450	44 680	19.543
Peak flow (m^3s^{-1})		509 00	342 00	552.60	205 10	100.90	114 70	163 80	273 80	244.90	370 00	400 00	320 30	552.60
Runoff (mm)		158	91	132	63	48	34	28	54	79	114	139	156	1096
Rainfall (mm)		161	80	133	72	81	85	74	114	135	143	153	175	1406

Factors affecting flow regime S P
Station type C VA

1988 runoff is 105% of previous mean
rainfall 112%

027059 Laver at Ripon 1988

Measuring authority. NRA-Y
First year 1977

Grid reference. 44 (SE) 301 710
Level stn (m OD): 29.60

Catchment area (sq km): 87 5
Max alt. (m OD) 406

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	2.834	2.958	1 015	0 490	0 614	0 233	0 696	0 609	0 546	1.736	1 033	1 487	1 184
(m^3s^{-1})	Peak	16 62	18 75	5 67	1.15	9.79	0 41	11 26	8 94	6 27	11.85	8 65	14 67	18 75
Runoff (mm)		87	85	31	15	19	7	21	19	16	53	31	46	428
Rainfall (mm)		140	106	69	36	61	26	150	99	61	131	66	56	1001

Monthly and yearly statistics for previous record (Nov 1977 to Dec 1987—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	2 043	1 494	1 885	1 360	0 802	0 565	0.251	0 431	0 329	0 739	1 333	1 999	1.102
flows	Low	1.136	0 659	0 721	0 453	0 272	0 247	0 098	0 096	0 224	0 167	0 419	0 848	0.837
(m^3s^{-1})	High	3.265	3 090	3 850	3.063	1 881	1 264	0 480	0 952	0 618	1.587	2 400	3 786	1 211
Peak flow (m^3s^{-1})		24 06	16 85	22 65	36 95	13.32	16 75	6 29	11 48	10 21	17 08	15 01	39.14	39 14
Runoff (mm)		63	42	58	40	25	17	8	13	10	23	39	61	397
Rainfall (mm)*		104	55	104	65	65	68	44	88	73	90	100	123	979

*(1978-1987)

Factors affecting flow regime S P
Station type C

1988 runoff is 108% of previous mean
rainfall 102%

027071 Swale at Crakehill 1988

Measuring authority: NRA-Y
First year 1980

Grid reference: 44 (SE) 425 734
Level stn (m OD) 12 00

Catchment area (sq km): 1363 0
Max alt (m OD) 713

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	46.230	46 530	25 530	9 957	10 610	4 726	19.160	12 810	12 760	26.100	18 220	32.520	22 079
(m^3s^{-1}).	Peak	124 50	171.70	91 43	16 05	45 18	9 18	123 00	50 42	51.11	108 70	137 00	137 40	171.70
Runoff (mm)		91	86	50	19	21	9	38	25	24	51	35	64	512
Rainfall (mm)		118	84	74	32	60	31	150	84	53	109	74	49	918

Monthly and yearly statistics for previous record (Jun 1980 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	35.980	22.300	30 940	25 620	15 200	11 770	7.377	10 970	10 500	21 430	28 090	31 450	20 981
flows	Low	25 210	16 050	15 520	7.819	5.557	6 121	2.712	3 684	6 442	9 089	7 541	17 470	18.599
(m^3s^{-1})	High	56.800	44 450	60 040	46.690	32 370	17 180	12 870	24 220	16 090	39 340	44 280	41.050	23.498
Peak flow (m^3s^{-1})		230 70	187 90	188 30	183 30	94 62	107 60	103 50	199 80	114 50	184 50	161.40	183 70	230 70
Runoff (mm)		71	40	61	49	30	22	14	22	20	42	53	62	486
Rainfall (mm)*		93	38	76	79	72	55	48	85	67	87	87	97	884

*(1983-1987)

Factors affecting flow regime. N
Station type. C

1988 runoff is 105% of previous mean
rainfall 104%

028018 Dove at Marston on Dove 1988

Measuring authority NRA-ST
First year. 1961

Grid reference 43 (SK) 235 288
Level stn (m OD) 47.20

Catchment area (sq km) 883 2
Max alt (m OD) 555

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	31.830	21 580	32 120	11.510	9 925	6.981	12.710	9 561	11 050	13.310	10 380	15 040	15.527
(m^3s^{-1})	Peak	155 10	57 93	121 78	18 85	29 62	15 37	56 10	32 84	50 62	47 29	95 07	33 30	155.10
Runoff (mm)		97	61	97	34	30	20	39	29	32	40	30	46	556
Rainfall (mm)		135	54	158	40	68	59	141	93	74	77	52	56	1007

Monthly and yearly statistics for previous record (Oct 1961 to Dec 1987—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	22 490	19 780	17 220	14 630	12 040	9 245	7 433	7 816	8 409	11 080	16.790	21 610	14.022
flows	Low	7.822	4.615	8 943	6 195	4 831	3 452	2.430	1.913	2 821	3 495	5 684	7 907	7.723
(m^3s^{-1})	High	32.880	55 910	36 570	24 550	22 480	16 280	15 530	14 630	29 350	22 830	31 070	56 460	19.411
Peak flow (m^3s^{-1})		191 36	194 62	129.73	121 00	121 42	73 02	77 10	113 60	113 87	132.10	130 80	202 80	202.80
Runoff (mm)		68	55	52	43	37	27	23	24	25	34	49	66	501
Rainfall (mm)		91	66	76	66	76	76	65	82	81	81	96	96	952

Factors affecting flow regime SRPG
Station type. FV

1988 runoff is 111% of previous mean
rainfall 106%

028024 Wreake at Syston Mill 1988

Measuring authority: NRA-ST
First year: 1967

Grid reference: 43 (SK) 615 124
Level stn (m OD): 47.70

Catchment area (sq km): 413.8
Max alt (m OD): 230

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	9.717	5.100	5.239	1.471	1.197	0.841	1.139	0.593	0.600	0.621	0.687	1.901	**2.428**
(m^3s^{-1})	Peak	35.18	19.56	24.42	2.58	4.75	1.83	4.44	1.75	2.15	3.21	8.39	7.98	**35.18**
Runoff (mm)		63	31	34	9	8	5	7	4	4	4	4	12	**186**
Rainfall (mm)		94	35	70	32	47	46	101	51	21	46	33	22	**598**

Monthly and yearly statistics for previous record (Aug 1967 to Dec 1987—incomplete or missing months total 1.6 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	5.688	6.170	5.007	3.590	2.314	1.207	0.923	0.874	0.791	1.456	2.552	4.361	**2.896**
flows	Low	0.959	0.619	0.494	0.358	0.286	0.222	0.137	0.122	0.254	0.264	0.418	0.745	**0.923**
(m^3s^{-1})	High	10.150	21.740	12.630	8.772	8.117	2.776	4.547	3.230	5.367	6.897	7.087	11.850	**4.396**
Peak flow (m^3s^{-1})		43.11	73.37	99.82	97.07	51.83	39.17	26.88	30.44	21.61	31.68	50.25	52.95	**99.82**
Runoff (mm)		37	36	32	22	15	8	6	6	5	9	16	28	**221**
Rainfall (mm)*		53	45	54	46	56	61	42	62	54	53	51	57	**634**

*(1971-1987)

Factors affecting flow regime: GE
Station type: C VA

1988 runoff is 84% of previous mean
rainfall 94%

028026 Anker at Polesworth 1988

Measuring authority: NRA-ST
First year: 1966

Grid reference: 43 (SK) 263 034
Level stn (m OD): 60.40

Catchment area (sq km): 368.0
Max alt (m OD): 177

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	9.572	6.213	6.823	1.918	1.836	1.558	3.000	1.229	1.282	1.213	1.381	2.359	**3.200**
(m^3s^{-1})	Peak	75.63	26.61	30.16	3.94	6.79	12.70	21.83	3.49	5.61	2.57	12.84	18.17	**75.63**
Runoff (mm)		70	42	50	14	13	11	22	9	9	9	10	17	**275**
Rainfall (mm)		103	43	88	32	43	56	111	53	26	39	36	34	**664**

Monthly and yearly statistics for previous record (Oct 1966 to Dec 1987—incomplete or missing months total 2.6 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	5.067	5.374	4.254	2.831	2.443	1.882	1.281	1.421	1.272	1.976	2.652	3.933	**2.854**
flows	Low	1.798	0.953	0.650	0.657	0.686	0.484	0.343	0.405	0.711	0.728	0.855	1.175	**1.213**
(m^3s^{-1})	High	9.061	16.200	9.233	6.629	8.389	4.650	5.580	4.173	3.274	4.611	5.537	9.473	**3.724**
Peak flow (m^3s^{-1})		47.57	73.18	56.09	45.84	59.77	52.68	59.34	45.03	31.34	36.25	45.77	74.01	**74.01**
Runoff (mm)		37	36	31	20	18	13	9	10	9	14	19	29	**245**
Rainfall (mm)*		54	52	55	41	56	63	41	58	62	54	52	60	**648**

*(1971-1987)

Factors affecting flow regime: GE
Station type: C VA

1988 runoff is 112% of previous mean
rainfall 102%

028031 Manifold at Ilam 1988

Measuring authority: NRA-ST
First year: 1968

Grid reference: 43 (SK) 140 507
Level stn. (m OD): 131.00

Catchment area (sq km): 148.5
Max alt (m OD): 513

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	7.963	5.191	8.658	2.615	2.260	1.493	3.505	2.818	3.385	3.877	2.427	3.727	**4.003**
(m^3s^{-1})	Peak	56.44	20.82	53.38	5.12	10.60	2.72	32.61	15.14	31.10	19.85	40.42	17.39	**56.44**
Runoff (mm)		144	88	156	46	41	26	63	51	59	70	42	67	**852**
Rainfall (mm)		148	63	193	44	72	61	155	111	94	93	58	73	**1165**

Monthly and yearly statistics for previous record (May 1968 to Dec 1987—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	6.321	5.150	4.823	3.795	2.531	1.991	1.482	1.883	1.803	3.064	5.107	5.407	**3.606**
flows	Low	3.657	2.489	2.528	1.277	0.812	0.745	0.493	0.386	0.535	0.716	1.555	2.135	**2.241**
(m^3s^{-1})	High	8.522	12.710	9.455	6.200	5.713	5.150	3.481	4.560	4.147	6.697	8.198	9.995	**4.806**
Peak flow (m^3s^{-1})		80.13	74.53	66.72	47.36	52.40	39.58	37.29	137.00	45.69	75.78	91.61	66.25	**137.00**
Runoff (mm)		114	85	87	66	46	35	27	34	31	55	89	98	**766**
Rainfall (mm)*		123	82	95	74	77	81	70	80	85	95	123	113	**1098**

*(1969-1987)

Factors affecting flow regime: P E
Station type: C

1988 runoff is 111% of previous mean
rainfall 106%

028039 Rea at Calthorpe Park 1988

Measuring authority: NRA-ST
First year: 1967

Grid reference: 42 (SP) 071 847
Level stn (m OD): 104.20

Catchment area (sq km): 74.0
Max alt (m OD): 286

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	1.985	1.047	1.138	0.563	0.702	0.584	1.018	0.553	0.549	0.603	0.527	0.489	**0.815**
(m^3s^{-1})	Peak	36.71	7.34	9.74	4.22	13.34	10.59	24.75	11.93	11.81	15.42	8.61	2.94	**36.71**
Runoff (mm)		72	35	41	20	25	20	37	20	19	22	18	18	**348**
Rainfall (mm)		134	44	92	47	60	43	130	71	37	58	38	33	**787**

Monthly and yearly statistics for previous record (May 1967 to Dec 1987—incomplete or missing months total 1.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	1.172	1.048	1.059	0.807	0.767	0.685	0.507	0.671	0.638	0.679	0.889	1.104	**0.835**
flows	Low	0.601	0.549	0.483	0.316	0.355	0.287	0.257	0.367	0.295	0.320	0.493	0.530	**0.602**
(m^3s^{-1})	High	1.634	2.610	2.101	1.489	1.780	1.324	0.890	1.366	1.423	1.408	1.753	1.934	**1.058**
Peak flow (m^3s^{-1})		26.42	27.44	28.64	25.15	30.37	37.44	46.86	46.38	40.85	23.28	24.97	54.02	**54.02**
Runoff (mm)		42	35	38	28	28	24	18	24	22	25	31	40	**356**
Rainfall (mm)*		75	59	68	56	69	66	52	75	70	61	74	78	**803**

*(1968-1987)

Factors affecting flow regime: E
Station type: C

1988 runoff is 98% of previous mean
rainfall 98%

028080 Tame at Lea Marston Lakes 1988

Measuring authority: NRA-ST
First year: 1957
Grid reference: 42 (SP) 207 937
Level stn. (m OD): 66.20
Catchment area (sq km): 799.0
Max alt. (m OD): 267

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	26.700	19.480	19.350	17.050	12.660	10.890	16.090	10.330	10.250	10.560	10.180	11.330	14.163
(m^3s^{-1})	Peak	122.20	64.35	62.61	46.60	40.87	39.04	70.65	46.23	44.47	42.34	56.42	27.70	122.20
Runoff (mm)		89	61	65	39	42	35	54	35	33	35	33	38	560
Rainfall (mm)		116	43	87	44	48	47	125	61	35	46	36	34	722

Monthly and yearly statistics for previous record (Oct 1957 to Dec 1987—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	17.530	16.900	15.550	13.880	12.630	11.550	10.200	11.150	11.210	12.160	14.470	16.670	13.639
flows	Low	8.994	8.855	8.797	7.259	7.321	6.655	6.369	6.978	6.655	7.852	7.876	9.057	9.699
(m^3s^{-1})	High	24.130	35.140	26.590	22.000	24.690	18.990	17.210	16.970	19.440	25.600	27.880	32.880	17.355
Peak flow (m^3s^{-1})		115.82	94.05	86.27	110.84	121.58	159.70	94.78	153.20	92.33	76.24	127.60	219.70	219.20
Runoff (mm)		59	52	52	45	42	37	34	37	36	41	47	56	539
Rainfall (mm)		65	49	55	53	61	60	54	72	63	60	66	72	730

Factors affecting flow regime: EI
Station type: C

1988 runoff is 104% of previous mean
rainfall 99%

028082 Soar at Littlethorpe 1988

Measuring authority: NRA-ST
First year: 1971
Grid reference: 42 (SP) 542 973
Level stn (m OD): 61.40
Catchment area (sq km): 183.9
Max alt (m OD): 151

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	4.267	2.707	3.018	0.883	0.855	0.558	0.723	0.482	0.473	0.527	0.617	1.003	1.343
(m^3s^{-1})	Peak	23.49	10.39	12.39	1.71	3.10	1.47	3.24	1.36	1.69	0.99	4.79	2.53	23.49
Runoff (mm)		62	37	44	12	12	8	11	7	7	8	9	15	231
Rainfall (mm)		103	40	83	30	41	50	105	56	24	41	37	32	642

Monthly and yearly statistics for previous record (Aug 1971 to Dec 1987—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	2.683	2.712	2.400	1.592	1.113	1.015	0.533	0.708	0.563	0.950	1.352	2.355	1.493
flows	Low	0.713	0.568	0.424	0.346	0.350	0.245	0.164	0.224	0.307	0.338	0.398	0.643	0.644
(m^3s^{-1})	High	4.661	6.868	5.031	3.105	2.654	2.346	1.447	2.242	1.608	2.921	2.714	5.101	2.133
Peak flow (m^3s^{-1})		17.74	24.47	20.78	21.18	14.93	15.78	13.71	20.41	15.94	19.81	16.59	22.46	24.47
Runoff (mm)		39	36	35	22	16	14	8	10	8	14	19	34	256
Rainfall (mm)*		52	45	53	41	56	65	39	61	55	53	53	62	635

*(1972-1987)

Factors affecting flow regime: E
Station type: EM

1988 runoff is 90% of previous mean
rainfall 101%

029003 Lud at Louth 1988

Measuring authority: NRA-A
First year: 1968
Grid reference: 53 (TF) 337 879
Level stn (m OD): 15.40
Catchment area (sq km): 55.2
Max alt. (m OD): 159

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	0.879	1.100	1.089	0.966	0.612	0.502	0.401	0.316	0.270	0.293	0.279	0.354	0.587
(m^3s^{-1})	Peak	3.35	1.91	2.10	1.26	0.89	1.46	1.05	1.16	0.62	1.96	1.19	0.92	3.35
Runoff (mm)		43	50	53	45	30	24	19	15	13	14	13	17	336
Rainfall (mm)		121	45	95	25	49	46	96	58	41	68	44	20	708

Monthly and yearly statistics for previous record (Aug 1968 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.647	0.817	0.772	0.715	0.589	0.451	0.347	0.290	0.247	0.256	0.326	0.422	0.488
flows	Low	0.139	0.157	0.162	0.150	0.156	0.131	0.112	0.102	0.112	0.130	0.132	0.125	0.178
(m^3s^{-1})	High	1.279	1.428	1.338	1.289	1.177	0.687	0.507	0.414	0.625	0.719	1.158	0.911	0.703
Peak flow (m^3s^{-1})		3.70	3.81	3.58	5.06	3.51	3.27	3.40	3.10	3.30	2.96	6.77	3.10	6.77
Runoff (mm)		31	36	37	34	29	21	17	14	12	12	15	20	279
Rainfall (mm)		66	47	64	53	57	59	50	63	54	57	69	66	705

Factors affecting flow regime
Station type: C

1988 runoff is 120% of previous mean
rainfall 100%

030004 Partney Lymn at Partney Mill 1988

Measuring authority: NRA-A
First year: 1962
Grid reference: 53 (TF) 402 676
Level stn (m OD): 14.90
Catchment area (sq km): 61.6
Max alt (m OD): 142

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	1.574	0.791	1.152	0.531	0.412	0.357	0.407	0.271	0.302	0.397	0.415	0.444	0.589
(m^3s^{-1})	Peak	9.48	2.18	4.46	0.85	0.86	0.76	1.01	0.53	1.28	2.90	2.50	1.19	9.48
Runoff (mm)		68	32	50	22	18	15	18	12	13	17	17	19	302
Rainfall (mm)		124	39	94	27	49	39	114	57	36	58	40	20	697

Monthly and yearly statistics for previous record (Jun 1962 to Dec 1987—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.836	0.786	0.718	0.635	0.472	0.331	0.274	0.293	0.287	0.401	0.560	0.738	0.527
flows	Low	0.351	0.300	0.276	0.228	0.200	0.116	0.088	0.107	0.151	0.190	0.193	0.210	0.292
(m^3s^{-1})	High	1.475	1.838	1.538	1.518	0.886	0.691	0.862	0.593	0.917	1.144	1.112	1.804	0.754
Peak flow (m^3s^{-1})		10.01	12.59	7.71	13.34	11.30	8.13	13.38	7.06	6.64	8.07	10.17	8.48	13.38
Runoff (mm)		36	31	31	27	21	14	12	13	12	17	24	32	270
Rainfall (mm)		60	48	61	55	59	58	51	67	53	53	71	64	700

Factors affecting flow regime: GI
Station type: C

1988 runoff is 112% of previous mean
rainfall 100%

031002 Glen at Kates Brdg and King St Brdg 1988

Measuring authority: NRA-A
First year: 1960

Grid reference: 53 (TF) 106 149
Level stn. (m OD): 6.10

Catchment area (sq km): 341.9
Max alt. (m OD): 129

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	5.701	4.572	3.400	1.493	1.493	0.744	0.411	0.226	0.162	0.114	0.145	0.285	**1.556**
(m^3s^{-1})	Peak													
Runoff (mm)		45	34	27	11	12	6	3	2	1	1	1	2	**144**
Rainfall (mm)		96	33	64	33	66	38	100	42	27	45	33	21	**598**

Monthly and yearly statistics for previous record (Oct 1960 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	2.014	2.460	2.374	1.938	1.489	0.803	0.440	0.379	0.325	0.548	0.871	1.448	**1.251**
flows	Low	0.093	0.048	0.033	0.018	0.008	0.004	0.000	0.001	0.008	0.024	0.020	0.078	**0.154**
(m^3s^{-1})	High	6.351	10.110	6.317	4.903	5.060	2.182	1.465	1.615	1.873	2.810	5.552	7.868	**2.333**
Peak flow (m^3s^{-1})														
Runoff (mm)		16	18	19	15	12	6	3	3	2	4	7	11	**115**
Rainfall (mm)		51	40	49	52	53	54	46	64	51	51	57	56	**624**

Factors affecting flow regime: G
Station type: FV

1988 runoff is 125% of previous mean
rainfall 96%

031007 Welland at Barrowden 1988

Measuring authority: NRA-A
First year: 1968

Grid reference: 42 (SP) 948 999
Level stn. (m OD): 34.90

Catchment area (sq km): 411.6
Max alt. (m OD): 228

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	10.300	5.839	5.764	1.863	1.012	0.522	0.712	0.372	0.394	0.596	0.704	1.156	**2.435**
(m^3s^{-1})	Peak	58.91	21.99	22.92	2.83	4.30	0.92	3.80	0.73	1.49	3.0[illegible]	10.49	7.60	**58.91**
Runoff (mm)		67	36	38	12	7	3	5	2	2	4	4	8	**187**
Rainfall (mm)		100	38	80	29	42	44	102	52	26	63	35	28	**639**

Monthly and yearly statistics for previous record (Feb 1968 to Dec 1987—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	4.814	5.041	4.375	3.088	1.768	1.201	0.797	0.833	0.684	1.337	2.159	3.655	**2.468**
flows	Low	0.516	0.425	0.352	0.257	0.232	0.159	0.092	0.154	0.271	0.226	0.318	0.410	**1.034**
(m^3s^{-1})	High	8.885	17.030	9.701	7.700	7.310	3.093	4.477	4.500	4.322	5.150	6.436	7.509	**3.667**
Peak flow (m^3s^{-1})		39.99	74.42	107.80	79.43	46.95	27.44	38.23	39.91	12.55	22.87	50.37	40.13	**107.80**
Runoff (mm)		31	30	28	19	12	8	5	5	4	9	14	24	**189**
Rainfall (mm)		56	43	53	47	57	59	49	67	51	51	58	59	**650**

Factors affecting flow regime: S E
Station type: C

1988 runoff is 99% of previous mean
rainfall 98%

032003 Harpers Brook at Old Mill Bridge 1988

Measuring authority: NRA-A
First year: 1938

Grid reference: 42 (SP) 983 799
Level stn. (m OD): 30.30

Catchment area (sq km): 74.3
Max alt. (m OD): 146

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg		0.871	1.018	0.291	0.286	0.171	0.232	0.120	0.128	0.172	0.165	0.311	
(m^3s^{-1})	Peak		5.24	5.98	1.13	2.21	0.78	1.14	0.29	7.27	1.36	2.29	1.58	
Runoff (mm)			29	37	10	10	6	8	4	4	6	6	11	
Rainfall (mm)		99	34	77	33	44	51	108	43	30	54	33	26	**632**

Monthly and yearly statistics for previous record (Dec 1938 to Dec 1987—incomplete or missing months total 0.5 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.794	0.809	0.717	0.492	0.313	0.201	0.145	0.155	0.144	0.219	0.434	0.587	**0.416**
flows	Low	0.097	0.080	0.076	0.066	0.056	0.049	0.052	0.048	0.049	0.057	0.069	0.077	**0.159**
(m^3s^{-1})	High	2.766	2.485	2.363	1.334	1.246	0.606	0.685	0.791	1.147	1.176	1.688	1.762	**0.676**
Peak flow (m^3s^{-1})		16.06	18.58	17.01	22.00	18.65	10.54	12.49	20.50	6.80	16.58	11.74	17.90	**22.00**
Runoff (mm)		29	27	26	17	11	7	5	6	5	8	15	21	**177**
Rainfall (mm)		58	42	48	44	52	52	51	64	49	54	61	57	**632**

Factors affecting flow regime
Station type: CC

1988 runoff is % of previous mean
rainfall 100%

033012 Kym at Meagre Farm 1988

Measuring authority: NRA-A
First year: 1960

Grid reference: 52 (TL) 155 631
Level stn. (m OD): 17.20

Catchment area (sq km): 137.5
Max alt. (m OD): 101

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	3.159	0.932	1.859	0.453	0.578	0.141	0.257	0.055	0.136	0.106	0.223	0.454	**0.700**
(m^3s^{-1})	Peak	20.70	6.27	16.40	8.71	7.64	0.58	1.31	0.27	2.10	0.46	7.53	2.58	**20.70**
Runoff (mm)		62	17	36	9	11	3	5	1	3	2	4	9	**161**
Rainfall (mm)		87	24	71	47	60	44	100	45	37	41	35	23	**614**

Monthly and yearly statistics for previous record (May 1960 to Dec 1987—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	1.350	1.396	1.164	0.791	0.370	0.245	0.137	0.108	0.052	0.430	0.667	0.990	**0.638**
flows	Low	0.074	0.047	0.044	0.041	0.074	0.009	0.001	0.004	0.017	0.015	0.022	0.050	**0.103**
(m^3s^{-1})	High	3.296	5.577	3.474	2.107	1.469	1.489	2.438	1.096	0.158	3.515	3.718	3.328	**1.048**
Peak flow (m^3s^{-1})		25.26	22.70	30.24	30.75	20.61	24.10	16.68	23.42	1.34	25.91	34.71	33.98	**34.71**
Runoff (mm)		26	25	23	15	7	5	3	2	1	8	13	19	**146**
Rainfall (mm)		49	38	47	47	53	59	48	57	47	53	54	56	**608**

Factors affecting flow regime: EI
Station type: CB

1988 runoff is 110% of previous mean
rainfall 101%

033013 Sapiston at Rectory Bridge 1988

Measuring authority: NRA-A
First year: 1949

Grid reference: 52 (TL) 896 791
Level stn. (m OD): 15.60

Catchment area (sq km): 205.9
Max alt. (m OD): 97

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	3 511	1.818	2 170	1.260	0 868	0 607	0.564	0.369	0 353	0 638	0 443	0 652	**1.105**
(m^3s^{-1})	Peak	11 00	5.26	5 94	2 77	1 36	0 93	1 32	0 45	0 49	3 61	1.95	1.65	**11.00**
Runoff (mm)		46	22	28	16	11	8	7	5	4	8	6	8	**170**
Rainfall (mm)		118	30	77	44	44	26	84	39	45	75	32	27	**641**

Monthly and yearly statistics for previous record (Jan 1949 to Dec 1987—incomplete or missing months total 2.8 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	1 184	1 222	1.026	0 804	0 608	0 467	0 320	0 303	0 299	0 409	0 635	0.868	**0.676**
flows	Low	0 226	0 221	0 150	0 079	0 193	0 133	0 015	0 045	0 051	0 066	0 087	0 139	**0 219**
(m^3s^{-1})	High	2 417	3 295	2 491	1.947	1.802	1 744	0 651	1.441	1 682	2 922	2 404	2 396	**1.141**
Peak flow (m^3s^{-1})		9 93	10 90	10 85	8 76	7.31	5 20	2 39	10 60	8 95	12 60	6 97	10 45	**12.60**
Runoff (mm)		15	14	13	10	8	6	4	4	4	5	8	11	**104**
Rainfall (mm)*		50	35	44	44	48	52	51	53	54	57	62	55	**605**

*(1960 1987)

Factors affecting flow regime: GEI
Station type: TP

1988 runoff is 164% of previous mean
rainfall 106%

033024 Cam at Dernford 1988

Measuring authority: NRA-A
First year: 1949

Grid reference: 52 (TL) 466 506
Level stn (m OD): 14 70

Catchment area (sq km): 198 0
Max alt (m OD): 146

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	3 592	2 402	2 299	1 539	1 224	1 008	0 987	0 676	0 642	0 737	0 692	0 781	**1.381**
(m^3s^{-1})	Peak	13 30	4 88	7 91	2 81	1 92	1 78	2 24	1 00	1 11	1 63	2 52	1 56	**13.30**
Runoff (mm)		49	30	31	20	17	13	13	9	8	10	9	11	**221**
Rainfall (mm)		112	26	70	25	48	55	89	37	49	51	32	27	**621**

Monthly and yearly statistics for previous record (Mar 1949 to Dec 1987—incomplete or missing months total 1 3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	1 413	1 472	1 343	1 196	0 988	0 786	0 629	0 608	0 580	0 767	0 974	1 197	**0 994**
flows	Low	0 449	0 400	0 562	0 465	0 408	0 318	0 184	0 248	0 155	0 313	0 361	0 356	**0.416**
(m^3s^{-1})	High	2 845	2 703	2 608	2 431	2 144	1 338	1 608	1 542	1 965	2 970	2 790	3 492	**1.506**
Peak flow (m^3s^{-1})		10 38	14 09	10 22	9 94	13 63	6 94	5 28	10 70	10 99	12 70	12 50	12 06	**14 09**
Runoff (mm)		19	18	18	16	13	10	9	8	8	10	13	16	**158**
Rainfall (mm)*		48	38	43	41	48	50	53	60	53	54	59	54	**601**

*(1950-1987)

Factors affecting flow regime: GEI
Station type: TP

1988 runoff is 139% of previous mean
rainfall 103%

033032 Heacham at Heacham 1988

Measuring authority: NRA-A
First year: 1965

Grid reference: 53 (TF) 685 375
Level stn (m OD): 9 40

Catchment area (sq km): 59 0
Max alt (m OD): 88

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	0 375	0 640	0 473	0 472	0 365	0 268	0 207	0 156	0 129	0 113	0 110	0 107	**0.283**
(m^3s^{-1})	Peak	0 70	0 87	0 62	0 58	0 50	0 35	0 26	0 18	0 16	0 20	0 11	0 14	**0.87**
Runoff (mm)		17	27	21	21	17	12	9	7	6	5	5	5	**152**
Rainfall (mm)		106	37	85	19	49	38	98	41	24	65	39	22	**623**

Monthly and yearly statistics for previous record (Nov 1965 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0 236	0 319	0 332	0 313	0 275	0 231	0 181	0 151	0 132	0 126	0 129	0 176	**0.216**
flows	Low	0 064	0 067	0 071	0 072	0 068	0 060	0 043	0 034	0 033	0 047	0 050	0 058	**0.063**
(m^3s^{-1})	High	0 435	0 671	0 671	0 776	0 636	0 441	0 300	0 256	0 371	0 399	0 319	0 327	**0.331**
Peak flow (m^3s^{-1})		0 61	0 95	1 04	1 11	0 82	0 90	0 68	1 21	0 52	0 53	0 47	0 45	**1.21**
Runoff (mm)		11	13	15	14	12	10	8	7	6	6	6	8	**116**
Rainfall (mm)		58	42	53	49	62	57	57	64	56	57	75	65	**695**

Factors affecting flow regime: GI
Station type: C

1988 runoff is 131% of previous mean
rainfall 90%

034001 Yare at Colney 1988

Measuring authority: NRA-A
First year: 1959

Grid reference: 63 (TG) 182 082
Level stn (m OD): 8 20

Catchment area (sq km): 231 8
Max alt (m OD): 69

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	4 391	2 995	4 056	1 938	1 193	0 836	1 581	0 739	0 796	1 487	1 021	1 683	**1.895**
(m^3s^{-1})	Peak	10 49	6 67	6 27	4 12	1 72	1 21	7 99	1 33	2 27	6 11	5 29	5 55	**10 49**
Runoff (mm)		51	32	47	22	14	9	18	9	9	17	11	19	**259**
Rainfall (mm)		116	42	88	29	39	25	125	37	50	72	41	24	**688**

Monthly and yearly statistics for previous record (Oct 1959 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	2 637	2 554	2 016	776	126	0 762	0 591	0 628	0 701	0 983	1 501	2 193	**1.450**
flows	Low	0 779	0 947	0 842	0 623	0 462	0 285	0 189	0 200	0 272	0 381	0 440	0 714	**0.770**
(m^3s^{-1})	High	5 181	4 931	4 783	3 442	2 487	2 069	043	2 481	3 420	3 798	3 971	5 904	**2 230**
Peak flow (m^3s^{-1})		18 97	18 63	16 90	20 51	10 10	4 01	4 54	16 92	21 61	13 00	11 20	21 15	**21 61**
Runoff (mm)		30	27	23	20	13	9	7	7	8	11	17	25	**197**
Rainfall (mm)		58	41	46	49	48	53	55	59	54	60	69	64	**656**

Factors affecting flow regime: GI
Station type: MIS

1988 runoff is 131% of previous mean
rainfall 105%

034002 Tas at Shotesham 1988

Measuring authority NRA-A
First year 1957

Grid reference 62 (TM) 226 994
Level stn (m OD) 9 60

Catchment area (sq km) 146 5
Max alt (m OD) 65

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	2 241	1 229	1 822	0 880	0 672	0 472	0 565	0 339	0 359	0 720	0 511	0 726	**0 880**
(m^3s^{-1})	Peak	7 91	4 02	5 39	3 18	1 42	1 33	1 82	0 53	1 60	4 41	2 62	1 98	**7 91**
Runoff (mm)		41	21	33	16	12	8	10	6	6	13	9	13	**190**
Rainfall (mm)		115	50	84	42	38	17	109	35	51	70	37	24	**672**

Monthly and yearly statistics for previous record (Nov 1957 to Dec 1987—incomplete or missing months total 0 6 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	1 482	1 310	0 976	0 775	0 522	0 413	0 346	0 337	0 408	0 490	0 784	1 159	**0 748**
flows	Low	0 287	0 368	0 275	0 309	0 219	0 175	0 109	0 126	0 158	0 183	0 229	0 300	**0 280**
(m^3s^{-1})	High	3 107	3 709	2 435	1 666	1 539	1 515	0 962	1 464	3 425	1 474	2 946	3 239	**1 299**
Peak flow (m^3s^{-1})		14 16	13 58	11 53	5 69	6 65	6 80	6 51	19 00	62 30	7 84	11 31	13 31	**62 30**
Runoff (mm)		27	22	18	14	10	7	6	6	7	9	14	21	**161**
Rainfall (mm)		55	38	42	45	47	49	51	56	52	57	63	61	**616**

Factors affecting flow regime G I
Station type FV

1988 runoff is 118% of previous mean
rainfall 109%

035002 Deben at Naunton Hall 1988

Measuring authority NRA-A
First year 1964

Grid reference 62 (TM) 322 534
Level stn (m OD) 5 50

Catchment area (sq km) 163 1
Max alt (m OD) 62

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	5 892	1 897	3 252	1 005	0 580	0 357	0 317	0 193	0 247	0 739	0 471	0 735	**1 313**
(m^3s^{-1})	Peak	16 30	9 88	12 31	5 10	2 86	0 82	0 45	0 31	0 67	5 75	4 65	4 53	**16 30**
Runoff (mm)		97	29	53	16	10	6	5	3	4	12	7	12	**254**
Rainfall (mm)		137	48	83	48	47	27	72	33	48	86	34	26	**689**

Monthly and yearly statistics for previous record (Aug 1964 to Dec 1987—incomplete or missing months total 0 5 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	1 803	1 431	1 058	0 819	0 412	0 252	0 195	0 243	0 337	0 544	0 935	1 332	**0 777**
flows	Low	0 259	0 247	0 228	0 176	0 107	0 052	0 044	0 054	0 076	0 139	0 173	0 192	**0.204**
(m^3s^{-1})	High	2 894	4 252	3 366	2 162	1 148	1 174	0 871	1 964	2 825	4 188	3 113	3 585	**1 418**
Peak flow (m^3s^{-1})		17 78	16 71	14 80	16 10	12 80	7 54	11 62	2 61	29 45	16 53	16 86	17 86	**29 45**
Runoff (mm)		30	21	17	13	7	4	3	4	5	9	15	22	**150**
Rainfall (mm)		54	37	44	43	47	47	50	48	56	54	63	56	**599**

Factors affecting flow regime R G I
Station type CC

1988 runoff is 169% of previous mean
rainfall 115%

037001 Roding at Redbridge 1988

Measuring authority TW
First year 1950

Grid reference 51 (TQ) 415 884
Level stn (m OD) 5 70

Catchment area (sq km) 303 3
Max alt (m OD) 117

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	10 920	4 002	4 273	1 399	0 735	0 553	071	0 359	0 523	1 308	0 638	1 146	**2.250**
(m^3s^{-1})	Peak	42 00	19 80	16 50	5 04	3 97	2 79	4 46	3 65	3 19	9 70	6 04	6 04	**42.00**
Runoff (mm)		96	33	38	12	6	5	9	3	4	12	5	10	**235**
Rainfall (mm)		136	27	79	28	42	44	88	41	47	60	29	17	**638**

Monthly and yearly statistics for previous record (Feb 1950 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	3 701	3 424	2 727	1 936	1 242	0 864	0 632	0 692	0 854	1 445	2 240	2 973	**1 887**
flows	Low	0 675	0 608	0 537	0 482	0 323	0 226	0 280	0 224	0 197	0 283	0 412	0 412	**0 801**
(m^3s^{-1})	High	7 282	10 670	6 858	6 768	4 045	2 953	1 975	3 925	4 012	7 883	10 340	9 454	**2 809**
Peak flow (m^3s^{-1})		34 74	30 80	38 08	27 72	32 70	21 70	24 50	31 30	25 62	35 60	62 41	36 40	**62 41**
Runoff (mm)		33	27	24	17	11	7	6	6	7	13	19	26	**196**
Rainfall (mm)		51	41	46	43	50	52	52	58	58	57	63	57	**628**

Factors affecting flow regime S EI
Station type EW

1988 runoff is 120% of previous mean
rainfall 102%

037005 Colne at Lexden 1988

Measuring authority NRA-A
First year 1959

Grid reference 52 (TL) 962 261
Level stn (m OD) 8 20

Catchment area (sq km) 238 2
Max alt (m OD) 114

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	6 543	2 374	2 688	1 243	0 789	0 611	0 584	0 383	0 475	0 767	0 667	0 944	**1.509**
(m^3s^{-1})	Peak	21 13	9 85	9 21	3 30	1 45	2 37	1 63	0 70	1 33	2 99	3 00	4 06	**21 13**
Runoff (mm)		74	25	30	14	9	7	7	4	5	9	7	11	**200**
Rainfall (mm)		129	23	76	23	45	47	78	30	54	56	30	25	**616**

Monthly and yearly statistics for previous record (Oct 1959 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	1 959	1 752	1 634	1 227	0 801	0 501	0 366	0 367	0 396	0 779	1 190	1 542	**1.040**
flows	Low	0 460	0 346	0 380	0 358	0 229	0 146	0 100	0 088	0 179	0 188	0 288	0 352	**0 362**
(m^3s^{-1})	High	3 737	4 694	3 556	3 344	2 353	1 528	0 907	1 558	1 099	4 838	5 521	4 200	**1 732**
Peak flow (m^3s^{-1})		14 20	22 65	20 68	13 34	12 56	8 07	6 41	8 86	10 50	24 80	21 29	20 58	**24.80**
Runoff (mm)		22	18	18	13	9	5	4	4	4	9	13	17	**138**
Rainfall (mm)		47	33	44	42	46	48	47	51	51	55	59	54	**577**

Factors affecting flow regime R EI
Station type FL

1988 runoff is 145% of previous mean
rainfall 107%

037010 Blackwater at Appleford Bridge 1988

Measuring authority: NRA A | Grid reference: 52 (TL) 845 158 | Catchment area (sq km): 247.3
First year: 1962 | Level stn. (m OD): 14.60 | Max alt (m OD): 127

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	7.180	2.526	2.781	1.298	0.789	0.699	0.766	0.491	0.590	0.825	0.656	1.094	**1.645**
(m^3s^{-1})	Peak	26.80	9.90	9.76	3.41	1.47	2.31	1.43	1.37	1.25	3.72	2.76	3.32	**26.80**
Runoff (mm)		78	26	30	14	9	7	8	5	6	9	7	12	**210**
Rainfall (mm)		130	21	77	21	42	52	80	31	51	53	30	25	**613**

Monthly and yearly statistics for previous record (Oct 1962 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	2.004	1.905	1.891	1.485	1.018	0.739	0.526	0.519	0.535	0.840	1.207	1.662	**1.191**
flows	Low	0.532	0.460	0.479	0.479	0.341	0.356	0.187	0.161	0.215	0.288	0.325	0.379	**0.822**
(m^3s^{-1})	High	3.916	4.889	3.583	3.843	2.860	1.583	1.007	1.741	1.651	4.955	4.676	4.307	**1.659**
Peak flow (m^3s^{-1})		14.10	21.60	20.00	12.31	17.80	7.76	4.10	13.75	15.25	26.08	20.20	21.60	**26.08**
Runoff (mm)		22	19	20	16	11	8	6	6	6	9	13	18	**152**
Rainfall (mm)		46	33	47	44	48	53	45	51	51	51	60	51	**580**

Factors affecting flow regime: R GEI | 1988 runoff is 138% of previous mean
Station type: FL | rainfall 106%

038001 Lee at Feildes Weir 1988

Measuring authority: NRA-T | Grid reference: 52 (TL) 390 092 | Catchment area (sq km): 1036.0
First year: 1936 (naturalised data from 1883) | Level stn. (m OD): 27.70 | Max alt (m OD): 229

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	19.220	10.260	10.660	6.030	5.507	4.337	5.000	2.172	2.608	3.430	2.593	3.061	**6.244**
(m^3s^{-1})	Peak	85.00	38.10	88.40	18.90	20.50	25.80	26.00	7.74	12.50	16.90	18.00	13.60	**88.40**
Runoff (mm)		50	25	28	15	14	11	13	6	7	9	6	8	**191**
Rainfall (mm)		125	31	70	32	54	55	93	48	48	61	31	21	**669**

Monthly and yearly statistics for previous record (Oct 1936 to Dec 1987—incomplete or missing months total 1.9 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	6.655	6.605	6.172	4.558	3.636	2.609	1.794	1.696	1.776	2.663	4.280	5.195	**3.957**
flows	Low	1.052	0.959	0.460	0.484	0.302	0.224	0.081	0.085	0.132	0.302	0.416	1.099	**0.866**
(m^3s^{-1})	High	17.200	17.800	29.430	12.000	12.260	7.618	4.994	4.363	7.063	15.920	13.880	13.210	**7.182**
Peak flow (m^3s^{-1})		56.10	74.30	47.20	52.20	96.90	65.30	12.80	27.50	49.56	73.60	52.30	77.00	**96.90**
Runoff (mm)		17	16	16	11	9	7	5	4	4	7	11	13	**121**
Rainfall (mm)		57	41	47	43	51	50	55	58	55	62	66	58	**643**

Factors affecting flow regime: PGEI | 1988 runoff is 158% of previous mean
Station type: MIS | rainfall 104%

038007 Canons Brook at Elizabeth Way 1988

Measuring authority: NRA-T | Grid reference: 52 (TL) 431 104 | Catchment area (sq km): 21.4
First year: 1965 | Level stn. (m OD): 37.50 | Max alt. (m OD): 110

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	0.768	0.259	0.340	0.148	0.156	0.141	0.241	0.085	0.116	0.170	0.106	0.127	**0.222**
(m^3s^{-1})	Peak	8.16	2.32	2.51	3.46	4.48	3.55	4.89	2.33	3.14	5.19	1.84	3.54	**8.16**
Runoff (mm)		96	30	43	18	20	17	30	11	14	21	13	16	**329**
Rainfall (mm)		134	30	75	25	48	47	92	38	47	72	29	17	**654**

Monthly and yearly statistics for previous record (Oct 1965 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.293	0.251	0.256	0.197	0.173	0.132	0.1[illegible]1	0.126	0.118	0.176	0.222	0.259	**0.193**
flows	Low	0.063	0.064	0.055	0.062	0.062	0.062	0.055	0.035	0.042	0.039	0.057	0.092	**0.093**
(m^3s^{-1})	High	0.467	0.513	0.468	0.520	0.415	0.253	0.226	0.321	0.289	0.719	0.756	0.507	**0.253**
Peak flow (m^3s^{-1})		8.25	12.30	6.56	10.31	12.20	10.50	10.97	10.90	9.00	12.00	9.85	9.36	**12.30**
Runoff (mm)		37	29	37	24	22	16	14	16	14	22	27	32	**284**
Rainfall (mm)		5[illegible]	36	48	43	55	54	49	56	55	58	61	56	**622**

Factors affecting flow regime: | 1988 runoff is 116% of previous mean
Station type: FL | rainfall 105%

038021 Turkey Brook at Albany Park 1988

Measuring authority: NRA T | Grid reference: 51 (TQ) 359 985 | Catchment area (sq km): 42.2
First year: 1971 | Level stn. (m OD): 16.60 | Max alt (m OD): 127

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	1.180	0.435	0.550	0.117	0.153	0.046	0.080	0.028	0.053	0.291	0.088	0.115	**0.263**
(m^3s^{-1})	Peak	10.30	4.53	4.77	2.12	4.40	0.84	1.12	0.65	1.33	6.45	1.64	1.79	**10.30**
Runoff (mm)		75	26	35	7	10	3	5	2	3	18	5	7	**197**
Rainfall (mm)		146	35	85	39	57	43	81	41	48	81	30	14	**700**

Monthly and yearly statistics for previous record (Sep 1971 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.409	0.339	0.351	0.228	0.184	0.102	0.042	0.058	0.060	0.187	0.263	0.336	**0.213**
flows	Low	0.037	0.042	0.074	0.020	0.014	0.021	0.013	0.008	0.012	0.016	0.019	0.086	**0.057**
(m^3s^{-1})	High	0.760	0.988	0.811	0.626	0.626	0.240	0.087	0.171	0.278	0.941	1.158	0.704	**0.339**
Peak flow (m^3s^{-1})		10.50	11.00	5.14	7.72	20.69	15.30	2.38	2.76	7.55	10.70	12.75	10.50	**20.69**
Runoff (mm)		26	20	22	14	12	6	3	4	4	12	16	21	**159**
Rainfall (mm)		58	4[illegible]	59	45	62	56	44	54	6[illegible]	65	64	63	**672**

Factors affecting flow regime: G | 1988 runoff is 124% of previous mean
Station type: FV | rainfall 104%

039002 Thames at Days Weir 1988

Measuring authority: NRA-T
First year: 1938
Grid reference: 41 (SU) 568 935
Level stn (m OD): 46.00
Catchment area (sq km): 3444.7
Max alt (m OD): 330

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	84.810	82.590	38.170	21.070	12.750	8.552	10.610	5.410	6.991	12.020	9.279	16.620	**25.585**
(m^3s^{-1})	Peak													
Runoff (mm)		66	60	30	16	10	6	8	4	5	9	7	13	**235**
Rainfall (mm)		118	44	64	30	45	50	102	57	45	56	31	18	**660**

Monthly and yearly statistics for previous record (Oct 1938 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	55.510	56.190	46.140	31.320	21.100	14.930	8.639	7.400	8.763	15.200	32.150	45.300	**28.418**
flows	Low	6.250	5.554	5.620	4.253	2.855	1.502	0.399	0.296	1.741	2.778	4.040	5.312	**10.095**
(m^3s^{-1})	High	133.600	120.800	163.200	85.070	61.[illegible]40	41.560	48.820	18.690	38.630	74.570	128.100	128.700	**51.292**
Peak flow (m^3s^{-1})														
Runoff (mm)		43	40	36	24	16	11	7	6	7	12	24	35	**260**
Rainfall (mm)		66	47	54	46	60	55	53	68	60	64	72	72	**717**

Factors affecting flow regime: P FI
Station type: MIS

1988 runoff is 90% of previous mean
rainfall 92%

039005 Beverley Brook at Wimbledon Common 1988

Measuring authority: NRA-T
First year: 1935
Grid reference: 51 (TQ) 216 717
Level stn (m OD): 11.00
Catchment area (sq km): 43.6
Max alt. (m OD): 190

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	1.237	0.709	0.660	0.515	0.500	0.461	0.582	0.427	0.475	0.540	0.408	0.432	**0.579**
(m^3s^{-1})	Peak	10.30	5.40	3.11	3.64	3.85	2.86	6.75	6.23	7.21	8.08	3.43	5.51	**10.30**
Runoff (mm)		76	41	41	31	31	27	36	26	28	33	24	27	**420**
Rainfall (mm)		134	35	62	26	43	24	81	41	42	59	21	15	**583**

Monthly and yearly statistics for previous record (Mar 1935 to Dec 1987—incomplete or missing months total 23.4 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.707	0.593	0.566	0.545	0.481	0.479	0.429	0.445	0.499	0.520	0.597	0.640	**0.542**
flows	Low	0.280	0.244	0.290	0.257	0.214	0.157	0.211	0.189	0.224	0.160	0.274	0.247	**0.291**
(m^3s^{-1})	High	1.112	1.196	1.023	1.538	1.092	0.956	0.920	0.970	1.340	1.321	1.415	1.057	**0.695**
Peak flow (m^3s^{-1})		10.90	9.04	7.51	22.40	14.80	12.90	[illegible]	17.30	16.50	15.90	10.90	14.00	**22.40**
Runoff (mm)		43	33	35	32	30	28	26	27	30	32	35	39	**392**
Rainfall (mm)		57	38	46	41	52	54	49	56	58	62	65	63	**641**

Factors affecting flow regime: GE
Station type: FL

1988 runoff is 107% of previous mean
rainfall 91%

039014 Ver at Hansteads 1988

Measuring authority: NRA-T
First year: 1956
Grid reference: 52 (TL) 151 016
Level stn. (m OD): 61.30
Catchment area (sq km): 132.0
Max alt (m OD): 243

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	0.772	0.989	1.024	0.872	0.743	0.572	0.537	0.354	0.349	0.393	0.261	0.263	**0.593**
(m^3s^{-1})	Peak	1.71	1.45	1.35	1.02	1.38	0.93	1.09	0.80	0.87	0.89	0.60	0.57	**1.71**
Runoff (mm)		16	19	21	17	15	11	11	7	7	8	5	5	**142**
Rainfall (mm)		136	37	71	27	55	47	91	61	54	66	29	19	**693**

Monthly and yearly statistics for previous record (Oct 1956 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.475	0.532	0.564	0.543	0.483	0.422	0.352	0.3[illegible]3	0.278	0.302	0.361	0.415	**0.419**
flows	Low	0.126	0.190	0.138	0.114	0.069	0.045	0.028	0.016	0.025	0.057	0.039	0.048	**0.095**
(m^3s^{-1})	High	0.981	1.336	1.312	1.254	1.028	0.857	0.651	0.564	0.660	0.668	0.791	0.977	**0.752**
Peak flow (m^3s^{-1})		1.77	1.91	1.88	1.90	2.07	1.65	1.44	1.13	2.34	1.50	2.31	2.64	**2.64**
Runoff (mm)		10	10	11	11	10	8	7	6	5	6	7	8	**100**
Rainfall (mm)		62	46	57	51	57	61	52	58	62	68	68	73	**715**

Factors affecting flow regime: G
Station type: CC

1988 runoff is 142% of previous mean
rainfall 97%

039016 Kennet at Theale 1988

Measuring authority: NRA-T
First year: 1961
Grid reference: 41 (SU) 649 708
Level stn (m OD): 43.40
Catchment area (sq km): 1033.4
Max alt (m OD): 297

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	17.930	23.910	16.850	12.090	9.134	7.172	6.606	4.930	5.148	7.143	5.706	6.111	**10.182**
(m^3s^{-1})	Peak	45.00	40.30	28.20	14.50	12.10	10.20	9.70	8.2[illegible]	16.50	16.90	10.60	9.05	**45.00**
Runoff (mm)		46	58	44	30	24	18	17	13	13	19	14	16	**312**
Rainfall (mm)		133	53	69	26	40	51	100	73	50	85	33	15	**728**

Monthly and yearly statistics for previous record (Oct 1961 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	13.210	14.410	14.680	12.790	10.500	8.740	6.541	5.822	5.432	6.185	8.086	10.360	**9.705**
flows	Low	4.144	4.401	4.190	3.429	2.739	2.041	1.620	1.377	2.787	3.897	3.943	5.159	**4.056**
(m^3s^{-1})	High	22.680	22.720	22.010	19.790	15.430	18.600	11.120	9.542	10.000	13.970	17.710	18.240	**12.882**
Peak flow (m^3s^{-1})		48.30	44.80	44.30	36.90	30.10	59.80	19.00	20.50	33.40	29.60	43.50	47.30	**59.80**
Runoff (mm)		34	34	38	32	27	22	17	15	14	16	20	27	**296**
Rainfall (mm)		73	48	70	51	65	62	47	67	68	68	77	82	**778**

Factors affecting flow regime: R G I
Station type: C

1988 runoff is 105% of previous mean
rainfall 94%

039019 Lambourn at Shaw 1988

Measuring authority: NRA-T
First year: 1962

Grid reference: 41 (SU) 470 682
Level stn. (m OD): 75.60

Catchment area (sq km): 234.1
Max alt. (m OD): 261

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	2.077	3.720	3.556	2.733	2.095	1.690	1.410	1.130	1.030	1.027	0.990	0.990	1.863
(m^3s^{-1}):	Peak	3.01	4.07	3.84	3.43	2.74	2.25	1.73	1.49	1.59	1.23	1.18	1.13	4.07
Runoff (mm)		24	40	41	30	24	19	16	13	11	12	11	11	252
Rainfall (mm)		133	49	65	22	38	55	100	67	49	78	34	14	704

Monthly and yearly statistics for previous record (Oct 1962 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	1.769	2.199	2.475	2.440	2.172	1.878	1.545	1.317	1.185	1.160	1.240	1.428	1.731
flows	Low	0.826	0.796	0.743	0.695	0.639	0.573	0.538	0.485	0.681	0.683	0.757	0.855	0.739
(m^3s^{-1})	High.	3.410	3.618	3.583	3.550	2.979	2.764	2.359	2.048	1.699	1.921	2.392	2.551	2.151
Peak flow (m^3s^{-1})		3.93	4.20	4.39	4.08	3.76	4.34	3.06	3.54	3.75	3.17	5.02	3.72	5.02
Runoff (mm)		20	23	28	27	25	21	18	15	13	13	14	16	233
Rainfall (mm)		65	46	66	49	63	60	49	63	64	63	75	77	740

Factors affecting flow regime: R G
Station type: C

1988 runoff is 108% of previous mean
rainfall 95%

039021 Cherwell at Enslow Mill 1988

Measuring authority: NRA-T
First year: 1965

Grid reference: 42 (SP) 482 183
Level stn (m OD): 65.00

Catchment area (sq km): 551.7
Max alt. (m OD): 239

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	10.690	9.764	6.578	3.410	2.182	1.532	2.217	1.142	1.366	1.409	1.289	2.422	3.653
(m^3s^{-1}):	Peak	21.20	18.90	14.80	4.66	3.54	3.45	3.95	1.65	4.03	2.11	6.33	6.88	21.20
Runoff (mm)		52	44	32	16	11	7	11	6	6	7	6	12	209
Rainfall (mm)		113	35	68	28	45	66	104	49	43	43	31	21	646

Monthly and yearly statistics for previous record (Feb 1965 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	7.328	7.071	6.428	4.496	3.460	2.488	1.520	1.469	1.402	2.197	3.376	5.870	3.912
flows	Low	0.919	0.905	0.754	0.566	0.445	0.309	0.156	0.132	0.479	0.630	0.730	0.915	1.370
(m^3s^{-1})	High	12.040	15.900	12.090	8.710	8.674	6.632	4.997	2.618	4.610	5.780	8.567	13.330	5.373
Peak flow (m^3s^{-1})		22.50	73.80	26.70	20.70	19.30	17.60	24.50	10.30	9.80	17.40	22.00	30.20	30.20
Runoff (mm)		36	31	31	21	17	12	7	7	7	11	16	28	224
Rainfall (mm)		59	45	57	44	62	60	53	66	57	58	59	69	689

Factors affecting flow regime: P E
Station type: C

1988 runoff is 94% of previous mean
rainfall 94%

039023 Wye at Hedsor 1988

Measuring authority: NRA-T
First year: 1964

Grid reference: 41 (SU) 896 867
Level stn (m OD): 26.80

Catchment area (sq km): 137.3
Max alt (m OD): 244

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	1.518	1.933	1.976	1.696	1.564	1.395	1.255	1.067	0.998	0.996	0.804	0.734	1.326
(m^3s^{-1})	Peak	2.74	2.60	3.19	2.25	3.03	1.96	2.76	2.66	2.53	2.30	1.41	1.45	3.19
Runoff (mm)		30	35	39	32	31	26	24	21	19	19	15	14	305
Rainfall (mm)		138	44	75	30	59	42	104	63	61	67	30	16	729

Monthly and yearly statistics for previous record (Dec 1964 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.958	1.044	1.146	1.189	1.163	1.127	1.025	0.977	0.882	0.847	0.844	0.886	1.007
flows	Low	0.419	0.483	0.488	0.470	0.432	0.380	0.370	0.314	0.381	0.395	0.375	0.340	0.442
(m^3s^{-1})	High	1.506	1.675	1.800	1.891	1.842	1.582	1.434	1.317	1.182	1.180	1.329	1.373	1.365
Peak flow (m^3s^{-1})		3.49	2.76	3.21	3.26	3.98	3.51	2.94	4.17	4.43	3.15	2.79	2.85	4.43
Runoff (mm)		19	19	22	22	23	21	20	19	17	17	16	17	231
Rainfall (mm)		69	48	62	53	67	64	55	66	67	69	72	79	771

Factors affecting flow regime: G I
Station type: C

1988 runoff is 132% of previous mean
rainfall 95%

039029 Tillingbourne at Shalford 1988

Measuring authority: NRA-T
First year: 1968

Grid reference: 51 (TQ) 000 478
Level stn (m OD): 31.70

Catchment area (sq km): 59.0
Max alt (m OD): 294

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	0.998	0.909	0.706	0.636	0.559	0.496	0.544	0.482	0.518	0.535	0.492	0.524	0.616
(m^3s^{-1}).	Peak	4.54	3.04	1.24	1.02	0.75	0.57	0.82	0.82	1.20	1.07	0.67	0.87	4.54
Runoff (mm)		45	39	32	28	25	22	25	22	23	24	22	24	330
Rainfall (mm)		182	48	73	42	39	15	98	54	54	67	26	18	716

Monthly and yearly statistics for previous record (Jun 1968 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	0.665	0.630	0.635	0.608	0.571	0.520	0.469	0.467	0.486	0.531	0.573	0.619	0.564
flows	Low	0.457	0.423	0.398	0.398	0.376	0.353	0.340	0.326	0.357	0.362	0.354	0.392	0.389
(m^3s^{-1})	High	0.965	0.857	0.900	0.897	0.819	0.830	0.599	0.619	0.885	0.938	0.883	0.840	0.686
Peak flow (m^3s^{-1})		2.70	2.26	3.23	3.00	1.91	2.79	1.65	2.36	6.09	5.09	3.65	3.25	6.09
Runoff (mm)		30	26	29	27	26	23	21	21	21	24	25	28	302
Rainfall (mm)		83	47	71	53	65	59	51	63	76	80	85	83	816

Factors affecting flow regime: G I
Station type: C

1988 runoff is 109% of previous mean
rainfall 88%

039049 Silk Stream at Colindeep Lane 1988

Measuring authority: NRA-T
First year: 1973
Grid reference: 51 (TQ) 217 895
Level stn (m OD): 39.90
Catchment area (sq km): 29.0
Max alt. (m OD): 146

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	0.790	0.265	0.378	0.131	0.301	0.093	0.231	0.095	0.131	0.239	0.096	0.106	**0.239**
(m^3s^{-1})	Peak	8.54	2.00	3.64	1.42	17.70	3.16	3.78	6.09	5.34	4.81	2.08	2.89	**17.70**
Runoff (mm)		73	23	35	12	28	8	21	9	12	22	9	10	**261**
Rainfall (mm)		139	31	81	30	75	39	96	55	39	72	26	15	**698**

Monthly and yearly statistics for previous record (Dec 1973 to Dec 1987—incomplete or missing months total 4.4 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.359	0.265	0.350	0.279	0.261	0.226	0.133	0.131	0.135	0.352	0.379	0.329	**0.267**
flows	Low	0.204	0.102	0.151	0.030	0.035	0.061	0.047	0.053	0.057	0.062	0.108	0.138	**0.178**
(m^3s^{-1})	High	0.580	0.472	0.676	0.574	0.602	0.643	0.213	0.204	0.363	0.904	1.086	0.659	**0.314**
Peak flow (m^3s^{-1})		9.00	6.20	8.89	10.26	39.80	32.80	16.50	30.50	27.90	40.50	24.30	36.31	**40.50**
Runoff (mm)		33	22	32	25	24	20	12	12	12	33	34	30	**290**
Rainfall (mm)		57	36	62	48	71	62	46	52	68	77	65	62	**706**

Factors affecting flow regime:
Station type: FV

1988 runoff is 90% of previous mean
rainfall 99%

039069 Mole at Kinnersley Manor 1988

Measuring authority: NRA-T
First year: 1972
Grid reference: 51 (TQ) 262 462
Level stn (m OD): 48.00
Catchment area (sq km): 142.0
Max alt. (m OD): 178

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	9.375	4.502	3.043	1.662	1.242	0.621	1.471	0.622	0.987	1.386	0.867	1.071	**2.238**
(m^3s^{-1})	Peak	41.90	28.90	20.20	6.23	4.65	1.24	9.62	3.33	9.78	15.50	4.41	5.82	**41.90**
Runoff (mm)		177	79	57	30	23	11	28	12	18	26	16	20	**498**
Rainfall (mm)		191	49	81	48	41	11	97	38	50	70	29	18	**723**

Monthly and yearly statistics for previous record (Dec 1972 to Dec 1987—incomplete or missing months total 1.5 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	3.573	2.672	2.651	1.816	1.497	1.011	0.624	0.832	0.997	2.176	2.565	3.679	**2.007**
flows	Low	1.364	0.829	0.833	0.388	0.305	0.221	0.296	0.169	0.281	0.207	0.260	1.100	**0.950**
(m^3s^{-1})	High	6.268	5.883	4.668	3.666	3.552	1.874	1.709	2.864	5.419	8.486	5.668	5.474	**2.424**
Peak flow (m^3s^{-1})		41.30	46.50	22.30	47.00	32.90	23.30	14.90	29.80	40.70	56.40	56.10	68.50	**68.50**
Runoff (mm)		67	46	50	33	28	18	12	16	18	41	47	69	**446**
Rainfall (mm)		74	50	68	45	63	61	46	61	69	94	84	95	**810**

Factors affecting flow regime:
Station type: MIS

1988 runoff is 112% of previous mean
rainfall 89%

040004 Rother at Udiam 1988

Measuring authority: NRA-S
First year: 1962
Grid reference: 51 (TQ) 773 245
Level stn (m OD): 1.90
Catchment area (sq km): 206.0
Max alt. (m OD): 197

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	11.990	6.126	3.950	1.640	1.072	0.483	0.779	0.463	0.444	1.423	0.553	0.639	**2.462**
(m^3s^{-1})	Peak	38.21	33.95	22.32	5.17	2.79	0.73	4.80	0.84	4.48	14.91	7.57	5.72	**38.21**
Runoff (mm)		156	75	51	21	14	6	10	6	6	19	7	8	**378**
Rainfall (mm)		218	59	105	38	48	12	91	48	61	98	37	19	**834**

Monthly and yearly statistics for previous record (Oct 1962 to Dec 1987—incomplete or missing months total 1.6 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	3.843	3.307	3.183	2.314	1.390	0.998	0.643	0.698	0.860	1.907	3.254	3.645	**2.165**
flows	Low	0.945	0.792	0.657	0.343	0.338	0.268	0.231	0.182	0.245	0.179	0.184	0.427	**0.756**
(m^3s^{-1})	High	9.397	10.370	6.927	4.533	2.817	4.157	2.790	2.682	3.952	10.750	12.360	9.547	**3.322**
Peak flow (m^3s^{-1})		41.57	44.74	49.84	25.43	24.09	23.08	22.20	14.36	33.98	42.76	50.43	51.82	**51.82**
Runoff (mm)		50	39	41	29	18	13	8	9	11	25	41	47	**332**
Rainfall (mm)		83	59	73	55	60	63	52	64	77	90	102	92	**870**

Factors affecting flow regime: S GE
Station type: VA

1988 runoff is 114% of previous mean
rainfall 96%

040009 Teise at Stone Bridge 1988

Measuring authority: NRA-S
First year: 1961
Grid reference: 51 (TQ) 718 399
Level stn (m OD): 24.50
Catchment area (sq km): 136.2
Max alt. (m OD): 201

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	5.372	3.206	2.170	1.897	1.565	1.176	1.359	1.071	0.970	0.770	0.798	0.489	**1.735**
(m^3s^{-1})	Peak	19.75	19.05	14.90	3.86	2.34	1.69	5.03	1.35	1.99	7.95	3.27	1.79	**19.75**
Runoff (mm)		106	59	43	36	31	22	27	21	18	15	15	10	**403**
Rainfall (mm)		203	58	93	42	46	10	94	36	56	81	33	14	**766**

Monthly and yearly statistics for previous record (Oct 1961 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	2.437	2.000	1.852	1.426	1.085	0.789	0.557	0.558	0.686	1.097	1.771	2.006	**1.353**
flows	Low	0.553	0.522	0.413	0.323	0.238	0.130	0.231	0.100	0.170	0.128	0.276	0.471	**0.559**
(m^3s^{-1})	High	5.757	6.241	3.928	2.781	2.306	2.628	1.128	1.132	2.359	4.786	6.344	5.334	**2.101**
Peak flow (m^3s^{-1})		41.63	48.27	34.43	24.78	38.95	29.22	13.87	10.61	23.88	29.17	47.12	48.29	**48.29**
Runoff (mm)		48	36	36	27	21	15	11	11	13	22	34	39	**313**
Rainfall (mm)		76	52	68	52	59	57	49	60	72	82	91	85	**803**

Factors affecting flow regime: PGE
Station type: B VA

1988 runoff is 129% of previous mean
rainfall 95%

040011 Great Stour at Horton 1988

Measuring authority: NRA-S
First year: 1964

Grid reference: 61 (TR) 116 554
Level stn. (m OD): 12.50

Catchment area (sq km): 345.0
Max alt. (m OD): 205

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	10.940	8.189	6.490	4.907	3.762	2.534	2.438	1.872	1.808	1.891	1.747	1.951	4.036
(m^3s^{-1})	Peak	31.08	23.46	28.10	12.98	8.70	3.40	3.49	3.18	3.08	4.39	6.39	3.75	31.08
Runoff (mm)		85	59	50	37	29	19	19	15	14	15	13	15	370
Rainfall (mm)		192	51	96	50	63	12	72	28	44	72	45	17	742

Monthly and yearly statistics for previous record (Oct 1964 to Dec 1987—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	5.211	4.701	4.416	3.566	2.833	2.095	1.833	1.800	1.914	2.791	3.749	4.630	3.289
flows	Low	2.293	2.366	1.812	1.654	1.324	1.079	0.965	0.877	1.119	1.085	1.328	1.687	1.808
(m^3s^{-1})	High	8.455	7.377	9.086	7.144	5.811	3.221	3.229	3.091	3.626	8.687	8.195	9.089	4.717
Peak flow (m^3s^{-1})		27.41	27.89	24.19	38.29	25.05	10.87	11.42	11.99	29.38	27.18	28.85	30.44	38.29
Runoff (mm)		40	33	34	27	22	16	14	14	14	22	28	36	301
Rainfall (mm)		71	49	59	48	53	52	58	59	71	79	85	76	760

Factors affecting flow regime: GE
Station type: B VA

1988 runoff is 123% of previous mean
rainfall 98%

040012 Darent at Hawley 1988

Measuring authority: NRA-T
First year: 1963

Grid reference: 51 (TQ) 551 718
Level stn. (m OD): 11.20

Catchment area (sq km): 191.4
Max alt. (m OD): 251

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	2.060	2.076	1.531	1.126	0.800	0.604	0.528	0.198	0.161	0.289	0.229	0.285	0.820
(m^3s^{-1})	Peak	5.79	3.92	2.54	1.84	1.32	1.04	0.98	0.51	0.53	0.79	0.59	0.74	5.79
Runoff (mm)		29	27	21	15	11	8	7	3	2	4	3	4	136
Rainfall (mm)		181	41	75	29	49	16	82	35	51	61	32	19	671

Monthly and yearly statistics for previous record (Dec 1963 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.983	0.982	0.924	0.826	0.641	0.485	0.327	0.305	0.324	0.420	0.589	0.817	0.634
flows	Low	0.194	0.219	0.124	0.174	0.076	0.041	0.000	0.000	0.000	0.000	0.000	0.011	0.101
(m^3s^{-1})	High	1.817	1.718	1.804	1.515	1.509	0.982	0.617	0.690	1.817	1.516	1.448	1.674	1.067
Peak flow (m^3s^{-1})		3.88	3.23	4.05	3.09	13.10	3.06	7.35	2.27	10.05	3.77	4.91	4.36	13.10
Runoff (mm)		14	13	13	11	9	7	5	4	4	6	8	11	104
Rainfall (mm)		66	45	59	52	60	58	55	59	70	67	76	73	740

Factors affecting flow regime:
Station type: C

1988 runoff is 130% of previous mean
rainfall 91%

041001 Nunningham Stream at Tilley Bridge 1988

Measuring authority: NRA-S
First year: 1950

Grid reference: 51 (TQ) 662 129
Level stn. (m OD): 3.80

Catchment area (sq km): 16.9
Max alt. (m OD): 137

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	1.108	0.471	0.241	0.103	0.049	0.029	0.032	0.021	0.022	0.049	0.037	0.079	0.187
(m^3s^{-1})	Peak	8.84	5.68	1.89	0.25	0.13	0.08	0.09	0.08	0.14	0.92	0.54	1.27	8.84
Runoff (mm)		176	70	38	16	8	4	5	3	3	8	6	13	350
Rainfall (mm)		198	56	94	33	38	16	73	49	58	83	34	25	757

Monthly and yearly statistics for previous record (Apr 1950 to Dec 1987—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.420	0.331	0.245	0.148	0.080	0.053	0.033	0.040	0.053	0.132	0.302	0.371	0.184
flows	Low	0.076	0.094	0.054	0.034	0.023	0.012	0.010	0.008	0.009	0.013	0.019	0.033	0.053
(m^3s^{-1})	High	1.105	0.958	0.577	0.390	0.195	0.319	0.210	0.125	0.359	0.576	1.017	1.082	0.306
Peak flow (m^3s^{-1})		8.84	8.60	8.49	5.94	6.20	7.92	1.89	9.32	8.92	8.82	11.90	8.84	11.90
Runoff (mm)		67	48	39	23	13	8	5	6	8	21	46	59	343
Rainfall (mm)		82	58	60	49	54	56	57	72	76	91	99	96	850

Factors affecting flow regime: N
Station type: MIS

1988 runoff is 102% of previous mean
rainfall 89%

041005 Ouse at Gold Bridge 1988

Measuring authority: NRA-S
First year: 1960

Grid reference: 51 (TQ) 429 214
Level stn. (m OD): 11.40

Catchment area (sq km): 180.9
Max alt. (m OD): 203

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	10.330	7.183	3.684	2.286	1.590	0.891	1.020	0.781	0.809	0.901	0.667	0.723	2.562
(m^3s^{-1})	Peak	49.14	41.17	26.60	9.10	4.80	1.35	2.40	1.49	2.29	8.44	3.19	3.58	49.14
Runoff (mm)		153	99	55	33	24	13	15	12	12	13	10	11	448
Rainfall (mm)		193	54	86	53	49	10	98	38	52	75	31	18	757

Monthly and yearly statistics for previous record (Mar 1960 to Dec 1987—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	4.231	3.440	3.087	2.395	1.729	1.110	0.668	0.756	1.048	2.037	3.412	3.610	2.288
flows	Low	1.142	1.240	0.793	0.611	0.450	0.283	0.219	0.157	0.230	0.275	0.384	0.846	0.934
(m^3s^{-1})	High	7.762	8.214	6.888	4.318	3.657	3.829	1.903	2.458	4.296	12.660	12.030	7.657	3.334
Peak flow (m^3s^{-1})		46.80	71.85	29.86	31.57	26.35	27.91	16.52	33.15	49.0[illegible]	73.71	86.92	81.06	86.92
Runoff (mm)		63	46	46	34	26	16	10	11	15	30	49	53	399
Rainfall (mm)		85	54	69	58	62	64	52	67	81	92	102	92	878

Factors affecting flow regime: SRPGE
Station type: CBVA

1988 runoff is 112% of previous mean
rainfall 86%

041006 Uck at Isfield 1988

Measuring authority NRA-S
First year 1964
Grid reference 51 (TQ) 459 190
Level stn. (m OD) 11.30
Catchment area (sq km) 87.8
Max alt. (m OD) 221

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	6.355	2.865	1.958	0.776	0.514	0.321	0.435	0.246	0.276	0.619	0.361	0.436	**1.264**
(m^3s^{-1})	Peak	55.60	46.97	38.51	2.14	1.10	0.46	4.57	0.48	1.09	21.12	2.30	2.80	**55.60**
Runoff (mm)		194	82	60	23	16	9	13	8	8	19	11	13	**455**
Rainfall (mm)		199	49	90	33	42	13	102	43	51	87	32	17	**758**

Monthly and yearly statistics for previous record (Dec 1964 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	2.225	1.742	1.414	1.095	0.765	0.528	0.348	0.365	0.534	1.098	1.764	2.048	**1.158**
flows	Low	0.579	0.627	0.413	0.324	0.252	0.170	0.142	0.106	0.170	0.160	0.211	0.342	**0.480**
(m^3s^{-1})	High	5.307	4.195	3.317	2.183	1.854	1.657	1.489	1.506	2.868	6.692	6.536	4.033	**1.945**
Peak flow (m^3s^{-1})		52.09	75.63	39.12	23.74	28.97	29.59	46.63	33.74	36.40	63.04	64.43	55.58	**75.63**
Runoff (mm)		68	48	43	32	23	16	11	11	16	33	52	62	**416**
Rainfall (mm)		82	57	66	49	58	64	51	65	75	87	94	90	**838**

Factors affecting flow regime: E
Station type: C

1988 runoff is 109% of previous mean
rainfall 90%

041019 Arun at Alfoldean 1988

Measuring authority NRA-S
First year 1970
Grid reference 51 (TQ) 117 331
Level stn. (m OD) 21.40
Catchment area (sq km) 139.0
Max alt. (m OD) 294

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	10.770	3.666	2.515	1.520	0.767	0.318	0.476	0.246	0.361	0.671	0.389	0.600	**1.862**
(m^3s^{-1})	Peak	59.41	46.13	38.56	19.82	3.70	0.54	1.71	0.86	12.74	7.16	3.22	4.12	**59.41**
Runoff (mm)		207	66	48	28	15	6	9	5	7	13	7	12	**423**
Rainfall (mm)		183	48	81	58	41	12	94	42	50	71	28	19	**727**

Monthly and yearly statistics for previous record (May 1970 to Dec 1987— incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	3.569	2.372	2.375	1.718	1.136	0.749	0.321	0.403	0.670	1.872	2.719	3.107	**1.749**
flows	Low	0.664	0.689	0.469	0.277	0.223	0.131	0.138	0.078	0.161	0.150	0.167	0.492	**0.589**
(m^3s^{-1})	High	6.927	6.708	4.413	3.829	3.313	3.055	1.116	1.618	5.443	11.580	10.030	6.152	**2.845**
Peak flow (m^3s^{-1})		68.63	67.53	54.45	76.97	47.48	46.54	7.27	23.86	56.14	71.12	69.14	77.65	**77.65**
Runoff (mm)		69	42	46	32	22	14	6	8	12	36	51	60	**397**
Rainfall (mm)		82	48	71	49	61	59	45	60	71	86	89	87	**808**

Factors affecting flow regime: E
Station type: CC

1988 runoff is 107% of previous mean
rainfall 90%

041027 Rother at Princes Marsh 1988

Measuring authority NRA-S
First year 1972
Grid reference 41 (SU) 772 270
Level stn. (m OD) 56.40
Catchment area (sq km) 37.2
Max alt. (m OD) 252

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.321	1.121	0.599	0.405	0.284	0.191	0.226	0.164	0.226	0.556	0.434	0.499	**0.501**
(m^3s^{-1})	Peak	9.07	9.07	5.01	0.74	0.50	0.75	0.60	0.79	1.02	3.61	1.64	1.94	**9.07**
Runoff (mm)		95	75	43	28	20	13	16	12	16	40	30	36	**426**
Rainfall (mm)		190	71	89	52	41	21	113	71	55	97	30	25	**855**

Monthly and yearly statistics for previous record (Nov 1972 to Dec 1987—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.855	0.672	0.674	0.504	0.396	0.288	0.218	0.231	0.278	0.507	0.615	0.809	**0.504**
flows	Low	0.273	0.320	0.237	0.194	0.158	0.121	0.120	0.106	0.164	0.165	0.167	0.348	**0.288**
(m^3s^{-1})	High	1.485	1.409	1.220	0.694	0.641	0.471	0.300	0.493	0.949	1.088	1.855	1.299	**0.696**
Peak flow (m^3s^{-1})		15.63	13.72	10.71	6.83	7.20	4.68	2.17	4.55	12.97	68.03	16.60	22.19	**68.03**
Runoff (mm)		62	44	49	35	29	20	16	17	19	37	43	58	**427**
Rainfall (mm)		92	54	83	45	67	56	53	62	81	97	90	109	**889**

Factors affecting flow regime: GE
Station type: C

1988 runoff is 100% of previous mean
rainfall 96%

042003 Lymington at Brockenhurst Park 1988

Measuring authority: NRA-S
First year 1960
Grid reference: 41 (SU) 318 019
Level stn. (m OD) 6.10
Catchment area (sq km) 98.9
Max alt. (m OD) 114

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	3.514	1.994	1.379	0.770	0.401	0.103	0.207	0.085	0.323	0.950	0.335	0.522	**0.881**
(m^3s^{-1})	Peak	10.13	10.01	10.11	5.07	3.82	0.40	1.37	1.79	7.11	10.05	2.66	5.35	**10.13**
Runoff (mm)		95	51	37	20	11	3	6	2	8	26	9	14	**282**
Rainfall (mm)		174	54	87	45	28	29	69	72	42	111	24	21	**756**

Monthly and yearly statistics for previous record (Oct 1960 to Dec 1987 - incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	1.812	1.633	1.469	1.043	0.817	0.458	0.243	0.271	0.441	1.028	1.407	1.607	**1.016**
flows	Low	0.330	0.439	0.327	0.168	0.128	0.042	0.013	0.014	0.084	0.128	0.198	0.541	**0.407**
(m^3s^{-1})	High	3.723	3.459	3.089	2.169	1.569	1.247	1.603	0.847	2.308	4.841	5.283	3.294	**1.340**
Peak flow (m^3s^{-1})		9.91	13.62	10.13	10.13	13.98	7.95	11.38	8.16	8.47	11.28	13.54	14.91	**14.91**
Runoff (mm)		49	40	40	27	22	12	7	7	12	28	37	44	**324**
Rainfall (mm)		86	57	70	52	64	57	44	62	75	88	94	93	**842**

Factors affecting flow regime: N
Station type: VN

1988 runoff is 87% of previous mean
rainfall 90%

042004 Test at Broadlands 1988

Measuring authority: NRA-S
First year: 1957
Grid reference: 41 (SU) 354 188
Level stn. (m OD): 10.10
Catchment area (sq km): 1040.0
Max alt. (m OD): 297

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	12.660	17.640	15.910	12.910	10.150	8.405	8.114	6.967	7.416	8.130	8.121	7.780	10.323
(m^3s^{-1}):	Peak													
Runoff (mm)		33	43	41	32	26	21	21	18	18	21	20	20	**314**
Rainfall (mm)		137	54	74	29	37	36	100	72	42	92	30	16	**719**

Monthly and yearly statistics for previous record (Oct 1957 to Dec 1987—incomplete or missing months total 0.6 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	15.090	15.760	15.380	13.790	11.830	9.884	8.034	7.462	7.616	9.022	9.855	11.800	**11.270**
flows	Low	7.172	6.932	6.686	6.107	4.861	4.558	3.708	4.263	5.377	5.786	5.633	6.069	**6.597**
(m^3s^{-1})	High	34.670	32.680	24.430	19.050	16.320	13.540	10.850	10.440	12.810	27.060	16.460	17.450	**16.057**
Peak flow (m^3s^{-1})														
Runoff (mm)		39	37	40	34	30	25	21	19	19	23	25	30	**342**
Rainfall (mm)		84	52	69	51	60	59	47	65	71	80	84	92	**814**

Factors affecting flow regime: N
Station type: VA

1988 runoff is 92% of previous mean
rainfall 88%

042006 Meon at Mislingford 1988

Measuring authority: NRA-S
First year: 1958
Grid reference: 41 (SU) 589 141
Level stn. (m OD): 29.30
Catchment area (sq km): 72.8
Max alt. (m OD): 233

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	1.896	3.310	2.039	1.392	0.918	0.611	0.483	0.324	0.278	0.351	0.378	0.380	**1.022**
(m^3s^{-1})	Peak	3.84	4.10	2.60	2.04	1.28	1.01	0.68	0.58	0.66	0.66	0.45	0.61	**4.10**
Runoff (mm)		70	114	75	50	34	22	18	12	10	13	13	14	**444**
Rainfall (mm)		180	60	87	55	39	19	104	74	48	108	30	23	**827**

Monthly and yearly statistics for previous record (Oct 1958 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	1.562	1.768	1.639	1.394	1.044	0.757	0.537	0.404	0.357	0.535	0.853	1.153	**0.996**
flows	Low	0.463	0.480	0.427	0.335	0.164	0.120	0.079	0.068	0.102	0.110	0.124	0.186	**0.334**
(m^3s^{-1})	High	3.470	3.300	2.820	2.021	1.738	1.220	0.827	0.657	0.882	2.309	4.126	3.917	**1.815**
Peak flow (m^3s^{-1})		3.51	4.02	3.26	2.83	2.06	1.50	1.23	1.07	0.96	1.68	2.83	3.77	**4.02**
Runoff (mm)		57	59	60	50	38	27	20	15	13	20	30	42	**432**
Rainfall (mm)		97	58	77	58	68	59	54	71	82	95	102	104	**925**

Factors affecting flow regime: G
Station type: FL

1988 runoff is 103% of previous mean
rainfall 89%

042008 Cheriton Stream at Sewards Bridge 1988

Measuring authority: NRA-S
First year: 1970
Grid reference: 41 (SU) 574 323
Level stn. (m OD): 55.80
Catchment area (sq km): 75.1
Max alt. (m OD): 234

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	0.879	1.481	1.128	0.900	0.717	0.527	0.46[illegible]	0.390	0.385	0.439	0.427	0.419	**0.676**
(m^3s^{-1})	Peak	1.46	1.74	1.39	1.06	0.92	0.80	0.61	0.79	0.75	0.79	0.60	0.58	**1.74**
Runoff (mm)		31	49	40	31	26	18	16	14	13	16	15	15	**285**
Rainfall (mm)		172	65	83	54	40	20	107	80	49	108	30	23	**831**

Monthly and yearly statistics for previous record (Jul 1970 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.835	0.930	0.894	0.838	0.688	0.572	0.472	0.409	0.379	0.431	0.535	0.710	**0.640**
flows	Low	0.521	0.495	0.409	0.320	0.271	0.218	0.183	0.165	0.207	0.279	0.278	0.320	**0.408**
(m^3s^{-1})	High	1.293	1.443	1.410	1.065	0.857	0.959	0.797	0.708	0.560	0.672	0.980	1.278	**0.768**
Peak flow (m^3s^{-1})		1.69	1.83	1.68	1.39	1.26	2.02	1.25	1.28	0.77	0.91	1.23	1.85	**2.02**
Runoff (mm)		30	30	32	29	25	20	17	15	13	15	18	25	**269**
Rainfall (mm)		95	59	8[illegible]	49	64	60	55	64	76	89	100	104	**896**

Factors affecting flow regime: N
Station type: C

1988 runoff is 106% of previous mean
rainfall 93%

043006 Nadder at Wilton Park 1988

Measuring authority: NRA-W
First year: 1966
Grid reference: 41 (SU) 098 308
Level stn. (m OD): 51.10
Catchment area (sq km): 220.6
Max alt. (m OD): 277

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	4.200	5.646	3.530	2.588	1.966	1.398		1.055	1.168	2.258	1.590	1.650	
(m^3s^{-1})	Peak	12.17	13.43	6.11	4.57	3.06	1.76		1.40	4.77	10.73	5.26	4.91	
Runoff (mm)		51	64	43	30	24	16		13	14	27	19	20	
Rainfall (mm)		152	63	88	34	47	39	100	81	45	112	35	21	**817**

Monthly and yearly statistics for previous record (Jan 1966 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	4.792	5.072	4.406	3.332	2.516	1.981	1.516	1.350	1.351	1.796	2.624	3.918	**2.877**
flows	Low	1.011	1.263	1.358	1.048	0.993	0.839	0.684	0.595	0.823	0.829	0.905	1.219	**1.535**
(m^3s^{-1})	High	6.773	8.196	6.732	5.936	4.044	3.283	2.234	2.040	3.093	3.537	6.413	7.030	**3.821**
Peak flow (m^3s^{-1})		22.71	17.57	18.80	14.27	28.13	8.83	13.39	6.61	16.68	10.99	22.90	47.88	**47.88**
Runoff (mm)		58	56	53	39	31	23	18	16	16	22	31	48	**412**
Rainfall (mm)		95	70	80	52	70	63	51	71	78	85	91	105	**911**

Factors affecting flow regime: N
Station type: C

1988 runoff is % of previous mean
rainfall 90%

043007 Stour at Throop Mill 1988

Measuring authority NRA-W
First year: 1973

Grid reference 40 (SZ) 113 958
Level stn. (m OD) 4 40

Catchment area (sq km) 1073.0
Max alt (m OD): 277

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	28 800	38.660	20.740	11 350	7 309	4 686	4 250	3 441	4 288	10 080	5 504	8 315	**12.205**
(m^3s^{-1})	Peak	82 22	88 07	53 21	17 87	10 41	6 03	4 90	7 77	11 13	37 14	19 64	27 80	**88.07**
Runoff (mm)		72	90	52	27	18	11	11	9	10	25	13	21	**360**
Rainfall (mm)		155	67	90	36	47	31	88	82	37	107	33	23	**796**

Monthly and yearly statistics for previous record (Jan 1973 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	24 570	24 040	20 790	14 610	9.865	6 789	4 596	4 405	5 173	9 055	14 060	22 970	**13.365**
flows	Low	4 319	6 826	7.548	4.483	3 157	2 231	1 614	1 358	2.413	7 716	2 823	6 386	**6.138**
(m^3s^{-1})	High	38 730	42 200	32 620	27 070	18 900	16 940	7 932	8 998	20 340	29 770	36 730	40 270	**17.377**
Peak flow (m^3s^{-1})		116 60	131 50	110 24	88 24	150 00	180 00	47.60	32 41	90 33	101 90	133 40	280 00	**280.00**
Runoff (mm)		61	55	52	35	25	16	11	11	12	23	34	57	**393**
Rainfall (mm)		86	64	80	43	62	57	49	64	78	85	83	110	**861**

Factors affecting flow regime. I
Station type. CC

1988 runoff is 92% of previous mean
rainfall 92%

044002 Piddle at Baggs Mill 1988

Measuring authority NRA-W
First year: 1963

Grid reference 30 (SY) 913 876
Level stn. (m OD) 2 10

Catchment area (sq km). 183 1
Max alt (m OD). 275

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	3 682	7 062	4 069	2 907	2 035	1 365	1 125	0 941	0 921	1 279	1.132	1 281	**2.299**
(m^3s^{-1}).	Peak	8 13	8 53	7 35	3 58	3 05	1 84	1.36	1 32	2 70	4 10	1 79	2 07	**8.53**
Runoff (mm)		54	97	60	41	30	19	16	14	13	19	16	19	**397**
Rainfall (mm)		187	81	109	45	52	29	67	90	42	118	37	28	**885**

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1987—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	3 689	4 314	3 901	3 022	2 211	1 693	1 250	1 097	1 107	1 444	2 142	2.954	**2.392**
flows	Low	1 045	1 020	1 093	0 945	0 757	0 571	0.483	0 433	0 604	0 805	0 721	0 853	**1.328**
(m^3s^{-1})	High	5 959	6 616	6 202	4 787	3.376	2 907	1 755	1 526	2.300	3 106	5 047	5 654	**3.233**
Peak flow (m^3s^{-1})		11 87	9 18	9 37	6 48	8 11	9 23	4 79	4 50	8 18	9 29	9.20	8 62	**11.87**
Runoff (mm)		54	57	57	43	32	24	18	16	16	21	30	43	**412**
Rainfall (mm)		106	78	86	51	70	60	48	64	85	94	108	115	**965**

Factors affecting flow regime: I
Station type: FL

1988 runoff is 96% of previous mean
rainfall 92%

045003 Culm at Wood Mill 1988

Measuring authority NRA-SW
First year 1962

Grid reference: 31 (ST) 021 058
Level stn (m OD): 44.00

Catchment area (sq km): 226.1
Max alt. (m OD) 293

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	9 110	8 597	6 055	2 718	2 441	1.614	2 730	1 504	2 507	5 092	2 049	2 890	**3.936**
(m^3s^{-1})	Peak	39 23	38 17	27 82	5 43	9 88	7 59	11 58	11 87	29 89	49 07	12.49	19 04	**49 07**
Runoff (mm)		108	95	72	31	29	19	32	18	29	60	23	34	**550**
Rainfall (mm)		164	84	113	36	71	52	121	90	55	111	31	34	**962**

Monthly and yearly statistics for previous record (Oct 1962 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	6 671	6 248	5 049	3 508	2 854	2 041	1 755	1 635	1 898	2 974	4 489	6 081	**3.757**
flows	Low	1 930	2 251	2 392	1 318	1 085	0 803	0 650	0 569	0 971	0 971	1 287	2 479	**2 277**
(m^3s^{-1})	High	12 870	11 820	9 184	7 445	6 337	4 449	5 200	2 787	7.328	11 430	8 191	11 880	**4.840**
Peak flow (m^3s^{-1})		110 70	100 10	50 11	61 98	33 82	30 58	202 20	58 62	94 16	45 87	134 50	142 80	**202.20**
Runoff (mm)		79	67	60	40	34	23	21	19	22	35	51	72	**524**
Rainfall (mm)		109	80	87	59	71	63	58	67	78	89	98	112	**971**

Factors affecting flow regime: PGEI
Station type VA

1988 runoff is 105% of previous mean
rainfall 99%

045005 Otter at Dotton 1988

Measuring authority: NRA-SW
First year. 1963

Grid reference 30 (SY) 087 885
Level stn (m OD) 14 50

Catchment area (sq km). 202 5
Max alt (m OD) 299

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	6 695	5.188	4 271	1 986	1 899	1 340	2 253	1 417	2.314	3 900	1 597	2 061	**2.910**
(m^3s^{-1}).	Peak	46 45	30 21	36.19	3 76	7 48	5 36	6 84	40 12	59 29	52 60	12 40	10 80	**59.29**
Runoff (mm)		89	64	57	25	25	17	30	19	30	52	20	27	**454**
Rainfall (mm)		173	80	112	40	75	55	116	94	45	117	31	31	**969**

Monthly and yearly statistics for previous record (Mar 1963 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	5 681	5 111	4 242	2 887	2 428	1 791	1 521	1 422	1 621	2 602	3 708	5 060	**3.166**
flows	Low	1 502	1.308	1.908	1 150	0 941	0 716	0 587	0 542	0 980	1 051	1 257	1 758	**2 071**
(m^3s^{-1})	High	9 989	10 880	7 293	5 944	5 354	3 080	4 771	2 568	4 580	9 655	8.772	9 875	**3.946**
Peak flow (m^3s^{-1})		100 80	73 08	65 25	69.66	80.38	45 87	346 90	51 03	66 91	47 58	84.95	123 60	**346 90**
Runoff (mm)		75	62	56	37	32	23	20	19	21	34	47	67	**493**
Rainfall (mm)		116	85	88	60	73	64	56	65	74	91	98	115	**985**

Factors affecting flow regime SRPGEI
Station type: VA

1988 runoff is 92% of previous mean
rainfall 98%

046003 Dart at Austins Bridge 1988

Measuring authority: NRA-SW
First year 1958

Grid reference 20 (SX) 751 659
Level stn. (m OD): 22 40

Catchment area (sq km): 247.6
Max alt. (m OD): 604

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	27 810	23 830	12 100	7.107	6 338	3 541	8 239	7 602	9 094	16 920	6 273	8.232	**11.410**
(m^3s^{-1})	Peak	140 36	152 31	55 46	19 59	24 40	7 62	82.69	207.15	179.95	142 51	73 63	60 33	**207.15**
Runoff (mm)		301	241	131	74	69	37	89	82	95	183	66	89	**1457**
Rainfall (mm)		349	182	198	74	115	61	204	189	107	223	85	88	**1875**

Monthly and yearly statistics for previous record (Oct 1958 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	19 730	16 660	13 900	10.190	7 353	5 058	3.720	4 731	5 778	10 900	15 160	19 600	**11.044**
flows	Low	5 435	4 270	5.731	3 566	2 220	1 456	0 996	0 713	0 905	1 229	5 048	8 650	**7.304**
(m^3s^{-1})	High	36 680	37 760	33 520	22 720	14 530	14 260	10 930	12 590	26.290	28 000	33 400	35 540	**15.592**
Peak flow (m^3s^{-1})		284 00	309 40	236 12	187 40	98 88	253 00	206 50	222.16	327 60	168 20	317 80	549 70	**549.70**
Runoff (mm)		213	164	150	107	80	53	40	51	60	118	159	212	**1408**
Rainfall (mm)		227	155	165	114	108	94	91	119	135	179	203	236	**1826**

Factors affecting flow regime: SRPGEI
Station type: VA

1988 runoff is 104% of previous mean
rainfall 103%

047007 Yealm at Puslinch 1988

Measuring authority: NRA-SW
First year 1963

Grid reference 20 (SX) 574 511
Level stn (m OD) 5 50

Catchment area (sq km) 54.9
Max alt (m OD): 492

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	4 947	3 953	1 592	1 099	0 575	0 334	0 691	0 891	1 276	2 576	1 032	1 667	**1 716**
(m^3s^{-1})	Peak	27 49	23 09	12 4'	3 96	1 91	0 71	8 18	28 32	21 21	26 66	18 25	11 14	**28 32**
Runoff (mm)		241	180	78	52	28	16	34	43	60	126	49	81	**988**
Rainfall (mm)		297	134	151	65	73	47	159	162	83	174	89	77	**1511**

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1987 --incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	2 979	2 748	2 115	1 4'1	1 000	0 810	0 567	0 667	0 797	1 410	2 257	2 915	**1 635**
flows	Low	0 563	1 015	0 659	0 572	0 327	0 171	0 095	0 057	0 183	0 121	0 373	1 171	**1 052**
(m^3s^{-1})	High	4 814	5 806	5 290	3 646	1 997	2 377	1 863	1 957	3 630	3 808	4 88'	6 108	**2.210**
Peak flow (m^3s^{-1})		26 66	23 24	24 54	24 11	17 53	23 47	25 22	27 86	2' 33	22 29	26 62	25 18	**27.86**
Runoff (mm)		145	122	103	67	49	38	28	33	38	69	107	142	**940**
Rainfall (mm)		165	125	130	79	96	92	81	10'	112	133	16'	174	**1449**

Factors affecting flow regime PGEI
Station type FLVA

1988 runoff is 105% of previous mean
rainfall 104%

047008 Thrushel at Tinhay 1988

Measuring authority NRA-SW
First year 1969

Grid reference 20 (SX) 398 856
Level stn (m OD) 55 50

Catchment area (sq km) 112 7
Max alt (m OD) 375

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	7 141	4 832	3 448	1 588	0 652	0 215	1 4'7	1 432	1 910	4 644	0 991	2 537	**2.570**
(m^3s^{-1})	Peak	29 98	18 05	28 74	21 22	3 91	0 52	10 91	31 96	3' 71	66 18	22 72	25 32	**66.18**
Runoff (mm)		170	107	82	37	16	5	34	34	44	110	23	60	**721**
Rainfall (mm)		191	93	130	56	69	40	161	129	74	152	52	64	**1211**

Monthly and yearly statistics for previous record (Nov 1969 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	5 112	3 879	3 133	1 655	1 154	0 743	0 388	0 748	0 995	2 422	3 877	4 908	**2 414**
flows	Low	1 317	0 95'	1 428	0 481	0 237	0 110	0 028	0 019	0 116	0 069	0 442	2 405	**1 640**
(m^3s^{-1})	High	9 70'	8 826	7 477	4 038	4 209	2 491	1 095	2 916	6 671	6 878	7 195	8 122	**3.750**
Peak flow (m^3s^{-1})		53 32	61 78	61 46	27 72	38 72	57 13	9 89	33 64	75 12	55 86	57 07	124 40	**124 40**
Runoff (mm)		12'	84	74	38	27	17	9	18	23	58	89	117	**676**
Rainfall (mm)*		144	94	103	59	70	75	65	87	94	1'4	135	143	**1183**

*(1970-1987)

Factors affecting flow regime GE
Station type CC

1988 runoff is 107% of previous mean
rainfall 102%

048004 Warleggan at Trengoffe 1988

Measuring authority NRA-SW
First year 1969

Grid reference 20 (SX) 159 674
Level stn (m OD) 70 30

Catchment area (sq km) 25 3
Max alt (m OD) 308

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	1 8'9	1 637	1 057	0 829	0 525	0 344	0 457	0 530	0 7'6	1 271	0 668	0 866	**0.892**
(m^3s^{-1})	Peak	5 56	3 58	5 03	2 62	1 92	0 51	1 51	4 87	4 51	4 70	3 00	2 53	**5.56**
Runoff (mm)		193	162	112	85	56	35	48	56	73	135	68	92	**1115**
Rainfall (mm)		275	121	169	83	90	43	183	150	92	187	82	75	**1550**

Monthly and yearly statistics for previous record (Oct 1969 to Dec 1987—incomplete or missing months total 0 3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	1 459	1 372	1 017	0 730	0 526	0 426	0 340	0 385	0 456	0 686	1 030	1 368	**0 814**
flows	Low	0 744	0 751	0 585	0 403	0 288	0 208	0 151	0 118	0 177	0 208	0 233	0 843	**0.624**
(m^3s^{-1})	High	2 584	2 906	1 588	1 234	0 978	0 904	0 688	0 950	1 677	1 557	1 775	1 949	**1.228**
Peak flow (m^3s^{-1})		14 31	14 85	5 27	4 59	3 19	5 96	4 35	8 60	14 85	7 86	15 38	11 25	**15.38**
Runoff (mm)		154	132	108	75	56	44	36	4'	47	73	105	145	**1015**
Rainfall (mm)*		182	1'6	129	69	83	90	87	105	123	143	169	18'	**1477**

*(1970-1987)

Factors affecting flow regime G
Station type CC

1988 runoff is 110% of previous mean
rainfall 105%

048005 Kenwyn at Truro 1988

Measuring authority NRA-SW | Grid reference 10 (SW) 820 450 | Catchment area (sq km) 19.[illegible]
First year 1968 | Level stn (m OD) 7.20 | Max alt (m OD) 152

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	1.505	1.057	0.702	0.423	0.202	0.117	0.132	0.113	0.135	0.714	0.291	0.532	**0.493**
(m^3s^{-1})	Peak	22.50	3.55	3.82	1.82	1.82	0.27	0.76	1.40	0.50	30.40	1.86	3.23	**30.40**
Runoff (mm)		211	139	99	57	28	16	19	16	18	100	40	75	**817**
Rainfall (mm)		253	100	154	61	61	29	133	92	52	153	59	57	**1204**

Monthly and yearly statistics for previous record (Oct 1968 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.802	0.757	0.537	0.326	0.197	0.141	0.089	0.089	0.113	0.250	0.485	0.744	**0.376**
flows	Low	0.283	0.333	0.228	0.162	0.124	0.070	0.043	0.026	0.037	0.034	0.046	0.436	**0.264**
(m^3s^{-1})	High	1.322	1.536	0.917	0.613	0.418	0.358	0.162	0.179	0.564	0.633	1.093	1.091	**0.544**
Peak flow (m^3s^{-1})		5.88	7.19	5.74	4.07	1.41	3.71	2.79	2.29	4.10	5.94	9.74	13.35	**13.35**
Runoff (mm)		112	97	75	44	28	19	13	12	15	35	66	104	**621**
Rainfall (mm)		143	100	97	55	66	66	54	74	87	109	131	144	**1126**

Factors affecting flow regime G
Station type CC

1988 runoff is 131% of previous mean
rainfall 107%

048011 Fowey at Restormel 1988

Measuring authority NRA-SW | Grid reference 20 (SX) 098 624 | Catchment area (sq km) 169.1
First year 1961 | Level stn (m OD) 9.20 | Max alt (m OD) 420

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	12.840	11.140	6.250	4.449	2.506	1.545	2.375	2.402	3.579	7.535	2.685	4.621	**5.151**
(m^3s^{-1})	Peak	45.69	27.87	25.05	15.50	8.03	2.28	7.65	22.76	22.95	29.23	15.50	15.34	**45.69**
Runoff (mm)		203	165	99	68	40	24	38	38	55	119	41	73	**963**
Rainfall (mm)		281	123	169	84	89	44	183	150	90	182	80	76	**1551**

Monthly and yearly statistics for previous record (Oct 1961 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	9.282	8.184	6.040	4.140	3.071	2.217	1.844	2.071	2.595	4.552	6.833	9.281	**4.997**
flows	Low	3.071	3.304	2.727	1.808	1.048	0.693	0.563	0.343	0.673	0.617	0.921	4.401	**3.493**
(m^3s^{-1})	High	17.330	21.780	12.130	7.641	6.447	5.479	4.859	6.044	10.490	11.720	15.450	20.890	**7.440**
Peak flow (m^3s^{-1})		104.80	111.90	45.62	24.52	22.62	39.44	31.10	48.51	70.02	35.07	223.70	126.60	**223.70**
Runoff (mm)		147	118	96	63	49	34	29	33	40	72	105	147	**932**
Rainfall (mm)		179	118	131	79	94	90	92	107	122	139	172	187	**1510**

Factors affecting flow regime SRPGEI
Station type CC

1988 runoff is 103% of previous mean
rainfall 103%

049001 Camel at Denby 1988

Measuring authority NRA-SW | Grid reference 20 (SX) 017 682 | Catchment area (sq km) 208.8
First year 1964 | Level stn (m OD) 4.60 | Max alt (m OD) 420

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	16.540	13.360	8.717	5.470	2.845	1.842	3.016	3.113	5.011	11.450	4.475	7.129	**6.908**
(m^3s^{-1})	Peak	73.18	39.97	52.35	21.66	11.26	2.95	11.81	27.40	26.93	72.23	35.48	35.03	**73.18**
Runoff (mm)		212	160	112	68	36	23	39	40	62	147	56	91	**1046**
Rainfall (mm)		258	107	173	70	87	44	173	147	80	178	85	75	**1477**

Monthly and yearly statistics for previous record (Sep 1964 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	11.180	9.416	6.914	4.560	3.336	2.460	2.259	2.522	2.917	5.419	7.933	11.100	**5.823**
flows	Low	4.833	4.249	2.835	2.081	0.960	0.888	0.582	0.421	0.798	0.882	1.371	6.135	**4.081**
(m^3s^{-1})	High	19.600	20.940	16.420	9.395	8.491	5.463	7.322	7.858	11.920	16.640	17.990	19.110	**8.165**
Peak flow (m^3s^{-1})		67.71	80.21	94.75	35.42	23.98	45.32	40.59	63.98	125.80	92.14	94.75	227.90	**227.90**
Runoff (mm)		143	110	89	57	43	31	29	32	36	70	98	142	**880**
Rainfall (mm)		167	105	118	72	85	88	91	101	116	136	155	168	**1402**

Factors affecting flow regime PGE
Station type VA

1988 runoff is 119% of previous mean
rainfall 105%

049002 Hayle at St Erth 1988

Measuring authority NRA-SW | Grid reference 10 (SW) 549 342 | Catchment area (sq km) 48.9
First year 1957 | Level stn (m OD) 7.00 | Max alt (m OD) 238

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	3.009	3.288	1.534	1.391	0.825	0.564	0.492	0.402	0.450	1.180	0.860	1.262	**1.265**
(m^3s^{-1})	Peak	9.16	7.38	3.07	2.21	1.21	0.72	0.97	0.81	0.80	4.02	1.60	1.74	**9.16**
Runoff (mm)		165	168	84	74	45	30	27	22	24	65	46	69	**818**
Rainfall (mm)		246	93	141	62	70	35	113	97	55	143	63	61	**1179**

Monthly and yearly statistics for previous record (Oct 1957 to Dec 1987—incomplete or missing months total 9.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	1.941	2.011	1.566	1.079	0.684	0.511	0.401	0.345	0.357	0.477	0.935	1.573	**0.985**
flows	Low	0.746	0.863	0.810	0.573	0.445	0.335	0.237	0.167	0.193	0.179	0.181	0.503	**0.653**
(m^3s^{-1})	High	2.849	3.426	2.582	1.643	1.464	0.859	1.063	0.743	1.067	1.140	2.297	2.584	**1.258**
Peak flow (m^3s^{-1})		6.20	6.73	5.83	3.87	2.36	1.72	1.99	2.27	1.88	2.02	3.81	6.31	**6.73**
Runoff (mm)		106	100	86	57	37	27	22	19	19	26	50	86	**636**
Rainfall (mm)		134	105	102	54	65	69	58	75	92	105	124	138	**1121**

Factors affecting flow regime G
Station type CC

1988 runoff is 129% of previous mean
rainfall 105%

050002 Torridge at Torrington 1988

Measuring authority: NRA-SW
First year: 1962
Grid reference: 21 (SS) 500 185
Level stn. (m OD): 13.90
Catchment area (sq km): 663.0
Max alt. (m OD): 621

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	48.260	33 090	22.340	8.059	3.356	1.576	8 273	7.425	15.770	30.750	6 956	17 980	**16.995**
(m^3s^{-1}):	Peak	156.37	119.81	138.11	59 62	18 48	3 55	66.99	73 37	115.77	276 40	101 89	157 22	**276.40**
Runoff (mm)		195	125	90	32	14	6	33	30	62	124	27	73	**811**
Rainfall (mm)		275	109	139	47	69	45	158	132	99	148	56	71	**1298**

Monthly and yearly statistics for previous record (Oct 1962 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	29.750	23 470	18 470	11 250	8 328	4 886	4 279	5.179	6 823	15.570	27 040	31 640	**15.531**
flows	Low	5 018	4 695	5.792	3 082	1.594	1 092	0 443	0 252	0.954	0.668	3 798	10 270	**8.968**
(m^3s^{-1})	High	57.510	47.590	51.280	28 120	31 290	14.960	21 540	19 690	45 910	49 230	55 730	64.530	**21.036**
Peak flow (m^3s^{-1})		391.10	294 40	535 60	164 40	205.70	181.30	310 60	278.50	415 00	225 00	370 40	730 00	**730.00**
Runoff (mm)		120	86	75	44	34	19	17	21	27	63	106	128	**739**
Rainfall (mm)		126	85	98	66	76	74	72	84	96	113	137	133	**1160**

Factors affecting flow regime: SRPGEI
Station type: VA

1988 runoff is 110% of previous mean
rainfall 112%

052006 Yeo at Pen Mill 1988

Measuring authority: NRA-W
First year: 1963
Grid reference: 31 (ST) 573 162
Level stn. (m OD): 23 90
Catchment area (sq km): 213 1
Max alt. (m OD): 265

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	6 200	6 116	3 112	1 226	0 748	0 542	0.722	0 503	0 804	1 643	0 742	1 311	**1.962**
(m^3s^{-1})	Peak	36 67	61.15	23.00	2.34	1.00	0.74	4 95	7 10	13 27	14 86	6 24	6 50	**61.15**
Runoff (mm)		78	72	39	15	9	7	9	6	10	21	9	16	**291**
Rainfall (mm)		148	80	91	31	58	34	116	81	36	88	33	21	**817**

Monthly and yearly statistics for previous record (Nov 1963 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	5 214	4 389	3 639	2 047	1 628	1 081	0 646	0 696	0 923	2 018	3 518	4.562	**2 523**
flows	Low	0 485	1.168	0 909	0.532	0 356	0 229	0.193	0 165	0 316	0 372	0 455	1 079	**1.093**
(m^3s^{-1})	High	8 612	10 060	7 060	4 223	4 510	2 498	1 909	1 607	5 174	9 808	12 780	9 099	**3.594**
Peak flow (m^3s^{-1})		99 93	119 30	57 33	38 77	130 00	39 38	35 74	27 53	27 64	54 94	77 52	138 90	**138.90**
Runoff (mm)		66	50	46	25	20	13	8	9	11	25	43	57	**374**
Rainfall (mm)		95	68	78	49	70	61	53	66	75	82	91	102	**890**

Factors affecting flow regime: S
Station type: C VA

1988 runoff is 78% of previous mean
rainfall 92%

052007 Parrett at Chiselborough 1988

Measuring authority: NRA W
First year: 1966
Grid reference: 31 (ST) 461 144
Level stn. (m OD): 20.70
Catchment area (sq km): 74 8
Max alt. (m OD): 219

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	3 184	2 923	1 359	0 551	0 469	0 329	0 451	0 279	0 631	0 656	0 353	0 527	**0.971**
(m^3s^{-1})	Peak	22 83	22 36	11.60	0.87	1.43	0 39	1 41	5 27	15 11	8 09	1 45	2 07	**22 83**
Runoff (mm)		114	98	49	19	17	11	16	10	22	23	12	19	**410**
Rainfall (mm)		157	84	93	36	67	37	115	86	34	78	28	21	**836**

Monthly and yearly statistics for previous record (Aug 1966 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	2 399	1 859	1.550	0.856	0 754	0 514	0 355	0 363	0 435	1 022	1 370	2 126	**1.132**
flows	Low	0 258	0 593	0 523	0 285	0 206	0 130	0 106	0 090	0 145	0 186	0 218	0 523	**0 564**
(m^3s^{-1})	High	4 914	3.865	3 055	1 867	2 048	1 053	0 921	0 988	2 225	4 819	3 789	3.917	**1.534**
Peak flow (m^3s^{-1})		36 38	27.14	27 46	17.95	57 21	12 81	16 14	23 88	15.29	27 22	29 12	44 94	**57.21**
Runoff (mm)		86	61	56	30	27	18	13	13	15	37	47	76	**478**
Rainfall (mm)		104	72	81	45	73	66	52	68	76	89	88	107	**921**

Factors affecting flow regime: N
Station type: C

1988 runoff is 86% of previous mean
rainfall 91%

052010 Brue at Lovington 1988

Measuring authority: NRA-W
First year: 1964
Grid reference: 31 (ST) 590 318
Level stn. (m OD): 19 80
Catchment area (sq km) 135 2
Max alt. (m OD): 244

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	4.183	4.237	2.052	0 944	0 534	0.389	1.788	0 658	1 725	3 829	1 070	1.250	**1.885**
(m^3s^{-1}):	Peak	30 51	30 26	12.27	1 82	0 94	0 94	16 65	4.16	43 77	61 06	15 61	9 48	**61.06**
Runoff (mm)		83	79	41	18	11	7	35	13	33	76	21	25	**441**
Rainfall (mm)		130	63	82	33	54	38	157	87	61	106	39	21	**871**

Monthly and yearly statistics for previous record (Oct 1964 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	3 563	3.200	2 598	1.582	1 252	0.828	0 825	0 810	0 786	1 347	2 317	3 523	**1.882**
flows	Low	0.743	0 910	0 844	0 526	0 313	0 217	0 150	0 130	0 247	0 190	0 407	1 034	**1 153**
(m^3s^{-1})	High	5 752	6 872	5 263	3 352	3 554	2 203	4 081	2 449	4 873	4 380	4 883	6.158	**2.427**
Peak flow (m^3s^{-1})		47 28	47 07	43 49	27 19	95 48	35 46	83.00	48 42	69 42	44 05	74 62	57 76	**95 48**
Runoff (mm)		71	58	51	30	25	16	16	16	15	27	44	70	**439**
Rainfall (mm)		86	65	75	51	70	68	67	74	77	74	88	96	**891**

Factors affecting flow regime: N
Station type: C VA

1988 runoff is 100% of previous mean
rainfall 98%

053004 Chew at Compton Dando 1988

Measuring authority: NRA-W
First year: 1958

Grid reference: 31 (ST) 648 647
Level stn (m OD): 16.80

Catchment area (sq km): 129.5
Max alt (m OD): 305

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	2.193	2.390	1.400	0.870	0.582	0.488	0.566	0.479	0.865	1.627	0.770	0.829	**1.085**
(m^3s^{-1})	Peak	18.20	17.59	10.75	1.54	1.23	1.69	1.65	2.10	6.22	15.26	3.49	4.06	**18.20**
Runoff (mm)		45	46	29	17	12	10	12	10	17	34	15	17	**265**
Rainfall (mm)		167	81	107	42	77	56	131	104	95	115	42	24	**1036**

Monthly and yearly statistics for previous record (Mar 1958 to Dec 1987—incomplete or missing months total 1.0 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	1.896	1.693	1.400	1.006	0.845	0.611	0.463	0.461	0.568	0.805	1.261	1.768	**1.062**
flows	Low	0.444	0.557	0.410	0.469	0.333	0.287	0.243	0.195	0.232	0.300	0.264	0.622	**0.540**
(m^3s^{-1})	High	3.935	4.166	4.210	2.185	2.493	1.211	0.811	1.245	2.135	3.251	3.898	5.017	**1.766**
Peak flow (m^3s^{-1})		39.43	48.99	50.00	14.19	67.50	13.00	6.23	6.09	59.26	49.56	38.83	63.78	**67.50**
Runoff (mm)		39	32	29	20	17	12	10	10	11	17	25	37	**259**
Rainfall (mm)		100	68	80	61	73	70	69	84	93	91	104	115	**1008**

Factors affecting flow regime: S PG I
Station type: FL

1988 runoff is 102% of previous mean
rainfall 103%

053006 Frome(Bristol) at Frenchay 1988

Measuring authority: NRA-W
First year: 1961

Grid reference: 31 (ST) 637 772
Level stn. (m OD): 20.00

Catchment area (sq km): 148.9
Max alt (m OD): 193

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	4.962	3.378	2.075	0.853	0.547	0.366	0.808	0.421	0.964	2.251	0.845	0.993	**1.537**
(m^3s^{-1})	Peak	19.10	18.00	16.04	4.21	2.73	3.05	4.38	5.02	7.69	14.84	8.96	5.63	**19.10**
Runoff (mm)		89	57	37	15	10	6	15	8	17	41	15	18	**326**
Rainfall (mm)		127	54	78	39	61	37	116	82	60	100	39	17	**810**

Monthly and yearly statistics for previous record (Sep 1961 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	3.381	2.775	2.399	1.432	1.229	0.812	0.615	0.557	0.734	1.219	2.282	3.170	**1.714**
flows	Low	0.670	0.613	0.636	0.476	0.290	0.220	0.122	0.139	0.208	0.162	0.211	0.820	**0.804**
(m^3s^{-1})	High	6.152	6.040	5.762	3.434	5.028	2.973	3.516	2.398	5.113	4.691	5.434	9.807	**2.255**
Peak flow (m^3s^{-1})		35.05	41.09	33.84	29.63	49.00	29.01	70.79	12.75	29.73	42.93	49.12	66.55	**70.79**
Runoff (mm)		61	45	43	25	22	14	11	10	13	22	40	57	**363**
Rainfall (mm)		74	52	66	49	66	64	53	69	74	70	78	87	**802**

Factors affecting flow regime: GEI
Station type: FL

1988 runoff is 90% of previous mean
rainfall 101%

053007 Frome (Somerset) at Tellisford 1988

Measuring authority: NRA-W
First year: 1961

Grid reference: 31 (ST) 805 564
Level stn (m OD): 35.10

Catchment area (sq km): 261.6
Max alt (m OD): 305

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	9.079	8.887	4.583	2.287	1.471	1.005	2.140	1.218	3.497	7.146	2.189	2.628	**3.834**
(m^3s^{-1})	Peak	40.61	40.27	18.02	3.87	3.07	2.36	6.77	5.06	30.01	59.90	19.30	13.67	**59.90**
Runoff (mm)		93	85	47	23	15	10	22	12	35	73	22	27	**463**
Rainfall (mm)		155	75	93	41	56	45	142	97	88	120	41	23	**976**

Monthly and yearly statistics for previous record (Sep 1961 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	6.879	6.171	5.522	3.742	2.794	1.897	1.410	1.485	1.707	2.713	4.704	6.521	**3.786**
flows	Low	1.684	2.072	1.938	1.510	0.843	0.518	0.329	0.291	0.649	0.612	0.962	2.733	**2.334**
(m^3s^{-1})	High	12.340	12.460	12.690	8.314	6.317	4.812	4.931	4.605	7.459	8.841	10.730	14.860	**4.872**
Peak flow (m^3s^{-1})		77.99	64.75	68.83	57.51	98.80	37.52	108.11	82.49	71.03	40.24	84.58	83.64	**108.11**
Runoff (mm)		70	57	57	37	29	19	14	15	17	28	47	67	**457**
Rainfall (mm)		95	67	86	60	77	67	62	80	87	82	97	105	**965**

Factors affecting flow regime: PG I
Station type: FL

1988 runoff is 101% of previous mean
rainfall 101%

054006 Stour at Kidderminster 1988

Measuring authority: NRA-ST
First year: 1953

Grid reference: 32 (SO) 829 768
Level stn (m OD): 30.50

Catchment area (sq km): 324.0
Max alt (m OD): 316

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	6.071	4.479	4.330	2.835	2.973	2.962	4.165	2.582	2.659	3.040	2.330	2.464	**3.409**
(m^3s^{-1})	Peak	22.87	15.02	13.05	4.70	8.09	8.89	16.08	9.16	9.27	10.47	12.82	4.81	**22.87**
Runoff (mm)		50	35	36	23	25	24	34	21	21	25	19	20	**333**
Rainfall (mm)		115	43	78	30	53	46	125	59	36	47	34	25	**691**

Monthly and yearly statistics for previous record (Oct 1953 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	3.655	3.417	3.332	2.850	2.625	2.401	2.170	2.368	2.367	2.520	3.054	3.415	**2.846**
flows	Low	1.703	1.527	1.762	1.344	1.424	1.127	1.049	0.895	1.367	1.335	1.576	1.537	**1.865**
(m^3s^{-1})	High	7.409	6.537	6.244	4.844	6.468	4.224	4.404	4.057	4.057	5.713	6.386	7.062	**4.136**
Peak flow (m^3s^{-1})		67.96	20.96	81.55	19.74	20.94	20.16	19.20	34.50	19.40	22.96	18.93	45.46	**81.55**
Runoff (mm)		30	26	28	23	22	19	18	20	19	21	24	28	**277**
Rainfall (mm)		62	47	54	49	62	58	57	70	65	59	65	67	**715**

Factors affecting flow regime: GEI
Station type: VA

1988 runoff is 120% of previous mean
rainfall 97%

054008 Teme at Tenbury 1988

Measuring authority: NRA-ST
First year: 1956
Grid reference: 32 (SO) 597 686
Level stn. (m OD): 48.00
Catchment area (sq km): 1134.4
Max alt. (m OD): 546

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	45.640	37.990	20 590	11.180	6.544	4 872	8 022	5 298	7.789	14.520	7.411	10 860	15.014
(m^3s^{-1}):	Peak	156 76	89 90	56 72	24 01	13.15	9 84	31 25	13 36	21.38	47.94	28 89	28 02	156.76
Runoff (mm)		108	84	49	26	15	11	19	13	18	34	17	26	418
Rainfall (mm)		145	66	92	38	73	44	122	77	53	76	33	28	847

Monthly and yearly statistics for previous record (Oct 1956 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	28 230	24 680	21.660	15 290	10 920	6 374	4.134	4 150	6.152	11.530	17.210	25.040	14.572
flows	Low	6 281	8 009	7 433	4 692	2.571	1 558	1 008	0 745	1 085	1.347	3 085	5.565	7.278
(m^3s^{-1})	High	51.630	56 000	51.940	34.440	35.380	14.160	21.920	16 670	29 650	43 130	50 140	57.290	23.489
Peak flow (m^3s^{-1})		256 60	191.80	165 40	171 11	200.30	79 52	114.10	158 00	196.20	232.80	168.30	266 50	266.50
Runoff (mm)		67	53	51	35	26	14	10	10	14	27	39	59	405
Rainfall (mm)		84	62	70	59	65	59	56	73	81	74	84	92	859

Factors affecting flow regime: N
Station type: VA

1988 runoff is 103% of previous mean
rainfall 99%

054012 Tern at Walcot 1988

Measuring authority: NRA-ST
First year: 1960
Grid reference: 33 (SJ) 592 123
Level stn. (m OD): 44 60
Catchment area (sq km): 852.0
Max alt (m OD): 366

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	19.320	13 290	13 020	7 044	5 748	4 130	5 361	4 274	3 926	4 029	4 408	5 914	7.536
(m^3s^{-1})	Peak	47 51	29 99	33 95	12 18	11.42	8.96	13 60	7 40	5 56	5 90	17 57	15 74	47.51
Runoff (mm)		61	39	41	21	18	13	17	13	12	13	13	19	280
Rainfall (mm)		109	42	89	36	60	39	106	73	39	45	39	30	707

Monthly and yearly statistics for previous record (Oct 1960 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	10 990	10 250	8 885	7 391	6 576	4 711	3 896	3 966	4 012	5 749	8 211	10 740	7.102
flows	Low	4 018	4.002	4 800	3 557	2 917	2 199	1.393	1.171	1 680	2 227	2 538	3 563	3.757
(m^3s^{-1})	High	20 320	22 280	17 810	12 320	22 390	9 069	14 060	6 655	9 490	16.920	21 830	24 950	10.266
Peak flow (m^3s^{-1})		45 31	45 98	40 53	40 73	40.35	27 00	48 71	38 53	32 17	37 59	44 54	55 82	55.82
Runoff (mm)		35	29	28	22	21	14	12	12	12	18	25	34	263
Rainfall (mm)		59	45	54	50	64	58	53	65	63	61	72	68	712

Factors affecting flow regime: G
Station type: FV

1988 runoff is 106% of previous mean
rainfall 99%

054019 Avon at Stareton 1988

Measuring authority: NRA-ST
First year: 1962
Grid reference: 42 (SP) 333 715
Level stn (m OD): 54 70
Catchment area (sq km): 347.0
Max alt (m OD): 214

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	9.678	5 002	6 162	1.638	1 152	1 039	1 612	0 812	0 808	0 925	0 893	2.111	2.657
(m^3s^{-1})	Peak	55 83	15.22	23 45	2 60	3 02	4 85	5 23	1 90	2 76	2 26	8 95	8 38	55.83
Runoff (mm)		75	36	48	12	9	8	12	6	6	7	7	16	242
Rainfall (mm)		103	36	84	27	42	61	105	55	31	45	35	33	657

Monthly and yearly statistics for previous record (Oct 1962 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	4.377	4 460	4 735	2 835	2 185	1 444	0 992	1 077	1 024	1 605	2 458	4 013	2.551
flows	Low	0 798	0 777	0 545	0 485	0 474	0 368	0 247	0 356	0 442	0 507	0 549	0 667	1.094
(m^3s^{-1})	High	8 143	12.890	8 577	5 945	6 149	4 862	5.379	3 332	2 858	5.274	5 587	10 400	3.588
Peak flow (m^3s^{-1})		38 23	59.60	55 89	42 67	39 05	42 89	71.36	26 08	16 59	32 89	34 11	56 28	71.36
Runoff (mm)		34	31	33	21	17	11	8	8	8	12	18	31	232
Rainfall (mm)		53	45	55	48	60	60	53	70	54	53	59	62	672

Factors affecting flow regime: S EI
Station type: C

1988 runoff is 104% of previous mean
rainfall 98%

054020 Perry at Yeaton 1988

Measuring authority: NRA-ST
First year: 1963
Grid reference: 33 (SJ) 434 192
Level stn (m OD): 61.30
Catchment area (sq km): 180.8
Max alt. (m OD): 356

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	4.870	3.925	2 737	1.941	1 226	0 795	0.756	0 689	0 627	1.042	0 995	1.238	1.732
(m^3s^{-1}):	Peak	11 23	9 26	7.75	5 48	2 08	1 23	1 02	1 56	0 83	3 04	3.69	2 77	11.23
Runoff (mm)		72	54	41	28	18	11	11	10	9	15	14	18	303
Rainfall (mm)		125	58	88	46	70	47	87	66	39	72	42	29	769

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	2 850	2 688	2 371	1 755	1 440	0 974	0 735	0 724	0 732	1 156	1 827	2 643	1.654
flows	Low	0 901	0 859	1.257	0 742	0.583	0 379	0.271	0 208	0 350	0 412	0 427	0 848	0.809
(m^3s^{-1})	High	4.777	6 507	4 265	3 041	4 232	2 046	2 735	1 416	1 785	3 308	3 103	6 244	2.335
Peak flow (m^3s^{-1})		14 23	11 29	11 12	10 83	10.41	8 49	7 87	5 49	7.32	7.52	10 02	12 57	14.23
Runoff (mm)		42	36	35	25	21	14	11	11	10	17	26	39	289
Rainfall (mm)		66	53	63	48	64	58	56	64	67	66	80	79	764

Factors affecting flow regime: N G
Station type: C

1988 runoff is 105% of previous mean
rainfall 101%

054022 Severn at Plynlimon flume 1988

Measuring authority: IH
First year: 1953
Grid reference: 22 (SN) 853 872
Level stn (m OD): 331.00
Catchment area (sq km): 8.7
Max alt (m OD): 740

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	1.111	0.565	1.009	0.323	0.206	0.144	0.455	0.708	0.982	0.561	0.371	0.636	**0.591**
(m^3s^{-1})	Peak	8.78	4.06	5.81	2.08	3.63	0.54	2.32	4.44	15.38	4.49	4.30	4.45	**15.38**
Runoff (mm)		342	163	311	96	63	43	140	218	293	173	111	196	**2148**
Rainfall (mm)		361	164	383	80	154	39	278	287	360	193	144	195	**2637**

Monthly and yearly statistics for previous record (Oct 1953 to Dec 1987—incomplete or missing months total 10.8 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.750	0.561	0.588	0.339	0.245	0.229	0.279	0.392	0.499	0.623	0.794	0.777	**0.506**
flows	Low	0.363	0.136	0.171	0.046	0.048	0.045	0.054	0.037	0.073	0.059	0.268	0.174	**0.334**
(m^3s^{-1})	High	1.571	1.104	1.567	0.878	0.818	0.638	0.754	0.935	1.092	1.463	1.420	1.313	**0.646**
Peak flow (m^3s^{-1})		14.49	14.00	14.53	11.64	9.86	10.66	8.84	24.99	12.91	17.22	17.76	17.11	**24.99**
Runoff (mm)		231	157	181	101	75	68	86	121	149	192	236	239	**1836**
Rainfall (mm)		283	176	206	130	135	138	150	180	223	245	286	283	**2435**

Factors affecting flow regime: N
Station type: FL

1988 runoff is 117% of previous mean
rainfall 108%

054038 Tanat at Llanyblodwel 1988

Measuring authority: NRA-ST
First year: 1973
Grid reference: 33 (SJ) 252 225
Level stn (m OD): 77.00
Catchment area (sq km): 229.0
Max alt (m OD): 827

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	19.220	14.250	9.487	5.157	3.704	2.250	2.589	4.294	5.868	8.542	4.433	5.738	**7.118**
(m^3s^{-1})	Peak	66.90	51.93	38.14	26.61	11.95	5.20	7.59	15.38	29.26	49.65	13.23	18.95	**66.90**
Runoff (mm)		225	156	111	58	43	25	30	50	66	100	50	67	**983**
Rainfall (mm)		241	127	156	61	115	38	131	125	104	129	64	76	**1367**

Monthly and yearly statistics for previous record (Jun 1973 to Dec 1987—incomplete or missing months total 0.4 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	11.310	9.151	8.688	5.379	3.466	2.384	1.336	2.565	3.477	7.332	10.170	11.980	**6.428**
flows	Low	5.203	3.707	2.693	1.392	0.867	0.728	0.348	0.190	1.199	1.701	2.895	6.595	**4.185**
(m^3s^{-1})	High	15.860	19.900	17.800	9.686	10.250	4.660	2.722	7.609	9.885	15.020	17.370	21.410	**7.510**
Peak flow (m^3s^{-1})		93.99	64.77	85.77	39.85	31.27	56.87	30.11	118.20	69.56	82.17	76.12	87.99	**118.20**
Runoff (mm)		132	98	102	61	41	27	16	30	39	86	115	140	**886**
Rainfall (mm)		127	86	111	64	77	71	57	90	112	121	139	150	**1205**

Factors affecting flow regime: N
Station type: VA

1988 runoff is 111% of previous mean
rainfall 113%

055008 Wye at Cefn Brwyn 1988

Measuring authority: IH
First year: 1951
Grid reference: 22 (SN) 829 838
Level stn (m OD): 341.00
Catchment area (sq km): 10.6
Max alt. (m OD): 752

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	1.430	0.655	1.348	0.313	0.273	0.168	0.697	0.890	1.248	0.738	0.500	1.022	**0.777**
(m^3s^{-1})	Peak	15.34	4.47	8.44	4.13	6.65	1.15	4.47	6.04	22.82	7.02	7.39	32.27	**32.27**
Runoff (mm)		363	156	342	77	69	41	177	226	307	187	123	259	**2328**
Rainfall (mm)		371	190	379	80	143	37	279	278	332	187	141	186	**2602**

Monthly and yearly statistics for previous record (Aug 1951 to Dec 1987—incomplete or missing months total 2.5 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	0.950	0.733	0.665	0.527	0.398	0.358	0.439	0.570	0.665	0.810	1.044	1.124	**0.690**
flows	Low	0.492	0.144	0.206	0.064	0.054	0.074	0.053	0.036	0.050	0.092	0.376	0.198	**0.447**
(m^3s^{-1})	High	1.870	1.486	1.735	1.312	1.144	0.954	1.264	1.478	1.478	2.031	1.797	2.655	**0.994**
Peak flow (m^3s^{-1})		23.47	19.20	23.51	19.12	17.89	25.49	19.11	48.87	16.93	24.32	29.15	32.00	**48.87**
Runoff (mm)		241	169	169	130	101	88	111	145	163	206	256	285	**2065**
Rainfall (mm)		259	166	194	147	136	142	162	192	204	241	274	310	**2427**

Factors affecting flow regime: N
Station type: CC

1988 runoff is 113% of previous mean
rainfall 107%

055013 Arrow at Titley Mill 1988

Measuring authority: NRA-WEL
First year: 1966
Grid reference: 32 (SO) 328 585
Level stn (m OD): 129.00
Catchment area (sq km): 126.4
Max alt. (m OD): 542

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	6.045	5.184	2.679	1.567	1.230	1.186	0.982	0.708	1.299	3.065	1.182	1.366	**2.201**
(m^3s^{-1})	Peak	20.28	11.82	10.38	4.37	3.72	2.70	3.47	3.19	4.32	14.82	2.88	2.82	**20.28**
Runoff (mm)		128	103	57	32	26	24	21	15	27	65	24	29	**551**
Rainfall (mm)		179	66	110	43	101	53	134	92	77	99	34	40	**1028**

Monthly and yearly statistics for previous record (Oct 1966 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	4.781	4.022	3.578	2.322	1.816	1.147	0.729	0.644	0.866	2.049	3.201	4.281	**2.447**
flows	Low	1.886	1.912	1.629	0.962	0.526	0.332	0.210	0.154	0.235	0.294	0.662	1.694	**1.309**
(m^3s^{-1})	High	9.003	7.677	8.933	5.028	5.001	2.559	3.842	1.546	2.459	6.916	6.625	7.566	**3.418**
Peak flow (m^3s^{-1})		101.12	39.94	57.85	37.95	32.49	13.09	30.68	24.79	18.85	36.45	28.98	63.34	**101.12**
Runoff (mm)		101	78	76	48	38	24	15	14	18	43	66	91	**611**
Rainfall (mm)		107	78	87	59	76	66	51	77	92	94	101	112	**1000**

Factors affecting flow regime: P
Station type: VA

1988 runoff is 90% of previous mean
rainfall 103%

055014 Lugg at Byton 1988

Measuring authority: NRA-WEL
First year: 1966

Grid reference: 32 (SO) 364 647
Level stn. (m OD): 124.10

Catchment area (sq km): 203.3
Max alt. (m OD): 660

Hydrometric statistics for 1988

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg	10.110	10.290	4.827	3.345	2.340	1.948	2.402	1.816	2.370	3.594	2.046	2.443	**3.943**
(m^3s^{-1}): Peak	25.96	23.43	10.55	6.11	3.38	3.21	5.64	2.66	5.31	6.89	2.85	3.93	**25.96**
Runoff (mm)	133	127	64	43	31	25	32	24	30	47	26	32	**613**
Rainfall (mm)	174	78	110	52	93	50	129	89	71	91	35	37	**1009**

Monthly and yearly statistics for previous record (Oct 1966 to Dec 1987)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg	7.464	6.715	5.893	4.237	3.244	2.074	1.404	1.163	1.310	2.803	4.595	6.481	**3.938**
Low	2.991	2.630	2.947	2.016	1.186	0.772	0.557	0.414	0.678	0.657	1.219	2.978	**2.321**
(m^3s^{-1}) High	11.940	12.870	13.980	8.648	7.994	4.113	5.253	1.997	3.079	7.962	8.774	10.350	**4.954**
Peak flow (m^3s^{-1})	54.27	37.53	33.24	30.08	45.56	14.18	26.16	13.32	12.46	28.51	27.22	37.49	**54.27**
Runoff (mm)	98	81	78	54	43	26	18	15	17	37	59	85	**611**
Rainfall (mm)	114	81	91	64	80	66	54	76	91	93	102	113	**1025**

Factors affecting flow regime:
Station type: FVVA

1988 runoff is 100% of previous mean
rainfall 98%

055018 Frome at Yarkhill 1988

Measuring authority: NRA-WEL
First year: 1968

Grid reference: 32 (SO) 615 428
Level stn. (m OD): 55.40

Catchment area (sq km): 144.0
Max alt. (m OD): 244

Hydrometric statistics for 1988

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg	4.510	2.898	1.200	0.696	0.588	0.324	0.546	0.284	0.274	0.590	0.422	0.551	**1.071**
(m^3s^{-1}): Peak	23.84	12.35	3.93	1.00	1.20	0.90	5.84	0.64	0.80	5.51	2.98	1.52	**23.84**
Runoff (mm)	84	50	22	13	11	6	10	5	5	11	8	10	**235**
Rainfall (mm)	119	42	63	28	48	45	110	57	32	76	30	15	**665**

Monthly and yearly statistics for previous record (Oct 1968 to Dec 1987—incomplete or missing months total 0.1 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg	2.650	2.508	2.244	1.348	1.135	0.665	0.360	0.341	0.321	0.493	1.045	1.999	**1.254**
Low	0.214	0.389	0.560	0.359	0.274	0.146	0.091	0.063	0.146	0.155	0.171	0.210	**0.672**
(m^3s^{-1}) High	4.668	5.456	5.176	3.299	3.972	1.349	0.630	0.759	0.970	2.405	2.266	3.594	**1.628**
Peak flow (m^3s^{-1})	23.84	24.99	24.28	24.57	25.89	16.99	5.96	9.61	15.68	10.34	18.51	25.14	**25.89**
Runoff (mm)	49	42	42	24	21	12	7	6	6	9	19	37	**275**
Rainfall (mm)	72	51	64	46	63	59	44	67	62	57	66	72	**723**

Factors affecting flow regime: E
Station type: VA

1988 runoff is 86% of previous mean
rainfall 92%

055023 Wye at Redbrook 1988

Measuring authority: NRA-WEL
First year: 1936

Grid reference: 32 (SO) 528 110
Level stn. (m OD): 9.20

Catchment area (sq km): 4010.0
Max alt. (m OD): 752

Hydrometric statistics for 1988

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg	229.300	181.000	115.000	52.190	36.120	40.140	56.270	44.810	66.460	79.160	35.900	57.880	**82.690**
(m^3s^{-1}): Peak	537.88	461.47	380.90	153.59	104.71	113.18	157.39	122.33	222.84	146.17	107.63	139.93	**537.88**
Runoff (mm)	153	113	77	34	24	26	38	30	43	53	23	39	**652**
Rainfall (mm)	180	75	114	39	85	45	131	94	76	94	41	41	**1015**

Monthly and yearly statistics for previous record (Oct 1936 to Dec 1987)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg	130.100	119.600	91.420	65.100	44.880	34.640	23.980	27.950	39.500	60.220	102.500	124.000	**71.757**
Low	25.050	30.760	22.110	17.930	12.340	10.970	7.426	5.180	7.271	9.582	31.730	46.890	**39.916**
(m^3s^{-1}) High	241.900	234.000	325.400	143.600	125.000	131.600	95.830	83.680	174.000	174.700	252.400	246.000	**113.382**
Peak flow (m^3s^{-1})	688.80	700.40	905.40	493.30	387.90	467.20	368.30	347.80	531.70	472.90	600.30	812.70	**905.40**
Runoff (mm)	87	73	61	42	30	22	16	19	26	40	66	83	**565**
Rainfall (mm)	110	77	76	63	75	63	66	83	88	95	113	114	**1023**

Factors affecting flow regime: S P E
Station type: VA

1988 runoff is 115% of previous mean
rainfall 99%

056013 Yscir at Pontaryscir 1988

Measuring authority: NRA-WEL
First year: 1972

Grid reference: 32 (SO) 003 304
Level stn. (m OD): 161.20

Catchment area (sq km): 62.8
Max alt. (m OD): 474

Hydrometric statistics for 1988

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg	5.357	3.100	2.980	1.074	1.337	1.067	1.758	1.246	2.344	2.134	0.941	1.540	**2.075**
(m^3s^{-1}) Peak	32.11	10.77	20.20	3.84	7.28	4.90	9.76	8.80	12.38	9.06	5.13	5.60	**32.11**
Runoff (mm)	228	124	127	44	57	44	75	53	97	91	39	66	**1045**
Rainfall (mm)	265	97	177	43	138	51	184	134	129	104	59	67	**1448**

Monthly and yearly statistics for previous record (May 1972 to Dec 1987—incomplete or missing months total 0.2 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg	3.354	2.575	2.557	1.477	1.038	0.749	0.450	0.705	1.113	2.189	3.141	3.639	**1.914**
Low	1.146	0.998	0.852	0.431	0.269	0.214	0.150	0.104	0.283	0.214	1.475	2.196	**1.286**
(m^3s^{-1}) High	5.795	4.959	6.303	3.211	3.041	1.788	1.117	2.964	3.947	4.279	5.291	6.324	**2.465**
Peak flow (m^3s^{-1})	36.98	31.78	40.55	13.74	14.81	74.33	11.06	30.69	21.44	85.01	34.02	59.93	**85.01**
Runoff (mm)	143	100	109	61	44	31	19	30	46	93	130	155	**962**
Rainfall (mm)*	157	100	136	72	86	75	70	99	136	148	164	188	**1431**

*(1973-1987)

Factors affecting flow regime: N
Station type: C

1988 runoff is 109% of previous mean
rainfall 101%

057008 Rhymney at Llanedeyrn 1988

Measuring authority NRA-WEL | Grid reference: 31 (ST) 225 821 | Catchment area (sq km): 178 7
First year 1973 | Level stn (m OD) 11 80 | Max alt (m OD) 617

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	17 500	11 130	6.795	3 277	3 613	2 046	4 236	4 205	6 818	6 664	3 268	3 671	**6.099**
(m^3s^{-1})	Peak	103 39	54 86	39 16	13 44	18 88	5 89	25 51	76 09	82 29	30 56	13 84	16 94	**103.39**
Runoff (mm)		262	156	102	48	54	30	63	63	99	100	47	55	**1079**
Rainfall (mm)		286	118	155	59	122	37	193	167	106	125	57	50	**1476**

Monthly and yearly statistics for previous record (Jan 1973 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	9 169	7 460	7 009	4 327	3 085	2 100	1 419	2 527	3 531	6 146	8 226	9 675	**5 383**
flows	Low	3 313	3 199	2 889	1 754	1 276	0 873	0 602	0 571	0 913	0 748	2 355	3 218	**2.903**
(m^3s^{-1})	High	17 200	15 620	20 960	9 695	8 340	4 604	2 371	10 450	11 500	13.700	16 560	15 730	**7 153**
Peak flow (m^3s^{-1})		108 25	72 22	110 50	41 55	31 31	54 30	27 39	87 41	101 60	118 50	113 46	147 30	**147.30**
Runoff (mm)		137	102	105	63	46	30	21	38	51	92	119	145	**951**
Rainfall (mm)		154	105	128	68	84	71	64	102	142	148	154	176	**1396**

Factors affecting flow regime: PGE | 1988 runoff is 114% of previous mean
Station type: FVVA | rainfall 106%

058006 Mellte at Pontneddfechan 1988

Measuring authority NRA-WEL | Grid reference 22 (SN) 915 082 | Catchment area (sq km) 65 8
First year 1971 | Level stn. (m OD). 90 00 | Max alt (m OD) 734

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	8 181	4 057	4 598	1.445	2 317	1 309	4 270	4 070	4 209	3 104	1 883	2 166	**3 478**
(m^3s^{-1})	Peak	79 56	37 56	42 40	6 85	18 48	6 85	44 98	35 83	37 26	24 07	17 00	16 23	**79.56**
Runoff (mm)		333	155	187	57	94	52	174	166	166	126	74	88	**1671**
Rainfall (mm)		367	134	250	77	179	57	317	238	179	141	103	89	**2131**

Monthly and yearly statistics for previous record (Oct 1971 to Dec 1987—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	4 800	3.539	3 709	2 160	1 681	1 271	0 930	1 654	2 393	3 568	4 874	5 410	**2 999**
flows	Low	1 932	0 913	1 378	0 497	0 383	0 322	0 242	0 207	0 562	0 548	2 063	2 641	**1.985**
(m^3s^{-1})	High	8 274	7.231	10 670	5 095	4 283	3.559	2 608	6 802	6.876	6 305	9 471	8 739	**3.814**
Peak flow (m^3s^{-1})		82 30	66 12	82 30	39 02	21 45	33 56	39 14	58 52	81 01	96 78	106 85	127 60	**127.60**
Runoff (mm)		195	131	151	85	68	50	38	67	94	145	192	220	**1438**
Rainfall (mm)		238	148	191	105	122	110	94	149	179	212	245	267	**2060**

Factors affecting flow regime. S P | 1988 runoff is 116% of previous mean
Station type FVVA | rainfall 103%

060002 Cothi at Felin Mynachdy 1988

Measuring authority: NRA-WEL | Grid reference: 22 (SN) 508 225 | Catchment area (sq km). 297 8
First year. 1961 | Level stn. (m OD) 16 10 | Max alt (m OD) 484

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	30 270	17 110	19 450	7 126	4 042	3 208	9 907	10 680	10 080	11.990	7 211	7 672	**11.583**
(m^3s^{-1})	Peak	98 79	112 49	170 25	40 46	19 20	10.57	40 32	69 38	43 63	71 11	26 06	39 12	**170 25**
Runoff (mm)		272	144	175	62	36	28	89	96	88	108	63	69	**1230**
Rainfall (mm)		298	128	214	73	129	53	231	192	144	144	94	78	**1778**

Monthly and yearly statistics for previous record (Oct 1961 to Nov 1987 —incomplete or missing months total 1 9 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	17 630	13 690	12 620	8 833	6 784	4 428	3 398	6 299	8 067	15 630	18 630	20 790	**11.398**
flows	Low	2 990	3.708	2 821	1 444	0 835	0.824	0.418	0 362	1 500	1.610	8 903	6.723	**7.174**
(m^3s^{-1})	High	37 580	31 100	40.710	20 380	14 820	13.070	11 810	23.350	23.920	37 940	36 270	41.140	**14 950**
Peak flow (m^3s^{-1})		141 60	181 20	220 90	85 88	87 22	90 33	144 40	171 00	129 70	283 74	175 80	274 70	**283.74**
Runoff (mm)		159	112	113	77	61	39	31	57	70	141	162	187	**1208**
Rainfall (mm)		168	112	132	95	103	97	95	123	148	185	180	193	**1631**

Factors affecting flow regime. P E | 1988 runoff is 102% of previous mean
Station type: VA | rainfall 109%

060003 Taf at Clog-y-fran 1988

Measuring authority. NRA-WEL | Grid reference: 22 (SN) 238 160 | Catchment area (sq km): 217 3
First year 1965 | Level stn (m OD) 7 00 | Max alt (m OD) 395

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	24 520	12 040	10 770	5 431	3 043	2.113	6 335	8 408	6 179	10 570	5 480	5 075	**8.349**
(m^3s^{-1})	Peak	67 22	54 70	61 26	19.49	8 93	5 71	38 25	65 14	38 20	64 42	14 07	19 74	**67.22**
Runoff (mm)		302	139	133	65	38	25	78	104	74	130	65	63	**1215**
Rainfall (mm)		278	105	157	69	96	59	185	179	101	178	80	54	**1541**

Monthly and yearly statistics for previous record (Oct 1965 to Dec 1987—incomplete or missing months total 1 2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	12 890	10 670	8 481	5.783	3 866	2 620	1 713	2 771	3 811	9 587	12 000	14 380	**7.371**
flows	Low	4 835	3 858	3 796	2 179	1 207	0 781	0 375	0 363	0 983	1 018	3 757	9 027	**4.672**
(m^3s^{-1})	High	25 900	27 200	26 610	11 800	8 412	8 820	5 330	10 760	15 340	22 310	22 730	25 520	**9 662**
Peak flow (m^3s^{-1})		73 43	73 97	85 73	60 03	35 85	45 11	19 86	100 95	58 02	86 49	80 82	77 74	**100.95**
Runoff (mm)		159	119	105	69	48	31	21	34	45	118	143	177	**1070**
Rainfall (mm)		155	107	117	81	85	81	69	102	127	164	160	182	**1430**

Factors affecting flow regime: N | 1988 runoff is 114% of previous mean
Station type VA | rainfall 108%

060010 Tywi at Nantgaredig 1988

Measuring authority: NRA-WEL
First year: 1958

Grid reference. 22 (SN) 485 206
Level stn. (m OD): 7.80

Catchment area (sq km): 1090 4
Max alt. (m OD) 792

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	101.400	59 610	67 410	27 480	15 070	13 870	40 810	37.980	41 290	42.810	27.530	30 810	**42.237**
(m^3s^{-1}):	Peak	277 58	218 88	397.32	133 03	57 82	40 70	150 55	153 09	123.56	106.99	91.56	81 99	**397.32**
Runoff (mm)		249	137	166	65	37	33	100	93	98	105	65	76	**1225**
Rainfall (mm)		274	112	211	67	128	51	222	178	143	130	87	77	**1680**

Monthly and yearly statistics for previous record (Oct 1958 to Nov 1987—incomplete or missing months total 2.0 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	65.700	47.060	39.720	32.150	23 510	15 490	12.150	20 080	27 310	49 640	61.990	67 250	**38 488**
flows	Low	9 473	12.210	9 657	6 201	4 503	3.736	2.752	2 699	1 523	8.708	23 910	19 470	**22.516**
(m^3s^{-1})	High	120 600	100 600	137.800	64 470	51.420	39 400	42.120	78 470	76 440	128.700	122 600	128 300	**54.099**
Peak flow (m^3s^{-1})		507 40	578.80	702 30	215 30	180.10	256 80	295 90	312.50	322 80	892 00	461.10	526.70	**892.00**
Runoff (mm)		161	105	98	76	58	37	30	49	65	122	147	165	**1114**
Rainfall (mm)*		172	111	96	112	104	97	104	121	130	157	172	180	**1556**

*(1958-1974)

Factors affecting flow regime:
Station type: FVVA

1988 runoff is 110% of previous mean
rainfall 108%

063001 Ystwyth at Pont Llolwyn 1988

Measuring authority: NRA-WEL
First year. 1963

Grid reference. 22 (SN) 591 774
Level stn (m OD): 12.00

Catchment area (sq km). 169.6
Max alt (m OD): 611

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	12 400	5.910	9 534	3 421	1 684	1 727	4 919	4.775	7.541	7 066	3 757	7 517	**5 873**
(m^3s^{-1})	Peak	63 19	18 03	48 07	18 89	22 02	13.16	24 35	32.59	76 84	28 74	30 26	21 56	**76.84**
Runoff (mm)		196	87	151	52	27	26	78	75	115	112	57	119	**1095**
Rainfall (mm)		230	78	217	42	103	39	188	164	186	138	84	110	**1579**

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1987—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	9 279	6 886	6 075	4 374	3 346	2 621	2 500	3 352	4 350	7 210	9 475	11 000	**5.872**
flows	Low	2.268	2.283	2 816	0.960	0 577	0 625	0 422	0 180	0 882	0.558	3.959	2 219	**3.783**
(m^3s^{-1})	High	15.330	15 200	18 470	10 080	10 100	7 571	5 461	8 556	10 670	19 800	18 320	22.600	**7.774**
Peak flow (m^3s^{-1})		105 60	88 63	126 70	90 32	105 10	129 70	68 24	174 30	71 02	129.90	128 10	210 40	**210.40**
Runoff (mm)		147	99	96	67	53	40	39	53	66	114	145	174	**1092**
Rainfall (mm)		150	98	117	85	93	92	96	'10	129	151	17'	:82	**1474**

Factors affecting flow regime
Station type VA

1988 runoff is 100% of previous mean
rainfall 107%

064001 Dyfi at Dyfi Bridge 1988

Measuring authority: NRA-WEL
First year 1962

Grid reference 23 (SH) 745 019
Level stn (m OD) 5.90

Catchment area (sq km). 471.3
Max alt (m OD) 905

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	54 310	26 510	41 930	13 310	6 595	5 108	18.780	24 620	36 760	27.480	15 970	26 350	**24.837**
(m^3s^{-1})	Peak	326.63	90 32	211 53	60 95	30 59	17 60	52.67	99 51	329 83	148 28	103 03	94 86	**329.83**
Runoff (mm)		309	141	238	73	37	28	107	140	199	156	88	150	**1666**
Rainfall (mm)		299	134	295	68	115	40	210	215	236	168	111	142	**2033**

Monthly and yearly statistics for previous record (Oct 1962 to Dec 1987—incomplete or missing months total 9 8 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	33.960	22 400	26 500	:7 710	11 940	1: 270	8 469	13 210	17 970	30.950	35 610	43 370	**22.807**
flows	Low	6 245	5.174	5 789	2 626	1.295	1 618	0 822	1.819	5 966	10 770	14 530	7 501	**18.343**
(m^3s^{-1})	High	68 810	46 060	75 790	42 490	23 600	21 770	16 680	40 440	34 110	76 960	70 470	88 280	**26.520**
Peak flow (m^3s^{-1})		350 20	340 00	360 70	271.30	337 20	402 10	162 00	210 00	254 90	344 00	375 50	580 50	**580.50**
Runoff (mm)		193	116	151	97	68	62	48	75	99	176	196	246	**1527**
Rainfall (mm)		198	123	161	:11	113	1'2	109	144	:72	206	212	251	**1912**

Factors affecting flow regime. N
Station type VA

1988 runoff is 109% of previous mean
rainfall 106%

064002 Dysynni at Pont-y-garth 1988

Measuring authority NRA-WEL
First year 1966

Grid reference 23 (SH) 632 066
Level stn. (m OD) 2.30

Catchment area (sq km): 75.1
Max alt. (m OD) 892

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	11 830	4 565	9 375	3 282	1 491	1 066	4 763	5.815	7 172	5.722	3 978	5 889	**5.434**
(m^3s^{-1})	Peak	46.20	12 85	38 22	14 44	8 59	4 46	13 43	19 19	38 82	38 05	28 71	22.54	**46.20**
Runoff (mm)		422	152	334	113	53	37	170	207	248	204	137	210	**2288**
Rainfall (mm)		294	119	350	88	123	42	244	238	224	183	137	172	**2214**

Monthly and yearly statistics for previous record (Jan 1966 to Dec 1987—incomplete or missing months total 1.8 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	5 823	4.715	4 615	3 509	2 531	2 404	2 585	3 218	4 072	5.743	6 861	7 141	**4.435**
flows	Low	3 371	1.548	0 986	0 457	0 298	0 427	0 278	0 289	1 926	0 556	3 011	2 770	**3.612**
(m^3s^{-1})	High	11 040	8 809	14.780	7.209	7 602	5 921	5 407	8 899	7 285	12.350	12 680	12 580	**5.416**
Peak flow (m^3s^{-1})		61 40	41 34	98.71	36 85	76 32	48 42	53 35	51.62	70 14	107 70	121 30	84 70	**121.30**
Runoff (mm)		208	153	165	121	90	83	92	115	141	205	237	255	**1863**
Rainfall (mm)		219	145	181	'25	131	143	143	166	200	249	254	257	**2213**

Factors affecting flow regime. N
Station type: VA

1988 runoff is 123% of previous mean
rainfall 100%

065005 Erch at Pencaenewydd 1988

Measuring authority: NRA-WEL
First year: 1973
Grid reference: 23 (SH) 400 404
Level stn (m OD): 56.10
Catchment area (sq km): 18.1
Max alt (m OD): 564

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	1.673	0.786	1.051	0.590	0.314	0.143	0.268	0.520	0.442	0.569	0.492	0.627	0.624
(m^3s^{-1})	Peak	9.50	3.22	9.22	5.57	3.71	0.67	3.34	3.42	3.39	4.51	2.86	6.39	9.50
Runoff (mm)		248	109	156	85	47	20	40	77	63	84	70	93	1091
Rainfall (mm)		288	102	189	82	62	42	145	165	[illegible]	[illegible]	95	102	1514

Monthly and yearly statistics for previous record (Jan 1973 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	0.963	0.811	0.734	0.471	0.335	0.225	0.184	0.310	0.428	0.812	1.050	1.118	0.619
flows	Low	0.629	0.365	0.311	0.177	0.120	0.089	0.081	0.061	0.167	0.236	0.264	0.600	0.430
(m^3s^{-1})	High	1.396	1.869	1.804	0.892	0.728	0.539	0.427	1.113	[illegible]	1.736	1.816	1.764	0.739
Peak flow (m^3s^{-1})		10.41	15.45	19.78	11.00	4.68	6.99	5.52	9.22	7.42	25.01	16.91	15.49	25.01
Runoff (mm)		142	109	109	68	50	32	27	46	61	120	150	165	1080
Rainfall (mm)		139	93	125	70	79	73	78	116	135	162	165	168	1403

Factors affecting flow regime: N
Station type: C

1988 runoff is 101% of previous mean
rainfall 108%

066006 Elwy at Pont-y-gwyddel 1988

Measuring authority: NRA-WEL
First year: 1973
Grid reference: 23 (SH) 952 718
Level stn (m OD): 87.90
Catchment area (sq km): 194.0
Max alt (m OD): 518

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	11.660	7.106	7.122	2.376	0.760	0.482	0.763	1.756	2.341	4.848	2.646	5.239	3.929
(m^3s^{-1})	Peak	49.83	39.91	30.77	17.84	2.81	0.97	2.75	19.29	15.85	46.90	21.62	32.43	49.83
Runoff (mm)		161	92	98	32	10	6	11	24	31	67	35	72	640
Rainfall (mm)		184	99	151	36	65	41	119	105	94	122	62	[illegible]	1179

Monthly and yearly statistics for previous record (Dec 1973 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	7.788	5.755	5.134	3.064	1.865	1.381	0.703	1.301	2.634	5.504	7.561	7.890	4.210
flows	Low	3.115	2.650	1.539	0.823	0.479	0.359	0.278	0.242	0.629	1.360	2.263	4.644	2.908
(m^3s^{-1})	High	11.430	12.050	11.950	6.939	5.918	3.300	1.402	4.351	7.450	11.530	11.850	14.450	5.094
Peak flow (m^3s^{-1})		82.42	50.82	76.59	50.76	21.66	18.00	27.05	38.13	58.57	143.00	101.60	75.42	143.00
Runoff (mm)		108	72	71	41	26	18	10	18	35	76	[illegible]	109	685
Rainfall (mm)		126	80	107	60	76	75	65	91	126	131	149	142	1223

Factors affecting flow regime: SRP
Station type: VA

1988 runoff is 94% of previous mean
rainfall 96%

067008 Alyn at Pont-y-capel 1988

Measuring authority: NRA-WEL
First year: 1965
Grid reference: 33 (SJ) 336 541
Level stn (m OD): 37.30
Catchment area (sq km): 227.1
Max alt (m OD): 562

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	5.568	4.142	4.669	1.935	1.187	0.873	[illegible]	0.688	0.755	1.773	1.329	2.629	2.196
(m^3s^{-1})	Peak	15.21	12.15	13.17	5.16	3.78	2.34	2.88	1.82	2.49	7.35	6.22	8.34	15.21
Runoff (mm)		66	46	55	22	14	10	10	8	9	21	15	31	306
Rainfall (mm)		130	57	124	39	74	44	100	71	65	98	48	68	918

Monthly and yearly statistics for previous record (Jun 1965 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	4.368	3.886	3.218	2.611	1.835	1.215	0.889	0.926	1.006	2.036	[illegible]	4.286	2.443
flows	Low	1.753	1.628	1.448	1.023	0.712	0.438	0.331	0.287	0.474	0.452	0.614	1.246	1.266
(m^3s^{-1})	High	7.219	9.085	8.027	6.474	5.657	2.873	2.098	2.456	3.906	6.896	6.168	9.480	3.027
Peak flow (m^3s^{-1})		27.53	28.52	26.11	25.28	26.86	18.34	23.23	20.81	59.11	26.46	28.21	35.92	59.11
Runoff (mm)		52	42	38	30	22	14	10	[illegible]	11	24	36	51	339
Rainfall (mm)		85	64	75	[illegible]	72	66	60	74	82	85	107	97	928

Factors affecting flow regime: EI
Station type: CC

1988 runoff is 90% of previous mean
rainfall 99%

069002 Irwell at Adelphi Weir 1988

Measuring authority: NRA-NW
First year: 1949
Grid reference: 33 (SJ) 824 987
Level stn (m OD): 24.10
Catchment area (sq km): 559.4
Max alt (m OD): 473

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	36.760	24.190	29.360	9.997	8.381	7.267	15.050	19.130	18.450	21.270	12.870	22.340	18.798
(m^3s^{-1})	Peak	209.00	90.59	156.70	24.99	25.87	64.85	72.77	118.80	160.60	89.25	87.77	121.00	209.00
Runoff (mm)		176	108	141	46	40	34	72	92	85	102	60	107	1063
Rainfall (mm)		193	88	175	42	59	55	175	156	121	122	74	109	1369

Monthly and yearly statistics for previous record (Oct 1949 to Dec 1987—incomplete or missing months total 2.0 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	25.050	21.580	17.250	14.310	11.900	10.330	11.100	[illegible]	16.620	20.600	25.180	29.670	18.276
flows	Low	3.705	4.787	7.803	5.408	4.348	2.750	4.031	3.676	2.991	4.990	7.534	7.469	10.469
(m^3s^{-1})	High	40.260	67.230	48.030	27.070	21.530	18.900	26.150	56.000	43.480	52.510	51.100	84.660	30.469
Peak flow (m^3s^{-1})		430.40	400.30	295.60	184.20	141.60	238.00	385.60	395.70	390.80	485.10	334.90	419.50	485.10
Runoff (mm)		120	94	83	66	57	48	53	76	77	99	117	142	1031
Rainfall (mm)		118	82	91	76	82	87	98	124	119	125	134	140	1276

Factors affecting flow regime: S PGEI
Station type: B

1988 runoff is 103% of previous mean
rainfall 107%

069006 Bollin at Dunham Massey 1988

Measuring authority: NRA-NW
First year: 1955

Grid reference: 33 (SJ) 727 875
Level stn. (m OD): 12.80

Catchment area (sq km): 256.0
Max alt. (m OD): 483

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	10.960	5.560	10 370	3.715	2.590	2 376	5 148	5.142	3.991	5.248	3.925	6 158	5.452
(m^3s^{-1}):	Peak	32.63	14.65	34 33	11 81	6.28	13.75	31 49	40 34	15 69	17.80	31 47	17 64	40.34
Runoff (mm)		115	54	109	38	27	24	54	54	40	55	40	64	674
Rainfall (mm)		126	39	140	38	51	53	129	110	70	74	52	57	939

Monthly and yearly statistics for previous record (Oct 1955 to Dec 1987—incomplete or missing months total 1.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	6 312	5.325	4 339	3 661	2.946	2.533	2.272	2 902	3 140	4 091	5.429	6.357	4.104
flows	Low	1.639	1.686	1 694	1.742	1 286	0 707	0 875	0.464	0 651	1 300	1.804	2.296	2.728
(m^3s^{-1})	High	10.280	12.880	11.470	8 732	5 781	9 203	5 626	11 410	8.963	11 340	9 425	14 510	6.307
Peak flow (m^3s^{-1})		43 95	39 29	36 91	60 43	63 02	42 37	41.50	44 04	35 05	41 18	44.35	46 33	63.02
Runoff (mm)		66	51	45	37	31	26	24	30	32	43	55	67	506
Rainfall (mm)		79	54	63	56	66	71	76	89	84	82	85	88	893

Factors affecting flow regime: S PGEI
Station type: VA

1988 runoff is 133% of previous mean
rainfall 105%

069015 Etherow at Compstall 1988

Measuring authority: NRA-NW
First year: 1977

Grid reference: 33 (SJ) 962 908
Level stn. (m OD) 73 50

Catchment area (sq km): 156 0
Max alt (m OD). 628

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	7 583	5.404	7 337	1 912	1.224	1 083	1 980	3 381	4 192	3 446	1.847	3 822	3.606
(m^3s^{-1}):	Peak	40 93	28 29	34 39	6 32	2 27	2 45	8 07	35.56	43 08	22 80	12.57	9 56	43.08
Runoff (mm)		130	87	126	32	21	18	34	58	70	59	31	66	731
Rainfall (mm)		199	100	207	50	50	59	174	187	120	113	68	103	1430

Monthly and yearly statistics for previous record (Jan 1977 to Dec 1987—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	5 891	4 294	4.809	3 397	2 109	1 779	1 240	1.748	1 895	3 310	5 015	5 236	3.391
flows	Low	3 445	2 141	1 365	1 070	0 539	0 835	0 718	0 691	1 178	1 264	2 276	2 413	2.440
(m^3s^{-1})	High	8 964	8 539	10 080	6 325	4 870	4 758	2 265	3 572	2 692	9 424	7 471	9.286	4.169
Peak flow (m^3s^{-1})		42 63	44 46	46.03	32 66	18 79	28 64	15 47	24.43	37.45	42 12	40 15	62 95	62.95
Runoff (mm)		101	67	83	56	36	30	21	30	31	57	83	90	686
Rainfall (mm)		150	88	142	86	80	109	70	122	120	139	153	158	1417

Factors affecting flow regime: S PGEI
Station type C

1988 runoff is 107% of previous mean
rainfall 101%

071001 Ribble at Samlesbury 1988

Measuring authority: NRA-NW
First year. 1960

Grid reference. 34 (SD) 589 304
Level stn. (m OD) 6 00

Catchment area (sq km) 1145 0
Max alt. (m OD). 680

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	70 060	50 730	47 020	12 670	10 330	7 518	40 500	44 030	38 300	44.900	27.620	60 310	37.940
(m^3s^{-1})	Peak	464 50	286.60	245 80	60 45	45 57	68 93	236 20	318 50	218 50	216 30	200 10	585 20	585.20
Runoff (mm)		164	111	110	29	24	17	95	103	87	105	63	141	1048
Rainfall (mm)		203	102	160	39	66	42	225	175	131	136	85	154	1518

Monthly and yearly statistics for previous record (May 1960 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	51 090	35 910	34 070	26 420	18 590	14 560	15 760	24 230	30 410	41 920	53 200	56 420	33 558
flows	Low	10 610	9 565	11 790	5 601	4 048	5 031	2 638	2 958	5 782	5 716	20 770	15.190	22 045
(m^3s^{-1})	High	82 510	80.890	104.700	54 820	46.460	33 520	40 220	68.920	65 820	118.400	88 610	120 200	45.022
Peak flow (m^3s^{-1})		754 60	513.10	643 30	466 60	319.10	494 80	399 80	520 80	619 30	810 00	613.20	891 30	891.30
Runoff (mm)		120	76	80	60	43	33	37	57	69	98	120	132	925
Rainfall (mm)*		132	82	106	81	84	91	89	117	135	139	145	150	1351

*(1961-1987)

Factors affecting flow regime S E
Station type MIS

1988 runoff is 113% of previous mean
rainfall 112%

071004 Calder at Whalley Weir 1988

Measuring authority. NRA-NW
First year. 1963

Grid reference: 34 (SD) 729 360
Level stn. (m OD). 39 90

Catchment area (sq km). 316.0
Max alt. (m OD): 558

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	17 940	12 660	12 910	4 001	3 301	3 185	8 693	9 188	8 935	9 824	6 374	13 210	9.205
(m^3s^{-1})	Peak	108 40	72 40	65 02	9 22	12 72	43.37	49 67	91 48	85 93	39 42	54 12	105 10	108 40
Runoff (mm)		152	100	109	33	28	26	74	78	73	83	52	112	921
Rainfall (mm)		187	94	152	33	62	53	183	144	118	116	70	124	1336

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1987—incomplete or missing months total 2 6 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	13 130	9 316	9 014	6 674	5 284	4 386	3 745	5.979	7 524	11 130	13.170	13.740	8.592
flows	Low	5.766	3 320	3.989	2 272	2 053	1 888	1 773	1 564	2 065	2 397	5 625	4 886	6.225
(m^3s^{-1})	High	20 590	17.170	25 320	13 010	9 916	7 609	9 059	16.280	18 620	23 910	21 990	25 610	11.485
Peak flow (m^3s^{-1})		183.20	146 10	185 20	108 40	91 66	135.50	230 60	171 60	206 00	229.50	148 60	194 30	230.60
Runoff (mm)		111	72	76	55	45	36	37	51	62	94	108	116	858
Rainfall (mm)		122	74	102	72	80	86	79	109	121	131	134	131	1241

Factors affecting flow regime: EI
Station type: FV

1988 runoff is 107% of previous mean
rainfall 108%

072002 Wyre at St Michaels 1988

Measuring authority: NRA-NW
First year 1963
Grid reference 34 (SD) 463 411
Level stn (m OD): 4 40
Catchment area (sq km). 275.0
Max alt (m OD) 560

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	16 890	8 254	9 607	3 460	1 736	0 878	7 477	8 132	8 761	10 870	5 639	16 030	**8 182**
(m^3s^{-1})	Peak	100 60	45.95	51 16	22 27	8 10	2 28	82 70	72 86	75 68	86 34	33 72	166 10	**166.10**
Runoff (mm)		164	75	94	33	17	8	73	79	83	106	53	156	**941**
Rainfall (mm)		174	69	142	50	70	25	215	171	122	145	82	151	**1416**

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1987—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	9 875	6 832	6 992	4 830	3.368	2 965	2 937	4 723	6 635	9 474	10 550	1' 290	**6.709**
flows	Low	3 983	1 746	2 270	0 774	0 732	0 444	0 431	0 248	0 902	0 617	4.859	2 581	**3.186**
(m^3s^{-1})	High	17 820	16 030	25 920	12 090	10.450	7 096	7 271	16 240	13 290	25 500	18 510	26.530	**10.329**
Peak flow (m^3s^{-1})		156 50	145 60	168 90	123 00	128 20	146 60	148.10	162 10	176 50	180 40	163.10	190 50	**190.50**
Runoff (mm)		96	61	68	46	33	28	29	46	63	92	99	110	**770**
Rainfall (mm)		119	70	99	71	80	92	89	113	133	140	139	132	**1277**

Factors affecting flow regime S PG
Station type FV

1988 runoff is 122% of previous mean
rainfall 111%

073005 Kent at Sedgwick 1988

Measuring authority NRA-NW
First year. 1968
Grid reference 34 (SD) 509 874
Level stn (m OD): 18.90
Catchment area (sq km): 209 0
Max alt (m OD) 817

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	20 950	15 320	10 120	7 477	3.591	1 335	8 517	11 070	11 970	12 930	6 765	12 670	**10 235**
(m^3s^{-1})	Peak	81 43	69 77	33 32	45 81	17 55	2 50	69 88	40.92	47 91	87.16	38.98	70 40	**87.16**
Runoff (mm)		268	184	130	93	46	17	109	142	148	166	84	162	**1548**
Rainfall (mm)		303	155	173	96	84	23	262	214	182	189	111	180	**1972**

Monthly and yearly statistics for previous record (Nov 1968 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	12 490	9 199	9 364	6 433	4 318	3 982	3 734	5.583	8 196	10.670	13 960	13 510	**8 451**
flows	Low	5 998	3 094	3 348	2 038	1 222	0 872	0 658	0 740	1 753	1.396	5 484	5 466	**5.995**
(m^3s^{-1})	High	20 820	16.800	22 750	12 620	11 580	13 010	10 550	18 790	15 630	17 940	21 410	23 200	**10.316**
Peak flow (m^3s^{-1})		197 70	114 00	166 10	111 10	53.44	72 86	94 65	88.68	120 70	123 50	175 00	231 40	**231.40**
Runoff (mm)		160	107	120	80	55	49	48	72	102	137	173	173	**1276**
Rainfall (mm)		189	102	153	88	90	105	108	129	178	183	213	198	**1736**

Factors affecting flow regime. N
Station type CBVA

1988 runoff is 121% of previous mean
rainfall 114%

074002 Irt at Galesyke 1988

Measuring authority: NRA NW
First year 1967
Grid reference: 35 (NY) 136 038
Level stn (m OD). 54.20
Catchment area (sq km) 44.2
Max alt (m OD). 978

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	6 261	3 537	4 200	3 325	0 623	0 545	3 836	5 136	4 298	4 256	2 212	4.888	**3.604**
(m^3s^{-1})	Peak	15 41	6.48	9 07	8 93	1 33	1 15	9 27	11 60	9 89	9 25	4 48	14 56	**15.41**
Runoff (mm)		379	200	254	195	38	32	232	311	252	258	130	296	**2579**
Rainfall (mm)		418	182	331	154	78	39	362	363	244	261	157	298	**2887**

Monthly and yearly statistics for previous record (Dec 1967 to Dec 1987—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	4 400	2 879	3 004	2 710	1 521	1 861	2 233	2 580	3 679	4 586	4 872	4 329	**3.223**
flows	Low	1 321	0 736	0 737	0 430	0.257	0 638	0 467	0 286	0 400	0 554	1 885	1 802	**2 440**
(m^3s^{-1})	High	8 242	5 117	6 575	5.947	3 901	5 216	4.667	6 757	7 630	8.174	7 094	7 645	**3.950**
Peak flow (m^3s^{-1})		31 73	18 67	20 02	34 04	6 84	10 27	27.26	18 46	17 89	27 29	21 85	20 33	**34.04**
Runoff (mm)		267	159	182	159	92	109	135	156	216	278	286	262	**2301**
Rainfall (mm)		311	174	241	149	131	169	188	212	281	314	330	310	**2810**

Factors affecting flow regime: S P I
Station type VA

1988 runoff is 112% of previous mean
rainfall 103%

074005 Ehen at Braystones 1988

Measuring authority: NRA-NW
First year 1974
Grid reference. 35 (NY) 009 061
Level stn (m OD): 10 10
Catchment area (sq km): 125.5
Max alt (m OD): 899

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	11.680	7 393	6 980	5.301	1 353	0 887	4.106	6 705	5 209	6.470	3 279	6 760	**5.520**
(m^3s^{-1})	Peak	63 56	27 66	40 85	35.10	2.68	1 26	31.28	37 08	22.25	34 94	20 46	48 39	**63.56**
Runoff (mm)		249	148	149	109	29	18	88	143	108	138	68	144	**1391**
Rainfall (mm)		270	127	208	113	54	25	268	254	149	176	87	180	**1911**

Monthly and yearly statistics for previous record (Jan 1974 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	7 671	5 491	5 540	3 288	2.137	1 959	2 069	3 781	5 558	8 101	8 353	8 285	**5.188**
flows	Low	2 220	1.856	2 225	0 993	0 771	0 779	0 789	0 661	1 694	3.640	3 121	3 136	**3.963**
(m^3s^{-1})	High	16.030	15 890	10 220	7.046	6 877	4 371	5 444	12 260	12 840	14 080	12 470	13 380	**6 328**
Peak flow (m^3s^{-1})		97 85	79.36	69 47	81 07	46 97	38 25	56 92	73.04	76.40	115 90	64 49	91 47	**115.90**
Runoff (mm)		164	107	118	68	46	40	44	81	115	173	173	177	**1305**
Rainfall (mm)		198	106	173	84	84	100	124	143	200	229	211	213	**1865**

Factors affecting flow regime S P
Station type. VA

1988 runoff is 107% of previous mean
rainfall 102%

075002 Derwent at Camerton 1988

Measuring authority: NRA-NW
First year: 1960

Grid reference: 35 (NY) 038 305
Level stn. (m OD): 16.70

Catchment area (sq km): 663.0
Max alt. (m OD): 950

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	63.910	46.760	28.020	20.670	6.174	3.268	23.140	32.620	34.150	38.280	16.850	39.420	**29.461**
(m^3s^{-1})	Peak	213.00	141.90	63.75	62.65	10.81	5.46	90.50	94.62	85.30	80.25	30.57	140.70	**213.00**
Runoff (mm)		258	177	113	81	25	13	93	132	134	155	66	159	**1405**
Rainfall (mm)		287	162	182	94	62	33	270	230	168	190	89	207	**1974**

Monthly and yearly statistics for previous record (Sep 1960 to Dec 1987—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	37.420	26.660	24.770	19.810	13.200	10.540	11.370	18.060	25.700	35.800	41.510	41.420	**25.525**
flows	Low	9.587	4.837	7.466	4.359	2.753	2.041	2.503	2.384	2.885	2.755	14.570	14.740	**14.823**
(m^3s^{-1})	High	84.550	56.570	51.550	38.940	36.280	34.800	21.110	55.940	62.980	107.800	76.340	75.840	**34.235**
Peak flow (m^3s^{-1})		219.20	165.70	215.50	145.50	102.90	135.80	114.50	216.20	189.20	264.70	211.30	199.00	**264.70**
Runoff (mm)		151	98	100	77	53	41	46	73	100	145	162	167	**1215**
Rainfall (mm)*		177	98	142	95	104	110	114	144	184	201	198	189	**1756**

*(1961-1987)

Factors affecting flow regime: S P
Station type: VA

1988 runoff is 116% of previous mean
rainfall 112%

078003 Annan at Brydekirk 1988

Measuring authority: SRPB
First year: 1967

Grid reference: 35 (NY) 191 704
Level stn. (m OD): 10.00

Catchment area (sq km): 925.0
Max alt. (m OD): 821

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	62.980	55.800	28.730	28.220	8.491	4.666	31.760	38.110	43.950	41.770	25.520	31.920	**33.457**
(m^3s^{-1})	Peak	143.59	304.99	149.13	213.29	27.34	16.17	139.72	171.18	172.63	244.12	138.66	125.58	**304.99**
Runoff (mm)		182	151	83	79	25	13	92	110	123	121	72	92	**1144**
Rainfall (mm)		195	121	127	83	63	21	229	184	150	139	83	105	**1500**

Monthly and yearly statistics for previous record (Oct 1967 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	44.040	32.680	30.960	19.850	15.910	12.140	10.410	17.410	25.080	37.480	43.350	44.750	**27.831**
flows	Low	17.820	12.870	8.402	6.124	3.519	2.937	1.944	2.007	3.362	3.592	11.490	19.530	**16.402**
(m^3s^{-1})	High	83.440	55.440	53.770	40.600	53.160	37.150	34.940	76.390	76.320	86.820	77.930	87.020	**38.424**
Peak flow (m^3s^{-1})		405.37	291.30	242.77	182.50	172.51	171.26	253.07	378.89	446.63	499.10	325.04	355.41	**499.10**
Runoff (mm)		128	86	90	56	46	34	30	50	70	109	121	130	**950**
Rainfall (mm)		138	87	116	67	90	85	92	105	135	148	142	143	**1348**

Factors affecting flow regime:
Station type: VA

1988 runoff is 120% of previous mean
rainfall 111%

078004 Kinnel Water at Redhall 1988

Measuring authority: SRPB
First year: 1963

Grid reference: 35 (NY) 077 868
Level stn. (m OD): 53.70

Catchment area (sq km): 76.1
Max alt. (m OD): 697

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	5.287	5.165	2.690	2.530	0.656	0.370	3.327	3.910	4.494	4.348	2.335	3.409	3.208
(m^3s^{-1})	Peak	19.45	90.99	39.43	68.63	11.77	7.52	32.72	52.14	48.32	63.74	27.41	31.56	**90.99**
Runoff (mm)		186	170	95	86	23	13	117	138	153	153	80	120	**1333**
Rainfall (mm)		214	132	134	82	60	21	240	221	161	155	89	116	**1625**

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1987—incomplete or missing months total 1.0 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	4.004	2.821	2.722	1.608	1.617	1.121	0.964	1.623	2.715	3.628	4.080	4.150	**2.588**
flows	Low	1.296	0.590	0.552	0.251	0.122	0.112	0.048	0.049	0.099	0.207	0.740	1.081	**1.507**
(m^3s^{-1})	High	8.456	5.362	5.124	4.161	5.496	3.282	3.435	7.513	6.689	7.288	7.535	8.490	**3.517**
Peak flow (m^3s^{-1})		79.34	77.68	59.19	42.46	51.79	36.09	60.14	65.25	91.37	110.90	86.69	103.65	**110.90**
Runoff (mm)		141	91	96	55	57	38	34	57	92	128	139	146	**1073**
Rainfall (mm)		144	92	122	75	101	92	92	113	150	157	155	157	**1450**

Factors affecting flow regime:
Station type: VA

1988 runoff is 124% of previous mean
rainfall 112%

080001 Urr at Dalbeattie 1988

Measuring authority: SRPB
First year: 1963

Grid reference: 25 (NX) 822 610
Level stn. (m OD): 4.00

Catchment area (sq km): 199.0
Max alt. (m OD): 432

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	14.560	12.610	6.395	5.488	1.706	0.709	4.565	7.597	9.578	12.750	5.676	5.991	**7.294**
(m^3s^{-1})	Peak	46.27	100.10	45.87	55.93	13.53	3.27	30.94	48.40	51.24	59.59	45.41	25.23	**100.10**
Runoff (mm)		196	159	86	71	23	9	61	102	125	172	74	81	**1159**
Rainfall (mm)		225	130	131	91	71	14	196	177	156	192	91	99	**1573**

Monthly and yearly statistics for previous record (Nov 1963 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	9.422	7.346	6.200	3.547	3.172	2.132	1.395	2.895	5.264	8.245	9.719	10.070	**5.779**
flows	Low	3.534	1.419	2.094	0.753	0.308	0.246	0.140	0.149	0.319	0.522	1.711	3.369	**3.109**
(m^3s^{-1})	High	19.080	13.750	11.780	7.485	10.880	6.833	5.081	13.310	17.160	19.400	19.420	18.590	**8.358**
Peak flow (m^3s^{-1})		133.72	91.45	95.03	61.69	65.95	59.18	68.42	104.59	114.06	162.16	129.74	164.30	**164.30**
Runoff (mm)		127	90	83	46	43	28	19	39	69	111	127	136	**916**
Rainfall (mm)		131	87	110	66	84	81	77	100	135	146	146	142	**1305**

Factors affecting flow regime:
Station type: VA

1988 runoff is 126% of previous mean
rainfall 121%

081003 Luce at Airyhemming 1988

Measuring authority: SRPB
First year: 1967
Grid reference: 25 (NX) 180 599
Level stn (m OD): 19.00
Catchment area (sq km): 171.0
Max alt (m OD): 438

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	12.730	11.760	12.600	6.370	0.923	0.319	5.512	10.590	9.013	10.500	7.521	7.558	**7.952**
(m^3s^{-1})	Peak	105.49	66.29	184.12	99.27	17.83	1.51	70.15	101.40	60.40	121.63	91.72	61.73	**184.12**
Runoff (mm)		199	172	197	97	14	5	86	166	137	164	114	118	**1471**
Rainfall (mm)		209	156	222	104	49	44	204	226	161	180	135	127	**1817**

Monthly and yearly statistics for previous record (Jan 1967 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	10.220	6.658	6.078	3.354	2.653	2.006	2.187	3.371	6.237	8.759	10.010	9.187	**5.893**
flows	Low	4.540	0.789	1.359	0.454	0.260	0.225	0.191	0.277	0.365	1.689	3.857	2.445	**3.691**
(m^3s^{-1})	High	15.600	12.110	11.300	8.289	7.597	5.360	6.445	14.290	17.660	16.750	15.940	17.090	**7.625**
Peak flow (m^3s^{-1})		177.10	146.10	197.30	197.60	63.64	190.33	131.50	283.62	192.40	231.79	168.40	204.04	**283.62**
Runoff (mm)		160	95	95	51	42	30	34	53	95	137	152	144	**1088**
Rainfall (mm)		166	93	116	73	81	84	93	110	150	161	167	151	**1445**

Factors affecting flow regime: S P
Station type: VA

1988 runoff is 135% of previous mean
rainfall 126%

082001 Girvan at Robstone 1988

Measuring authority: CRPB
First year: 1963
Grid reference: 25 (NX) 217 997
Level stn (m OD): 9.10
Catchment area (sq km): 245.5
Max alt (m OD): 659

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	18.160	14.940	9.866	3.863	0.832	0.402	3.731	6.408	8.837	8.542	5.208	10.980	**7.641**
(m^3s^{-1})	Peak	103.68	85.62	83.29	24.73	2.65	2.83	28.51	37.7[illegible]	58.24	74.21	43.78	79.46	**103.68**
Runoff (mm)		198	152	108	41	9	4	41	70	93	93	55	120	**984**
Rainfall (mm)		236	141	175	61	49	38	176	168	144	139	89	142	**1558**

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1987—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	10.350	6.992	6.392	3.764	2.969	2.004	2.366	3.417	6.354	9.535	11.380	10.690	**6.351**
flows	Low	3.846	1.736	1.595	0.923	0.571	0.370	0.487	0.301	0.546	1.191	2.755	2.893	**4.222**
(m^3s^{-1})	High	19.370	13.240	11.520	11.330	8.583	5.687	7.087	12.930	21.830	17.380	20.230	24.350	**8.101**
Peak flow (m^3s^{-1})		100.96	84.94	89.54	65.23	61.87	52.91	110.65	92.54	157.60	147.17	90.82	182.98	**182.98**
Runoff (mm)		113	70	70	40	32	21	26	37	67	104	120	117	**816**
Rainfall (mm)		136	77	111	66	82	80	94	102	145	160	166	145	**1364**

Factors affecting flow regime: S
Station type: VA

1988 runoff is 121% of previous mean
rainfall 114%

083003 Ayr at Catrine 1988

Measuring authority: CRPB
First year: 1970
Grid reference: 26 (NS) 525 259
Level stn (m OD): 89.90
Catchment area (sq km): 166.3
Max alt. (m OD): 548

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	10.730	9.703	7.741	3.920	1.320	0.639	3.151	6.270	6.799	5.423	3.540	8.574	**5.650**
(m^3s^{-1})	Peak	66.39	87.25	59.42	51.56	9.88	1.21	23.63	66.91	46.26	43.24	33.78	63.03	**87.25**
Runoff (mm)		173	146	125	61	21	10	51	101	106	87	55	138	**1074**
Rainfall (mm)		182	132	169	74	51	23	161	173	148	122	75	145	**1455**

Monthly and yearly statistics for previous record (Sep 1970 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	8.624	5.085	5.442	2.726	2.089	2.072	2.066	2.926	5.309	6.702	8.433	7.565	**4.922**
flows	Low	3.182	1.534	1.480	0.733	0.593	0.658	0.417	0.410	0.597	0.631	2.147	3.312	**3.613**
(m^3s^{-1})	High	14.120	11.280	10.780	7.056	5.714	4.179	7.720	9.970	14.680	10.900	13.630	14.490	**5.926**
Peak flow (m^3s^{-1})		178.53	96.54	92.30	67.02	75.55	70.32	73.43	72.00	157.42	162.59	105.57	119.15	**178.53**
Runoff (mm)		139	75	88	42	34	32	33	47	83	108	131	122	**934**
Rainfall (mm)		140	76	106	63	72	83	86	92	131	147	157	137	**1290**

Factors affecting flow regime: H
Station type: VA

1988 runoff is 115% of previous mean
rainfall 113%

084012 White Cart Water at Hawkhead 1988

Measuring authority: CRPB
First year: 1963
Grid reference: 26 (NS) 499 629
Level stn (m OD): 4.10
Catchment area (sq km): 227.2
Max alt (m OD): 375

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	15.130	12.280	10.390	6.119	2.050	1.052	4.185	8.833	11.330	10.900	6.756	11.170	**8.350**
(m^3s^{-1})	Peak	78.21	94.59	86.32	71.52	17.93	8.21	38.11	74.70	45.64	70.19	75.08	58.60	**94.59**
Runoff (mm)		178	135	123	70	24	12	49	104	129	129	77	132	**1162**
Rainfall (mm)		174	122	158	79	67	20	164	169	152	137	93	125	**1460**

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	10.810	7.341	7.090	3.970	3.512	2.587	2.357	3.798	7.356	10.960	11.840	10.880	**6.877**
flows	Low	5.142	2.480	1.676	1.112	0.973	0.998	0.824	0.885	1.141	1.212	3.259	3.211	**4.419**
(m^3s^{-1})	High	21.190	14.260	15.630	8.523	10.330	6.542	8.806	14.220	24.360	46.570	20.730	20.850	**10.946**
Peak flow (m^3s^{-1})		187.40	139.25	117.02	82.46	115.13	65.13	93.51	111.27	132.91	134.42	134.05	187.10	**187.40**
Runoff (mm)		127	79	84	45	41	30	28	45	84	129	135	128	**955**
Rainfall (mm)		122	74	103	61	81	74	76	96	138	142	150	132	**1249**

Factors affecting flow regime: S
Station type: VA

1988 runoff is 122% of previous mean
rainfall 117%

084016 Luggie Water at Condorrat 1988

Measuring authority: CRPB
First year: 1966

Grid reference: 26 (NS) 739 725
Level stn. (m OD): 68 00

Catchment area (sq km): 33.9
Max alt. (m OD): 107

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.759	1.281	1 079	0 867	0 362	0.182	0 578	1 327	1.109	1 089	0.792	1.123	**0.983**
(m^3s^{-1})	Peak	11.84	8 03	13 01	10 80	1.30	0 62	3 01	22 06	7.88	6 09	11.98	9.95	**22.06**
Runoff (mm)		139	95	85	66	29	14	46	105	85	86	61	89	**898**
Rainfall (mm)		142	92	125	79	68	16	163	171	120	119	79	94	**1268**

Monthly and yearly statistics for previous record (Oct 1966 to Dec 1987—incomplete or missing months total 0.5 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	1 478	0 999	0 965	0.559	0 480	0 316	0 298	0 466	0 813	1 094	1 406	1.397	**0.856**
flows	Low	0 680	0 415	0 370	0.287	0 166	0 138	0.147	0 123	0.125	0.129	0 367	0 592	**0.539**
(m^3s^{-1})	High	3 104	1.944	1 636	1 030	1 199	0 692	1.751	1.606	3.386	2.121	2 362	2.669	**1.121**
Peak flow (m^3s^{-1})		30 25	19.34	28 11	8 86	14 54	6 19	27.14	20 88	44 46	32 53	30 68	36 04	**44 46**
Runoff (mm)		117	72	76	43	38	24	24	37	62	86	108	110	**797**
Rainfall (mm)		105	67	88	50	71	68	72	85	115	118	121	109	**1069**

Factors affecting flow regime.
Station type. VA

1988 runoff is 113% of previous mean
rainfall 119%

085001 Leven at Linnbrane 1988

Measuring authority: CRPB
First year 1963

Grid reference: 26 (NS) 394 803
Level stn. (m OD): 4 30

Catchment area (sq km): 784 3
Max alt. (m OD): 1130

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	95 400	78 560	47 580	52 580	12.930	10 430	28 880	59 490	63 410	68 340	43 280	55.750	**51 335**
(m^3s^{-1})	Peak	117 52	96 22	81 04	76 80	37 94	15 49	63 66	73 27	83 10	84 27	63.20	71 90	**117 52**
Runoff (mm)		326	251	162	174	44	34	99	203	210	233	143	190	**2070**
Rainfall (mm)		291	207	248	103	97	31	275	256	220	255	131	234	**2348**

Monthly and yearly statistics for previous record (Jul 1963 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	61 850	51 360	44 370	31 760	26 190	20 870	18 520	23 040	35 300	54 200	61 670	63 510	**41.017**
flows	Low	27 860	18 610	16 630	10 540	10 620	9 716	6 706	3 974	8 194	10 830	24.540	35 880	**30 712**
(m^3s^{-1})	High	119 100	102 100	98 410	51 390	73 060	51 860	44 640	85.140	90 470	90 150	112 700	122 400	**52.218**
Peak flow (m^3s^{-1})		150 48	140 83	122 21	83 14	91 20	78 32	85 61	113 02	118 82	138 54	140 91	143 49	**150.48**
Runoff (mm)		211	160	152	105	89	69	63	79	117	185	204	217	**1650**
Rainfall (mm)		228	135	175	99	125	116	119	142	216	228	238	227	**2048**

Factors affecting flow regime: S
Station type VA

1988 runoff is 125% of previous mean
rainfall 115%

094001 Ewe at Poolewe 1988

Measuring authority: HRPB
First year: 1970

Grid reference: 18 (NG) 859 803
Level stn. (m OD) 4 60

Catchment area (sq km). 441 1
Max alt. (m OD): 1014

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	47 630	41 070	41 390	21 420	5 440	3 725	14 150	29 200	39 760	40 450	21 020	50 680	**29.688**
(m^3s^{-1})	Peak	89 41	63 29	60 79	45 66	10 21	5 28	30 21	47 58	66 46	125 45	32 53	90 69	**125.45**
Runoff (mm)		289	233	251	126	33	22	86	177	234	246	124	308	**2128**
Rainfall (mm)		272	296	285	79	39	45	213	257	266	250	169	388	**2559**

Monthly and yearly statistics for previous record (Nov 1970 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	40 210	27 750	27 030	22 800	16 130	13 410	14 010	16 090	31 480	35 020	47 940	47 410	**28 271**
flows	Low	13 820	10 660	8 842	4 537	3 862	4 675	7 884	6 240	8 046	13 160	22 680	16 500	**19.389**
(m^3s^{-1})	High	81 130	46 880	54 440	38 270	36 280	27 180	26 180	33 070	57.270	66 220	78 300	81 840	**35.549**
Peak flow (m^3s^{-1})		177 08	104 96	117 00	73 59	65 63	64 43	45 08	85 46	109 22	119 00	136 10	179 82	**179.82**
Runoff (mm)		244	153	164	134	98	79	85	98	185	2'3	282	288	**2022**
Rainfall (mm)		257	153	204	128	118	122	138	149	253	286	337	311	**2456**

Factors affecting flow regime: N
Station type: VA

1988 runoff is 105% of previous mean
rainfall 104%

095001 Inver at Little Assynt 1988

Measuring authority: HRPB
First year 1977

Grid reference 29 (NC) 147 250
Level stn. (m OD) 60 30

Catchment area (sq km): 137 5
Max alt (m OD) 988

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	11 650	11 460	13 110	6 112	2 352	1 812	3 702	8 425	11 450	8 604	6 572	13 070	**8.194**
(m^3s^{-1})	Peak	21 81	16 11	18 85	13.38	3 87	2 86	6 14	15 59	18 53	16 34	10 51	21 93	**21.93**
Runoff (mm)		227	209	255	115	46	34	72	164	216	168	124	255	**1884**
Rainfall (mm)		222	207	244	82	58	54	163	208	242	159	134	282	**2055**

Monthly and yearly statistics for previous record (Aug 1977 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	10 600	7 006	8 824	5 562	4 151	3 384	5 057	5 736	10 610	13 200	14 000	11 400	**8.302**
flows	Low	4 082	2 397	4 179	3 453	1 660	1 915	2.432	3 394	5 263	6 227	8.605	4 631	**6.956**
(m^3s^{-1})	High	19 950	11 330	19 400	7 552	7 131	5 636	10 340	8 579	16 390	21 180	23 960	17 580	**10.784**
Peak flow (m^3s^{-1})		55 24	31 02	62 82	14.93	20 92	19 72	15 19	17 80	56 50	57 51	50 06	46 65	**62.82**
Runoff (mm)		206	124	172	105	81	64	99	112	200	257	264	222	**1905**
Rainfall (mm)*		228	106	203	95	84	109	136	151	256	263	305	257	**2193**

*(1978-1987)

Factors affecting flow regime: N
Station type VA

1988 runoff is 99% of previous mean
rainfall 94%

096001 Halladale at Halladale 1988

Measuring authority: HRPB
First year: 1976

Grid reference: 29 (NC) 891 561
Level stn (m OD): 23.20

Catchment area (sq km): 204.6
Max alt (m OD): 580

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	7.227	7.632	7.612	2.132	1.425	0.379	3.919	4.783	4.627	7.963	6.048	5.885	**4.973**
(m^3s^{-1})	Peak	54.88	56.23	67.36	37.45	21.54	3.93	87.19	53.39	114.30	73.61	44.19	47.27	**114.30**
Runoff (mm)		95	93	100	27	19	5	51	63	59	104	77	77	**769**
Rainfall (mm)		117	107	107	49	49	33	106	112	94	133	81	102	**1090**

Monthly and yearly statistics for previous record (Jan 1976 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	8.987	6.139	5.973	2.903	2.186	1.866	1.616	2.460	4.892	7.075	9.124	8.147	**5.111**
flows	Low	5.333	1.555	2.907	0.624	0.279	0.271	0.215	0.186	2.181	1.441	2.510	3.004	**3.420**
(m^3s^{-1})	High	11.900	10.940	9.753	6.442	5.434	4.128	4.943	9.192	7.886	16.560	14.730	12.390	**6.418**
Peak flow (m^3s^{-1})		98.96	68.52	122.59	69.28	108.00	140.81	129.10	76.64	189.13	125.96	163.22	161.96	**189.13**
Runoff (mm)		118	73	78	37	29	24	21	32	62	93	116	107	**788**
Rainfall (mm)		139	65	109	65	61	66	66	76	124	130	148	128	**1177**

Factors affecting flow regime: N
Station type: VA

1988 runoff is 97% of previous mean
rainfall 93%

101002 Medina at Upper Shide 1988

Measuring authority: NRA-S
First year: 1965

Grid reference: 40 (SZ) 503 874
Level stn (m OD): 10.40

Catchment area (sq km): 29.8
Max alt (m OD): 167

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	0.928	0.612	0.460	0.297	0.203	0.164	0.171	0.129	0.156	0.240	0.162	0.202	**0.310**
(m^3s^{-1})	Peak	6.47	4.43	5.40	1.60	0.50	0.36	0.38	0.41	0.49	2.33	0.52	1.09	**6.47**
Runoff (mm)		83	51	41	26	18	14	15	12	14	22	14	18	**329**
Rainfall (mm)		201	54	108	51	37	23	64	55	51	102	27	30	**803**

Monthly and yearly statistics for previous record (Oct 1965 to Dec 1987—incomplete or missing months total 6.8 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	0.429	0.393	0.337	0.270	0.208	0.145	0.126	0.120	0.159	0.241	0.351	0.392	**0.264**
flows	Low	0.150	0.160	0.121	0.104	0.094	0.069	0.073	0.044	0.080	0.110	0.088	0.116	**0.122**
(m^3s^{-1})	High	0.688	0.760	0.903	0.522	0.356	0.212	0.199	0.180	0.365	0.555	0.769	0.663	**0.335**
Peak flow (m^3s^{-1})		6.47	6.00	7.28	5.44	7.00	1.79	3.72	1.74	3.74	4.73	8.64	6.30	**8.64**
Runoff (mm)		39	32	30	23	19	13	11	11	14	22	31	35	**279**
Rainfall (mm)*		85	67	96	47	66	52	51	61	61	109	84	109	**888**

*(1966-1987)

Factors affecting flow regime: N I
Station type: FL

1988 runoff is 118% of previous mean
rainfall 90%

201007 Burn Dennet at Burndennet Bridge 1988

Measuring authority: DOEN
First year: 1975

Grid reference: *24* (IC) 372 047
Level stn (m OD): 2.00

Catchment area (sq km): 145.3
Max alt (m OD): 539

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	9.542	8.897	6.393	2.597	1.320	1.380	2.302	3.712	5.894	5.280	2.973	4.731	**4.577**
(m^3s^{-1})	Peak	70.02	53.00	39.02	7.95	1.64	11.71	14.65	19.89	51.91	37.96	22.36	25.56	**70.02**
Runoff (mm)		176	153	118	46	24	25	42	68	105	97	53	87	**996**
Rainfall (mm)		183	155	148	29	38	46	161	143	137	115	68	104	**1327**

Monthly and yearly statistics for previous record (Jun 1975 to Dec 1987—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	6.107	4.376	4.434	2.795	2.420	1.810	1.839	2.391	3.267	4.501	5.011	5.576	**3.711**
flows	Low	3.410	2.244	2.441	1.687	0.925	0.843	0.832	0.579	0.664	2.596	2.130	3.208	**2.634**
(m^3s^{-1})	High	8.297	7.480	6.992	5.003	5.024	3.649	3.990	7.213	8.151	7.874	7.351	8.156	**5.012**
Peak flow (m^3s^{-1})		50.49	33.50	30.87	25.39	25.51	18.84	50.79	55.46	67.37	110.77	64.52	59.53	**110.77**
Runoff (mm)		113	74	82	50	45	32	34	44	58	83	89	103	**806**
Rainfall (mm)		128	63	106	58	74	72	84	86	109	124	115	116	**1135**

Factors affecting flow regime: E
Station type: C VA

1988 runoff is 124% of previous mean
rainfall 117%

201008 Derg at Castlederg 1988

Measuring authority: DOEN
First year: 1976

Grid reference: *23* (IH) 265 842
Level stn (m OD): 43.00

Catchment area (sq km): 337.3
Max alt (m OD): 543

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	29.490	23.730	20.630	5.465	1.157	1.913	10.760	17.080	25.140	19.110	9.946	19.890	**15.365**
(m^3s^{-1})	Peak	146.04	171.65	103.34	31.70	8.59	119.90	56.76	84.80	164.44	134.30	86.41	123.28	**171.65**
Runoff (mm)		234	176	164	42	9	15	85	136	193	152	76	158	**1440**
Rainfall (mm)		212	166	190	42	46	42	213	176	198	151	84	156	**1676**

Monthly and yearly statistics for previous record (Jan 1976 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	22.030	13.310	16.040	7.189	7.375	5.320	5.769	8.687	14.130	17.320	21.710	21.490	**13.378**
flows	Low	12.090	2.356	8.844	1.862	0.534	1.048	1.336	0.258	1.703	9.480	7.358	13.420	**11.403**
(m^3s^{-1})	High	33.100	24.550	23.410	15.360	17.200	11.230	11.710	30.260	30.630	30.740	35.830	32.690	**15.763**
Peak flow (m^3s^{-1})		202.57	187.29	153.72	135.64	163.53	87.33	161.01	176.93	232.85	192.94	205.22	187.29	**232.85**
Runoff (mm)		175	97	127	55	59	41	46	69	109	138	167	171	**1252**
Rainfall (mm)*		197	80	160	91	110	86	106	150	149	198	156	209	**1692**

*(1983-1987)

Factors affecting flow regime: E
Station type: VA

1988 runoff is 115% of previous mean
rainfall 99%

203012 Ballinderry at Ballinderry Bridge 1988

Measuring authority: DOEN
First year: 1970

Grid reference: 23 (IH) 926 799
Level stn. (m OD): 16.00

Catchment area (sq km): 419.5
Max alt. (m OD): 476

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	24 690	19.600	16.560	5 978	3 597	4 429	3 493	8 246	13 050	17.200	8 032	13 550	11.531
(m^3s^{-1}).	Peak	183 21	139 88	98.37	17 93	10 97	46 96	8.37	48 01	100 56	123.92	70 04	66 01	183 21
Runoff (mm)		158	117	106	37	23	27	22	53	81	110	50	86	869
Rainfall (mm)		187	113	153	41	52	44	128	144	113	138	59	92	1264

Monthly and yearly statistics for previous record (Jul 1970 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	16 030	11.780	10 210	6 449	5 479	3 713	2.829	4 927	5 866	8 879	12 480	14 320	8.573
flows	Low	9.339	4 805	5.502	3.515	2 454	1.627	1.518	1 060	1 965	2 331	5 122	4 946	5.251
(m^3s^{-1})	High	24 270	24 430	15 270	13 140	12.740	7 524	7 496	17 640	21 020	16 060	21 860	21 490	10.693
Peak flow (m^3s^{-1})		148 48	114 88	90 19	106 69	109 23	61 60	127.21	140 06	141 01	194.80	117.73	138 01	194.80
Runoff (mm)		102	69	65	40	35	23	18	31	36	57	77	91	645
Rainfall (mm)*		122	54	102	64	72	68	62	114	93	112	94	118	1075

*(1983-1987)

Factors affecting flow regime. S
Station type VA

1988 runoff is 135% of previous mean
rainfall 118%

203020 Moyola at Moyola New Bridge 1988

Measuring authority DOEN
First year 1971

Grid reference 23 (IH) 955 905
Level stn (m OD). 13.00

Catchment area (sq km): 306 5
Max alt (m OD). 554

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg	23.280	19.760	15 590	4 464	2.819	3 228	4 250	8 194	11 730	15 880	6 415	11 620	10.598
(m^3s^{-1})	Peak	152.22	119.72	70 67	19 45	8 49	37 55	20 11	57 11	83 08	114.09	57 28	70 25	152.22
Runoff (mm)		203	162	136	38	25	27	37	72	99	139	54	102	1093
Rainfall (mm)		219	154	160	41	57	48	138	157	136	163	66	110	1449

Monthly and yearly statistics for previous record (Feb 1971 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	14.610	10 480	9 351	5 283	4 688	3 282	2.532	4 174	5 623	8 405	11 130	13.230	7.728
flows	Low	9 707	1.552	3 776	2 238	1 335	1 015	0 952	0 748	1 050	2 000	4 562	5 088	4.961
(m^3s^{-1})	High	20 980	21 510	15 580	8 875	12 360	6 900	6 496	15 310	19 100	14.220	20 770	22.170	9.645
Peak flow (m^3s^{-1})		126 49	121 91	81 02	70 38	114 14	67.84	83.33	103 72	112 70	134 77	116 51	154 62	154 62
Runoff (mm)		128	84	82	45	41	28	22	36	48	73	94	116	796
Rainfall (mm)*		149	6'	120	69	82	69	70	120	107	129	113	135	1224

*(1983-1987)

Factors affecting flow regime: S
Station type VA

1988 runoff is 137% of previous mean
rainfall 118%

205005 Ravernet at Ravernet 1988

Measuring authority: DOEN
First year: 1972

Grid reference: 33 (IJ) 267 613
Level stn (m OD). 31 00

Catchment area (sq km) 69 5
Max alt (m OD). 163

Hydrometric statistics for 1988

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	3.830	2 992	2 708	0 608	0.303	0 223	0 130	0 470	1 543	3 490	1 036	2 112	1 621
(m^3s^{-1})	Peak	29 15	17 32	22 31	3 12	0 97	2 16	0 54	4.18	17 35	27 36	6 79	9 76	29.15
Runoff (mm)		148	108	104	23	12	8	5	18	58	135	39	81	738
Rainfall (mm)		155	76	125	49	40	62	106	108	83	151	58	73	1086

Monthly and yearly statistics for previous record (Aug 1972 to Dec 1987)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg	2.601	1 919	1 429	0 964	0.626	0 397	0.199	0 512	0 690	1 539	1 650	2 445	1.246
flows	Low	1.107	0 563	0.313	0 199	0 055	0 040	0 006	0 008	0 013	0 066	0 285	0 573	0 724
(m^3s^{-1})	High	4.254	5 670	2.543	3 425	2 282	1 593	1.185	3 385	3 355	4.361	4 093	9 416	2.196
Peak flow (m^3s^{-1})		24 68	40.11	29 09	42 56	26 00	21 16	4 03	36 14	19 72	56 41	34 76	52 07	56.41
Runoff (mm)		100	68	55	36	24	15	8	20	26	59	62	94	566
Rainfall (mm)		98	58	75	47	65	62	55	78	89	91	82	96	896

Factors affecting flow regime N
Station type: FV

1988 runoff is 130% of previous mean
rainfall 121%

THE SURFACE WATER DATA RETRIEVAL SERVICE

The Surface Water Archive comprises some 26,000 station-years of daily river flows and incorporates data from over 1200 gauging stations throughout the United Kingdom. In addition to gauged flow data, naturalised data have been derived from the records of a small number of gauging stations. Catchment areal rainfall and the highest instantaneous flow, when available, are also archived on a monthly basis.

In order that the contents of the archive may be readily accessible, a suite of programs has been developed to provide a selection of retrieval options. Descriptions of these options are listed below, and examples of the computer output are given on pages 137 to 145. The data retrieval programs have been designed to allow flexibility in the presentation of the options, particularly those producing graphical output. Before finalising a data request it is recommended that the Concise Register of Gauging Stations on pages 146 to 151, and the Summary of Archived Data on pages 152 to 159, be consulted to check the availability of suitable data sets.

To enable the suitability of individual flow records for particular applications to be assessed more effectively all retrievals are accompanied by the relevant gauging station and catchment details (where available).

In response to user requirements the data retrieval facilities are being continually extended. A wide range of specialist analyses and presentations is now available. Individuals having data requirements not catered for in the standard retrieval suite are invited to discuss their particular needs - address below.

Retrievals are normally available on line-printer listings, magnetic tape or IBM compatible disk, or as hydrograph plots.

Cost of Service

To cover the computing and handling costs, a moderate charge will be made depending on the output options selected. Estimates of these charges may be obtained on request; the right to amend or waive charges is reserved.

Requests for Retrieval Options

Requests for retrieval options should include: the name and address to which output should be directed, the gauging stations for which data are required together with the period of record of interest and the title of the required options. Where possible, a daytime telephone number should be given.

Requests should be addressed to:

Surface Water Archive Office
Institute of Hydrology
Maclean Building
Crowmarsh Gifford
WALLINGFORD
OXFORDSHIRE OX10 8BB

Telephone: Wallingford (0491) 38800
Fax: (0491) 32256

Hydrological Data at the Institute of Hydrology

The Surface Water Archive is one of several major sources of hydrological data held at Wallingford. Others include an archive of flood peaks from over 600 catchments and a flood event archive comprising rainfall and river flows at short time intervals for over 4000 individual events. Data may be retrieved from these sources in a variety of formats. Enquiries concerning the availability and use of such data should be directed to the above address.

LIST OF SURFACE WATER RETRIEVAL OPTIONS

OPTION NUMBER	TITLE	NOTES
1	Table of daily mean gauged discharges	Includes monthly and annual summary statistics. Flows in cubic metres per second.
	Table of daily mean naturalised discharges	Includes monthly and annual summary statistics. Flows in cubic metres per second.
	Yearbook data tabulation (daily)	River flow and catchment rainfall data for a specified year with basic gauging station and catchment details and flow statistics derived from the historical record. Naturalised flows (where available) - and the corresponding runoff - may also be tabulated.
	Table of monthly mean gauged discharges	Includes monthly and annual summary statistics. Flows in cubic metres per second.

	Table of monthly mean naturalised discharges	Includes monthly and annual summary statistics. Flows in cubic metres per second.
	Yearbook data tabulation (monthly)	Monthly river flow and catchment rainfall data for a specified year together with comparative statistics derived from the historical record. Naturalised flows (where available) – and the corresponding runoff – may also be tabulated.
	Table of monthly extreme flows	The lowest and highest daily mean flows, together with the highest instantaneous flow and date of occurrence (where available). Flows in cubic metres per second. Includes summary statistics.
	Table of catchment monthly rainfall	Rainfall totals in millimetres and as a percentage of the 1941–70 catchment average. Includes summary statistics.
	Table of catchment monthly areal rainfall and runoff	Runoff is normally derived from the monthly mean gauged flow. An additional listing is provided for catchments with naturalised flow records. Includes summary statistics. Rainfall and runoff totals are in millimetres.
10	Hydrographs of daily mean flows	Choices of scale, units, truncation level and overlay grid pattern are available. The period of record maximum and minimum flows, or the mean flow, may be included. The plots may be based on single or n-day means, or on n-day running mean flows.
	Hydrographs of monthly mean flows	Choices of scale, units and overlay grid pattern are available. The period of record maximum, minimum and mean flows may be included.
	Flow duration statistics	Tabulation of the 1–99 percentile flows with optional plot of the flow duration curve. The percentiles may be derived from daily flows or n-day averages and the analysis may be restricted to nominated periods within the year, e.g. April-September only. Choices of scales, grid marking and units are available and the percentiles may be expressed as a percentage of the average flow or of a nominated flow.
	Table of gauging station reference information	Tabulation of selected gauging station details and catchment characteristics for nominated gauging stations.
	Table of hydrometric statistics	Provides a comparison between summary statistics for a selected year, or a group of years, and the corresponding statistics for a nominated period of record.
	Gauging station and catchment description	A brief summary of the gauging station, its history and major influences on the flow regime, together with catchment details.
	River flow pattern plots	Three plots on an A4 sheet: a) daily mean flow hydrograph for a selected year b) monthly mean flow hydrograph for the selected year. The maximum and minimum monthly flows, together with the 30-day running mean for the preceding period of record may be included c) flow duration curve for the specified year. A flow duration curve for the period of record may be included.
	Gauging station summary sheet	Includes a daily flow hydrograph (with period of record extreme values) and flow duration curve together with summary statistics relating to river flow, catchment runoff and catchment rainfall. A description of the gauging station and catchment is also provided together with selected catchment characteristics and a concise summary of the archived data.

OPTION 1 TABLE OF DAILY MEAN GAUGED DISCHARGES

050001 TAW AT UMBERLEIGH — DAILY MEAN GAUGED DISCHARGES IN CUBIC METRES PER SECOND

1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	19.190	10.920	37.280	13.900	8.927	16.710	3.008	3.249	1.272	39.130	44.220	33.430
2	19.140	11.980	40.710	12.020	13.230	29.010	3.125	2.242	1.305	63.770	35.000	27.270
3	23.450	43.450	28.700	10.850	16.080	16.470	3.740	1.919	1.235	105.200	29.010	23.160
4	17.580	26.340	23.290	9.823	16.300	15.690	3.109	1.857	1.137	76.200	24.830	20.440
5	15.950	22.470	21.020	8.913	17.550	13.840	3.043	2.091	1.109	56.640	20.230	17.690
6	15.520	19.190	21.440	6.200	19.040	12.160	3.231	8.561	1.076	44.100	17.230	16.600
7	13.830	17.750	33.840	7.679	17.730	11.390	2.662	4.332	1.079	33.600	15.170	31.070
8	12.870	16.930	37.610	7.318	15.710	10.670	2.441	3.192	1.106	30.360	13.280	69.430
9	16.190	20.830	223.400	7.043	13.770	9.451	2.283	2.787	1.096	33.360	11.630	41.100
10	14.200	16.420	173.500	6.694	29.540	10.960	2.174	2.405	1.228	31.090	10.560	40.460
11	11.690	15.290	136.900	7.144	17.620	17.580	2.037	2.200	1.830	30.730	10.360	69.490
12	14.250	15.010	107.300	5.962	14.770	10.980	2.084	2.037	2.238	29.440	9.672	41.850
13	15.650	13.250	95.870	5.422	12.960	9.766	2.115	1.920	2.268	23.360	8.364	104.300
14	80.200	11.940	64.940	5.040	12.020	9.056	2.013	1.846	2.418	21.270	7.645	136.100
15	59.900	11.250	47.040	4.826	18.840	8.388	1.993	1.810	4.032	34.210	7.235	74.960
16	59.230	10.400	36.300	4.563	18.690	7.624	1.997	1.666	2.511	23.060	7.329	48.700
17	59.010	9.654	28.140	4.267	33.340	7.013	1.939	1.564	4.231	28.540	8.770	35.680
18	61.550	8.956	23.000	4.017	28.820	6.398	1.814	1.518	21.100	25.060	31.920	26.640
19	51.280	8.265	19.490	3.848	21.890	5.996	1.918	1.597	42.080	32.680	45.490	22.260
20	51.260	7.799	16.960	3.671	24.980	5.551	1.882	2.931	34.500	76.020	55.820	63.240
21	57.170	13.540	54.130	3.520	18.270	4.922	2.531	2.170	23.510	57.400	41.600	40.630
22	44.360	14.310	57.040	3.454	16.660	4.532	8.875	1.847	17.760	42.990	32.140	29.310
23	36.600	31.930	44.340	3.320	18.970	4.320	5.221	1.727	14.530	32.740	27.840	23.180
24	32.140	16.980	39.990	3.738	23.800	4.180	3.528	1.605	20.270	79.240	22.910	18.860
25	25.910	14.590	38.440	4.100	31.200	3.912	2.786	1.512	16.820	100.000	19.190	16.110
26	21.520	13.620	49.640	10.110	25.570	3.759	2.607	1.422	15.610	63.860	19.850	18.300
27	18.590	24.220	32.660	24.990	24.870	3.541	2.319	1.355	15.740	49.610	35.840	42.330
28	16.460	22.710	26.900	13.750	20.850	3.346	2.151	1.310	12.460	40.030	38.720	65.270
29	14.910		22.310	14.700	18.340	3.165	2.000	1.279	12.950	58.140	30.400	74.130
30	13.190		18.380	10.390	16.400	3.035	1.892	1.246	18.350	60.950	44.110	88.900
31	11.850		15.890		15.370		2.710	1.224		52.860		53.640
MISSING DAYS	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	29.827	16.857	52.144	7.776	19.552	9.114	2.749	2.208	9.896	47.732	24.213	46.346
MIN	11.690	7.799	15.890	3.320	8.922	3.035	1.814	1.224	1.078	21.270	7.235	16.110
MAX	80.200	43.450	223.400	24.990	33.340	29.010	8.875	8.561	42.080	105.200	55.820	136.100
MONTHLY TOTALS (CUMEC.DAYS)	924.64	471.99	1616.45	233.29	606.10	273.42	85.23	68.44	296.87	1479.68	726.39	1436.79

SUMMARY: MAX 223.400 ON 9 MAR
MIN 1.078 ON 6 SEP
MEAN 22.519

OPTION 2 TABLE OF DAILY MEAN NATURALISED DISCHARGES

039001 THAMES AT KINGSTON — DAILY MEAN NATURALISED DISCHARGES IN CUBIC METRES PER SECOND

1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	73.100	67.000	83.100	228.000	104.000	99.200	52.600	72.200	31.700	113.000	85.400	82.800
2	71.700	66.200	159.000	227.000	86.200	192.000	50.700	50.800	31.000	104.000	84.000	72.400
3	67.600	68.300	232.000	192.000	87.300	209.000	50.700	52.200	31.700	80.300	76.600	66.600
4	65.700	79.100	196.000	135.000	96.700	142.000	48.700	42.500	30.900	77.600	63.600	69.100
5	65.200	81.100	139.000	132.000	93.400	106.000	48.900	40.600	29.000	72.100	68.100	68.800
6	68.500	63.000	127.000	117.000	84.000	102.000	45.600	120.000	29.200	93.300	61.100	69.400
7	69.300	60.200	128.000	115.000	81.800	91.100	45.500	125.000	29.600	111.000	61.800	72.400
8	74.300	62.700	189.000	109.000	78.200	93.400	46.600	79.100	30.300	75.400	61.000	116.000
9	74.000	63.200	216.000	96.300	77.600	89.100	45.100	67.600	29.700	79.100	60.600	127.000
10	75.700	65.700	242.000	105.000	92.800	82.000	43.500	64.400	28.300	79.100	57.100	104.000
11	82.300	67.800	267.000	101.000	97.100	90.300	39.800	60.600	31.300	78.900	57.600	98.900
12	80.300	67.300	277.000	97.900	89.900	87.100	44.900	36.500	39.100	78.600	57.500	87.000
13	76.700	63.500	273.000	96.000	74.000	78.300	42.800	40.100	37.700	63.800	57.200	90.100
14	76.800	61.000	289.000	120.000	71.400	73.800	41.200	41.500	38.500	67.200	55.400	230.000
15	99.400	56.700	274.000	114.000	77.700	70.300	43.200	40.800	48.600	67.800	53.100	314.000
16	107.000	59.900	253.000	84.900	92.300	69.300	40.800	38.600	41.300	66.700	56.600	279.000
17	111.000	55.500	218.000	85.100	91.200	67.600	41.600	37.000	36.300	69.600	73.700	228.000
18	121.000	55.300	160.000	80.900	93.100	65.400	42.000	37.700	39.900	85.700	96.800	145.000
19	112.000	54.500	139.000	74.200	92.200	66.300	41.600	37.600	49.600	81.300	97.800	116.000
20	109.000	56.300	127.000	76.500	100.000	64.400	41.400	37.400	104.000	136.000	121.000	110.000
21	109.000	53.100	117.000	75.100	122.000	64.200	40.300	36.200	67.300	179.000	146.000	156.000
22	113.000	53.800	173.000	75.300	102.000	59.800	55.700	36.400	61.800	147.000	131.000	162.000
23	111.000	58.100	208.000	73.100	90.400	61.000	55.400	36.100	40.100	102.000	97.900	132.000
24	95.600	60.100	204.000	72.400	111.000	61.700	55.300	35.100	42.700	92.600	90.400	101.000
25	86.100	59.200	204.000	79.500	177.000	61.000	46.000	34.900	51.900	94.100	72.000	102.000
26	78.800	61.000	203.000	128.000	266.000	57.100	47.400	32.800	131.000	107.000	75.600	99.300
27	77.500	61.000	161.000	183.000	267.000	57.700	39.300	34.300	162.000	90.900	76.800	94.800
28	72.500	64.800	131.000	194.000	212.000	57.400	37.800	32.700	98.300	85.500	100.000	111.000
29	71.800		135.000	174.000	171.000	54.200	39.400	32.400	73.600	80.300	89.500	218.000
30	71.700		145.000	140.000	122.000	50.700	37.500	32.200	101.000	81.400	87.700	295.000
31	67.500		204.000		108.000		44.500	30.300		82.100		264.000
MISSING DAYS	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	85.003	62.336	189.455	119.373	113.203	84.113	45.090	48.245	53.247	91.045	79.030	136.116
MIN	65.200	53.100	83.100	72.400	71.400	50.700	37.500	30.300	28.300	63.600	53.100	66.600
MAX	121.000	81.100	289.000	228.000	267.000	209.000	55.700	125.000	162.000	179.000	146.000	314.000
MONTHLY TOTALS (CUMEC.DAYS)	2635.10	1745.40	5873.10	3581.20	3509.30	2523.40	1397.80	1495.60	1597.40	2822.40	2370.90	4281.60

SUMMARY: MAX 314.000 ON 15 DEC
MIN 28.300 ON 10 SEP
MEAN 92.694

OPTION 3 YEARBOOK DATA TABULATION (DAILY)

050001 Taw at Umberleigh 1986

Measuring authority: SWA-Sd   Grid reference: 21 (SS) 608 237   Catchment area (sq km): 826.2

First year: 1958   Level stn. (m OD): 14.1   Max alt. (m OD): 606

DAILY MEAN GAUGED DISCHARGES (cubic metres per second)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	45.922	16.995	3.441	31.022	11.699	6.456	4.707	3.763	15.832	3.336	42.287	24.618
2	45.671	15.510	3.541	26.633	10.648	5.673	3.970	3.945	13.766	3.249	31.469	22.266
3	35.091	14.188	3.499	21.680	9.470	5.371	3.617	3.035	13.607	3.018	28.826	18.010
4	37.836	12.695	9.708	18.030	12.338	5.028	4.566	9.236	10.314	2.861	23.680	16.196
5	33.756	11.366	21.279	15.390	10.187	4.671	8.672	5.398	9.181	2.784	22.010	21.573
6	28.560	10.417	10.379	13.834	8.294	4.282	5.403	5.377	8.612	2.708	19.850	19.573
7	62.257	9.347	8.387	16.586	8.795	4.127	4.203	7.406	7.693	2.657	19.707	24.992
8	47.415	8.383	7.546	19.608	9.632	3.935	4.538	5.801	7.056	2.578	23.696	65.161
9	33.912	7.508	10.315	16.122	8.156	12.460	3.770	4.976	6.326	2.552	29.678	47.764
10	70.557	7.249	9.515	11.702	8.123	36.598	3.414	12.831	5.789	2.663	37.135	37.830
11	59.483	6.796	7.739	10.316	7.324	37.555	3.789	65.093	5.434	2.570	31.705	69.360
12	51.120	6.554	7.043	10.111	7.456	20.524	3.544	14.651	5.058	2.405	25.056	69.886
13	44.068	6.359	6.513	11.176	7.135	16.077	3.184	11.316	17.067	2.403	40.841	68.780
14	40.020	5.735	6.018	21.978	44.508	13.286	2.978	9.582	21.159	2.423	127.383	50.837
15	36.337	5.361	5.759	31.328	37.785	11.171	2.812	7.763	11.432	2.325	57.152	39.636
16	32.206	5.179	5.368	25.399	25.285	9.558	2.468	6.513	9.663	2.167	47.602	75.175
17	31.718	4.861	5.915	22.478	27.619	8.339	2.272	5.821	7.866	2.037	48.472	66.340
18	36.256	4.614	6.608	19.092	21.358	7.399	2.158	21.257	6.809	2.156	109.704	60.550
19	38.588	4.273	7.124	23.908	17.116	6.633	2.062	13.415	6.159	3.303	176.727	63.493
20	37.951	4.099	7.807	43.695	16.262	5.986	2.131	9.174	5.758	19.324	104.960	60.592
21	52.741	3.944	6.475	50.704	15.449	7.548	2.236	8.659	5.431	29.051	80.859	48.165
22	74.491	3.726	7.247	44.683	12.807	8.406	2.109	20.983	5.104	55.352	66.497	36.562
23	89.058	3.903	14.096	47.316	11.208	6.503	1.941	20.255	4.871	45.550	65.009	29.293
24	60.162	3.641	37.112	41.624	10.076	7.160	1.861	20.968	4.563	34.370	63.318	25.077
25	44.132	4.131	23.093	34.778	9.168	5.670	1.992	70.828	4.244	45.962	71.424	67.277
26	34.841	4.976	22.505	27.679	8.483	4.666	2.253	57.460	4.032	34.072	75.556	41.610
27	30.785	4.649	29.560	22.322	7.809	4.157	2.141	44.335	3.899	56.152	56.160	37.013
28	30.342	4.296	45.032	18.819	7.208	3.957	2.764	38.560	3.790	77.885	43.063	34.930
29	25.791		62.048	15.700	6.561	6.985	3.030	29.169	3.607	60.458	33.020	32.125
30	21.077		49.238	13.274	6.330	6.086	3.301	22.587	3.408	47.819	26.239	70.375
31	18.521		39.862		8.265		4.537	18.122		37.569		79.129
Average	42.730	7.155	15.190	24.090	13.280	9.540	3.313	18.010	7.911	19.150	54.320	47.040
Lowest	18.521	3.641	3.441	10.111	6.330	3.935	1.861	3.033	3.408	2.037	19.707	16.196
Highest	89.088	16.995	49.238	50.704	44.508	37.555	8.672	70.828	21.159	77.835	176.727	79.636
Peak flow	109.526	18.255	60.897	65.314	99.689	79.066	10.853	124.530	41.049	97.651	251.996	121.938
Day of peak	10	1	24	21	15	10	5	11	14	28	19	15
Monthly total (million cu m)	114.50	17.31	40.67	62.43	35.56	24.73	8.87	48.23	20.51	51.30	140.80	126.00
Runoff (mm)	139	21	49	76	43	30	11	58	25	62	170	152
Rainfall (mm)	149	3	106	97	93	97	65	151	39	138	183	196

STATISTICS OF MONTHLY DATA FOR PREVIOUS RECORD (Oct 1958 to Dec 1985)

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean flows:	Avg.	35.970	28.910	20.510	13.710	9.658	5.213	4.628	5.676	7.776	18.720	25.260	37.230
	Low	5.657	3.244	7.449	3.889	2.073	1.329	0.793	0.423	0.861	1.063	3.653	13.210
	(year)	1963	1959	1986	1976	1976	1986	1986	1976	1959	1978	1978	1963
	High	62.100	54.760	52.140	32.800	37.000	16.630	23.390	19.130	47.670	77.360	58.500	73.670
	(year)	1984	1970	1981	1966	1983	1972	1968	1985	1974	1960	1963	1965
Runoff:	Avg.	117	85	67	43	31	16	15	18	24	61	89	121
	Low	22	10	24	12	7	4	3	1	3	3	11	43
	High	201	160	169	103	120	52	76	62	150	251	184	239
Rainfall:	Avg.	132	86	90	69	72	66	71	87	95	112	128	140
	Low	28	5	18	5	25	10	23	24	14	14	56	41
	High	242	173	183	165	146	164	152	160	247	278	239	271

SUMMARY STATISTICS

	FOR 1986		FOR RECORD PRECEDING 1986		1986 AS % OF PRE-1986
Mean flow (m3/s)	21.910		17.990		122
Lowest yearly mean			11.310	1964	
Highest yearly mean			27.590	1960	
Lowest monthly mean	3.313	Jul	0.423	Aug 1976	
Highest monthly mean	54.320	Nov	77.360	Oct 1960	
Lowest daily mean	1.861	24 Jul	0.200	23 Aug 1976	
Highest daily mean	176.727	19 Nov	363.800	4 Dec 1960	
Peak	251.996	19 Nov	644.900	4 Dec 1960	
10 %ile	53.770		46.690		115
50 %ile	11.450		9.291		123
95 %ile	2.672		1.174		211
Annual total (million cu m)	691.00		567.70		122
Annual runoff (mm)	836		687		122
Annual rainfall (mm)	1316		1148		115
[1941-70 rainfall average (mm)			1193]		

FACTORS AFFECTING FLOW REGIME

- Reservoir(s) in catchment.
- Abstraction for public water supplies.
- Augmentation from effluent returns.

STATION AND CATCHMENT DESCRIPTION

Velocity-area station, main channel 34m wide, cableway span 54.9m. Rock step d/s forms the control. Bypassing begins at about 3.7m on the rb, but a good rating accomodates this. Significant modification to flows owing to PWS abstraction. Some naturalised flow data available.
Large rural catchment - drains both Dartmoor (granite) to the south and Devonian shales and sandstones of Exmoor to the north. Central area is underlain mainly by Culm shales and sandstones (Carboniferous). Agriculture is conditioned by the grade 3 and 4 soils.

OPTION 4 TABLE OF MONTHLY MEAN GAUGED DISCHARGES

050001 Taw at Umberleigh

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
1980	23.155	43.820	27.450	16.690	2.415	9.840	0.788	5.630	11.630	40.530	28.950	33.350	21.120
1981	29.855	16.860	52.160	7.777	19.550	9.115	2.748	2.289	9.897	47.730	24.210	46.350	22.520
1982	40.860	18.540	42.170	6.040	2.462	2.722	0.563	2.585	4.278	26.260	52.830	55.450	21.730
1983	40.920	19.183	14.640	17.590	37.000	4.477	3.650	0.836	3.245	14.980	11.130	46.910	18.470
1984	62.135	36.470	7.449	5.657	2.255	1.329	0.793	0.482	3.589	29.640	49.390	37.380	18.920
1985	26.030	19.950	15.650	25.220	3.363	5.986	3.967	19.130	9.617	9.488	6.636	36.630	15.150
1986	62.750	7.155	13.190	26.080	13.280	9.940	3.313	10.013	7.911	19.130	54.370	47.640	21.910
1987	20.000	19.450	27.280	29.850	3.581	5.287	3.591	1.743	1.814	32.380	16.270	35.960	16.120
Mean	37.133	22.850	25.220	16.700	10.510	6.317	4.177	6.360	6.472	26.140	32.710	39.910	19.510
Min	20.550 1987	7.155 1986	7.449 1984	5.657 1984	2.255 1984	1.329 1984	0.793 1984	0.482 1984	1.814 1987	9.488 1985	6.636 1985	15.960 1987	15.150 1985
Max	62.130 1984	43.820 1980	52.140 1981	29.850 1987	37.000 1983	9.940 1980	3.748 1983	19.130 1985	11.630 1980	47.730 1981	54.370 1986	55.450 1982	22.520 1981

The summary relates exclusively to the years shown.

OPTION 5 TABLE OF MONTHLY MEAN NATURALISED DISCHARGES

039801 Thames at Kingston

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
1980	156.600	151.400	131.700	107.800	51.790	50.440	46.070	48.750	41.460	75.730	75.590	86.950	82.430
1981	65.030	62.140	189.500	119.400	115.200	86.110	45.090	48.250	53.750	91.850	79.030	130.300	92.690
1982	196.900	110.600	143.500	89.740	59.560	52.550	38.720	31.520	31.900	89.750	129.630	177.200	99.660
1983	126.800	111.230	84.740	170.500	136.800	82.100	43.430	34.560	34.820	37.880	59.160	78.090	77.970
1984	166.580	129.630	105.400	68.040	60.670	45.910	25.710	25.370	30.710	58.640	105.130	127.780	75.240
1985	130.500	136.400	100.200	93.010	76.790	99.190	50.350	55.600	36.770	37.280	56.230	136.100	81.940
1986	201.100	117.030	96.130	125.500	82.450	52.160	37.470	44.100	37.750	41.730	122.000	136.400	91.020
1987	115.420	85.990	113.400	149.100	66.530	68.220	65.660	34.640	36.770	125.900	148.400	82.390	88.800
Mean	141.600	113.420	125.020	109.500	83.900	66.500	41.560	39.550	37.680	67.230	91.910	120.300	86.220
Min	65.000 1981	62.140 1981	84.740 1983	68.040 1984	51.790 1980	45.910 1984	25.710 1984	25.370 1984	30.710 1984	37.280 1985	56.230 1985	78.090 1983	75.240 1984
Max	201.100 1986	151.400 1980	189.500 1981	149.100 1987	136.800 1983	99.190 1985	50.350 1985	55.600 1985	53.750 1981	125.900 1987	148.400 1987	177.200 1982	99.660 1982

The summary relates exclusively to the years shown.

OPTION 6 YEARBOOK DATA TABULATION (MONTHLY)

050001 -t Umberleigh 1982

Measuring authority: SWA Grid reference: SS608237 Catchment area (sq km): 826.2

First year: 1958 Level stn. (m OD): 14.14 Max alt. (m OD): 604

HYDROMETRIC STATISTICS FOR 1982

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Flows	Avg.	40.860	18.540	42.170	6.041	2.462	2.723	8.563	2.585	4.278	26.260	52.830	55.450	21.730
(m3/s):	Peak	127.60	55.38	143.90	23.89	5.54	12.48	162.20	7.73	25.40	72.35	215.20	241.10	241.10
Runoff	(mm)	132	54	137	19	8	9	28	8	13	79	166	180	833
Rainfall	(mm)	106	78	143	24	37	116	67	87	81	129	192	179	1239

MONTHLY AND YEARLY STATISTICS FOR PREVIOUS RECORD (Oct 1958 to Dec 1981)

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Mean	Avg.	34.480	29.840	20.620	13.730	9.404	5.488	4.782	5.648	8.228	18.950	27.980	36.080	17.891
flows	Low	6.657	3.244	7.918	3.889	2.073	1.434	0.796	0.423	0.861	1.043	3.653	13.210	11.312
(m3/s):	High	50.890	54.760	52.140	32.800	22.140	16.630	23.390	14.440	47.670	77.360	58.500	73.670	27.587
Peak flow	(m3/s)	580.60	278.40	339.90	149.40	91.74	160.10	206.00	183.50	312.30	422.10	249.70	644.90	644.90
Runoff	(mm)	112	88	67	43	30	17	16	18	26	61	88	117	683
Rainfall	(mm)	127	91	89	70	72	66	74	87	93	112	127	137	1145

Factors affecting flow regime: S P E
Station type: VA

1982 runoff is 122% of previous mean
rainfall 108%

OPTION 7 TABLE OF MONTHLY EXTREME FLOWS

050001 Taw at Umberleigh

Date		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
1985	HI	111.951	76.210	53.620	94.250	7.826	28.940	9.013	76.230	59.110	46.900	12.760	259.930	259.930
	MD	74.600	54.630	41.360	91.733	6.312	21.570	7.525	41.170	23.960	29.903	9.903	136.430	136.430
	LO	5.683	5.219	5.128	5.981	2.074	1.677	2.231	5.161	4.744	5.218	2.456	10.090	1.677
1986	HI	128.507	18.250	62.900	65.315	79.690	77.070	10.850	124.500	61.050	77.650	252.030	125.900	252.030
	MD	89.090	16.990	69.240	50.730	46.510	37.550	8.672	70.830	21.160	77.880	176.700	89.460	176.700
	LO	18.520	3.661	3.441	10.213	6.330	3.935	1.861	3.033	3.408	2.037	19.710	16.230	1.861
1987	HI	167.200	67.400	152.600	205.520	13.820	31.960	13.650	5.630	6.122	113.900	151.409	65.350	205.520
	MD	99.963	44.160	86.440	149.800	6.134	12.430	9.105	5.773	5.776	79.910	105.100	43.330	149.800
	LO	5.682	5.444	5.343	6.837	2.475	2.648	2.352	1.199	1.161	1.811	10.070	6.192	1.161
Max	HI	167.200	76.210	152.600	205.520	79.690	77.070	13.650	124.500	61.050	113.930	252.030	259.930	259.930
		2 Jan	9 Feb	25 Mar	5 Apr	15 May	12 Jun	19 Jul	31 Aug	16 Sep	27 Oct	19 Nov	26 Dec	26 Dec
		1987	1985	1987	1987	1986	1986	1987	1986	1986	1987	1986	1985	1985
Max	MD	99.760	54.630	86.440	149.800	46.510	37.550	9.105	70.830	23.960	79.910	176.700	136.430	176.700
		1 Jan	9 Feb	23 Mar	1 Apr	16 May	11 Jun	19 Jul	25 Aug	5 Sep	27 Oct	19 Nov	24 Dec	19 Nov
		1987	1985	1987	1987	1986	1986	1987	1986	1985	1987	1986	1985	1986
Min	LO	5.682	3.661	3.441	6.837	2.074	1.677	1.861	1.199	1.161	1.811	2.456	6.192	1.161
		31 Jan	24 Feb	1 Mar	30 Apr	31 May	6 Jun	24 Jul	31 Aug	1 Sep	1 Oct	6 Nov	14 Dec	1 Sep
		1987	1986	1986	1987	1985	1985	1986	1987	1987	1987	1985	1987	1987

The summary relates exclusively to the years shown.

HI = Highest instantaneous discharge
MD = Highest daily mean gauged discharge
LO = Lowest daily mean gauged discharge

OPTION 8 TABLE OF CATCHMENT MONTHLY RAINFALL

050001 Taw at Umberleigh

Date		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
1985	Rainfall (mm)	95	60	97	90	50	108	70	160	51	60	71	159	1051
	% 1961-70 Mean	75	63	123	125	62	177	85	157	49	53	53	117	89
1986	Rainfall (mm)	148	3	106	97	93	97	65	151	39	138	183	196	1316
	% 1961-70 Mean	117	3	134	135	115	159	79	148	38	122	137	144	111
1987	Rainfall (mm)	29	99	104	97	61	92	61	31	65	222	130	75	1066
	% 1961-70 Mean	23	108	132	135	75	151	74	30	63	196	97	55	90
Mean	(mm)	91	47	102	95	68	99	65	114	52	140	128	143	1144
	(%)	72	51	130	132	84	162	79	112	50	124	96	105	97
Min	(mm)	29	3	97	90	50	92	61	31	39	60	71	75	1051
	(%)	23	3	123	125	62	151	74	30	38	53	53	55	89
	Year	1987	1986	1985	1985	1985	1987	1987	1987	1986	1985	1985	1987	1985
Max	(mm)	148	99	106	97	93	108	70	160	65	222	183	196	1316
	(%)	117	108	134	135	115	177	85	157	63	196	137	144	111
	Year	1986	1987	1986	1987	1986	1985	1985	1985	1987	1987	1986	1986	1986
1961-70 Mean		127	92	79	72	81	61	82	102	104	113	134	136	1183

The summary relates exclusively to the years shown.

OPTION 9 TABLE OF CATCHMENT MONTHLY AREAL RAINFALL AND RUNOFF

050001 Taw at Umberleigh

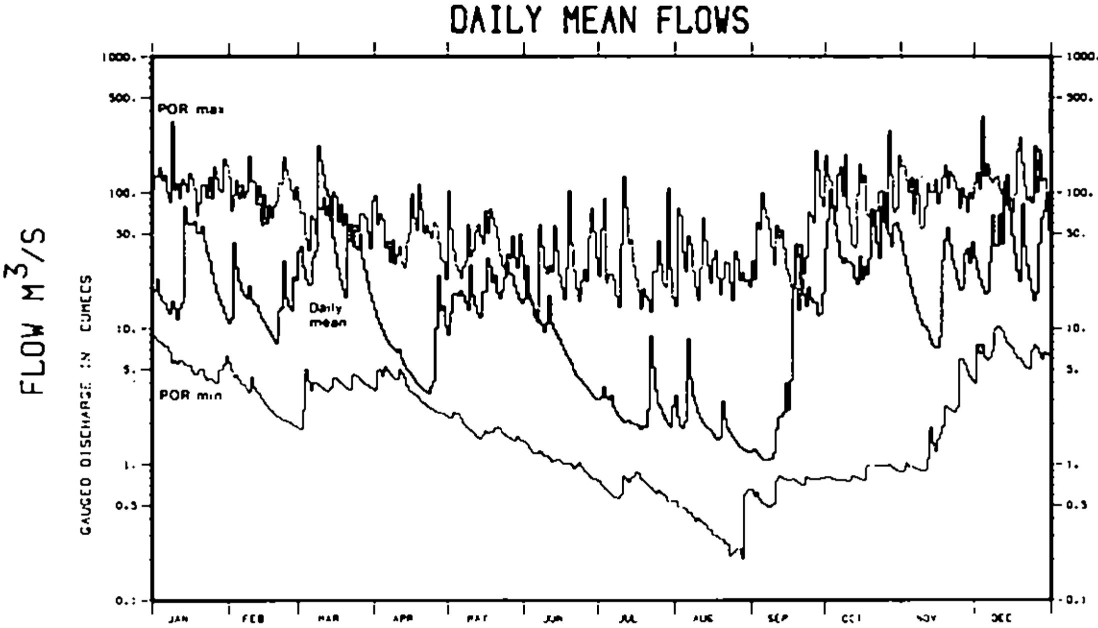
Date		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
1985	Rainfall	95	60	97	90	50	108	70	160	51	60	71	159	1051
	Runoff	84	58	51	79	12	19	13	62	30	31	21	138	574
1986	Rainfall	148	3	106	97	93	97	65	151	39	138	183	196	1316
	Runoff	139	25	49	76	43	50	11	58	25	62	170	152	836
1987	Rainfall	29	99	106	97	61	92	61	31	65	222	130	75	1066
	Runoff	65	57	88	91	12	16	12	6	6	105	107	52	617
Rainfall														
Mean	(mm)	91	67	102	95	68	99	65	114	52	140	128	143	1144
Min	(mm)	29	3	97	90	50	92	61	31	39	60	71	75	1051
	Year	1987	1986	1985	1985	1985	1987	1987	1987	1986	1985	1985	1987	1985
Max	(mm)	148	99	106	97	93	108	70	160	65	222	183	196	1316
	Year	1986	1987	1986	1987	1986	1985	1985	1985	1987	1987	1986	1986	1986
Runoff														
Mean	(mm)	96	47	63	82	22	22	12	42	20	66	99	108	677
Min	(mm)	65	25	49	76	12	16	11	6	6	31	21	52	574
	Year	1987	1986	1986	1986	1987	1987	1986	1987	1987	1985	1985	1987	1985
Max	(mm)	139	58	88	91	43	50	13	62	30	105	170	152	836
	Year	1986	1985	1987	1987	1986	1986	1985	1985	1985	1987	1986	1986	1986
% Runoff														
Mean	(%)	>100	96	62	86	32	22	18	37	38	47	77	76	59
Min	(%)	88	58	46	78	25	17	17	19	9	45	30	69	55
	Year	1985	1987	1986	1986	1987	1987	1986	1987	1987	1986	1985	1987	1985
Max	(%)	>100	>100	85	94	46	51	20	39	64	57	95	78	64
	Year	1987	1986	1987	1987	1986	1986	1987	1985	1986	1985	1986	1986	1986

The summary relates exclusively to the years shown.

OPTION 10 HYDROGRAPH OF DAILY MEAN FLOWS

050001 TAW AT UMBERLEIGH 1981

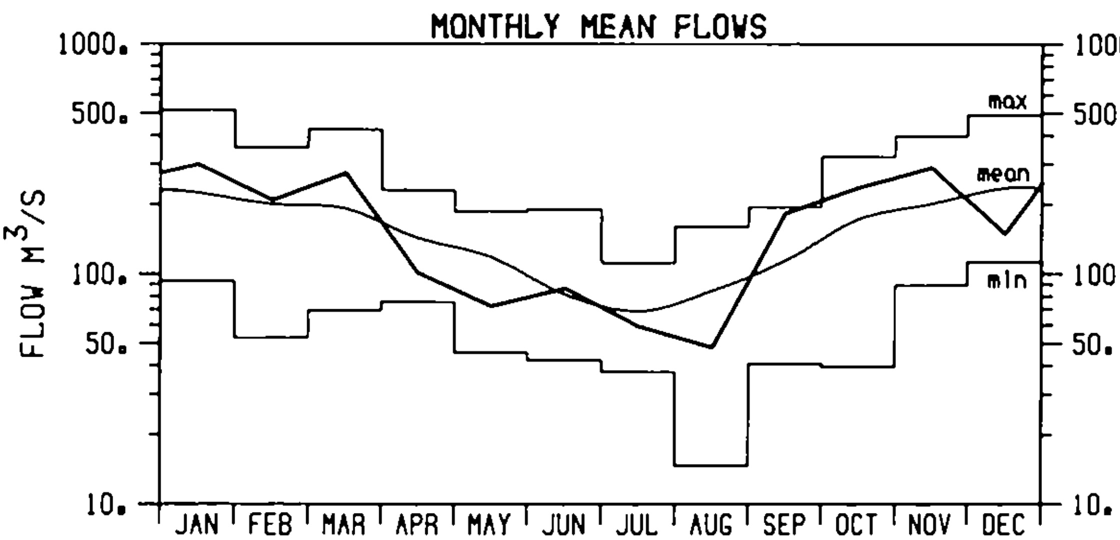
Previous record 1958-1980 Catchment area 826.2 km



OPTION 11 HYDROGRAPH OF MONTHLY MEAN FLOWS

15006 TAY AT BALLATHIE 1981

Previous record 1953-1980 Catchment area 4587.1km^2



OPTION 12 FLOW DURATION STATISTICS

FLOW DURATION TABLE

050001 TAW AT UMBERLEIGH GAUGED FLOWS USED

1 DAY MEAN FLOW EXCEEDED STATED AMOUNT IN CUMECS FOR GIVEN PERCENTAGE OF TIME

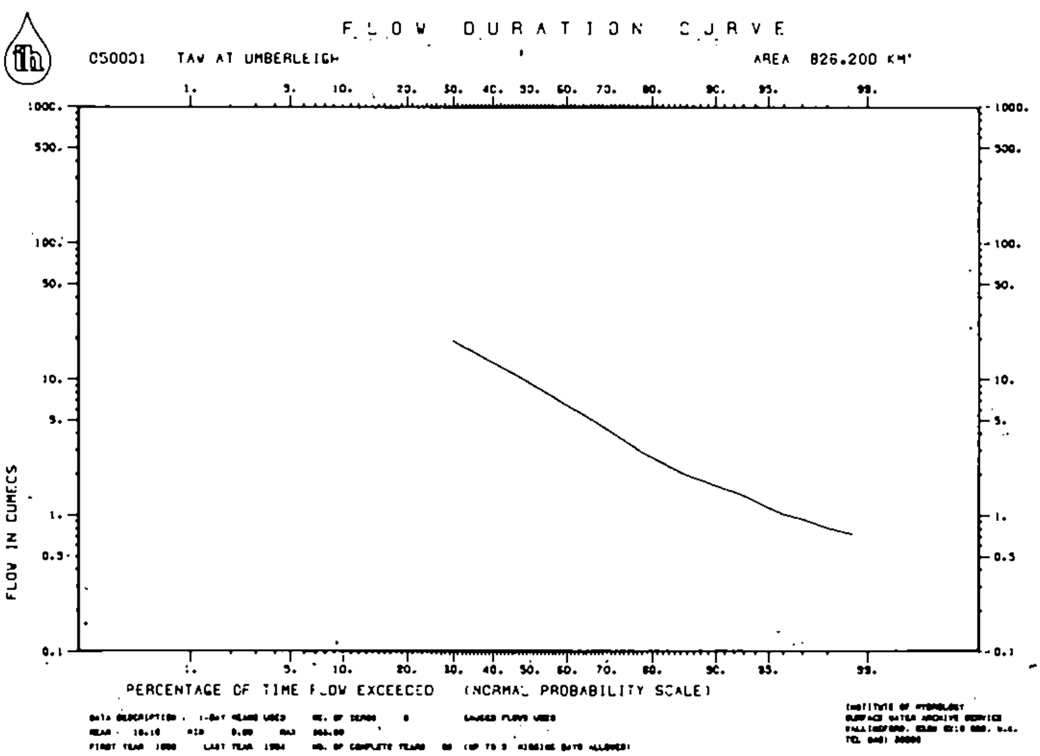
		1	2	3	4	5	6	.	8	9
		112.407	88.953	78.112	70.827	64.442	59.554	56.125	53.098	50.148
10	47.474	44.176	41.967	39.864	37.968	36.202	34.286	32.813	31.533	30.169
20	28.878	27.620	26.450	25.366	24.302	23.328	22.350	21.282	20.533	19.756
30	19.052	18.294	17.592	16.975	16.450	15.836	15.263	14.737	14.189	13.691
40	13.254	12.847	12.340	11.914	11.529	11.129	10.807	10.436	10.088	9.725
50	9.366	9.020	8.678	8.390	8.073	7.801	7.535	7.219	6.945	6.673
60	6.428	6.187	5.971	5.755	5.522	5.313	5.090	4.900	4.691	4.492
70	4.292	4.101	3.916	3.738	3.564	3.398	3.239	3.055	2.915	2.783
80	2.659	2.534	2.418	2.287	2.178	2.071	1.976	1.890	1.822	1.734
90	1.647	1.567	1.493	1.391	1.268	1.141	1.019	0.941	0.808	0.685

MAX FLOW= 363.800 MIN FLOW= 0.200 MEAN FLOW= 18.160 CATCHMENT AREA 826.2 SQ.KM

NUMBER OF ZEROS= 0 NUMBER OF VALUES USED= 9497

FIRST YEAR USED= 1959 LAST YEAR USED= 1984
NUMBER OF YEARS USED= 26

ONLY YEARS CONTAINING NOT MORE THAN 5 MISSING DAYS USED



OPTION 13 TABLE OF GAUGING STATION REFERENCE INFORMATION

NUMBER	RIVER	STATION	GRID REF	OPERATOR	RECORD 1ST YEAR	RECORD LAST YEAR	STN TYPE	BASIN AREA SQ KM	LEVEL STN AOD	MAX ALT AOD	ABSTRACTIONS & RETURNS	FW
048001	Fowey	Trekeivesteps	SX227698	SWA-SW	1969		CC	36.8	187.9	420	SEPG	
048002	Fowey	Restormel one	SX108613	SWA-SW	1961	1972	VA	171.2	5.8	420	SEP EI	
048003	Fal	Tregony	SW921447	SWA-SW	1977		FLVA	87.0	6.9	226	GEI	
048004	Warleggan	Trengoffe	SX159674	SWA-SW	1969		CC	25.3	70.5	308	G	
048005	Kenwyn	Truro	SW820450	SWA-SW	1969		CC	19.1	7.2	152	G	
048006	Cober	Helston	SW654273	SWA-SW	1968		VA	40.1	4.7	251	PG I	
048007	Kennall	Ponsanooth	SW762377	SWA-SW	1968		C	26.6	15.6	251	SAPG E	
048008	St Austell	Pellingey	SX007695	SWA-SW	1971	1976	FL	29.9	11.5	313	G E	
048009	St Neot	Craigshill Wood	SX184662	SWA-SW	1971		CC	22.7	70.5	339	GF	
048010	Seaton	Trebrownbridge	SX299596	SWA-SW	1977		CC	35.1	26.6	369	G I	
048011	Fowey	Restormel	SX098624	SWA-SW	1961		CC	169.1	9.2	420	SEPGEI	

OPTION 14 TABLE OF HYDROMETRIC STATISTICS

STATION NUMBER	TERM	AAF 1941 1970 MM	AREAL RAIN FALL MM	ANNUAL GAUGED RUNOFF MM	MEAN GAUGED FLOW CU M/S	NO. YRS REC	%POR MEAN FLOW	HIGHEST DAILY MEAN CU M/S	DATE	LOWEST DAILY MEAN CU M/S	DATE	10 %ILE CU M/S	50 %ILE CU M/S	95 %ILE CU M/S
021005	POR	1320	1250	676	7.99	15		185.50	30/01/74	1.19	07/10/72	16.20	5.39	1.97
	1977		1436	829	9.80		123	92.38	31/10	1.39	22/06	20.26	7.03	1.65
	1978		1317	757	8.95		112	75.74	15/11	1.75	19/06	20.23	6.03	2.25
	1979		1367	913	10.80		135	82.15	26/11	2.23	23/07	24.29	6.77	2.60
	1980		1288	793	9.36		117	49.29	24/11	2.01	01/06	19.96	7.00	2.19
021006	POR	1227	1160	694	32.99	15		393.40	30/01/74	3.46	07/10/72	68.79	22.22	6.23
	1977		1277	845	40.20		122	555.30	31/10	4.13	18/08	84.42	29.40	5.44
	1978		1244	731	34.77		105	320.30	15/11	5.62	20/06	78.17	22.26	7.01
	1979		1230	881	41.90		127	262.70	26/11	7.21	23/07	93.82	27.64	8.51
	1980		1187	746	35.48		108	171.60	20/11	6.37	19/05	78.83	24.91	7.46
021007	POR	1413	1321	878	13.89	15		209.80	30/01/74	0.57	07/09/76	31.59	8.50	1.71
	1977		1524	1108	17.54		126	268.30	31/10	0.87	18/06	41.40	10.84	1.11
	1978		1394	886	14.02		101	210.80	15/11	0.97	19/07	32.60	8.24	1.21
	1979		1420	1105	17.48		126	120.90	26/11	1.42	24/07	41.36	10.83	1.63
	1980		1366	944	14.93		107	98.07	20/11	1.18	19/05	35.27	9.16	1.55
021008	POR	1006	949	504	17.74	16		308.66	06/03/63	1.71	22/08/76	38.44	11.05	2.69
	1977		1019	604	21.25		120	167.23	31/10	1.99	17/06	44.36	14.81	2.58
	1978		1008	541	19.03		107	177.90	15/11	2.04	20/07	43.34	11.69	2.53
	1979		1005	693	24.43		138	273.10	25/03	2.22	05/06	55.84	15.31	3.67
	1980		982	586	20.62		116	122.00	20/11	3.35	03/06	43.35	14.30	4.14

NOTE: This example illustrates only a limited amount of the statistical information that may be output.

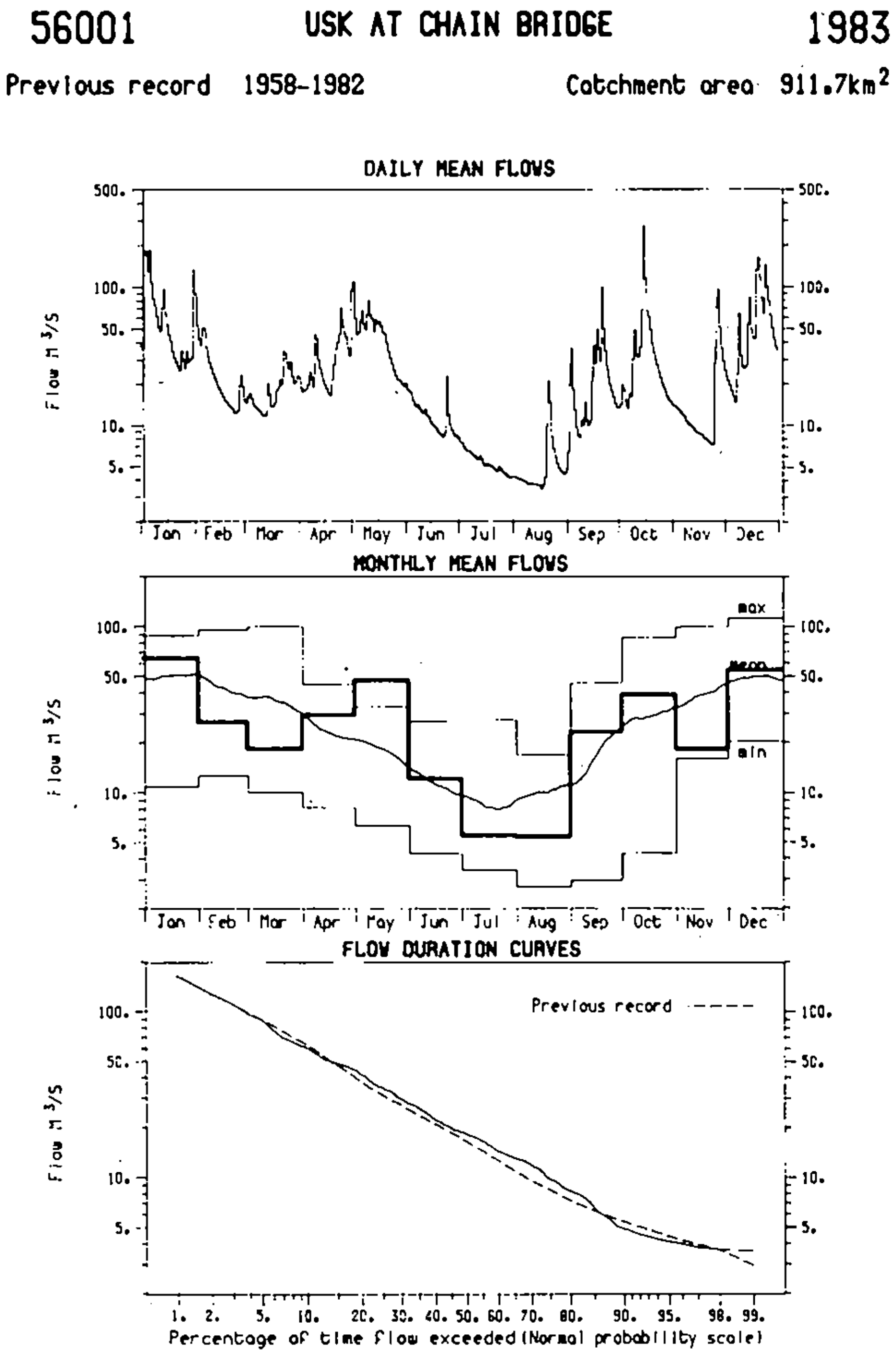
OPTION 15 GAUGING STATION AND CATCHMENT DESCRIPTION

48003 Fal at Tregony
Originally a velocity-area station in a formalised trapezoidal channel; augmented by a low flow, side contracted flume 2.3m wide in August 1967. Site not ideal for high flows. Data available from June 1978. Earlier data unreliable due to silting of inlet pipes. Moderate modification to flows owing to industrial abstractions and returns.
Moderate to low relief catchment draining Devonian slates, shales and grits. Upper reaches plateau-like alluvial flats. Traverses the kaolinised St Austell Granite. Low grade agriculture and grazing.

48004 Warleggan at Trengoffe
Three-bay compound Crump profile weir, crest lengths 1.52m and 8.53m (total). Wing walls at 1.67m. Flood banks contain flows up to wing wall height. Overtopped at the highest flows. The only gauged natural catchment on Bodmin Moor.
The upper 70% drains the kaolinised granite of Bodmin Moor. The relief is moderate to steep. The lower 30% traverses metamorphosed Devonian slates. Baseflow high for an upland catchment owing to storage in the granite.

48005 Kenwyn at Truro
Three-bay compound Crump profile weir, crest lengths 1.22m and 3.05 (total). Pier and wing wall height 1.98m. Contains all flows; potential for non-modularity at the highest flows. Variable shoaling affects low flow precision. Substantially natural catchment. High baseflow, low percentage runoff catchment for the relief.
Catchment of moderate relief, with wooded, incised valleys. Geology is Devonian grits and shales.

OPTION 16 RIVER FLOW PATTERN PLOTS



OPTION 17 GAUGING STATION SUMMARY SHEET

Gauging Station Summary

TAW AT UMBERLEIGH

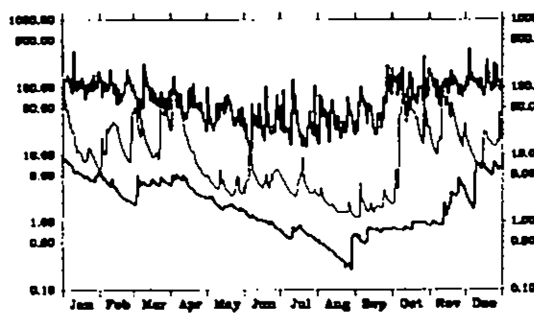
Station Number
050001

Gauged Flows
1958-1987

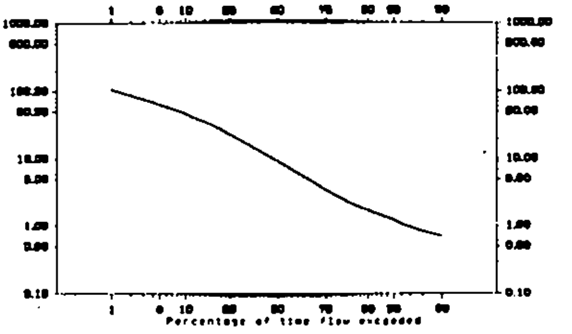
Measuring Authority: NRA - South West

Grid Reference: 21 (SS) 608 237

Daily Flow Hydrograph (m^3s^{-1})
Max. and min. daily mean flows from 1958 to 1987 with an example yearly hydrograph (1987)



Flow Duration Curve (m^3s^{-1})



Flow Statistics

Units: m^3s^{-1} unless otherwise stated

Mean flow	18.06	
Mean flow (ls^{-1}/Km^2)	21.85	
Mean flow $(10^6m^3/yr)$	569.9	
Peak flow & date	644.9	4 Dec 1960
Highest daily mean & date	363.8	4 Dec 1960
Lowest daily mean & date	0.200	28 Aug 1976
10 day minimum & end date	0.237	28 Aug 1976
60 day minimum & end date	0.542	10 Sep 1976
10 percentile	46.820	
50 percentile	9.330	
95 percentile	1.219	
Mean annual flood	247.0	
Bankfull flow	170.00	

Catchment Characteristics

Catchment area (Km^2)	826.2
Level stn. (mOD)	14.10
Max alt. (mOD)	604
IH Baseflow index	0.42
FSR slope (m/Km)	4.80
1941-70 rainfall (mm)	1193
FSR stream freq. (junctions/Km^2)	
FSR percentage urban	

Factors Affecting Flow Regime

- Reservoir(s) in catchment.
- Abstraction for public water supply.
- Augmentation from effluent returns.

Rainfall and Runoff

	Rainfall (mm) (1958-1987)					Runoff (mm) (1958-1987)				
	Mean	Max/Yr		Min/Yr		Mean	Max/Yr		Min/Yr	
Jan	129	242	1984	78	1963	116	201	1984	22	1963
Feb	84	173	1977	5	1986	82	160	1970	10	1959
Mar	91	183	1981	18	1961	67	169	1981	24	1984
Apr	71	145	1966	8	1984	46	105	1966	12	1974
May	73	146	1983	20	1961	51	120	1983	7	1976
Jun	68	164	1980	10	1975	17	52	1972	4	1984
Jul	71	152	1965	23	1976	15	76	1968	5	1984
Aug	87	160	1985	24	1983	19	62	1985	1	1976
Sep	92	247	1974	14	1959	24	150	1974	3	1959
Oct	116	278	1960	14	1978	62	251	1960	.3	1978
Nov	130	239	1963	56	1961	92	184	1963	11	1978
Dec	139	271	1965	41	1963	119	239	1965	43	1963
Annual	1151	1525	1960	893	1975	689	1055	1960	432	1964

Station and Catchment Description

Velocity-area station, main channel 34m wide, cableway span 54.9m. Rock step d/s forms the control. Bypassing begins at about 3.7m on the rb, but a good rating accommodates this. Significant modification to flows owing to PWS abstraction. Some naturalised flow data available.

Large rural catchment - drains both Dartmoor (granite) to the south and Devonian shales and sandstones of Exmoor to the north. Central area is underlain mainly by Culm shales and sandstones (Carboniferous). Agriculture is conditioned by the grade 3 and 4 soils.

Summary of Archived Data

Gauged Flows and Rainfall

Key:

	All rainfall	Some or no rainfall
All daily, all peaks	A	a
All daily, some peaks	B	b
All daily, no peaks	C	c
Some daily, all peaks	D	d
Some daily, some peaks	E	e
Some daily, no peaks	F	f
No gauged flow data	-	

	01234	56789
1950s	-----	---aA
1960s	AAAAA	AAAAA
1970s	AAAAA	AAAAA
1980s	AAAAA	AAA

Naturalised Flows

Key:

All daily, all monthly	A
All daily, some monthly	B
All daily, no monthly	C
Some daily, all monthly	D
Some daily, some monthly	E
Some daily, no monthly	F
No naturalised flow data	

	01234	56789
1950s	-----	---DA
1960s	AAAAA	AAAAA
1970s	AAAAA	AAAAA
1980s	AAAAA	AAAD

Concise Register of Gauging Stations

Station number	River name	Grid reference	Measuring authority	Area (sq km)
002001	Helmsdale	29 (NC) 997 181	HRPB	551.4
003001	* Shin	29 (NC) 581 062	NSHE	494.6
003002	Carron	28 (NH) 490 921	HRPB	241.1
003003	Oykel	29 (NC) 403 001	HRPB	330.7
003004	Cassley	29 (NC) 472 022	HRPB	187.5
003005	Shin	28 (NH) 574 974	HRPB	575.0
004001	Conon	28 (NH) 482 547	HRPB	961.8
004003	Alness	28 (NH) 654 695	HRPB	201.0
004004	Blackwater	28 (NH) 455 563	HRPB	336.7
004005	Meig	28 (NH) 286 528	HRPB	120.5
005001	* Beauly	28 (NH) 426 405	NSHE	849.5
005002	Farrar	28 (NH) 390 405	HRPB	311.3
006001	* Ness	28 (NH) 639 410	NSHE	1792.3
006003	* Moriston	28 (NH) 416 169	NSHE	391.0
006006	* Allt Bhlaraidh	28 (NH) 377 168	NSHE	27.5
006007	Ness	28 (NH) 645 427	HRPB	1839.1
006008	Enrick	28 (NH) 450 300	HRPB	105.9
007001	Findhorn	28 (NH) 826 337	HRPB	415.6
007002	Findhorn	38 (NJ) 018 583	HRPB	781.9
007003	Lossie	38 (NJ) 194 626	NERPB	216.0
007004	Nairn	28 (NH) 882 551	HRPB	313.0
007005	Divie	38 (NJ) 005 480	HRPB	165.0
007006	Lossie	38 (NJ) 135 489	NERPB	20.0
008001	* Spey	38 (NJ) 278 439	NERPB	2654.7
008002	Spey	28 (NH) 881 082	NERPB	1011.7
008003	* Spey	27 (NN) 759 996	NERPB	533.8
008004	Avon	38 (NJ) 186 352	NERPB	542.8
008005	Spey	28 (NH) 946 191	NERPB	1267.8
008006	Spey	38 (NJ) 318 518	NERPB	2861.2
008007	Spey	27 (NN) 687 962	NERPB	400.4
008008	Tromie	27 (NN) 789 995	NERPB	130.3
008009	Dulnain	28 (NH) 977 247	NERPB	272.2
008010	Spey	38 (NJ) 033 268	NERPB	1748.8
008011	Livet	38 (NJ) 201 291	NERPB	104.0
009001	Deveron	38 (NJ) 532 464	NERPB	441.6
009002	Deveron	38 (NJ) 705 498	NERPB	954.9
009003	Isla	38 (NJ) 494 506	NERPB	176.1
009004	Bogie	38 (NJ) 519 373	NERPB	179.0
009005	Allt Deveron	38 (NJ) 378 291	GRWD	67.0
010002	Ugie	48 (NK) 101 485	NERPB	325.0
010003	Ythan	38 (NJ) 947 303	NERPB	523.0
011001	Don	38 (NJ) 887 141	NERPB	1273.0
011002	Don	38 (NJ) 756 201	NERPB	787.0
011003	Don	38 (NJ) 566 170	NERPB	499.0
012001	Dee	37 (NO) 635 956	NERPB	1370.0
012002	Dee	37 (NO) 798 983	NERPB	1844.0
012003	Dee	37 (NO) 344 965	NERPB	690.0
012004	Girnock Burn	37 (NO) 324 956	NERPB	30.3
012005	Muick	37 (NO) 364 947	NERPB	110.0
012006	Gairn	37 (NO) 353 971	NERPB	150.0
012007	Dee	37 (NO) 098 895	NERPB	289.0
012008	Feugh	37 (NO) 687 928	NERPB	229.0
013001	Bervie	37 (NO) 826 733	NERPB	123.0
013002	Luther Water	37 (NO) 660 668	TRPB	138.0
013003	* South Esk	37 (NO) 583 593	TRPB	487.0
013004	Prosen Water	37 (NO) 396 586	TRPB	104.0
013005	Lunan Water	37 (NO) 655 494	TRPB	124.0
013007	North Esk	37 (NO) 699 640	TRPB	730.0
013008	South Esk	37 (NO) 600 596	TRPB	490.0
013009	West Water	37 (NO) 592 680	TRPB	127.2
014001	Eden	37 (NO) 415 158	TRPB	307.4
014002	Dighty Water	37 (NO) 477 324	TRPB	126.9
014005	Motray Water	37 (NO) 441 224	TRPB	52.0
015001	* Isla	37 (NO) 187 647	TRWS	70.7
015002	* Newton Burn	37 (NO) 230 605	TRWS	15.4
015003	Tay	37 (NO) 082 395	TRPB	3211.0
015004	* Inzion	37 (NO) 280 559	TRWS	24.7
015005	* Melgan	37 (NO) 275 558	TRWS	40.9
015006	Tay	37 (NO) 147 367	TRPB	4587.1
015007	Tay	27 (NN) 924 534	TRPB	1149.4
015008	Dean Water	37 (NO) 340 479	TRPB	177.1
015010	Isla	37 (NO) 295 466	TRPB	366.5
015011	Lyon	27 (NN) 786 486	TRPB	391.1
015012	Tummel	27 (NN) 940 577	TRPB	1649.0
015013	Almond	37 (NO) 067 258	TRPB	174.8
015015	Almond	27 (NN) 888 316	TRPB	84.0
015016	Tay	27 (NN) 782 467	TRPB	600.9
015017	* Braan	27 (NN) 979 406	TRPB	197.0
015018	* Lyon	27 (NN) 534 448	NSHE	161.4
015021	Lunan Burn	37 (NO) 182 400	TRPB	94.0
015023	Braan	37 (NO) 014 422	TRPB	210.0
015024	Dochart	27 (NN) 567 320	TRPB	239.0
015025	Ericht	37 (NO) 174 472	TRPB	432.0
015027	Garry Burn	37 (NO) 075 339	TRPB	20.0
016001	Earn	27 (NN) 933 167	TRPB	590.5
016002	* Earn	27 (NN) 754 216	TRPB	176.9
016003	Ruchill Water	27 (NN) 764 204	TRPB	99.5
016004	Earn	37 (NO) 043 184	TRPB	782.2
017001	Carron	26 (NS) 832 820	FRPB	122.3
017002	Leven	37 (NO) 369 006	FRPB	424.0
017003	Bonny Water	26 (NS) 824 804	FRPB	50.5
017004	Ore	36 (NT) 330 997	FRPB	162.0
017005	Avon	26 (NS) 952 797	FRPB	195.3
017008	South Queich	37 (NO) 122 015	ITE	33.7
017012	Red Burn	26 (NS) 788 780	FRPB	22.0
017016	Lochty Burn	36 (NT) 221 987	FRPB	14.0
017017	Greens Burn	37 (NO) 150 053	FRPB	7.9
018001	Allan Water	27 (NN) 792 053	FRPB	161.0
018002	Devon	26 (NS) 858 960	FRPB	181.0
018003	Teith	27 (NN) 725 011	FRPB	518.0
018005	Allan Water	26 (NS) 786 980	FRPB	210.0
018007	Devon	37 (NO) 011 018	FRPB	69.5
018008	Leny	27 (NN) 585 096	FRPB	190.0
018010	Forth	26 (NS) 714 953	FRPB	397.0
018011	Forth	26 (NS) 775 955	FRPB	1036.0
018012	Ardoch Burn	27 (NN) 729 008	FRPB	48.0
018013	* Black Devon	26 (NS) 914 924	FRPB	67.0
018014	Bannockburn	26 (NS) 812 908	FRPB	23.7
018016	Kelty Water	26 (NS) 468 968	FRPB	2.8
018017	Monachyle Burn	27 (NN) 475 230	IH	7.7
018018	Kirkton Burn	27 (NN) 532 219	IH	6.9
018019	Comer Burn	27 (NN) 386 043	FRPB	0.9
019001	Almond	36 (NT) 165 752	FRPB	369.0
019002	Almond	36 (NT) 004 652	FRPB	43.8
019003	* Breich Water	36 (NT) 014 639	FRPB	51.8
019004	North Esk	36 (NT) 252 616	FRPB	81.6
019005	Almond	36 (NT) 086 686	FRPB	229.0
019006	Water of Leith	36 (NT) 228 732	FRPB	107.0
019007	Esk	36 (NT) 339 723	FRPB	330.0
019008	South Esk	36 (NT) 325 623	FRPB	112.0
019010	Braid Burn	36 (NT) 273 707	FRPB	16.2
019011	North Esk	36 (NT) 333 678	FRPB	137.0
019012	Water of Leith	36 (NT) 212 688	FRPB	72.0
019014	Brox Burn	35 (NT) 114 732	FRPB	34.1
019017	Gogar Burn	36 (NT) 161 733	FRPB	38.8
020001	Tyne	36 (NT) 591 768	FRPB	307.0
020002	West Peffer Burn	36 (NT) 489 811	FRPB	26.2
020003	Tyne	36 (NT) 456 689	FRPB	161.0
020004	East Peffer Burn	36 (NT) 610 824	FRPB	31.1
020005	Birns Water	36 (NT) 457 688	FRPB	93.0
020006	Biel Water	36 (NT) 645 768	FRPB	51.8
020007	Gifford Water	36 (NT) 511 717	FRPB	64.0
020008	Brox Burn	36 (NT) 697 776	FRPB	19.7
021001	* Fruid Water	36 (NT) 088 205	LRWD	23.7
021002	* Whiteadder Water	36 (NT) 663 633	LRWD	45.6
021003	Tweed	36 (NT) 257 400	TWRP	694.0
021004	* Watch Water	36 (NT) 664 566	BRWD	10.7
021005	Tweed	36 (NT) 206 397	TWRP	373.0
021006	Tweed	36 (NT) 498 334	TWRP	1500.0
021007	Ettrick Water	36 (NT) 486 315	TWRP	499.0
021008	Teviot	36 (NT) 702 280	TWRP	1110.0
021009	Tweed	36 (NT) 898 477	TWRP	4390.0
021010	* Tweed	36 (NT) 588 320	TWRP	2080.0
021011	Yarrow Water	36 (NT) 439 277	TWRP	231.0
021012	Teviot	36 (NT) 522 159	TWRP	323.0
021013	Gala Water	36 (NT) 479 374	TWRP	207.0
021014	Tweed	36 (NT) 109 285	TWRP	139.0
021015	Leader Water	36 (NT) 565 388	TWRP	239.0
021016	Eye Water	36 (NT) 942 635	TWRP	119.0
021017	Ettrick Water	36 (NT) 234 132	TWRP	37.5
021018	Lyne Water	36 (NT) 209 401	TWRP	175.0
021019	Manor Water	36 (NT) 217 369	TWRP	61.6
021020	Yarrow Water	36 (NT) 309 247	TWRP	155.0
021021	Tweed	36 (NT) 752 354	TWRP	3330.0
021022	Whiteadder Water	36 (NT) 881 550	TWRP	503.0
021023	Leet Water	36 (NT) 839 396	TWRP	113.0
021024	Jed Water	36 (NT) 655 214	TWRP	139.0
021025	Ale Water	36 (NT) 634 244	TWRP	174.0
021026	Tima Water	36 (NT) 278 138	TWRP	31.0
021027	Blackadder Water	36 (NT) 826 530	TWRP	159.0
021030	Megget Water	36 (NT) 231 232	TWRP	56.2
021031	* Till	36 (NT) 927 396	NRA-N	648.0
021032	* Glen	36 (NT) 919 310	NRA-N	198.9
021034	Yarrow Water	36 (NT) 288 244	TWRP	116.0
022001	Coquet	46 (NU) 234 044	NRA-N	569.8
022002	* Coquet	36 (NT) 870 083	NRA-N	59.5
022003	* Usway Burn	36 (NT) 886 077	NRA-N	21.4
022004	* Aln	46 (NU) 211 129	NRA-N	205.0
022006	Blyth	45 (NZ) 243 800	NRA-N	269.4
022007	Wansbeck	45 (NZ) 175 858	NRA-N	287.3
022008	* Alwin	36 (NT) 925 063	NRA-N	27.7
022009	Coquet	46 (NU) 067 016	NRA-N	346.0
023001	Tyne	45 (NZ) 038 617	NRA-N	2175.6
023002	Derwent	45 (NZ) 041 508	NRA-N	118.0
023003	North Tyne	35 (NY) 906 732	NRA-N	1007.5
023004	South Tyne	35 (NY) 856 647	NRA-N	751.1
023005	North Tyne	35 (NY) 776 861	NRA-N	284.9
023006	South Tyne	35 (NY) 672 611	NRA-N	321.9
023007	Derwent	45 (NZ) 168 581	NRA-N	242.1
023008	Rede	35 (NY) 868 832	NRA-N	343.8
023009	* South Tyne	35 (NY) 716 465	NRA-N	118.5
023010	* Tarset Burn	35 (NY) 789 879	NRA-N	96.0
023011	Kielder Burn	35 (NY) 644 946	NRA-N	58.8
023012	* East Allen	35 (NY) 802 583	NRA-N	88.0
023013	* West Allen	35 (NY) 791 583	NRA-N	75.1
023014	* North Tyne	35 (NY) 631 931	NRA-N	27.0
023015	* North Tyne	35 (NY) 924 721	NGWC	1043.8
024001	Wear	45 (NZ) 264 376	NRA-N	657.8
024002	* Gaunless	45 (NZ) 215 306	NRA-N	93.0
024003	Wear	35 (NY) 984 391	NRA-N	171.9
024004	Bedburn Beck	45 (NZ) 118 322	NRA-N	74.9
024005	Browney	45 (NZ) 259 397	NRA-N	178.5
024006	* Rookhope Burn	35 (NY) 952 390	NRA-N	36.5
024007	* Browney	45 (NZ) 165 462	NRA-N	44.6
024008	Wear	45 (NZ) 174 309	NRA-N	455.0
024009	Wear	45 (NZ) 283 512	NRA-N	1008.3
025001	Tees	45 (NZ) 259 137	NRA-N	818.4
025002	* Tees	35 (NY) 932 260	NRA-N	217.3
025003	* Trout Beck	35 (NY) 759 336	NRA-N	11.4
025004	Skerne	45 (NZ) 284 129	NRA-N	250.1
025005	Leven	45 (NZ) 445 122	NRA-N	196.3
025006	Greta	45 (NZ) 034 122	NRA-N	86.1
025007	* Clow Beck	45 (NZ) 282 101	NRA-N	78.2
025008	* Tees	45 (NZ) 047 166	NRA-N	509.2
025009	Tees	45 (NZ) 364 105	NRA-N	1264.0
025010	* Baydale Beck	45 (NZ) 260 156	NRA-N	31.1
025011	* Langdon Beck	35 (NY) 852 309	NRA-N	13.0
025012	Harwood Beck	35 (NY) 849 309	NRA-N	25.1
025013	* Billingham Beck	45 (NZ) 408 237	NRA-N	61.4
025014	* Mordon Stell	45 (NZ) 323 274	NRA-N	2.5
025015	* Woodham Burn	45 (NZ) 285 263	NRA-N	29.1
025018	Tees	35 (NY) 950 250	NRA-N	242.1
025019	Leven	45 (NZ) 585 087	NRA-N	14.8
025020	Skerne	45 (NZ) 292 238	NRA-N	147.0
025021	Skerne	45 (NZ) 318 285	NRA-N	70.1

Station number	River name	Grid reference	Measuring authority	Area (sq km)
025022 •	Balder	35 (NY) 931 182	NRA-N	20.4
025023 •	Tees	35 (NY) 813 288	NRA-N	58.2
025024 •	Chapel Beck	45 (NZ) 599 163	NRA-N	13.4
026001 •	West Beck	54 (TA) 064 560	NRA-Y	192.0
026002	Hull	54 (TA) 080 498	NRA-Y	378.1
026003	Foston Beck	54 (TA) 093 548	NRA-Y	57.2
026004 •	Gypsey Race	54 (TA) 165 675	NRA-Y	253.8
026005	Gypsey Race	54 (TA) 137 677	NRA-Y	240.0
026006	Elmswell Beck	54 (TA) 009 575	NRA-Y	136.0
026007 •	Catchwater	54 (TA) 171 403	NRA-Y	15.5
026008	Mires Beck	44 (SE) 890 316	NRA-Y	
027001 •	Nidd	44 (SE) 428 530	NRA-Y	484.3
027002	Wharfe	44 (SE) 422 473	NRA-Y	758.9
027003	Aire	44 (SE) 534 255	NRA-Y	1932.1
027004 •	Calder	44 (SE) 365 220	NRA-Y	899.0
027006	Don	43 (SK) 390 910	NRA-Y	373.0
027007	Ure	44 (SE) 356 671	NRA-Y	914.6
027008 •	Swale	44 (SE) 415 748	NRA-Y	1345.6
027009	Ouse	44 (SE) 568 554	NRA-Y	3315.0
027010 •	Hodge Beck	44 (SE) 627 944	NRA-Y	18.9
027012 •	Hebden Water	34 (SD) 973 309	NRA-Y	36.0
027013 •	Ewden Beck	43 (SK) 289 957	NRA-Y	26.4
027014 •	Rye	44 (SE) 743 771	NRA-Y	679.0
027015 •	Derwent	44 (SE) 714 557	NRA-Y	1634.3
027018 •	Ryburn	44 (SE) 025 187	NRA-Y	10.7
027019 •	Booth Dean Clough	44 (SE) 033 166	NRA-Y	15.9
027021	Don	44 (SE) 569 040	NRA-Y	1256.2
027022 •	Don	43 (SK) 427 928	NRA-Y	826.0
027023	Dearne	44 (SE) 350 073	NRA-Y	118.9
027024 •	Swale	45 (NZ) 148 006	NRA-Y	381.0
027025	Rother	43 (SK) 432 857	NRA-Y	352.2
027026	Rother	43 (SK) 394 744	NRA-Y	165.0
027027 •	Wharfe	44 (SE) 112 481	NRA-Y	443.0
027028	Aire	44 (SE) 281 340	NRA-Y	691.5
027029	Calder	44 (SE) 124 219	NRA-Y	341.9
027030	Dearne	44 (SE) 477 020	NRA-Y	310.8
027031	Colne	44 (SE) 174 199	NRA-Y	245.0
027032	Hebden Beck	44 (SE) 025 643	NRA-Y	22.2
027033	Sea Cut	54 (TA) 028 908	NRA-Y	33.2
027034	Ure	44 (SE) 190 860	NRA-Y	510.2
027035	Aire	44 (SE) 013 457	NRA-Y	282.3
027036 •	Derwent	44 (SE) 789 715	NRA-Y	1421.0
027038	Costa Beck	44 (SE) 774 836	NRA-Y	7.8
027040	Doe Lea	43 (SK) 443 746	NRA-Y	67.9
027041	Derwent	44 (SE) 731 587	NRA-Y	1586.0
027042	Dove	44 (SE) 705 855	NRA-Y	59.2
027043	Wharfe	44 (SE) 092 494	NRA-Y	427.0
027044	Blackfoss Beck	44 (SE) 725 475	NRA-Y	47.0
027047	Snaizeholme Beck	34 (SD) 833 883	NRA-Y	10.2
027048	Derwent	44 (SE) 990 853	NRA-Y	127.0
027049	Rye	44 (SE) 696 791	NRA-Y	238.7
027050	Esk	45 (NZ) 865 081	NRA-Y	308.0
027051	Crimple	44 (SE) 284 519	NRA-Y	8.1
027052	Whiting	43 (SK) 376 747	NRA-Y	50.2
027053	Nidd	44 (SE) 230 603	NRA-Y	217.6
027054	Hodge Beck	44 (SE) 652 902	NRA-Y	37.1
027055	Rye	44 (SE) 560 883	NRA-Y	131.7
027056	Pickering Beck	44 (SE) 791 819	NRA-Y	68.8
027057	Seven	44 (SE) 736 821	NRA-Y	121.6
027058	Riccal	44 (SE) 661 810	NRA-Y	57.6
027059	Laver	44 (SE) 301 710	NRA-Y	87.5
027060	Kyle	44 (SE) 509 602	NRA-Y	167.6
027061	Colne	44 (SE) 136 161	NRA-Y	72.3
027062	Nidd	44 (SE) 482 561	NRA-Y	516.0
027064	Went	44 (SE) 551 163	NRA-Y	83.7
027065	Holme	44 (SE) 142 157	NRA-Y	97.4
027066	Blackburn Brook	43 (SK) 393 914	NRA-Y	42.8
027067	Sheaf	43 (SK) 357 863	NRA-Y	49.1
027068	Ryburn	44 (SE) 035 188	NRA-Y	33.0
027069	Wiske	44 (SE) 375 844	NRA-Y	215.5
027070	Eller Beck	14 (SB) 984 502	NRA-Y	35.3
027071	Swale	44 (SE) 425 734	NRA-Y	1363.0
027072	Worth	44 (SE) 064 408	NRA-Y	71.7
027073	Brompton Beck	44 (SE) 936 794	NRA-Y	12.9
027074	Spen Beck	44 (SE) 225 2[illegible]0	NRA-Y	46.3
027075	Bedale Beck	44 (SE) 308 902	NRA-Y	160.3
027076	Bielby Beck	44 (SE) 760 444	NRA-Y	103.1
027077	Bradford Beck	44 (SE) 151 375	NRA-Y	58.0
027080	Aire	44 (SE) 381 285	NRA-Y	
027082	Cundall Beck	44 (SE) 419 724	NRA-Y	
027083	Foss	44 (SE) 612 543	NRA-Y	
028001	Derwent	43 (SK) 198 851	NRA-ST	126.0
028002 •	Blithe	43 (SK) 109 192	NRA-ST	163.0
028003 •	Tame	42 (SP) 169 9[illegible]5	NRA-ST	408.0
028004 •	Tame	42 (SP) 206 935	NRA-ST	795.0
028005 •	Tame	43 (SK) 173 105	NRA-ST	1475.0
028006 •	Trent	33 (SJ) 994 231	NRA-ST	325.0
028007 •	Trent	43 (SK) 448 299	NRA-ST	4400.0
028008	Dove	43 (SK) 112 397	NRA-ST	399.0
028009	Trent	43 (SK) 620 399	NRA-ST	7486.0
028010	Derwent	43 (SK) 356 363	NRA-ST	1054.0
028011	Derwent	43 (SK) 298 586	NRA-ST	690.0
028012	Trent	43 (SK) 131 177	NRA-ST	1229.0
028013 •	Soar	43 (SK) 498 240	NRA-ST	1289.8
028014 •	Sow	33 (SJ) 975 2[illegible]5	NRA-ST	591.0
028015	Idle	43 (SK) 690 895	NRA-ST	529.0
028016 •	Ryton	43 (SK) 641 897	NRA-ST	231.0
028017 •	Devon	43 (SK) 787 476	NRA-ST	284.0
028018	Dove	43 (SK) 235 288	NRA-ST	883.2
028019	Trent	43 (SK) 239 204	NRA-ST	3072.0
028020 •	Churnet	43 (SK) 103 389	NRA-ST	236.0
028021 •	Derwent	43 (SK) 443 327	NRA-ST	1175.0
028022	Trent	43 (SK) 801 601	NRA-ST	8231.0
028023 •	Wye	43 (SK) 182 696	NRA-ST	154.0
028024	Wreake	43 (SK) 615 124	NRA-ST	413.8
028025 •	Sence	42 (SP) 321 996	NRA-ST	169.4
028026	Anker	43 (SK) 263 034	NRA-ST	368.0
028027 •	Erewash	43 (SK) 482 364	NRA-ST	182.2
028029 •	Kingston Brook	43 (SK) 503 277	NRA-ST	57.0
028030 •	Black Brook	43 (SK) 466 171	NRA-ST	8.4
028031	Manifold	43 (SK) 140 507	NRA-ST	148.5
028032 •	Meden	43 (SK) 558 680	NRA-ST	62.8
028033 •	Dove	43 (SK) 063 668	NRA-ST	8.0
028035 •	Leen	43 (SK) 549 392	NRA-ST	111.0
028036 •	Poulter	43 (SK) 700 752	NRA-ST	128.2
028038 •	Manifold	43 (SK) 106 595	NRA-ST	46.0
028039	Rea	42 (SP) 071 847	NRA-ST	74.0
028040	Trent	33 (SJ) 892 467	NRA-ST	53.2
028041 •	Hamps	43 (SK) 082 502	NRA-ST	35.1
028043	Derwent	43 (SK) 261 683	NRA-ST	335.0
028044 •	Poulter	43 (SK) 570 713	NRA-ST	32.2
028045 •	Meden	43 (SK) 681 732	NRA-ST	106.2
028046	Dove	43 (SK) 146 509	NRA-ST	83.0
028047 •	Oldcotes Dyke	43 (SK) 615 876	NRA-ST	85.2
028048	Amber	43 (SK) 378 520	NRA-ST	139.0
028049 •	Ryton	43 (SK) 575 794	NRA-ST	77.0
028050 •	Torne	44 (SE) 648 012	NRA-ST	135.5
028052	Sow	33 (SJ) 883 270	NRA-ST	163.0
028053 •	Penk	33 (SJ) 923 144	NRA-ST	272.0
028054 •	Sence	42 (SP) 566 985	NRA-ST	133.0
028055 •	Ecclesbourne	43 (SK) 320 447	NRA-ST	50.4
028056	Rothley Brook	43 (SK) 580 121	NRA-ST	94.0
028058 •	Henmore Brook	43 (SK) 176 463	NRA-ST	42.0
028059 •	Maun	43 (SK) 548 623	NRA-ST	28.8
028060 •	Dover Beck	43 (SK) 653 479	NRA-ST	69.0
028061	Churnet	33 (SJ) 983 520	NRA-ST	139.0
028062 •	Trent	43 (SK) 815 715	NRA-ST	8433.0
028065 •	Trent	43 (SK) 827 780	NRA-ST	8547.0
028066	Cole	42 (SP) 183 874	NRA-ST	130.0
028067	Derwent	43 (SK) 438 316	NRA-ST	1177.5
028070 •	Burbage Brook	43 (SK) 259 804	NRA-ST	9.1
028072 •	Greet	43 (SK) 711 541	NRA-ST	46.2
028073 •	Ashop	43 (SK) 171 896	NRA-ST	42.0
028075 •	Derwent	43 (SK) 169 951	NRA-ST	17.0
028079	Meece	33 (SJ) 874 291	NRA-ST	86.3
028080	Tame	42 (SP) 207 937	NRA-ST	799.0
028081	Tame	42 (SP) 012 958	NRA-ST	169.0
028082	Soar	42 (SP) 542 973	NRA-ST	183.9
028083	Trent	33 (SJ) 885 355	NRA-ST	195.2
028085	Derwent	43 (SK) 355 368	NRA-ST	1054.0
028086	Sence	42 (SP) 588 977	NRA-ST	113.0
028091	Ryton	43 (SK) 631 871	NRA-ST	231.0
028093	Soar	43 (SK) 565 182	NRA-ST	1108.4
028094	Blythe	42 (SP) 213 888	NRA-ST	183.8
028095	Tame	43 (SK) 182 052	NRA-ST	1421.7
028101	Tame	32 (SO) 974 918	NRA-ST	27.9
028102	Blythe	42 (SP) 212 911	NRA-ST	194.3
029001	Waithe Beck	54 (TA) 253 016	NRA-A	108.3
029002	Great Eau	53 (TF) 416 793	NRA-A	77.4
029003	Lud	53 (TF) 337 879	NRA-A	55.2
029004	Ancholme	53 (TF) 032 911	NRA-A	54.7
029005	Rase	53 (TF) 032 912	NRA-A	66.6
029009	Ancholme	53 (TF) 033 877	NRA-A	27.2
030001	Witham	43 (SK) 842 480	NRA-A	297.9
030002	Barlings Eau	53 (TF) 066 766	NRA-A	210.1
030003	Bain	53 (TF) 241 611	NRA-A	197.1
030004	Partney Lymn	53 (TF) 402 676	NRA-A	61.6
030005	Witham	43 (SK) 927 335	NRA-A	126.1
030006	Slea	53 (TF) 088 485	NRA-A	48.4
030011	Bain	53 (TF) 246 795	NRA-A	62.5
030012	Stainfield Beck	53 (TF) 127 739	NRA-A	37.4
030013	Heighington Beck	53 (TF) 042 696	NRA-A	21.2
030014	Pointon Lode	53 (TF) 128 313	NRA-A	11.9
030015	Cringle Brook	43 (SK) 925 297	NRA-A	50.5
030017	Witham	43 (SK) 929 246	NRA-A	51.3
031001	Eye Brook	42 (SP) 853 941	CDWC	60.1
031002	Glen	53 (TF) 106 149	NRA-A	341.9
031005	Welland	42 (SP) 970 997	NRA-A	417.0
031006	Gwash	53 (TF) 038 097	NRA-A	150.0
031007	Welland	42 (SP) 948 999	NRA-A	411.6
031010	Chater	43 (SK) 961 030	NRA-A	68.9
031012	Tham	53 (TF) 016 179	NRA-A	24.9
031016	North Brook	43 (SK) 957 089	NRA-A	36.5
031021	Welland	42 (SP) 819 915	NRA-A	250.7
031023	West Glen	43 (SK) 965 258	NRA-A	4.4
031025	Gwash South Arm	43 (SK) 875 051	NRA-A	24.5
031026	Egleton Brook	43 (SK) 878 073	NRA-A	2.5
031028	Gwash	43 (SK) 951 082	NRA-A	76.5
032001	Nene	52 (TL) 166 972	NRA-A	1634.3
032002	Willow Brook	52 (TL) 067 933	NRA-A	89.6
032003	Harpers Brook	42 (SP) 983 799	NRA-A	74.3
032004	Ise Brook	42 (SP) 898 715	NRA-A	194.0
032006	Nene/Kislingbury	42 (SP) 721 597	NRA-A	223.0
032007	Nene Brampton	42 (SP) 747 617	NRA-A	232.8
032008	Nene/Kislingbury	42 (SP) 627 607	NRA-A	107.0
032029 •	Flore	42 (SP) 660 610	NRA-A	7.0
032031	Wootton Brook	42 (SP) 726 577	NRA-A	73.9
033001 •	Bedford Ouse	52 (TL) 369 727	NRA-A	3030.0
033002	Bedford Ouse	52 (TL) 055 495	NRA-A	1460.0
033003	Cam	52 (TL) 508 657	NRA-A	803.0
033004	Lark	52 (TL) 648 760	NRA-A	466.2
033005	Bedford Ouse	42 (SP) 736 353	NRA-A	388.5
033006	Wissey	52 (TL) 771 965	NRA-A	274.5
033007	Nar	53 (TF) 723 119	NRA-A	153.3
033008 •	Little Ouse	52 (TL) 860 832	NRA-A	699.0
033009	Bedford Ouse	42 (SP) 951 565	NRA-A	1320.0
033011	Little Ouse	52 (TL) 892 801	NRA-A	128.7
033012	Kym	52 (TL) 155 631	NRA-A	137.5
033013	Sapiston	52 (TL) 896 791	NRA-A	205.9
033014	Lark	52 (TL) 758 730	NRA-A	272.0
033015	Ouzel	42 (SP) 882 408	NRA-A	277.1
033016 •	Cam	52 (TL) 450 593	NRA-A	761.5
033018	Tove	42 (SP) 714 488	NRA-A	138.1
033019	Thet	52 (TL) 880 830	NRA-A	316.0
033020	Alconbury Brook	52 (TL) 208 717	NRA-A	201.5
033021	Rhee	52 (TL) 415 523	NRA-A	303.0
033022	Ivel	52 (TL) 153 509	NRA-A	541.3
033023	Lea Brook	52 (TL) 662 733	NRA-A	101.8
033024	Cam	52 (TL) 466 506	NRA-A	198.0
033025 •	Babingley	53 (TF) 696 256	NRA-A	39.5
033026	Bedford Ouse	52 (TL) 216 669	NRA-A	2570.0
033027	Rhee	52 (TL) 333 485	NRA-A	119.1
033028	Flit	52 (TL) 143 393	NRA-A	119.6
033029	Stringside	53 (TF) 716 006	NRA-A	98.8
033030 •	Clipstone Brook	42 (SP) 933 255	NRA-A	40.2
033031	Broughton Brook	42 (SP) 889 408	NRA-A	66.6
033032	Heacham	53 (TF) 685 375	NRA-A	59.0
033033	Hiz	52 (TL) 190 379	NRA-A	108.0
033034	Little Ouse	52 (TL) 851 844	NRA-A	699.3
033035	Ely Ouse	53 (TF) 588 010	NRA-A	3430.0

Station number	River name	Grid reference	Measuring authority	Area (sq km)
033037	Bedford Ouse	42 (SP) 877 443	NRA-A	800.0
033039	Bedford Ouse	52 (TL) 160 535	NRA-A	1660.0
033040	Rhee	52 (TL) 287 401	NRA-A	
033044	Thet	52 (TL) 957 855	NRA-A	277.8
033045	Wittle	62 (TM) 027 878	NRA-A	28.3
033046	Thet	52 (TL) 996 923	NRA-A	145.3
033048	Larling Brook	52 (TL) 928 907	NRA-A	21.4
033049	* Stanford Water	52 (TL) 834 953	NRA-A	43.5
033050	Snail	52 (TL) 631 703	NRA-A	60.6
033051	Cam	52 (TL) 505 426	NRA-A	141.0
033052	Swaffham Lode	52 (TL) 553 628	NRA-A	36.4
033053	Granta	52 (TL) 471 515	NRA-A	114.0
033054	Babingley	53 (TF) 680 252	NRA-A	47.7
033055	Granta	52 (TL) 510 504	NRA-A	98.7
033056	Quy Water	52 (TL) 531 627	NRA-A	76.4
033057	Ouzel	42 (SP) 917 241	NRA-A	119.0
033058	Ouzel	42 (SP) 883 322	NRA-A	215.0
033059	* Cut-off Channel	52 (TL) 729 757	NRA-A	
033060	Kings Dike	52 (TL) 208 973	NRA-A	
033062	Guilden Brook	52 (TL) 403 457	NRA-A	
033063	Little Ouse	52 (TL) 955 807	NRA-A	101.0
033064	Whaddon Brook	52 (TL) 359 466	NRA-A	16.0
033065	Hiz	52 (TL) 185 290	NRA-A	6.8
033066	Granta	52 (TL) 570 464	NRA-A	59.8
033067	New River	52 (TL) 608 696	NRA-A	19.6
033068	Cheney Water	52 (TL) 296 411	NRA-A	5.0
034001	Yare	63 (TG) 182 082	NRA-A	231.8
034002	Tas	62 (TM) 226 994	NRA-A	146.5
034003	Bure	63 (TG) 192 296	NRA-A	164.7
034004	Wensum	63 (TG) 177 128	NRA-A	536.1
034005	Tud	63 (TG) 170 113	NRA-A	73.2
034006	Waveney	62 (TM) 229 811	NRA-A	370.0
034007	Dove	62 (TM) 174 772	NRA-A	133.9
034008	Ant	63 (TG) 331 270	NRA-A	49.3
034010	Waveney	62 (TM) 168 782	NRA-A	149.4
034011	Wensum	53 (TF) 919 294	NRA-A	127.1
034012	Burn	53 (TF) 842 428	NRA-A	80.0
034013	* Waveney	62 (TM) 364 917	NRA-A	670.0
034014	Wensum	63 (TG) 020 184	NRA-A	363.0
034018	Stiffkey	53 (TF) 944 414	NRA-A	77.1
034019	Bure	63 (TG) 267 194	NRA-A	313.0
035001	Gipping	62 (TM) 154 441	NRA-A	310.8
035002	Deben	62 (TM) 322 534	NRA-A	163.1
035003	Alde	62 (TM) 360 601	NRA-A	63.9
035004	Ore	62 (TM) 359 583	NRA-A	54.9
035008	Gipping	62 (TM) 058 578	NRA-A	128.9
035010	Gipping	62 (TM) 127 465	NRA-A	298.0
035013	Blyth	62 (TM) 406 769	NRA-A	92.9
036001	Stour	62 (TM) 042 340	EWC	844.3
036002	Glem	52 (TL) 846 472	NRA-A	87.3
036003	Box	52 (TL) 985 378	NRA-A	53.9
036004	Chad Brook	52 (TL) 868 459	NRA-A	47.4
036005	Brett	62 (TM) 025 429	NRA-A	156.0
036006	Stour	62 (TM) 020 344	NRA-A	578.0
036007	Belchamp Brook	52 (TL) 848 421	NRA-A	58.6
036008	Stour	52 (TL) 827 463	NRA-A	224.5
036009	Brett	52 (TL) 914 525	NRA-A	25.7
036010	Bumpstead Brook	52 (TL) 689 418	NRA-A	28.3
036011	Stour Brook	52 (TL) 696 441	NRA-A	34.5
036012	Stour	52 (TL) 708 450	NRA-A	76.2
036013	Brett	62 (TM) 032 354	NRA-A	195.0
036015	Stour	52 (TL) 897 358	NRA-A	480.7
036016	* Ramsey	62 (TM) 206 288	NRA-A	13.9
036017	* Ely Ouse Outfall	52 (TL) 681 559	NRA-A	
037001	Roding	51 (TQ) 415 884	NRA-T	303.3
037002	Chelmer	52 (TL) 794 090	NRA-A	533.9
037003	Ter	52 (TL) 786 107	NRA-A	77.8
037005	Colne	52 (TL) 962 261	NRA-A	238.2
037006	Can	52 (TL) 690 072	NRA-A	228.4
037007	Wid	52 (TL) 686 060	NRA-A	136.3
037008	Chelmer	52 (TL) 713 071	NRA-A	190.3
037009	Brain	52 (TL) 818 147	NRA-A	60.7
037010	Blackwater	52 (TL) 845 158	NRA-A	247.3
037011	Chelmer	52 (TL) 629 233	NRA-A	72.6
037012	Colne	52 (TL) 771 364	NRA-A	65.1
037013	Sandon Brook	52 (TL) 755 055	NRA-A	60.6
037014	Roding	52 (TL) 561 040	NRA-T	95.1
037015	Cripsey Brook	52 (TL) 548 035	NRA-A	62.2
037016	Pant	52 (TL) 668 313	NRA-A	62.5
037017	Blackwater	52 (TL) 793 243	NRA-A	139.2
037018	Ingrebourne	51 (TQ) 553 862	NRA-T	47.9
037019	Beam	51 (TQ) 515 853	NRA-T	49.7
037020	Chelmer	52 (TL) 670 193	NRA-A	132.1
037021	Roman	52 (TL) 985 205	NRA-A	52.6
037022	Holland Brook	62 (TM) 179 212	NRA-A	54.9
037023	* Roding	51 (TQ) 442 955	NRA-T	269.0
037024	Colne	52 (TL) 855 298	NRA-A	154.2
037025	* Bourne Brook	52 (TL) 822 276	NRA-A	32.1
037026	* Tenpenny Brook	62 (TM) 079 207	NRA-A	29.0
037027	* Sixpenny Brook	62 (TM) 054 214	NRA-A	5.1
037028	* Bentley Brook	62 (TM) 109 193	NRA-A	12.1
037029	* St Osyth Brook	62 (TM) 134 159	NRA-A	8.0
037030	* Holland Brook	62 (TM) 171 217	NRA-A	48.6
037031	Crouch	51 (TQ) 748 934	NRA-A	71.8
037033	Eastwood Brook	51 (TQ) 859 888	NRA-A	10.4
037034	Mardyke	51 (TQ) 596 806	NRA-A	90.7
037036	Ely Ouse Outfall	52 (TL) 646 351	NRA-A	
037037	Toppesfield Brook	52 (TL) 675 377	NRA-A	1.3
037038	* Wid	52 (TL) 672 000	NRA-A	98.6
037039	Blackwater	52 (TL) 835 090	NRA-A	337.0
038001	Lee	52 (TL) 390 092	NRA-T	1036.0
038002	Ash	52 (TL) 393 148	NRA-T	78.7
038003	Mimram	52 (TL) 282 133	NRA-T	133.9
038004	Rib	52 (TL) 360 174	NRA-T	136.5
038005	* Ash	52 (TL) 380 138	NRA-T	85.2
038006	* Rib	52 (TL) 335 158	NRA-T	148.1
038007	Canons Brook	52 (TL) 431 104	NRA-T	21.4
038011	* Mimram	52 (TL) 225 169	NRA-T	98.7
038012	Stevenage Brook	52 (TL) 274 211	NRA-T	36.0
038013	Upper Lee	52 (TL) 118 185	NRA-T	70.7
038014	Salmon Brook	51 (TQ) 343 937	NRA-T	20.5
038015	* Intercepting Drain	51 (TQ) 355 932	NRA-T	7.4
038016	Stansted Springs	52 (TL) 500 246	NRA-T	20.5
038017	Mimram	52 (TL) 184 212	NRA-T	39.1
038018	Upper Lee	52 (TL) 299 099	NRA-T	150.0
038020	Cobbins Brook	51 (TQ) 387 999	NRA-T	38.4
038021	Turkey Brook	51 (TQ) 359 985	NRA-T	42.2
038022	Pymmes Brook	51 (TQ) 340 925	NRA-T	42.6
038023	Lee flood relief	51 (TQ) 356 880	NRA-T	1243.0
038024	Small River Lee	51 (TQ) 370 988	NRA-T	41.5
038026	Pincey Brook	52 (TL) 495 128	NRA-T	54.6
038027	Stort	52 (TL) 393 093	NRA-T	280.2
038028	Stansted Brook	52 (TL) 506 241	NRA-T	25.9
038029	Quin	52 (TL) 392 248	NRA-T	50.4
038030	Beane	52 (TL) 325 131	NRA-T	175.1
039001	Thames	51 (TQ) 177 698	NRA-T	9948.0
039002	Thames	41 (SU) 568 935	NRA-T	3444.7
039003	Wandle	51 (TQ) 265 705	NRA-T	176.1
039004	Wandle	51 (TQ) 296 655	NRA-T	122.0
039005	Beverley Brook	51 (TQ) 216 717	NRA-T	43.6
039006	Windrush	42 (SP) 402 019	NRA-T	362.6
039007	Blackwater	41 (SU) 731 648	NRA-T	354.8
039008	Thames	42 (SP) 445 087	NRA-T	1616.2
039010	Colne	51 (TQ) 052 864	NRA-T	743.0
039011	Wey	41 (SU) 874 433	NRA-T	396.3
039012	Hogsmill	51 (TQ) 182 688	NRA-T	69.1
039013	Colne	51 (TQ) 123 982	NRA-T	352.2
039014	Ver	52 (TL) 151 016	NRA-T	132.0
039016	Kennet	41 (SU) 649 708	NRA-T	1033.4
039017	Ray	42 (SP) 680 211	NRA-T	18.6
039019	Lambourn	41 (SU) 470 682	NRA-T	234.1
039020	Coln	42 (SP) 122 062	NRA-T	106.7
039021	Cherwell	42 (SP) 482 183	NRA-T	551.7
039022	Loddon	41 (SU) 720 652	NRA-T	164.5
039023	Wye	41 (SU) 896 867	NRA-T	137.3
039025	Enborne	41 (SU) 568 648	NRA-T	147.6
039026	Cherwell	42 (SP) 458 411	NRA-T	199.4
039027	Pang	41 (SU) 634 766	NRA-T	170.9
039028	Dun	41 (SU) 321 685	NRA-T	101.3
039029	Tillingbourne	51 (TQ) 000 478	NRA-T	59.0
039030	Gade	51 (TQ) 082 952	NRA-T	184.0
039031	* Lambourn	41 (SU) 411 731	NRA-T	176.0
039032	* Lambourn	41 (SU) 390 745	NRA-T	154.0
039033	Winterbourne St	41 (SU) 453 694	NRA-T	49.2
039034	Evenlode	42 (SP) 448 099	NRA-T	430.0
039035	Churn	41 (SU) 076 963	NRA-T	124.3
039036	Law Brook	51 (TQ) 045 468	NRA-T	16.0
039037	Kennet	41 (SU) 187 686	NRA-T	142.0
039038	Thame	42 (SP) 670 055	NRA-T	443.0
039040	Thames	41 (SU) 094 942	NRA-T	185.0
039042	Leach	41 (SU) 227 994	NRA-T	76.9
039043	Kennet	41 (SU) 295 710	NRA-T	295.0
039044	Hart	41 (SU) 755 593	NRA-T	84.0
039046	Thames	41 (SU) 516 946	NRA-T	3414.0
039049	Silk Stream	51 (TQ) 217 895	NRA-T	29.0
039051	* Sor Brook	42 (SP) 475 346	NRA-T	106.4
039052	The Cut	41 (SU) 853 713	NRA-T	50.2
039053	Mole	51 (TQ) 271 434	NRA-T	89.9
039054	Mole	51 (TQ) 260 399	NRA-T	31.8
039055	Yeading Bk West	51 (TQ) 083 846	NRA-T	17.6
039056	Ravensbourne	51 (TQ) 372 732	NRA-T	67.6
039057	Crane	51 (TQ) 103 778	NRA-T	61.7
039058	Pool	51 (TQ) 371 725	NRA-T	38.3
039061	Letcombe Brook	41 (SU) 375 853	NRA-T	2.7
039065	Ewelme Brook	41 (SU) 642 918	NRA-T	13.4
039068	Mole	51 (TQ) 179 502	NRA-T	316.0
039069	Mole	51 (TQ) 262 462	NRA-T	142.0
039071	Thames	41 (SU) 007 973	NRA-T	63.7
039072	Thames	41 (SU) 982 773	NRA-T	7046.0
039073	Churn	42 (SP) 020 028	NRA-T	84.0
039074	Ampney Brook	41 (SU) 105 950	NRA-T	74.4
039075	Marston Meysey Bk	41 (SU) 128 964	NRA-T	25.0
039076	Windrush	42 (SP) 299 107	NRA-T	296.0
039077	Og	41 (SU) 194 697	NRA-T	59.2
039078	Wey(north)	41 (SU) 838 465	NRA-T	191.1
039079	Wey	51 (TQ) 068 641	NRA-T	1008.0
039081	Ock	41 (SU) 481 966	NRA-T	234.0
039085	* Wandle	51 (TQ) 266 703	NRA-T	176.1
039086	Gatwick Stream	51 (TQ) 285 417	NRA-T	33.6
039087	Ray	41 (SU) 121 935	NRA-T	84.1
039088	Chess	51 (TQ) 066 947	NRA-T	105.0
039089	Gade	52 (TL) 053 077	NRA-T	48.2
039090	* Cole	41 (SU) 208 970	NRA-T	140.0
039091	* Misbourne	41 (SU) 975 963	NRA-T	66.3
039092	Dollis Brook	51 (TQ) 240 895	NRA-T	25.1
039093	Brent	51 (TQ) 202 850	NRA-T	117.6
039094	Crane	51 (TQ) 154 734	NRA-T	81.0
039095	Quaggy	51 (TQ) 394 748	NRA-T	
039096	Wealdstone Brook	51 (TQ) 192 862	NRA-T	21.7
039097	Thames	41 (SU) 230 981	NRA-T	997.0
039098	Pinn	51 (TQ) 062 826	NRA-T	33.3
039099	Ampney Brook	42 (SP) 076 013	NRA-T	45.3
039100	Swill Brook	31 (ST) 997 927	NRA-T	53.3
039101	Aldbourne	41 (SU) 288 717	NRA-T	53.1
039102	Misbourne	51 (TQ) 046 866	NRA-T	136.0
040001	* Medway	51 (TQ) 407 353	SW	26.9
040002	* Darwell	51 (TQ) 722 213	SW	9.6
040003	Medway	51 (TQ) 708 530	NRA-S	1256.1
040004	Rother	51 (TQ) 773 245	NRA-S	206.0
040005	Beult	51 (TQ) 758 478	NRA-S	277.1
040006	Bourne	51 (TQ) 632 497	NRA-S	50.3
040007	Medway	51 (TQ) 517 405	NRA-S	255.1
040008	Great Stour	61 (TR) 049 470	NRA-S	230.0
040009	Teise	51 (TQ) 718 399	NRA-S	136.2
040010	Eden	51 (TQ) 520 437	NRA-S	224.3
040011	Great Stour	61 (TR) 116 554	NRA-S	345.0
040012	Darent	51 (TQ) 551 718	NRA-T	191.4
040013	Darent	51 (TQ) 525 584	NRA-T	100.5
040014	* Wingham	61 (TR) 276 576	NRA-S	37.7
040015	White Drain	61 (TR) 055 606	NRA-S	31.8
040016	Cray	51 (TQ) 511 746	NRA-T	119.7
040017	Dudwell	51 (TQ) 679 240	NRA-S	27.5
040018	Darent	51 (TQ) 530 643	NRA-T	118.4
040020	Eridge Stream	51 (TQ) 522 367	NRA-S	53.7
040021	* Hexden Channel	51 (TQ) 813 290	NRA-S	32.4
040022	* Great Stour	51 (TQ) 973 423	NRA-S	72.5
040023	East Stour	61 (TR) 015 407	NRA-S	58.8
040024	* Bartley Mill St	51 (TQ) 633 357	NRA-S	25.1
041001	Nunningham Stream	51 (TQ) 662 129	NRA-S	16.9
041002	Ash Bourne	51 (TQ) 684 141	NRA-S	18.4

Station number	River name	Grid reference	Measuring authority	Area (sq km)
041003	Cuckmere	51 (TQ) 533 051	NRA-S	134.7
041004	Ouse	51 (TQ) 433 148	NRA-S	395.7
041005	Ouse	51 (TQ) 429 214	NRA-S	180.9
041006	Uck	51 (TQ) 459 190	NRA-S	87.8
041009	* Rother	51 (TQ) 034 178	NRA-S	345.8
041010	Adur W Branch	51 (TQ) 178 197	NRA-S	109.1
041011	Rother	41 (SU) 852 229	NRA-S	154.0
041012	Adur E Branch	51 (TQ) 219 190	NRA-S	93.3
041013	Huggletts Stream	51 (TQ) 671 138	NRA-S	14.2
041014	Arun	51 (TQ) 047 229	NRA-S	379.0
041015	Ems	41 (SU) 755 074	NRA-S	58.3
041016	Cuckmere	51 (TQ) 611 150	NRA-S	18.7
041017	Combehaven	51 (TQ) 765 107	NRA-S	30.5
041018	Kird	51 (TQ) 044 256	NRA-S	66.8
041019	Arun	51 (TQ) 117 331	NRA-S	139.0
041020	Bevern Stream	51 (TQ) 423 161	NRA-S	34.6
041021	Clayhill Stream	51 (TQ) 448 153	NRA-S	7.1
041022	Lod	41 (SU) 931 223	NRA-S	52.0
041023	Lavant	41 (SU) 871 064	NRA-S	87.2
041024	Shell Brook	51 (TQ) 335 286	NRA-S	22.6
041025	Loxwood Stream	51 (TQ) 060 309	NRA-S	91.6
041026	Cockhaise Brook	51 (TQ) 376 262	NRA-S	36.1
041027	Rother	41 (SU) 772 270	NRA-S	37.2
041028	Chess Stream	51 (TQ) 217 173	NRA-S	24.0
041029	Bull	51 (TQ) 575 131	NRA-S	40.8
041030	Ouse	51 (TQ) 333 283	NRA-S	37.2
042001	Wallington	41 (SU) 587 075	NRA-S	111.0
042003	Lymington	41 (SU) 318 019	NRA-S	98.9
042004	Test	41 (SU) 354 188	NRA-S	1040.0
042005	Wallop Brook	41 (SU) 311 330	NRA-S	53.6
042006	Meon	41 (SU) 589 141	NRA-S	72.8
042007	Alre	41 (SU) 574 326	NRA-S	57.0
042008	Cheriton Stream	41 (SU) 574 323	NRA-S	75.1
042009	Candover Stream	41 (SU) 568 323	NRA-S	71.2
042010	Itchen	41 (SU) 467 213	NRA-S	360.0
042011	Hamble	41 (SU) 523 149	NRA-S	56.6
042012	Anton	41 (SU) 379 393	NRA-S	185.0
042014	Blackwater	41 (SU) 328 174	NRA-S	104.7
042015	Dever	41 (SU) 496 394	NRA-S	52.7
042016	* Itchen	41 (SU) 512 325	NRA-S	236.8
042018	Monks Brook	41 (SU) 443 179	NRA-S	43.3
042020	Tadburn Lake	41 (SU) 362 212	NRA-S	19.0
042021	* Branch of Test	41 (SU) 355 159	NRA-S	1050.0
043001	* Avon	41 (SU) 142 054	NRA-W	1649.8
043003	* Avon	41 (SU) 158 154	NRA-W	1477.8
043004	Bourne	41 (SU) 157 304	NRA-W	163.6
043005	Avon	41 (SU) 151 413	NRA-W	323.7
043006	Nadder	41 (SU) 098 308	NRA-W	220.6
043007	Stour	40 (SZ) 113 958	NRA-W	1073.0
043008	Wylye	41 (SU) 086 343	NRA-W	445.4
043009	Stour	31 (ST) 820 147	NRA-W	523.1
043010	* Allen	41 (SU) 006 085	NRA-W	94.0
043011	* Ebble	41 (SU) 162 263	NRA-W	109.0
043012	Wylye	31 (ST) 909 428	NRA-W	112.4
043013	* Mude	40 (SZ) 184 936	NRA-W	12.4
043014	East Avon	41 (SU) 133 559	NRA-W	86.2
043015	* Wylye	31 (ST) 868 413	NRA-W	69.0
043017	West Avon	41 (SU) 133 559	NRA-W	76.0
043018	Allen	41 (SU) 008 007	NRA-W	176.5
043019	Shreen Water	31 (ST) 807 278	NRA-W	29.1
043021	Avon	40 (SZ) 155 943	NRA-W	1706.0
044001	* Frome	30 (SY) 866 867	NRA-W	414.4
044002	Piddle	30 (SY) 913 876	NRA-W	183.1
044003	* Asker	30 (SY) 470 928	NRA-W	49.1
044004	* Frome	30 (SY) 708 903	NRA-W	206.0
044006	Sydling Water	30 (SY) 632 997	NRA-W	12.4
044008	* Sth Winterbourne	30 (SY) 629 897	NRA-W	19.9
044009	Wey	30 (SY) 666 839	NRA-W	7.0
045001	Exe	21 (SS) 936 016	NRA-SW	600.9
045002	Exe	21 (SS) 943 178	NRA-SW	421.7
045003	Culm	31 (ST) 021 058	NRA-SW	226.1
045004	Axe	30 (SY) 262 953	NRA-SW	288.5
045005	Otter	30 (SY) 087 885	NRA-SW	202.5
045006	* Quarme	21 (SS) 919 356	NRA-SW	20.4
045008	Otter	30 (SY) 115 986	NRA-SW	104.2
045009	Exe	21 (SS) 935 260	NRA-SW	147.6
045010	* Haddeo	21 (SS) 952 294	NRA-SW	50.0
045011	* Barle	21 (SS) 927 258	NRA-SW	128.0
045012	Creedy	20 (SX) 901 967	NRA-SW	261.6
046002	Teign	20 (SX) 856 746	NRA-SW	380.0
046003	Dart	20 (SX) 751 659	NRA-SW	247.6
046005	East Dart	20 (SX) 657 775	NRA-SW	21.5
046006	Erme	20 (SX) 642 532	NRA-SW	43.5
046007	* West Dart	20 (SX) 643 742	NRA-SW	47.9
046008	* Avon	20 (SX) 719 476	NRA-SW	102.3
047001	Tamar	20 (SX) 426 725	NRA-SW	916.9
047003	* Tavy	20 (SX) 474 650	NRA-SW	205.9
047004	Lynher	20 (SX) 368 624	NRA-SW	135.5
047005	* Ottery	20 (SX) 336 866	NRA-SW	120.7
047006	* Lyd	20 (SX) 388 842	NRA-SW	218.1
047007	Yealm	20 (SX) 574 511	NRA-SW	54.9
047008	Thrushel	20 (SX) 398 856	NRA-SW	112.7
047009	Tiddy	20 (SX) 343 595	NRA-SW	37.2
047010	Tamar	20 (SX) 290 991	NRA-SW	76.7
047011	* Plym	20 (SX) 522 613	NRA-SW	79.2
047013	Withey Brook	20 (SX) 244 763	NRA-SW	16.2
047014	Walkham	20 (SX) 513 699	NRA-SW	43.2
047015	* Tavy	20 (SX) 476 681	NRA-SW	197.3
047016	Lumburn	20 (SX) 459 731	NRA-SW	20.5
047017	Wolf	20 (SX) 419 898	NRA-SW	31.1
048001	Fowey	20 (SX) 227 698	NRA-SW	36.8
048002	* Fowey	20 (SX) 108 613	NRA-SW	171.2
048003	Fal	10 (SW) 921 447	NRA-SW	87.0
048004	Warleggan	20 (SX) 159 674	NRA-SW	25.3
048005	Kenwyn	10 (SW) 820 450	NRA-SW	19.1
048006	Cober	10 (SW) 654 273	NRA-SW	40.1
048007	Kennall	10 (SW) 762 377	NRA-SW	26.6
048009	* St Neot	20 (SX) 184 662	NRA-SW	22.7
048010	Seaton	20 (SX) 299 596	NRA-SW	38.1
048011	Fowey	20 (SX) 098 624	NRA-SW	169.1
049001	Camel	20 (SX) 017 682	NRA-SW	208.8
049002	Hayle	10 (SW) 549 342	NRA-SW	48.9
049003	De Lank	20 (SX) 132 765	NRA-SW	21.7
049004	Gannel	10 (SW) 829 593	NRA-SW	41.0
050001	Taw	21 (SS) 608 237	NRA-SW	826.2
050002	Torridge	21 (SS) 500 185	NRA-SW	663.0
050004	* Hole Water	21 (SS) 705 373	NRA-SW	5.4
050005	West Okement	20 (SX) 557 903	NRA-SW	13.3
050006	Mole	21 (SS) 660 211	NRA-SW	327.5
050007	Taw	21 (SS) 673 068	NRA-SW	71.4
051001	Doniford Stream	31 (ST) 088 428	NRA-W	75.8
051002	* Horner Water	21 (SS) 898 458	NRA-W	20.8
051003	Washford	31 (ST) 040 395	NRA-W	36.3
052001	* Axe	31 (ST) 527 458	NRA-W	18.2
052002	* Yeo	31 (ST) 556 116	NRA-W	30.3
052003	Halse Water	31 (ST) 206 253	NRA-W	87.8
052004	Isle	31 (ST) 361 188	NRA-W	90.1
052005	Tone	31 (ST) 206 250	NRA-W	202.0
052006	Yeo	31 (ST) 573 162	NRA-W	213.1
052007	Parrett	31 (ST) 461 144	NRA-W	74.8
052008	* Tone	31 (ST) 044 313	NRA-W	18.1
052009	Sheppey	31 (ST) 498 439	NRA-W	59.6
052010	Brue	31 (ST) 590 318	NRA-W	135.2
052011	Cary	31 (ST) 498 291	NRA-W	82.4
052014	Tone	31 (ST) 078 202	NRA-W	57.2
052015	* Land Yeo	31 (ST) 483 716	NRA-W	23.3
052016	Currypool Stream	31 (ST) 221 382	NRA-W	15.7
052017	* Congresbury Yeo	31 (ST) 452 631	NRA-W	66.6
052020	* Gallica Stream	31 (ST) 571 100	NRA-W	16.4
053001	* Avon	31 (ST) 903 641	NRA-W	665.6
053002	Semington Brook	31 (ST) 907 605	NRA-W	157.7
053003	* Avon	31 (ST) 753 645	NRA-W	1595.0
053004	Chew	31 (ST) 648 647	NRA-W	129.5
053005	Midford Brook	31 (ST) 763 611	NRA-W	147.4
053006	Frome(Bristol)	31 (ST) 637 772	NRA-W	148.9
053007	Frome(Somerset)	31 (ST) 805 564	NRA-W	261.6
053008	Avon	31 (ST) 966 832	NRA-W	303.0
053009	Wellow Brook	31 (ST) 741 581	NRA-W	72.6
053013	Marden	31 (ST) 955 729	NRA-W	99.2
053017	Boyd	31 (ST) 681 698	NRA-W	48.0
053018	Avon	31 (ST) 786 671	NRA-W	1552.0
053019	Woodbridge Brook	31 (ST) 949 866	NRA-W	46.6
053020	Gauze Brook	31 (ST) 937 840	NRA-W	28.2
053022	* Avon	31 (ST) 738 651	NRA-W	1605.0
053023	Sherston Avon	31 (ST) 891 870	NRA-W	89.7
053024	Tetbury Avon	31 (ST) 914 893	NRA-W	73.6
053025	Mells	31 (ST) 757 491	NRA-W	119.0
053026	Frome(Bristol)	31 (ST) 667 822	NRA-W	78.5
053028	By Brook	31 (ST) 815 688	NRA-W	102.0
053029	Biss		NRA-W	
054001	Severn	32 (SO) 782 762	NRA-ST	4325.0
054002	Avon	42 (SP) 040 438	NRA-ST	2210.0
054004	Sowe	42 (SP) 332 731	NRA-ST	262.0
054005	Severn	33 (SJ) 412 144	NRA-ST	2025.0
054006	Stour	32 (SO) 829 768	NRA-ST	324.0
054007	Arrow	42 (SP) 086 536	NRA-ST	319.0
054008	Teme	32 (SO) 597 686	NRA-ST	1134.4
054010	* Stour	42 (SP) 208 507	NRA-ST	319.0
054011	* Salwarpe	32 (SO) 868 618	NRA-ST	184.0
054012	Tern	33 (SJ) 592 123	NRA-ST	852.0
054013	* Clywedog	22 (SN) 944 855	NRA-ST	57.0
054014	Severn	32 (SO) 164 958	NRA-ST	580.0
054015	* Bow Brook	32 (SO) 927 463	NRA-ST	156.0
054016	Roden	33 (SJ) 589 141	NRA-ST	259.0
054017	* Leadon	32 (SO) 777 234	NRA-ST	293.0
054018	Rea Brook	33 (SJ) 466 092	NRA-ST	178.0
054019	Avon	42 (SP) 333 715	NRA-ST	347.0
054020	Perry	33 (SJ) 434 192	NRA-ST	180.8
054022	Severn	22 (SN) 853 872	IH	8.7
054023	* Badsey Brook	42 (SP) 063 449	NRA-ST	95.8
054024	Worfe	32 (SO) 747 953	NRA-ST	258.0
054025	Dulas	22 (SN) 950 824	NRA-ST	52.7
054026	* Chelt	32 (SO) 892 264	NRA-ST	34.5
054027	* Frome	32 (SO) 831 047	NRA-ST	198.0
054028	Vyrnwy	33 (SJ) 252 195	NRA-ST	778.0
054029	Teme	32 (SO) 735 557	NRA-ST	1480.0
054032	Severn	32 (SO) 863 390	NRA-ST	6850.0
054034	Dowles Brook	32 (SO) 768 764	NRA-ST	40.8
054036	* Isbourne	42 (SP) 023 408	NRA-ST	90.7
054038	Tanat	33 (SJ) 252 225	NRA-ST	229.0
054040	Meese	33 (SJ) 680 205	NRA-ST	167.8
054041	Tern	33 (SJ) 649 230	NRA-ST	192.0
054042	* Clywedog	22 (SN) 914 867	NRA-ST	49.0
054043	* Severn	32 (SO) 863 399	NRA-ST	6850.0
054044	Tern	33 (SJ) 629 316	NRA-ST	92.6
054045	* Perry	33 (SJ) 347 303	NRA-ST	49.1
054046	* Worfe	33 (SJ) 781 046	NRA-ST	54.9
054047	* Perry	33 (SJ) 403 223	NRA-ST	155.0
054048	* Dene	42 (SP) 273 556	NRA-ST	102.0
054049	Leam	42 (SP) 307 654	NRA-ST	362.0
054052	Bailey Brook	33 (SJ) 629 316	NRA-ST	34.4
054054	* Onny	32 (SO) 455 789	NRA-ST	235.0
054055	* Rea	32 (SO) 664 724	NRA-ST	129.0
054056	* Clun	32 (SO) 393 786	NRA-ST	195.0
054057	Severn	32 (SO) 844 279	NRA-ST	9895.0
054058	* Stoke Park Brook	33 (SJ) 644 260	NRA-ST	14.3
054059	* Allford Brook	33 (SJ) 654 223	NRA-ST	10.2
054060	* Potford Brook	33 (SJ) 634 270	NRA-ST	25.0
054061	* Hodnet Brook	33 (SJ) 628 288	NRA-ST	5.1
054062	* Stoke Brook	33 (SJ) 637 280	NRA-ST	13.7
054063	* Stour	32 (SO) 865 858	NRA-ST	89.9
054065	* Roden	33 (SJ) 565 241	NRA-ST	210.0
054066	* Platt Brook	33 (SJ) 628 229	NRA-ST	15.7
054067	* Smestow Brook	32 (SO) 861 906	NRA-ST	81.3
054068	* Tetchill Brook	33 (SJ) 379 288	NRA-ST	21.2
054069	* Springs Brook	33 (SJ) 387 297	NRA-ST	10.4
054070	* War Brook	33 (SJ) 432 198	NRA-ST	22.5
054080	* Severn	22 (SN) 996 851	NRA-ST	187.0
054081	Clywedog	22 (SN) 913 868	NRA-ST	49.0
054083	* Crow Brook	33 (SJ) 678 141	NRA-ST	16.7
054084	* Cannop Brook	32 (SO) 616 075	NRA-ST	31.5
054085	* Cannop Brook	32 (SO) 609 115	NRA-ST	10.4
054086	Cownwy Diversion	23 (SH) 999 179	NRA-ST	13.2
054087	* Allford Brook	33 (SJ) 667 228	NRA-ST	4.7
054088	Little Avon	31 (ST) 683 988	NRA-W	134.0

Station number	River name	Grid reference	Measuring authority	Area (sq km)
054090	Tanllwyth	22 (SN) 844 876	IH	0.9
054091	Severn	22 (SN) 843 878	IH	3.6
054092	Hore	22 (SN) 846 873	IH	3.2
054094	Strine	33 (SJ) 640 175	NRA-ST	134.0
054095	Severn	33 (SJ) 644 044	NRA-ST	3717.0
054096	Hadly Brook	32 (SO) 870 631	NRA-ST	53.4
055002	Wye	32 (SO) 485 388	NRA-WEL	1895.9
055003	* Lugg	32 (SO) 548 405	NRA-WEL	885.8
055004	* Irfon	22 (SN) 892 460	NRA-WEL	72.8
055005	* Wye	22 (SN) 969 676	NRA-WEL	166.8
055006	* Elan	22 (SN) 926 645	NRA-WEL	184.0
055007	Wye	32 (SO) 076 445	NRA-WEL	1282.1
055008	Wye	22 (SN) 879 838	IH	10.6
055009	* Monnow	32 (SO) 419 251	NRA-WEL	357.4
055010	* Wye	22 (SN) 843 825	NRA-WEL	27.2
055011	* Ithon	32 (SO) 105 683	NRA-WEL	111.4
055012	Irfon	22 (SN) 995 507	NRA-WEL	244.2
055013	Arrow	32 (SO) 328 585	NRA-WEL	126.4
055014	Lugg	32 (SO) 364 647	NRA-WEL	203.3
055015	* Honddu	32 (SO) 277 294	NRA-WEL	25.1
055016	Ithon	32 (SO) 024 578	NRA-WEL	358.0
055017	* Chwefru	22 (SN) 998 531	NRA-WEL	29.0
055018	Frome	32 (SO) 615 428	NRA-WEL	144.0
055021	Lugg	32 (SO) 502 589	NRA-WEL	371.0
055022	* Trothy	32 (SO) 503 112	NRA-WEL	142.0
055023	Wye	32 (SO) 528 110	NRA-WEL	4010.0
055025	Llynfi	32 (SO) 166 373	NRA-WEL	132.0
055026	Wye	22 (SN) 976 676	NRA-WEL	174.0
055027	* Rudhall Brook	32 (SO) 641 257	NRA-WEL	13.2
055028	Frome	32 (SO) 667 489	NRA-WEL	77.7
055029	Monnow	32 (SO) 415 249	NRA-WEL	354.0
055030	* Claerwen	22 (SN) 910 620	NRA-WEL	95.3
055031	Yazor Brook	32 (SO) 492 415	NRA-WEL	42.3
055032	Elan	22 (SN) 934 653	NRA-WEL	184.0
055033	Wye	22 (SN) 824 853	IH	3.9
055034	Cyff	22 (SN) 824 842	IH	3.1
055035	Iago	22 (SN) 826 854	IH	1.1
056001	Usk	32 (SO) 345 056	NRA-WEL	911.7
056002	Ebbw	31 (ST) 259 889	NRA-WEL	216.5
056003	* Honddu	32 (SO) 051 297	NRA-WEL	62.1
056004	* Usk	32 (SO) 127 203	NRA-WEL	543.9
056005	Lwyd	31 (ST) 330 924	NRA-WEL	98.1
056006	* Usk	22 (SN) 947 295	NRA-WEL	183.8
056007	Senni	22 (SN) 928 255	NRA-WEL	19.9
056008	* Monks Ditch	31 (ST) 372 885	NRA-WEL	15.4
056010	* Usk	32 (SO) 358 042	NRA-WEL	927.2
056011	* Sirhowy	31 (ST) 206 912	NRA-WEL	76.1
056012	* Grwyne	32 (SO) 241 176	NRA-WEL	82.2
056013	Yscir	32 (SO) 003 304	NRA-WEL	62.8
056014	* Usk	22 (SN) 840 290	NRA-WEL	17.0
056015	* Olway Brook	32 (SO) 384 010	NRA-WEL	105.1
056016	Caerfanell Outfal	32 (SO) 104 206	NRA-WEL	32.4
057001	* Taf Fechan	32 (SO) 060 117	NRA-WEL	33.7
057002	* Taf Fawr	32 (SO) 012 111	NRA-WEL	43.0
057003	* Taff	31 (ST) 132 818	NRA-WEL	486.9
057004	Cynon	31 (ST) 079 956	NRA-WEL	106.0
057005	Taff	31 (ST) 079 897	NRA-WEL	454.8
057006	Rhondda	31 (ST) 054 909	NRA-WEL	100.5
057007	Taff	31 (ST) 089 951	NRA-WEL	194.5
057008	Rhymney	31 (ST) 225 821	NRA-WEL	178.7
057009	Ely	31 (ST) 121 770	NRA-WEL	145.0
057010	Ely	31 (ST) 034 827	NRA-WEL	39.4
057011	* Blaen Taf Fawr	22 (SN) 987 193	NRA-WEL	5.1
057012	* Garwnant	32 (SO) 004 129	NRA-WEL	43.1
057015	Taff	32 (SO) 043 068	NRA-WEL	104.1
057016	Taf Fechan	32 (SO) 060 115	NRA-WEL	33.8
058001	Ogmore	21 (SS) 904 794	NRA-WEL	158.0
058002	Neath	22 (SN) 815 017	NRA-WEL	190.9
058003	* Ewenny	21 (SS) 914 780	NRA-WEL	62.9
058005	Ogmore	21 (SS) 904 844	NRA-WEL	74.3
058006	Mellte	22 (SN) 915 082	NRA-WEL	65.8
058007	Llynfi	21 (SS) 891 855	NRA-WEL	50.2
058008	Dulais	22 (SN) 778 008	NRA-WEL	43.0
058009	Ewenny	21 (SS) 920 782	NRA-WEL	62.5
058010	* Hepste	22 (SN) 969 134	NRA-WEL	11.0
058011	Thaw	31 (ST) 017 716	NRA-WEL	49.2
058012	Afan	21 (SS) 771 910	NRA-WEL	87.8
059001	Tawe	21 (SS) 685 998	NRA-WEL	227.7
059002	Loughor	22 (SN) 623 127	NRA-WEL	46.4
060002	Cothi	22 (SN) 508 225	NRA-WEL	297.8
060003	Taf	22 (SN) 238 160	NRA-WEL	217.3
060004	* Dew Fawr	22 (SN) 290 175	NRA-WEL	40.1
060005	Bran	22 (SN) 771 343	NRA-WEL	66.8
060006	Gwili	22 (SN) 431 220	NRA-WEL	129.5
060007	Tywi	22 (SN) 767 362	NRA-WEL	231.8
060008	Tywi	22 (SN) 786 472	NRA-WEL	89.8
060009	* Sawdde	22 (SN) 712 266	NRA-WEL	81.1
060010	Tywi	22 (SN) 485 206	NRA-WEL	1090.4
060012	* Twrch	22 (SN) 650 440	NRA-WEL	20.7
060013	* Cothi	22 (SN) 537 301	NRA-WEL	261.6
061001	* Western Cleddau	12 (SM) 954 177	NRA-WEL	197.6
061002	Eastern Cleddau	22 (SN) 072 153	NRA-WEL	183.1
061003	Gwaun	22 (SN) 005 349	NRA-WEL	31.3
061004	Western Cleddau	12 (SM) 942 184	NRA-WEL	197.6
062001	Teifi	22 (SN) 244 416	NRA-WEL	893.6
062002	* Teifi	22 (SN) 433 406	NRA-WEL	510.0
063001	Ystwyth	22 (SN) 591 774	NRA-WEL	169.6
063002	* Rheidol	22 (SN) 601 804	NRA-WEL	182.1
063003	* Wyre	22 (SN) 542 698	NRA-WEL	40.6
063004	Ystwyth	22 (SN) 791 737	NRA-WEL	32.1
064001	Dyfi	23 (SH) 745 019	NRA-WEL	471.3
064002	Dysynni	23 (SH) 637 066	NRA-WEL	75.1
064006	Leri	22 (SN) 635 882	NRA-WEL	47.2
065001	Glaslyn	23 (SH) 592 478	NRA-WEL	68.6
065002	* Dwyryd	23 (SH) 670 415	NRA-WEL	78.2
065004	Gwyrfai	23 (SH) 484 599	NRA-WEL	47.9
065005	Erch	23 (SH) 400 404	NRA-WEL	18.1
065006	Seiont	23 (SH) 493 623	NRA-WEL	74.4
065007	Dwyfawr	23 (SH) 499 429	NRA-WEL	52.4
066001	* Clwyd	33 (SJ) 069 709	NRA-WEL	404.0
066002	* Elwy	33 (SJ) 021 704	NRA-WEL	220.0
066003	Aled	23 (SH) 957 703	NRA-WEL	70.0
066004	* Wheeler	33 (SJ) 105 714	NRA-WEL	62.9
066005	* Clwyd	33 (SJ) 122 592	NRA-WEL	95.3
066006	Elwy	23 (SH) 952 718	NRA-WEL	194.0
066008	Aled	23 (SH) 915 598	NRA-WEL	11.6
066011	Conwy	23 (SH) 802 581	NRA-WEL	344.5
067001	Dee	23 (SH) 942 357	NRA-WEL	261.6
067002	* Dee	33 (SJ) 357 413	NRA-WEL	1040.0
067003	Brenig	23 (SH) 974 539	NRA-WEL	20.2
067005	* Ceiriog	33 (SJ) 295 373	NRA-WEL	113.7
067006	Alwen	33 (SJ) 042 436	NRA-WEL	184.7
067008	Alyn	33 (SJ) 336 541	NRA-WEL	227.1
067009	Alyn	33 (SJ) 206 667	NRA-WEL	77.8
067010	* Gelyn	23 (SH) 843 420	NRA-WEL	13.1
067011	* Nant Aberderfel	23 (SH) 851 392	NRA-WEL	3.7
067012	* Tryweryn	23 (SH) 838 398	NRA-WEL	27.2
067013	* Hirnant	23 (SH) 946 349	NRA-WEL	33.9
067015	Dee	33 (SJ) 348 415	NRA-WEL	1019.3
067016	* Worthenbury Brook	33 (SJ) 418 464	NRA-WEL	142.1
067017	Tryweryn	23 (SH) 880 399	NRA-WEL	59.9
067018	Dee	23 (SH) 874 308	NRA-WEL	53.9
067025	* Clywedog	33 (SJ) 396 483	NRA-WEL	98.6
067026	Dee	33 (SJ) 415 612	NRA-WEL	1816.8
067028	* Ceidiog	33 (SJ) 034 371	NRA-WEL	36.5
067029	Trystion	33 (SJ) 066 405	NRA-WEL	12.3
068001	Weaver	33 (SJ) 670 633	NRA-NW	622.0
068002	* Gowy	33 (SJ) 443 714	NRA-NW	156.2
068003	Dane	33 (SJ) 668 718	NRA-NW	407.1
068004	Wistaston Brook	33 (SJ) 674 552	NRA-NW	92.7
068005	Weaver	33 (SJ) 653 431	NRA-NW	207.0
068006	* Dane	33 (SJ) 845 644	NRA-NW	150.0
068007	Wincham Brook	33 (SJ) 697 757	NRA-NW	148.0
068010	* Fender	33 (SJ) 281 880	NRA-NW	18.4
068015	Gowy	33 (SJ) 497 624	NRA-NW	49.0
068018	* Dane	33 (SJ) 861 632	NRA-NW	145.0
068020	Gowy	33 (SJ) 448 711	NRA-NW	156.0
069001	Mersey	33 (SJ) 728 936	NRA-NW	679.0
069002	Irwell	33 (SJ) 824 987	NRA-NW	559.4
069003	Irk	33 (SJ) 841 992	NRA-NW	72.5
069004	* Etherow	43 (SK) 023 971	NRA-NW	78.2
069005	* Glaze Brook	33 (SJ) 685 939	NRA-NW	152.0
069006	Bollin	33 (SJ) 727 875	NRA-NW	256.0
069007	Mersey	33 (SJ) 772 936	NRA-NW	660.0
069008	Dean	33 (SJ) 846 830	NRA-NW	51.8
069011	Micker Brook	33 (SJ) 855 889	NRA-NW	67.3
069012	Bollin	33 (SJ) 850 815	NRA-NW	72.5
069013	* Sinderland Brook	33 (SJ) 726 905	NRA-NW	44.8
069015	Etherow	33 (SJ) 962 908	NRA-NW	156.0
069017	Goyt	33 (SJ) 964 898	NRA-NW	183.0
069018	* Newton Brook	33 (SJ) 585 933	NRA-NW	32.8
069019	* Worsley Brook	33 (SJ) 753 980	NRA-NW	24.9
069020	Medlock	33 (SJ) 849 975	NRA-NW	57.5
069023	Roch	34 (SD) 807 077	NRA-NW	186.0
069024	Croal	34 (SD) 743 068	NRA-NW	145.0
069027	Tame	33 (SJ) 906 918	NRA-NW	150.0
069030	Sankey Brook	33 (SJ) 588 922	NRA-NW	154.0
069031	Ditton Brook	33 (SJ) 457 865	NRA-NW	47.9
069032	* Alt	33 (SJ) 392 983	NRA-NW	90.1
069034	* Musbury Brook	34 (SD) 775 213	NRA-NW	3.1
069035	Irwell	34 (SD) 797 109	NRA-NW	155.0
069037	Mersey	33 (SJ) 617 877	NRA-NW	2030.0
069040	Irwell	34 (SD) 793 188	NRA-NW	105.0
070002	Douglas	34 (SD) 476 126	NRA-NW	198.0
070003	* Douglas	34 (SD) 587 061	NRA-NW	55.3
070004	Yarrow	34 (SD) 498 180	NRA-NW	74.4
070005	Lostock	34 (SD) 497 197	NRA-NW	56.0
071001	Ribble	34 (SD) 589 304	NRA-NW	1145.0
071003	* Croasdale	34 (SD) 706 546	NWW	10.4
071004	Calder	34 (SD) 729 360	NRA-NW	316.0
071005	* Bottoms Beck	34 (SD) 745 565	NWW	10.6
071006	Ribble	34 (SD) 722 392	NRA-NW	456.0
071007	* Ribble	34 (SD) 709 379	NRA-NW	720.0
071008	Hodder	34 (SD) 704 399	NRA-NW	261.0
071009	Ribble	34 (SD) 702 376	NRA-NW	1053.0
071010	Pendle Water	34 (SD) 837 351	NRA-NW	108.0
071011	Ribble	34 (SD) 839 556	NRA-NW	204.0
071013	* Darwen	34 (SD) 677 262	NRA-NW	39.5
071014	* Darwen	34 (SD) 565 278	NRA-NW	128.0
072001	* Lune	34 (SD) 503 647	NRA-NW	994.6
072002	Wyre	34 (SD) 463 411	NRA-NW	275.0
072004	Lune	34 (SD) 529 653	NRA-NW	983.0
072005	Lune	34 (SD) 622 907	NRA-NW	219.0
072006	Lune	34 (SD) 615 778	NRA-NW	507.1
072007	Brock	34 (SD) 512 405	NRA-NW	32.0
072008	Wyre	34 (SD) 488 447	NRA-NW	114.0
072009	Wenning	34 (SD) 615 701	NRA-NW	142.0
072011	Rawthey	34 (SD) 639 911	NRA-NW	200.0
072015	Lune	35 (NY) 612 029	NRA-NW	141.5
072016	Wyre	34 (SD) 501 500	NRA-NW	88.8
073001	* Leven	34 (SD) 371 863	NRA-NW	241.0
073002	Crake	34 (SD) 294 882	NRA-NW	73.0
073003	Kent	34 (SD) 507 956	NRA-NW	73.6
073005	Kent	34 (SD) 509 874	NRA-NW	209.0
073008	Bela	34 (SD) 496 806	NRA-NW	131.0
073009	Sprint	34 (SD) 514 961	NRA-NW	34.6
073010	Leven	34 (SD) 367 863	NRA-NW	247.0
073011	Mint	34 (SD) 524 944	NRA-NW	65.8
073013	Rothay	35 (NY) 371 042	NRA-NW	64.0
073014	Brathay	35 (NY) 360 034	NRA-NW	57.4
074001	Duddon	34 (SD) 196 896	NRA-NW	85.7
074002	Irt	35 (NY) 136 038	NRA-NW	44.2
074003	Ehen	35 (NY) 084 154	NRA-NW	44.2
074005	Ehen	35 (NY) 009 061	NRA-NW	125.5
074006	Calder	35 (NY) 035 045	NRA-NW	44.8
074007	Esk	34 (SD) 131 978	NRA-NW	70.2
074008	Duddon	34 (SD) 209 947	NRA-NW	47.9

Station number	River name	Grid reference	Measuring authority	Area (sq km)
075001	St Johns Beck	35 (NY) 313 195	NRA-NW	42.1
075002	Derwent	35 (NY) 038 305	NRA-NW	663.0
075003	Derwent	35 (NY) 199 321	NRA-NW	363.0
075004	Cocker	35 (NY) 131 281	NRA-NW	116.6
075005	Derwent	35 (NY) 251 239	NRA-NW	235.0
075006 *	Newlands Beck	35 (NY) 240 239	NRA-NW	33.9
075007 *	Glenderamackin	35 (NY) 323 248	NRA-NW	64.5
075009	Greta	35 (NY) 286 242	NRA-NW	145.6
075016	Cocker	35 (NY) 149 214	NRA-NW	64.0
075017	Ellen	35 (NY) 096 384	NRA-NW	96.0
076001	Haweswater Beck	35 (NY) 508 159	NRA-NW	33.0
076002	Eden	35 (NY) 470 567	NRA-NW	1366.7
076003	Eamont	35 (NY) 578 306	NRA-NW	396.2
076004	Lowther	35 (NY) 527 287	NRA-NW	158.5
076005	Eden	35 (NY) 605 283	NRA-NW	616.4
076007	Eden	35 (NY) 390 571	NRA-NW	2288.5
076008	Irthing	35 (NY) 486 581	NRA-NW	334.6
076009	Caldew	35 (NY) 378 469	NRA-NW	147.2
076010	Petteril	35 (NY) 412 545	NRA-NW	160.0
076011	Coal Burn	35 (NY) 693 777	IH	1.5
076014	Eden	35 (NY) 773 097	NRA-NW	69.4
076015	Eamont	35 (NY) 472 249	NRA-NW	145.0
077001	Esk	35 (NY) 390 718	NRA-NW	841.7
077002	Esk	35 (NY) 397 751	SRPB	495.0
077003	Liddel Water	35 (NY) 415 759	SRPB	319.0
077004	Kirtle Water	35 (NY) 285 693	SRPB	72.0
077005	Lyne	35 (NY) 412 662	NRA-NW	191.0
078001 *	Annan	35 (NY) 125 755	SRPB	730.3
078002 *	Ae	35 (NY) 068 852	SRPB	143.2
078003	Annan	35 (NY) 191 704	SRPB	925.0
078004	Kinnel Water	35 (NY) 077 868	SRPB	76.1
078005	Kinnel Water	35 (NY) 091 845	SRPB	229.0
078006	Annan	36 (NT) 099 010	SRPB	217.0
079001 *	Afton Water	26 (NS) 631 050	SRPB	8.5
079002	Nith	25 (NX) 923 851	SRPB	799.0
079003	Nith	26 (NS) 684 129	SRPB	155.0
079004	Scar Water	25 (NX) 845 940	SRPB	142.0
079005	Cluden Water	25 (NX) 928 795	SRPB	238.0
079006	Nith	25 (NX) 858 994	SRPB	471.0
080001	Urr	25 (NX) 822 610	SRPB	199.0
080002	Dee	25 (NX) 733 641	SRPB	809.0
080003	White Laggan Burn	25 (NX) 468 781	SRPB	5.7
080004	Blackwater	25 (NX) 478 797	SRPB	15.6
080005	Dargall Lane	25 (NX) 451 787	SRPB	2.1
080006	Green Burn	25 (NX) 481 791	SRPB	2.6
080007	Water of Fleet	25 (NX) 592 590	SRPB	
081001 *	Penwhirn Burn	25 (NX) 128 694	DGRW	18.2
081002	Cree	25 (NX) 412 653	SRPB	368.0
081003	Luce	25 (NX) 180 599	SRPB	171.0
081004	Bladnoch	25 (NX) 382 545	SRPB	334.0
081005	Piltanton Burn	25 (NX) 107 564	SRPB	34.2
081006	Water of Minnoch	25 (NX) 363 746	SRPB	141.0
082001	Girvan	25 (NX) 217 997	CRPB	245.5
082002	Doon	26 (NS) 338 160	CRPB	323.8
082003	Stinchar	25 (NX) 108 832	CRPB	341.0
083001 *	Caaf Water	26 (NS) 245 514	SRCW	6.0
083002 *	Garnock	26 (NS) 293 488	CRPB	88.8
083003	Ayr	26 (NS) 525 259	CRPB	166.3
083004	Lugar	26 (NS) 508 217	CRPB	181.0
083005	Irvine	26 (NS) 345 369	CRPB	380.7
083006	Ayr	26 (NS) 361 216	CRPB	574.0
083007	Lugton Water	26 (NS) 315 420	CRPB	54.6
083008	Annick Water	26 (NS) 357 384	CRPB	95.3
083009	Garnock	26 (NS) 307 424	CRPB	183.8
083010	Irvine	26 (NS) 532 372	CRPB	72.8
084001	Kelvin	26 (NS) 558 705	CRPB	335.1
084002 *	Calder	26 (NS) 309 638	SRCW	12.4
084003	Clyde	26 (NS) 835 452	CRPB	1092.9
084004	Clyde	26 (NS) 927 474	CRPB	741.8
084005	Clyde	26 (NS) 704 579	CRPB	1704.2
084006 *	Kelvin	26 (NS) 672 749	CRPB	63.7
084007	South Calder Wtr	26 (NS) 751 585	CRPB	93.0
084008	Rotten Calder Wtr	26 (NS) 679 604	CRPB	51.3
084009	Nethan	26 (NS) 809 429	CRPB	66.0
084011	Gryfe	26 (NS) 415 664	CRPB	71.0
084012	White Cart Water	26 (NS) 499 629	CRPB	227.2
084013	Clyde	26 (NS) 672 616	CRPB	1903.1
084014	Avon Water	26 (NS) 755 518	CRPB	265.5
084015	Kelvin	26 (NS) 638 739	CRPB	235.4
084016	Luggie Water	26 (NS) 739 725	CRPB	33.9
084017	Black Cart Water	26 (NS) 411 620	CRPB	103.1
084018	Clyde	26 (NS) 891 404	CRPB	932.6
084019	North Calder Wtr	26 (NS) 681 625	CRPB	129.8
084020	Glazert Water	26 (NS) 656 763	CRPB	51.9
084021 *	White Cart Water	26 (NS) 587 597	CRPB	91.6
084022	Duneaton	26 (NS) 929 259	CRPB	110.3
084023	Bothlin Burn	26 (NS) 680 717	CRPB	35.7
084024	North Calder Wtr	26 (NS) 828 678	CRPB	19.9
084025	Luggie Water	26 (NS) 666 734	CRPB	87.7
084026	Allander Water	26 (NS) 558 738	CRPB	32.8
084027 *	North Calder Wtr	26 (NS) 765 624	CRPB	60.6
084028	Monkland Canal	26 (NS) 765 626	CRPB	60.6
084029	Cander Water	26 (NS) 765 471	CRPB	24.5
084030	White Cart Water	26 (NS) 587 598	CRPB	111.8
085001	Leven	26 (NS) 394 803	CRPB	784.3
085002	Endrick Water	26 (NS) 485 866	CRPB	219.9
085003	Falloch	27 (NN) 321 197	CRPB	80.3
085004	Luss Water	26 (NS) 356 929	CRPB	35.3
086001	Little Eachaig	26 (NS) 143 821	CRPB	30.8
086002	Eachaig	26 (NS) 140 843	CRPB	139.9
089008	Eas Daimh	27 (NN) 239 276	CRPB	4.5
089009	Eas A'Ghail	27 (NN) 209 265	CRPB	9.7
090003	Nevis	27 (NN) 116 742	HRPB	76.8
091002	Lochy	27 (NN) 145 805	HRPB	1252.0
093001	Carron	18 (NG) 942 429	HRPB	137.8
094001	Ewe	18 (NG) 859 803	HRPB	441.1
095001	Inver	29 (NC) 147 250	HRPB	137.5
095002	Broom	28 (NH) 184 842	HRPB	141.4
096001	Halladale	29 (NC) 891 561	HRPB	204.6
096002	Naver	29 (NC) 713 568	HRPB	477.0
096003	Strathy	29 (NC) 836 652	HRPB	111.8
097001 *	Calder Burn	39 (ND) 085 596	HRCW	24.5
097002	Thurso	39 (ND) 131 595	HRPB	412.8
101001 *	Eastern Yar	40 (SZ) 577 857	NRA-S	57.5
101002	Medina	40 (SZ) 503 874	NRA-S	29.8
101003	Lukely Brook	40 (SZ) 491 886	NRA-S	16.2
101004	Eastern Yar	40 (SZ) 583 853	NRA-S	59.6
101005	Eastern Yar	40 (SZ) 531 835	NRA-S	22.5
101006	Wroxall Stream	40 (SZ) 536 839	NRA-S	15.8
101007	Scotchells Brook	40 (SZ) 583 852	NRA-S	9.2
201002	Fairy Water	23 (IH) 406 758	DOEN	161.2
201005	Camowen	23 (IH) 460 730	DOEN	274.6
201006	Drumragh	23 (IH) 458 722	DOEN	324.6
201007	Burn Dennet	24 (IC) 372 047	DOEN	145.3
201008	Derg	23 (IH) 265 842	DOEN	337.3
201009	Owenkillew	23 (IH) 418 866	DOEN	442.4
201010	Mourne	23 (IH) 347 960	DOEN	1844.5
202001	Roe	24 (IC) 674 247	DOEN	365.6
202002	Faughan	24 (IC) 464 151	DOEN	272.3
203010	Blackwater	23 (IH) 820 519	DOEN	951.4
203011 *	Main	34 (ID) 052 086	DOEN	228.8
203012	Ballinderry	23 (IH) 926 799	DOEN	419.5
203013	Main	33 (IJ) 092 973	DOEN	648.8
203017	Upper Bann	33 (IJ) 043 509	DOEN	335.6
203018	Six Mile Water	33 (IJ) 146 867	DOEN	277.3
203019	Claudy	24 (IC) 962 037	DOEN	130.1
203020	Moyola	23 (IH) 955 905	DOEN	306.5
203021	Kells Water	33 (IJ) 106 97[illegible]	DOEN	127.0
203024	Cusher	33 (IJ) 048 47[illegible]	DOEN	176.7
203025	Callan	23 (IH) 893 524	DOEN	164.1
203026	Glenavy	33 (IJ) 149 725	DOEN	44.6
203027	Braid	34 (ID) 097 014	DOEN	177.2
203028	Agivey	24 (IC) 883 193	DOEN	98.9
203029	Six Mile Water	33 (IJ) 287 902	DOEN	58.4
203033	Upper Bann	33 (IJ) 233 341	DOEN	100.9
203040	Lower Bann	24 (IC) 931 154	DOEN	5209.8
203092	Main	34 (ID) 051 111	DOEN	211.7
203093 *	Main	33 (IJ) 086 896	DOEN	704.2
204001	Bush	24 (IC) 942 362	DOEN	306.1
205003 *	Lagan	33 (IJ) 299 679	DOEN	444.7
205004	Lagan	33 (IJ) 329 693	DOEN	490.4
205005	Ravernet	33 (IJ) 267 6[illegible]3	DOEN	69.5
205006 *	Lagan	33 (IJ) 259 628	DOEN	315.9
205008	Lagan	33 (IJ) 236 525	DOEN	85.2
205010	Lagan	33 (IJ) 123 540	DOEN	189.8
205020	Enler	33 (IJ) 459 697	DOEN	54.8
206001 *	Clanrye	33 (IJ) 086 309	DOEN	132.7
206002	Jerretspass	33 (IJ) 064 332	DOEN	32.4
236005	Colebrooke	23 (IH) 331 359	DOEN	309.1
236007	Sillees	23 (IH) 205 400	DOEN	167.6

* = closed, or no data for post-1985 have been received

Refer to page 188 for key to measuring authorities

Summary of Archived Data – 1

Gauged daily flows, monthly peaks and monthly rainfall

KEY:

	Complete rainfall	Incomplete or missing rainfall
Complete daily and complete peaks	A	a
Complete daily and partial peaks	B	b
Complete daily and no peaks	C	c
Partial daily and complete peaks	D	d
Partial daily and partial peaks	E	e
Partial daily and no peaks	F	f
No flow data	t	–

Summary is presented in decade blocks

Stn number	Gauged daily flows, monthly peaks and rainfall			
002001	70s	-----aaaaa	80s	aAAAAAAAt
003001	50s	---eAAAe--	60s	---------
	70s	----------	80s	------''11
003002	70s	----aaaaaa	80s	aAAAAAAA:
003003	70s	-------eAA	80s	AAAAAAAAA
003004	70s	---------E	80s	AAAAAAaa
003005	80s	-aaaaAaa		
004001	40s	-------fcl	50s	cccbAEAAEA
	60s	BABABAAAAA	70s	F::11tAAAA
	80s	AAAAAAAAA		
004003	70s	----aaaaaa	80s	aAAAAAAA'
004004	80s	-aaaaAaa		
004005	80s	-----aa		
005001	50s	---eAAAAAA	60s	AAE-1::11t
	70s	t::t		
005002	80s	------aa		
006001	30s	-----eAAAB	40s	BBBABBBBAA
	50s	E::EAAAAAA	60s	AAAEt''1t:
	70s	:'tt		
006003	20s	---------'	30s	cccccccccc
	40s	cccccl----	50s	----------
	60s	--------	70s	--------
	80s	-------ttt		
006006	50s	--aAAAAAB	60s	BAe----
	70s	----------	80s	------ttt
006007	70s	---AAAAAAA	80s	AAAAAAaa
006008	70s	-------F	80s	AAAAAAAA'
007001	60s	eAAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA:		
007002	50s	--------eA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAA
007003	60s	---aAAAAAA	70s	AAABAAAAAA
	80s	AAAAAADD1		
007004	70s	-----a'	80s	aAAAAAAAt
007005	70s	-------tt'	80s	f--aaAAA'
007006	80s	-------e		
008001	30s	--------fc	40s	ffcccccccc
	50s	bBBAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAA11:--	80s	------t1:
008002	50s	-eAAABAAAA	60s	AAAAAAAAAA
	70s	AAABAAAAAA	80s	AAAAAAAA1
008003	50s	-eAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAA't1''t		
008004	50s	--FAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAEAAAA
008005	50s	-eBAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAA1
008006	50s	--eAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAA
008007	50s	-eAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAA
008008	50s	-eAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAaaa
008009	50s	--EABBABBA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAACAAAA
008010	50s	---eAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAACAAAA
008011	70s	--------t!	80s	'aaaaaAAA
009001	50s	--------e	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAA
009002	60s	eAAAAAAAAA	70s	AAAABAAAAA
	80s	AAAAAAAtt		
009003	60s	-1111:111E	70s	AAAAAAAAAA
	80s	AAAA1AAAA		
009004	80s	aaaacaAA1		
009005	40s	--------fc	50s	ffc'ff'cc
	60s	ccccccccfc	70s	cccccccccc
	80s	c:ccccaaf		
010002	60s	-ttt::t11:	70s	tEAABAAAAA
	80s	AAAAAAAAA		
010003	80s	---aaAAAA		
011001	60s	-tt'111'E	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
011002	60s	1t''1tt'F	70s	CBAAAAAAAA
	80s	AAAACAAAA		
011003	60s	-tt::11t:	70s	1:1EAAAAAA
	80s	AAAACAAAA		
012001	20s	--------e	30s	BBBBBBAAAA
	40s	BABBAABCCC	50s	CCCCCCCCCC
	60s	CCCCCBAAAA	70s	BCBAAAAAAA
	80s	AAAAAAAAA		
012002	70s	--eAAAAAAA	80s	AAAAAAAAA
012003	70s	-----aaaaa	80s	aAAAAAAAA
012004	60s	---------I	70s	aaaaaabaaa
	80s	bCCCCAAAt		
012005	70s	------aaaa	80s	aAAAAAAA:
012006	70s	-------aa	80s	aAAAAAAAA
012007	80s	--aaaAAAA		
012008	80s	-----daca		
013001	70s	---------e	80s	aAAAAAAAA
013002	80s	-cccAAAC		
013003	70s	---------c	80s	ccc---!!-
013004	80s	----Accc		
013005	80s	-mcccAAAC		
013007	70s	------CCCC	80s	CCCDAAAAA
013008	80s	---AAAAAA		
013009	80s	--tAAC		
014001	60s	-1!::''EAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
014002	60s	-1!!:11tiE	70s	AAAAAAAAAA
	80s	ACCFCAAAC		
014005	80s	----caaac		
015001	50s	---ae-----	60s	aAAAAAAA!t
	70s	'tt''''tt'	80s	I:''II:II
015002	50s	----------a	60s	AAAAAAAEE'
	70s	:11!''!11!	80s	tt:'IIIII
015003	40s	-----fcC	50s	CBAAAAAAAA
	60s	AAAAAAAAAA	70s	AAAAAAAAAA
	80s	ABCFCAaac		
015004	20s	------CCC	30s	CCCCCCBAa
	40s	------1!''	50s	ff::1'''1E
	60s	AAAAAAAFEt	70s	:''''tttt'
	80s	111'':11!		
015005	20s	-------CCC	30s	CCCCCCBAe-
	40s	--------!!!	50s	EEtEEEtt:E
	60s	AEAAAAAAEI	70s	I:11!III!
	80s	ttt::tttt		
015006	50s	--aAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	BAAAAAAAA
015007	50s	-------eAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AACCCAaac
015008	50s	---------EA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	BAFCCAaac
015010	70s	--cAAAAAAA	80s	AFCFCAAAC
015011	50s	---------cc	60s	cccccccccc
	70s	cCBAAAAAAA	80s	ACCCCAAAA
015012	70s	---BAAAaaa.	80s	AACCCACCC
015013	50s	----ccccc	60s	cCCCCCCCCC
	70s	CCCBAAAAAA	80s	AABCCAAAC
015015	80s	------ccc		
015016	70s	--bAAAAA	80s	AACCCAaac
015017	70s	-----eAAAA	80s	A11---!!!
015018	50s	---eaaaae		
015021	80s	-----fc-c		
015023	80s	---ccAAAC		
015024	80s	cccDAAC		
015025	80s	----1Aaac		
015027	80s	---------c		
016001	40s	--------Cc	50s	cBAAbbAAAA
	60s	AAAAAAAAAA	70s	AAAAAAAAAA
	80s	BDFCCAAAC		
016002	50s	--eAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAA11		
016003	60s	11!'':!!!	70s	EDAABAAAAA
	80s	AAAAAAAAA		
016004	70s	--eAAAAAAA	80s	ADDAAAAAA
017001	60s	----------E	70s	AAAAAAAAAB
	80s	AAAAAAeAA		
017002	60s	----------E	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
017003	70s	'EAAAAAAAA	80s	AAAAAAAAD
017004	70s	-EAAAAAAA	80s	AAAAAAAAD
017005	70s	-FAAAAAAAB	80s	AAAAAAEAD
017008	80s	---------d		
017012	80s	---ttEAD		
017016	80s	-------aad		
017017	80s	-----ac		
018001	50s	-------EAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAD
018002	50s	----------b	60s	ABAAAAAAAA
	70s	BbbAAAAAAA	80s	AAAAAAaac
018003	50s	--------ccc	60s	cccbAAAAAA
	70s	AAEAAAAAAA	80s	AAAAAAAAA
018005	70s	:EAAAAAAAA	80s	AAAAAAAAA
018007	80s	--t!aad		
018008	70s	- -eAAAAAA	80s	AAAAAAAAD
018010	80s	----!'aad		
018011	80s	fcAAAAAD		
018012	80s	----!'aa		
018013	80s	----f'acl		
018014	80s	---t'aac		
018016	80s	-------AAD		
018017	80s	---bbbCC!		
018018	80s	---bbbCt!		
018019	80s	-------IAF		
019001	50s	-------AAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAA
019002	60s	:AAAAAAAA	70s	AAACAAAAAA
	80s	AAAAAAAAD		
019003	60s	-eAAAAAAAA	70s	AAAAAAAAAA
	80s	D1t---tt1		
019004	60s	AAAAAAAAAA	70s	AAACAAAAAA
	80s	AAAAAAAAD		
019005	60s	--aAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAD		
019006	60s	-''AAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAD		
019007	60s	-:BAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAD		
019008	60s	-tttBAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAD		
019010	60s	----------A	70s	AAAAAAAAAA
	80s	AAAAAEEEE		
019011	60s	ccccccc	70s	cccccaaaa
	80s	AAAAAAAAD		
019012	80s	----f'aad		
019014	80s	--t:cf		
019017	80s	----ttAAD		
020001	60s	AAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
020002	60s	-I''IIEAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAD		
020003	60s	-I''1AAAAA	70s	AAAAAAAAAA
	80s	AAAAAAEAD		
020004	60s	-t:tttAAA	70s	AAAAAAAAAA
	80s	AAAAAEaad		
020005	60s	-t:11CCCCC	70s	CCCCCCAAaa
	80s	AAAAAAEAD		
020006	70s	---cc:AAAD	80s	AAAAAAAAD
020007	60s	-------tt	70s	I''CCCAAAA
	80s	AAAAAAAAD		
020008	80s	----!tABt		
021001	50s	----------e	60s	AAAAFFAAFt
	70s	tt:tttt!tt	80s	-------111
021002	50s	-------'1-n	60s	eBCBAAAAE:
	70s	II'III:'--	80s	-------111
021003	50s	-----··e	60s	AAAAAAABAA
	70s	AAAAAAAAAA	80s	ABBCCAAAA
021004	60s	------eAAe-	70s	---------III
021005	60s	·FAAAAAAAB	70s	AAAAAAAAAA
	80s	AABCCAAAA		
021006	60s	EAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
021007	60s	-EAAAAAAAA	70s	AAAAAAAAAA
	80s	AABCCAAAA		
021008	60s	nAAAAAAAAA	70s	AAAAAAAAAA
	80s	AABCCAAAA		
021009	60s	-'EAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
021010	60s	fF:EAAAAAA	70s	AAAAAABAAA
	80s	A!ttt't1t		
021011	60s	-:IEAAAAAA	70s	AAAAAAAAAA
	80s	AABCCAAAA		
021012	60s	-'IFAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
021013	60s	-:!IFAAAAA	70s	AAAAAAAAAA
	80s	AACCCAAAA		
021014	60s	-FAAAAAAAA	70s	AAAAAAAAAA
	80s	AABCCAAAA		
021015	60s	tt::1EAAA	70s	AAAAAAAAAA
	80s	AACCCAAAA		
021016	60s	tt:'!tEAA	70s	AAAAAAAAAA
	80s	AACCCAAAA		
021017	60s	-ttt:EAAAA	70s	AAAAAAAAAA
	80s	AABCCAAAA		
021018	60s	-ttttttEA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
021019	60s	-1t:11t!EA	70s	AAAAAAAAAA
	80s	AAt!'AAAA		
021020	60s	-II'IIIEBA	70s	AAAAAAAAAA
	80s	AABCCAAAA		
021021	60s	----------F	70s	AAAAAAAAAA
	80s	AABCCAAAA		
021022	60s	·ttttttt::E	70s	AAADAAAAAA
	80s	AAAAAAAAA		
021023	60s	-tt:ttt!:t	70s	FAAAAAAAAA
	80s	AABCCAAAA		
021024	60s	-I!:11!'!1	70s	tEAAAAAAAA
	80s	AACCCAAAA		
021025	60s	-I!'III''I	70s	:'EAAAAAAA
	80s	AACCCAAAA		
021026	60s	-tt:ttt!:t	70s	tt'EAAAAAA
	80s	AACCCAAAA		
021027	60s	·t!ttttttt	70s	t:!EAAAAAA
	80s	AACCCAAAA		
021030	60s	-:'11!:1EA	70s	BAAAAAAAAA
	80s	AABCCAAAA		
021031	50s	-------eAAB	60s	AFAAAAAAAA
	70s	AAAAAAAAAE	80s	e------ttt
021032	60s	-------eAAA	70s	AAAAAAAEAA
	80s	AAAE--!tt		
021034	60s	-!:ttt:1FF	70s	CCCCCAAAAA
	80s	AAACCAdaa		
022001	60s	---II!bAAA	70s	AAAAAAAAAA
	80s	AAAAAABAA		
022002	50s	--------aAA	60s	EAEAAAAAAA
	70s	AAAAAAAAAA	80s	e------t!!
022003	50s	--------eAA	60s	BAEAAAAAAA
	70s	AAAAAAAAAA	80s	e------tt!
022004	60s	-------eAAA	70s	AAAAAAAAAF
	80s	E!:1--11t		
022006	60s	-----eDAA	70s	DAAAAAAAAA
	80s	BAAAAAAAA		
022007	60s	-------tFA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		

Stn. number	Gauged daily flows, monthly peaks and rainfall			
022008	60s	---------E	70s	AAAAAAABAA
	80s	AAAE!!!!!		
022009	70s	--EDAAAAAA	80s	AAAAAAAAA
023001	50s	------eAAA	60s	AAAAEAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAA
023002	50s	----fCCCCB	60s	AAAAAAAAAA
	70s	AAABAAAAAA	80s	AAAAAAAAE
023003	50s	---------e	60s	AAAAAAAADA
	70s	AAAABAAAAA	80s	EAFAAAaaa
023004	60s	--eAAAAAAA	70s	AAEAAAABAA
	80s	AAAAAAAAAe		
023005	60s	---eAAADAD	70s	AAAAAAAAAA
	80s	AAAAAAAE!		
023006	60s	------eAAA	70s	AAAAAAAEEA
	80s	AAAAAAAAA		
023007	60s	-eAAAAAAA	70s	AAAAAAAEAA
	80s	BAAAAAAEA		
023008	60s	-----EA	70s	AAAAAAABAA
	80s	AEAAAAAEA		
023009	60s	------e	70s	AAADDAAAE!
	80s	FAAE!!!!!		
023010	60s	---------!	70s	EAAAAAAAAA
	80s	e--!!-!!!		
023011	60s	---------!	70s	EDAAAAABAA
	80s	EAAAAAAEE		
023012	70s	!EBAAAAAAA	80s	a--!!-!!!
023013	70s	!EAAAAAAAA	80s	A:!!!!!!!
023014	60s	fcccccccc	70s	cBAEE!!!!!
	80s	------!!!		
023015	40s	!FFFFFFFF	50s	FAFAFFBBBe
024001	50s	--fCC	60s	CCCCCCBAAA
	70s	AAAAAAEAAA	80s	EAAAAAAAA
024002	50s	---eA	60s	AAAAAAAAAA
	70s	AAAABAAAAA	80s	AAAE!!!!!
024003	50s	---eA	60s	AAAAAAAFAA
	70s	AAAAAAAAAA	80s	AAAAADAAA
024004	50s	----e	60s	AAAAAAAAAA
	70s	AAAAAAAAEA	80s	AAAAAAAAA
024005	50s	eeEAAA	60s	AAAAAAAFAA
	70s	AAAAAAAEEA	80s	AAAAABAAA
024006	50s	- ---fcc	60s	bAAAAAAAAA
	70s	AAAAAAAAAA	80s	e-----!''
024007	60s	-- - 'EA	70s	AAAAAAAAAA
	80s	AAAE!!!!!		
024008	70s	--eaaaeaae	80s	AAEAAAAAA
024009	70s	-------eAA	80s	AAAAAADAA
025001	50s	-----eAAA	60s	AAAAAAADAA
	70s	AAAAAAAAAA	80s	AAAAAAAAA
025002	50s	------!!-e	60s	aAAAAAAAAB
	70s	BAAAe--!!!	80s	-- ---!!!
025003	50s	---eAA	60s	AAAFAAAAAA
	70s	AAAAAeeABA	80s	e-----!!!
025004	50s	-eAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAD	80s	AAEADDDAD
025005	50s	---------e	60s	AAAAAAAAAA
	70s	AAAABAAEAA	80s	AAAAAAAAA
025006	60s	eAAAAAAAAA	70s	AAABAABAAA
	80s	AAAAAAAAAe		
025007	60s	-eAAAAAAA	70s	AAAAAAAAAA
	80s	E! -!!!		
025008	60s	-----!EAAA	70s	AAAABAAAEA
	80s	AEAE!!		
025009	60s	--------e	70s	ABAFFAAAAA
	80s	AAAAAAaaa		
025010	60s	--EAA	70s	AEAAE!!!!!
025011	60s	---------E	70s	AAAAAAAAAA
	80s	AAAE!!:''		
025012	60s	--------F	70s	BAAAAAAAAA
	80s	AAAAAAAAA		
025013	60s	----E	70s	EEAEF!:!!!
025014	60s	---------E	70s	AEE!!!!
025015	60s	---------e	70s	eee
025018	70s	!FFAAAAAAA	80s	AFFAAAAAA
025019	70s	!EAAAAAAAA	80s	AAAAAAAAA
025020	70s	-FAAAFAFA	80s	AAAAAAAAA
025021	70s	!!!EBAAAAA	80s	AAAAADAAA
025022	70s	---eabeee	80s	a '!
025023	70s	-EAEEAAEAA	80s	AAEE!!!!!
025024	70s	-ee		
026001	50s	eAAABBB	60s	BBBBBABABB
	70s	AEABE!!!!!	80s	---!!!!!
026002	60s	-eAAAEBBBE	70s	EAAAAAAEBE
	80s	BfCCCFccc		
026003	50s	---------e	60s	AAAAAAAAAB
	70s	AAAAEEFAAA	80s	AAAAAAAAA
026004	70s	!FE!BEFEBA	80s	AAAAAB!!!
026005	80s	-DaaAAAAA		
026006	80s	----eaaaa		
026007	60s	-----ffccc	70s	fccefcccc
	80s	--- ---!!!		
026008	80s	--------a		
027001	30s	-eAAE!	40s	!EBAABCCF!
	50s	!!!EAAAAAE	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AE!!!!!!!
027002	30s	-------'''	40s	!!!!!'!!!'
	50s	!!!!'EAAAA	60s	AAAAABABAA
	70s	AAAAAAAAAA	80s	AAAAAAAAA
027003	50s	-- ---eE	60s	FFAAAAAAAA
	70s	AAAAABBAEE	80s	AAAAAAaaa
027004	60s	aAAAAAAAE!	70s	!!EAAAE!!!
027006	60s	----eAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
027007	50s	--------eA	60s	AAAAAAAAAA
	70s	EBDAAAAAEE	80s	AAAAAAAAA
027008	50s	- eAAAE	60s	AAAAAAAAAA
	70s	AAAAAEEEAE	80s	AEDEE!!!!
027009	60s	-'!!!!!!'E	70s	AAABDEAAAD
	80s	ADAAAAAAAA		
027010	30s	------fcfc	40s	ffffffff
	50s	cfffbAAAAA	60s	BAAEAAAAAA
	70s	ABAAAAEEAE	80s	------!!!
027012	50s	----eAAAAA	60s	AAAAAAAAAA
	70s	AAAF!!!!!!		

Stn. number	Gauged daily flows, monthly peaks and rainfall			
027013	50s	---eBBBBB	60s	BBBBBBAAAA
	70s	AAABBBCBEE	80s	B!!!!!
027014	50s	---------eA	60s	AAAAAAAABA
	70s	EE!!!!!!!!	80s	---!!!!!!
027015	60s	eAAAAAAAA	70s	AAAAAE!!!!
	80s	---!!!!!!		
027018	50s	-------eAAB	60s	BBABBBAAAB
	70s	BBbbe--!!!	80s	---!!!
027019	50s	-----eAAA	60s	AAEBAAAAEE
	70s	EAAAe--!!!	80s	---!!!
027021	50s	----------e	60s	aEEAAAAAAA
	70s	AAAAAAE!!!	80s	!!AaaaaAA
027022	60s	eAAAAAABAA	70s	EE!!!!!!!!
	80s	---!!!-!!		
027023	60s	eAAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAEDA		
027024	60s	-eAAAAAAAA	70s	AAAAAAEAAA
	80s	E!-!!!!!!		
027025	60s	-eAAAAAAAA	70s	AAAE!!AAAA
	80s	AAAAAAAAA		
027026	60s	---eAAAAAA	70s	AAAAAAAAAE
	80s	!!!!AAAAA		
027027	60s	-eAAAAAAEA	70s	AAAAAE!!!!
	80s	-------!!!		
027028	60s	-AAAAAAAAA	70s	AAAAAAAAEA
	80s	AAAAADaaa		
027029	60s	-eAAAAAAAE	70s	!EAAAAAAAA
	80s	AAEAAAaaa		
027030	60s	---eAAAAAA	70s	AAAAEEAAEA
	80s	AADAAAAAA		
027031	60s	----AAAAAA	70s	AAAAAAEAEA
	80s	AAAAAAAAA		
027032	60s	-----!EFAA	70s	AAAAAEEAAA
	80s	AEAAAAAA:		
027033	60s	----------!	70s	CCCCCBEAAA
	80s	AAAAAAaaa		
027034	60s	--------eBA	70s	BAAAAAAAAA
	80s	AAAAAAAAA		
027035	60s	---------FA	70s	AAAABAEAAA
	80s	EAAAAAAAA		
027036	60s	---------!E	70s	EF!!!!!!!!
027038	70s	EAAAAAAAAA	80s	EAADADAAA
027040	70s	EBAAAAAAAA	80s	AAAAAAAAA
027041	70s	--!EAAAAAA	80s	AAAAAAAAA
027042	70s	''EAAAAAAA	80s	AAAAAAAAA
027043	70s	----AAAAAA	80s	EAAAAAAAA
027044	70s	--!!FAAAAA	80s	AAAADAAAA
027047	70s	-:BAAAAAAE	80s	AEADAEDDA
027048	70s	-:EAAAEEAA	80s	AAAAAAaad
027049	70s	----eAAAAA	80s	AAAAAAAAA
027050	70s	fcc!!!!---	80s	!!!addAAA
027051	70s	--eAAEAAAE	80s	AADAAAAA!
027052	70s	-----eaaa	80s	AAAAAAAAA
027053	70s	------eEAAA	80s	AAAAAAAAA
027054	70s	----FFFAAE	80s	AAAAAAAAA
027055	70s	----fCCEAF	80s	AACAAAAAA
027056	70s	----fFCEAE	80s	AAAAAAAAA
027057	70s	----fFCEAE	80s	AAAAAAAAA
027058	70s	----fCCEAE	80s	AAAAAAAAA
027059	70s	------eAE	80s	FAAAAAAAA
027060	70s	----------e	80s	AAAAAAAA!
027061	70s	---------eA	80s	AAAAAAAAA
027062	70s	----------e	80s	AEAAAAAAA
027064	70s	----------e	80s	aaaaADAAA
027065	70s	----------e	80s	adaaAAAAA
027066	80s	----AAAAA		
027067	80s	---AAAAA		
027068	80s	----eaaaa		
027069	80s	----AAAAA		
027070	80s	-------aaa		
027071	80s	eaaAAAAAA		
027072	80s	----AAAAA		
027073	80s	----AAaae -		
027074	80s	----AAAAA		
027075	80s	-------eAA		
027076	80s	-------aaa		
027077	80s	-------aaa		
027080	80s	-------eAA		
027082	80s	--------!!		
027083	80s	--------fc		
028001	30s	---cccbAAA	40s	BCCCCCCCCB
	50s	AAABBAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAEAAA	80s	AAAAAAAAAe
028002	30s	------eAA	40s	AAAAAAAAAA
	50s	AABAAAAAAA	60s	AAAAAAADEE
	70s	EAAAAEAAAA	80s	AAAAE!!!!
028003	50s	------eAAAA	60s	AAAAAAAAAA
	70s	AACAAAAAAA	80s	AAE'!!
028004	50s	-------'bAE	60s	FAAFAAAAAA
	70s	AAAAAAAAAA	80s	AAF!!!
028005	50s	-----fccbA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAF!
028006	50s	--------eeA	60s	AAAAE!!!!!
	70s	!!!!!!!!!!	80s	!!!!!!
028007	50s	--------eAA	60s	AAAAAAE!!!
	70s	!!!!!!!!!!	80s	!!!!!!
028008	50s	---eAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAAe
028009	50s	---------eA	60s	AAAAAAAAAB
	70s	AAAAAAAAAA	80s	AAAAAAAAAe
028010	30s	-----!FFCC	40s	CCCFCCCCCC
	50s	CCCCFCCCCC	60s	CCCCCCCCCC
	70s	CCCCBAAAAA	80s	AAAAAAA!!
028011	50s	------eE	60s	FFBAAAAAAA
	70s	EEAAAAAAAA	80s	AAAAAAAAAe
028012	50s	----------e	60s	AAAAADAAAE
	70s	AAAAAAAAAA	80s	AAAAAAAAAe
028013	70s	----'!!!!!	80s	---'!'
028014	60s	bBABBCIEAA	70s	AAAAAAADII
	80s	!!!!'!!!!		
028015	60s	------eeE!A	70s	EEE!'!!!!!
	80s	--eAFFAAAe		
028016	60s	------eAAAA	70s	AAAAAAAAE!
	80s	!!!!!!!!!		
028017	60s	-----eeea	70s	aaAFAAEAE!
	80s	!!!!!!		
028018	60s	-eAAAAAAAA	70s	AAAEAAAAAA
	80s	AAAAAAAAAe		

Stn. number	Gauged daily flows, monthly peaks and rainfall			
028019	60s	-------eAAD	70s	AAAEAAAAAA
	80s	AAAAAAAAAe		
028020	50s	----fCFCFC	60s	BAAAAAAEee
	70s	eeAAAAAAAA	80s	AAE!!!
028021	60s	-----!EAAEA	70s	EEEEAAAA!!
	80s	---!!!!!!		
028022	60s	---------ea	70s	aaAAAAAAAA
	80s	AAAAE!!AAe		
028023	60s	------eaaaa	70s	eeAAAAAE!!
	80s	!!-!!!!!!		
028024	60s	--------eea	70s	eeAAAAAAAA
	80s	AEEAEFEAAe		
028025	60s	-------eaae	70s	eeAAAAAAAA
	80s	AAAAE!!!!		
028026	60s	-------eeee	70s	aaAAEAAAAA
	80s	AAAAE!!AAe		
028027	60s	-----EAEAA	70s	AAAAAAE!!!
	80s	!EAae--!!!		
028029	60s	-------enee	70s	eeEAAAAEAA
	80s	AAAAE!!!:		
028030	60s	--------eFF	70s	AEEAAAAAAA
	80s	AAAAE!!!:		
028031	60s	----- -- eE	70s	AeAAAAAAAA
	80s	AAAAAAAAAe		
028032	60s	-----EAAAA	70s	AAAAAAEAAA
	80s	AEAAF!--!		
028033	60s	------eeeee	70s	aaAAAAAAAA
	80s	AAE!!!!!!		
028035	70s	----!!!!!!	80s	!EAae
028036	60s	----- -- e	70s	aaAEAE!!!!
	80s	---!!!--!		
028038	60s	--------- e	70s	aaAEAAEAAA
	80s	AAE!!!!!!		
028039	60s	--------eAE	70s	AaEAEAAAAA
	80s	AAAAAAAAAe		
028040	60s	---------eE	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
028041	60s	---------ee	70s	eeAAAAAAAA
	80s	AAE!!!!!!		
028043	60s	----!!!!EA	70s	ADAAAAAAAA
	80s	AAAAEAAAAe		
028044	60s	----------e	70s	eeAAAAAAAA
	80s	AAAAE!- !		
028045	60s	------eaaaa	70s	aaAAADAAAA
	80s	AAAAE! !		
028046	60s	----------e	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
028047	70s	eeabAAAAAA	80s	AAEFEI--!
028048	70s	-eeAAAAAAA	80s	AAAAAAAAAe
028049	70s	eeeeeeaAAA	80s	AAAAE!!!!
028050	70s	-eeaAAAEAA	80s	AAAAE!!!!
028052	70s	-eDEAAAAAA	80s	AAAAE!!AAe
028053	70s	---!!!EAAA	80s	AAAE!! .
028054	70s	-eAAAAAAAA	80s	AAAAE!!!!
028055	70s	-eAAAEAAAA	80s	AAE!!!!!'
028056	70s	---eAAAAFA	80s	AAAAF!!AAe
028058	70s	--!!EAAAAA	80s	AAAAE!!!'
028059	60s	-------eaaa	70s	eeAAAAAAAA
	80s	AAAEE!--!		
028060	70s	--eeAAAAAA	80s	AAAEE!!!!
028061	70s	--!!-AAAAA	80s	AAAAE!!AAe
028062	70s	------!!!!!	80s	!!!!!!
028065	70s	------!!!!!	80s	---!!!
028066	70s	---eAAAAAA	80s	AAAAAEAAAe
028067	70s	---eAAAAAA	80s	AAAAAAAAAe
028070	60s	-----!!!!!	70s	eeeeeeeeee
	80s	AAE'!!'!!		
028072	70s	-----FAAAA	80s	AAAEE''!!
028073	70s	-------eeea	80s	eaaee
028075	70s	------ -e	80s	aee---!!!
028079	80s	-eeaaaAAAe		
028080	50s	--------eAF	60s	EAAEAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAAe
028081	80s	--eeebEABe		
028082	70s	-eeAAAAAAA	80s	AAAAEAAAAe
028083	80s	--eeeeEEfe		
028085	30s	-----!FFCC	40s	CCCFCCCCCC
	50s	CCCCFCCCCC	60s	CCCCCCCCCC
	70s	CCCCBAAAAA	80s	AAAADDAAAe
028086	70s	-eAAAAAAAA	80s	AAAAEEAAAe
028091	80s	-----eeAAAe		
028093	80s	-------EAAe		
028094	80s	-------!!!		
028095	80s	-------!!!		
028101	80s	----- !		
028102	80s	--------EEe		
029001	60s	eBBAAAAAAB	70s	AAAAAAAAAF
	80s	AAAAAAAAA		
029002	60s	--eAAAAABA	70s	AAAAADAAAA
	80s	AAAAAAFAA		
029003	60s	---------FA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
029004	60s	---------EA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
029005	70s	-EAAAAAAAA	80s	AAAAAAEAA
029009	70s	----eAAAAA	80s	AAAAAAAEE
030001	50s	----------E	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAAe
030002	60s	eAAAAAAAAA	70s	AAAAAAAAE!
	80s	EEFEAEAA!		
030003	60s	--eAAAAABF	70s	AAAAAAAAAA
	80s	AAAAABEAA		
030004	60s	--eFABAAAB	70s	AAAAAAAAAF
	80s	AAAAAAAAA		
030005	60s	---------fc	70s	cccccccccc
	80s	ccccf--e		
030006	70s	----EBBBAA	80s	AEEAAAEAA
030011	70s	-EAAAAAAAA	80s	AAAAAAEDA
030012	70s	FAAAAAAAAA	80s	CEBABBFEF
030013	70s	-------eAAA	80s	AAAAAAAAA
030014	70s	--eEAABAAA	80s	BAAAAAAAE
030015	70s	-------eAAA	80s	AAAAAAaaa
030017	70s	---------eA	80s	AAAAAAaaa
031001	30s	--------ICF	40s	CCCCCf----
	50s	---fBBBBBB	60s	BBBBBBAAFA
	70s	AABAAAAEAB	80s	BAAAAAaee

Stn number	Gauged daily flows, monthly peaks and rainfall			
031002	30s	- --:t	40s	----------
	50s	----------	60s	tCCCCCCCCc
	70s	CCCCCCCCCC	80s	CCCCCCCAB
031005	80s	---::::::		
031006	60s	- -EAA	70s	BAAAAAAAAA
	80s	AAAAAAAAE		
031007	60s	--------EE	70s	BBCCCBCBAA
	80s	AAAAAAAAA		
031010	60s	--------DA	70s	ABAABAAAAA
	80s	AAAAAABAE		
031012	60s	---- -- E	70s	EEEEEEEEEE
	80s	EEEeeeFt'		
031016	60s	--------!	70s	ABAAAAAAAA
	80s	AAAAAAAAE		
031021	70s	eEAEEBBEAA	80s	AEEEEFEEE
031023	70s	-FBABBBAB	80s	AAAAAAAAE
031025	70s	--------eA	80s	EAAAAAABE
031026	70s	-:::::::EA	80s	AAAAAAAAE
031028	80s	-fbaeAAE		
032001	30s	---------t	40s	eBAAAAAAAA
	50s	ABAAAAAAAB	60s	BAAABAABCC
	70s	BAAABBCCAA	80s	BAAAAAAAF
032002	30s	--------eA	40s	AABABABABA
	50s	BABABBAAAB	60s	AABBAAAAAA
	70s	BAAAAAAAAA	80s	AAAAAAAAE
032003	30s	---- eA	40s	ABBAABAAAB
	50s	AAAAABABAB	60s	BBAABEAAAA
	70s	AAAAAAAADA	80s	AAAAAAAAE
032004	40s	-- eAABAAA	50s	AAAAAAAAAB
	60s	BBBAFFAAAB	70s	AAAAAAEAAA
	80s	AAAAAAABA		
032006	30s	--e	40s	BAAABAABAA
	50s	ABAAAABBBB	60s	BBBBAAAAAb
	70s	cccccccCCC	80s	CccccCAE
032007	30s	---------e	40s	AAAAABAABA
	50s	ABAABABAAA	60s	BBAAAABAAb
	70s	cccccccCCC	80s	BccccCAE
032008	40s	--- eAAAB	50s	ABAAABABAA
	60s	BBBBBAFABA	70s	AAAAAAAAAA
	80s	AAAAAAAAE		
032029	70s	eaeeeae		
032031	80s	--eeeetFF		
033001	30s	------fcCC	40s	ECCCCCCCCC
	50s	FFCCCCCCCC	60s	CCF:::::::
	70s	::::::::::	80s	------t::
033002	30s	---cCCcCBB	40s	BBBBBCCCCC
	50s	CCCCCCCCCB	60s	BAAAAAAAAB
	70s	BAAAAAAAAB	80s	BAABAABAA
033003	30s	------tCCC	40s	CCFCFCCCCC
	50s	BAFABBABCC	60s	BAAAAACCAA
	70s	BCCCCCCCCC	80s	CCCCCFFtt
033004	30s	tCCC	40s	CCCCCCFFCC
	50s	CCCCCBABCC	60s	CCCCCCFCFC
	70s	CCCCFCCCCC	80s	CFCCCFFtt
033005	50s	-cbCCCCCCC	60s	BAAAABBCCB
	70s	BCBBBBBBCB	80s	BBBBBBEEE
033006	50s	- eBCC	60s	BAAAAAABBB
	70s	ABAABBABAB	80s	ABBBBBBBB
033007	50s	eBCCCCC	60s	CCCCCBBBAB
	70s	BAAAAABAAA	80s	AABBAAAAA
033008	50s	---------fc	60s	cbeeebbbf-
	70s	-	80s	------t:t
033009	50s	-----eABCC	60s	BAEAAAAABA
	70s	BABBAAAAAA	80s	BAAABAEtt
033011	40s	--- ff	50s	'ff'clccff
	60s	eeAAAAAAEA	70s	BAAAAAAAAA
	80s	BAAAAAABB		
033012	60s	eAAAAAAAFA	70s	BAAAAAAAAA
	80s	AAAAAAAAA		
033013	40s	t	50s	'ff'cccc''
	60s	eAAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAABABAA		
033014	60s	eAAAAAAAAA	70s	ABAAAAAAAA
	80s	AAAAAAAAA		
033015	60s	--AAAAAAAA	70s	AAAAAAAABB
	80s	DAAAAAFF:		
033016	50s	---------t	60s	bAAEEEFEAB
	70s	BCCCCCCCCC	80s	CCCF::
033018	60s	--EAAAAEEA	70s	AAAAAAAAAA
	80s	BAAABBAAB		
033019	50s	-------t::t	60s	tteAAAAAEA
	70s	ABAAAAAAAB	80s	AAAAAABAA
033020	50s	-------:tt	60s	tt-eAEBBEE
	70s	EBBBBAAAAA	80s	AABAABAAA
033021	60s	- eAAAAABB	70s	BBBAAAAAAA
	80s	BAABABbae		
033022	50s	-- -t	60s	ebeeeBAAAB
	70s	AAAAAAAAAA	80s	AAAAAABBB
033023	60s	--eAAAAAEA	70s	AABAAAAAAA
	80s	AAAAAABBA		
033024	40s	---------e	50s	EEBCCCFCCC
	60s	CCCeAAAAAA	70s	ABAAAAAAAA
	80s	AAAAAAAAA		
033025	60s	'EAAAAA	70s	AAEABCFttt
033026	70s	'cCCCCCCCC	80s	CCCCCCF't
033027	60s	-- eAABE	70s	BBAAAAAAAA
	80s	ABBAAAAAB		
033028	60s	------FAEE	70s	ABAAAAAAAA
	80s	ABAAAABAA		
033029	60s	-----eAAEA	70s	ABCAAAABAA
	80s	AAAABABAA		
033030	50s	fcc	60s	cccf--eeee
	70s	eabebaeaee	80s	e-----tt!
033031	70s	-AAABAABAA	80s	AAAAAAEtt
033032	60s	-----FAAAA	70s	AAAAABAAAA
	80s	AAAAAAAAA		
033033	70s	---EAAAAAA	80s	AAAAAAABA
033034	60s	--------:EA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
033035	50s	- --tC	60s	CCCCCCCCCC
	70s	CCCCCCCtt:	80s	t''tt''Ct
033037	60s	--- E	70s	ABAAAAAAAA
	80s	AAAAABBBA		
033039	70s	--EAAADBAA	80s	AABBABABB
033040	60s	-----f''f	70s	CBAAAAAAAA
	80s	AAAABBabe		
033044	60s	-- ----'cc	70s	ccCABBAAAA
	80s	ABAAAABBB		
033045	60s	-------tcc	70s	ccCAAAAAAA
	80s	BABAAABBA		
033046	60s	-- --- -fcc	70s	cCCAABAAAA
	80s	BAAAABBAA		
033048	60s	--------'	70s	cccAAAAAAA
	80s	BBBAAeAA'		
033049	70s	---eeeeee	80s	e------t't
033050	60s	ff'f'fccc	70s	f---FCCCCC
	80s	BCCBeeeee		
033051	60s	----fCCCCC	70s	CAAABAAAAA
	80s	AAAAAAEt:		
033052	60s	t-ccc-ccc	70s	ceeeAAAABA
	80s	AAABAAe		
033053	40s	---------'	50s	ffccccccc
	60s	cccfcffbcc	70s	cccccccccc
	80s	ccbeabee		
033054	70s	------fCAA	80s	AABAABeee
033055	60s	---fcccf--	70s	------tBAA
	80s	AAAAAAeeb		
033056	60s	ccffc	70s	cfcffCCCB
	80s	BAAAAAe		
033057	70s	------tBAA	80s	AAAAAAe
033058	70s	-------::EA	80s	AAAAaeece
033059	60s	- -----c	70s	ccfcecccc
	80s	ccccee		
033060	60s	----------t	70s	cccccccccc
	80s	ccccccf		
033062	60s	--'c'---	70s	---------fc
	80s	cccct:Be		
033063	80s	eAAebAABA		
033064	80s	eeeebee		
033065	80s	'CCceAE'B		
033066	80s	-eAeeBBAA		
033067	80s	--eeeAE':		
033068	80s	--fcbBe		
034001	50s	---------e	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAA
034002	50s	--------eAA	60s	AAAAAAAAAA
	70s	EAAAAAAAAA	80s	AEBAAAAAA
034003	50s	---------e	60s	AAAAAAAAAA
	70s	AAAAAAAAAB	80s	AABAAAAAB
034004	60s	eAAAAAAAAA	70s	AAAAAAAAAB
	80s	ABAAAAABE		
034005	60s	-eAAAAAAAA	70s	AAAAAAAAAB
	80s	ABAAAAAFA		
034006	60s	- -eAAAbAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
034007	60s	------eAAB	70s	AAAAAAAAAA
	80s	AAAAAAAAE		
034008	60s	------EABA	70s	AAAEEAAAAF
	80s	FCFDBBBEE		
034010	60s	---------EA	70s	AAAAAAAAAA
	80s	EABAAEAAA		
034011	60s	--------AAA	70s	ABAABAABBF
	80s	ABAAAAAAB		
034012	60s	eAAA	70s	AADABAAAAA
	80s	AAAAAAAAB		
034013	70s	-EEEAEADB	80s	ADEDDEt:t
034014	60s	- ----f	70s	cfccfccffc
	80s	ccffcbCAA		
034018	70s	FFCCADDE	80s	AAAAAEAEA
034019	70s	----FAAAAA	80s	AAAAAAAAB
035001	60s	:ttFEE''t	70s	'':tt:FFCFE
	80s	befabebbe		
035002	60s	----eAAAAA	70s	AAAABAEAAB
	80s	AAAAAAABA		
035003	60s	-eAAAAAAAA	70s	ABAAAAAAAA
	80s	ABBAAAaen		
035004	60s	-----FAAAA	70s	AAAAAAAAAB
	80s	ABBAAAAAE		
035008	60s	--tfEAAA	70s	AAAAAAAAAA
	80s	ABBAAAAAF		
035010	60s	---------e	70s	AAAAAAAAAE
	80s	ABBAAAeab		
035013	60s	---------t	70s	EAAAAAAAAB
	80s	ABAAAAAAE		
036001	20s	--------CC	30s	:FCCCCCCCC
	40s	CCCCCCCCCC	50s	CCCCCCBAAA
	60s	BBBAABAAAA	70s	BBBBABCCCC
	80s	CCCCCCFtF		
036002	60s	eAABAAAABA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
036003	60s	!BAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
036004	60s	-----tBAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
036005	60s	--eBAAAAAA	70s	AAAAAAAAAA
	80s	AAABAAAAA		
036006	60s	- eBABAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
036007	50s	'CCFBDABAA	70s	AAAAAAAAAA
	80s	AAAAABtAA		
036008	60s	FAAAABAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
036009	60s	---------EA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
036010	60s	---------EA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
036011	60s	---------EA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
036012	60s	-------EA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
036013	60s	ttt::t:ttt	70s	tEEEEEEEFF
	80s	FFFFFFt'e		
036015	70s	- FAAAAAAA	80s	AAABAAAFA
036016	70s	eeeeeeee		
036017	70s	-ebeeeaee	80s	ban
037001	50s	eAAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAAe
037002	30s	FCCCCBBB	40s	BBABABABAA
	50s	BBBBBBBEBB	60s	BEBBABBBAA
	70s	BAAAAAAAAA	80s	AAAAAAAAA
037003	30s	--FCCCCCCC	40s	CCCCCCCCCC
	50s	CCCCCCCCCC	60s	CCCBAAAAAA
	70s	AAAAAAAAAA	80s	AAAAABAEE
037005	50s	---------e	60s	AAAABAAAAB
	70s	AAAAAAAAAA	80s	AAAAAAAAA
037006	60s	--eAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
037007	60s	----eBAAAA	70s	AAAAAAAAAA
	80s	AAAABAAAA		
037008	60s	-----eAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
037009	60s	--eAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
037010	60s	--eBAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
037011	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
037012	60s	---eBAAAAA	70s	AAAAAABAAA
	80s	AAAABAAAt		
037013	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAABAAAt		
037014	60s	---tCBAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
037015	70s	--------e:F	80s	FFAAAAAAAe
037016	60s	-----EAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAt		
037017	60s	---------E	70s	AAAAAAAAAA
	80s	AAAAAAAAt		
037018	70s	EAAAAAAAAA	80s	AAAAABAAAe
037019	60s	-----EAAAE	70s	AAADAABEEA
	80s	AAAAAAAAAe		
037020	60s	---------'	70s	FAAAAAAAAA
	80s	AAAABAAA'		
037021	60s	---------'	70s	EAAAAAAAAA
	80s	AAAAAAAE'		
037022	60s	---------'	70s	FAAAAAAAAB
	80s	AAAABBBAt		
037023	70s	-EAAAAAAAA	80s	AAEt:::::
037024	70s	-EAAAAAAAA	80s	AAABBBAE:
037025	60s	-----CBAAE	70s	EEEFt11---
	80s	---t--ttt		
037026	60s	-ebeeebeee	70s	aaaaeee
037027	60s	feeeeebaaa	70s	ee
037028	60s	feeaaebaaa	70s	aaaeeee
037029	60s	eeeaabcaaa	70s	baeeeee
037030	60s	--EEEBBAAB	70s	e -------
	80s	------ttt		
037031	70s	------eBAA	80s	AAABAAAE:
037033	70s	-----eAAAA	80s	AAAAAEea
037034	70s	----feaaaa	80s	aaedaeaa
037036	70s	-bbaaaeaae	80s	aaaaaaa
037037	80s	-eebbeEE'		
037038	50s	-eaeee--ee	60s	beeebabbab
	70s	abbee		
037039	70s	---feeebeE	80s	EEEEEEee
038001	30s	------!CCC	40s	CCCCCCCCCC
	50s	CCCCCCCCCC	60s	CCCCCAAAAB
	70s	BAAABCFtEA	80s	AAAAAAAAAe
038002	80s	eaaaaaabee		
038003	50s	--eAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAAe
038004	70s	---------e	80s	AAAAAAAAAe
038005	30s	------t:::	40s	tt:ttttt::
	50s	ttttt-----	60s	EAAAABABAA
	70s	AAAAAAAAAE	80s	EEt:::
038006	50s	------'CCC	60s	CBAAAAAABA
	70s	AAAABAAAAA	80s	EEE
038007	60s	-----EAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
038011	50s	-------tCC	60s	CCCCCBBBBB
	70s	BABBBBBAAA	80s	AAAAE'
038012	50s	---------':	60s	tt''tttt''
	70s	'tttEAAAAA	80s	AAAAAAaaae
038013	30s	-----tttt:	40s	tt:ttttt:'
	50s	:ttt------	60s	eaabbbeaae
	70s	eeeaaabeaa	80s	AAAAABaaae
038014	50s	------eCCC	60s	CCCCCCCCCC
	70s	CCCCCCBAAA	80s	EAAAAAAAAe
038015	60s	---------E	70s	AAAABAAAAA
	80s	Ate		
038016	60s	---------f	70s	CCBBBCCCBA
	80s	AABCCCcf		
038017	70s	eBAAAAAAAA	80s	AAAAAAaaae
038018	70s	-eAAAABAAA	80s	AAAAAAAAAe
038020	70s	-EAAAAAAAA	80s	AAEEAAAAAn
038021	70s	-eAAAAAAAA	80s	AAAAAAAAAe
038022	70s	--tCCCAAAA	80s	AAAAAAAAAe
038023	80s	eedaaaaaee		
038024	70s	---EAAAAAA	80s	AAAAAAAAAe
038026	70s	----EAAAAA	80s	AAAAAAAAAn
038027	80s	------e:ede		
038028	70s	------eEAA	80s	AAAAAAAAAe
038029	70s	---------eA	80s	AAAAABAAAe
038030	70s	---------e	80s	AAAAAAAAAe
039001	80s	---cCCCCCC	90s	CCCCCCCCCC
	00s	CCCCCCCCCC	10s	CCCCCCCCCC
	20s	CCCCCCCCCC	30s	CCCCCCCCCC
	40s	CCCCCCCCCC	50s	CCCCCCCCCC
	60s	CCCCCCCCCC	70s	CCCCCBAAAA
	80s	BBAAAAAAAe		
039002	30s	--------tC	40s	CCCCCCCCCC
	50s	CCCCCCCCCC	60s	CCCCCCCCCC
	70s	CCCCCCCCCC	80s	CCCCCCCCCt
039003	60s	--eAAEEEEE	70s	eFEAEEEEDA
	80s	AAAAAAaaae		
039004	30s	------eEEA	40s	AAEttFEEEt
	50s	tt:'EAAAAA	60s	AAAAFAEEEE
	70s	tEEAEEAF'E	80s	EEFEAAAAAe
039005	30s	-----eAAEt	40s	''tt''''tt
	50s	t:''EEAAAA	60s	EEAEEEEEEE
	70s	EFEAEEEEEA	80s	AEEBBAAAAe
039006	50s	eAAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAOe
039007	50s	--eAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAAe
039008	50s	-tCCCCCCCC	60s	CCCCCCCCCC
	70s	CCCCCCCCCC	80s	CCCCCCCCCt

Stn. number	Gauged daily flows, monthly peaks and rainfall			
039010	50s	--eAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAaAAe
039011	50s	----eAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAAe
039012	50s	------FAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AALLLAALAe
039013	30s	eAAAAA	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAEA	80s	AAAAAAaAAe
039014	50s	-------eAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAAe
039016	60s	-eAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
039017	60s	--eABAABBC	70s	CCCCCCCCCC
	80s	FCFCCF!E!		
039019	60s	--EAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
039020	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
039021	60s	-----EAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
039022	60s	-----eAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
039023	60s	----eAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
039025	60s	-- eAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
039026	60s	- eAAA	70s	AAAAAAAAAA
	80s	AAAAAAAEEe		
039027	60s	eA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
039028	60s	--EA	70s	AAAAAAAAAA
	80s	AAAAAAAAAn		
039029	60s	-------!EA	70s	AAAAAAAAAA
	80s	AAAAAAAAAo		
039030	70s	EAAAAAAAAA	80s	AAAAADaAAe
039031	60s	- eAAAAAAA	70s	AAAAAAAAAA
	80s	AAAE!'':1		
039032	60s	eAAA	70s	AAAAAAAAAA
	80s	AAAE!!!::		
039033	60s	eAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAr		
039034	70s	eAAAAAAAAA	80s	AAAAAAAAAe
039035	60s	!E	70s	AAAAAAAAAA
	80s	AAAAAAaaan		
039036	60s	eA	70s	AAAAAAAAAA
	80s	AAAAAEDAAn		
039037	70s	-!EAAAAAAA	80s	AAAAAAAAAe
039038	60s	---------eA	70s	AAAAAAAAAA
	80s	AAEEBEEDAe		
039040	70s	!FAAAAAAA	80s	AAAAAAAAAn
039042	70s	--EAAAAAAA	80s	AAAAAAAAAn
039043	60s	eEAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
039044	70s	eAAAAAAA	80s	AAAAaaAAAe
039046	70s	---eALLLLA	80s	L!!!EDdaan
039049	70s	EEE!!!E	80s	DAABEAAAAe
039051	60s	-------EAA	70s	AAAAAAAAAA
	80s	AAEAAAAAF		
039052	50s	-------eAA	60s	EdAAAAAAAA
	70s	aaaaaaaaaa	80s	AAAAAAAAAe
039053	60s	-eAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
039054	60s	-eAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
039055	70s	---------n	80s	FFFAAAAAAn
039056	70s	-------eee	80s	aeaaeeaaan
039057	70s	---------ea	80s	daaaeaaaae
039058	70s	--------ee	80s	deeaaaaan
039061	70s	eaaaaaaa	80s	eeceeDEB!
039065	70s	neaeaee---	80s	abeebbAAB!
039068	70s	eAAAAE'EA	80s	AAAAAAAAAe
039069	70s	--eAE!FAAA	80s	AAAAAAAAAe
039071	70s	---------e	80s	eeeneneede
039072	70s	-- e	80s	eddedceee
039073	70s	---------e	80s	aaaaaaAAAe
039074	80s	aaaaaaAAAe		
039075	80s	eaaaaaADDe		
039076	70s	--------neaa	80s	aaaneaAAAn
039077	80s	eaaaaaAAAe		
039078	70s	---------na	80s	aaaaaaAAAe
039079	70s	---------!	80s	'feeeddaan
039081	60s	nAAAAAAA	70s	AAAAAAAAAEe
	80s	AAAaaaAAAn		
039085	30s	---eaea	40s	aae-------
	50s	----eeAAAA	60s	e
039086	70s	-----nAAAA	80s	AAAaAAaaan
039087	70s	eAAAAA	80s	aAAAAAaAAe
039088	70s	----aAaAAA	80s	AAAAABAAAo
039089	70s	----eaaaa	80s	aaeaaaaeee
039090	80s	-----e-''		
039091	70s	--------ee	80s	aaaaee''1
039092	70s	e	80s	aeeaeeEAAe
039093	70s	---------ee	80s	aeeenaaaan
039094	70s	'ea	80s	baaaeaaaae
039095	70s	---------aa	80s	aaenaaaaeco
039096	70s	---------e	80s	aeeanaaaae
039097	80s	lrccccCCCl		
039098	80s	----eck!aen		
039099	80s	---naaaaan		
039100	80s	----enddne		
039101	80s	--neaaAAAn		
039102	80s	----edaetan		
040001	50s	---EAAAAAA	60s	AAAAABAFF'
	70s	''!!!''!!!	80s	!'' !!!
040002	50s	- eAAA	60s	AAAAAAAAEA
	70s	BBAAAe-!!!	80s	!!! !!!
040003	50s	----eAAA	60s	AAAAABEEFF
	70s	'FCFCCCCCC	80s	BBBAAACCC'
040004	60s	--eAAAALLB	70s	AAAAAEAAAF
	80s	AAAAADAAA		
040005	50s	--------eA	60s	AAAAAAAABB
	70s	AAAEAEAAAE	80s	AAAAADDDA
040006	50s	e	60s	AAAAAAABEB
	70s	AABEDEAEEE	80s	FEE''''EE
040007	60s	eAAAAAEEEA	70s	AAAAAAAAAE
	80s	EEEEEBAAD		
040008	60s	--eFAAAABA	70s	AAAABEAAEE
	80s	ADDDDDDDL		
040009	60s	eABBBAABA	70s	AAAAAABAAA
	80s	AAAAAAAAA		
040010	60s	eAAAAAAEA	70s	AAEAEAEAAA
	80s	DFFFFFFFD		
040011	60s	- --eAABAA	70s	AAAAABABAA
	80s	BADDAAAAA		
040012	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
040013	60s	---------!E	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
040014	70s	-e!LEELAEL	80s	DEDE!!!!!
040015	60s	E	70s	EEAAAAAAAE
	80s	LDELL!!ED		
040016	60s	!E	70s	AAAAAAAAAA
	80s	AAAAAAaaaa		
040017	70s	BEAEEBBDE	80s	EEDEE1DDA
040018	60s	--------!EE	70s	AAAAAAAAAA
	80s	AAAaaaAAAe		
040020	70s	---eEALEDE	80s	FFAF!!!DA
040021	70s	- EEEAE	80s	DDEDE!!!!
040022	80s	!!!!!1		
040023	70s	deeA	80s	ADDALEDDO
040024	70s	----eEFFAA	80s	FF!!!!!!!
041001	50s	naAaaAAAAA	60s	AAAAaAAAAA
	70s	AAAAAAAADA	80s	AAAAAAAAA
041002	50s	-nAAAAAAAA	60s	AAAAAAAAAD
	70s	AAABAAAAAA	80s	ADDDDDDAA
041003	50s	·e	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	DDDDDDDDD
041004	50s	eAAA	60s	AAAAAAAAAA
	70s	ABBBAADAAF	80s	!FCCFFFCF
041005	60s	eAAAAAAAAA	70s	AAAAAAAAAA
	80s	AADDAAAAA'		
041008	60s	-----eBAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
041009	50s	---------F	60s	CCCCCCCCCC
	70s	CCCCCCF!!'		
041010	60s	-eEAFADDAA	70s	ABFDDDDDDA
	80s	DDCADADDA		
041011	60s	-- ·FAAA	70s	AAAAAAAAAA
	80s	DDADAAAAA		
041012	60s	!EAD	70s	AAAAAAADAA
	80s	DDAADDAAA		
041013	50s	eAAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	DDAFDDDAA
041014	70s	eADAAAADAD	80s	AAADDAADA
041015	60s	--------FAD	70s	DAADDDADDD
	80s	DDAAAAAAA		
041016	30s	----------F	40s	!FFFFFFFFF
	50s	FFFFFFFFFF	60s	!FFFF!FEAA
	70s	AAAAAAAAAD	80s	AAAAAAAAA
041017	60s	--- ------e	70s	AAEAAADDDA
	80s	AAAAAAAAA		
041018	60s	--- ----·e	70s	AABAAABADA
	80s	DADADDAAA		
041019	70s	eAAAAAAAAA	80s	AAADAAAAA
041020	60s	--------- e	70s	AABAAAAAAA
	80s	AAADAAAAA		
041021	60s	-------- ·e	70s	FBABAABBED
	80s	AABBBABAA		
041022	70s	eAAAAADDDD	80s	AAAAAAAAA
041023	70s	!BBCBBBBBB	80s	BB!BFBBeb
041024	70s	FAAAAABBA	80s	DAAAAADAA
041025	70s	-EAAAADDDA	80s	DAAAADADA
041026	70s	EAAAADAAA	80s	AAADAAADA
041027	70s	--eAAAAADD	80s	DAAAAAAAA
041028	60s	-----eEEAAA	70s	AAAAAAAAAD
	80s	DADDDADAA		
041029	80s	---edaAAA		
041030	80s	''!		
042001	50s	-'CCCCCCCC	60s	CCCCCCCCCC
	70s	CCCCCBDAAA	80s	AEDAAAAAA
042002	50s	----------!	60s	!!''!!!!''
	70s	'' !!!-	80s	!!'
042003	60s	!CCCCCCCCC	70s	CCCCCCBAAA
	80s	DAAAAAAAA		
042004	50s	!CC	60s	FCCCCCCCCC
	70s	CCCCCCCCCF	80s	FCCCCCCCCC
042005	50s	-!CCCC	60s	CCCCCCCCCC
	70s	CCCCCFCFFF	80s	FCCCCCFDA
042006	50s	---------!C	60s	CCCCCCCCCC
	70s	CCCCCBAAAA	80s	AAAAAAAAA
042007	70s	'CCCCFCCcc	80s	cf!ccCCA
042008	70s	FCCCCBAAAA	80s	AAAAAAAAA
042009	70s	!CCCCBAAAA	80s	AAAAAAAAA
042010	50s	---------fc	60s	cccccccccc
	70s	ccCCCCcccC	80s	CCCCcCCCAf
042011	70s	--'CCBAAAA	80s	AAAAAAaaa
042012	70s	- !'BBBBC	80s	CCCCCCCCC
042014	60s	---------!!	70s	!!''!!EDAA
	80s	AAAaaaAAA		
042015	80s	····-e		
042016	70s	!c!!'	80s	clcl
042018	80s	- -a		
042020	80s	a		
042021	70s	- !	80s	!ee
043001	60s	nAAAAF!!!'	70s	'!!!!''!!!
043003	60s	- !CFCC	70s	CCCCCCCCCC
	80s	CCCcCC!!!		
043004	60s	-----EAEAA	70s	AAAAAFAAAA
	80s	BEEEEBEDEf		
043005	60s	-- -EAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAABe		
043006	60s	AAAA	70s	AAAAAAAAAA
	80s	AAAAAABBFe		
043007	70s	--1AAAAAAA	80s	AAAAAAABAe
043008	60s	-------AAA	70s	AABAAAAAAA
	80s	AABAAABBBe		
043009	60s	- ------eA	70s	AAAAAAAAAA
	80s	AAAAAAAADe		
043010	60s	- !	70s	EAAAAAABAA
	80s	AA!!!'		
043011	70s	Ecc'!!!!!	80s	· ---'''
043012	60s	-------!!!!	70s	!FAAAAABAA
	80s	AAAEABAAEf		
043013	60s	----------!	70s	!EBABBBAAA
	80s	AEBE!!!!1		
043014	60s	···· !!!!	70s	!EAAAAAAAA
	80s	AAAAAAALAe		
043015	60s	!!!!	70s	!FFFFF!!!!
043017	60s	-------!!!!	70s	!FAAAAAAAA
	80s	AAABABBBEe		
043018	70s	----eAAAAA	80s	AAAAAAbbee
043019	70s	EAAAAAA	80s	AABAABaabf
043021	70s	-----BBBAB	80s	BBBCCCCCF
044001	60s	-------cccC	70s	CCCCCCCccc
	80s	ccccCC!!1		
044002	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAEAe		
044003	60s	---- --FAAA	70s	AAAAABBAAA
	80s	e --!!!		
044004	70s	-!CCCCCccc	80s	ccbcBB!!!
044006	60s	---!!!E	70s	AAAAABBAAA
	80s	AAAAABBBC!		
044008	70s	·!EEAAAA	80s	AD!!!!!!!
044009	70s	---- eAAAA	80s	ABAABBABEf
045001	50s	------·eAAA	60s	AAAAAAAAAA
	70s	AAAAABAAAA	80s	AAAAAAAAA
045002	60s	eAAAAAAAB	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
045003	60s	eAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
045004	60s	eAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAB		
045005	60s	- eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAf		
045006	60s	----eeAF!!	70s	!!!!'!!!!'
045008	70s	!'EAAAAA	80s	ABAAAAAAB
045009	80s	-AAaaaACF		
045010	70s	--ccccccc	80s	-------!!!
045011	60s	---- ---c'	70s	-- !cccc
	80s	c'----!!!		
045012	60s	'c'ccc	70s	cccccccccc
	80s	cccccAA!		
046002	50s	-------eAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAI
046003	50s	---------eA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAA!
046005	60s	----FAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAC		
046006	70s	AAAAAA	80s	AAAAAAAAC
046007	70s	--eAAAAAAA	80s	AF----''!
046008	70s	-eaaaaaaaa	80s	aF----''!
047001	50s	---- eAAA	60s	AAAAAABBBB
	70s	AAAAAAAAAA	80s	AAAAAAAAA
047003	50s	eBF	60s	!!!!'!!!''
	70s	!!!'EELAAL	80s	F!!!!'
047004	60s	---eAAFAEA	70s	AAAAAAAAAA
	80s	AAAAAAAAC		
047005	60s	eAAAAAA	70s	AEE!!'''EA
	80s	AF----!!!		
047006	50s	eAAFAEE	70s	EE''!EAAAL
	80s	AF----''!		
047007	50s	eAAABAA	70s	AAEEAAAAAA
	80s	AAAAAAAAA		
047008	60s	e	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
047009	60s	---------E	70s	AAAAAAAAAB
	80s	AAAAAAAAA		
047010	70s	-'EAAAAAAA	80s	AAAAF1AAC
047011	70s	EAAAAAAAA	80s	AF ---!''
047013	70s	--IDAAAAAA	80s	AAAAAAAAC
047014	80s	aaaaeAAC		
047015	80s	-eaaaaf!!		
047016	70s	------'ccl	80s	'f!'ccCC1
047017	70s	'cc	80s	ccccccA!!
048001	50s	--------eAA	60s	AAAAEAAFFF
	70s	AAAAAAAAAA	80s	AAAAAAAAD
048002	60s	-FcbAAABBA	70s	AAABABFccc
	80s	!cfc' '!!		
048003	70s	----------!c	80s	cAABAAAAA
048004	60s	---------e	70s	AAAAAAAAAF
	80s	AAAAAAAAA		
048005	60s	---------EA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
048006	60s	---------FA	70s	AAAAAAAAAA
	80s	AAAAABAAC		
048007	60s	---------FA	70s	AAAAAAAAAA
	80s	AAAAAAAAC		
048009	70s	!FAAAAAAAA	80s	A!!''!!!'
048010	50s	--------!'-	60s	----------!
	70s	cCBAAAAAAA	80s	AAAAAAAAA
048011	60s	-FcbAAABBA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
049001	60s	····eAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
049002	50s	-- EE!	60s	'''!!!!'!EA
	70s	AAABAAAAAA	80s	AAAAAAAAA
049003	60s	- · eEB	70s	CBEEEAAADA
	80s	AAAAAAAAC		
049004	60s	----------F	70s	AAAAAAAAAA
	80s	AAAAABDAA		
050001	50s	---------nA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAAI
050002	60s	--eAAAAAAA	70s	BAAAAAAAAA
	80s	AAAAAAAAA		
050004	60s	eE!!!	70s	!!!!''!!!'
	80s	---'!!		
050005	70s	-----!ccc··	80s	!ccccccaCf
050006	60s	-----daeee	70s	aaaaaaaaaa
	80s	aeeeen'1A		
050007	70s	!cccccc	80s	cccfccCF'
051001	60s	-- -- AAA	70s	AAAAAAAAAA
	80s	AAAEnaAAAe		

Stn number	Gauged daily flows, monthly peaks and rainfall			
051002	70s	---nabsaan	80s	-----aAAEn
051003	60s	------'ebb	70s	bbbbeab'ee
	80s	e- eeaAAAe		
052001	50s	-- ---naaa	60s	aaaabAAEI
	70s	111---'11		
052002	50s	------eAAB	60s	BBBBBBAAe
	70s	'''		
052003	60s	cBAAAAAAA	70s	AAAAAAAAAA
	80s	AFAAAAAAAn		
052004	60s	--nAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
052005	60s	-EAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAn		
052006	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
052007	60s	cAAA	70s	AAAAABAAAA
	80s	AAAAAAAAAn		
052008	60s	eBBBBBAAE'	70s	1111-1111
052009	60s	AAAAAA	70s	AAAAAAAAAA
	80s	ABBAAFFAAn		
052010	60s	----eAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
052011	60s	-----aAAAA	70s	AABAAAAAAA
	80s	AAAAAADAAe		
052014	60s	'EAA	70s	BAAAEEEEEt
	80s	'FEaaaBAAt		
052015	70s	-EAAAAAAAE	80s	-----naaan
052016	70s	'EAAAAAAAA	80s	AAAAaaAAAe
052017	70s	---FFF'111	80s	---aaaan
052020	60s	------lc'	70s	'IIFLAAAAI
	80s	·11		
053001	50s	---nAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	Et
053002	50s	---nAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAaaaAAA'
053003	30s	'	40s	fccbbbbc b
	50s	bbabAAAAAA	60s	AAAAAAAAAF
	70s	'11''111'	80s	1'----111
053004	50s	EA	60s	AAAAAAAAEE
	70s	AAAAAAAAAA	80s	AAAAAAAAAn
053005	60s	-EAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAI		
053006	60s	-eAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAI		
053007	60s	-eAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAI		
053008	60s	---AAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
053009	60s	------AAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
053013	70s	AAAAAAAAAA	80s	AAAAAAAAAn
053017	70s	---EAAAAAA	80s	AAAAAAAAAn
053018	60s	e	70s	AAAAAAAAAA
	80s	AAAAAAAAAn		
053019	60s	e	70s	aaaaaaaaaa
	80s	AAAAaaaaan		
053020	60s	--------ea	70s	aaaaaaaaaa
	80s	AAAaaaaaa		
053022	70s	------eAAA	80s	AAAALII''
053023	70s	cAAF	80s	AAAAAAAAAn
053024	70s	--------AA	80s	AAAAAAAAAn
053025	80s	AAAAAAAAAe		
053026	70s	--------AA	80s	AAAAAAAAAn
053028	80s	--eaaaAAEe		
053029	80s	----aaaaa		
054001	20s	FCCCCCCCC	30s	CCCCCCCCCC
	40s	CCCCCCCCCC	50s	CCCCCCCCCC
	60s	CCCCCCCCCC	70s	CCAAAABAAA
	80s	AAAAAAAAAn		
054002	30s	------fbAA	40s	AAAAAAAABC
	50s	CCCCBAAAAA	60s	AAAAAAAAAA
	70s	BCBABABAAA	80s	AAAAAAAAAn
054004	50s	-'CBAAAAA	60s	AAAAAAAAAA
	70s	BFFFBAAAAF	80s	AAAABAAAAn
054005	50s	---ICBAAAA	60s	AAAAAAAAAA
	70s	ABBAAABAAA	80s	AAAAAAAAAe
054006	50s	---IBAAAAA	60s	AAAAAAAAAA
	70s	BCBAAABBAB	80s	AAAAAAAAAe
054007	50s	-----nAA	60s	AAAAAAAAAA
	70s	BCEEBBBAAA	80s	AAAAE''AAe
054008	50s	-eAAA	60s	AAAAAAAABB
	70s	CCAAAAAAAA	80s	AAAAAAAAAe
054010	50s	---------e	60s	AAAAAAAAAA
	70s	BCbAAAAADD	80s	AADEIII''
054011	60s	nAAAAAAAB	70s	CCBABBABAB
	80s	AAAAEII''		
054012	60s	eAAAAAAAAB	70s	ABAAABBAAA
	80s	AAAAAAAAAe		
054013	50s	--------e	60s	AAAAAAAABA
	70s	AABABBBAAE	80s	111' 1''
054014	60s	--IBAAAAAB	70s	BAAAAAAAAA
	80s	AAAAAAAAAe		
054015	60s	-- E	70s	EFFFFEAAAA
	80s	AaAA''111		
054016	60s	eAAAAAAAA	70s	BAAAAAAAAA
	80s	AAAAAAAAAe		
054017	60s	--eAAAAAAA	70s	BBAAAAAAAA
	80s	AAAA''		
054018	60s	eAAAAAAA	70s	AAAAAAAAFA
	80s	AAAAE''AAe		
054019	60s	--eAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAe		
054020	60s	- eAAAAAB	70s	AAAAAAAAAA
	80s	AAAAAAAAAn		
054022	50s	---nAEAAEI	60s	'''1111''FB
	70s	AEAAADAEAA	80s	AAAAAAAADI
054023	60s	-- -eA	70s	BBAEI'BAAA
	80s	AAAA''111		
054024	60s	111''111F	70s	AAAAAAAAAA
	80s	AAAAAAaaan		
054025	60s	--------F	70s	ABAAAAAAAA
	80s	AADAAAAAAe		
054026	60s	---- --I	70s	'FAAFAAAAA
	80s	AAEA''111		
054027	60s	------ e	70s	aAAAAAAAAA
	80s	AAAAE'111		

Stn number	Gauged daily flows, monthly peaks and rainfall			
054028	60s	----- I	70s	FBBAAAAAAA
	80s	AAAAAAaaar		
054029	70s	FBBAAAAAAA	80s	AAAAAAAAAn
054032	70s	FBBAAAAAAA	80s	AAAAAAAAAe
054034	70s	-FAAAAAAAA	80s	AAAA''IFAe
054036	70s	-'EAAAAAAA	80s	AAAAEII''
054038	70s	-IEABAAAA	80s	AAAAEAAAAe
054040	70s	FABAAAA	80s	AAAAAAaaae
054041	70s	--FCCCAAAA	80s	AAAAAAAAAn
054042	70s	'EAEAAEEII		
054043	50s	-- --Icccc	60s	ccccIcccc
	70s	FI II'	80s	'II
054044	70s	-IFAAAAAAA	80s	AAAAAAAAAn
054045	70s	---IAAAAAE		
054046	70s	----Iaaaa	80s	aAAAEI
054047	70s	fbae	80s	II''I
054048	70s	------nAAA	80s	AAAAF''II
054049	70s	---------e	80s	aaaaaaAAEe
054052	70s	'bCAAAAAAA	80s	AAAAII'EI
054054	70s	-FAAAF-	80s	-- I''''I
054055	70s	---ntnaa---	80s	------I''
054056	70s	--EEEEE		
054057	70s	fccbbaaa	80s	aaaaaaAAAe
054058	70s	--naabbnn		
054059	70s	--naabaEE'	80s	------I''
054060	70s	ebaaaae	80s	fcII 'EAe
054061	70s	ntaanbe		
054062	70s	--EAEEBEAE	80s	AAAAIII''
054063	70s	-eabacaae	80s	aaae
054065	70s	FAABFAF	80s	- - - I''
054066	70s	---EBBBAAA	80s	AAAAIII''
054067	70s	bbbae		
054068	70s	nen		
054069	70s	----naaan		
054070	70s	eabaaa	80s	aaaa
054080	70s	-- ---Ind	80s	aaan---''I
054081	70s	-------EBA	80s	AAAAAAaaan
054083	70s	ea	80s	aaaa 'I'
054084	70s	---------na	80s	aaaa--'I'
054085	70s	---------e	80s	aaaa--'I'
054086	70s	c	80s	ceaae aae
054087	70s	---BAEE---'	80s	aanc- -I
054088	70s	---------na	80s	eaaaaaAAAn
054090	70s	edacaaa	80s	aaaae I''
054091	70s	------ADAA	80s	AAAan-I''
054092	70s	----eDAAAAA	80s	AAAae-I''
054094	80s	eeeeeeAe		
054095	80s	----nenAn		
054098	80s	--------I		
055002	30s	-----eEFAA	40s	AAAAAAAAAA
	50s	AAAAAABAAA	60s	AAAEAAAAAA
	70s	CCCBAAAAAA	80s	AAACCCAAA
055003	30s	---------e	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAABAAAAA	80s	AF'
055004	30s	eAA	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAFAAAAAA
	70s	AAAAAAAAAA	80s	EEFIIIIII
055005	30s	-- ----nBA	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAEAAAAAA
	70s	III	80s	'II
055006	00s	--------CC	10s	CCCCCCCCCC
	20s	CCCCCCCCCC	30s	CCCCCBAAAA
	40s	AAAAAAAAAA	50s	AAAAAAAAAA
	60s	AAAAAAAAAA	70s	AAAAAAABCC
	80s	cCCFCI		
056007	30s	-------eAA	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAFAAAAAA
	70s	CCCCCCCCCC	80s	CAACCCaaa
055008	50s	eAAAAEEaA	60s	AAAEAAAEEA
	70s	AAAAADAAAA	80s	AAAAAAAAA
055009	40s	---------eA	50s	AAAAAAAAAA
	60s	AAAFAAAAAA	70s	AAEI'I''II
	80s	------'II		
055010	50s	-- eAAAA	60s	AAAEAAAAAA
	70s	AAAAAAAEAA	80s	FFFII'I''
055011	50s	---------e	60s	AAAAAAAAAA
	70s	AAAAAABAAA	80s	DBFII''I
055012	60s	------nAAA	70s	AAAAAAAFFA
	80s	AAAAAAAAA		
055013	60s	------nAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
055014	60s	nAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
055015	60s	----eAAA	70s	AAAAAAAAEE
	80s	FADIII''		
055016	60s	--------nA	70s	FAFAAAAAAA
	80s	AAAAAAAAA		
055017	60s	--------nA	70s	BAAFFAAAAA
	80s	AE----'''		
055018	60s	--------nA	70s	AAAAAAAAAE
	80s	AAAAAAAAA		
055021	60s	II'E	70s	AAAAAAAAAA
	80s	AAF'FADAA		
055022	60s	-------'-e	70s	AAAABAAAAF
	80s	IFF'IIIII		
055023	30s	------'BAA	40s	AABAAAAAAA
	50s	AAAAAAAAAA	60s	AAAAAAAAAA
	70s	CCCCCCCCCC	80s	CAAAAAAAA
055025	60s	------I''	70s	FAAAAAAAAA
	80s	AAAAAAAAA		
055026	30s	-------eBA	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAEAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAA '
055027	70s	eAAAAAAEI	80s	'''- -II
055028	70s	-nAAAAAAAE	80s	ADAAAACAA
055029	40s	---------nA	50s	AAAAAAAAAA
	60s	AAAEAAAAAA	70s	AAAAAAAAAA
	80s	EAAAADAAA		
055030	20s	-- -- Icc	30s	cccccccfc
	40s	ccccccccc	50s	c - -
	60s	----------	70s	---III
055031	70s	-'IEAAAAAA	80s	AAAAAAAAA
055032	00s	-- CC	10s	CCCCCCCCCC
	20s	CCCCCCCCCC	30s	CCCCCBAAAA
	40s	AAAAAAAAAA	50s	AAAAAAAAAA
	60s	AAAAAAAAAA	70s	AAAAAAABCC
	80s	cAAAAAaaa		

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055033	60s	----------	70s	---ndaaaaa
	80s	abaae III		
055034	70s	---nneaaaa	80s	eaaae III
055035	70s	---naaaaa	80s	aaaan-'''
056001	50s	- EAA	60s	AAAAAAAAAA
	70s	AAAAAABAAA	80s	AAAAAAAAA
056002	50s	-------eAA	60s	AAAAAAAAAF
	70s	AAAAAEIIAA	80s	AAAAAAAAA
056003	60s	- -eAAAAAA	70s	AAAAABAAAA
	80s	AA'---'II		
056004	60s	-----eAAAA	70s	AAAAAAAAAA
	80s	FI' 'II		
056005	60s	----IFAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
056006	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAIIIII'I		
056007	60s	----- 'FAF	70s	FAAAAAAAAA
	80s	AAAAAAAAA		
056008	70s	ebaAAEEI''	80s	I' ---'I
056010	60s	---- --n	70s	aaeeeeeeea
	80s	en----I''		
056011	70s	ebaAAAAAAA	80s	AA'---''I
056012	70s	-AAAAAAABB	80s	AA' --'I
056013	70s	--eAAAAAAA	80s	AAAAAAAAA
056014	70s	--- e	80s	eec'
056015	70s	I''FAAAF	80s	AAII--''I
056016	70s	---------e	80s	aaabaaaaa
057001	30s	nnEB	40s	e---------
	50s	--naAABAAA	60s	ABBBBBAAEA
	70s	AAAA'''I''	80s	I''I
057002	30s	caaaaaaAA	40s	AAAAAEAAAA
	50s	AADDAABAAA	60s	AAAAAAAAAA
	70s	ABAAIII'II	80s	I''
057003	60s	eAAAA	70s	AAAIIII''I
	80s	III'''II		
057004	50s	-------nAA	60s	AEFAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAA
057005	70s	nAAAAAAAAA	80s	AAAAAAAAA
057006	70s	eAAAAAAAAA	80s	F''FAAAAA
057007	70s	'EAAAAAA	80s	AAAAAAaaa
057008	70s	--'AAAAAAA	80s	AAAAAAAAA
057009	70s	-----AAAAA	80s	AAAAAAAAA
057010	70s	eAAAAA	80s	EAAAAAAAA
057011	70s	-------naan	80s	e
057012	70s	- ----eaae	80s	e
057015	70s	eA	80s	ABACCCaaa
057016	70s	---------n	80s	AAAAAAaaa
058001	60s	nAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAEAA		
058002	70s	AAEEB	80s	EAADAAAAA
058003	60s	--nAAF'II	70s	'III''I'II
	80s	------I''		
058005	70s	eAAAAAAAAA'	80s	AAADFADBA
058006	70s	-EAAAAAAAA	80s	FAAAAAAAA
058007	70s	cBAAAAAAAA	80s	EAAAAAAAA
058008	70s	-FAAAAAAAA	80s	FCADADACA
058009	70s	-EAAAAAAAA	80s	AAADADADA
058010	70s	- - naaaa	80s	eE'' I''
058011	70s	------eAAA	80s	AAAAAAAAA
058012	80s	I'I		
059001	50s	- - -nEA	60s	AAABAAAAAA
	70s	AEAFFAAAAA	80s	DAAAAAAAA
059002	60s	-------I'B	70s	AABBBBAAAA
	80s	AAAAAAAAA		
060002	60s	eAAAAAAEI	70s	BAAAAAAAEE
	80s	EAADAAADA		
060003	60s	----EAAAA	70s	AEEAAAAAAA
	80s	AAAAAADAA		
060004	60s	-------IIE	70s	EEAAAAAAAA
	80s	AA' II'		
060005	60s	--------I-	70s	BADAAAAAAA
	80s	AAAAAAAAA		
060006	50s	FB	70s	BBBABAAAAA
	80s	AAAAAAAAA'		
060007	60s	- --IA	70s	AAAAAAAAAA
	80s	AAAAAAAAD		
060008	80s	---Iaaada		
060009	70s	'CCCCFFI''	80s	II''IIIII
060010	50s	---------eB	60s	AAAAAAAAAA
	70s	AAAAAaaae-	80s	eaaaaaenA
060012	70s	IAABBBAEEA	80s	EEI II'
060013	70s	-EBCCCFII'	80s	I'- ''I
061001	60s	-----eAFAF	70s	EAAE'''II'
	80s	''III'''		
061002	60s	nABAAAABBA	70s	AAEADAAAAA
	80s	AAAAAFAED		
061003	60s	---------e	70s	AEAAAAAAAA
	80s	AAAAAAAFE		
061004	60s	--eAEAF	70s	FAaaaaaee
	80s	eaaacIAEI		
062001	50s	---- --E	60s	AAAAAAAAAA
	70s	EAAAAAAAAA	80s	AAAAAAAAA
062002	70s	-naaAAAEAF	80s	EEI---''I
063001	60s	eAAAAAA	70s	AAAAAAAAAA
	80s	EAAAAAAAA		
063002	60s	--- eAEAA	70s	AAAAAAAAFF
	80s	AAAADI		
063003	70s	eeaeAALAAF	80s	'I II'
063004	80s	- II'		
064001	60s	--FAAAAFAA	70s	AEIIEIIII'
	80s	IDAAAAAAA		
064002	60s	-----'AEEA	70s	IFDDDODAAA
	80s	AAAAAAAAA		
064006	60s	'ccccccccc	70s	cBABAAAAAA
	80s	AAAAAAAAA		
065001	60s	-eAABAABAF	70s	FEEEAAAAAD
	80s	AAAAAAAAA		
065002	60s	-eee	70s	eEEEIEEI'
065004	70s	nEFFAAAAAA	80s	AAAAAAAAA

Stn. number	Gauged daily flows, monthly peaks and rainfall			
065005	70s	tAAAAAAA	80s	AAAAAAAAA
065006	70s	------eAAA	80s	AAAAAAAAA
065007	70s	!FAAAA	80s	AAAAAAAAA
066001	50s	----e	60s	AAAAAAAAAA
	70s	AAAAAAACCF	80s	C:::::::::
066002	60s	-eABAAAAAC	70s	BAAAE!!!!!
	80s	------!!!		
066003	60s	-- eAE!EA!	70s	!!!!EEEEEE
	80s	AAD!!!aaa		
066004	70s	aAAAAAA!!!	80s	!!!---!!!
066005	70s	EAFAAA!!!	80s	!!--- !!!
066006	70s	---EAAAAAA	80s	AAAAAAAAA
066008	70s	---aaa	80s	bbaaadAAA
066011	60s	----eEEEEA	70s	AAFAAAAAAA
	80s	AAAAAAAAA		
067001	50s	-------eAA	60s	AAAAAAAAAA
	70s	ABAAAAAAAA	80s	AAACCCaaa
067002	30s	-------eAA	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAAAAAAAA
	70s	A!!!!!-!!!		
067003	20s	--eAAAAAAA	30s	AAAAAAAAAA
	40s	AAAAAAAAAA	50s	AAAAAAAAAA
	60s	AAABBAAAAA	70s	AABAABCAAA
	80s	AAA!FAAAA		
067005	50s	---:::EAAA	60s	AAAAAAAAAA
	70s	AAAAAAA:::	80s	!!!-- !!!
067006	60s	aAAAAAAAAA	70s	BAAAAAAAAA
	80s	AAAAAAAAA		
067008	60s	-----EBAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
067009	60s	-----EE!EB	70s	BBBRFBFBAB
	80s	B!DDDDded		
067010	60s	------EAAA	70s	AAAAAA!!!!
	80s	!! !!!		
067011	60s	-------ccc	70s	ccffccccff
	80s	ff		
067012	60s	-------EE!	70s	!!!!!!-!!!
067013	60s	--FDE	70s	AAAAAaa!!!
	80s	------!!!		
067015	30s	- eAA	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAA
067016	60s	------EAE	70s	::::E!!!!!
	80s	!:		
067017	60s	---!B	70s	AAAAAAAAAA
	80s	AAAAAAaaa		
067018	60s	- -!F	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
067025	70s	------aaaa	80s	aAAAE!!!'
067026	70s	---cccccc	80s	cCCCCCc
067028	70s	-------ea	80s	ee
067029	70s	-eaa	80s	eeddfdd
068001	30s	- eAB	40s	AABCBBABBB
	50s	BAAAAAAAAA	60s	AAAAAAAFAE
	70s	AAAAAEAAA!	80s	EAAAAAAAA
068002	40s	-------e	50s	AAAAAAAAAA
	60s	AAAAAAAEAA	70s	AAAAAAE!''
	80s	!! !!!		
068003	40s	---------e	50s	AAAAAAAAAA
	60s	AAAAAAAFAA	70s	AAAAAE!'':
	80s	1DAAAAAAA		
068004	50s	----- eAA	60s	AAAAADADAA
	70s	AAAAAFAA!'	80s	1AAAAAA!1
068005	50s	---eAAAAAA	60s	AAAABAAEAA
	70s	AAAAAFFFAA	80s	AAAAAAAE'
068006	50s	---aAAAAAA	60s	AAAAAAAEEA
	70s	AAAAAFF!!:	80s	!EEAA!!!:
068007	60s	--aBAAAAAA	70s	AAAAAFAAEA
	80s	AAEEAAA!:		
068010	70s	---!!!!!'	80s	!'----!'1
068015	80s	-aaaaaAA'		
068018	70s	------1		
068020	80s	-AAAAAAA!		
069001	30s	----ebabBB	40s	BBBBBBBBBB
	50s	AAAAAAAABA	60s	BAAAAAABEA
	70s	AAABABAAA:	80s	'AAAacaa
069002	40s	-- e	50s	AAAAAAAAAA
	60s	AAAAAAAEAA	70s	AAEEA'AAAA
	80s	AAAAAAAAA		
069003	30s	-----eF'	40s	'''''!!!!E
	50s	AAAAAAAAAA	60s	AAAAAAAFAA
	70s	AAAEE:AFAF	80s	AAAAAAA!!
069004	40s	-----fBBBB	50s	BBBBBBBBAA
	60s	AAAAAAAAE!	70s	BBCCCCCCCC
	80s	CC:!		
069005	50s	----eAEAAA	60s	AAAAAAAFAA
	70s	AAAEAAEFFA	80s	EAAE::
069006	50s	---eAAAA	60s	AAAAAAAAAA
	70s	DAAEAEAAAA	80s	AAAAAAAAA
069007	70s	-!!!!!!!!:	80s	!AAAAAAA:
069008	80s	::::1eaE:1		
069011	80s	::::--:::		
069012	80s	--eAA!		
069013	80s	--e-ee111		
069015	70s	-------AFF	80s	AAAAAAAAA
069017	70s	----AA!	80s	!AAAAAAA!
069018	60s	---------!	70s	111!!!!-11
	80s	::-----!!!		
069019	60s	--------e	70s	aaaaaaccbb
	80s	bee---!!!		
069020	70s	------AAAA	80s	AAAAAAAAA
069023	70s	--------EA	80s	1AAAAAaaa
069024	80s	!AAAAAaaa		
069027	70s	--------D!	80s	1AAAAAAA:
069030	70s	------e!DA	80s	AAAAAAa
069031	80s	-aaeeeA11		
069032	70s	---------A	80s	AAAAAA
069034	80s	----e-!!!		
069035	70s	-------AEA	80s	!AAADAe
069037	80s	-----1CCF		
069040	80s	---aaee		
070002	80s	BAABAAAA!		
070003	70s	--- - e	80s	---ee
070004	70s	----- AAAA	80s	AAAAAAA!A

Stn. number	Gauged daily flows, monthly peaks and rainfall			
070005	70s	--------e-	80s	-aaee--ee
071001	60s	fCCCbAAAAA	70s	BCBBBAAAAA
	80s	AAAAAAAAA		
071003	50s	-------eAA	60s	AAAAAAAAAA
	70s	AAAaE!-!!!	80s	------!!!
071004	60s	---eBAAAAA	70s	AE!!AEAAAB
	80s	AAAAAAAAA		
071005	60s	eAAAAAAAAA	70s	AABbE!-!!!
	80s	------!!!		
071006	60s	--------FC	70s	CFCCAAFAAA
	80s	DAAAAAAA!		
071007	80s	::::		
071008	70s	-------AE!	80s	!AAAAAAA!
071009	80s	aaaaaaA!A		
071010	70s	-tccccfAA!	80s	!AAAAAA!E
071011	60s	------FFFC	70s	CCFF!!!EAE
	80s	EAAAA!AAE		
071013	80s	aeeee		
071014	70s	-------aaa	80s	-aaaaa
072001	50s	---------c	60s	cCCCCCCBCC
	70s	CAAAAAB!!!	80s	------!!!
072002	60s	---eAAAAAA	70s	AAABCCAAAE
	80s	AAAAAAAAA		
072004	50s	---------C	60s	cCCCCCCCBB
	70s	CCCCCCC!!!	80s	-aeAAAAAA
072005	60s	---------F	70s	CCCCCCFAA!
	80s	!AAAAADA!		
072006	60s	--------!!	70s	!!!!!!!!!!
	80s	!!!!--!!!		
072007	80s	-----aA!A		
072008	60s	-------ffE	70s	EABCCCAAAA
	80s	AAAAAAEEA		
072009	70s	!!!!!!!!!!	80s	!AAAAAAA!
072011	60s	--------fc	70s	!------EEA
	80s	!DAEEAEA!		
072015	80s	-----eDE!		
072016	80s	-aaaaaa!!		
073001	70s	fccccc!!--	80s	------!!!
073002	60s	---EAAAADA	70s	BBBCAAAAAA
	80s	AAAAAAAAA		
073003	80s	-aaaaEA!		
073005	60s	--------EB	70s	BBABAACAAA
	80s	AAAAAAAAA		
073008	60s	---------F	70s	AAE!AAA!!:
	80s	!AAAAAAAA		
073009	70s	!!!!!!!!!!	80s	!AAAAAAAA
073010	30s	---------C	40s	CCCCCCCCCC
	50s	CCCCBCCCCC	60s	CCCCcCCCCC
	70s	CBBBCCCAAA	80s	AAAAAAAAA
073011	70s	FCCCCC!A!!	80s	!AAAAEEA!
073013	80s	:::!!!-e		
073014	80s	:'!!--!''		
074001	60s	--------EC	70s	CCBCCCBAAA
	80s	AAAAAAAAA		
074002	60s	-------eBB	70s	AAAAABBADA
	80s	AAAAAAAAA		
074003	70s	---eEADAAA	80s	AAAAAAAAA
074005	70s	---'BAAAAA	80s	AAAAAAAAA
074006	60s	----!CCFCC	70s	CCF'BBBAAA
	80s	AABAAAAAA		
074007	70s	-----!AAAA	80s	AAAAAAAAA
074008	70s	-------ae-	80s	-babeee
075001	30s	-!!!'FAF''	40s	'!!!!EAAAA
	50s	AAAAAAAAAA	60s	AAABAAAAEE
	70s	E!!AAAEAAA	80s	AAAAAAAAA
075002	60s	'.BCBBBBBA	70s	AAAAAAAAAA
	80s	AAAAAAEAA		
075003	60s	--------eA	70s	BAABAABAAA
	80s	AAAAAAAAA		
075004	60s	-------'BA	70s	BBABAACAAA
	80s	AAAAAAAAA		
075005	70s	--AAABCAAA	80s	AAABAAAAA
075006	60s	--------eA	70s	AAAAAAAAAA
	80s	a-----''!		
075007	60s	---------e	70s	AAAAAAAAA'
	80s	-------'!!		
075009	70s	-eAAABBAAA	80s	ABAAAAAAA
075016	70s	-------DDD	80s	AAABAAeee
075017	80s	--eAAAAAA		
076001	50s	--!EABAE''	60s	EAABAAAAAA
	70s	E!!'''E!EA	80s	AEAAAAaaa
076002	60s	----!!EBBA	70s	AABABBCAAE
	80s	ABAAAAAAA		
076003	60s	-aAAAAAAEA	70s	AAAAAAAAAA
	80s	ABBAAAaaa		
076004	60s	--eAAAADAA	70s	AEAEAAA!AA
	80s	'AAAAAAAA		
076005	60s	----eAABBB	70s	AAAABBBAAA
	80s	AAAAAAAAA		
076007	60s	-------eAA	70s	AAAAAAAA'1
	80s	!AAAAAAAA		
076008	60s	-------eAA	70s	EAAAAEE!A!
	80s	!AAAAAAAA		
076009	60s	--------eE	70s	BAAAAAE!!!
	80s	1BBAAAAAA		
076010	60s	---------!	70s	EAAAAAE!:1
	80s	1AAAAAAAA		
076011	60s	-------ccc	70s	cc!!cccccc
	80s	ccccaeAAE		
076014	70s	-EAAAAAA!!	80s	!AAAAAAAA
076015	70s	EAABAABAAA	80s	AAAAADAAA
077001	60s	---eDAEEAE	70s	EEEBAAAAA!
	80s	!AAAAAAAA		
077002	60s	-!FCCBAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
077003	70s	---DAAAAAA	80s	AAAAAAAAA
077004	70s	---------d	80s	eAAAAAAAA
077005	70s	-------e--	80s	---eeaAAA
078001	50s	--------eA	60s	AE!!!-----
	70s	!!!!!!----	80s	------!!!

Stn number	Gauged daily flows, monthly peaks and rainfall			
078002	60s	---eAE!!!!	70s	!!!!!!!---
	80s	------!!!		
078003	60s	-!!!!!!DAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
078004	60s	-!!EBEEAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
078005	70s	---------A	80s	AAAAAAAAA
078006	80s	---eeaAAA		
079001	60s	-!!!!EBBEF	70s	FFCCCFCCcc
	80s	cf		
079002	50s	----- -eAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAA
079003	50s	---------e	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAA
079004	60s	-!!FCBAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
079005	60s	-!!EAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
079006	60s	-!!!!!!EAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
080001	60s	-!!EAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
080002	70s	-------dAA	80s	AAAAAAaaa
080003	80s	daaaaaABA		
080004	80s	--eaab!!A		
080005	80s	---eee!!A		
080006	80s	---eee--e		
080007	80s	--------e		
081001	60s	-----eBBe-	70s	-------!!!
081002	60s	-!!EAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
081003	60s	-!!!!!!AAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
081004	70s	--- ---dAA	80s	AAAAAAAAA
081005	80s	-----eeaa		
081006	80s	------eaa		
082001	60s	-!!EAAAAAA	70s	AAAAAAADAA
	80s	AAAAAAAAA		
082002	70s	---!EAAAAA	80s	AAAAAAaaa
082003	70s	---AAAEEAA	80s	AAAAAAAAA
083001	60s	----!!!!--	70s	-fFFFFFfff
	80s	ff		
083002	60s	---eAAAAae	70s	AAAAAAAe -
	80s	-------!!		
083003	60s	-!!!!!!!!	70s	EAAAAAAAAA
	80s	AAAAAAAAA		
083004	70s	-!EAAAAAAA	80s	AAAAAAAAA
083005	70s	--FAAAAAAA	80s	AAAAAAAAA
083006	70s	------edab	80s	aaaaaaAAA
083007	70s	-------aaa	80s	aaaaaaAAA
083008	80s	aaaaaaaee		
083009	70s	--------aa	80s	aaaaaaAAB
083010	70s	-------eae	80s	aaaaaaAAA
084001	40s	--------eE	50s	EEEBRBBFFB
	60s	AAAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
084002	50s	--eA!EAEEE	60s	AAFFAEEEFC
	70s	AAEEEEE!!!	80s	!!!'!!!!:
084003	50s	------eBDA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAA
084004	50s	-------eAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAA
084005	50s	--------eA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAA
084006	60s	-'!EAAAAAA	70s	AAAAAAAEAA
	80s	AAAE'''!!		
084007	60s	-----eEAAA	70s	AAAAAAAHBA
	80s	AAAAAAbee		
084008	60s	------eAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
084009	60s	------eAAA	70s	AAAAAAAAAA
	80s	AAAE!E'EA		
084011	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
084012	60s	-!!EAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
084013	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
084014	60s	----eAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
084015	60s	e!!'!EAAAA	70s	AAAAAAAFAA
	80s	AAAAAAAAA		
084016	60s	-!'!!'EEDA	70s	AAAAABBAAA
	80s	AAAAAAAAA		
084017	60s	-------EAA	70s	AAAAAAAAAA
	80s	AAAAAAaaa		
084018	60s	---------A	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
084019	60s	---AAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAaaa		
084020	60s	--------eE	70s	ADAAADAEAE
	80s	AAAAAAAAA		
084021	60s	---------E	70s	AAEFF!!!!!
084022	60s	------eEEE	70s	EEEAAEAAEA
	80s	AAAAAABAA		
084023	70s	---EAAAAEA	80s	AAAAAAAAA
084024	70s	--eAAAAAAE	80s	AAEAAAaab
084025	70s	---!!AAAAE	80s	AAAAAAAAA
084026	70s	----eaebee	80s	aaaaaaAAA
084027	60s	--------ee	70s	eaaFAEEDE:
	80s	-----eeee		
084028	70s	-----eeeee	80s	abaaaaeee
084029	70s	-----eeaae	80s	aaaaaaAAA
084030	80s	-eeeeeeee		
085001	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAA		
085002	60s	-!!EAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAEAAA		
085003	60s	-!!!!!!!!!	70s	EAAAAEAAEF
	80s	AAAAAAAAA		
085004	70s	------aaaa	80s	aaee-eAAA

Stn number	Gauged daily flows, monthly peaks and rainfall			
086001	60s	--------eA	70s	AAAAAABBBB
	80s	AAAAABaaa		
086002	60s	''''''EE	70s	AAAAABBAAA
	80s	AAAAAAAAA		
089008	80s	eeaaeeae		
089009	80s	-neaaenaa		
090003	80s	--eaaaAAt		
091002	80s	nAAAAAaa		
093001	70s	---------A	80s	AAAAAAAAA
094001	60s	-''''''''	70s	EAAAAAAAaa
	80s	AAAAAAAAA		
095001	70s	- eAA	80s	AAAAAAAAA
095002	80s	----- eaa		
096001	70s	----AAAA	80s	AAAAAAAAA
096002	70s	- -eAA	80s	AAAAAAAAt
096003	80s	----- eaa		
097001	50s	-----'--	60s	--''''--
	70s	-''''' --	80s	'' '''
097002	60s	-''''''''	70s	''AAAAAAAA
	80s	AAAAAAAA'		

Stn number	Gauged daily flows, monthly peaks and rainfall			
101001	60s	-''FFcFF	70s	F:CC'cC'''
	80s	''''''''		
101002	60s	---eeee'	70s	eeebbeeEEE
	80s	EBEABAAAA		
101003	80s	F--edcDB1		
101004	80s	eaaaAAA		
101005	80s	--eaaAAA		
101006	80s	------''F		
101007	80s	eeadAAD		
201002	70s	-naaaaaeaa	80s	aaaAAAaaa
201005	70s	-1EAAAAAAA	80s	AAAAAAAAA
201006	70s	eaaaaAAA	80s	AAAAAAaaa
201007	70s	'''F'FAEAA	80s	AAAAAAAAA
201008	70s	------aaaa	80s	aaaAAAaaA
201009	80s	eaaaaaaaa		
201010	80s	eaaaaee		
202001	80s	-- ''		
202002	70s	----- caca	80s	aaaaaaaaan
203010	60s	-''''''''''	70s	EAAAAAAAAA
	80s	AAAAAAAAA		
203011	70s	eaaaaaaaaa	80s	a--''
203012	70s	eaaaaaaaaa	80s	aaaAAAaaA
203013	70s	eaaaaaaaaa	80s	aaaaaaaan
203017	70s	cAAAAAAAAA	80s	AAAAaAAAAe
203018	70s	caaaaaAAA	80s	AAAAAAaaa
203019	70s	--naaaaaae	80s	aaaaaaaaa

Stn number	Gauged daily flows, monthly peaks and rainfall			
203020	70s	eaaaaaaaa	80s	aaaAAAaaA
203021	70s	-naaaaaaa	80s	aaaAAAaaa
203024	70s	-eaaaaaaa	80s	caaaaaaaa
203025	70s	eaaaaaaaa	80s	aaaAAAaaa
203026	70s	-naaaaaaa	80s	aaaaaaaaa
203027	70s	-'EAAAAAAA	80s	AAAAAAaaa
203028	70s	-'EAAAAAAA	80s	AAAAAAAAA
203029	70s	---aaaaaa	80s	aaaaaaaaa
203033	70s	-----aaaa	80s	aAaAAEaaa
203040	80s	cacaaaaaae		
203042	80s	-naaaaaa		
203092	80s	---------e		
203093	80s	------e		
204001	70s	--naaaaeaa	80s	aaaAAAaaaa
205003	70s	-cDaaaaaaa	80s	aaaaa
205004	70s	caaaaaaa	80s	aaaAAAaaae
205005	70s	--FAAAAAAA	80s	AAAAAAAAA
205006	70s	--naaaaaa	80s	a
205008	70s	----naaaa	80s	aaaAAAaan
205010	70s	----naaaa	80s	aaaaaaaae
205020	80s	eaaaae		
206001	70s	----- aaaa	80s	a
206002	70s	------aaaa	80s	a--------a
236005	70s	eaa--	80s	-eeaaaeaae
236007	80s	-naaa aaee		

Summary of Archived Data – 2

Naturalised daily and monthly flows

KEY:

Complete daily and complete monthly	A
Partial daily and complete monthly	B
Partial daily and partial monthly	C
Partial daily and no monthly	D
No daily and complete monthly	E
No daily and partial monthly	F
No naturalised flow data	–

Summary is presented in decade blocks

Stn number	Naturalised daily and monthly flows			
006007	70s	---FFEEEEF		
007003	60s	--FEEEE	70s	EEEEEEEEEE
	80s	F		
008001	30s	---FE	40s	FFEEEEEEEE
	50s	EEEFFFFFFF	60s	FEFFFF
008005	70s	F-E		
012002	70s	--FF---	80s	F
012004	70s	----EEF	80s	E
013007	70s	------FFFF	80s	EEEEEE
014001	70s	-----F F		
014002	70s	----E--E		
015003	70s	---EEEFFF	80s	EEEEEE
015006	60s	-FEE	70s	F--FFEEEEE
	80s	EEFEEF		
015007	70s	EEEEEEE	80s	FFFFEE
015008	70s	---FFFFFFF	80s	EEEEEF
015010	70s	---EEEEEEE	80s	FFFEEE
015011	70s	---FFFFFFE	80s	EEEEEF
015012	70s	---EEEEEEE	80s	FFEEEE
015013	70s	FFFFFEF	80s	EEEEFF
015016	70s	----EEEFEF	80s	EEEEEE
015017	70s	-F		
015024	80s	--FFFF		
016001	60s	FEEEEEE	70s	EEEEFFFFFF
	80s	FFFFFF		
016004	70s	-----EEEEE	80s	F
017001	60s	---------F	70s	EF ---E
017002	60s	---------F	70s	EF--- E
017003	70s	E		
017004	70s	----- F		
017005	70s	------E		
018001	70s	--- F		
018002	60s	-----FFFFF	70s	F - E
018003	60s	--FEEEEE	70s	EF--- E
018005	70s	--- F		
018008	70s	------E		
019001	50s	-------FFF	60s	EEEEFFFFEE
	70s	FEEEEEE		
019002	60s	--EEEEEEEE	70s	EFF EEE
019003	60s	-FEEEEEEEE	70s	EEEFFFF
019004	60s	FFEEEEEEEE	70s	FEE-EEE
019005	60s	--FFFFFFFF	70s	EFFFEEE
019006	60s	- -EEEEEEE	70s	EEEEFFF
019007	60s	--FFFFFFEE	70s	FEEEEEE
019008	60s	----FFEFFF	70s	EEFFFEE
019010	60s	-- ----E	70s	EEEEEFF
019011	70s	----- F		
020001	60s	-FEEEEEEEE	70s	FEEEEFF
020002	60s	------- EE	70s	EFFEEEE
020003	60s	----EEEFF	70s	EEEEFFF
020004	60s	--- -EEE	70s	FEEEEEE

Stn number	Naturalised daily and monthly flows			
020005	70s	--E		
020006	70s	---- E		
020007	70s	------F		
021001	50s	---- F	60s	EEEFFFFFFF
021002	50s	---------F	60s	EEEEEEEEEF
021003	50s	--F	60s	FFFFFFEEEE
	70s	EEFFFFFFFF	80s	EF----EFF
021004	60s	----FEEF		
021005	60s	-FFFFEEEEE	70s	FFFFFFFFFE
	80s	EF----FFF		
021006	60s	FEEEEEEEE	70s	FFFFEEEEEE
	80s	F--- FEE		
021007	80s	-----EFF		
021009	60s	-- FFFEEEEE	70s	FFFFFFFFFE
	80s	F-----FFF		
021010	60s	FEEEEEE	70s	FF-FF EE--
	80s	E		
021011	80s	- ---EEE		
021014	60s	-FFFFEFFEE	70s	EEEEEFFFFF
	80s	F ----EEF		
021018	60s	--- FE	70s	EEEFFFFFFE
	80s	F-----EFF		
021019	60s	-- -FE	70s	FFFFFFFFFE
	80s	F-----EFF		
021020	80s	EEE		
021021	60s	---------F	70s	EEEEEEFFFF
	80s	F --EEE		
021022	60s	----- F	70s	EEEFFFFFFF
	80s	F-----EEE		
021025	70s	- FFEEEEFE	80s	F- EEE
021030	80s	------FFF		
021034	80s	-----EEE		
023001	50s	------FFFF	60s	EEEFBACAA
	70s	CC		
023002	60s	--- CAAAA	70s	AC
023003	50s	----- - F	60s	EEFFEBAAAA
	70s	AAAC		
023007	60s	- -CAAAA	70s	BCAC
023008	70s	--CC		
023015	40s	--FFFFFFF	50s	FEFEFFEEEF
024001	60s	- -CA	70s	AC
024003	50s	------- FE	60s	EEEEEBACAA
	70s	AC-CC		
025001	50s	----- -FEEE	60s	EEEEEBAAAA
	70s	AC--CAAAC		
025002	70s	FFFF		
025004	50s	-------FFF	60s	EEEEEBAACC
	70s	C		
025008	60s	-- CAAB	70s	BBEF
026002	60s	-FFEEF	70s	FFFF
027001	30s	-------FF-	40s	FEEEF-- --
	50s	-- FEEEEEF	60s	FEFFFFFF F
	70s	E		
027002	50s	-- -FEEEE	60s	FFFFFFEEEE
	70s	E		
027003	60s	-FEEEEEEE	70s	FF

Stn number	Naturalised daily and monthly flows			
027004	60s	FEEEEEEEF		
027006	60s	FEEEE	70s	FF
027007	50s	---------FE	60s	EEEEFFFFFF
	70s	EF		
027009	60s	--F	70s	FF
027012	50s	----FFFFFF	60s	EEEEEFEFFF
	70s	EF		
027013	50s	FEEEEE	60s	FFFFFFFEFE
	70s	EF		
027015	60s	-CAAC		
027018	50s	-- FEEE	60s	EEEFFFFFFF
	70s	EEEF		
027019	50s	-FEEE	60s	FFFFFFFFFF
	70s	-FFF		
027021	50s	FFFEEEFEEE	70s	FF
027022	60s	-- -FFEEEE	70s	FF
027023	60s	----FEEEEE	70s	FF
027024	60s	-FFFFF		
027025	60s	-FEEFFFFFF	70s	EF
027026	60s	FEEEEEF		
027027	60s	-FFFFFFFFF	70s	EEEF
027028	60s	EEEEEEEEE	70s	FF
027029	60s	-FFFFFFFFF		
027030	60s	--FEEEEE	70s	FF
027031	60s	--- FFEFFE	70s	EF
027032	60s	------FFFF		
028001	30s	-------FFF	40s	F--------F
	50s	FEEEEEEEEE	60s	EFEEEBAAAA
	70s	AAAAACAA		
028002	40s	-----FEEFE	50s	EEEEFEEEFF
	60s	FFFFFBAACC	70s	CC CC
030003	60s	-FF		
031001	40s	FEFFEF----	50s	--FFFFEEF
	60s	FFFEEBAACA	70s	ABFFFFFFFF
	80s	CF		
031006	70s	FEEEEF		
031007	60s	---FF	70s	FF--FF
031010	70s	-FFFFF		
031012	70s	---FFF		
031018	70s	FEEEF		
031021	70s	FFFFF		
032001	40s	FEEFEEFFFF	50s	EFFFFFEEEE
	60s	EEEEEEEEEF	70s	FEEEF
032002	30s	-- -FF	40s	FFFEEEEEEE
	50s	EEEFFF--	60s	-FFFFFFEEE
	70s	EEEEEF		
032003	70s	FFFEEF		
032004	40s	---FFFFFFF	50s	EEEFFEFFFF
	60s	EEEEFFEEEF	70s	FEEEEF
032006	30s	----- - F	40s	EEEFFFFFFE
	50s	EEEEEEEEEF	60s	EEEEEEEEEF
032007	30s	- --F	40s	FFFFEFEEEE
	50s	EEFFFFFFFF	60s	EEEEEEEFFF
032008	40s	---FFEEE	50s	FFFEEEEEEE
	60s	FFFFFFFFFF	70s	EEEEFF
033001	50s	FEEEEEF		
033002	60s	--FFEBAAAA	70s	AAAAAAA

Stn. number	Gauged daily flows, monthly peaks and rainfall			
033003	50s	FF-FEEEF		
033004	40s	----FFFFF	50s	EEEEFEEF
033005	50s	--FEEEEEEE	60s	EEEEEEBBAA
	70s	AC		
033006	50s	------FEEE	60s	EEEEF
033007	50s	---FEEEEEE	80s	`FEEFEECCCF
	70s	EF		
033011	60s	-FEEF		
033026	70s	-CAAAAC		
033035	50s	----- CA	80s	AAAABAAAAA
	70s	AAAAAC		
036001	30s	-CAAAAAAA	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAC		
036002	60s	CAAAAAAAAA	70s	AAAAAC
036003	60s	-CAAAAAAAA	70s	AAAAAAC
036004	60s	-----CAAAA	70s	AAAAAAC
036005	60s	--CAAAAAAA	70s	AAAAAAC
036006	60s	--CAAAAAAA	70s	AAAAAAC
036007	60s	-----CAAAA	70s	AAAAAAC
036008	60s	CAAAAAAAAA	70s	AAAAAAC
036009	60s	------- CC	70s	AAAAAAC
036010	60s	--------CA	70s	AAAAAAC
036011	60s	--------CA	70s	AAAAAAC
036012	60s	------- CA	70s	AAAAAAC
036015	70s	--CAAAC		
037001	50s	CAAAAAAAAA	60s	AAAAAAAAC
	70s	-CAAC		
037002	30s	-CAAAAAAA	40s	ACCAAAAAAA
	50s	AAAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAC		
037003	30s	--CAAAAAAA	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AC -CAAAAA
	70s	AAAAAAC		
037005	50s	---------C	60s	AAAAAAAAAA
	70s	AAAAAAC		
037006	60s	--CAAAAAAA	70s	AAAAAAC
037007	60s	----CAAAAA	70s	AAAAAAC
037008	60s	-----CAAAA	70s	AAAAAAC
037009	60s	--CAAAAAAA	70s	AAAAAAC
037010	60s	--CAAAAAAA	70s	AAACCAC
037011	60s	---CAAAAAA	70s	AAAAACC
037012	60s	---CAAAAAA	70s	AAAAAAC
037013	60s	---CAAAAAA	70s	AAAAAAC
037014	60s	---CAAAAAA	70s	AAAAAC
037016	60s	-----CAAAA	70s	AAAACAC
037017	60s	---------C	70s	AAAACAC
037018	70s	CAAAC		
037019	60s	-----CAAAC	70s	AAAAC
037020	70s	CAAAAAC		
037021	70s	CAAAAAC		
037022	70s	CAAAAAC		
037023	70s	-CAAC		
037024	70s	-CAAAAC		
038001	80s	---DAAAAAA	90s	AAAAAAAAAA
	00s	AAAAAAAAAA	10s	AAAAAAAAAA
	20s	AAAAAAAAAA	30s	AAAAAAAAAA
	40s	AAAAAAAAAA	50s	AAAAAAAAAA
	60s	AAAAAAAAAA	70s	AAAAAAC CA
	80s	AAAAAAAAAC		
039001	80s	---AAAAAAA	90s	AAAAAAAAAA
	00s	AAAAAAAAAA	10s	AAAAAAAAAA
	20s	AAAAAAAAAA	30s	AAAAAAAAAA
	40s	AAAAAAAAAA	50s	AAAAAAAAAA
	60s	AAAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAC		
039002	30s	----- CA	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAAD
039006	50s	CAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAAC
040001	50s	---FFFFFF-	60s	-FEEFEEF
040002	50s	------FFEF	60s	FFFFFFEEF
040003	50s	------FFEE	60s	EFFFFFFF
040004	60s	--FEEEEF		
040005	60s	---- ·FEE		
040006	60s	-----FEF		
040007	60s	FEEEEEFF		
040008	60s	-----FFF		
040009	60s	-----FEE		
040010	60s	-----FFF		
040011	60s	-----FEEF		

Stn number	Gauged daily flows, monthly peaks and rainfall			
045003	60s	--FEEEEEF		
045004	60s	--------CA	70s	C
045005	60s	---FEEEFCA	70s	C
046002	60s	FEEEEEEEF		
046003	60s	-- --CA	70s	C
046006	70s	----AAAAAA	80s	AAAAAAA
047004	60s	----FBCEFF		
047005	60s	--- ---C		
047015	50s	-------AAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAA
048001	60s	----FBACCC		
048002	60s	----FF---C		
048006	60s	---CC		
048007	60s	--------CC		
049003	60s	-------CCC		
050001	50s	-- ---DA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAAD
050002	60s	- FEEBBEBA	70s	C
050006	60s	-----DAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAD		
051002	70s	---FEEEF		
052002	50s	------FEEE	60s	EEEEEBEEF
052005	60s	-FEEEBEEEE	70s	EEFEEFFF
052006	60s	--·FEEFEEE	70s	EEEEEEEF
052008	60s	FEEEEBEEF		
052014	60s	--FFF	70s	FEEEFFFF
053004	50s	--------FE	60s	FEFFFFFFFF
	70s	FFFFFFFAAA	80s	A
054001	20s	-CAAAAAAAA	30s	AAAAAAAAAA
	40s	AAAAAAAAAA	50s	AAAAAAAAAA
	60s	AAAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAA		
054005	50s	-- ·FEEE	60s	EEEEEEFBAAC
	70s	------AA		
054010	60s	--CC		
054013	60s	------CACA	70s	C-- AA
054014	60s	- -CAA	70s	C-----AA
054017	60s	-------CC		
055002	30s	-------FEE	40s	EEEEEEEEEE
	50s	EEEEEEEEEE	60s	FFFFFFFFFE
	70s	AAAAAAAAAA	80s	AAD
055006	30s	- FEEEE	40s	FFFEEEEEEF
	50s	EEEEFFEEEE	60s	EEEEEEEEEE
	70s	EEEEEEEF		
055007	30s	--------FE	40s	EEEEEEEEEE
	50s	EEEEEEEEEE	60s	EEFFFFFFFF
	70s	AAAAAAAAAA	80s	ADA
055023	60s	---------F	70s	AAAAAAAAAA
	80s	AAA		
056001	50s	- -FEF	60s	EEEEEEFFEE
	70s	FEEEEEFF		
056002	50s	-· ---FEF	60s	EFFEFFFFFF
	70s	FFFFFF		
056003	60s	----FEF		
056004	60s	FEEEE	70s	EEFFEEF
056006	60s	---FEEEEEE	70s	FFEEEEF
056011	70s	FEEEEEFF		
056012	70s	-EFFFFF		
057001	50s	--FEEEEEEE	60s	EEFFFFFFBC
057002	30s	-------FEE	40s	EEEEEFEEEE
	50s	EEEEEFFEF-	60s	-FEEEFBAAA
	70s	C		
057003	60s	-----CAAAC		
057004	50s	-- ----FEE	60s	EFFFFBAAAC
058001	60s	---FEF---C	70s	C
058003	60s	--FFEF		
059001	50s	-- ----FF	60s	EFFFFBACC
061002	60s	FEEEEBCC		
062001	50s	---------F	60s	EEEEEFFF
064001	60s	-----FF		

Stn. number	Gauged daily flows, monthly peaks and rainfall			
066011	60s	--------CA	70s	AC
067001	50s	-------FEE	60s	EEEEEEEEEA
	70s	AAAAAAAAAA	80s	AAAAAAA
067002	50s	---FEEEEEE	60s	EEEEEEFFEF
067003	60s	------- FF	70s	EEEE
067006	60s	FEEEEEEEEF		
067015	60s	--------A	70s	AAAAAAAAAA
	80s	AAAAAAA--F		
067017	60s	------- -F	70s	EF
067026	70s	----AAAAAA	80s	AAAAAAA
068001	60s	-FEEEEEFEF	70s	---E
068003	40s	------ -F	50s	EEEEEEEEEE
	60s	EEEEF-----	70s	--FE
068004	60s	FEEEEEEEF	70s	---FE
068005	60s	-FEEEEEFEF	70s	--FE
068006	60s	FEEFFEFFF	70s	----E
069004	40s	-----FEEEE	50s	FFEEEEEEEE
	60s	FFEEEEEEF		
071001	60s	---CC		
072001	60s	-FEEEEEFE	70s	FFFF
072004	80s	---------F		
073010	80s	---------F		
075001	60s	----FEF		
075002	60s	-FFEEEF		
076001	50s	-FEEEF--	60s	FEEEEEEEEE
	70s	F		
076003	60s	FEEEF		
076004	60s	--FEEF		
076007	80s	----- F		
077002	60s	-------FEE	70s	FF
078004	70s	-F		
079002	50s	---------F	60s	EEEFFEEEEF
	70s	EF		
079003	50s	---------F	60s	EEEEEEEEEE
	70s	EEF		
079006	60s	-------FEE	70s	EF
081003	60s	--------FE	70s	FF
082001	60s	---FEEEEEE	70s	EF
084001	70s	FEEEF		
084002	60s	------ FF	70s	EFFFF
084003	60s	-----FEEEE	70s	EEEEF
084004	50s	------ -FEF	60s	FEEEEEEEEE
	70s	FFEFF		
084005	50s	------ FE	60s	FFFFEEFEEE
	70s	EFFFFF		
084006	70s	FEEEF		
084007	60s	------FFF	70s	FEEEF
084008	60s	-------FEE	70s	FEEEF
084009	60s	-------FFF	70s	FFEEF
084011	60s	----FEEEEE	70s	EEEEF
084012	60s	---FEEEEEE	70s	FFFFF
084013	60s	------FFF	70s	EEEEF
084014	60s	----FEEEEE	70s	EEEEF
084015	70s	FEEEF		
084016	70s	FFEEF		
084017	60s	------ FEE	70s	FFFFF
084018	60s	---------F	70s	EEEEF
084019	60s	-------FE	70s	EFFFF
084020	70s	FEEEF		
084021	70s	FEF		
084022	70s	---FF		
084023	70s	---FF		
084024	70s	---FF		
084027	70s	---FF		
085001	60s	---FEEEEEE	70s	FFFFF
085002	60s	------FFF	70s	EEEEF
085003	70s	FEEEF		
086001	70s	FEEEF		
086002	70s	FEEEF		
097002	70s	--EEEEEF		

Produced 14th September 1989 New summaries available on request

Background

Groundwater may be obtained from almost any stratum in the sedimentary succession in the British Isles, as well as from igneous and metamorphic rocks. In many, such as clays and shales, volcanics and metamorphics, the permeable zone may well be limited to the depth to which weathering may reach, this is unlikely to be more than some 50 metres beneath the ground surface. In those strata which are not generally recognised to be aquifers, well-yields tend to be small (of the order of only a few cubic metres per day), uncertain as a continuous source (tending to fail in prolonged droughts), with an indifferent groundwater quality, and with the sources vulnerable to pollution.

The more generally recognised aquifers are listed in Table 8, with the Chalk and Upper Greensand, the Lincolnshire Limestone and the Permo-Triassic sandstones as the most important from the viewpoint of public supply. From such aquifers as these, yields of 3000 to 4500 cubic metres a day are not unusual. For the next category, including the Lower Greensand and the Magnesian Limestone, yields to individual wells of 1500 to 3000 cubic metres a day can generally be expected. In the other aquifers, whilst occasional sources sufficient for large supplies may be developed, they tend to be important only locally. The outcrop areas of the major aquifers are shown in Figure 14; throughout Wales, Scotland and Northern Ireland, aquifers are less extensively developed and tend to be only of relatively local importance.

The groundwater resources of an aquifer are naturally replenished from rainfall. During the summer months, when the potential evapotranspiration is high and soil moisture deficits are appreciable, little infiltration takes place. There is a notable exception to this rule in the Eden valley of Cumbria where, enclosed between the massifs of Cross Fell and the Lake District, sufficiently heavy and continuous summer rainfall occurs to maintain infiltration through part at least of most summers. The normal recharge of an aquifer takes place during the winter months when the potential evapotranspiration is low and soil moisture deficits are negligible.

There are few artificial reservoirs in the United Kingdom which are sufficiently large to support demands through the driest summers, assuming that they were full at the start of the summer, without some continuous contributions from river intakes. Prolonged dry spells lead in many rivers to reduced flow, particularly where the natural groundwater contribution (baseflow) is limited. Consequently, while surface water droughts may be in part due to the failure of runoff from winter rainfall to fill the reservoirs, they are more frequently caused by a decrease in the summer flows of streams and rivers. Surface water droughts do, however, lead to increased consumption of groundwater (where available). By way of contrast, a groundwater drought is caused by a lack of winter rainfall. Potentially, the most serious droughts occur when, as in 1975/76, a dry summer succeeds a notably dry winter.

The Observation Borehole Network

Groundwater level observation wells (in this context, a well includes both shafts - constructed by hand digging - and boreholes - constructed by machinery) are generally used for one of two purposes: to monitor levels regionally and thus to estimate groundwater resource fluctuations, or to monitor the effects locally of groundwater abstractions. The number of observation wells required in different areas varies widely. Over the last two decades, a target density was sought of one well to 25 to 35 km^2. During the last few years, it has become apparent in some districts that satisfactory information can be obtained with fewer wells, while in others the densities had to be substantially increased.

The observation well network was reviewed in 1981 by the British Geological Survey (then the Institute of Geological Sciences) with the aim of selecting 200 to 300 sites from the existing Water Data Unit archive, to be used for periodical assessments of the national groundwater situation. The selection was based upon the hydrogeological units identified in an investigation of the groundwater resources of the United Kingdom[1]; one site was chosen for each aquifer present within each unit. For Scotland and for Northern Ireland this was not possible due to the very limited number of observation wells available. In England and Wales, the total number finally selected was 175[2].

Details of the wells in this national network are given in the Register of Selected Groundwater Observation Wells (see page 172).

Measurement and Recording of Groundwater Levels

The majority of observation wells are measured manually either weekly or monthly. The usual instrument is an electric probe suspended upon a graduated cable or tape, contact being made by the water to complete a circuit which gives either an audible or visual signal at the surface. Measurements are normally made to the nearest 10 millimetres, although instruments may be accurate to 1 millimetre.

Some observation wells are equipped with continuous water level recorders, almost invariably activated by a float on the water surface. These recorders may be driven by clockwork or by electric battery power, and are capable of running unattended for periods of one to six months. Levels are usually recorded on paper charts or on punched

TABLE 8 GENERALISED LIST OF AQUIFERS IN THE UNITED KINGDOM

Era	System	Subsystem	Aquifer	Importance
CAINOZOIC	Quaternary	Holocene	Superficial deposits	-
		Pleistocene	Upper and Middle Pleistocene	*
			Crag	**
	Tertiary	Pliocene	Coralline Crag	**
		Oligocene		
		Eocene	Bagshot Beds	
			Lower London Tertiaries	
			Blackheath & Oldhaven Beds	
			Woolwich & Reading Beds	
			Thanet Beds	**
MESOZOIC	Cretaceous	Upper Cretaceous	Chalk and Upper Greensand	****
		Lower Cretaceous	Lower Greensand	***
			Hastings Beds	**
	Jurassic	Upper Jurassic	Portland & Purbeck Beds	*
			(with Spilsby Sandstone)	(**)
			Corallian	**
		Middle Jurassic	Great & Inferior Oolitic limestones	**
			(with Lincolnshire Limestone)	(****)
		Lower Jurassic	Bridport & Yeovil Sands	**
			Marlstone Rock	
UPPER PALAEOZOIC	Triassic	Keuper	Permo-Triassic sandstones	
		Bunter		
	Permian	(sandstones)		
			Magnesian Limestone	***
	Carboniferous	Upper Carboniferous	Coal Measures	**
			Millstone Grit	**
		Lower Carboniferous	Carboniferous Limestone	**
	Devonian		Old Red Sandstone	*

Key to aquifer importance:
- * aquifer of minor importance only
- ** aquifer producing small, but useful, local supplies
- *** aquifer of local importance, often providing public supplies
- **** aquifer of major importance

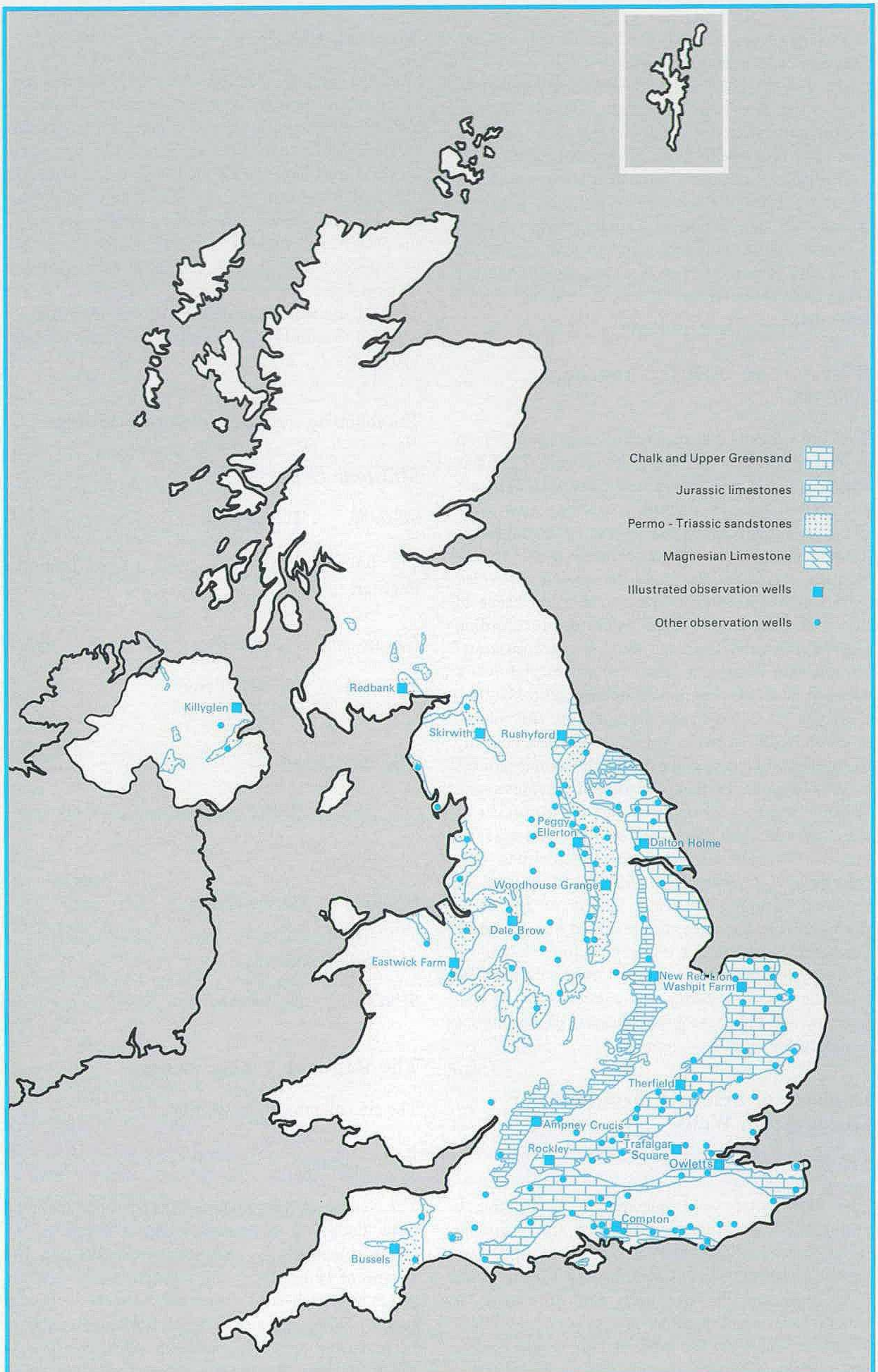


Figure 14. Principal aquifers and representative borehole locations.

paper tapes, but a number of solid state loggers have been deployed in recent years.

At a relatively small but increasing number of observation boreholes provision is made for the routine transmission - usually by telephone line - of groundwater levels to local, or regional, centres.

Pressure transducers have also been considered for water level measurement. However, available transducers will measure accurately over only a narrow range of fluctuation (up to 2 to 3 metres), or much less accurately over a wide range. They are being used more frequently but are still not yet in general use.

Observation Well Hydrographs 1985-88

Well hydrographs for 18 observation sites are shown in Figure 15. For all boreholes except Trafalgar Square (Fig. 15a), where the historical data are unrepresentative of current conditions (see page 171), the 1985 to 1988 groundwater hydrographs are illustrated together with the average and extreme monthly levels for the pre-1988 record (provided sufficient historical data are available). A break in the well hydrograph trace indicates a recording interval of greater than eight weeks; where intermittent, or very infrequent, level records extend over a substantial period the trace is shown as a broken line. Four-year plots have been used because the volume of groundwater stored in aquifers can reflect not only the infiltration taking place during the winter months of 1987/88, but also that occurring in previous years. When comparing the hydrographs for a number of sites, account should be taken of the differing scales used to illustrate the water table fluctuations. The behaviour of several wells is influenced by local, or regional, pumping for water supply or for other purposes. For instance, the levels at the Eastwick Farm site demonstrate a regional decline while those at Rushyford now stand some 10 metres higher than a decade ago (due partly to a rundown of the coal industry and the consequent cessation of continuous pumping for mine dewatering).

Register of Selected Groundwater Observation Wells

Scope

The listed sites were selected so as to give a reasonably representative cover for aquifers throughout England and Wales. The wells are grouped according to the aquifer to which the water level variations in the wells are attributed. A generalised list of aquifers is given on page 162. While the aquifers are tabulated in stratigraphical order, most of the local names for individual strata are omitted and the intervening aquicludes are not shown.

Network Changes

Since the original selection of boreholes for incorporation in the national network a number of changes have been made to the list of selected wells. At some locations, observations could no longer be continued, and new sites have been added from time to time. In the Coal Measures and the Millstone Grit, certain sites have not been monitored for some years due to the presence of methane in the wells; these sites have been discarded until either they have been made safe or have been replaced. Details of the wells in the national network are given in the Register of Selected Groundwater Observation Wells (see page 170).

The following site has been added to the Register:

Millstone Grit

SE02/46 Thrum Hall

The following sites have been deleted from the Register:

Chalk and Upper Greensand

TF74/1A Choseley Farm
TL66/2 Hall Farm

Middle Jurassic

SJ89/32 Westonbirt School

Magnesian Limestone

NZ33/20 Garmondsway

Millstone Grit

SD92/8 Horsehold Farm

The Register - data items

The six columns of the register are:

Well Number

The well numbering system is based on the National Grid. Each 100 kilometres square is designated by prefix characters, e.g. SE, and is divided into 100 squares of 10 kilometre sides designated by numbers 00 (in the south-west corner to 99 (in the north-east corner). Thus, the site SE93/4, is located in the 10 kilometre square SE93, while the number after the solidus denotes that the site is the fourth accessed in this square into the National Well Record collection. A suffix such as A, B, etc., defines the particular well when there are several at the same site. For Northern Ireland, which is on the Irish Grid, the first of the prefix characters is always 'I'.

Two asterisks following the well number indicates a well or borehole for which hydrographs are shown on pages 166 to 171. The location of the index wells, and the outcrop areas of the principal aquifers, are shown on Figure 14.

Grid Reference

The six or eight figure references given in the register relate to the 100 kilometre National (or Irish) Grid square designated by the preceding two-figure code (shown in italics when referring to the Irish Grid); the corresponding two-letter code appears as the prefix characters in the Well Number.

Site

The name by which the well or borehole is normally referenced. The location of all the sites listed in the register are shown on Figure 14.

Measuring Authority

An abbreviation referencing the organisation responsible for groundwater level measurement. A full list of codes, together with the corresponding names and addresses appears on pages 188 to 190.

Records Commence

The first year for which records are held for the groundwater archive.

Indicated % Annual Recharge

The difference between the level measured at the end of the summer recession and that measured at the beginning of the summer recession in the following year; expressed as a percentage of the mean fluctuation. Details of the method of calculation are given in the *Hydrometric Register and Statistics 1981-85* (see page 191).

References

1. Monkhouse, R.A. and Richards, H.J. 1983. Groundwater resources of the United Kingdom. Commission of the European Communities, pub. Th. Schaeffer Druckerei GmbH, Hannover, 252 pages.
2. Monkhouse, R.A. and Murti, P.K. 1981. The rationalisation of groundwater observation well networks in England and Wales. Institute of Geological Sciences, Report No WD/81/1, 18 pages.

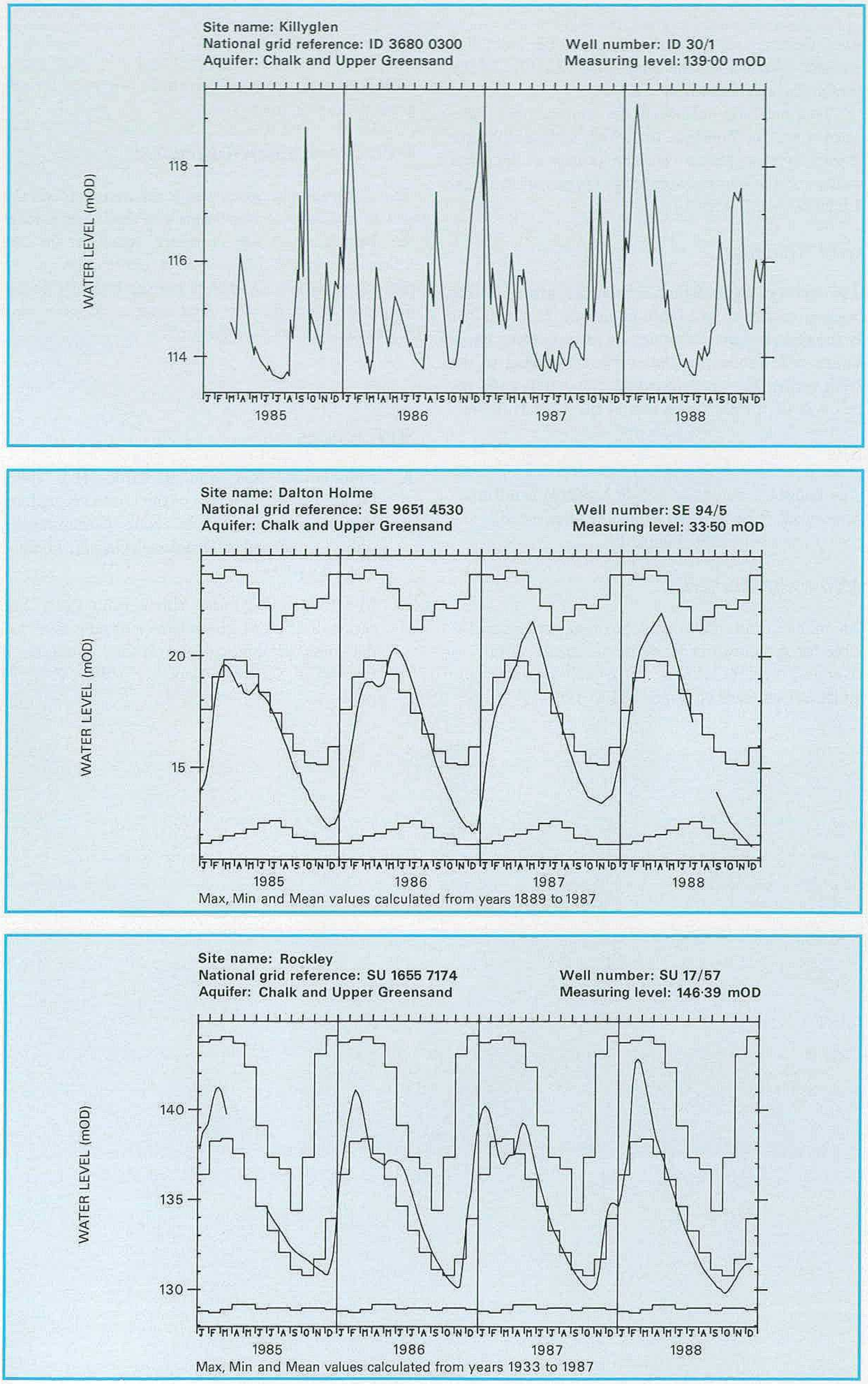
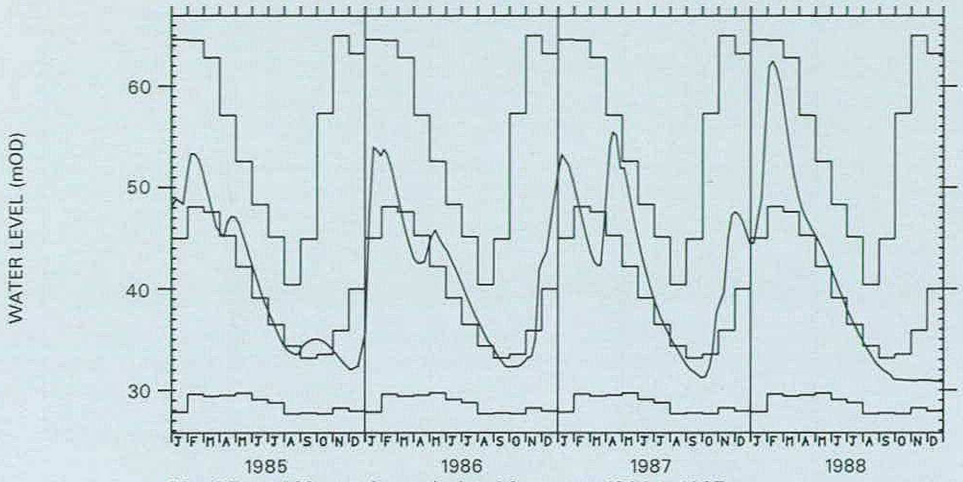


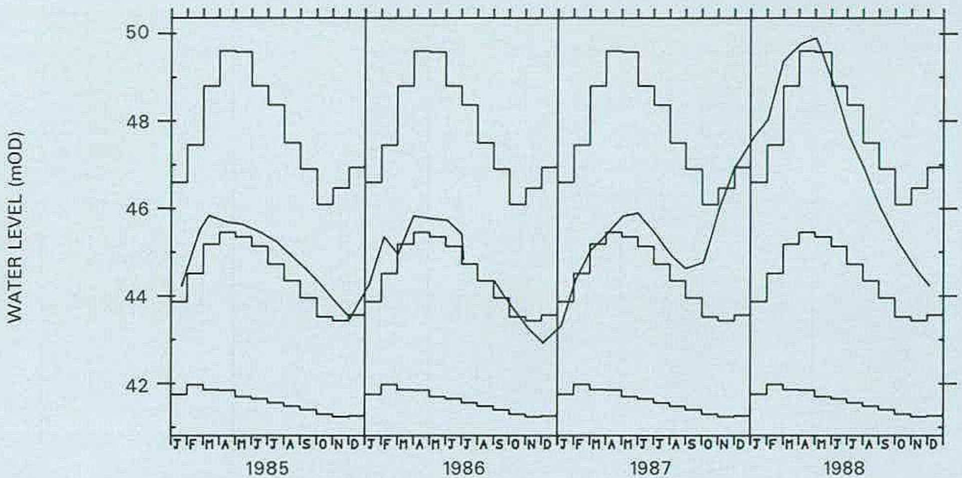
Figure 15. Hydrographs of groundwater level fluctuations

Site name: Compton House
National grid reference: SU 7755 1490
Aquifer: Chalk and Upper Greensand
Well number: SU 71/23
Measuring level: 81·37 mOD



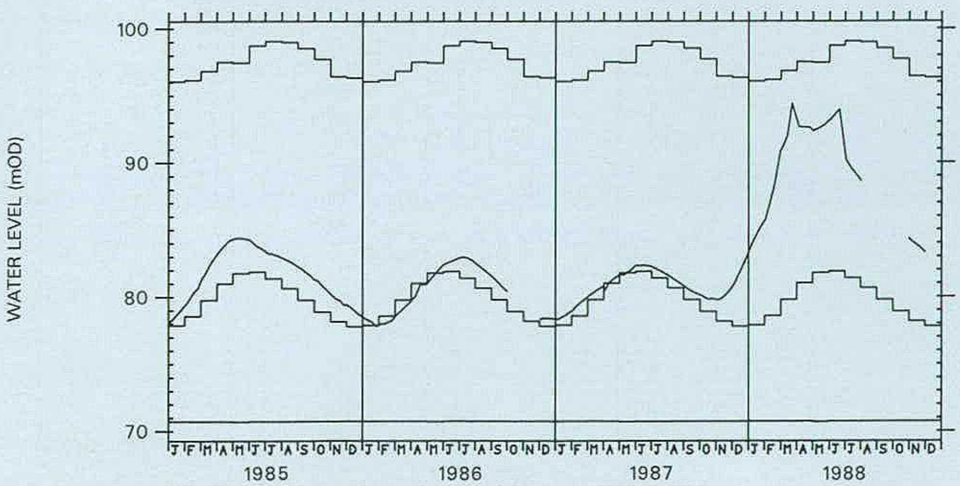
Max, Min and Mean values calculated from years 1894 to 1987

Site name: Washpit Farm
National grid reference: TF 8138 1960
Aquifer: Chalk and Upper Greensand
Well number: TF 81/2
Measuring level: 80·20 mOD



Max, Min and Mean values calculated from years 1950 to 1987

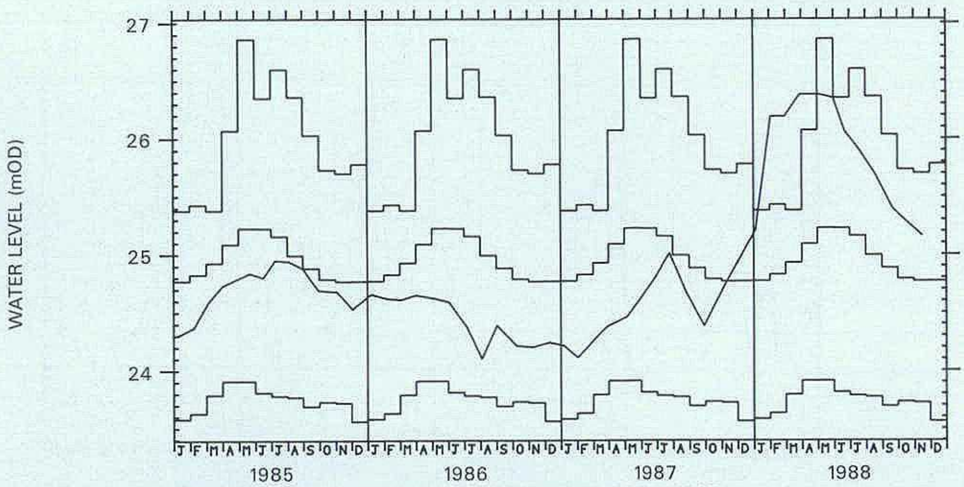
Site name: Therfield Rectory
National grid reference: TL 3330 3720
Aquifer: Chalk and Upper Greensand
Well number: TL 33/4
Measuring level: 154·82 mOD



Max, Min and Mean values calculated from years 1883 to 1987

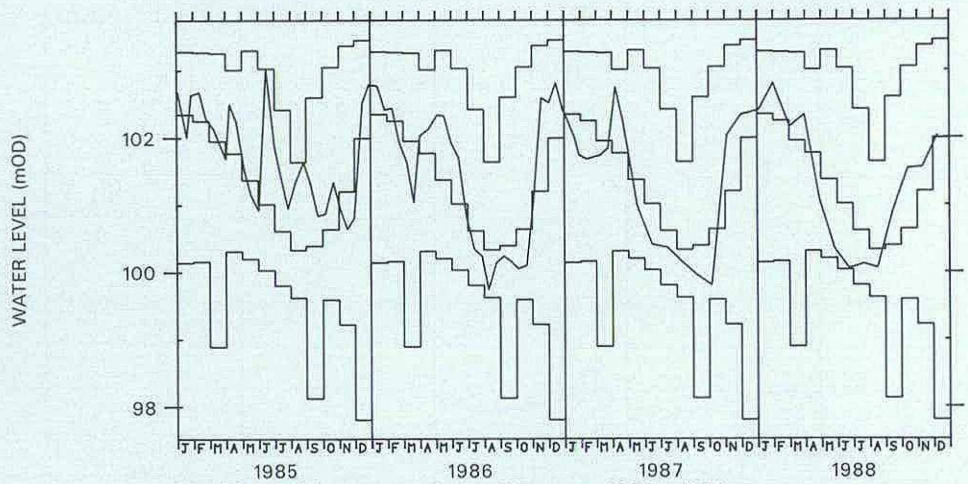
Figure 15—(continued)

Site name: Owletts
National grid reference: TQ 6649 6873
Aquifer: Chalk and Upper Greensand
Well number: TQ 66/48
Measuring level: 92·37 mOD



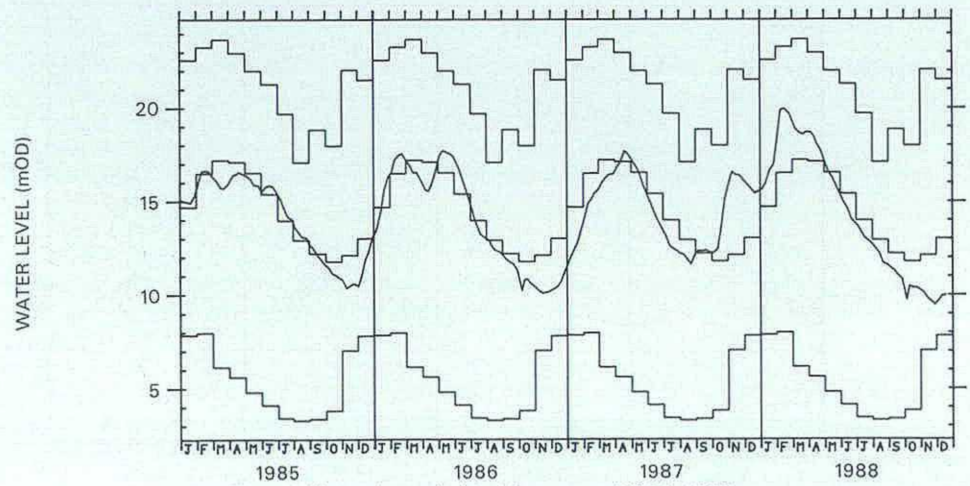
Max, Min and Mean values calculated from years 1968 to 1987

Site name: Ampney Crucis
National grid reference: SP 0595 0190
Aquifer: Middle Jurassic
Well number: SP 00/62
Measuring level: 109·70 mOD



Max, Min and Mean values calculated from years 1958 to 1987

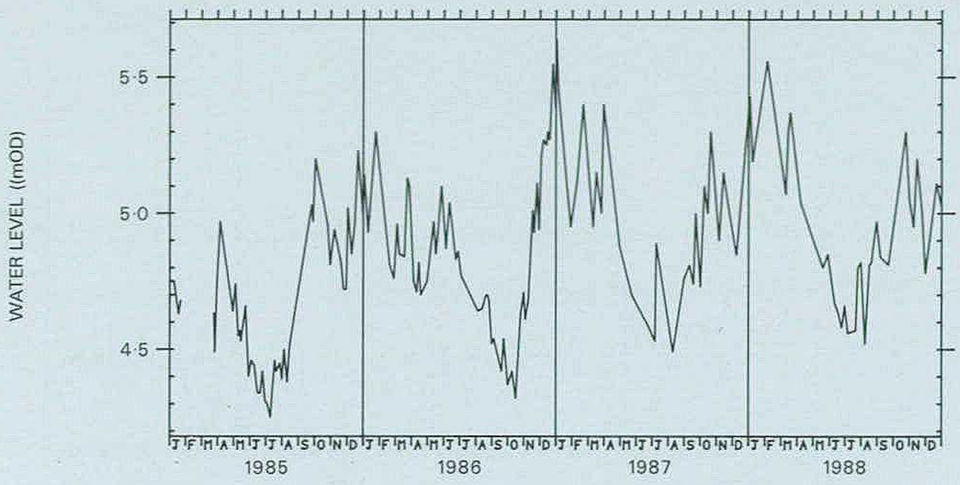
Site name: New Red Lion
National grid reference: TF 0885 3034
Aquifer: Lincolnshire Limestone
Well number: TF 03/37
Measuring level: 33·82 mOD



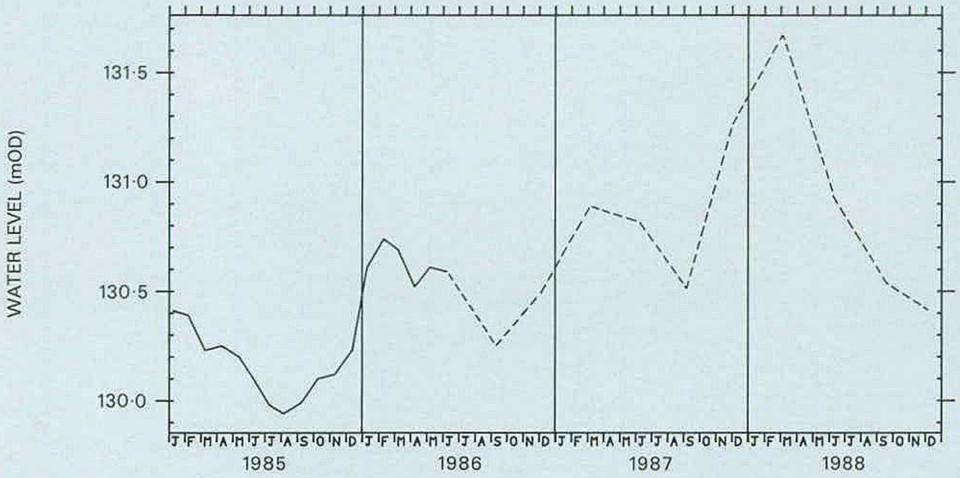
Max, Min and Mean values calculated from years 1964 to 1987

Figure 15—(continued)

Site name: Redbank
National grid reference: NX 9667 7432
Aquifer: Permo-Triassic Sandstone
Well number: NX 97/1
Measuring level: 10·00 mOD



Site name: Skirwith
National grid reference: NY 6130 3250
Aquifer: Permo-Triassic Sandstone
Well number: NY 63/2
Measuring level: 133·25 mOD



Site name: Woodhouse Grange
National grid reference: SE 6784 0709
Aquifer: Permo-Triassic Sandstone
Well number: SE 60/76
Measuring level: 4·35 mOD

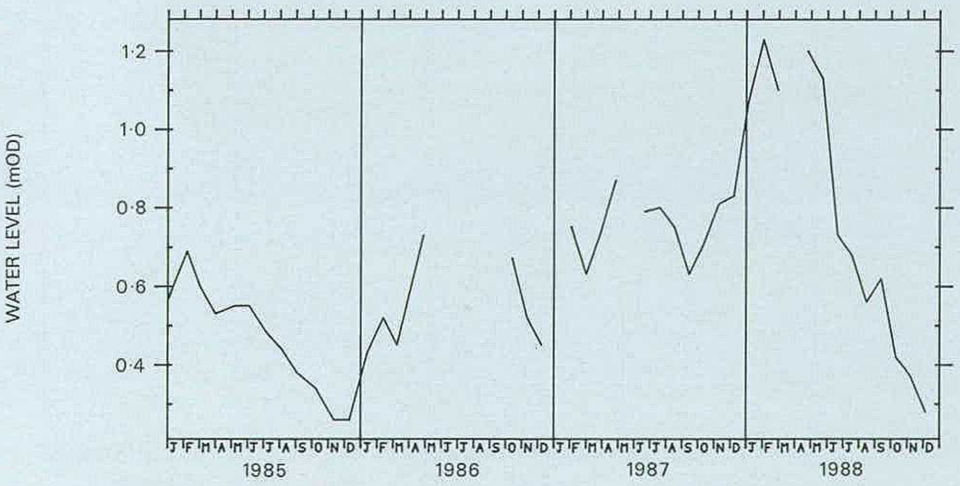
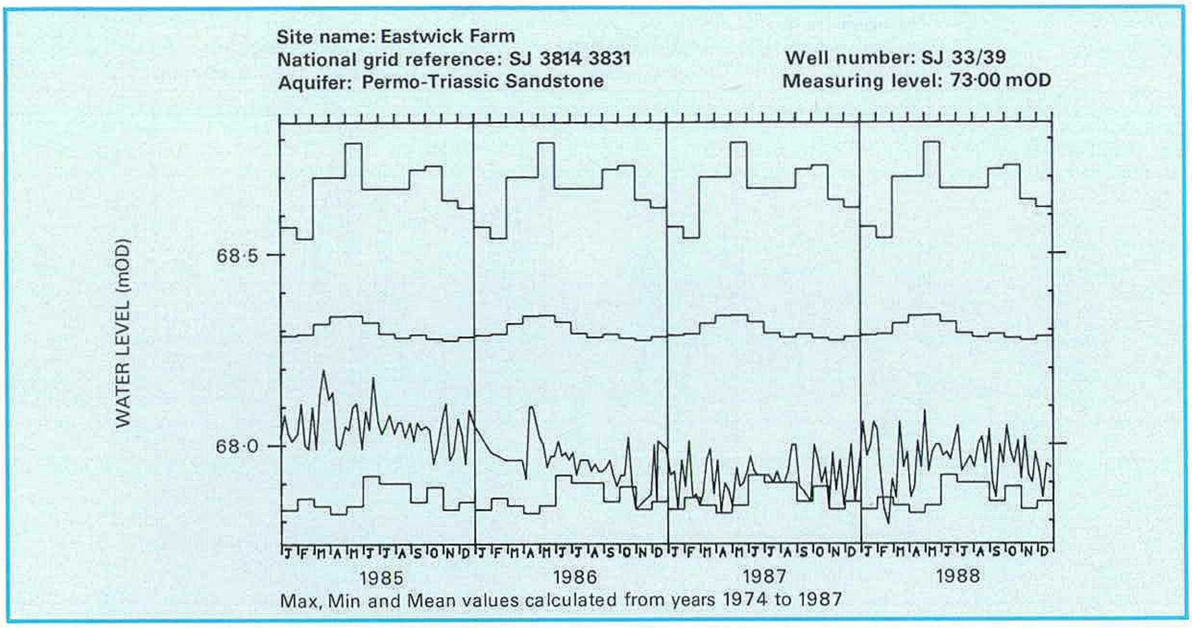
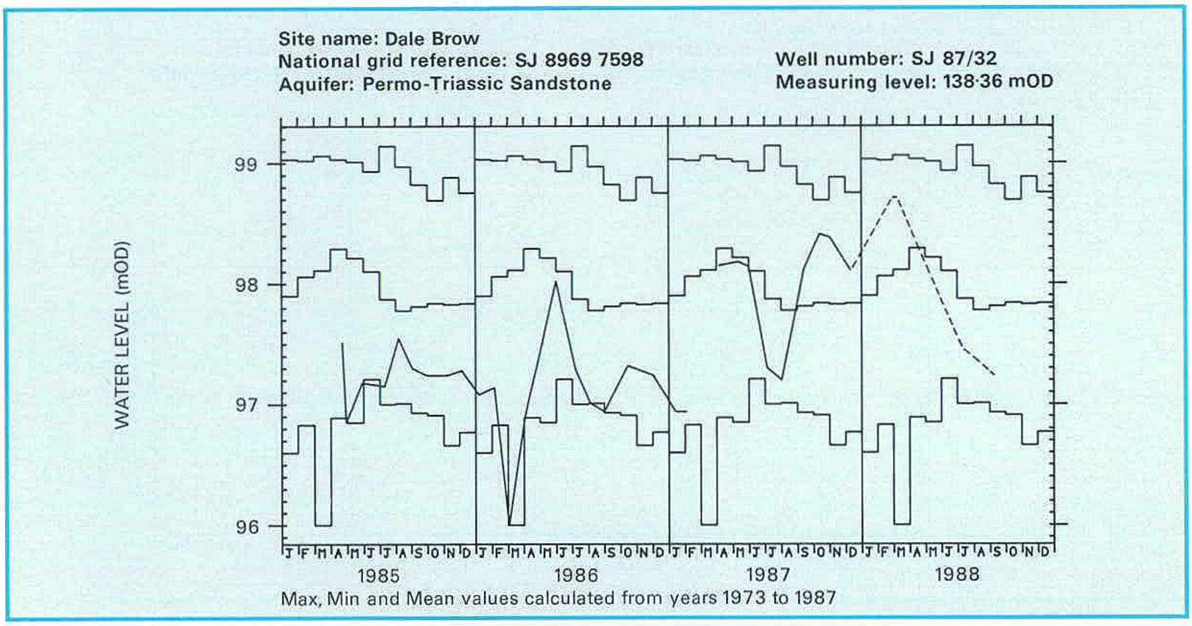


Figure 15—(continued)





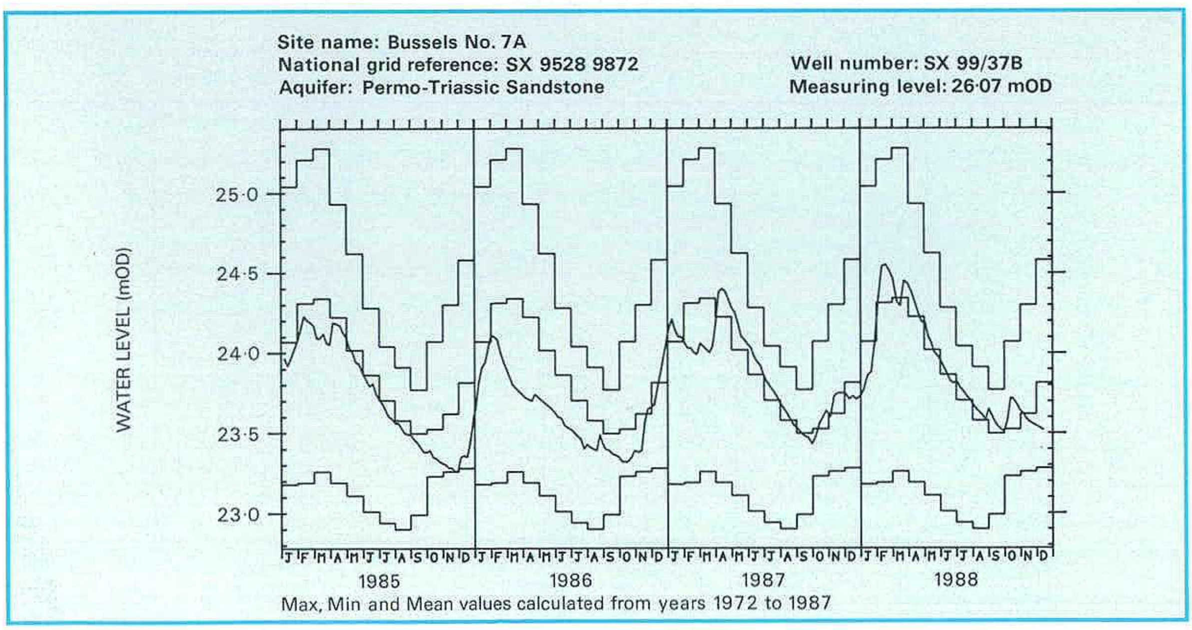
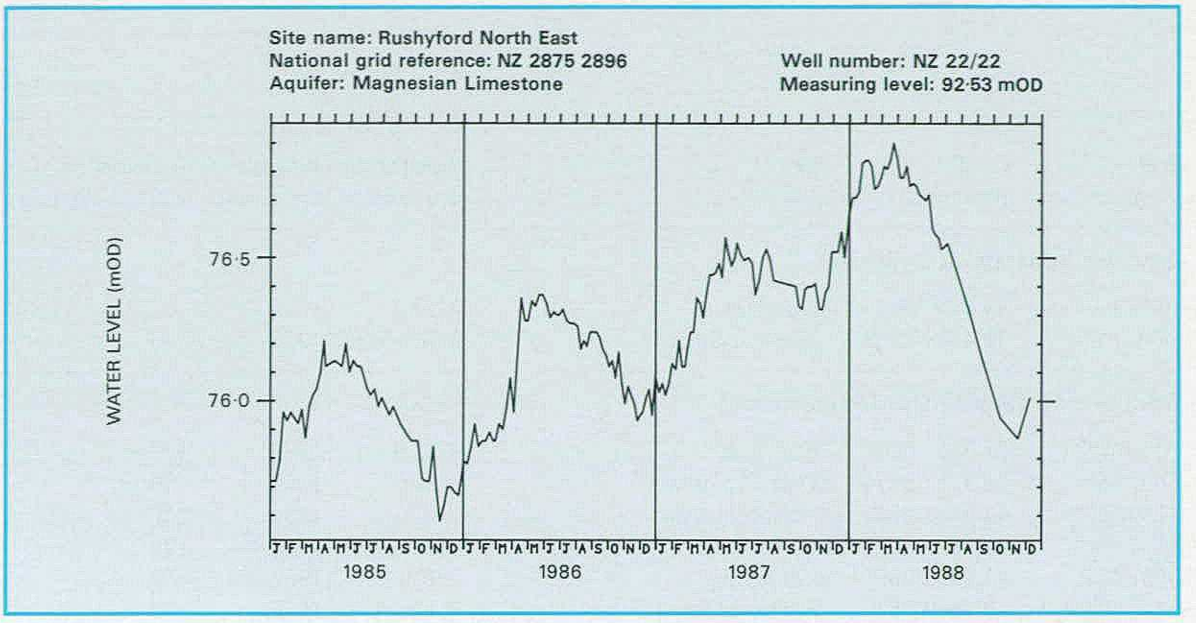
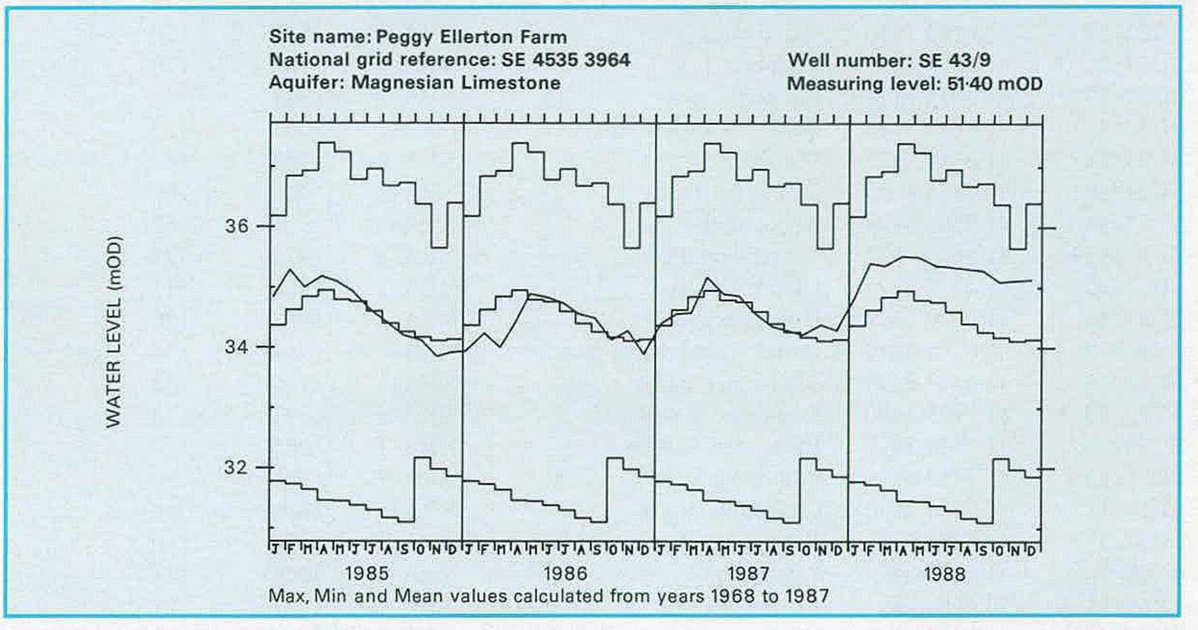


Figure 15—(continued)





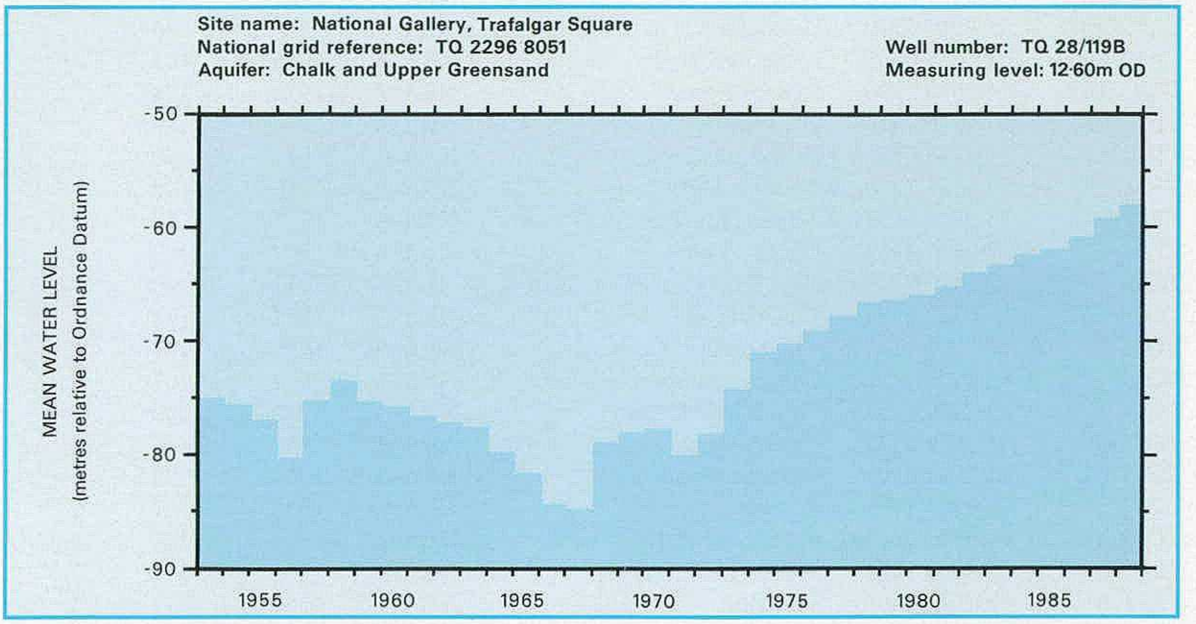


Figure 15(a) Annual mean groundwater levels in the National Gallery (Trafalgar Sq.) borehole 1953–88.

The Register

Well Number	Grid Reference	Site	Measuring Authority	Records Commence	Indicated % Annual Recharge
Aquifer: Superficial Deposits					
IJ28/1	*33* 225 862	Dunadry	GSNI	1985	64
SO44/4	32 4683 4253	Stretton Sugwas	NRA-WEL	1973	---
Aquifer : Chalk and Upper Greensand					
ID30/1**	*34* 368 030	Killyglen	GSNI	1985	129
SE93/4	44 9212 3634	Dale Plantation	NRA-Y	1970	90
SE94/5**	44 9651 4530	Dalton Holme	NRA-Y	1889	120
SE97/31	44 9345 7079	Green Lane	NRA-Y	1972	124
SP90/26	42 9470 0875	Champneys	NRA-T	1962	169
SP91/59	42 9380 1570	Pitstone Green Farm	NRA-A	1970	75
ST30/7	31 3763 0667	Lime Kiln Way	NRA-SW	1969	73
SU01/5B	41 0160 1946	Woodyates	NRA-W	1942	120
SU04/2	41 0310 4883	Tilshead	NRA-W	1966	110
SU17/57**	41 1655 7174	Rockley	NRA-T	1933	118
SU32/3	41 3817 2743	Bailey's Down Farm	NRA-S	1963	123
SU35/14	41 3315 5645	Woodside	NRA-S	1963	147
SU51/10	41 5875 1655	Hill Place Farm	NRA-S	1965	102
SU53/94	41 5586 3498	Abbotstone	NRA-S	1976	67
SU57/159	41 5628 7530	Calversleys Farm	NRA-T	1973	123
SU61/32	41 6578 1775	Chidden Farm	NRA-S	1958	111
SU61/46	41 6890 1532	Hinton Manor	NRA-S	1953	138
SU64/28	41 6360 4049	Lower Wield Farm	NRA-S	1958	130
SU68/49	41 6442 8525	Well Place Farm	NRA-T	1976	145
SU71/23**	41 7755 1490	Compton House	NRA-S	1893	144
SU73/8	41 7048 3491	Faringdon Station	NRA-T	1961	127
SU78/45A	41 7419 8924	Stonor Park	NRA-T	1961	90
SU81/1	41 8356 1440	Chilgrove House	NRA-S	1836	69
SU87/1	41 8336 7885	Farm Cottage, Coldharbour	NRA-T	1950	110
SU89/7	41 8103 9417	Piddington	NRA-T	1966	124
SY68/34	30 662 881	Ashton Farm	NRA-W	1977	107
TA06/16	54 0490 6120	Nafferton	NRA-Y	1964	88
TA07/28	54 0940 7740	Hunmanby Hall	NRA-Y	1976	96
TA10/40	54 1375 0885	Little Brocklesby	NRA-A	1926	102
TA21/14	54 2670 1890	Church Farm	NRA-Y	1971	148
TF72/11	53 7710 2330	Off Farm	NRA-A	1971	138
TF80/33	53 8738 0526	Houghton Common	NRA-A	1971	80
TF81/2A**	53 8138 1960	Washpit Farm	NRA-A	1950	179
TF92/5	53 9869 2183	Tower Hills P.S.	NRA-A	1977	119
TF94/1	53 9160 4135	Cuckoo Lodge	NRA-A	1952	160
TG00/92	63 0440 0020	High Elm Farm, Deopham	NRA-A	1971	90
TG03/25B	63 0382 3583	The Hall, Brinton	NRA-A	1952	81
TG11/5	63 1691 1101	The Spinney, Costessey	NRA-A	1952	127
TG12/7	63 1126 2722	Heydon Pumping Station	NRA-A	1974	107
TG21/9	63 2400 1657	Frettenham Depot	NRA-A	1952	100
TG21/10	63 2699 1140	Grange Farm	NRA-A	1952	---
TG23/21	63 2932 3101	Melbourne House	NRA-A	1974	90
TG31/20	63 3365 1606	Woodbastwick	NRA-A	1974	141
TG32/16	63 3700 2682	Brumstead Hall	NRA-A	1978	141
TL11/4	52 1560 1555	Mackerye End House	NRA-T	1960	171
TL11/9	52 1692 1965	The Holt	NRA-T	1964	---
TL13/24	52 1200 3026	West Hitchin	NRA-A	1970	---
TL22/10	52 2978 2433	Box Hall	NRA-T	1964	178

Well Number	Grid Reference	Site	Measuring Authority	Records Commence	Indicated % Annual Recharge
TL33/4**	52 3330 3720	Therfield Rectory	NRA-T	1883	---
TL42/6	52 4536 2676	Hixham Hall	NRA-T	1964	159
TL42/8	52 4669 2955	Berden Hall	NRA-T	1964	135
TL44/12	52 4522 4182	Redlands Hall	NRA-T	1964	---
TL72/54	52 7982 2516	Rectory Road	NRA-A	1968	---
TL84/6	52 8465 4106	Smeetham Cottages, Bulmer	NRA-A	1963	124
TL86/110	52 8850 6470	Cattishall Farm	NRA-A	1969	147
TL89/37	52 8131 9001	Grimes Graves	NRA-A	1971	99
TL92/1	52 9657 2562	Lexden Pumping Station	NRA-A	1961	---
TM15/112	62 1201 5618	Dial Farm	NRA-A	1968	141
TM26/46	62 2461 6109	Fairfields	NRA-A	197	488
TM26/95	62 2786 6397	Strawberry Hill	NRA-A	1974	118
TQ01/133	51 0850 1170	Chantry Post, Sullington	NRA-S	1977	105
TQ21/11	51 2850 1289	Old Rectory, Pyecombe	NRA-S	1958	126
TQ28/119B	51 2996 8051	Trafalgar Square	NRA-T	1845	---
TQ31/50	51 3220 1180	North Bottom	NRA-S	1979	145
TQ35/5	51 3363 5924	Rose & Crown	NRA-T	1876	61
TQ38/9A	51 3509 8536	Hackney Public Baths	NRA-T.	1953	---
TQ50/7	51 5592 0380	Old Rectory, Folkington	NRA-S	1965	---
TQ56/19	51 5648 6124	West Kingsdown	NRA-T	1961	---
TQ57/118	51 5880 7943	Thurrock A13	NRA-A	1979	124
TQ58/2B	51 5622 8408	Bush Pit Farm	NRA-T	1967	121
TQ66/48**	51 6649 6873	Owletts	NRA-S	1968	---
TQ86/44	51 8595 6092	Little Pett Farm	NRA-S	1982	133
TQ99/11	51 947 971	Burnham	NRA-A	1975	---
TR05/11	61 0142 5874	Portway House, Faversham	NRA-S	1964	---
TR14/9	61 1225 4690	Little Bucket Farm	NRA-S	1971	163
TR14/50	61 1265 4167	Glebe Cottage	NRA-S	1970	---
TR34/81	61 3173 4725	Church Farm	NRA-S	1971	---
TR35/49	61 3330 5090	Cross Manor Cottages	NRA-S	1971	83
TR36/62	61 3208 6634	Alland Grange	NRA-S	1969	144
TV59/7C	50 5290 9920	Westdean 3	NRA-S	1904	86

Aquifer : Lower Greensand

SU82/57	41 8888 2505	Madam's Farm	NRA-S	1984	
SU84/8A	41 8716 4087	Tilford Pumping Station	NRA-T	1971	
TL45/19	52 4110 5204	River Farm	NRA-A	1973	
TQ41/82	51 4370 1320	Lower Barn Cottages	NRA-S	1975	---
TR13/21	61 1132 3881	Ashley House	NRA-S	1972	---

Aquifer : Hastings Beds

TQ22/1	51 2348 2770	The Bungalow	NRA-S	1964	117
TQ32/19	51 3760 2890	Horsted Keynes	NRA-S	1968	56
TQ42/80A	51 4725 2990	Kingstanding	NRA-S	1979	37
TQ61/44	51 6658 1803	Dallington Herrings	NRA-S	1964	---
TQ62/99	51 6199 2282	Whiteoaks	NRA-S	1978	---
TQ71/123	51 7969 1659	Red House	NRA-S	1974	78

Aquifer : Upper Jurassic

SE68/16	44 6890 8590	Kirkbymoorside	NRA-Y	1973	108
SE77/76	44 7690 7300	Broughton	NRA-Y	1975	99
SE98/8	44 9910 8540	Seavegate Farm	NRA-Y	1971	87
SU49/40B	41 4117 9307	East Hanney	NRA-T	1978	140

Well Number	Grid Reference	Site	Measuring Authority	Records Commence	Indicated % Annual Recharge
Aquifer : Middle Jurassic					
SP00/62**	42 0595 0190	Ampney Crucis	NRA-T	1958	98
SP20/113	42 2721 0634	Alvescot Road	NRA-T	1975	65
ST51/57	31 591 169	Over Compton	NRA-W	1971	110
ST88/62A	31 8275 8743	Didmarton 1	NRA-W	1977	120
Aquifer : Lincolnshire Limestone					
SK97/25	43 9800 7817	Grange de Lings	NRA-A	1975	76
TF03/37**	53 0885 3034	New Red Lion	NRA-A	1964	91
TF04/14	53 0429 4273	Silk Willoughby	NRA-A	1972	77
Aquifer : Permo-Triassic sandstones					
IJ26/1	33 291 694	Dunmurry	GSNI	1985	113
NX97/1**	25 9667 7432	Redbank	DGRW	1981	109
NY00/328	35 0511 0247	Brownbank Layby	NRA-NW	1974	158
NY45/16	35 4947 5667	Corby Hill	NRA-NW	1977	---
NY63/2**	35 6130 3250	Skirwith	NRA-NW	1978	130
NZ41/34	45 4861 1835	Northern Dairies	NRA-N	1974	91
SD27/8	43 2172 7171	Furness Abbey	NRA-NW	1972	72
SD41/32	43 4400 1164	Yew Tree Farm	NRA-NW	1971	77
SD44/15	43 4396 4928	Moss Edge Farm	NRA-NW	1961	---
SE36/47	44 3945 6575	Kelly's Cafe	NRA-Y	1977	123
SE39/20B	44 3004 9244	Scruton Village	NRA-Y	1969	151
SE45/3	44 4470 5580	Cattal Maltings	NRA-Y	1969	75
SE52/4	44 5473 2363	Southfield Lane	NRA-Y	195	559
SE54/32A	44 5532 4646	Bilborough	NRA-Y	1984	100
SE55/4	44 5829 5383	Clifton Hospital	NRA-Y	1967	118
SE60/76**	44 6784 0709	Woodhouse Grange	NRA-ST	1980	120
SE64/1	44 6751 4463	Wheldrake Station	NRA-Y	1971	191
SE72/3B	44 7047 2149	Rawcliffe Bridge	NRA-Y	1971	---
SE83/9	44 8040 3640	Holme on Spalding Moor	NRA-Y	1972	---
SJ15/15	33 1374 5556	Llanfair D.C.	NRA-WEL	1972	---
SJ33/38	33 3809 3112	Hordley Wharf	NRA-ST	1975	---
SJ33/39**	33 3814 3831	Eastwick Farm	NRA-WEL	1974	124
SJ56/45E	33 5042 6953	Ashton 4	NRA-NW	1969	---
SJ83/1A	33 8969 3474	Stone	NRA-ST	1974	118
SJ87/32**	33 8969 7598	Dale Brow	NRA-NW	1973	---
SJ88/93	33 8611 8645	Bruntwood Hall	NRA-NW	1972	---
SJ96/41	33 9310 6301	Rushton Spencer 1	NRA-NW	1969	---
SK00/41	43 067 012	Nuttal's Farm	NRA-ST	1974	75
SK21/111	43 2731 1419	Grange Wood	NRA-ST	1967	79
SK24/22	43 2539 4431	Burtonshuts Farm	NRA-ST	1972	71
SK56/53	43 5632 6440	Peafield Lane	NRA-ST	1969	---
SK73/50	43 7693 3228	Woodland Farm	NRA-ST	1980	---
SO71/18	32 7170 1970	Stores Cottage	NRA-ST	1973	77
SO87/28	32 8160 7970	Hillfields	NRA-ST	1961	90
ST12/48	31 108 267	Milverton Bypass	NRA-W	1972	---
SX99/37B**	20 9528 9872	Bussels 7A	SWWA	1972	92
SY09/21A	30 0666 9235	Heathlands	SWWA	1951	109

Well Number	Grid Reference	Site	Measuring Authority	Records Commence	Indicated % Annual Recharge
Aquifer : Magnesian Limestone					
NZ22/22**	45 2875 2896	Rushyford NE	NRA-N	1967	81
NZ32/19	45 3575 2650	Heley House	NRA-N	1969	---
SE28/28	44 2460 8520	Bedale	NRA-Y	1972	128
SE35/4	44 3830 5830	Castle Farm	NRA-Y	1970	82
SE43/9**	44 4535 3964	Peggy Ellerton Farm	NRA-Y	1968	94
SE43/14	44 4660 3550	Coldhill Farm 35	NRA-Y	1971	75
SK46/71	43 4800 6030	Stanton Hill	NRA-ST	1973	---
SK58/43	43 5248 8018	Southeads Lane	NRA-ST	1973	84
Aquifer : Coal Measures					
SE23/4	44 2850 3414	Silver Blades Ice Rink	NRA-Y	1971	---
Aquifer : Millstone Grit					
SE02/46	44 0771 2528	Thrum Hall	NRA-Y	1977	42
SE04/7	44 0295 4792	Lower Heights Farm	NRA-Y	1971	161
SE24/2B	44 2067 4053	Green Lane Dyeworks	NRA-Y	1971	65
SE27/8	44 2120 7380	Kirkby Moor Farm	NRA-Y	1971	---
Aquifer : Carboniferous Limestone					
NT95/21	36 9695 5055	Middle Ord	NRA-N	1974	154
SE06/1	44 0241 6183	Jerry Laithe Farm	NRA-Y	1971	90
SK15/16	43 1292 5547	Alstonfield	NRA-ST	1974	91
SK17/13	43 1778 7762	Hucklow South	NRA-ST	1969	70
ST64/33	31 6560 4790	Oakhill 1	NRA-W	1977	---

Sites marked '**' are indicator wells; well hydrographs are shown in Figure 15. Where the annual percentage recharge cannot be estimated, the entry '---' is substituted.

THE GROUNDWATER DATA RETRIEVAL SERVICE

A suite of retrieval programs has been written in order to facilitate data usage. At the present time, retrievals using the options described below are available for most of the sites listed in the Register of Selected Groundwater Observation Wells, although not all the data contained within this archive have been validated.

Five options are available for retrieving data. A description of each option is given below and examples of the computer listings and graphical output are given on pages 178 to 180. Options 1 to 4 give details of the well site, the period of record available, and maximum and minimum recorded levels in addition to the output specific to each option. Data may be retrieved for a specific well or for groups of wells by well reference numbers, by area (using National Grid References), by aquifer, by hydrometric area, by measuring authority, or by any combination of these parameters.

Cost of Service

To cover the computing and handling costs, a moderate charge will be made depending on the output options selected. Estimates of these charges may be obtained on request; the right to amend or waive charges is reserved.

Requests for Retrieval Options

Requests for retrieval options should include: the name and address to which the output should be directed, the sites, or areas, for which data are required together with the period of record of interest (where appropriate) and the title of the required option. Where possible, a daytime telephone number should be given.

Requests should be addressed to:

The British Geological Survey
Hydrogeology Research Group
Maclean Building
Crowmarsh Gifford
WALLINGFORD
OXFORDSHIRE OX10 8BB

Telephone: (0491) 38800
Fax: (0491) 25338

LIST OF GROUNDWATER RETRIEVAL OPTIONS

OPTION	TITLE	NOTES
1	Table of groundwater levels	All recorded observations of groundwater level in metres above Ordnance Datum, with dates of observation and maximum and minimum levels for each year. Specific years, or ranges of years, may be requested, otherwise the full period of record is given.
	Table of annual maximum and minimum groundwater levels	Annual maximum and minimum groundwater levels in metres above Ordnance Datum with dates of occurrence. Specific years, or ranges of years, may be requested, otherwise the full period of record is given.
	Table of monthly maximum, minimum and mean groundwater levels	Monthly maximum, minimum and mean groundwater levels in metres above Ordnance Datum, together with the number of years contributing values to the calculation of each monthly mean. A specific period of years may be nominated, otherwise the full period of record is given.
	Hydrographs of groundwater levels	Provides a well hydrograph for a number of specified years. Castellated annual plots of monthly maximum and mean groundwater levels calculated from a nominated period of years are superimposed upon the hydrograph, provided that the nominated period exceeds 10 years. Tabulations of the monthly

maximum, minimum and mean values are also listed, together with the number of years of record used in the calculations, and the number of observations used for each month.

Site details

The output comprises the well reference number of the British Geological Survey, the original (Water Data Unit) station number (where applicable), the hydrometric area, the aquifer name and code, the site name and location, the National Grid Reference, the depth of the well, the datum points (from which measurements are made), the altitude of the ground surface, the period of record and the measuring authority area in which the well or borehole is located.

OPTION 1 TABLE OF GROUNDWATER LEVELS

Station number	TFO3/37
Station name	NEW RED LION, ASLACKBY (CONTINUES OLD RED LION)
Grid Reference	TF 0885 3034
Measuring Authority	NRA-A
Hydrometric Area	30
Aquifer	Lincolnshire Limestone
Aquifer Code	13
EEC Unit	ANO3
Surface Level (MOD)	33.82
Datum Point (MOD)	33.45
Well Depth (M)	50.00
Max. Expected (MOD)	33.45
Min. Expected (MOD)	5.00
Period of records in Archive:-	1964 to 1985

Maximum GW Level for period of records 23.69
Number of Maxima 1
Date(s):-
14 03 1977

Minimum GW Level for period of records 3.29
Number of Minima 1
Date(s):-
24 08 1976

(Note: The above reference information is also provided with the output from options 2-4)

Station Number	TF03/37
Year of record	1975
Date	Level (MOD)
03 Jan	17.29
31 Jan	16.68
28 Feb	17.85
04 Apr	20.31
24 Apr	20.12
02 May	20.13
30 May	18.58
13 Jun	17.34
11 Jul	15.77

01 Aug	14.44
29 Aug	13.24
26 Sep	12.11
10 Oct	11.57
07 Nov	10.42
21 Nov	9.85
19 Dec	8.98

Maximum GW level for year 20.31
Number of maxima 1
Dates 04 Apr
Minimum GW Level for year 8.98
Number of minima 1
Dates 19 Dec

OPTION 2 TABLE OF ANNUAL MAXIMUM AND MINIMUM GROUNDWATER LEVELS

Year	Max/Min	Level(MOD)	Date(s)	No of occasions
1965	Max	21.50	26 Dec	1
	Min	7.85	24 Jan	
1966	Max	23.51	06 Mar	1
	Min	14.43	09 Oct-16 Oct	1 Period
1967	Max	19.79	04 Jun	
	Min	12.69	29 Oct	
1968	Max	22.06	17 Nov	
	Min	14.08	07 Jul	
1969	Max	23.17	30 Mar	
	Min	11.83	16 Nov	
1970	Max	20.21	26 Apr	
	Min	10.76	15 Nov	1

OPTION 3 TABLE OF MONTHLY MAXIMUM, MINIMUM AND MEAN GROUNDWATER LEVELS

Period maximum, minimum and mean groundwater levels for years 1964 to 1985

	Maximum	Minimum	Mean	No. of years
Jan	22.58	7.85	14.75	21
Feb	23.29	7.97	16.50	21
Mar	23.69	6.14	17.27	21
Apr	22.97	5.61	17.17	22
May	22.00	4.80	16.52	21
Jun	21.28	4.11	15.40	21
Jul	19.69	3.42	14.03	21
Aug	17.08	3.29	12.97	21
Sep	18.84	3.37	12.23	21
Oct	17.98	3.82	11.78	21
Nov	22.06	7.03	12.08	21
Dec	21.51	7.81	13.04	21

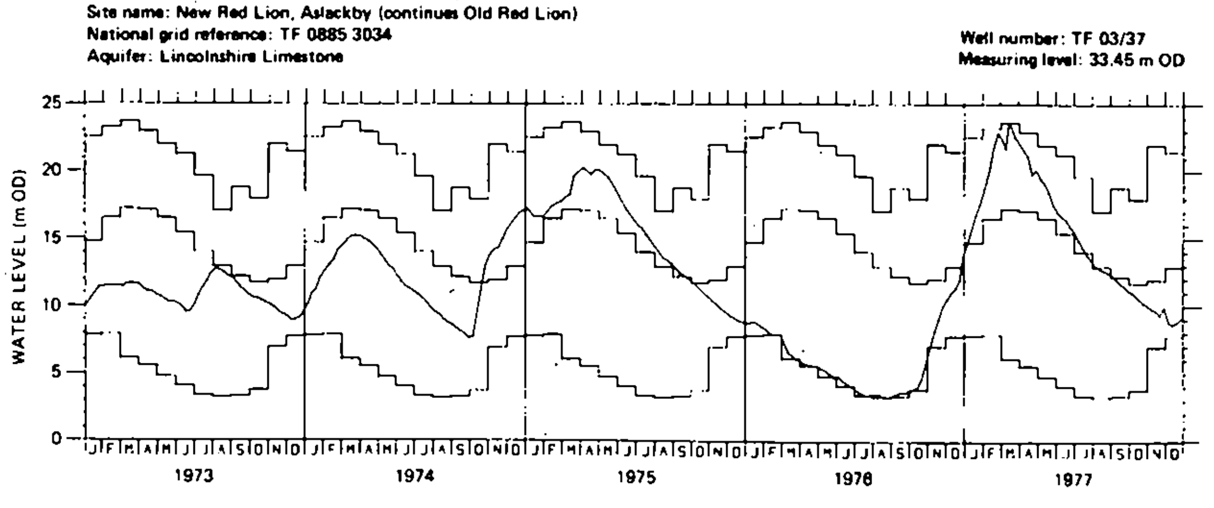
OPTION 4 HYDROGRAPHS OF GROUNDWATER LEVELS

Hydrograph of monthly maximums, minimums and means calculated from years 1964 to 1982

Therefore maximum number of years from which monthly maxs, mins and means may be calculated is 19

	Maximum	Minimum	Mean	No. of Years
Jan	22.58	7.85	14.77	18
Feb	23.29	7.97	16.47	18
Mar	23.69	6.14	17.34	18
Apr	22.97	5.61	17.23	19
May	22.00	4.80	16.42	19
Jun	21.28	4.11	15.23	19
Jul	19.69	3.42	13.97	19
Aug	17.08	3.29	12.98	19
Sep	18.84	3.37	12.28	19
Oct	17.98	3.82	11.85	19
Nov	22.06	7.03	12.20	19
Dec	21.51	7.81	13.09	19

Hydrograph(s) plotted for year ranges:- 1973 to 1977



Max, Min and Mean values calculated from years 1964 to 1982

OPTION 5 SITE DETAILS

BGS NUMBER	COMPUTER NUMBER	HA	AQ	NAME—LOCATION / REC—PERIOD—MA AQUIFER	GRID REF.	DEPTH (M)	DATUM POINT	SURFACE LEVEL
NZ22/22	25624	25	17	RUSHYFORD NORTH EAST, GREAT CHILTON 1957-1985 NRA—N MAGNESIAN LIMESTONE	NZ 2875 2896	62.50	92.65	92.53
SE94/5	26352	26	6	DALTON ESTATE, DALTON HOLME 1889-1985 NRA—Y CHALK AND UPPER GREENSAND	SE 9651 4530	28.50	34.57	33.50
SE43/9	27360	27	17	PEGGY ELLERTON FARM, HAZELWOOD 1968-1985 NRA—Y MAGNESIAN LIMESTONE	SE 4535 3964	55.42	51.40	51.40
TF03/37	30229	30	13	NEW RED LION, ASLACKBY (CONTINUES OLD RED LION) 1964-1985 NRA—N LINCOLNSHIRE LIMESTONE	TF 0885 3034	50.00	33.45	33.82

SURFACE WATER QUALITY DATA

Background

A national archive of water quality data is maintained by Her Majesty's Inspectorate of Pollution (Department of the Environment) to provide information concerning the quality of rivers throughout the United Kingdom and to satisfy certain international obligations - mostly concerned with the exchange of information. Data for this archive are collected as part of the Harmonised Monitoring programme which provides for the sampling and analysis of water quality on a national basis.

The Harmonised Monitoring Scheme was established, for England and Wales, in 1974; a similar scheme was instituted for Scotland, under the aegis of the Scottish Development Department, in July 1975. In Scotland responsibility for the collection and analysis of the samples rests with the seven River Purification Boards. In England and Wales responsibility passed, on the 1st September 1989, from the former regional Water Authorities to the newly-created National Rivers Authority.

Measuring authorities send analytical results of routinely collected samples of river water from approximately 220 monitoring stations; sampling frequencies vary substantially but are, typically, in the range 6 to 52 per year. Most of the monitoring stations are located on major rivers at, or near, the tidal limit.

The monitoring programme can embrace a large number - over 80 - of physical and chemical attributes of river water but typically only 25 are measured. A number of determinands are measured as standard but a larger proportion are monitored only where it is considered necessary to do so.

The measuring authorities maintain major programmes of chemical and biological sampling of rivers for their own purposes. From the 31st July 1985, the former Water Authorities were required, under the Control of Pollution Act, to maintain registers of the results of all samples of water and effluent taken for pollution control purposes together with details of all consented discharges. Following the enactment of the Water Bill 1989 this obligation passed to the National Rivers Authority. These registers are maintained at the regional headquarters of the NRA (see page 188) and are open for inspection by the public - free of charge. Persons wishing to consult the registers are advised to first contact the individual regional headquarters; a list of addresses is given on pages 188 to 190.

Data Retrieval

A comprehensive range of retrieval options has been developed by Her Majesty's Inspectorate of Pollution to make available the water quality data held on the Harmonised Monitoring Archive and to provide statistical summaries based on those data. Requests for data, and guidance concerning its availability, should be addressed to:

Department of the Environment
HMIP
Room A4.26
Romney House
43 Marsham Street
London SW1P 3PY

Telephone: 01 276 8245

Scope of the Water Quality Data Tabulations

River water quality data are presented for 16 monitoring sites on rivers throughout the United Kingdom. The location of each monitoring site is given on Figure 16. For each site 1988, and period of record, data are given for a range of determinands; the determinands featured may differ between monitoring sites reflecting the character of the rivers themselves and differences in the sampling regimes between monitoring stations.

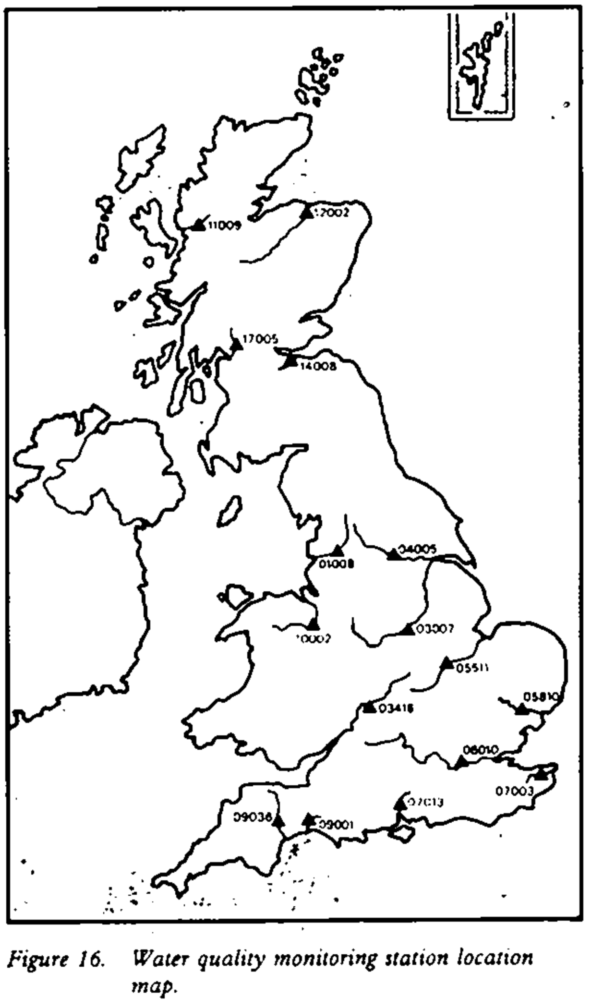


Figure 16. Water quality monitoring station location map.

The following notes are provided to assist in the interpretation of particular data items.

Harmonised Monitoring Station Code

A five-digit reference number which serves as the primary identifier of the station on the Harmonised Monitoring Archive. The first two digits refer to the measuring authority, the remainder refer to individual sites within each measuring authority.

Measuring Authority

An abbreviation referencing the organisation responsible for the operation of the monitoring site. See pages 188 to 190 for a full list of the codes together with the corresponding authority names and addresses.

Grid Reference

The initial two-letter and two-figure codes each designate the relevant 100 kilometre National Grid square; the standard six-figure map reference follows.

Associated Flow Measurement Station

The reference number, name, catchment area and grid reference of the gauging station whose flow record is used to determine the discharge data stored on the Harmonised Monitoring Archive. For most sites the flow corresponding to the time the quality sample was taken is archived; at other locations the corresponding daily mean flow is utilised. Where the gauging station and water quality monitoring site are not coincident some method of flow adjustment may have been employed to allow for the differing catchment areas.

1988 flow data for all but one of the relevant gauging stations may be found in the River Flow Data section. The shortness of the flow record for the Fleet Weir gauging station on the River Aire precludes its incorporation in the River Flow Data section; summary river flow data for 1988 are, however, included at the head of the water quality listing.

Determinands

Inadequate or unrepresentative sampling frequencies, or the presence of a substantial number of samples with concentrations recorded at or below the limit of detection, will normally result in the omission of a particular determinand.

Notes:

i. Conductivity results are standardised to 20°C.

ii. The biochemical oxygen demand data normally relate to the inhibited analytical results - BOD(atu).

iii. Nitrate concentrations are normally derived by subtracting the nitrite concentration from the reported Total Oxidised Nitrogen (TON) concentration; if the nitrite determination is below the limit of detection, nitrate is recorded as equivalent to TON.

Units

The standard units used to record and report each determinand. The precision with which individual data values, for each determinand, are presented corresponds to the way the data are stored on the Harmonised Monitoring Archive and reflects the uncertainty associated with the relevant analytical procedures.

1988 Data

Samples

The number of samples taken for each determinand during 1988. Where a proportion of analytical results were below the limit of detection, the number of samples in this category is given in parentheses.

Mean

The average* of all the sample values for each determinand in 1988. Where concentrations below the limit of detection are held on the Harmonised Monitoring Archive, the threshold value itself is used to compute the mean.

Maximum / Date

The maximum determinand value recorded during 1988 together with its date of occurrence. Where the maximum value recurs the date refers to the initial occurrence.

Minimum / Date

The minimum determinand value together with its date of occurrence. Where the minimum value recurs the date refers to the initial occurrence. A '$<$' symbol indicates a value below the limit of detection.

Period of Record Data

For half of the featured sites, the pre-1988 summary statistics are presented for the thirteen-year period beginning in 1974; where individual stations were not incorporated into the Harmonised Monitoring network until after 1974, the appropriate first year of data is given. For certain stations the sampling frequency varies significantly from year to year and data for a few determinands may not extend over the full period of record; in particular the first year of data will normally be incomplete.

Where the pre-1988 data series includes values below the limit of detection, the threshold value has been used in the computation of the summary statistics.

For a number of the featured monitoring stations, a considerable amount of pre-1974 data, at least for certain determinands, may be stored on local, or regional, archives maintained by the measuring authorities. Also, for the period 1974-87, such archives may hold analytical results for substantially more samples than are represented on the Harmonised Monitoring Archive. Hence full equivalence between statistical summaries derived from national and regional databases cannot be expected for all monitoring sites.

Mean

The average* value of all the sample values for each determinand.

Percentiles

The 5, 50 and 95 percentile values for each determinand based on all the samples taken over the pre-1988 period.

Quarterly Averages

The mean quarterly average* for each of the three-monthly periods: January to March, April to June, July to September and October to December.

* In all cases this refers to the temporal mean rather than the flow-weighted average.

Ribble at Samlesbury 1988

Harmonised monitoring code 01 008
Measuring authority NRA-NW
Grid reference 34 (SD) 590 305

Flow measurement station 071001 - Samlesbury
Catchment area (sq km) 1145.0
Grid reference 34 (SD) 589 304

Determinand	Units	1988 Samples	Mean	Max	Date	Min	Date	Period of record 1974 - 1987 Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	57	9.8	19.5	20/06	1.0	24/11	9.4	1.0	9.6	17.1	3.8	11.6	15.1	7.7
pH	pH units	56	7.7	8.7	23/05	6.2	28/01	7.7	7.0	7.7	8.6	7.5	7.9	7.9	7.6
Conductivity	µS/cm	56	387	643	20/06	204	27/01	421	234	414	647	425	449	439	364
Suspended solids	mg/l	57 (3)	15.8	238.0	21/07	<1.0	14/04	20.0	3.0	9.0	70.0	21.0	15.6	16.9	17.7
Dissolved oxygen	mg/l O	57	10.10	13.10	08/03	6.30	09/06	10.3	7.7	10.3	13.0	11.8	9.9	8.9	10.8
BOD (inhibited)	mg/l O	57	2.6	8.0	03/03	0.4	03/11	3.0	1.1	2.6	6.5	3.2	3.8	3.8	3.3
Ammoniacal nitrogen	mg/l N	56 (10)	0.154	0.500	24/11	<0.050	28/04	0.28	0.05	0.18	0.89	0.52	0.14	0.14	0.27
Nitrite	mg/l N	56 (1)	0.067	0.400	03/03	<0.010	15/09	0.08	0.03	0.06	0.20	0.06	0.12	0.09	0.07
Nitrate	mg/l N	56 (1)	3.60	10.00	20/06	<0.50	15/09	4.2	1.3	3.5	9.7	3.5	5.2	4.9	3.0
Chloride	mg/l Cl	56	30.8	56.0	11/02	13.0	14/07	33.5	14.0	30.0	60.0	39.8	35.5	33.3	25.5
Fluoride	mg/l F	34 (9)	0.15	0.46	11/08	<0.01	28/07	0.13	0.08	0.11	0.20	0.11	0.16	0.14	0.12
Orthophosphate	mg/l P	56 (1)	0.643	6.650	12/04	<0.050	15/09	0.38	0.10	0.30	1.00	0.24	0.42	0.55	0.25

Trent at Nottingham 1988

Harmonised monitoring code 03 007
Measuring authority NRA ST
Grid reference 43 (SK) 581 383

Flow measurement station 028009 - Colwick
Catchment area (sq km) 7486.0
Grid reference 43 (SK) 620 399

Determinand	Units	1988 Samples	Mean	Max	Date	Min	Date	Period of record 1974 - 1987 Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	24	11.8	19.0	22/06	6.0	25/01	13.3	6.0	13.4	22.0	7.9	15.4	19.3	11.4
pH	pH units	24	7.9	8.2	22/06	7.5	25/01	7.7	7.3	7.7	8.2	7.6	7.8	7.9	7.7
Conductivity	µS/cm	24	815	1110	22/06	460	25/01	891	621	910	1139	809	902	970	876
Suspended solids	mg/l	24	23.5	128.0	25/01	5.0	13/04	25.7	8.0	17.0	75.6	28.5	22.3	19.8	30.5
Dissolved oxygen	mg/l O	24	9.90	11.60	04/02	8.10	12/07	9.7	7.6	9.7	11.8	10.7	9.5	8.8	9.7
BOD (inhibited)	mg/l O	24	3.1	5.0	03/05	<1.0	22/08	3.5	1.7	3.4	6.2	3.2	3.8	3.8	3.3
Ammoniacal nitrogen	mg/l N	24	0.323	0.801	04/03	0.070	22/06	0.39	0.01	0.30	1.08	0.68	0.29	0.23	0.37
Nitrate	mg/l N	24	7.80	10.50	22/11	5.20	25/07	8.6	6.1	8.6	11.2	8.5	8.7	8.4	8.6
Chloride	mg/l Cl	24	89.2	141.0	22/06	47.0	06/01	98.8	54.3	98.0	148.5	86.2	96.6	117.1	98.9
Total alkalinity	mg/l $CaCO_3$	24	156.9	186.0	23/02	95.0	25/01	159.9	120.0	165.0	188.0	157.3	162.8	163.2	155.0
Fluoride	mg/l F	12	0.36	0.50	22/06	0.27	25/07	0.36	0.22	0.35	0.52	0.32	0.34	0.41	0.32
Orthophosphate	mg/l P	24	1.382	2.400	22/11	0.470	25/01	1.50	0.50	1.46	2.70	0.93	1.54	2.03	1.46

Avon at Evesham Road Bridge 1988

Harmonised monitoring code 03 416
Measuring authority NRA-ST
Grid reference 42 (SP) 034 431

Flow measurement station 054002 - Evesham
Catchment area (sq km) 2210.0
Grid reference 42 (SP) 040 438

Determinand	Units	1988 Samples	Mean	Max	Date	Min	Date	Period of record 1977 - 1987 Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	24	11.8	19.0	17/06	4.0	11/02	11.1	3.0	11.0	20.0	4.8	12.9	17.1	8.7
pH	pH units	26	7.9	8.6	23/05	7.5	04/01	8.0	7.6	7.9	8.7	7.9	8.2	8.1	7.8
Conductivity	µS/cm	26	913	1100	16/11	600	04/01	920	621	930	1160	830	887	1030	933
Suspended solids	mg/l	26	29.8	172.0	29/01	6.0	29/11	28.6	7.0	18.0	87.0	42.8	29.5	18.0	24.4
Dissolved oxygen	mg/l O	24	10.90	14.40	23/05	6.80	15/08	10.5	7.8	10.3	13.2	11.9	10.5	8.9	10.6
BOD (inhibited)	mg/l O	26	3.1	7.5	23/05	1.6	14/12	3.2	1.1	2.8	7.4	2.8	4.5	3.1	2.4
Ammoniacal nitrogen	mg/l N	25 (1)	0.243	0.720	29/11	<0.010	02/08	0.26	0.01	0.19	0.77	0.52	0.14	0.14	0.27
Nitrate	mg/l N	26	9.60	11.70	01/03	2.60	19/10	10.4	7.6	10.2	13.6	11.2	9.6	9.9	10.9
Chloride	mg/l Cl	26	76.0	107.0	29/11	34.0	04/01	72.9	37.1	72.0	105.9	65.5	64.1	86.5	75.0
Total alkalinity	mg/l $CaCO_3$	26	207.5	250.0	23/05	161.0	04/01	196.1	148.0	200.0	230.4	191.4	198.3	198.5	196.3
Fluoride	mg/l F	14	0.33	0.40	10/10	0.24	29/01	0.37	0.21	0.35	0.51	0.30	0.34	0.52	0.37
Orthophosphate	mg/l P	25	2.192	4.100	19/10	0.520	04/01	1.66	0.45	1.40	3.44	1.02	1.31	2.39	1.85

Aire at Fleet Weir 1988

Harmonised monitoring code 04 005
Measuring authority NRA-Y
Grid reference 44 (SE) 381 285

Flow measurement station 027080 - Fleet Weir
Catchment area (sq km) 865.0
Grid reference 44 (SE) 381 285

Determinand	Units	1988 Samples	Mean	Max	Date	Min	Date	Period of record 1975 - 1987 Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Flow	m^3s^{-1}	365	19.95	117.8	02/01	4.906	20/06								
Temperature	°C	42	12.3	21.5	22/06	4.5	10/02	12.4	4.5	12.0	21.0	6.9	14.3	17.9	10.3
pH	pH units	51	7.5	8.0	13/10	7.1	16/03	7.5	7.2	7.5	7.8	7.6	7.5	7.4	7.5
Conductivity	µS/cm	49	551	835	10/03	310	09/08	688	395	662	1123	683	694	782	618
Suspended solids	mg/l	50	25.2	139.0	10/02	2.0	04/03	27.2	8.6	17.0	85.0	30.6	28.3	17.3	33.5
Dissolved oxygen	mg/l O	45	7.40	12.50	10/02	1.40	22/06	7.7	2.9	8.0	11.5	10.3	7.0	5.3	8.4
BOD (inhibited)	mg/l O	48	7.5	18.8	18/01	1.3	04/03	7.9	3.9	7.3	14.7	7.9	8.6	7.5	7.8
Ammoniacal nitrogen	mg/l N	51	1.317	5.800	29/01	<0.040	16/06	2.29	0.50	1.82	5.59	2.26	2.51	2.86	1.96
Nitrite	mg/l N	51 (1)	0.273	0.900	28/07	0.039	28/12	0.37	0.07	0.31	0.90	0.16	0.44	0.59	0.28
Nitrate	mg/l N	51	4.70	15.10	04/03	1.50	16/03	4.9	2.6	4.7	7.7	4.3	5.2	5.8	4.6
Chloride	mg/l Cl	51	69.6	142.0	12/05	25.8	28/12	82.3	34.2	75.0	160.3	86.7	84.1	93.2	71.1
Total alkalinity	mg/l $CaCO_3$	28	132.5	167.0	28/07	51.9	12/05	120.6	75.0	123.0	158.0	120.9	120.9	129.0	115.4
Fluoride	mg/l F	7	0.15	0.20	29/11	0.12	06/01	0.17	0.11	0.17	0.26	0.14	0.19	0.14	0.17
Orthophosphate	mg/l P	50	0.999	3.000	16/06	<0.100	22/07	1.46	0.23	1.19	3.54	0.86	1.45	2.07	1.06

Nene at Wansford 1988

Harmonised monitoring code 05 511
Measuring authority : NRA-A
Grid reference : 52 (TL) 082 996

Flow measurement station : 032001 Orton
Catchment area (sq km) 1634.3
Grid reference : 52 (TL) 166 972

Determinand	Units	1988 Samples	Mean	Max.	Date	Min.	Date	Period of record 1974 1987 Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	18	10.3	19.0	17/08	4.0	10/02	11.5	2.6	11.0	21.0	5.2	13.8	17.7	8.3
pH	pH units	18	8.2	8.7	20/05	7.8	09/05	8.1	7.6	8.0	8.8	7.9	8.3	8.2	7.9
Conductivity	µS/cm	16	951	1114	01/06	720	09/05	930	715	920	1200	907	915	976	963
Suspended solids	mg/l	18	50.9	218.0	16/03	5.5	14/12	20.7	4.0	13.5	61.6	26.8	21.4	14.1	21.2
Dissolved oxygen	mg/l O	18	10.60	12.70	20/05	8.40	01/06	10.6	7.8	10.7	13.1	12.0	10.9	[illegible]9.3	10.9
BOD (inhibited)	mg/l O	18	3.5	8.8	24/05	1.6	29/07	3.7	1.3	[illegible]3.0	9.0	3.2	6.1	3.5	2.7
Ammoniacal nitrogen	mg/l N	17	0.269	1.140	09/05	0.020	17/08	0.37	0.05	0.19	1.23	0.76	0.18	0.12	0.55
Nitrite	mg/l N	17 (1)	0.104	0.230	01/06	<0.010	10/07	0.12	0.03	0.10	0.20	0.09	0.12	0.09	0.13
Nitrate	mg/l N	17	10.70	16.50	16/03	7.50	29/06	9.7	5.5	9.2	15.3	9.9	9.3	6.9	10.2
Chloride	mg/l Cl	17	65.1	93.0	01/06	36.0	09/05	73.1	42.0	71.0	110.0	65.1	68.5	83.2	74.9
Total alkalinity	mg/l $CaCO_3$	9	201.4	235.0	24/05	135.0	09/05	208.3	107.0	210.0	235.0	208.0	207.3	209.3	206.6

Stour at Langham 1988

Harmonised monitoring code 05 810
Measuring authority : NRA-A
Grid reference 62 (TM) 026 345

Flow measurement station 036006 - Langham
Catchment area (sq km) 578.0
Grid reference 62 (TM) 020 344

Determinand	Units	1988 Samples	Mean	Max.	Date	Min.	Date	Period of record: 1974 - 1987 Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	54	11.2	19.0	23/06	4.0	11/02	11.1	2.5	11.0	20.0	4.9	13.4	[illegible]6.9	8.3
pH	pH units	52	8.2	8.7	18/08	7.7	21/07	8.2	7.8	8.2	8.9	8.1	8.5	8.3	8.1
Conductivity	µS/cm	30	896	1200	10/10	710	28/01	916	730	910	1100	932	878	882	944
Suspended solids	mg/l	52 (2)	12.1	75.0	07/01	<1.0	10/10	16.3	3.0	10.0	50.0	18.4	21.9	11.8	16.3
Dissolved oxygen	mg/l O	52	11.10	16.20	03/03	8.20	10/10	10.9	7.5	10.9	14.0	12.3	11.6	9.2	10.5
BOD (inhibited)	mg/l O	51 (3)	2.1	6.4	26/05	<1.0	11/08	3.1	1.1	2.3	9.7	2.3	5.6	2.7	2.3
Ammoniacal nitrogen	mg/l N	52	0.095	0.300	17/03	0.020	07/04	0.13	0.02	0.08	0.40	0.21	0.08	0.08	0.15
Nitrite	mg/l N	11	0.051	0.087	16/06	0.018	06/10	0.08	0.02	0.07	0.16	0.08	0.11	0.04	0.09
Nitrate	mg/l N	52	7.22	16.00	17/03	4.00	18/08	8.7	2.0	7.7	16.0	13.0	7.9	4.3	9.0
Chloride	mg/l Cl	52	55.9	81.0	27/10	26.0	07/01	66.6	39.0	65.0	97.4	56.8	6[illegible].6	73.3	70.7
Total alkalinity	mg/l $CaCO_3$	25	272.0	295.0	01/12	250.0	28/01	243.6	190.0	250.0	280.0	241.2	240.6	247.7	248.3

Thames at Teddington Weir 1988

Harmonised monitoring code : 06 010
Measuring authority NRA-T
Grid reference 51 (TQ) 171 714

Flow measurement station 039001 - Kingston
Catchment area (sq km) 9948.0
Grid reference 51 (TQ) 177 698

Determinand	Units	1988 Samples	Mean	Max.	Date	Min.	Date	Period of record 1974 1987 Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	16	11.8	20.0	05/09	5.0	03/03	11.6	4.0	11.5	20.0	5.7	13.8	18.1	9.5
pH	pH units	22	8.0	8.7	05/05	7.4	06/10	8.1	7.6	8.0	8.8	8.0	8.3	8.0	7.9
Conductivity	µS/cm	20	672	762	24/11	575	07/01	581	484	580	704	590	574	565	591
Suspended solids	mg/l	21	20.5	96.0	07/01	5.5	15/08	22.2	4.9	14.4	76.9	28.4	22.6	13.7	25.4
Dissolved oxygen	mg/l O	17	10.80	13.00	16/05	8.60	06/10	10.1	7.[illegible]	10.2	13.2	11.3	10.8	8.6	10.0
BOD (inhibited)	mg/l O	22	2.7	8.0	05/05	1.2	18/01	3.0	1.0	2.4	6.8	2.2	4.3	3.0	2.2
Ammoniacal nitrogen	mg/l N	22 (1)	0.254	0.640	06/10	<0.050	07/04	0.32	0.01	0.22	0.91	0.35	0.20	0.39	0.36
Nitrite	mg/l N	21	0.107	0.180	06/10	0.054	07/04	0.11	0.06	0.10	0.22	0.10	0.10	0.10	0.13
Nitrate	mg/l N	22	6.70	8.30	18/01	5.20	05/09	7.4	5.4	7.1	10.3	8.2	6.7	6.6	7.7
Chloride	mg/l Cl	22	41.2	54.0	19/09	31.0	04/07	41.2	30.0	40.0	57.0	40.0	38.4	45.0	42.1
Total alkalinity	mg/l $CaCO_3$	20	194.1	219.0	03/03	152.0	07/01	186.1	147.9	190.0	214.0	186.3	194.2	189.9	178.5
Orthophosphate	mg/l P	21	1.387	2.700	19/09	0.350	04/02	1.30	0.39	1.08	2.76	0.79	1.06	1.98	1.38

Great Stour at Bretts Bailey Bridge 1988

Harmonised monitoring code . 07 003
Measuring authority NRA-S
Grid reference : 61 (TR) 187 603

Flow measurement station 040011 Horton
Catchment area (sq km) 345.0
Grid reference 61 (TR) 116 554

Determinand	Units	1988* Samples	Mean	Max.	Date	Min.	Date	Period of record. 1974 - 1987 Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	14	14.8	21.0	20/09	7.0	02/11	11.6	4.0	12.0	18.0	6.6	13.2	16.5	9.9
pH	pH units	14	7.7	7.9	20/09	7.6	11/10	7.8	7.3	7.8	8.3	7.7	7.9	7.9	7.7
Conductivity	µS/cm	14	631	711	26/10	513	09/05	686	560	694	785	690	675	677	700
Suspended solids	mg/l	14	4.2	14.0	09/05	<0.0	21/06	12.7	2.0	7.0	44.7	21.8	7.9	7.0	16.7
Dissolved oxygen	mg/l O	12	7.40	9.50	02/11	4.50	09/08	10.8	7.3	10.7	15.0	11.5	10.9	9.3	10.4
BOD (inhibited)	mg/l O	14	1.9	3.[illegible]	09/05	0.6	21/07	2.8	1.1	2.6	5.3	3.2	3.0	2.3	2.6
Ammoniacal nitrogen	mg/l N	14	0.[illegible]04	0.240	02/1[illegible]	0.030	20/09	0.35	0.02	0.16	1.36	0.58	0.38	0.12	0.42
Nitrite	mg/l N	14	0.071	0.130	07/1[illegible]	0.020	3[illegible]/08	0.12	0.03	0.08	0.33	0.10	0.13	0.13	0.14
Nitrate	mg/l N	14	5.60	6.50	27/06	4.50	20/09	5.8	3.8	5.5	8.6	6.7	5.2	4.7	6.3
Chloride	mg/l Cl	14	48.1	61.0	26/10	32.0	09/05	49.5	36.2	48.0	70.0	52.4	47.3	48.5	52.9
Orthophosphate	mg/l P	14	1.240	1.900	14/11	0.500	24/03	0.90	0.32	0.86	1.62	0.64	0.90	1.15	0.96

* Data refer to the period 24/3/88 to 28/11/88 only

Itchen at Gatersmill 1988

Harmonised monitoring code 07 013
Measuring authority NRA-S
Grid reference 41 (SU) 434 156

Flow measurement station 042010 - Highbridge + Allbrook
Catchment area (sq km) 360.0
Grid reference 41 (SU) 467 213

Determinand	Units	1988 Samples	1988 Mean	1988 Max	1988 Date	1988 Min.	1988 Date	Period of record: 1980 - 1987 Mean	Percentiles 5%	Percentiles 50%	Percentiles 95%	Quarterly averages J-M	Quarterly averages A-J	Quarterly averages J-S	Quarterly averages O-D
Temperature	°C	30	11.7	17.0	10/08	3.0	24/11	10.8	4.0	10.0	18.0	7.2	12.8	16.0	10.0
pH	pH units	30	8.2	8.6	11/05	7.7	14/01	8.1	7.8	8.1	8.4	8.1	8.1	8.2	8.1
Suspended solids	mg/l	28	12.2	42.1	28/07	0.2	25/08	12.5	2.6	8.1	32.8	30.3	10.4	4.8	12.1
BOD (inhibited)	mg/l O	27	1.8	3.0	15/04	0.6	06/10	2.1	1.0	2.0	3.6	2.3	2.3	1.6	2.0
Ammoniacal nitrogen	mg/l N	30 (2)	0.089	0.240	09/03	<0.010	25/03	0.11	0.01	0.09	0.28	0.17	0.06	0.06	0.11
Nitrite	mg/l N	30	0.083	0.120	07/09	0.030	10/02	0.05	0.03	0.04	0.09	0.04	0.05	0.05	0.06
Nitrate	mg/l N	29	5.10	7.00	07/09	2.80	28/01	5.2	4.0	5.7	6.1	5.4	5.2	4.6	5.1
Chloride	mg/l Cl	30	23.9	31.2	09/11	17.2	14/01	20.9	17.4	20.3	25.3	21.6	20.0	20.8	24.6
Orthophosphate	mg/l P	30	0.449	0.790	25/08	0.140	14/01	0.37	0.14	0.37	0.68	0.34	0.32	0.40	0.48

Axe at Whitford Road Bridge 1988

Harmonised monitoring code 09 001
Measuring authority NRA-SW
Grid reference : 30 (SY) 262 953

Flow measurement station 045004 Whitford
Catchment area (sq km) 288.5
Grid reference 30 (SY) 262 953

Determinand	Units	1988 Samples	1988 Mean	1988 Max	1988 Date	1988 Min.	1988 Date	Period of record: 1974 - 1987 Mean	Percentiles 5%	Percentiles 50%	Percentiles 95%	Quarterly averages J-M	Quarterly averages A-J	Quarterly averages J-S	Quarterly averages O-D
Temperature	°C	26	9.1	16.5	20/06	3.0	25/11	11.0	3.6	10.4	18.5	5.7	12.1	16.0	8.8
pH	pH units	26	8.0	8.4	23/05	7.7	14/03	7.9	7.4	7.9	8.5	7.8	8.1	8.0	7.8
Conductivity	µS/cm	26	384	442	20/06	307	10/02	385	294	390	453	373	387	413	368
Suspended solids	mg/l	26	14.1	79.0	14/03	2.0	19/09	13.1	2.0	5.9	45.0	17.4	9.6	5.4	25.5
Dissolved oxygen	mg/l O	26	10.90	13.60	25/11	7.90	14/07	10.9	8.4	10.8	13.5	12.1	11.3	10.0	10.7
BOD (inhibited)	mg/l O	26	2.3	11.0	30/11	0.6	23/11	2.1	0.9	1.7	4.4	2.2	2.3	1.7	2.3
Ammoniacal nitrogen	mg/l N	26 (1)	0.108	0.540	30/11	<0.010	19/09	0.11	0.01	0.06	0.32	0.17	0.08	0.06	0.13
Nitrite	mg/l N	26	0.048	0.103	14/07	0.014	19/09	0.05	0.02	0.04	0.10	0.04	0.06	0.03	0.06
Nitrate	mg/l N	26	4.10	5.80	11/01	2.90	23/11	3.6	2.1	3.3	5.6	4.2	6.1	3.0	4.6
Chloride	mg/l Cl	26	24.2	30.6	30/11	20.5	20/06	23.1	19.0	22.0	29.0	23.8	21.0	23.0	23.7
Total alkalinity	mg/l $CaCO_3$	26	134.2	165.0	20/06	91.0	14/03	136.0	87.0	139.0	168.0	120.0	142.2	155.1	125.1
Orthophosphate	mg/l P	26	0.281	0.440	15/12	0.140	10/02	0.24	0.12	0.22	0.41	0.20	0.24	0.25	0.22

Exe at Thorverton Road Bridge 1988

Harmonised monitoring code 09 036
Measuring authority NRA-SW
Grid reference 21 (SS) 936 016

Flow measurement station 045001 - Thorverton
Catchment area (sq km) 600.9
Grid reference 21 (SS) 936 016

Determinand	Units	1988 Samples	1988 Mean	1988 Max	1988 Date	1988 Min	1988 Date	Period of record 1974 - 1987 Mean	Percentiles 5%	Percentiles 50%	Percentiles 95%	Quarterly averages J-M	Quarterly averages A-J	Quarterly averages J-S	Quarterly averages O-D
Temperature	°C	13	8.3	18.5	08/08	4.0	04/03	11.3	4.4	10.8	19.0	6.0	12.6	16.4	9.3
pH	pH units	13	7.5	8.0	24/03	7.1	01/02	7.5	6.9	7.5	8.2	7.3	7.7	7.5	7.4
Conductivity	µS/cm	13	156	201	17/11	104	01/02	171	121	161	244	159	183	189	155
Suspended solids	mg/l	13	28.6	162.0	08/02	2.0	17/11	11.2	2.0	6.0	41.1	12.9	9.1	6.7	12.9
Dissolved oxygen	mg/l O	13	11.40	12.80	04/03	9.20	08/08	11.0	8.7	11.3	13.3	12.4	11.1	9.8	11.3
BOD (inhibited)	mg/l O	13	1.8	3.5	08/02	0.6	06/04	1.7	0.8	1.6	3.3	1.6	2.2	1.6	1.5
Ammoniacal nitrogen	mg/l N	13 (2)	0.059	0.180	08/02	0.010	08/08	0.07	0.01	0.05	0.17	0.08	0.08	0.05	0.05
Nitrite	mg/l N	13	0.022	0.037	08/02	0.008	01/02	0.03	0.01	0.02	0.06	0.02	0.04	0.03	0.02
Nitrate	mg/l N	13	2.40	3.20	04/03	1.60	07/07	2.5	1.4	2.3	3.6	2.9	2.5	2.0	2.4
Chloride	mg/l Cl	13	15.7	18.3	21/01	12.7	01/02	17.8	13.0	17.0	27.0	17.4	17.8	19.2	16.1
Total alkalinity	mg/l $CaCO_3$	13	36.7	53.0	17/11	21.0	01/02	40.7	24.0	38.0	66.7	33.8	46.1	48.2	34.9
Orthophosphate	mg/l P	13	0.101	0.170	17/11	0.050	11/01	0.12	0.03	0.08	0.31	0.06	0.12	0.19	0.08

Dee at Overton 1988

Harmonised monitoring code 10 002
Measuring authority NRA-WEL
Grid reference : 33 (SJ) 354 427

Flow measurement station 067015 - Manley Hall
Catchment area (sq km) 1019.3
Grid reference : 33 (SJ) 348 415

Determinand	Units	1988 Samples	1988 Mean	1988 Max	1988 Date	1988 Min.	1988 Date	Period of record: 1974 - 1987 Mean	Percentiles 5%	Percentiles 50%	Percentiles 95%	Quarterly averages J-M	Quarterly averages A-J	Quarterly averages J-S	Quarterly averages O-D
Temperature	°C	12	9.7	14.9	05/07	4.6	16/02	10.0	3.0	9.8	17.6	4.6	11.6	15.3	7.7
pH	pH units	12	7.3	8.1	03/11	5.6	13/01	7.2	6.5	7.2	7.8	7.2	7.3	7.2	7.1
Conductivity	µS/cm	12	144	239	13/05	45	13/01	173	98	165	272	164	214	172	139
Suspended solids	mg/l	12	12.0	47.0	16/03	3.0	13/05	8.8	1.0	3.0	35.9	10.8	5.8	6.7	12.2
Dissolved oxygen	mg/l O	12	10.70	12.00	16/02	9.40	05/07	11.1	9.1	11.1	13.3	12.7	10.8	9.8	11.8
BOD (inhibited)	mg/l O	12	1.3	2.3	01/08	0.5	03/11	1.2	0.5	1.1	2.5	1.2	1.4	1.2	1.1
Ammoniacal nitrogen	mg/l N	11	0.047	0.080	18/01	<0.010	06/09	0.05	0.01	0.03	0.13	0.07	0.04	0.04	0.06
Nitrite	mg/l N	11	0.016	0.050	13/05	0.008	03/11	0.02	0.01	0.01	0.05	0.02	0.02	0.02	0.02
Nitrate	mg/l N	11	0.90	1.20	13/05	0.40	06/09	1.1	0.5	1.0	2.1	1.3	1.2	0.8	1.0
Chloride	mg/l Cl	11	18.6	33.0	13/05	4.0	05/10	19.3	10.3	18.0	32.0	20.2	22.6	20.2	15.4
Orthophosphate	mg/l P	11	0.059	0.080	16/03	<0.050	13/01	0.05	0.01	0.05	0.15	0.05	0.06	0.07	0.05

Carron at A890 Road Bridge 1988

Harmonised monitoring code : 11 009
Measuring authority : HRPB
Grid reference : 18 (NG) 938 425

Flow measurement station : 093001 New Kelso
Catchment area (sq km) 137.8
Gnd reference : 18 (NG) 942 429

		1988						Period of record: 1979 - 1987							
Determenand	Units	Samples	Mean	Max.	Date	Min.	Date	Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	12	9.1	15.3	14/06	3.8	17/02	8.5	2.1	8.5	15.2	3.5	11.6	12.9	7.1
pH	pH units	12	6.5	6.9	14/06	6.0	07/12	6.7	5.8	6.7	7.4	6.7	6.7	6.7	6.6
Conductivity	µS/cm	12	33	44	24/05	28	04/10	45	27	44	66	51	48	42	40
Suspended solids	mg/l	12	1.2	2.0	17/02	0.6	28/07	1.5	0.2	1.0	4.8	1.8	1.2	1.4	1.6
Dissolved oxygen	mg/l O	12	11.20	12.60	17/02	9.40	14/06	11.3	9.8	11.3	13.2	12.7	10.9	10.1	11.4
BOD (inhibited)	mg/l O	12	0.9	1.4	20/01	0.3	14/06	0.8	0.2	0.8	1.4	0.7	0.7	0.8	0.9
Ammoniacal nitrogen	mg/l N	12	0.006	0.018	17/02	0.002	07/09	0.01	0.00	0.01	0.03	0.01	0.01	0.01	0.01
Nitrite	mg/l N	12	0.001	0.003	23/08	0.001	20/01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01
Nitrate	mg/l N	12	0.05	0.10	24/05	0.00	28/07	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Chloride	mg/l Cl	12	6.9	8.8	20/01	4.8	28/07	10.8	6.0	10.0	18.9	14.3	10.7	8.3	9.5
Total alkalinity	mg/l $CaCO_3$	12	3.8	7.1	24/05	1.7	07/12	6.5	1.9	5.0	15.0	6.3	7.0	6.9	6.0
Orthophosphate	mg/l P	12	0.004	0.005	28/07	0.002	28/04	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00

Spey at Fochabers 1988

Harmonised monitoring code 12 002
Measuring authority : NERPB
Grid reference . 38 (NJ) 341 596

Flow measurement station 008006 - Boat o Brig
Catchment area (sq km) 2861.2
Grid reference 38 (NJ) 318 518

		1988						Period of record. 1975 - 1987							
Determinand	Units	Samples	Mean	Max.	Date	Min	Date	Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	16	9.9	16.0	20/08	2.5	15/03	9.4	1.9	9.3	18.3	3.3	9.7	15.1	6.1
pH	pH units	16	7.0	7.5	18/05	6.5	20/04	7.2	6.3	7.2	7.8	6.9	7.2	7.5	7.0
Conductivity	µS/cm	16	71	96	22/06	45	20/04	76	50	76	108	82	70	85	69
Suspended solids	mg/l	16	2.3	6.0	26/10	0.1	21/09	4.2	0.0	2.0	18.4	2.6	4.1	3.9	4.2
Dissolved oxygen	mg/l O	15	10.90	12.70	19/01	9.30	20/07	11.3	9.2	11.2	13.6	12.8	11.1	9.8	11.7
BOD (inhibited)	mg/l O	16	1.0	1.4	22/06	0.3	21/09	0.9	0.5	0.9	1.5	0.8	1.2	0.9	0.9
Ammoniacal nitrogen	mg/l N	16	0.037	0.120	27/06	0.004	15/03	0.04	0.00	0.03	0.12	0.03	0.04	0.04	0.03
Nitrite	mg/l N	16	0.005	0.007	20/07	0.002	10/05	0.01	0.00	0.01	0.02	0.01	0.01	0.01	0.01
Nitrate	mg/l N	16	0.40	0.80	16/11	0.20	24/08	0.3	0.2	0.3	0.7	0.45	0.30	0.31	0.30
Chloride	mg/l Cl	16	7.9	11.0	15/03	6.0	20/04	10.7	7.0	10.0	16.0	12.5	10.2	10.9	9.4
Total alkalinity	mg/l $CaCO_3$	16	19.3	35.0	19/01	7.0	14/12	26.8	15.8	25.0	40.0	24.3	25.2	30.8	25.5
Orthophosphate	mg/l P	16	0.014	0.044	26/10	0.002	24/08	0.03	0.00	0.01	0.11	0.02	0.02	0.04	0.02

Almond at Craigiehall 1988

Harmonised monitoring code 14 008
Measuring authority FRPB
Grid reference 36 (NT) 165 752

Flow measurement station 019001 Craigiehall
Catchment area (sq km) 369.0
Grid reference 36 (NT) 165 752

		1988						Period of record. 1975 - 1987							
Determinand	Units	Samples	Mean	Max.	Date	Min	Date	Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	19	9.8	18.0	20/06	3.0	19/01	9.5	2.0	9.3	17.8	4.0	11.8	14.6	7.3
pH	pH units	11	7.7	8.1	09/05	7.2	08/03	7.5	7.0	7.6	8.0	7.4	7.7	7.5	7.5
Conductivity	µS/cm	11	586	950	20/06	250	09/02	599	312	580	887	521	688	657	512
Suspended solids	mg/l	11	14.5	63.0	19/10	<1.0	20/06	24.4	3.0	11.0	91.4	35.7	10.8	15.6	30.4
BOD (inhibited)	mg/l O	11	2.4	3.2	19/01	1.6	11/10	3.3	1.6	2.8	6.8	3.3	3.9	3.1	3.3
Ammoniacal nitrogen	mg/l N	10	1.484	3.900	20/06	0.440	11/07	1.20	0.22	0.95	3.01	1.24	1.51	1.19	0.84
Nitrite	mg/l N	10	0.434	1.930	08/03	0.010	06/09	0.24	0.04	0.14	0.83	0.06	0.31	0.43	0.13
Nitrate	mg/l N	11	3.40	5.10	20/06	1.90	06/09	3.8	2.1	3.6	5.6	3.6	4.1	4.7	3.6
Chloride	mg/l Cl	11	70.7	137.0	09/02	25.0	06/09	62.8	26.6	60.0	103.0	59.5	71.0	69.5	48.7
Total alkalinity	mg/l $CaCO_3$	11	114.2	158.0	20/06	63.0	06/09	121.0	51.7	120.0	190.0	101.0	141.4	134.4	103.2
Fluoride	mg/l F	10	0.17	0.24	09/08	0.10	09/05	0.22	0.03	0.19	0.44	0.19	0.26	0.18	0.22
Orthophosphate	mg/l P	11	0.784	2.100	20/06	0.170	09/02	0.72	0.09	0.44	2.08	0.24	0.90	1.26	0.38

Leven at Renton Footbridge 1988

Harmonised monitoring code 17 005
Measuring authority : CRPB
Grid reference 26 (NS) 389 783

Flow measurement station 085001 - Linnbrane
Catchment area (sq km) 784.3
Grid reference 26 (NS) 394 803

		1988						Period of record 1975 - 1987							
Determinand	Units	Samples	Mean	Max.	Date	Min.	Date	Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	11	10.0	18.0	29/06	5.0	29/01	9.2	2.0	9.0	17.0	3.5	10.6	15.2	8.0
pH	pH units	12	7.0	7.3	02/06	6.7	04/11	7.1	6.7	7.1	7.6	7.1	7.2	7.2	7.0
Conductivity	µS/cm	12	65	74	13/07	61	11/08	73	60	70	96	73	74	72	73
Suspended solids	mg/l	12	3.5	13.0	09/12	1.0	02/06	5.1	1.0	4.0	13.0	7.4	4.3	4.2	4.6
Dissolved oxygen	mg/l O	12	10.80	12.10	29/08	9.40	29/06	11.0	9.2	11.0	12.7	12.4	11.4	9.6	10.7
BOD (inhibited)	mg/l O	11	2.2	3.0	28/04	1.0	04/11	1.8	0.8	1.7	2.7	2.3	2.0	1.2	1.5
Ammoniacal nitrogen	mg/l N	12	0.029	0.070	09/12	<0.020	29/01	0.05	0.01	0.02	0.25	0.05	0.05	0.06	0.05
Nitrite	mg/l N	11	0.010	0.015	09/09	<0.010	29/01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
Nitrate	mg/l N	11	0.30	0.60	09/12	0.10	09/09	0.3	0.1	0.3	0.5	0.4	0.3	0.2	0.3
Chloride	mg/l Cl	9	7.5	9.0	29/03	6.0	02/06	10.1	6.0	9.0	18.6	10.9	10.5	10.1	9.2
Orthophosphate	mg/l P	11	0.018	0.100	07/10	<0.010	29/01	0.02	0.01	0.01	0.05	0.02	0.02	0.02	0.0

DIRECTORY OF MEASURING AUTHORITIES

The enactment of the Water Act 1989 facilitated the creation of ten Water Services PLCs to take over the former Water Authorities' responsibilities for water supply and sewerage and for the setting up of a new body, the National Rivers Authority, to operate their regulatory and river management functions. Responsibility for most hydrometric activities has passed to the NRA. As part of the necessary restructuring prior to this major water industry reorganisation, 'shadow' regional NRA Units were established in each Water Authority. The Units began operating as fully independent units within each Water Authority on the 1st April 1989 and, formally, became regional divisions of the National Rivers Authority on the 1st September 1989.

		Address	Code
National Rivers Authority		30-34 Albert Embankment, London SE1 7TL Tel: 01-820-0101	NRA

NRA Regional Headquarters

		Address	Code
Anglian		Aqua House, London Road, Peterborough PE2 8AG	NRA-A
Northumbrian		Eldon House, Regent Centre, Gosforth, Newcastle-upon-Tyne NE3 3UD	NRA-N
North West		PO Box 12, New Town House, Buttermarket Street, Warrington WA1 2QG	NRA-NW
	From March 1990:	Richard Fairclough House, Knutsford Rd, Latchford, Warrington WA4 1HG	
Severn Trent		Sapphire East, 550 Streetsbrook Road, Solihull B91 1QT	NRA-ST
Southern		Guildbourne House, Chatsworth Road, Worthing, West Sussex BN11 1LD	NRA-S
South West		Manley House, Kestrel Way, Exeter EX2 7LQ	NRA-SW
Thames		Kings Meadow House, Kings Meadow Road, Reading RG1 8DQ	NRA-T
Welsh		Rivers House/Plas-yr-Afon, St Mellons Business Park, St Mellons, Cardiff CF3 0EG	NRA-WEL
Wessex		Bridgwater House, King Square, Bridgwater, Somerset TA6 3EA	NRA-W
	From Spring 1990:	Rivers House, East Quay, Bridgwater, Somerset TA6 4YZ	
Yorkshire		21 Park Square South, Leeds LS1 2QG	NRA-Y

Water Services PLCs

		Address	Code
Anglian Water		Ambury Road, Huntingdon PE18 6NZ	AW

Northumbrian Water	PO Box 4, Regent Centre, Gosforth, Newcastle-upon-Tyne NE3 3PX	NW
North West Water	Dawson House, Great Sankey, Warrington WA5 3LW	NWW
SevernTrent Water	Abelson House, 2297 Coventry Road, Sheldon, Birmingham B26 3PU	STW
Southern Water	Guildbourne House, Chatsworth Road, Worthing, West Sussex BN11 1LD	SW
From spring 1990:	Southern House, Yeoman Road, Durrington, Worthing, West Sussex	
South West Water	Peninsula House, Rydon Lane, Exeter EX2 7HR	SWW
Thames Water	Nugent House, Vastern Road, Reading RG1 8DB	TW
Welsh Water	Plas y Ffynnon, Cambrian Way, Brecon, Powys LD3 7HP	WELW
Wessex Water	Wessex House, Passage Street, Bristol BS2 0JQ	WW
Yorkshire Water	West Riding House, 67 Albion Street, Leeds LS1 5AA	YW

River Purification Boards

Clyde River Purification Board	Rivers House, Murray Road, East Kilbride, Glasgow G75 0LA	CRPB
Forth River Purification Board	Colinton Dell House, West Mill Road, Colinton, Edinburgh EH13 0PH	FRPB
Highland River Purification Board	Strathpeffer Road, Dingwall IV15 9QY	HRPB
North East River Purification Board	Greyhope House, Greyhope Road, Torry, Aberdeen AB1 3RD	NERPB
Solway River Purification Board	Rivers House, Irongray Road, Dumfries DG2 0JE	SRPB
Tay River Purification Board	1, South Street, Perth PH2 8NJ	TRPB
Tweed River Purification Board	Burnbrae, Mossilee Road, Galashiels TD1 1NF	TWRP

Other measuring authorities

Borders Regional Council (Directorate of Water and Drainage Services)	West Grove, Waverley Road, Melrose TD6 9SJ	BRWD
Corby (Northants) and District Water Company	Geddington Road, Corby, Northants NN18 8ES	CDWC
Department of the Environment for Northern Ireland	Water Service, Northland House, 3 Frederick Street, Belfast BT1 2NS	DOEN

Dumfries and Galloway Regional Council (Department of Water and Sewerage)	Marchmount House, Dumfries DG1 1NR	DGRW
Essex Water Company	Hall Street, Chelmsford, Essex CM2 OHH	EWC
Geological Survey of Northern Ireland	20 College Gardens, Belfast BT9 6BS	GSNI
Grampian Regional Council (Water Services Department)	Woodhill House, Ashgrove Road West, Aberdeen AB9 2LU	GRWD
Highland Regional Council (Water Department)	Regional Buildings, Glenurquhart Road, Inverness IV3 5NX	HRCW
Institute of Hydrology	Maclean Building, Crowmarsh Gifford, Wallingford, Oxfordshire OX10 8BB	IH
Lothian Regional Council (Department of Water and Drainage)	8 Cockburn Street, Edinburgh EH1 1NZ	LRWD
Newcastle and Gateshead Water Company	PO Box 10, Allendale Road, Newcastle-upon-Tyne NE6 2SW	NGWC
North of Scotland Hydro-Electric Board	16 Rothesay Terrace, Edinburgh EH3 7SE	NSHE
Strathclyde Regional Council (Water Department)	419 Balmore Road, Glasgow G22 6NU	SRCW
Tayside Regional Council (Water Services Department)	Bullion House, Invergowrie, Dundee DD2 5BB	TRWS

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Reports:			
Hydrometric Register and Statistics 1981-5[1]	1988	£12	£15
The 1984 Drought[2]	1985		£12

The Yearbooks are available as bound volumes or as sets of pre-punched sheets for insertion in a ring binder designed to hold the five yearbooks in each publication cycle together with the five-yearly catalogue of summary statistics. The ring binder for 1981-5 may be purchased for £40 to include the 1981 to 1985 Yearbooks and the statistical volume. The ring binder to hold the Yearbooks for 1986-90 may be purchased for £5.

All the Hydrological data UK publications and the ring binder may be obtained from:-

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Enquiries or comments regarding the series, or individual publications are welcomed and should be directed to the Surface Water Archive Office at the above address.

1. Hydrometric Register and Statistics 1981-5

This reference volume includes maps, tables and statistics for over 800 river basins and 150 representative observation boreholes throughout the United Kingdom. The principal objective of the publication is to assist data users in the selection of monitoring sites for particular investigations and to allow more effective interpretation of analyses based upon the raw data. To this end, concise gauging station and catchment descriptions are given for the featured flow measurement stations - particular emphasis is placed on hydrometric performance, especially in the high and low flow ranges, and on the net effect of artificial influences on the natural flow regime.

Summary hydrometric statistics, for each of the years 1981-5, are provided alongside the corresponding long term averages, or extremes, to allow the recent variability in surface and groundwater resources to be considered in a suitable historical context.

The 1984 Drought

This first, occasional report in the Hydrological data UK series concerns the 1984 drought. The report documents the drought in a water resources framework and its development, duration and severity are examined with particular reference to regional variations in intensity. Assessments are made of the likely frequency of occurrence of the drought and its magnitude is considered both in the perspective provided by historical records of rainfall and runoff, and in the context of the recent somewhat erratic climatic behaviour.

* Bound editions of the 1983 and 1984 Yearbooks are in very limited supply.

ABBREVIATIONS

Note: The following abbreviations do not purport to represent any standardised usage; they have been developed for use in the Hydrological data UK series of publications only. Where space constraints have required alternative forms of these conventional abbreviations to be used, the meaning should be evident from the context.

AOD	Above Ordnance Datum
Bk	Beck
Blk	Black
Br	Bridge
Brk or B	Brook
Brn	Burn
Ch	Channel
C/m	Current meter(ing)
Com	Common
Dk	Dike
Dr or D	Drain
D/s	Downstream
E	East
Frm	Farm
G/s	Gauging station
Gw	Groundwater
HEP	Hydro-electric power
Ho	House
Hosp	Hospital
L	Loch or lake
Lb	Left hand river bank (looking downstream)
Ln	Lane
Lst	Limestone
Ltl	Little
MAF	Mean annual flood
Mkt	Market
Ml/d	Megalitres per day
Mnr	Manor
N	North
Ntch	Notch
NW	North West
O/f	Outfall or outflow
ORS	Old Red Sandstone
Pk	Park
Pop	Population
POR	Period of record
PS	Pumping station
Pt	Pont
PWS	Public water supply
Rb	Right hand river bank (looking downstream)
R/c	Racecourse
RCS	Regional communications system
Rd	Road
Res	Reservoir
Rh	Right hand
S	South
SAGS	Stour Augmentation Groundwater Scheme
Sch	School
S-D	Stage-discharge relation
SDD	Scottish Development Department
SE	South East
Sl	Sluice
Sp	Spring
St	Stream
STW	Sewage Treatment Works
SW	South West
TS	Transfer scheme
US	Ultrasonic gauging station
U/s	Upstream
W	West
W'course	Watercourse
Wd	Wood
Wht	White
Wr	Weir
WRW	Water reclamation works
Wtr	Water
WTW	Water treatment works

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