

# Hydrological Summary for Great Britain

OCTOBER 1994

## Rainfall

Contrasts in weather conditions during October were notable in both spatial and temporal terms. High pressure dominated after a damp start but conditions became increasingly unsettled over the latter half of the month. Britain as a whole registered near average rainfall for October but England and Wales was wetter than normal whilst a similar rainfall total for Scotland signalled a relatively dry month. Much of eastern Scotland has been relatively dry since April, an echo of the protracted drought which afflicted catchments draining to the eastern seaboard over much of the 1989-92 period. Provisional data suggest that the Tweed, Forth and North-East RPB areas have, since April, each recorded their lowest 6-month rainfall accumulations for a decade. Northern England has been dry also but the October rainfall was generally close to the average. In much of southern Britain precipitation over the 15 days from the 4th was largely restricted to fog-drip. However, 24-hour rainfall totals exceeding 100 mm were reported on Exmoor and Dartmoor near month-end and 3-day rainfall totals greater than 40 mm were common in southern Britain. This abundant rainfall boosted most October catchment totals to 110-200% of average. Accumulated rainfall totals for the year thus far are close to, or above, average in all regions and notably high over the longer timeframes in southern regions.

## River Flow

Limited rainfall and substantial soil moisture deficits in the lowlands extended the 1994 recessions throughout much of October and very modest flow rates were registered around the third week in a number of impervious catchments. Subsequently the extended wet spell triggered a recovery which continued into November and, in the South-West and South Wales produced significant flooding around month-end. On the 30th, the Taw recorded its highest flow since 1981 and many Devon rivers were in spate. Severe localised flooding occurred in the lower Torridge catchment (at Weare Gifford especially) and substantial transport disruption was common in the South-West and South Wales where the River Ely reached exceptional levels. Notwithstanding the large within-month flow range, runoff totals for October were mostly very similar to September and generally well within the normal range, albeit mostly below average - significantly so in Scotland where a few eastern rivers closely approached

their minimum October runoff - continuing a protracted sequence of relatively low flows. The Whiteadder recorded its second lowest May-October runoff total. Conversely flows in many spring-fed rivers in lowland England have remained well above average. For a few, including the Mimram, 14- and 26-month accumulated runoff totals are the highest or near to the highest on record. In the former timeframe runoff is above average for almost all index rivers and exceptionally high for many south-western catchments.

## Groundwater

Apart from some minor aquifers in north-eastern Britain, soils in most outcrop areas were close to saturation by the end of October and recent infiltration in much of southern England has been very healthy. However, as a consequence of the lagged response of water-tables to rainfall (which can be many weeks for the deepest aquifers), this infiltration has yet to be reflected in most of the groundwater level hydrographs shown on Figure 2. The date of the latest level reading should be noted when attempting to judge the onset of the 1994 seasonal recovery; this is expected to begin with water-tables at a similar level to last year. October levels in the Chalk were all within the normal range but important regional differences may be recognised: levels in parts of the Yorkshire Wolds, for instance, being relatively depressed whereas many boreholes in East Anglia reported levels substantially above the seasonal mean. Recoveries are well established in some of the more responsive aquifers (eg the Carboniferous Limestone) but October groundwater levels were seasonally low in parts of the Permo-Triassic sandstones, for example in north Wales and southern Scotland. It is expected that November levels will show that recoveries have gathered momentum in all regions.

## General

With many areas registering the rough equivalent of six weeks average rainfall over the fortnight beginning around the 28th October, the normal autumn transformation in runoff and recharge rates seems likely to repeat the very brisk seasonal recoveries in most of southern Britain in the last two years. Most reservoir stocks have shown notable late October/early November increases and the resources outlook is healthy.



Institute of  
Hydrology

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British  
Geological  
Survey

Data for this report have been provided principally by the regional divisions of the National Rivers Authority\* in England and Wales, the River Purification Boards in Scotland and by the Meteorological Office. Reservoir contents information has been supplied by the Water Services Companies, the NRA or, in Scotland, the Lothians Regional Council. The most recent areal rainfall figures are derived from a restricted network of raingauges and a proportion of the river flow data is of a provisional nature.

A map (Figure 3) is provided to assist in the location of the principal monitoring sites.

Financial support towards the production of the Hydrological Summaries is given by the Department of the Environment and the National Rivers Authority.

The Hydrological Summaries are available on annual subscription at a current cost of £48 per year - enquiries should be directed to the National Water Archive Office at the address below. No charge is made to those organisations providing data for the Summaries.

\* For reasons of consistency and to provide greater spatial discrimination, the original ten regional divisions of the NRA have been retained for use in the Hydrological Summaries.

#### MORECS

Most of the recent monthly regional rainfall data featured in the Hydrological Summaries are MORECS assessments. MORECS is the generic name for The Meteorological Office services involving the calculation of evaporation and soil moisture routinely for Great Britain. Products include a weekly issue of maps and tables of potential and actual evaporation, soil moisture deficits, effective rainfall and the hydrometeorological variables used to calculate them. The data are used to provide values for 40 km squares - or larger areas - and various sets of maps and tables are available according to user requirements. Options include a day-by-day retrospective calculation of soil moisture at any of 4000 rain-gauge sites.

Further information about MORECS services may be obtained from: The Meteorological Office, Sutton House, London Road, Bracknell, RG12 2SY

Tel: 0344 856858

Fax: 0344 854024

Institute of Hydrology/British Geological Survey  
Maclean Building  
Crowmarsh Gifford  
Wallingford  
Oxfordshire  
OX10 8BB

**TABLE 1 1993/94 RAINFALL AS A PERCENTAGE OF THE 1961-90 AVERAGE**

Note: The monthly rainfall figures are the copyright of The Meteorological Office. These data may not be published or passed on to any unauthorised person or organisation.

		Oct 1993	Nov	Dec	Jan 1994	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct
England and Wales	mm	89	74	167	123	82	96	75	61	35	46	70	112	104
	%	105	82	178	140	130	133	125	95	54	74	92	145	122
<b>NRA REGIONS</b>														
North West	mm	51	65	247	159	71	165	151	31	73	67	104	106	124
	%	40	53	199	131	91	174	213	41	90	79	97	92	97
Northumbrian	mm	91	63	136	107	71	84	65	27	39	39	81	73	71
	%	120	73	168	127	120	120	116	44	65	60	100	101	93
Severn Trent	mm	74	67	139	95	71	75	59	55	23	43	53	120	67
	%	116	94	181	136	131	123	107	93	39	81	79	187	105
Yorkshire	mm	62	63	136	116	68	71	61	45	28	52	58	102	74
	%	85	79	164	147	117	104	103	75	47	88	78	150	102
Anglian	mm	90	70	85	73	45	53	52	51	25	41	56	92	67
	%	176	121	155	146	122	113	113	106	49	84	102	187	131
Thames	mm	111	47	105	97	59	51	59	80	25	21	50	79	87
	%	179	72	150	152	131	91	118	143	45	43	86	134	140
Southern	mm	134	63	154	124	64	57	78	91	39	29	69	93	113
	%	168	74	188	155	119	90	147	169	72	60	121	135	142
Wessex	mm	122	63	167	126	100	80	63	90	24	34	68	101	107
	%	154	76	180	145	154	114	119	148	42	65	103	141	135
South West	mm	119	107	263	186	174	125	87	100	32	48	101	124	132
	%	103	86	189	135	172	126	126	139	46	70	120	134	113
Welsh	mm	81	113	275	182	131	184	115	68	57	64	88	140	140
	%	59	80	180	127	135	172	144	83	72	83	87	121	102
Scotland	mm	118	76	234	215	96	250	134	30	110	66	101	102	115
	%	76	50	155	142	94	200	176	35	128	70	86	72	74
<b>RIVER PURIFICATION BOARDS</b>														
Highland	mm	138	67	275	248	74	341	188	39	148	62	112	166	119
	%	70	33	140	132	58	210	207	42	151	58	88	97	60
North East	mm	170	44	115	131	110	106	77	16	56	39	48	84	81
	%	175	44	124	132	169	136	128	23	85	53	55	97	84
Tay	mm	126	77	175	206	117	219	103	22	89	47	81	52	127
	%	97	64	138	143	123	201	166	27	122	61	86	46	98
Forth	mm	107	73	189	161	88	210	83	21	75	55	78	53	99
	%	93	65	172	136	111	223	141	28	109	73	83	48	86
Tweed	mm	135	55	176	141	86	124	71	20	52	42	70	52	74
	%	142	59	189	141	128	157	125	28	80	58	80	58	78
Solway	mm	54	97	269	204	116	195	120	28	79	102	121	78	132
	%	34	67	182	131	115	167	156	33	94	113	102	55	84
Clyde	mm	66	114	306	268	110	301	148	38	141	99	143	84	138
	%	34	63	171	142	93	205	176	42	152	91	107	47	72

Note: The monthly rainfall figures for the NRA regions for September and October correspond to the MORECS areal assessments derived by the Meteorological Office. In northern England these initial assessments may have a particularly wide error band associated with them. The figures for the RPB regions for September and October 1994 were derived by IH in collaboration with the RPBs. The provisional figures for England and Wales and for Scotland are derived using a different raingauge network. Regional areal rainfall figures are regularly updated (normally one or two months in arrears) using figures derived from a far denser raingauge network.

**TABLE 2 RAINFALL RETURN PERIOD ESTIMATES**

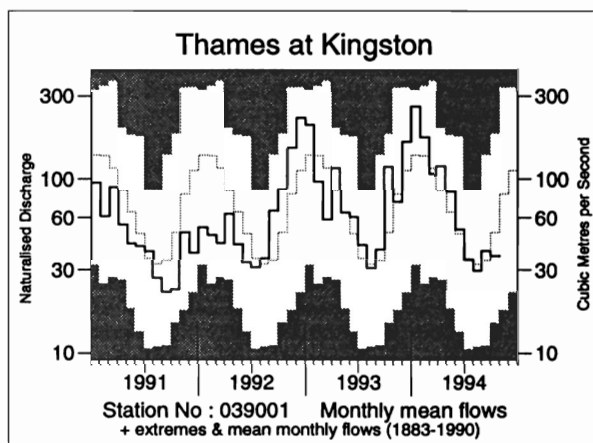
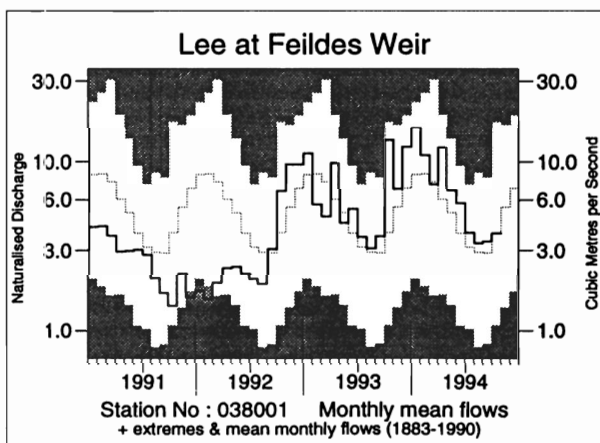
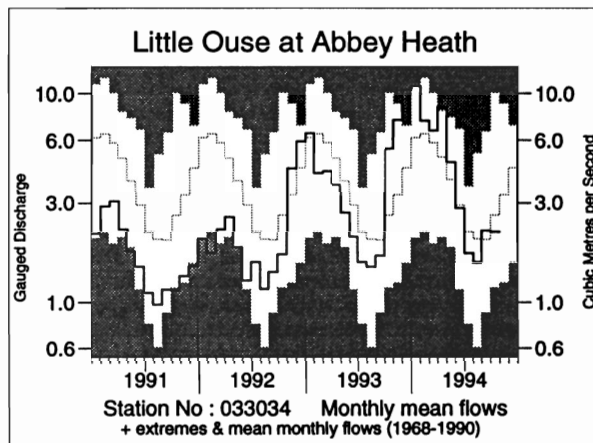
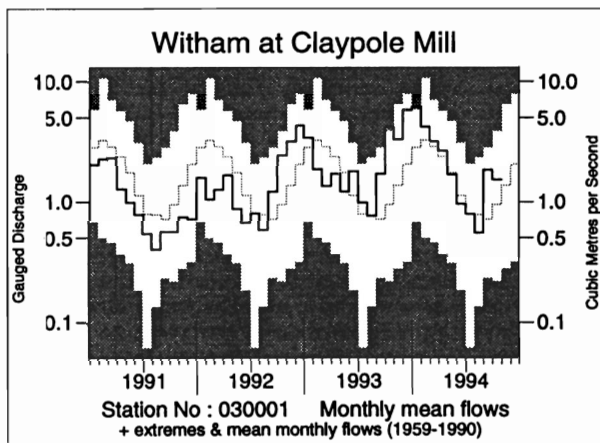
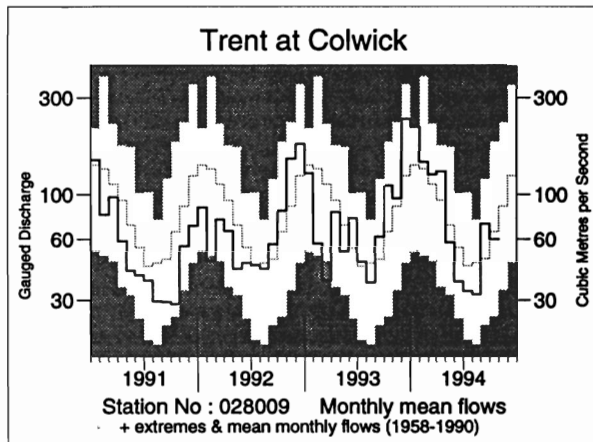
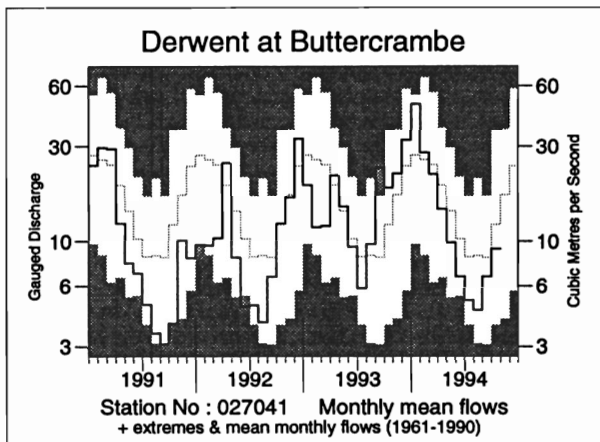
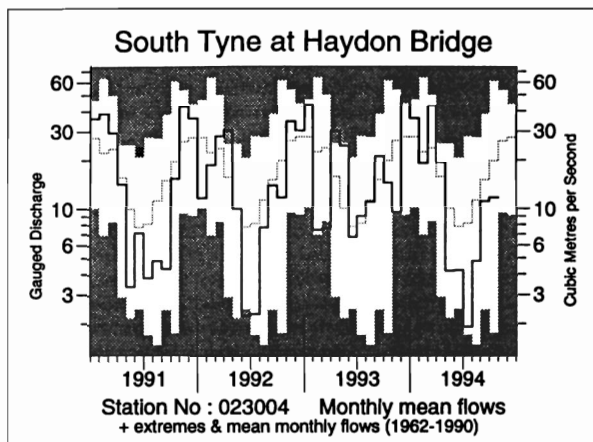
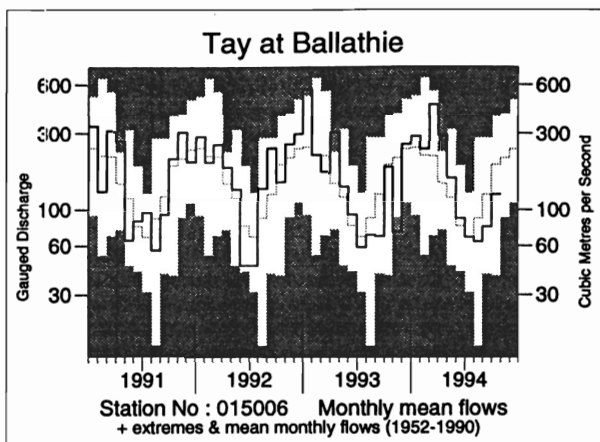
		May94-Oct94		Jan94-Oct94		Sep93-Oct94		Sep92-Oct94	
		Est Return Period, years		Est Return Period, years		Est Return Period, years		Est Return Period, years	
England and Wales	mm % LTA	427 100	<2	803 113	<u>5-10</u>	1246 118	<u>10-20</u>	2183 112	<u>5-15</u>
<b>NRA REGIONS</b>									
North West	mm % LTA	505 85	2-5	1051 110	<u>2-5</u>	1501 104	<u>2-5</u>	2737 103	<u>2-5</u>
Northumbria	mm % LTA	330 79	5-10	657 96	2-5	1056 105	<u>2-5</u>	1969 106	<u>2-5</u>
Severn Trent	mm % LTA	361 99	2-5	661 109	<u>2-5</u>	1037 118	<u>5-15</u>	1816 110	<u>5-10</u>
Yorkshire	mm % LTA	359 91	2-5	675 103	<u>2-5</u>	1068 111	<u>2-5</u>	1915 107	<u>2-5</u>
Anglian	mm % LTA	331 109	<u>2-5</u>	554 115	<u>5-10</u>	904 130	<u>50-80</u>	1565 121	<u>40-60</u>
Thames	mm % LTA	342 101	<u>2-5</u>	608 110	<u>2-5</u>	974 120	<u>10-15</u>	1721 115	<u>10-15</u>
Southern	mm % LTA	435 120	<u>5-10</u>	758 124	<u>10-15</u>	1232 133	<u>60-90</u>	2038 119	<u>20-35</u>
Wessex	mm % LTA	424 110	<u>2-5</u>	793 120	<u>5-10</u>	1265 128	<u>30-40</u>	2132 117	<u>10-20</u>
South West	mm % LTA	537 107	<u>2-5</u>	1109 122	<u>5-15</u>	1766 128	<u>35-50</u>	3022 118	<u>20-35</u>
Welsh	mm % LTA	556 94	2-5	1168 115	<u>5-10</u>	1755 112	<u>5-10</u>	3113 108	<u>5-10</u>
Scotland	mm % LTA	524 77	10-20	1219 107	<u>2-5</u>	1723 99	2-5	3378 106	<u>5-10</u>
<b>RIVER PURIFICATION BOARDS</b>									
Highland	mm % LTA	646 82	5-10	1497 110	<u>2-5</u>	2029 95	2-5	4077 105	<u>2-5</u>
North East	mm % LTA	324 68	40-60	748 96	2-5	1161 100	<u>&lt;2</u>	2186 103	<u>2-5</u>
Tay	mm % LTA	418 73	10-20	1063 108	<u>2-5</u>	1544 105	<u>2-5</u>	3005 111	<u>5-10</u>
Forth	mm % LTA	381 71	20-30	923 104	<u>2-5</u>	1372 103	<u>2-5</u>	2647 108	<u>5-10</u>
Tweed	mm % LTA	310 64	40-60	732 93	2-5	1190 103	<u>2-5</u>	2250 106	<u>2-5</u>
Solway	mm % LTA	540 80	5-10	1175 104	<u>2-5</u>	1697 99	2-5	3206 102	<u>2-5</u>
Clyde	mm % LTA	643 81	5-10	1470 110	<u>2-5</u>	2031 98	2-5	3955 105	<u>2-5</u>

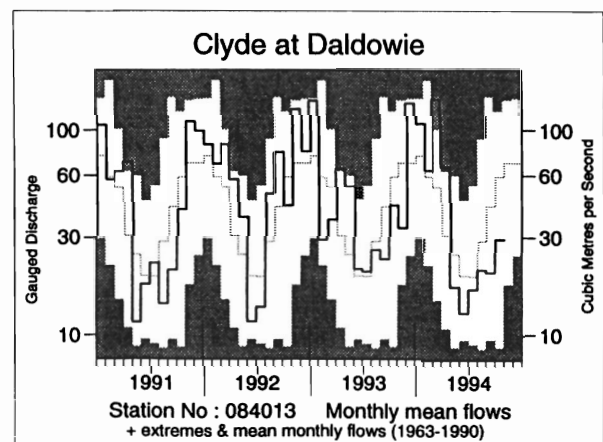
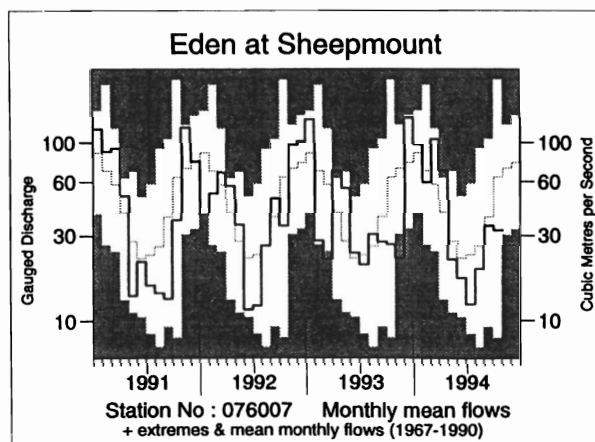
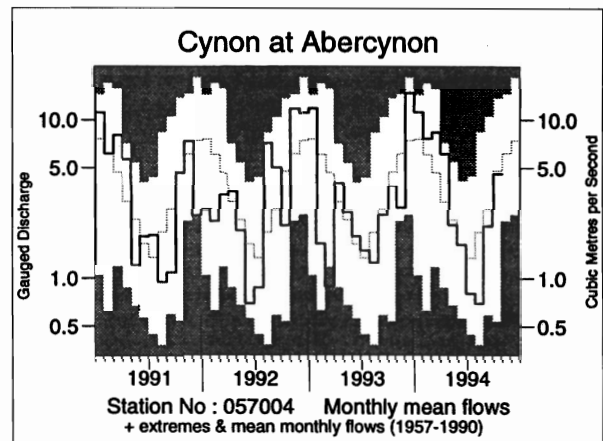
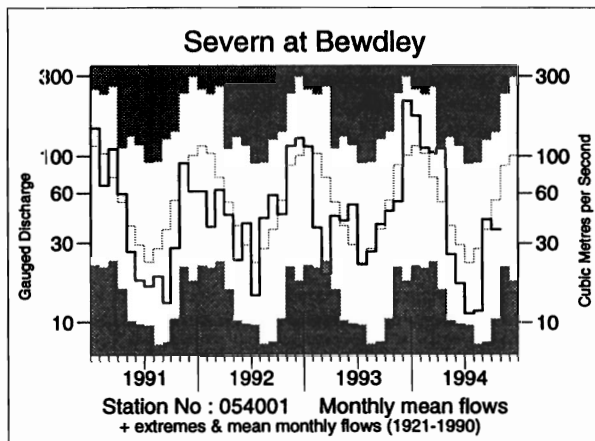
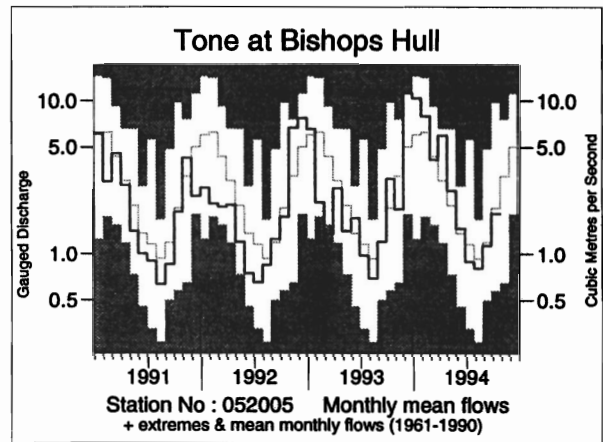
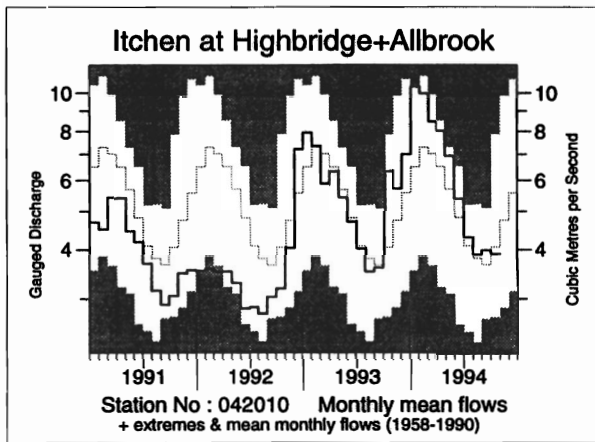
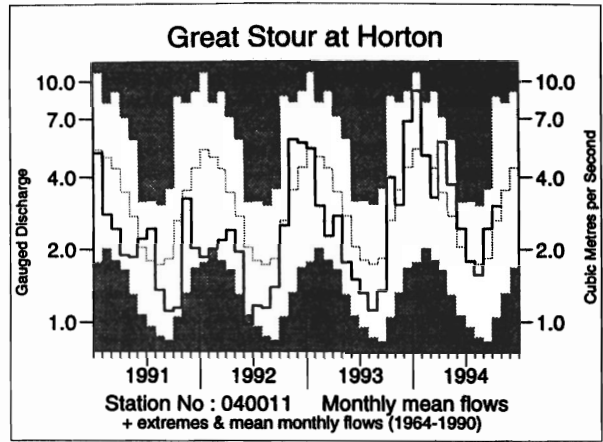
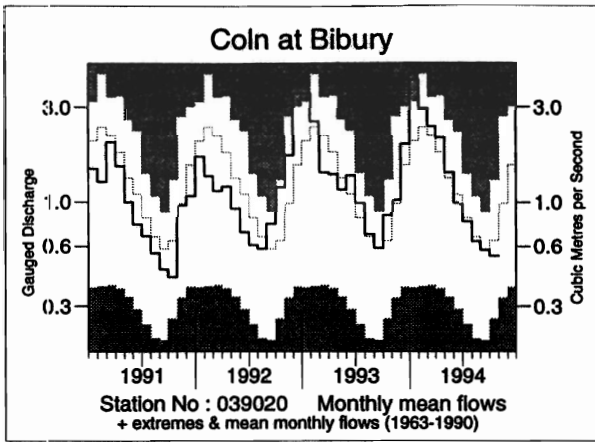
LTA refers to the period 1961-90.

Return period assessments are based on tables provided by the Meteorological Office\*. The tables reflect rainfall totals over the period 1911-70 only and the estimate assumes a sensibly stable climate. They assume a start in a specified month; return periods for a start in any month may be expected to be an order of magnitude less - for the longest durations the return period estimates converge. "Wet" return periods underlined.

\* Tabony, R.C., 1977, The Variability of long duration rainfall over Great Britain, Scientific Paper No. 37, Meteorological Office.

# FIGURE 1 MONTHLY RIVER FLOW HYDROGRAPHS





**TABLE 3 RUNOFF AS MM. AND AS A PERCENTAGE OF THE PERIOD OF RECORD AVERAGE WITH SELECTED PERIODS RANKED IN THE RECORD**

River/ Station name	Jun	Jul	Aug	Sept	Oct		5/94 to 10/94		1/94 to 10/94		9/93 to 10/94		9/92 to 10/94	
	1994				1994									
	mm %LT	mm %LT	mm %LT	mm %LT	mm %LT	rank /yrs	mm %LT	rank /yrs	mm %LT	rank /yrs	mm %LT	rank /yrs	mm %LT	rank /yrs
Dee at Park	24 67	16 57	12 38	29 70	41 52	6 /22	170 61	2 /22	618 100	11 /22	957 104	13 /21	1796 105	12 /20
Tay at Ballahie	50 113	40 99	37 72	45 63	72 65	9 /43	338 87	14 /42	1067 122	38 /42	1404 106	27 /41	2870 117	37 /40
Tweed at Boleside	19 70	16 61	21 55	25 49	33 46	6 /34	147 58	5 /34	622 108	23 /34	950 108	20 /33	1868 114	29 /32
Whitadder Water at Hutton Castle	9 52	7 54	6 43	6 41	8 28	4 /26	50 43	2 /25	294 95	12 /25	498 114	18 /25	885 107	14 /24
South Tyne at Haydon Bridge	15 56	7 25	17 45	38 76	41 60	7 /33	133 54	2 /31	542 97	13 /31	875 99	15 /29	1683 101	16 /27
Wharfe at Flint Mill Weir	15 59	9 34	20 51	44 99	48 76	15 /40	154 66	5 /39	561 104	26 /39	872 105	26 /38	1549 100	18 /37
Derwent at Buttercrambe	11 67	9 63	8 56	11 82	15 77	19 /34	70 70	7 /33	256 100	19 /33	417 116	25 /32	704 103	18 /31
Trent at Colwick	13 69	12 75	12 71	25 148	22 92	22 /37	103 90	14 /36	318 114	27 /36	498 126	32 /35	847 113	24 /34
Lud at Louth	22 112	17 113	13 101	13 122	13 109	21 /27	111 117	17 /26	313 141	22 /26	436 156	24 /26	629 120	18 /25
Witham at Claypole Mill	8 87	7 102	5 73	16 257	14 157	29 /36	66 119	24 /36	208 135	30 /35	342 169	35 /35	557 145	33 /34
Little Ouse at Abbey Heath	10 101	7 81	6 80	8 114	8 87	18 /27	58 101	17 /27	183 131	22 /26	279 149	24 /26	429 123	22 /25
Colne at Lexden	5 87	3 68	3 70	4 101	7 77	23 /36	31 87	14 /35	122 115	26 /35	206 138	29 /34	358 127	30 /33
Lee at Feildes Weir (natr.)	14 152	10 123	9 114	8 117	10 99	75 /110	69 124	82 /108	185 141	93 /108	278 154	98 /107	472 138	98 /105
Thames at Kingston (natr.)	13 107	9 98	8 92	10 113	10 73	52 /112	73 104	63 /112	247 127	90 /112	353 132	93 /111	672 131	100 /110
Coln at Bibury	24 93	20 97	16 96	14 98	13 82	12 /32	123 97	17 /31	405 123	28 /31	515 121	25 /30	1013 123	27 /29
Great Ouse at Horton	18 120	14 98	12 92	18 136	24 118	21 /31	116 118	22 /29	289 126	24 /28	406 125	23 /27	667 109	17 /25
Itchen at Highbridge + Allbrook	39 114	32 106	29 104	29 110	29 97	23 /37	209 110	26 /36	474 123	35 /36	641 124	33 /35	1097 113	28 /34
Piddle at Bags Mill	28 122	19 108	16 102	16 104	19 94	20 /32	142 114	25 /31	468 140	30 /30	647 146	29 /29	1087 129	25 /27
Otter at Dotton	20 93	16 83	16 85	20 96	28 85	20 /33	140 97	19 /32	436 118	27 /32	683 128	30 /31	1094 108	24 /30
Taw at Umberleigh	12 75	6 37	5 26	32 133	66 108	23 /37	145 87	17 /36	686 143	35 /36	1101 140	34 /35	1845 126	33 /34
Tone at Bishops Hull	19 110	12 78	11 88	15 96	24 92	21 /34	115 101	21 /34	480 133	32 /33	711 138	32 /33	1168 119	28 /32
Severn at Bewdley	10 59	7 50	7 42	25 116	22 68	29 /74	88 69	16 /74	391 117	54 /73	607 120	60 /73	1033 108	48 /72
Teme at Knightsford Bridge	6 42	2 29	2 22	17 195	11 57	11 /25	48 62	5 /25	285 104	14 /24	459 117	19 /24	802 107	15 /23
Cynon at Abercynon	40 101	20 60	18 34	52 78	116 97	20 /37	302 81	15 /35	1123 125	29 /35	1727 120	29 /33	3119 116	26 /31
Dee at New Inn	65 113	24 37	51 55	126 96	158 81	10 /26	465 76	4 /25	1456 111	20 /25	2176 103	15 /25	3872 99	13 /24
Eden at Sheepmount	20 79	14 55	23 76	39 91	38 52	6 /25	159 74	4 /24	537 105	16 /24	785 101	13 /22	1554 106	14 /20
Clyde at Daldowie	18 67	24 87	29 72	27 47	41 51	5 /32	163 62	3 /31	686 118	26 /31	1016 110	19 /30	2013 118	27 /29
Carron at New Kelso	183 250	35 30	80 47	186 68	129 49	3 /16	670 70	2 /16	1870 97	10 /16	2414 79	1 /15	5312 93	4 /14
Ewe at Poolewe	124 170	66 78	58 52	132 67	217 98	13 /24	717 92	9 /24	1725 109	19 /24	2187 85	4 /23	5041 106	16 /22

Notes: (i) Values based on gauged flow data unless flagged (natr.), when naturalised data have been used.  
(ii) Values are ranked so that lowest runoff is rank 1.  
(iii) %LT means percentage of long term average from the start of the record to 1992. For the long periods (at the right of this table), the end date for the long term is 1993.

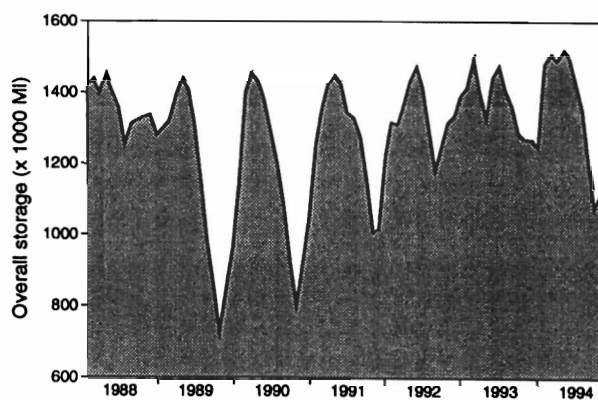
**TABLE 4 START-MONTH RESERVOIR STORAGES UP TO NOVEMBER 1994**

Area	Reservoir (R)/ Group (G)	Capacity • (MI)	1994							1993
			June	July	Aug	Sept	Oct	Nov	Nov	
North West	N.Command Zone <sup>1</sup>	(G)	133375	85	73	59	52	55	50	42
	Vyrnwy	(R)	55146	87	79	66	61	69	65	60
Northumbria	Teesdale <sup>2</sup>	(G)	87936	83	72	54	46	51	53	77
	Kielder	(R)	199175*	92*	93*	89*	92*	89*	90*	87*
Severn-Trent	Clywedog	(R)	44922	93	93	77	61	70	82	82
	Derwent Valley <sup>3</sup>	(G)	39525	90	78	60	43	53	64	83
Yorkshire	Washburn <sup>4</sup>	(G)	22035	89	68	53	40	42	52	68
	Bradford supply <sup>5</sup>	(G)	41407	83	66	49	38	48	57	86
Anglian	Grafham	(R)	58707	96	94	88	83	88	89	96
	Rutland	(R)	130061	95	93	89	86	87	86	88
Thames	London <sup>6</sup>	(G)	207569	88	86	83	77	83	85	92
	Farmoor <sup>7</sup>	(G)	13843	98	95	98	96	97	99	98
Southern	Bewl	(R)	28170	100	98	92	88	86	83	81
	Ardingly	(R)	4685	100	100	93	85	82	80	100
Wessex	Clatworthy	(R)	5364	84	85	68	54	48	53	76
	Bristol W <sup>8</sup>	(G)	38666*	94*	85*	71*	61*	55*	52*	59*
South West	Colliford	(R)	28540	96	87	78	68	69	70	86
	Roadford <sup>9</sup>	(R)	34500	92	87	79	67	65	66	81
	Wimbleball <sup>10</sup>	(R)	21320	99	92	77	60	57	64	80
	Stithians	(R)	5205	93	82	69	57	50	50	99
Welsh	Celyn + Brenig	(G)	131155	97	94	78	66	71	75	92
	Brienne	(R)	62140	96	90	81	72	71	83	91
	Big Five <sup>11</sup>	(G)	69762	93	89	70	58	62	66	80
	Elan Valley <sup>12</sup>	(G)	99106	95	91	77	62	67	83	95
Lothian	Edin./Mid Lothian	(G)	97639	93	84	79	73	71	69	82
	West Lothian	(G)	5613	91	77	64	52	45	38	98
	East Lothian	(G)	10206	95	86	76	66	56	57	98

• Live or usable capacity (unless indicated otherwise) \* Gross storage/percentage of gross storage

1. Includes Haweswater, Thirlmere, Stocks and Barnacre.
2. Cow Green, Selset, Grassholme, Balderhead, Blackton and Hurynn.
3. Howden, Derwent and Ladybower.
4. Swinsty, Fewston, Thruscross and Eccup.
5. The Nidd/Barden group (Scar House, Angram, Upper Barden, Lower Barden and Chelker) plus Grimwith.
6. Lower Thames (includes Queen Mother, Wraysbury, Queen Mary, King George VI and Queen Elizabeth II) and Lee Valley (includes King George and William Girling) groups - pumped storages.
7. Farmoor 1 and 2 - pumped storages.
8. Blagdon, Chew Valley and others.
9. Roadford began filling in November 1989.
10. Shared between South West (river regulation for abstraction) and Wessex (direct supply).
11. Usk, Talybont, Llandegfedd (pumped storage), Taf Fechan, Taf Fawr.
12. Claerwen, Caban Coch, Pen y Garreg and Craig Goch.

**A GUIDE TO THE VARIATION IN OVERALL RESERVOIR STOCKS FOR ENGLAND AND WALES**

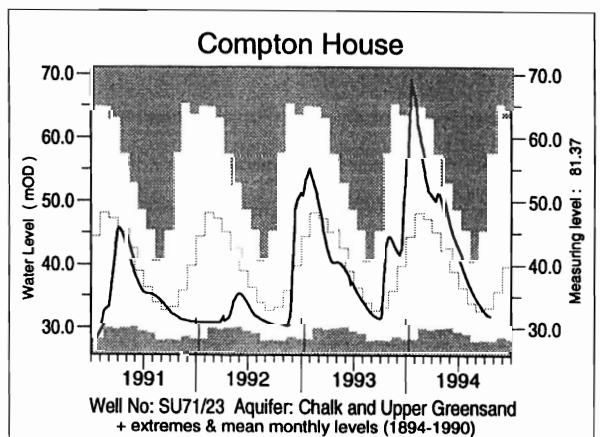
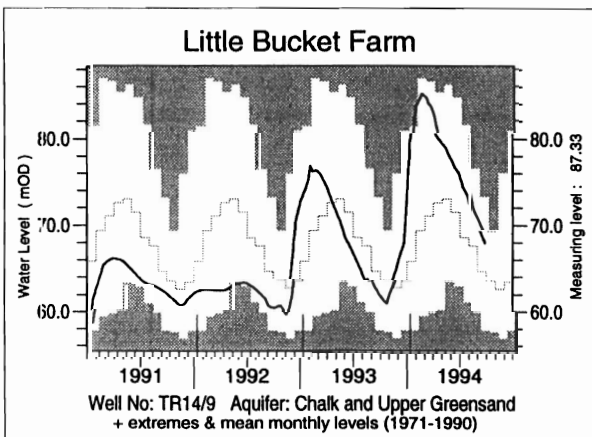
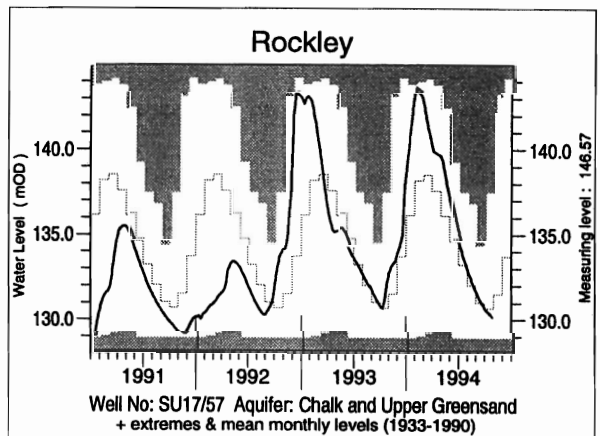
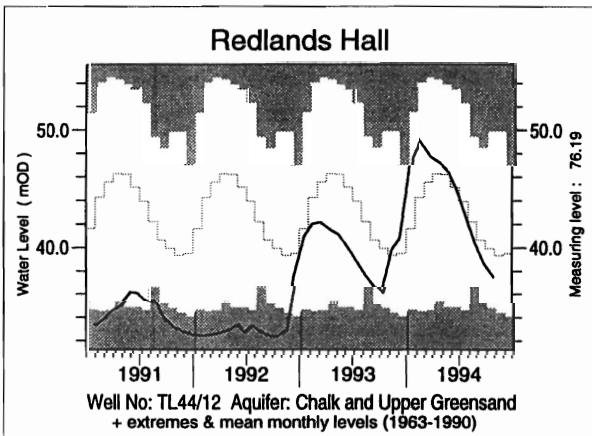
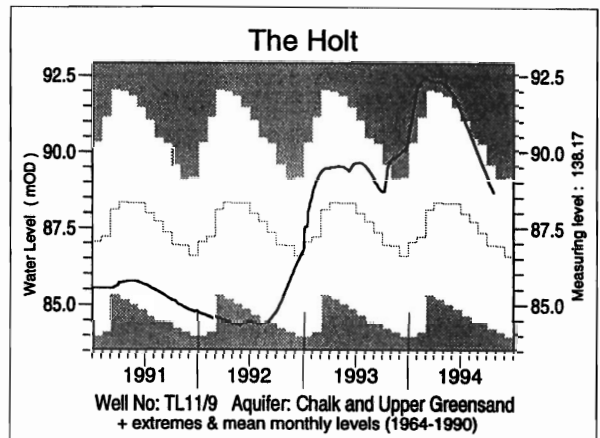
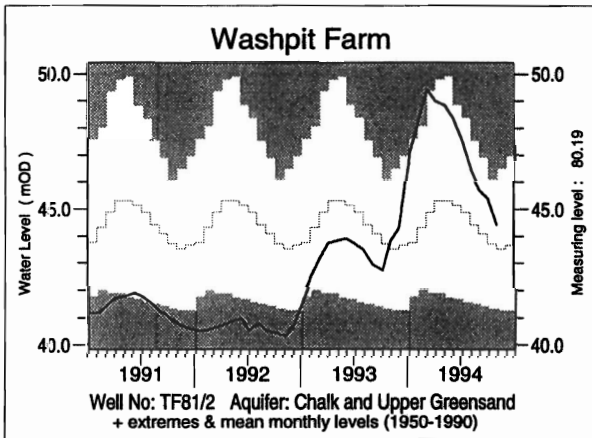
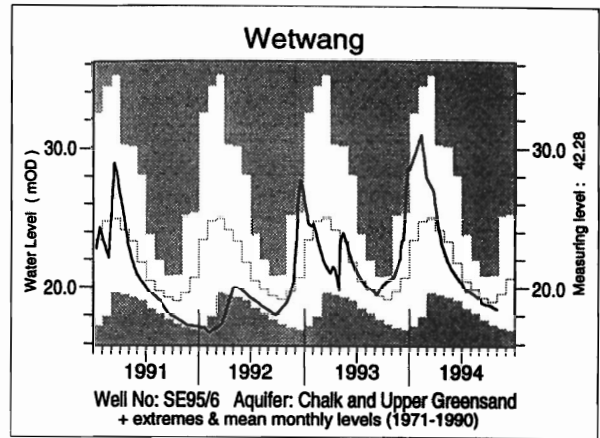
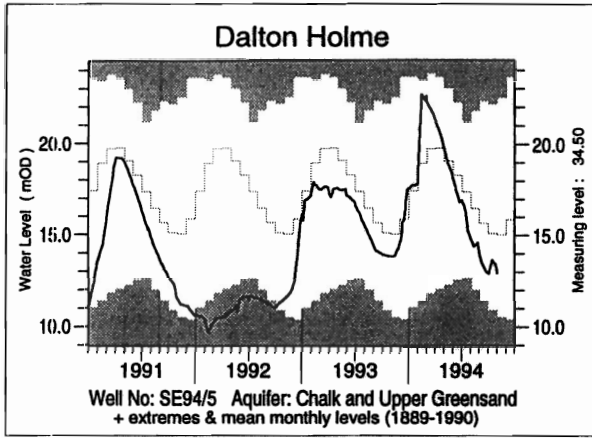


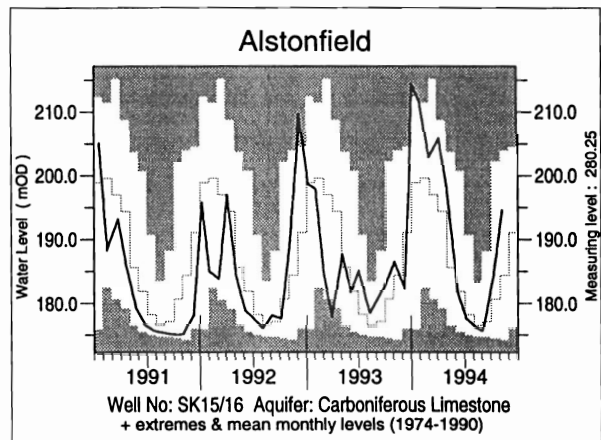
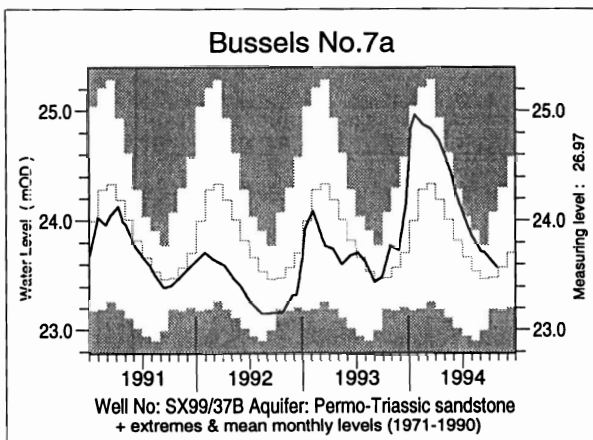
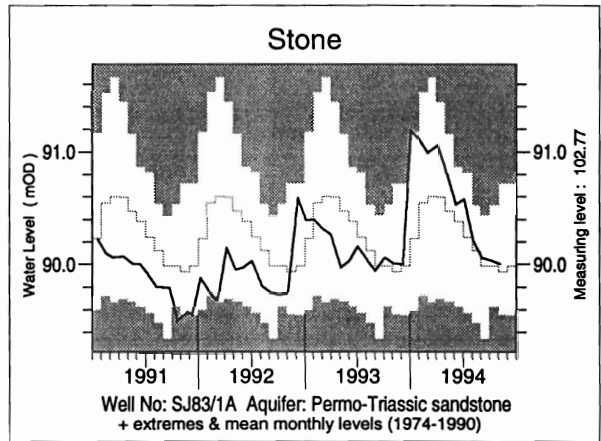
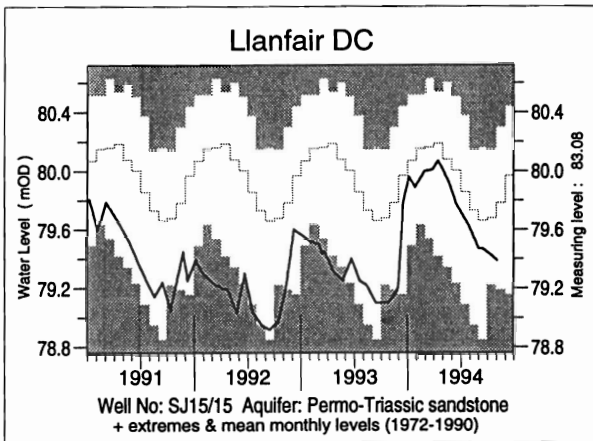
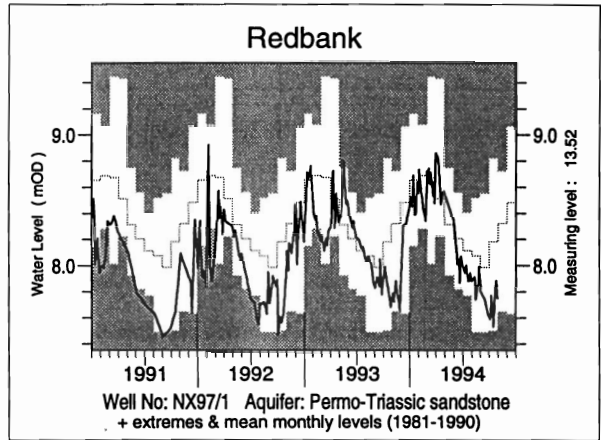
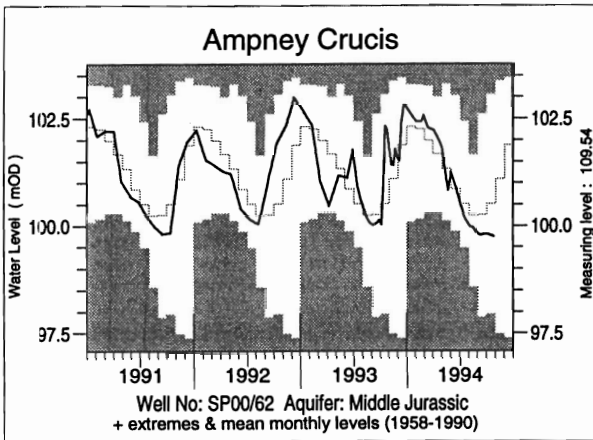
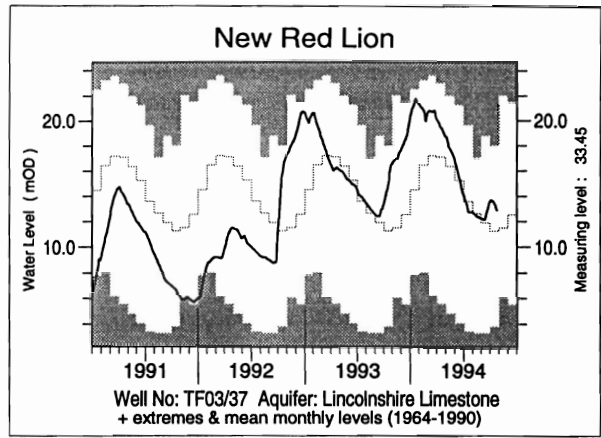
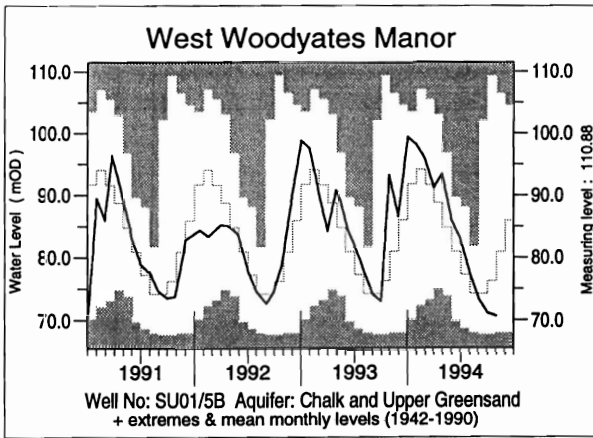
This plot is based on the reservoirs featured in Table 4 only.

Note: Variations in storage depend on the balance between inputs (from catchment rainfall and any pumping) and outputs (to supply, compensation flow, HEP, amenity). There will be additional losses due to evaporation, especially in the summer months. Operational strategies for making the most efficient use of water stocks will further affect reservoir storages. Table 4 provides a link between the hydrological conditions described elsewhere in the report and the water resources situation.



**FIGURE 2 GROUNDWATER LEVEL HYDROGRAPHS**





**TABLE 5 A COMPARISON OF OCTOBER GROUNDWATER LEVELS: 1993 AND 1994**

Site	Aquifer	Records commence	Minimum	Average	Maximum	October 1993		Oct/Nov 1994	
			Oct	Oct	Oct	day	level	day	level
			< 1994	< 1994	< 1994				
Dalton Holme	C & UGS	1889	10.86	15.07	22.12	31/10	13.82	01/11	12.93
Wetwang	C & UGS	1971	17.26	19.17	20.80	31/10	20.62	01/11	18.47
Washpit Farm	C & UGS	1950	40.43	43.45	46.09	06/10	42.73	01/11	44.41
The Holt	C & UGS	1964	84.19	87.00	89.65	31/10	89.65	24/10	88.67
Therfield Rectory	C & UGS	1883	dry <71.6	79.20	97.72	31/10	77.24	01/11	79.80
Redlands Hall	C & UGS	1964	32.29	39.10	49.90	07/10	36.01	28/10	37.43
Rockley	C & UGS	1933	dry <128.44	130.73	137.35	31/10	132.69	24/10	130.17
Little Bucket Farm	C & UGS	1971	57.48	63.62	69.33	30/10	62.72	28/10	65.71
Farm									
Compton House	C & UGS	1984	27.64	33.57	57.30	27/10	44.08	21/10	31.89
Chilgrove House	C & UGS	1836	33.88	42.37	75.90	27/10	55.16	21/10	39.11
Westdean No.3	C & UGS	1940	1.11	1.55	3.68	28/10	1.64	28/10	1.59
Lime Kiln Way	C & UGS	1969	123.75	124.84	125.53	06/10	124.08	06/10	125.32
Ashton Farm	C & UGS	1974	63.48	65.21	69.12	28/10	69.12	31/10	64.77
West Woodyates Manor	C & UGS	1942	67.72	75.59	109.40	28/10	93.12	31/10	70.60
Killyglen (NI)	C & UGS	1985	113.30	114.84	117.55	31/10	113.81	16/10	113.50
New Red Lion	LLst	1964	3.82	11.52	17.98	25/10	16.44	24/10	12.92
Ampney Crucis	Mid Jur	1958	97.95	100.49	103.05	31/10	101.81	24/10	99.75
Yew Tree Farm	PTS	1973	11.54	13.27	13.73	29/10	13.43	02/11	13.55
Llanfair D.C	PTS	1972	78.98	79.53	80.15	26/10	79.10	02/11	79.39
Morris Dancers	PTS	1969	31.83	32.51	33.55	04/10	31.96	11/10	32.43
Weeford Flats	PTS	1966	dry <88.61	89.89	91.38	05/10	89.06	08/11	89.76
Stone	PTS	1974	89.50	89.99	90.54	04/10	90.06	08/11	90.00
Skirwith	PTS	1978	129.51	129.93	130.29	28/10	129.94	09/11	130.09
Redbank	PTS	1981	7.47	8.12	8.82	27/10	7.68	31/10	7.75
Bussels No.7A	PTS	1972	23.16	23.49	24.07	26/10	23.77	27/10	23.57
Rushyford NE	MgLst	1967	64.82	72.26	76.41	22/10	75.93	27/10	76.14
Peggy Ellerton	MgLst	1968	31.46	33.90	36.38	06/10	31.88	10/10	33.02
Alstonfield	CLst	1974	174.35	180.39	202.28	01/10	182.89	07/11	194.61

groundwater levels are in metres above Ordnance Datum

C & UGS	Chalk and Upper Greensand	Mid Jur	Middle Jurassic limestones
LLst	Lincolnshire Limestone	MgLst	Magnesian Limestone
PTS	Permo-Triassic sandstones	CLst	Carboniferous Limestone

Note: Table 5 has been redesigned to include both monthly minimum and monthly maximum levels.

**FIGURE 3 LOCATION MAP OF GAUGING STATIONS AND GROUNDWATER INDEX WELLS**

