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The peaks-over-threshold database  
at the  
Institute of Hydrology

Report to MAFF

Adrian Bayliss and Richard Jones



**Institute of  
Hydrology**



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INSTITUTE OF HYDROLOGY

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## Executive Summary

This report describes the growth of the peaks-over-threshold (POT) database, the data extraction procedures adopted and considers briefly the seasonality of flooding. The database now holds over 77000 peaks for 859 gauging stations throughout the UK, with an average record length of nearly 20 years. Annual maximum data are held for a further 117 stations where records proved unsuitable for POT extraction. Substantive appendices list the records held for individual stations, present statistics on POT series record length and seasonality and list maximum, median and mean values for nearly 1000 annual maximum series.

After a short introduction, Section 2 records the updating of the POT database since the Flood Studies Report. A set of rules was developed to ensure that there was uniformity in the way data were extracted and these procedures and definitions are given here. The extraction, processing and validation of data are also dealt with. Examples of the processed data illustrate the way data are held on the database. Finally details are given regarding POT data received from other organizations and individuals.

Section 3 examines the seasonality of flooding using two statistics - the modal month of flood (MMF) and the mean POT day of flood (MPD). MMF is calculated simply by identifying the calendar month during which most floods occur. Circular statistics are used to calculate MPD, where each day of flood is plotted around the circumference of a circle and the mean of the angles found. This method also allows the calculation of a standard deviation about the mean which indicates the spread of values through the year.

The MMF using all POT values on the database is January, with 18 percent of all floods occurring during this month. A map showing MMF, grouped by season, for all catchments demonstrates that although winter is the dominant season for flooding in most areas of the UK, there are catchments where MMF occurs outside the winter period. Possible links between catchment characteristics and both MMF and MPD are explored.

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# 1 Introduction

Instantaneous peak flow records for over 550 gauging stations were presented in the Flood Studies Report (FSR) Volume IV (NERC, 1975) along with tabulated catchment characteristics and flood statistics. The collection, appraisal, extraction and processing of these records formed a large proportion of the team's effort.

All the gauging stations used in the study were visited and graded according to the suitability of the site for flood measurement. Charts from suitable stations were microfilmed to enable the extraction of data to be carried out more easily and also to provide a permanent and accessible record. Rating curve information was collected at the time of visit and subsequently reviewed to ensure that the most appropriate stage-discharge relationship was used.

The flood peak information collected during the study produced a 'unique collection of flood records'. However, it was felt that a periodic updating was necessary if the archive was to continue to be a valuable source of information to those requiring flood peak data.

A second phase of extraction began at the Department of the Environment's Water Data Unit (WDU) in 1978, as a number of new stations had the minimum requirement of three years of data, and many of the records on the database were extended up to September 1973. A third phase of extraction, begun at the Institute of Hydrology (IH) in April 1985 under Ministry of Agriculture, Fisheries and Food funding, was completed in October 1991. The growth of the peaks-over-threshold (POT) database is illustrated below.

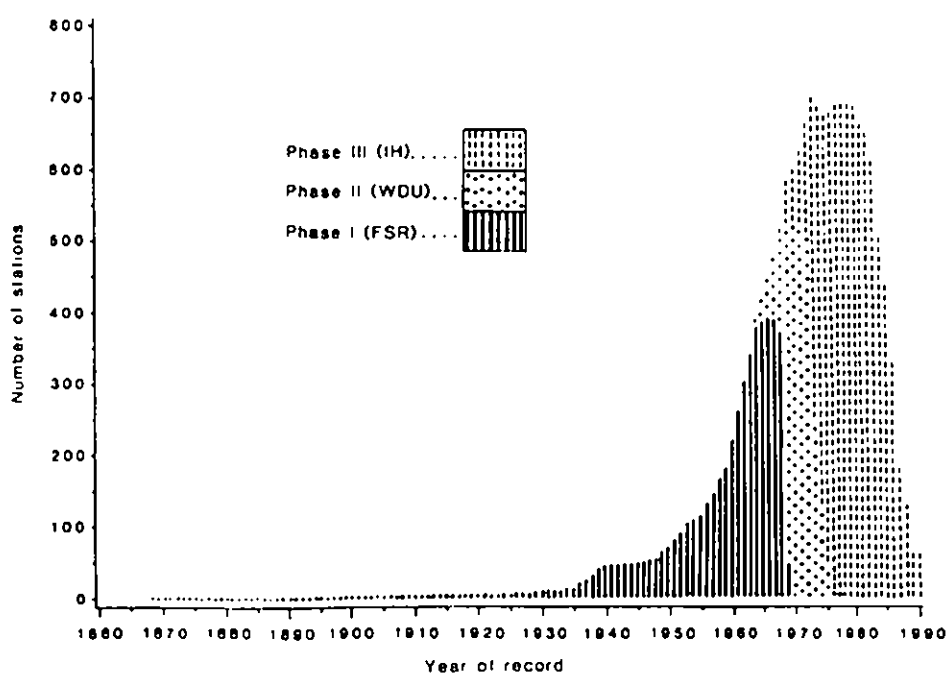


Figure 1.1 Growth of the peaks-over-threshold database

The database now holds over 77000 peaks for 859 gauging stations throughout the UK, with an average record length of nearly 20 years. Annual maximum series have been derived automatically from these data and are held independently on the database for easy access. Annual maxima are also held for a further 117 stations where records proved unsuitable for POT extraction.

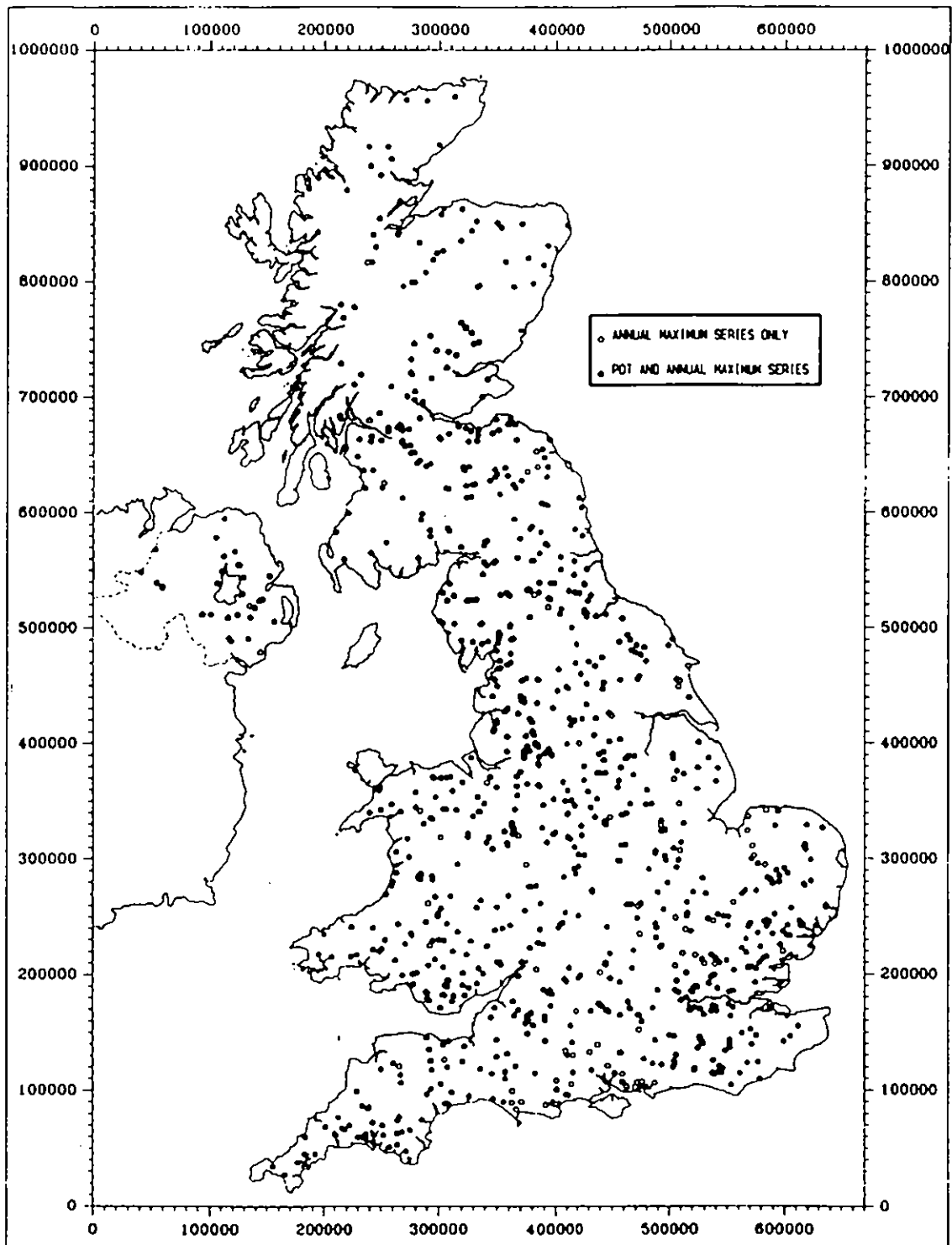


Figure 1.2 Gauging stations with flood peak data on the IH database



## 2 Updating the peaks-over-threshold database

Most of the streamflow records at gauging stations are originally held as levels in analogue or digital form and then converted to flows at a later date using the appropriate stage-discharge relationship. The majority of digital records have a 15 minute interval and therefore cannot be used for the extraction of truly instantaneous peaks, since there may be significant underestimation of the peak flow for small and highly responsive catchments.

The extraction of peaks from a water level trace on a chart has the advantage that the peaks are truly instantaneous and that artificial spikes on the trace, perhaps resulting from a sluice gate opening upstream, or the effect of tidal influence, can be ignored by the microfilm reader. These unnatural events are difficult to spot in a digital record and might be recorded as a natural flood.

Although the extraction of data from microfilmed charts is labour intensive, it was felt that this was nevertheless appropriate where the charts were available.

### 2.1 Station visits

The transfer of responsibility for the Surface Water Archive (SWA) from the WDU to IH in April 1982 initiated the setting up of SWA 'area representatives' to liaise between IH and the gauging authorities. Visits to gauging sites and regional offices were periodically carried out by the representatives to ensure that the information held at IH in the 'station files' is as up to date as possible.

Much of the information necessary to assist in the extraction of the level data and its conversion to flows is held in these files, so this obviated the need to visit gauging stations as part of the pre-extraction procedure. However, as some detailed information, in particular current meter observations, were not available, no grading of the gauging sites in extraction phases two and three was attempted.

### 2.2 Microfilming of charts

In most areas, representatives were able to arrange for the collection of charts from the gauging authority and the subsequent microfilming at a local agency. The use of microfilm greatly facilitated the extraction of data from the charts and the films themselves now form a valuable archive.

## **2.3 Definition of terms and procedures**

A set of rules and procedures was developed as part of the Flood Studies Report to ensure that there was uniformity in the way data were extracted. Data in all phases were extracted in accordance with these procedures wherever possible. A brief description of procedures and definitions is given here.

### **2.3.1 Threshold in cumecs**

The threshold was chosen to give, on average, five peaks a year above the selected flow. To achieve this average a low threshold was initially chosen to give more than five peaks a year and then the threshold progressively raised until the appropriate level was reached.

Where an update of a data series extracted during phase I or II was required, the same threshold would be used for the current extraction so that a consistent threshold was maintained throughout the record. Where significant changes in the flow regime or flood rating had occurred since the earlier extraction, a more appropriate threshold was chosen for the current extraction and this new threshold applied retrospectively to the earlier data.

For those water years where the threshold was not exceeded, the annual maximum was nevertheless recorded to provide a complete annual maximum series.

### **2.3.2 Day of Flood**

The day of flood was defined as the 24 hour period from 0900 GMT to enable direct comparisons with most flow and meteorological data.

### **2.3.3 Water Year**

A water year from 1 October to 30 September was adopted throughout for definition of the annual maximum series.

### **2.3.4 Independence of floods**

Flood peaks held on the database are considered to be independent of all other floods for that catchment. To achieve consistency in deciding whether adjacent floods are independent of each other a set of rules was drawn up at the commencement of the original Flood Study. These rules have also been implemented during subsequent extraction phases.

When the time difference between two or more peaks was small, the highest was considered to be independent and the independence of the others was judged on the following criteria:

- the two peaks must be separated in time by at least three times the average time to rise. The time to rise was defined as the average time difference between the start of the rising limb and the peak, and was calculated from at least five clean flood hydrographs whose peak was above the threshold.
- the minimum discharge in the trough between two peaks must be less than two thirds of the discharge of the first of the two peaks.

If the peak being subjected to the test failed either of these two criteria then it was considered dependent on its neighbour. Dependent peaks were recorded but not loaded on to the database.

#### **2.4 Extraction of peak level data from microfilmed charts**

A small team of casual and full time staff over a period of six years was involved in extracting river level data from microfilm. A range of lenses with different focal lengths enabled users to maximize the size and clarity of the image on both the 3M and Rhone Poulence Systemes LR7 microfilm readers in use at IH.

All POT level data were entered on to coding sheets in readiness for keying into a computer data file at a later date. The day of flood and the peak river level (or flow for some types of recorder) were accompanied on the form by other information necessary for processing these data, including rating and station details. Figure 2.1 shows the working document used to ensure all information was entered in the format required by the processing software.

The generation of an annual maximum series from these POT data is an important product of the processing of the peak level file (Section 2.5). Where an annual maximum fell below the threshold then this level along with the day of flood was also recorded.

Some station records were deemed inappropriate for the extraction of POT data but could nevertheless be used to generate an annual maximum series. There are 117 stations on the database for which only annual maximum data are available. These stations fall into three main categories:

- only annual maximum data have been supplied by the gauging authority.

IBM

FORTRAN CODING FORM

Program	Project	Group	Page
Function	Instruction	Priority	
Station	1	2	3
Station Number	10	11	12
Station Name	13	14	15
Year	16	17	18
Date of Start	19	20	21
Date of End	22	23	24
Record	25	26	27
From	28	29	30
To	31	32	33
Part A	34	35	36
Part B	37	38	39
Part C	40	41	42
Limit	43	44	45
Equation	46	47	48
Rating	49	50	51
Point	52	53	54
Flow	55	56	57
Factor	58	59	60
Level	61	62	63
Water Year	64	65	66
Partial Year	67	68	69
Annual	70	71	72

**For POT Col 35**  
 If NO Annmax Falls Below Threshold, 1  
 If Annmax DOES Fall Below Threshold, 0  
 For Annmax Series Only, 2

**Col 34**  
 Metres 1  
 Feet and Decimals 2  
 Feet and Inches 3  
 Leave Blank for Flows

**Col 32**  
 Points 1  
 Equations 2  
 Flows 3

**Col 30**  
 IF NO Gaps 0, If Gaps 1

**Codes Col 32,33**  
 -1 Independent  
 -2 Dependent  
 -3 Annmax Below Threshold

**Col 27**  
 1 End of Date  
 2 Change of Rating Col 30 1 Points  
 2 Equations  
 3 Flow Data  
 4 Change in 'b' Coefficient only  
 3 Change of Unit Col 30 1 Metric  
 2 Decimal Feet  
 3 Feet & Inches  
 4 Level and Flow Date on Next Card (0 in Column in Rating Not Applicable)  
 (Cols 34-40)

**Correction Codes Col. 24**  
 1. Significant difference between on & off level & staff gauges on & off Pen not at correct level, etc.  
 2. Unspecified reason, but gauging authority correction on chart.  
 3. Situation - shown by change in level when well is flushed out.  
 4. Flattened peak - correct peak estimated (truncation).  
 5. Peak est. by gauging authority from debris (wrack) marks.  
 6. Change of level due to pumping, opening of gates etc. e.g. Spike on peak.  
 7. Float frozen in well, (horizontal line)  
 8. Local authority est. where record is missing - estimation from correlation with other recorders/staff boards.  
 9. Recorder fault (e.g. clock stopped)  
 99. Miscellaneous correction. Details given on next line.

Figure 2.1 Instruction sheet for POT data entry

- an examination of the microfilmed charts revealed a smooth hydrograph with few real flood peaks. Since the chart trace may stay above the threshold for long periods, perhaps with no discernible peak, then to try and extract a POT series would be inappropriate.
- poor chart annotation or a poorly defined trace meant that to extract a POT series would be too difficult and time consuming but that the extraction of a single peak for each water year, the annual maximum, was a viable proposition.

## 2.5 Processing of level data

Software written during the initial extraction sought to check as thoroughly as possible the peak level and stage-discharge information supplied during extraction. In particular, flood dates were checked for chronological order and the peak levels examined to ensure that they were within the limits of the stage-discharge curve used. In addition, all water years between the start and finish dates of the extraction were checked to ensure that at least the annual maximum had been extracted. A number of other checks were performed by the software to flag any conflicting information or values which appeared to be outside the limits expected for the variable concerned.

Once the data file had been satisfactorily run through the checking software, peak flow series were generated from the extracted levels and the stage-discharge relationship given in the input file. The software had three output streams:

- Annual maximum series. These data were marked with a code to indicate the organization or individuals responsible for extracting the data.
- POT flow series. This output also included the threshold, start and finish dates of the record extracted and any gaps that may occur.
- POT flow series and annual maxima below the threshold, listed by water years, together with the stage-discharge relationship used. Details of gaps and missing annual maxima were also given. This output was sent to the gauging authority so that they were able to validate the extracted data where possible.

Examples of these output streams are given in Figures 2.2, 2.3 and 2.4 along with explanations of the formats and codes used.

54002							
1973	19740211	135.722	1281009	1979	19791228	230.596	1281009
1974	19750314	172.612	1281009	1980	19810311	215.716	1281009
1975	19760926	35.937	1281009	1981	19811230	264.091	1281009
1976	19770615	176.653	1281009	1982	19830502	155.035	1281009
1977	19780128	123.646	1281009	1983	19840207	102.542	1281009
1978	19790202	214.387	1281009	1984	19841124	174.533	1281009

-1

Following the gauging station number are three values for each water year: the date the annual maximum occurred, the peak flow in  $m^3s^{-1}$  and a code. The date is in the form YYYYMMDD, where YYYY is the calendar year, MM is the month and DD the day on which the flood occurred. The codes are in the form ABCCDD, where A=1 denotes the peak is an annual maximum, BB refers to the organization or individuals responsible for collecting the data and CC the water year used. A -1 closes the file.

All annual maximum data extracted at IH, and the majority of annual maximum data collected by other organizations, adopted the water year 1st October to 30 September. The BB codes used are:

- 20 - Flood Studies team
- 21 - Water Data Unit
- 27 - Gauging Authority
- 28 - Institute of Hydrology
- 29 - Research students at St Andrews University

Figure 2.2 Output stream 1 - annual maximum series

## 2.6 Data validation

Section 2.5 described how all POT level data extracted from the microfilmed charts were subject to examination by software written to detect data entry errors. However, the date and level information itself cannot be checked in this way, so each extraction was checked visually against the microfilmed charts by experienced staff.

The validated POT level data were then used to generate a POT flow series in the form shown in Figure 2.4. This output was then sent to the authority operating the gauge so that they had the opportunity to comment on the data presented. Where the gauging authority indicated that a value might be incorrect the peak in question was checked again on the microfilm.

54002					
197310010	65.800	101	198001090	0.000	106
197401160	68.228	104	198002080	111.291	104
197402110	135.722	104	198003190	98.017	104
197411210	115.496	104	198004010	75.099	104
197501200	82.209	104	198009210	81.551	104
197501280	109.651	104	198010170	138.432	104
197503090	171.001	104	198012200	100.973	104
197503140	172.612	104	198103110	215.716	104
197612210	166.191	104	198104270	137.446	104
197701010	144.171	104	198109260	110.748	104
197701150	93.947	104	198112300	264.091	104
197701280	113.296	104	198201050	100.611	104
197702030	79.500	104	198201180	107.671	104
197702110	148.050	104	198203070	168.075	104
197702200	139.548	104	198203160	151.080	104
197702260	175.843	104	198212100	107.671	104
197706150	176.653	104	198304200	83.601	104
197712080	72.161	104	198304270	84.626	104
197801240	93.947	104	198305020	155.035	104
197801280	123.646	104	198306010	74.797	104
197802020	77.482	104	198312200	77.571	104
197802040	112.565	104	198401030	71.782	104
197805030	78.826	104	198401270	101.034	104
197812140	74.146	104	198402070	102.542	104
197812290	106.033	104	198403240	82.274	104
197902020	214.387	104	198411240	174.533	104
197903190	111.834	104	198501210	106.464	104
197903290	155.509	104	198502080	67.080	104
197905260	92.528	104	198506070	130.904	104
197905300	150.519	104	198512050	101.577	104
197912140	102.844	104	198512260	109.239	104
197912280	230.596	104	198601020	69.069	104
198001040	98.500	104	198601070	0.000	108
198001060	0.000	105			

-1

The file begins with the gauging station number and ends with -1. Each record contains the day of flood, peak flow in  $m^3s^{-1}$  and a code. The date is in the form YYYYMMDDH, where YYYY is the year, MM is the month and DD is the day of flood. H gives the number of the peak on that day and in the vast majority of cases this is zero. It is possible to have two independent peaks on the same day and in these cases H would be set to one for the second peak.

There are several codes:

101 - The peak associated with this code is the threshold. This occurs at the beginning of the file, and may occur again as a reminder where a new block of data has been added. The date shown with the first occurrence of a code 101 gives the start of the record.

104 - A flood peak.

105 - The beginning of a gap.

106 - The end of a gap.

108 - The end of the record.

Figure 2.3 Output stream 2 - POT series

FLOOD PEAK DATA FOR STATION NO. 54002  
 AVON AT EVESHAM GRID REF. SPO40438  
 RECORD FROM 1 10 1973 TO 7 1 1986  
 NO IMPORTANT GAPS  
 TABLE SHOWS PEAKS OVER 65.800 CUMECs

RATING GIVEN AS EQUATION(S)

RATING EQUATION COEFFICIENTS			STAGE RANGE	
A	B	C	FROM	TO
45.77139	0.2400	1.298240	0.5320	4.0000

DATE	METRES	CUMECs	NOTES
16 1 1974	1.60	68.23	
9 2 1974	2.12	103.88	DEPENDENT PEAK
11 2 1974	2.55	135.72	
21 11 1974	2.28	115.50	
20 1 1975	1.81	82.21	
27 1 1975	1.92	89.76	DEPENDENT PEAK
28 1 1975	2.20	109.65	
9 3 1975	3.00	171.00	
11 3 1975	2.91	163.80	DEPENDENT PEAK
14 3 1975	3.02	172.61	

ANNUAL MAXIMUM BELOW THRESHOLD

DATE	METRES	CUMECs	NOTES
26 9 1976	1.07	35.94	
21 12 1976	2.94	166.19	
1 1 1977	2.66	144.17	
15 1 1977	1.98	93.95	
28 1 1977	2.25	113.30	
3 2 1977	1.77	79.50	
11 2 1977	2.71	148.05	
19 2 1977	2.12	103.88	DEPENDENT PEAK
20 2 1977	2.60	139.55	
26 2 1977	3.06	175.84	
13 6 1977	1.69	74.15	DEPENDENT PEAK
15 6 1977	3.07	176.65	
8 12 1977	1.66	72.16	
11 12 1977	1.65	71.50	DEPENDENT PEAK
24 1 1978	1.98	93.95	
28 1 1978	2.39	123.65	
2 2 1978	1.74	77.48	
4 2 1978	2.24	112.56	
3 5 1978	1.76	78.83	
14 12 1978	1.69	74.15	
29 12 1978	2.15	106.03	

.....

Figure 2.4 Output stream 3 - gauging authority copy of extracted data



## **2.7 Archiving the data**

Once all corrections to the data had been implemented the processing software was run once more. Output streams one and two (Figures 2.2 and 2.3) mirror the way data are held on the database and these output files were therefore loaded directly on to the database once validation and correction were complete.

## **2.8 POT data supplied by other organizations and individuals**

In a few cases, data were offered to IH from gauging authorities, or research students who had collected and processed POT data as part of their post-graduate research.

### **2.8.1 National Rivers Authority (NRA) - South West region**

The analogue recorders used in hydrometric areas 45 and 46 (South Devon) made use of re-usable plastic charts. The start and finish of the water level trace were marked with the stage and time and subsequently digitised by the NRA, who then used computer software to interpolate between the start and finish values. The absence of any labelled grid on the chart meant that extracting a POT data series manually from the charts was impractical.

Software was developed by the NRA to extract a POT series based on guidelines supplied by IH and following FSR procedures as closely as possible. This software was run on all digitised data as requested by IH. A comparison of data produced by the program and that resulting from manual extraction for a site where gridded and labelled charts were available showed that the software performed well. These data were then accepted as being consistent with manually derived POT series.

### **2.8.2 NRA - Northumbrian region**

POT flow data extracted by the NRA for this region were transferred to IH to supplement data extracted during phases I and II. Some random checks were made for gauging stations where microfilmed charts were available to ensure data quality was maintained. FSR procedures on extraction appeared to have been followed with the exception of those rules applying to the independence of flood peaks. Those data supplied to IH did not include the flagging of dependent floods above the threshold. Less exacting criteria were therefore applied to these data to try to identify dependent floods using 'time to peak' and date information only.

### 2.8.3 Scotland

POT data for 114 Scottish gauging stations, extracted by two research students at St Andrews University, have also been used to supplement records on the database. These data were, in most cases, taken from microfilmed charts. Liaison during extraction ensured that, in most respects, FSR procedures and IH formats were closely followed in order to facilitate the transfer of these data. Annual maximum values below the threshold were subsequently taken from microfilmed charts by staff at IH since only POT data were extracted at St. Andrews. Differences in the threshold chosen between those data extracted at St Andrews and those on the IH database also had to be resolved. In most cases this meant that the lower threshold was raised and unwanted flood events removed, so that the resultant POT series had the same threshold throughout the record.

### 3 Seasonality of flooding

The likelihood of a river flooding during a particular period will be of interest to any organization involved in flood protection, construction or remedial work requiring low water levels. Planning and allocation of resources may also be dependent on knowing when flooding is most likely to occur.

The POT database at the Institute of Hydrology holds over 77000 dates when floods above a threshold have occurred. This section attempts to make use of this wealth of information by identifying the periods in the year when rivers are most likely to flood. The seasonality of flooding is described here by two statistics: modal month of flood and the mean POT day of flood.

#### 3.1 Modal month of flood

Modal month of flood (MMF) is calculated by simply counting the number of floods occurring in each calendar month; the month which has the greatest number of floods being the modal month. This statistic is calculated for all gauging stations with a POT record and is presented in Appendix 2.

MMF can, of course, be calculated for any number of POT series joined together as a single data string. Figure 3.1 presents the percentage of POTs occurring in each calendar month when considering all data for all stations on the database. The MMF for the whole of the United Kingdom (UK) is January with 18 percent of floods occurring during this month. Clearly, on average, winter is the dominant season of flooding in the UK.

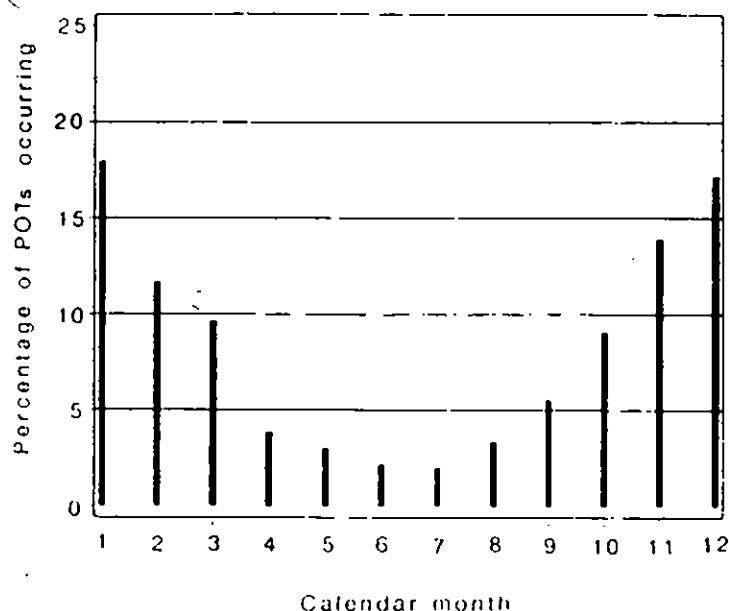


Figure 3.1 Percentage of floods occurring in each calendar month - all POT data

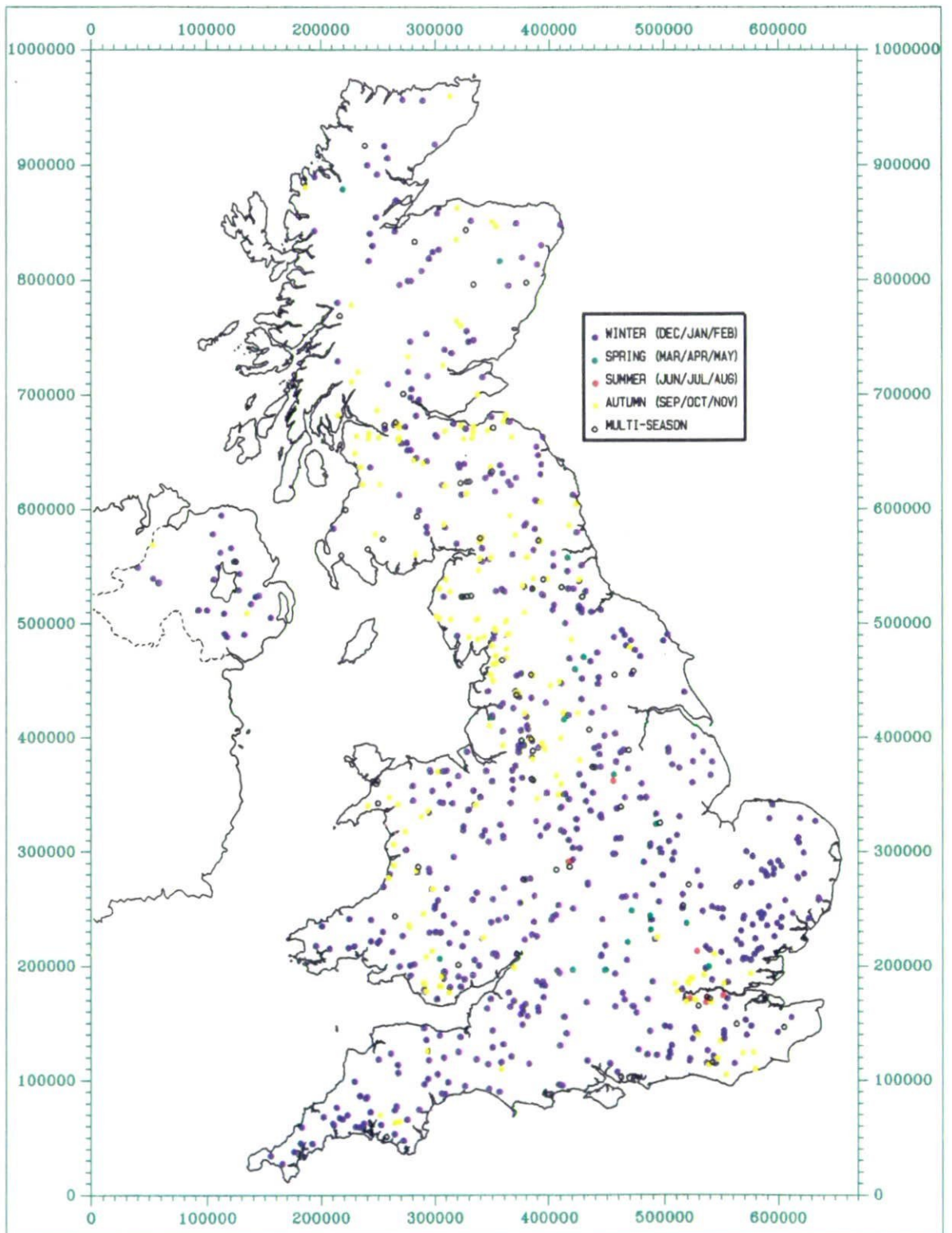
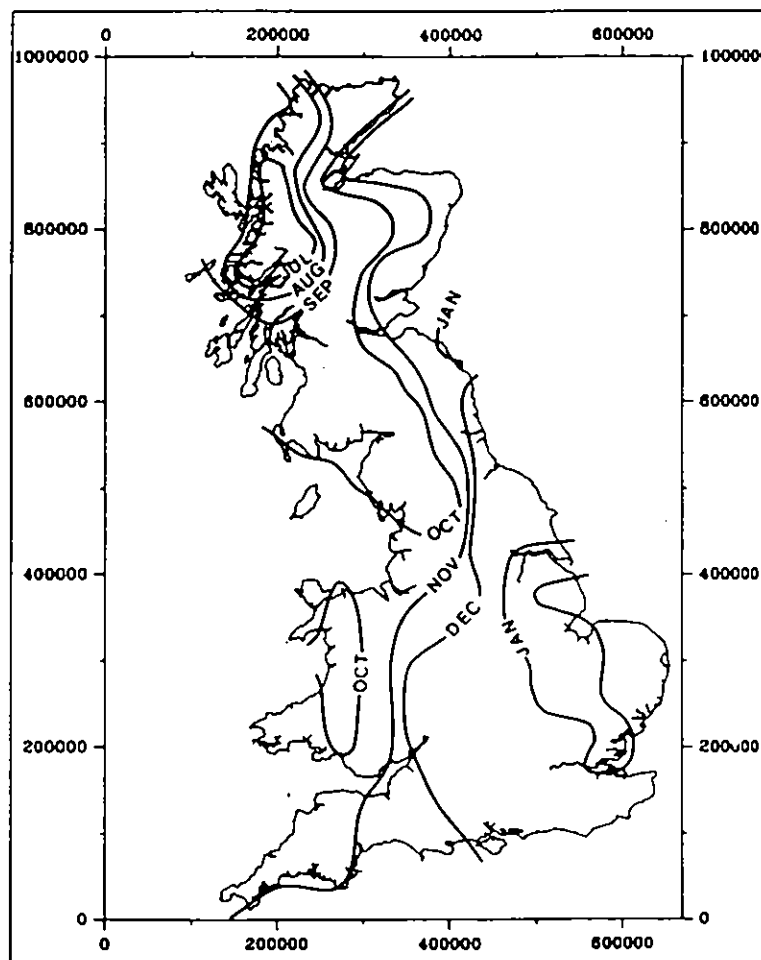


Figure 3.2 Modal month of flood - grouped by season

It can be seen from Table A2.1 (Appendix 2) that MMF for some gauging stations is outside the winter period. To establish the geographical location of these stations, MMF has been plotted for all gauging stations, grouped by four seasons of 3-month duration (Figure 3.2). It was felt that grouping these data into four seasons was necessary if the map was to retain sufficient clarity to establish general spatial variations. Gauging stations with two or more months having equal numbers of floods are shown as 'multi-season' if those months occur in more than one season.

In general, autumn is the dominant season of flooding in large areas of the north and west. For many rivers this may be because catchment soils in these areas typically return to near field capacity earlier in the year than those further south and east (Figure 3.3).



Contours are shown for the 1st day of the month and have been derived from the mean month-end soil moisture deficit (SMD) data (1961-90) produced by the Meteorological Office Rainfall and Evaporation Calculation Service (MORECS). The day, on average, when soils return to near field capacity (10mm SMD) has been estimated for each MORECS 40km X 40km square by linear interpolation between month-end values. These day numbers were plotted at the centroid of each square and then contoured to show isopleths for the 1st day of each month. 10mm SMD has been used rather than zero SMD (field capacity), since the mean SMD is based on 30 years of record and very few MORECS squares have mean month-end values of zero.

Figure 3.3 Return to near field capacity

Figure 3.2 shows a summer MMF for a small number of gauging stations in south-eastern and central England. Typically these stations are gauging flows from catchments whose land use is predominantly urban. They respond quickly to rainfall, with a large number of flood events occurring each year. POT data is made up of, on average, the five largest events of the year and these larger flood events tend to occur, on this type of catchment, during the summer months when intense rainfall is often experienced. Beverley Brook at Wimbledon, with a heavily urbanised catchment (81% of catchment area), has the highest percentage of POTs in June and August (Figure 3.4) and the seasonal distribution of POTs is very different to the UK as a whole (Figure 3.1).

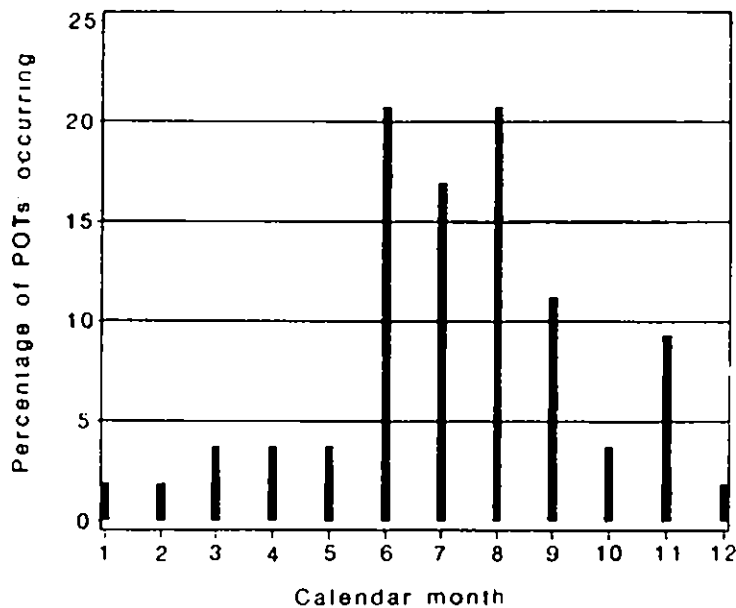
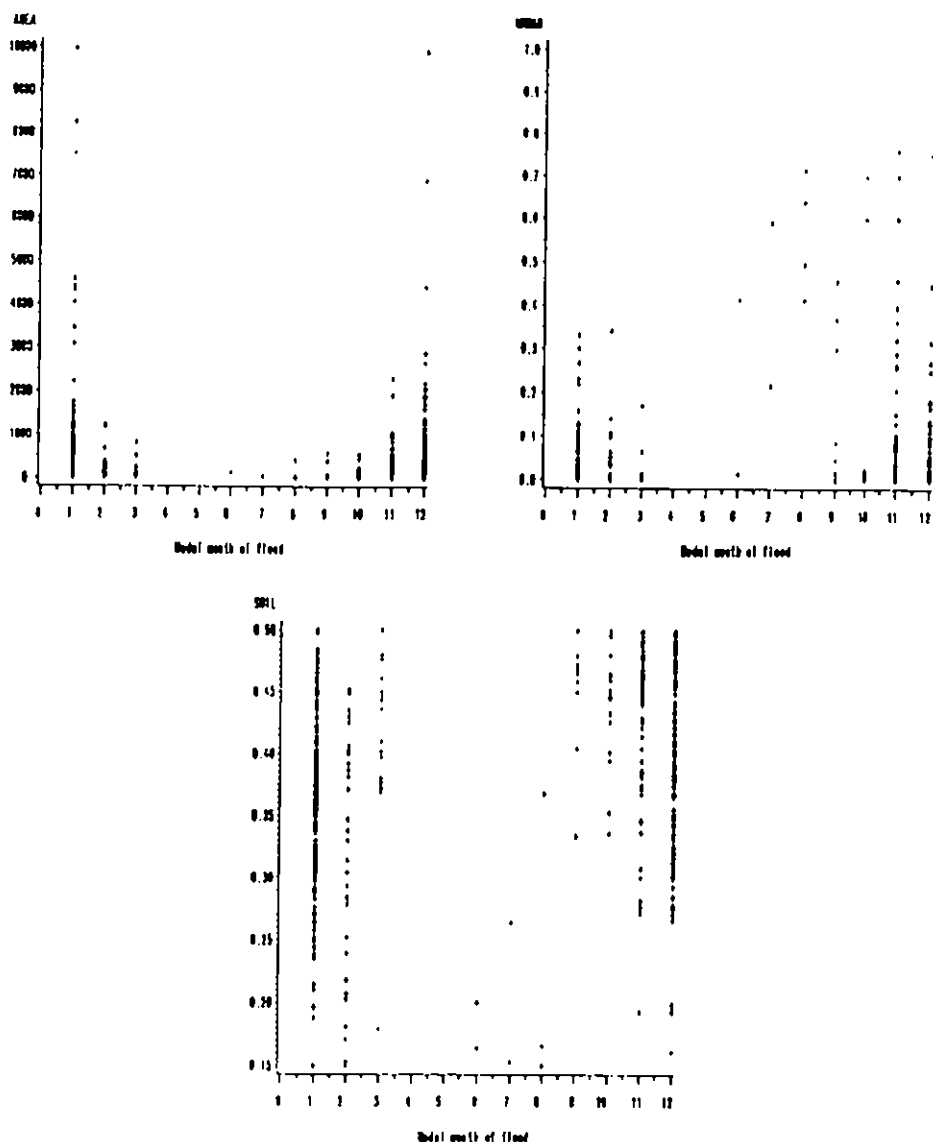


Figure 3.4 Percentage of floods occurring in each calendar month - 39005 Beverley Brook at Wimbledon

Figure 3.5 shows the relationship between MMF and three catchment characteristics: AREA, URBAN and SOIL. The majority of catchments with a MMF in June, July or August have catchment areas of less than 150 km<sup>2</sup>, with just one gauging station, Tame at Water Orton (406.6 km<sup>2</sup>), above this limit. This link between catchment size and summer flooding can be explained by the likelihood of URBAN being the dominant land use, decreasing as catchment size increases. Also, the diversity of land use and soils tends to increase with catchment size. The MMF for all catchments greater than 2500 km<sup>2</sup> is either December or January. This is likely to be because a large percentage of the catchment needs to be at, or near, field capacity before flooding takes place. For large catchments this is generally achieved by early or mid-winter.



AREA is the catchment area to the gauging station in  $\text{km}^2$  and is available for all sites.

URBAN is the fraction of the catchment which is urbanized. The majority of URBAN values were calculated for the Flood Studies Report (NERC, 1975) and are available for 687 gauging stations with POT records.

SOIL is an index describing the Winter Rain Acceptance Potential (WRAP) of catchment soils and is derived from the five class WRAP map of the UK (NERC, 1975). Catchment values are calculated by superimposing the catchment boundary on the map to obtain the fraction of the catchment in each class. A weighted mean of these fractions is adopted as a soil index which has a range from 0.15 to 0.50. A catchment which has all class 1 soils, the greatest acceptance or infiltration potential, will have a value of 0.15 and a catchment which has all class 5 soils, the least acceptance potential, will have a value of 0.50. Urban areas are unclassified. SOIL values are available for 687 gauging stations with POT records.

MMF is not shown for 119 catchments which have an equal number of floods occurring in two or more calendar months.

Figure 3.5 Relationship between modal month of flood and AREA, URBAN and SOIL

The plot of URBAN against MMF confirms that catchments with a MMF during the summer are, in general, heavily urbanized. However, it also shows that some catchments with a high urban percentage have the MMF in the autumn or winter.

There also appears to be a link between SOIL and MMF. Catchments of all soil types flood in winter but those with the MMF occurring in March, September and October generally have high SOIL values.

### 3.2 Mean POT day of flood

Calculating the mean day of flood, where the day is represented by day numbers between 1 and 365 (366 for leap years), presents a particular problem. Day 1 and day 365 have adjacent values in the time series but will not be considered as such if day numbers are used.

To get around this problem the day number is expressed as an angle where

$$\theta_i = \left( \text{day of occurrence} \cdot \frac{2\pi}{\text{LENYR}} \right) - \text{ADJUST}$$

and

$$\text{ADJUST} = \frac{1}{2} \left( \frac{2\pi}{365} \right)$$

LENYR is 365, or 366 for a leap year.

The x-axis is chosen as an arbitrary starting point and all angles are calculated, as given above, in an anti-clockwise direction from this point (Figure 3.6). All flood peaks on the database are assigned to the POT day when they occur, but in reality flood peaks will have been logged at various times within that day. Therefore, an adjustment (ADJUST) is made to each value so that the POT day is represented by the angle occurring at its mid-point.

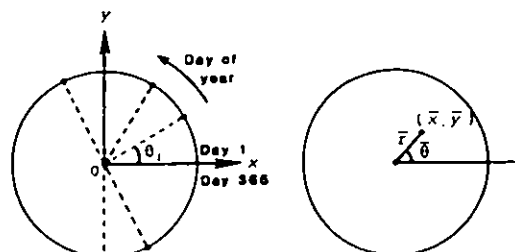


Figure 3.6 Calculating the mean POT day of flood using directional statistics



Following the approach of Mardia (1972), the mean POT day of flood (MPD) is obtained by representing all the days as weights of unit mass, sited on the circumference of a circle of unit radius, and then finding the centroid of these weights. This can be done by finding the mean of the x-coordinates and the mean of the y-coordinates, ie.

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n \cos \theta_i \qquad \bar{y} = \frac{1}{n} \sum_{i=1}^n \sin \theta_i$$

Thus, the mean direction is given by

$$\tan \bar{\theta} = \frac{\bar{y}}{\bar{x}} \quad \text{ie.} \quad \bar{\theta} = \tan^{-1} \left( \frac{\bar{y}}{\bar{x}} \right)$$

In evaluating  $\bar{\theta}$ , it is important to add  $\pi$  or  $2\pi$  to the evaluation of  $\bar{\theta}$  according to the signs of  $\bar{x}$  and  $\bar{y}$ . Finally, the mean direction is converted back to a day number using

$$\text{MPD} = \left( \bar{\theta} \cdot \frac{365}{2\pi} \right) + 0.5$$

A half is added to MPD, above, to compensate for the subtraction (ADJUST) of half a day during the conversion of day numbers to angles. The value is rounded to the nearest day number and then expressed as a calendar day (Appendix 2).

The influence of a delayed return to field capacity for catchment soils in the south and east is again evident, with MPD values in the north and west generally occurring earlier in the year (Figure 3.7). Since MPD has been calculated as the mean direction of the days of flood sited on the circumference of a circle, their value as a calendar day has been expressed as an arrow. MPD for all data is the 28th December.

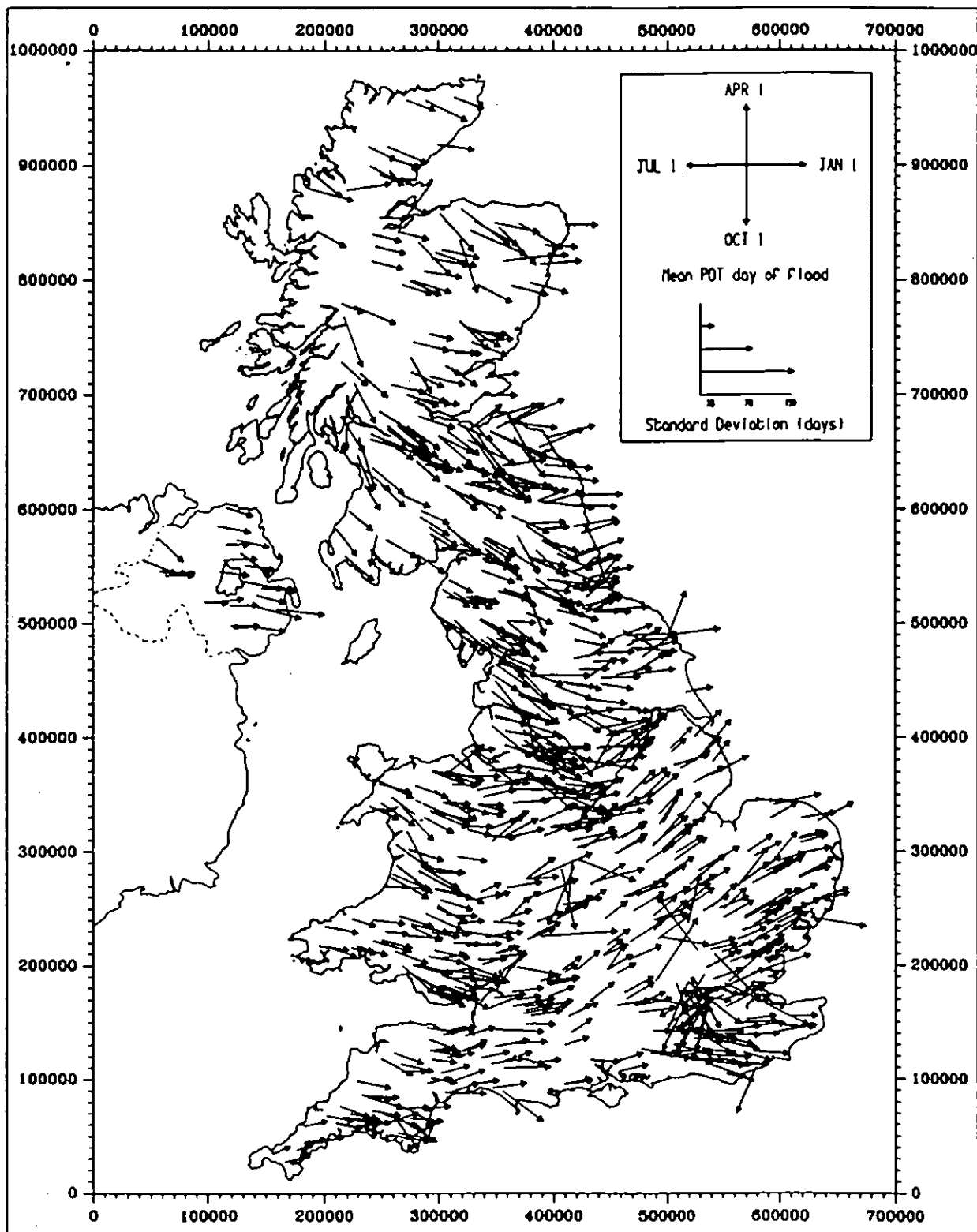


Figure 3.7 Mean POT day of flood and standard deviation about the mean

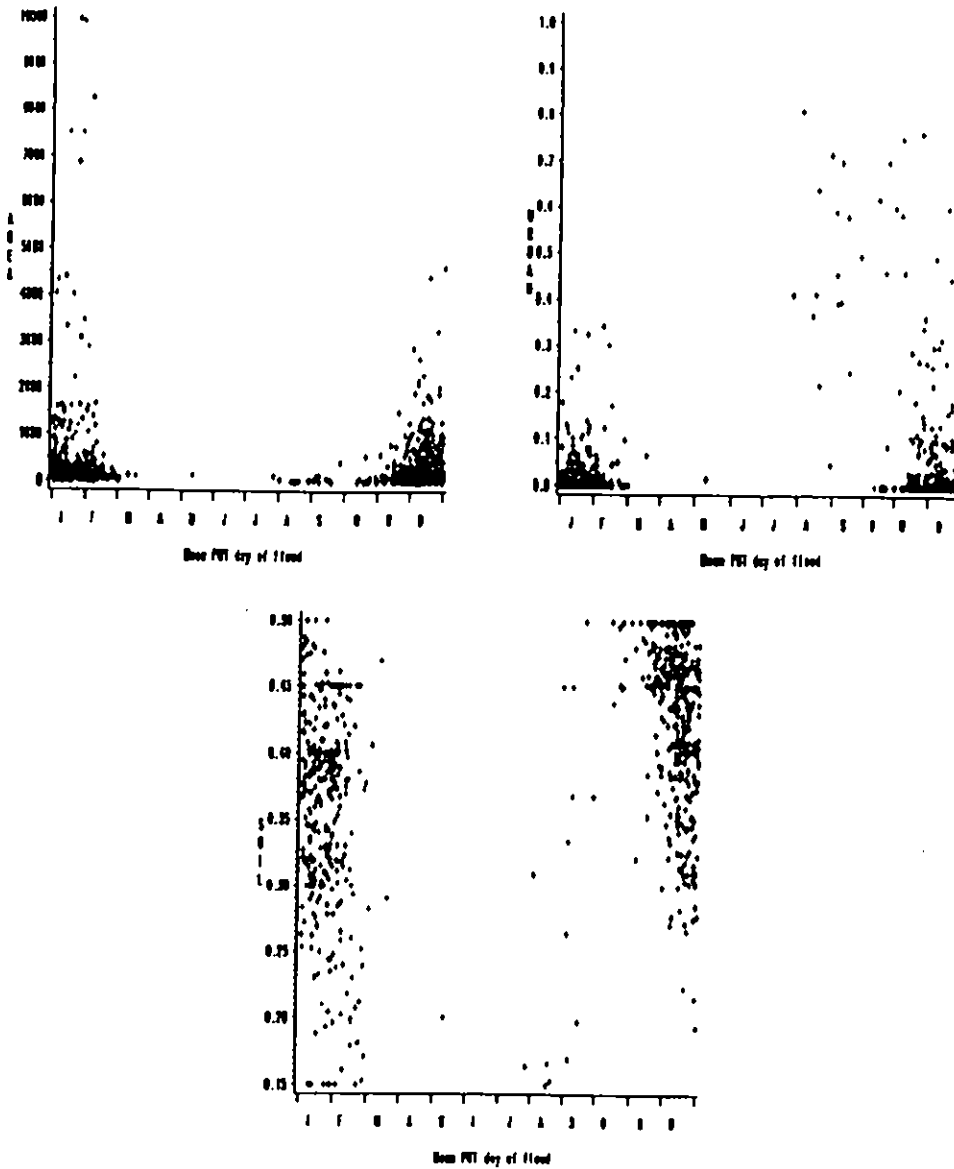


Figure 3.8 Relationship between mean POT day of flood and AREA, URBAN and SOIL

MPD shows similar relationships with AREA, URBAN and SOIL (Figure 3.8) to that of MMF (Figure 3.5). The same links with catchment size, urbanization and summer flooding are evident. Since MPD is an average of all the POT dates for each gauging station, there is a tendency for the MPD value to be nearer winter than is the MMF value for the same site. Even if the dominant season for flooding is the summer, there is still likely to be some flooding during the winter which will influence the position of MPD in the year.

### 3.3 Standard deviation of the mean POT day of flood

The 'mean resultant'  $\bar{r}$  (Figure 3.6) gives some indication of the spread of data:

$$\bar{r} = \sqrt{\bar{x}^2 + \bar{y}^2}$$

If  $\bar{r}$  is close to one, this indicates that the data are strongly directional, or seasonal in the case of day of flood. However, if  $\bar{r}$  is close to zero then the data are not strongly seasonal and the value of MPD is less meaningful.

A standard deviation,  $S_o$ , of circular data can be defined (Mardia, 1972) by:

$$S_o = \sqrt{-2 \ln \bar{r}} \quad \text{where } \ln \text{ is the natural logarithm}$$

This provides a standard deviation in radians which can be converted to a standard deviation in days about the mean POT day, SDMPD, by:

$$\text{SDMPD} = S_o \cdot \left( \frac{365}{2\pi} \right)$$

The value is then rounded to the nearest whole number of day (Appendix 2).

Where flooding tends to be confined to a particular time of the year then the value of SDMPD is small and the value of MPD indicative of when flooding is mostly likely to occur. Rivers which frequently flood outside winter have catchments with a high SDMPD since there is a greater spread of dates when POTs have been recorded. These catchments tend to have, at least, a small proportion of urban land use, with a number of floods in both summer and winter. 'Single season' catchments are found throughout the UK whereas high SDMPD catchments are more usually found in built-up areas of the south-east and central England (Figure 3.7). For these catchments the value of MPD is less likely to represent a period when flooding typically takes place.

## 4 Introduction to the appendices

A primary objective of this report is to give details of, and statistics on, peaks-over-threshold data collated over a period of more than 20 years at the Institute of Hydrology. These are presented in the following appendices.

Appendix 1 lists the POT records held for 859 gauging stations in the UK, including 26 in Northern Ireland. Details for 112 gauging stations, where only annual maximum data have been extracted, are also included.

Appendix 2 presents statistics summarizing record length and seasonality. A full description of the seasonality statistics has been given in Section 3.

The thresholds chosen for the extraction of POT data were selected to give, on average, five peaks a year. However, in many cases, when further data were added from subsequent phases of extraction, this average increased or decreased depending on the rainfall in the new period. Indeed, the average number of peaks per year does vary from two to eleven for stations on the database. The second set of statistics, presented in Appendix 2, is for data which have been standardized by adjusting the threshold to give an average of four peaks per year. This allows a more direct comparison of seasonality variables.

Appendix 3 considers statistics for nearly 1000 annual maximum series. Many of the statistics presented in the Flood Studies Report Volume IV (NERC 1975), such as the mean annual flood (QBAR), are given here. Since publication of the report the number of flood peaks held on the database has doubled, with the result that statistics are shown for many more gauging stations and in some cases are based on much longer annual maximum series.



## Acknowledgements

This report presents data collated under the Flood Statistics project AC1 commissioned by the Ministry of Agriculture, Fisheries and Food.

The co-operation of National Rivers Authority staff who supplied charts, stage-discharge relationships and flood peak data is acknowledged. Many of the post-1973 data for gauging stations in Scotland were extracted at the University of St. Andrews by Mike Acreman (now at IH) and Andrew Black.

The contribution of the small team of casual and full time staff, in particular Julia Dixon, Paul Crocker and Mark Smith, who meticulously extracted flood peaks from thousands of microfilmed charts over a period of six years, is gratefully acknowledged. Thanks are also due to Nigel Arnell for his help with the retrieval software and Nicholas Mann and Jason Duckers for their assistance with the diagrams.





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## APPENDICES

Appendix 1 details record availability for individual stations, with Appendix 2 presenting statistics on POT series record length and seasonality. Appendix 3 considers annual maximum flood data and lists maximum, median and mean values for nearly 1000 series.



## Appendix 1 Register of gauging stations

Table A1.1 presents a list of gauging stations with peaks-over-threshold data.

The national grid reference, together with the start and finish dates of the record held, are shown for each station.

Some pairs of gauging stations with POT records may, with caution, be considered as one POT series. Typically these pairs are the result of a new gauging point being chosen close to the old one, with the replacement station being allocated a new number. The pairs all have the same threshold and are marked with a common letter in Table A1.1.

Table A1.2 presents a list of gauging stations with annual maximum series only.

The national grid reference, together with the start and finish years of record, are shown for each station. The years are inclusive and defined as water years starting on 1st October.

Table A1.1 Register of gauging stations - peaks-over-threshold

NUMBER	NAME	GRID REF	RECORD STARTS	RECORD ENDS
2001	HELMSDALE AT KILPHEDIR	2997 9181	01 01 1975	29 12 1988
3002	CARRON AT SGODACHAIL	2490 8921	01 01 1974	31 12 1988
3003	OYKEL AT EASTER TURNAIG	2403 9001	01 01 1978	31 12 1988
3801	CASSLEY AT DUCHALLY	2387 9168	08 09 1950	30 09 1959
3803	TIRRY AT RHIAN BRIDGE	2553 9167	29 06 1950	03 12 1958
3901	SHIN AT LAIRG	2581 9062	23 06 1950	31 12 1956
4001	CONON AT MOY BRIDGE	2482 8547	09 07 1945	31 12 1956
4003	ALNESS AT ALNESS	2654 8695	01 01 1974	26 12 1988
5901	BEAULY AT ERCHLESS	2426 8406	09 12 1949	05 01 1964
6007	NESS AT NESS SIDE	2645 8427	01 01 1973	27 12 1988
6008	ENRICK AT MILL OF TORE	2450 8300	01 01 1980	01 01 1989
6903	MORISTON AT INVERMORISTON	2416 8169	19 03 1930	30 10 1944
7001	FINDHORN AT SHENACHIE	2826 8337	01 08 1960	04 01 1989
7002	FINDHORN AT FORRES	3018 8583	19 06 1958	31 12 1988
7003	LOSSIE AT SHERIFF MILLS	3194 8626	19 07 1958	03 01 1990
8001	SPEY AT ABERLOUR	3278 8439	01 01 1939	31 12 1974
8002	SPEY AT KINRARA	2881 8082	07 08 1951	03 01 1990
8003	SPEY AT RUTHVEN BRIDGE	2759 7996	06 08 1951	31 12 1973
8004	AVON AT DELNASHAUGH	3186 8352	03 08 1952	31 12 1989
8005	SPEY AT BOAT OF GARTEN	2946 8191	29 08 1951	30 12 1989
8006	SPEY AT BOAT O'BRIG	3318 8518	10 08 1952	03 01 1990
8007	SPEY AT INVERTRUIM	2687 7962	16 09 1952	03 01 1990
8008	TROMIE AT TROMIE BRIDGE	2789 7995	08 09 1952	24 12 1989
8009	DULNAIN AT BALMAAN BRIDGE	2977 8247	23 01 1952	03 01 1990
8010	SPEY AT GRANTOWN	3033 8268	29 11 1951	02 01 1990
9001	DEVERON AT AVOCHIE	3532 8464	04 11 1959	03 01 1990
9002	DEVERON AT MUIRESK	3705 8498	21 06 1960	03 01 1990
9003	ISLA AT GRANGE	3494 8506	01 10 1969	31 12 1989
10001	YTHAN AT ARDLETHEN	3924 8308	01 08 1939	31 12 1984
10002	UGIE AT INVERUGIE	4101 8485	01 01 1972	07 01 1990
11001	DON AT PARKHILL	3887 8141	01 01 1970	04 01 1990
11002	DON AT HAUGHTON INVERURIE	3756 8201	01 01 1972	31 12 1989
11003	DON AT BRIDGE OF ALFORD	3566 8170	01 01 1974	03 01 1990
12001	DEE AT CAIRNTON/WOODEND	3635 7956	01 10 1929	04 01 1990
12002	DEE AT PARK	3798 7983	01 01 1973	16 01 1990
12003	DEE AT POLHOLLICK	3344 7965	01 01 1976	04 01 1990
14001	EDEN AT KEMBACK	3415 7158	29 09 1967	03 01 1990
15001	ISLA AT FORTER	3187 7647	26 08 1947	31 12 1973
15002	NEWTON AT NEWTON	3230 7605	18 07 1949	31 12 1973
15003	TAY AT CAPUTH	3082 7395	11 10 1951	31 12 1974
15004	INZION AT LOCH OF LINRATHEN	3280 7559	25 12 1950	31 12 1973
15006	TAY AT BALLATHIE	3147 7367	03 10 1952	31 12 1974
15007	TAY AT PITNACREE	2924 7534	02 11 1951	31 12 1975
15008	DEAN AT COOKSTON	3340 7479	01 10 1953	04 01 1990
15010	ISLA AT WESTER CARDEAN	3295 7466	01 01 1972	04 01 1990
15013	ALMOND AT ALMONDBANK	3067 7258	01 01 1974	31 12 1988
15016	TAY AT KENMORE	2782 7467	01 01 1975	03 01 1990
15808	ALMOND AT ALMOND INTAKE	2758 7332	02 05 1961	05 01 1971
15809	MUCKLE BURN AT EASTMILL	3223 7604	10 05 1949	30 12 1973
16001	EARN AT KINKELL BRIDGE	2933 7167	09 11 1948	31 12 1973
16003	RUCHILL WATER AT CULTYBRAGGAN	2764 7204	01 06 1959	03 01 1990
17001	CARRON AT HEADSWOOD	2832 6820	01 10 1968	05 01 1990
17002	LEVEN AT LEVEN	3369 7006	01 10 1968	02 10 1973
18001	ALLAN WATER AT KINBUCK	2792 7053	23 07 1957	31 12 1982
18002	DEVON AT GLENOCHIL	2858 6960	31 08 1956	01 10 1973
18003	TEITH AT BRIDGE OF TEITH	2725 7011	11 06 1956	01 10 1973
18005	ALLAN WATER AT BRIDGE OF ALLAN	2786 6980	01 01 1972	09 01 1990
18008	LENY AT ANIE	2585 7096	01 01 1974	09 01 1990
19001	ALMOND AT CRAIGIEHALL	3165 6752	31 08 1956	03 01 1990
19002	ALMOND AT ALMOND WEIR	3004 6652	09 06 1961	03 01 1990
19003	BREICH WATER AT BREICH WEIR	3014 6639	28 06 1961	31 12 1979
19004	NORTH ESK AT DALMORE WEIR	3252 6616	28 03 1961	02 01 1990
19005	ALMOND AT ALMONDELL	3086 6686	31 01 1962	31 12 1983
19006	WATER OF LEITH AT MURRAYFIELD	3228 6732	25 05 1962	01 01 1974
19007	ESK AT MUSSELBURGH	3339 6723	19 12 1961	01 01 1974
19008	SOUTH ESK AT PRESTONHOLM	3325 6623	01 10 1963	01 01 1974
19010	BRAID BURN AT LIBERTON	3273 6707	01 10 1968	01 01 1974
19011	NORTH ESK AT DALKEITH PALACE	3333 6678	27 06 1962	01 01 1974
20001	TYNE AT EAST LINTON	3591 6768	23 12 1958	02 01 1990
20002	WEST PEPPER BURN AT LUFFNESS MAINS	3489 6811	27 10 1965	02 01 1990
20003	TYNE AT SPILMERSFORD BRIDGE	3456 6689	09 02 1962	02 01 1990
20004	EAST PEPPER BURN AT LOCHHOUSES	3610 6824	30 05 1966	31 12 1973
20005	BIRNS WATER AT SALTOUN HALL	3457 6688	09 02 1962	02 01 1990
20006	BIEL WATER AT BELTON HOUSE	3645 6768	01 01 1972	02 01 1990
20007	GIFFORD WATER AT LENNOXLOVE	3511 6717	01 01 1973	02 01 1990
21001	FRUID WATER AT FRUID	3088 6205	01 10 1947	30 09 1962
21002	WHITEADDER WATER AT HUNGRY SNOUT	3663 6633	30 12 1957	16 06 1968

Table A1.1 (continued)

NUMBER	NAME	GRID REF	RECORD STARTS	RECORD ENDS
21003	TWEED AT PEEBLES	3257 6400	01 06 1939	08 01 1990
21005	TWEED AT LYNE FORD	3206 6397	13 03 1961	31 12 1989
21006	TWEED AT BOLESIDE	3498 6334	11 07 1961	01 10 1974
21007	ETTRICK WATER AT LINDEAN	3486 6315	29 09 1961	31 12 1989
21008	TEVIOT AT ORMISTON MILL	3702 6280	01 10 1960	03 01 1990
21009	TWEED AT NORHAM	3898 6477	01 01 1960	02 01 1990
21010	TWEED AT DRYBURGH	3588 6320	25 02 1949	01 10 1974
21011	YARROW WATER AT PHILIPHAUGH	3439 6277	28 08 1962	01 10 1974
21012	TEVIOT AT HAWICK	3522 6159	18 09 1963	03 01 1990
21013	GALA WATER AT GALASHIELS	3479 6374	30 09 1963	01 10 1974
21015	LEADER WATER AT EARLSTON	3565 6388	01 10 1966	01 01 1990
21016	EYE AT EYEMOUTH MILL	3942 6635	01 10 1967	07 01 1990
21017	ETTRICK WATER AT BROCKHOPERIG	3234 6132	27 08 1965	01 10 1974
21019	MANOR WATER AT CADEMUIR	3217 6369	27 09 1968	01 10 1974
21020	YARROW WATER AT GORDON ARMS	3309 6247	30 05 1967	01 10 1974
21022	WHITEADDER WATER AT HUTTON CASTLE	3881 6550	01 01 1970	03 01 1990
21024	JED WATER AT JEDBURGH	3655 6214	01 01 1972	03 01 1990
21025	ALE WATER AT ANCRUM	3634 6244	01 01 1973	03 01 1990
21026	TIMA WATER AT DEEHOPE	3278 6138	01 01 1974	02 01 1990
21029	TWEED AT GLENBRECK	3063 6215	04 02 1964	01 09 1975
21030	MEGGET WATER AT HENDERLAND	3231 6232	13 11 1968	07 01 1975
21031	TILL AT ETAL	3927 6396	07 12 1955	30 09 1978
21032	GLEN AT KIRKNEWTON	3919 6310	01 09 1961	01 02 1983
21034	YARROW WATER AT CRAIG OF DOUGLAS	3288 6244	13 11 1968	07 01 1975
22001	COQUET AT MORWICK	4234 6044	23 09 1963	30 11 1986
22002	COQUET AT BYGATE	3870 6083	01 10 1969	03 03 1981
22003	USWAY BURN AT SHILLMOOR	3886 6077	01 10 1966	01 07 1980
22004	ALN AT HAWKHILL	4211 6129	13 04 1960	28 03 1980
22006	BLYTH AT HARTFORD BRIDGE	4243 5800	09 11 1960	27 08 1986
22007	WANSBECK AT MITFORD FLUME	4175 5858	05 02 1963	01 01 1975
22008	ALWIN AT CLENNELL	3925 6063	01 10 1969	31 12 1974
23001	TYNE AT BYWELL	4038 5617	19 06 1956	06 01 1975
23002	DERWENT AT EDDYS BRIDGE	4041 5508	07 12 1954	14 10 1965
23003	NORTH TYNE AT REAVERHILL	3906 5732	23 03 1959	30 11 1986
23004	SOUTH TYNE AT HAYDON BRIDGE	3856 5647	17 07 1959	01 01 1975
23005	NORTH TYNE AT TARSET	3776 5861	01 09 1960	27 12 1979
23006	SOUTH TYNE AT FEATHERSTONE	3672 5611	01 10 1966	27 08 1986
23007	DERWENT AT ROWLANDS GILL	4168 5581	31 10 1962	30 11 1986
23008	REDE AT REDE BRIDGE	3868 5832	01 10 1969	27 08 1986
23010	TARSET BURN AT GREENHAUGH	3789 5879	19 06 1970	15 08 1980
23011	KIELDER BURN AT KIELDER	3644 5946	19 06 1970	26 11 1986
23012	EAST ALLEN AT WIDE EALS	3802 5583	13 05 1971	27 11 1981
23013	WEST ALLEN AT HINDLEY WRAE	3791 5583	11 05 1971	17 07 1983
23015	NORTH TYNE AT BARRASFORD	3924 5721	01 10 1947	27 02 1971
24001	WEAR AT SUNDERLAND BRIDGE	4264 5376	01 10 1957	01 01 1975
24002	GAUNLESS AT BISHOP AUCKLAND	4215 5306	26 09 1958	02 06 1983
24003	WEAR AT STANHOPE	3984 5391	01 10 1958	27 08 1986
24004	BEDBURN BECK AT BEDBURN	4118 5322	28 08 1959	27 08 1986
24005	BROWNEY AT BURN HALL	4259 5387	01 10 1954	01 10 1986
24006	ROOKHOPE BURN AT EASTGATE	3952 5390	30 09 1960	15 06 1980
24007	BROWNEY AT LANCHESTER	4165 5462	06 12 1967	31 10 1983
24008	WEAR AT WITTON PARK	4174 5309	01 10 1974	30 09 1986
24009	WEAR AT CHESTER LE STREET	4283 5512	01 09 1977	27 08 1986
24801	BURNHOPE BURN AT BURNHOPE RESERVOIR	3855 5395	01 07 1950	31 12 1970
25001	TEES AT BROKEN SCAR	4259 5137	01 10 1956	31 08 1986
25002	TEES AT DENT BANK	3932 5260	20 06 1959	31 12 1974
25003	TROUT BECK AT MOOR HOUSE	3759 5336	01 10 1962	29 02 1980
25004	SKERNE AT SOUTH PARK	4284 5129	23 09 1957	31 08 1986
25005	LEVEN AT LEVEN BRIDGE	4445 5122	01 06 1959	31 12 1974
25006	GRETA AT RUTHERFORD BRIDGE	4034 5122	22 08 1960	31 08 1986
25007	CLOW BECK AT CROFT	4282 5101	01 10 1964	10 02 1980
25008	TEES AT BARNARD CASTLE	4047 5166	29 07 1964	23 04 1983
25009	TEES AT LOW MOOR	4364 5105	01 08 1969	31 08 1986
25010	BAYDALE BECK AT MOWDEN BRIDGE	4260 5156	25 09 1957	30 09 1974
25011	LANGDON BECK AT LANGDON	3852 5309	01 10 1969	09 10 1983
25012	HARWOOD BECK AT HARWOOD	3849 5309	16 08 1969	01 01 1975
25018	TEES AT MIDDLETON IN TEESDALE	3950 5250	30 09 1972	31 08 1986
25020	SKERNE AT PRESTON-LE-SKERNE	4292 5238	10 09 1976	27 08 1986
25021	SKERNE AT BRADBURY	4318 5285	01 10 1975	27 08 1986
25808	BURNT WEIR AT MOOR HOUSE	3752 5332	23 11 1953	17 05 1962
25809	BOG WEIR AT MOOR HOUSE	3773 5327	03 12 1953	24 05 1962
25810	SYKE WEIR AT MOOR HOUSE	3772 5332	15 08 1956	24 05 1962
26801	CATCHWATER AT WITHERNWICK	5171 4403	01 10 1969	30 09 1977
27001	NIDD AT HUNSINGORE WEIR	4428 4530	15 05 1934	10 01 1983
27002	WHARFE AT FLINT MILL WEIR	4422 4473	09 06 1936	10 01 1978
27006	DON AT HADFIELDS WEIR	4390 3910	21 11 1956	06 01 1983
27007	URE AT WESTWICK LOCK	4356 4671	01 10 1955	05 01 1983

Table A1.1 (continued)

NUMBER	NAME	GRID REF	RECORD STARTS	RECORD ENDS
27008	SWALE AT LECKBY GRANGE	4415 4748	20 10 1955	01 01 1983
27009	OUSE AT SKELTON RAILWAY BRIDGE	4568 4554	01 10 1956	01 01 1983
27010	HODGE BECK AT BRANSDALE WEIR	4627 4944	09 04 1936	01 01 1978
27012	HEBDEN WATER AT HIGH GREENWOOD	3973 4309	23 03 1953	31 12 1973
27014	RYE AT LITTLE HABTON	4743 4771	26 02 1958	18 01 1974
27015a	DERWENT AT STAMFORD BRIDGE	4714 4557	17 02 1962	01 10 1977
27021	DON AT DONCASTER	4569 4040	01 10 1868	06 01 1983
27022	DON AT ROTHERHAM WEIR	4427 3928	01 10 1960	06 10 1969
27023	DEARNE AT BARNSLEY WEIR	4350 4073	21 09 1960	01 01 1983
27024	SWALE AT RICHMOND	4146 5006	24 05 1960	01 01 1981
27025	ROTHER AT WOODHOUSE MILL	4432 3857	20 05 1961	06 01 1983
27026	ROTHER AT WHITTINGTON	4394 3744	28 07 1960	06 01 1983
27027b	WHARFE AT ILKLEY	4112 4481	06 04 1960	31 12 1972
27028	AIRE AT ARMLEY	4281 4340	12 12 1960	01 01 1983
27029	CALDER AT ELLAND	4124 4219	13 08 1953	01 01 1974
27030	DEARNE AT ADWICK	4477 4020	30 10 1963	06 01 1983
27031	COLNE AT COLMEBRIDGE	4174 4199	13 12 1963	07 01 1983
27033	SEA CUT AT SCARBOROUGH	5028 4908	22 09 1965	01 01 1983
27034	URE AT KILGRAM BRIDGE	4190 4860	05 07 1967	01 01 1983
27035	AIRE AT KILDWICK BRIDGE	4013 4457	01 10 1967	05 01 1983
27036	DERWENT AT MALTON	4789 4715	10 01 1969	11 01 1974
27040	DOE LEA AT STAVELEY	4443 3746	01 07 1970	06 01 1983
27041a	DERWENT AT BUTTERCRAMBE	4731 4587	01 10 1977	01 01 1983
27042	DOVE AT KIRKBY MILLS	4705 4855	17 01 1972	01 01 1983
27043b	WHARFE AT ADDINGHAM	4092 4494	01 01 1973	31 12 1982
27048	DERWENT AT WEST AYTON	4990 4853	01 05 1972	04 01 1983
27049	RYE AT NESS	4696 4791	07 08 1974	06 01 1983
27051	CRIMPLE BECK AT BURN BRIDGE	4284 4519	07 12 1976	06 01 1983
27052	WHITTING AT SHEEPBRIDGE	4376 3747	04 01 1978	06 01 1983
27053	NIDD AT BIRSTWITH	4230 4603	01 10 1975	05 01 1983
27054	HODGE BECK AT CHERRY FARM	4652 4902	11 01 1977	06 01 1983
27055	RYE AT BROADWAY FOOT	4560 4883	23 08 1977	04 01 1983
27058	RICALL AT CROOK HOUSE FARM	4661 4810	02 08 1977	06 01 1983
27059	LAVER AT RIPON	4301 4710	01 10 1977	08 01 1983
27061	COLNE AT LONGROYD BRIDGE	4136 4161	01 11 1978	07 01 1983
27810	CALDER AT NEWLANDS	4365 4220	25 04 1957	01 06 1978
27835	CALDER AT MIDLAND BRIDGE DEWSBURY	4243 4215	21 04 1964	20 07 1973
27846	AIRE AT ASH BRIDGE	4472 4266	15 11 1962	01 10 1969
28002	BLITHE AT HAMSTALL RIDWARE	4109 3192	01 10 1937	01 10 1952
28003	TAME AT WATER ORTON	4169 2915	06 09 1955	02 01 1986
28004	TAME AT LEA MARSTON	4206 2935	28 09 1956	29 12 1982
28005	TAME AT ELFORD	4173 3105	07 12 1955	03 01 1986
28006	TRENT AT GREAT HAYWOOD	3994 3231	07 12 1955	02 01 1986
28007	TRENT AT SHARDLOW	4448 3299	28 09 1955	01 10 1969
28008	DOVE AT ROCESTER WEIR	4112 3397	11 04 1953	02 01 1986
28009	TRENT AT COLWICK	4620 3399	15 09 1958	29 12 1982
28010	DERWENT AT LONGBRIDGE WEIR	4356 3363	07 06 1935	24 12 1982
28011	DERWENT AT MATLOCK BATH	4296 3586	10 01 1958	30 12 1985
28012	TRENT AT YOXALL	4131 3177	23 09 1959	02 01 1986
28014	SOW AT MILFORD	3975 3215	01 10 1959	30 09 1969
28015	IDLE AT MATTERSEY	4690 3895	26 04 1961	30 09 1969
28016	RYTON AT SERLBY PARK	4641 3897	19 12 1961	30 09 1969
28017	DEVON AT COTHAM	4787 3476	30 09 1966	17 04 1984
28018	DOVE AT MARSTON ON DOVE	4235 3288	28 07 1961	02 01 1986
28019	TRENT AT DRAKELOW PARK	4239 3204	21 05 1959	02 01 1986
28020	CHURNET AT ROCESTER	4103 3389	01 10 1969	27 12 1985
28022	TRENT AT NORTH MUSKHAM	4801 3601	15 03 1968	02 01 1986
28024	WREAKE AT SYSTON MILL	4615 3124	01 10 1969	22 01 1986
28026	ANKER AT POLESWORTH	4263 3034	05 07 1967	03 01 1986
28031	MANIFOLD AT ILAM	4140 3507	11 04 1968	02 01 1986
28032	MEDEN AT CHURCH WARSOP	4558 3680	01 08 1964	05 04 1984
28033	DOVE AT HOLLINSCLOUGH	4063 3668	05 05 1966	01 01 1986
28038	MANIFOLD AT HULME END	4106 3595	23 12 1968	30 09 1982
28039	REA AT CALTHORPE PARK	4071 2847	27 12 1973	03 01 1986
28040	TRENT AT STOKE-ON-TRENT	3892 3467	29 03 1968	02 01 1986
28041	HAMPS AT WATERHOUSES	4082 3502	29 03 1968	03 10 1982
28043	DERWENT AT CHATSWORTH	4261 3683	13 02 1969	30 12 1985
28045	MEDEN AT BOTHAMSTALL	4681 3732	26 09 1969	03 04 1984
28046	DOVE AT IZAAK WALTON	4146 3509	03 06 1969	02 01 1986
28047	OLDCOATES DYKE AT BLYTH	4615 3876	17 06 1970	02 01 1986
28048	AMBER AT WINGFIELD PARK	4376 3520	25 08 1970	30 12 1985
28049	RYTON AT WORKSOP	4575 3794	01 10 1970	02 01 1986
28051	SOAR AT NARBOROUGH	4551 2985	07 07 1971	06 01 1986
28052	SOW AT GREAT BRIDGFORD	3883 3270	18 01 1971	02 01 1986
28053	PENK AT PENKRIDGE	3923 3144	01 04 1976	02 01 1986
28054	SENCE AT BLABY	4566 2985	22 12 1971	29 12 1982
28055	ECCLESBOURNE AT DUFFIELD	4320 3447	11 08 1971	01 07 1982



Table A1.1 (continued)

NUMBER	NAME	GRID REF	RECORD STARTS	RECORD ENDS
28056	ROTHLEY BROOK AT ROTHLEY	4580 3121	01 10 1973	06 01 1986
28058	HENMORE BROOK AT ASHBOURNE	4176 3463	31 01 1974	29 12 1982
28059	MAUN AT MANSFIELD	4548 3623	01 06 1964	19 07 1984
28060	DOVER BECK AT LOWDHAM	4653 3479	09 02 1972	11 04 1984
28061	CHURNET AT BASFORD BRIDGE	3983 3520	30 12 1974	01 01 1983
28066	COLE AT COLESHILL	4183 2874	01 10 1973	31 12 1982
28067	DERWENT AT CHURCH WILNE	4438 3316	27 12 1973	03 01 1986
28069	TAME AT TAMWORTH	4206 3037	24 09 1969	03 01 1986
28070	BURBAGE BROOK AT BURBAGE	4259 3804	13 11 1925	30 09 1982
28804	TRENT AT TRENT BRIDGE	4582 3384	28 09 1884	30 09 1969
28914	SOW AT MILFORD	3975 3215	25 09 1969	02 01 1986
28921	DERWENT AT DRAYCOTT	4443 3327	26 04 1965	01 07 1986
28923	WYE AT ASHFORD	4182 4696	01 10 1970	01 01 1986
29001	WAITHE BECK AT BRIGSLEY	5253 4016	19 08 1960	27 09 1983
29002	GREAT EAU AT CLAYTHORPE MILL	5416 3793	03 05 1973	30 09 1984
29003	LUD AT LOUTH	5337 3879	10 05 1966	29 09 1984
29004	ANCHOLME AT BISHOPSBRIDGE	5032 3911	13 03 1968	30 09 1984
29009	ANCHOLME AT TOFT NEWTON	5033 3877	03 06 1974	30 10 1984
30001	WITHAM AT CLAYPOLE MILL	4842 3480	27 01 1959	01 10 1984
30002	BARLINGS EAU AT LANGWORTH BRIDGE	5066 3766	21 09 1960	01 10 1984
30003	BAIN AT FULSBY LOCK	5241 3611	07 09 1962	01 10 1984
30004	PARTNEY LYMN AT PARTNEY MILL	5402 3676	04 05 1962	01 10 1984
30005	WITHAM AT SALTERS FORD	4927 3335	15 03 1968	01 10 1984
30011	BAIN AT GOULCEBY BRIDGE	5246 3795	17 06 1966	30 09 1984
30012	STAINFIELD BECK AT STAINFIELD	5127 3739	04 04 1974	30 09 1984
30014	POINTON LODGE AT POINTON	5128 3313	01 05 1972	30 09 1984
30017	WITHAM AT COLSTERWORTH	4929 3246	01 10 1978	30 09 1984
31002	GLEN AT KATES BRIDGE	5106 3149	18 10 1958	01 10 1982
31005	WELLAND AT TIXOVER	4970 2997	24 04 1962	30 09 1986
31006	GWASH AT BELMESTHORPE	5038 3097	31 03 1967	02 10 1973
31010	CHATER AT FOSTERS BRIDGE	4961 3030	03 01 1968	30 09 1986
31021	WELLAND AT ASHLEY	4819 2915	01 10 1970	01 10 1982
31023	WEST GLEN AT EASTON WOOD	4965 3258	26 01 1972	30 09 1986
31025	GWASH AT MANTON	4875 3051	17 07 1978	30 09 1986
31026	EGLETON BROOK AT EGLETON	4878 3073	01 10 1978	30 09 1986
32002	WILLOW BROOK AT FOTHERINGHAY	5067 2933	03 10 1938	30 09 1986
32003	HARPERS BROOK AT OLD MILL BRIDGE	4983 2799	07 12 1938	30 09 1986
32004	ISE BROOK AT HARROWDEN OLD MILL	4898 2715	02 12 1943	30 09 1986
32007	NENE (BRAMPTON BRANCH) AT ST ANDREWS MILL	4747 2617	10 05 1940	01 10 1982
32008	NENE (KISLINGBURY BRANCH) AT DODFORD	4627 2607	07 12 1944	30 09 1986
32010	NENE AT WANSFORD	5081 2996	23 05 1939	01 10 1982
32029	FLORE EXPERIMENTAL CATCHMENT	4660 2610	17 08 1964	30 09 1969
33006	WISSEY AT NORTHWOLD MILL	5771 2965	13 02 1956	02 01 1985
33009	BEDFORD OUSE AT HARROLD MILL	4951 2565	29 08 1951	10 01 1985
33011	LITTLE OUSE AT EUSTON COUNTY BRIDGE	5892 2801	02 10 1960	15 01 1985
33012	KYM AT MEAGRE FARM	5155 2631	14 09 1960	14 01 1985
33013	SAPISTON AT RECTORY BRIDGE EUSTON	5896 2791	11 04 1960	09 01 1985
33014	LARK AT TEMPLE WEIR	5758 2730	01 10 1960	09 01 1985
33015	OUZEL AT WILLEN WEIR	4882 2408	22 11 1961	01 10 1973
33017	OUSE AT ST. IVES STAUNCH	5314 2705	01 02 1949	01 10 1973
33018	TOVE AT CAPPENHAM BRIDGE	4714 2488	25 01 1962	10 01 1985
33019	THET AT MELFORD BRIDGE	5880 2830	01 10 1960	15 01 1985
33020	ALCONBURY BROOK AT BRAMPTON	5208 2717	07 03 1963	14 01 1985
33021	RHEE AT BURNT MILL WEIR	5415 2523	01 10 1962	04 01 1985
33022	IVEL AT BLUNHAM	5153 2509	15 12 1964	14 01 1985
33023	LEA BROOK AT BECK BRIDGE	5662 2733	01 10 1969	09 01 1985
33024	CAM AT DERNFORD	5466 2506	21 08 1963	10 01 1985
33027	RHEE AT WIMPOLE WEIR	5333 2485	01 10 1965	07 01 1985
33029	STRINGSIDE AT WHITE BRIDGE	5716 3006	21 07 1965	30 09 1984
33030	CLIPSTONE BROOK AT CLIPSTONE WEIR	4933 2255	01 10 1966	15 07 1980
33031	BROUGHTON BROOK AT BROUGHTON	4889 2408	01 10 1970	02 01 1985
33033	HIZ AT ARLESEY	5190 2379	01 10 1973	15 01 1985
33034	LITTLE OUSE AT ABBEY HEATH	5851 2844	20 03 1968	02 01 1985
33037	BEDFORD OUSE AT NEWPORT PAGNELL	4877 2443	01 10 1969	10 01 1985
33039	BEDFORD OUSE AT ROXTON	5160 2535	01 10 1972	14 01 1985
33044	THET AT BRIDGHAM	5957 2855	01 06 1967	14 01 1985
33045	WITTLE AT QUIDENHAM	6027 2878	01 05 1967	14 01 1985
33046	THET AT REDBRIDGE	5996 2923	14 02 1967	14 01 1985
33048	LARLING BROOK AT STONEBRIDGE	5928 2907	01 10 1969	14 01 1985
33050	SNAIL AT FORDHAM	5631 2703	01 10 1974	29 01 1985
33051	CAM AT CHESTERFORD	5505 2426	01 10 1969	04 01 1985
33055	GRANTA AT BABRAHAM	5510 2504	29 07 1976	04 01 1985
33057	OUZEL AT LEIGHTON BUZZARD	4917 2241	08 01 1976	02 01 1985
33058	OUZEL AT BLETCHLEY	4883 2322	10 05 1978	02 01 1985
33063	LITTLE OUSE AT KNETTISHALL	5955 2807	01 10 1980	15 01 1985
33809	BURY BROOK AT BURY WEIR	5286 2837	01 10 1963	30 10 1978
34001	YARE AT COLNEY	6182 3082	01 01 1958	02 11 1987

Table A1.1 (continued)

NUMBER	NAME	GRID REF	RECORD STARTS	RECORD ENDS
34002	TAS AT SHOTESHAM	6226 2994	15 10 1957	30 09 1987
34003	BURE AT INGWORTH	6192 3296	08 06 1959	01 11 1987
34004	WENSUM AT COSTESSEY MILL	6177 3128	27 01 1960	01 10 1987
34005	TUD AT COSTESSEY PARK	6170 3113	07 06 1961	01 10 1987
34006	WAVENEY AT NEEDHAM MILL	6229 2811	30 09 1963	07 04 1975
34007	DOVE AT OAKLEY PARK	6174 2772	21 06 1966	01 10 1987
34008	ANT AT HONING LOCK	6331 3270	20 05 1966	30 09 1987
34010	WAVENEY AT BILLINGFORD BRIDGE	6168 2782	03 04 1968	30 09 1987
34011	WENSUM AT FAKENHAM	5919 3294	18 04 1966	03 10 1987
34018	STIFFKEY AT WARHAM ALL SAINTS	5944 3414	01 10 1971	05 09 1987
35003	ALDE AT FARNHAM	6360 2601	01 10 1961	30 09 1987
35004	ORE AT BEVERSHAM BRIDGE	6359 2583	01 03 1965	30 09 1987
35008	GIPPING AT I.C.I. STOWMARKET	6058 2578	17 02 1964	30 09 1987
35010	GIPPING AT BRAMFORD MILL	6127 2465	01 10 1970	30 09 1987
35314	BUCKLESHAM MILL AT NEWBOURN	6270 2420	01 01 1948	30 09 1969
36002	GLEM AT GLEMSFORD MILL	5846 2472	30 09 1969	31 12 1986
36003	BOX AT POLSTEAD	5985 2378	01 10 1963	31 12 1986
36004	CHAD BROOK AT LONG MELFORD	5868 2459	01 10 1967	31 12 1985
36005	BRETT AT HADLEIGH	6025 2429	01 10 1969	31 12 1986
36006	STOUR AT LANGHAM	6020 2344	01 10 1969	31 12 1985
36007	BELCHAMP BROOK AT BARDFIELD BRIDGE	5848 2421	01 10 1964	31 12 1985
36008	STOUR AT WESTMILL	5827 2463	30 09 1969	31 12 1985
36009	BRETT AT COCKFIELD	5914 2525	23 02 1968	31 12 1985
36010	BUMPSTEAD BROOK AT BROAD GREEN	5689 2418	01 10 1967	02 01 1986
36011	STOUR BROOK AT STURMER	5696 2441	28 05 1968	02 01 1986
36015	STOUR AT LAMARSH	5897 2358	25 02 1972	30 12 1985
37001	RODING AT REDBRIDGE	5415 1884	01 02 1950	08 01 1980
37003	TER AT CRABBS BRIDGE	5786 2107	01 12 1963	29 12 1986
37005	COLNE AT LEXDEN	5962 2261	30 09 1969	29 12 1986
37006	CAN AT BEACH'S MILL	5690 2072	01 10 1962	31 12 1986
37007	WID AT WRITTLE	5686 2060	01 10 1964	31 12 1986
37008	CHELMER AT SPRINGFIELD	5713 2071	02 10 1965	02 10 1973
37009	BRAIN AT GUTHAVON VALLEY	5818 2147	29 09 1969	01 10 1973
37010	BLACKWATER AT APPLEFORD BRIDGE	5845 2158	29 09 1969	29 12 1986
37011	CHELMER AT CHURCHEND	5629 2233	01 10 1969	31 12 1986
37012	COLNE AT POOLSTREET	5771 2364	29 09 1969	31 12 1986
37013	SANDON BROOK AT SANDON BRIDGE	5755 2055	01 10 1969	31 12 1986
37014	RODING AT HIGH ONGAR	5561 2040	11 02 1964	06 12 1979
37016	PANT AT COPFORD HALL	5668 2313	17 06 1965	31 12 1986
37017	BLACKWATER AT STISTED	5793 2243	01 10 1969	31 12 1986
37018	INGREBOURNE AT GAYNES PARK	5553 1862	01 10 1970	09 01 1980
37019	BEAM AT BRETONS FARM	5515 1853	01 07 1965	09 01 1980
37020	CHELMER AT FELSTED	5670 2193	01 05 1970	30 12 1986
37031	CROUCH AT WICKFORD	5748 1934	30 01 1962	31 12 1985
38002	ASH AT MARDOCK	5393 2148	07 09 1939	01 10 1979
38003	MIMRAM AT PANSHANGER PARK	5282 2133	01 12 1952	02 01 1980
38004	RIB AT WADESMILL	5360 2174	30 04 1959	03 01 1980
38007	CANONS BROOK AT ELIZABETH WAY HARLOW	5431 2104	01 10 1950	07 01 1980
38020	COBBINS BK AT SEWARDSTONE RD	5387 1999	24 05 1971	07 01 1980
38021	TURKEY BK AT ALBANY PARK	5359 1985	01 10 1971	07 01 1980
38022	PYMES BROOK AT EDMONTON	5340 1925	07 04 1954	31 12 1979
38026	PINCEY BK AT SHEERING HALL	5495 2126	18 07 1974	08 01 1980
39001	THAMES AT TEDDINGTON	5177 1698	01 01 1883	31 12 1984
39002	THAMES AT DAYS WEIR	4568 1935	01 10 1938	30 09 1984
39003	WANDLE AT CONNOLLYS MILL	5265 1705	22 12 1938	31 12 1973
39004	WANDLE AT BEDDINGTON PARK	5296 1655	29 12 1938	31 12 1974
39005	BEVERLEY BROOK AT WIMBLEDON COMMON	5216 1717	27 09 1962	31 12 1973
39007	BLACKWATER AT SWALLOWFIELD	4731 1648	14 10 1952	30 09 1983
39008	THAMES AT EYNSHAM	4445 2087	01 10 1951	30 09 1984
39011	WEY AT TILFORD	4874 1433	18 05 1954	20 01 1972
39012	HOGSMILL AT KINGSTON UPON THAMES	5182 1688	04 09 1958	29 10 1982
39016	KENNET AT THEALE	4649 1708	11 09 1961	07 10 1983
39017	RAY AT GRENDON UNDERWOOD	4680 2211	20 09 1963	31 08 1985
39018c	OCK AT ABINGDON	4486 1969	01 02 1962	23 03 1978
39021	CHEWELL AT ENSLOW MILL	4482 2183	06 01 1965	05 10 1983
39022	LODDON AT SHEEPBRIDGE MILL SWALLOWFIELD	4720 1652	01 10 1965	07 10 1983
39023	WYE AT HEDSOR MILL	4896 1867	27 11 1964	30 09 1969
39024	GATWICK STREAM AT GATWICK	5288 1402	30 07 1952	30 09 1973
39025	ENBORNE AT BRIMPTON	4568 1648	18 05 1967	30 09 1983
39026	CHEWELL AT BANBURY	4458 2411	30 11 1966	05 10 1983
39027	PANG AT PANGBOURNE	4634 1766	13 11 1968	05 10 1983
39028	DUN AT HUNGERFORD	4321 1685	18 03 1968	01 10 1983
39029	TILLINGBOURNE AT SHALFORD	5000 1478	01 10 1975	30 09 1983
39034	EVENLODE AT CASSINGTON MILL	4448 2099	01 10 1970	03 10 1983
39035	CHURN AT CERNEY WICK	4076 1963	01 10 1969	30 09 1983
39036	LAW BROOK AT ALBURY	5045 1468	26 09 1968	07 10 1983
39038	THAME AT SHABBINGTON	4670 2055	08 03 1968	05 10 1983

Table A1.1 (continued)

NUMBER	NAME	GRID REF	RECORD STARTS	RECORD ENDS
39040	THAMES AT WEST MILL CRICKLADE	4094 1942	23 06 1972	04 10 1983
39044	HART AT BRAMSHILL HOUSE	4755 1593	01 10 1972	07 10 1983
39049	SILK STREAM AT COLINDEEP LANE	5217 1895	30 10 1928	31 12 1983
39052	THE CUT AT PITTS WEIR BINFIELD	4853 1713	16 07 1957	07 10 1983
39053	MOLE AT HORLEY MILL	5271 1434	17 11 1961	07 10 1983
39055	YEADING BROOK AT YEADING WEST	5083 1846	08 03 1974	12 08 1983
39056	RAVENSBOURNE AT CATFORD HILL	5372 1732	02 12 1974	12 08 1983
39057	CRANE AT CRANFORD PARK	5103 1778	24 01 1974	12 08 1983
39058	POOL AT WINSFORD ROAD	5371 1725	04 12 1974	12 08 1983
39069	MOLE AT KINNERSLEY MANOR	5262 1462	14 11 1972	07 10 1983
39081c	OCK AT ABINGDON	4481 1966	18 05 1979	03 10 1983
39086	GATWICK STREAM AT GATWICK LINK	5285 1417	02 09 1975	01 10 1983
39090	COLE AT INGLESHAM	4208 1970	01 10 1976	03 10 1983
39813	MOLE AT IFIELD WEIR	5244 1364	19 12 1958	30 09 1969
39820	DOLLIS BK AT HENDON LANE BRIDGE	5240 1895	14 02 1952	30 09 1969
39821	BRENT AT MONKS PARK	5202 1850	02 01 1939	22 11 1984
39824	RAVENSBOURNE EAST AT BROMLEY SOUTH	5405 1687	31 10 1962	30 09 1980
39827	POOL AT SELWORTHY ROAD	5396 1722	15 09 1961	05 01 1970
39828	QUAGGY AT MANOR HOUSE GARDENS	5370 1697	05 10 1961	12 08 1983
39830	BECK AT RECTORY ROAD	5370 1697	27 09 1962	01 01 1970
39831	CHAFFINCH BROOK AT BECKENHAM	5360 1685	04 09 1962	01 01 1970
39834	BRENT AT HANWELL	5151 1801	21 02 1961	30 12 1969
39856	WEALDSTONE BROOK AT WEMBLEY	5192 1862	22 09 1976	12 08 1983
40003	MEDWAY AT TESTON(EAST FARLEIGH)	5708 1530	24 09 1956	02 01 1987
40004	ROTHER AT UDAM	5773 1245	01 09 1962	02 01 1987
40005	BEULT AT STILE BRIDGE	5758 1478	30 09 1958	20 01 1987
40006	BOURNE AT HADLOW	5632 1497	14 07 1959	20 01 1987
40007	MEDWAY AT CHAFFORD	5517 1405	28 09 1960	29 12 1986
40008	GREAT STOUR AT WYE	6049 1470	18 07 1960	29 12 1986
40009	TEISE AT STONE BRIDGE	5718 1399	16 06 1961	02 01 1987
40010	EDEN AT PENSURST	5520 1437	23 06 1961	21 11 1986
40011	GREAT STOUR AT HORTON	6116 1554	01 07 1964	02 01 1987
40012	DARENT AT HAWLEY	5551 1718	12 11 1963	06 10 1983
40016	CRAY AT CRAYFORD	5511 1746	27 06 1969	06 10 1983
40017	DUDWELL AT BURWASH	5679 1240	20 05 1969	29 12 1986
40018	DARENT AT LULLINGSTONE	5530 1643	16 06 1964	06 10 1983
40020	ERIDGE STREAM AT HENDAL BRIDGE	5522 1367	01 10 1973	29 12 1986
40022	GREAT STOUR AT CHART LEACON	5992 1423	20 03 1967	29 12 1986
40809	PIPPINGFORD BROOK AT PAYGATE	5479 1343	24 04 1967	30 09 1983
41003	CUCKMERE AT SHERMAN BRIDGE	5533 1051	16 09 1959	30 09 1981
41005	OUSE AT GOLDBRIDGE	5429 1214	22 02 1960	29 12 1982
41006	UCK AT ISFIELD	5459 1190	07 07 1964	29 12 1982
41007	ARUN AT PARK MOUND	5033 1200	24 02 1958	01 10 1973
41011	ROTHER AT IPING MILL	4852 1229	27 10 1966	11 01 1983
41012	ADUR AT SAKEHAM	5219 1190	01 10 1967	04 01 1983
41014	ARUN AT PALLINGHAM QUAY	5047 1229	01 10 1973	04 01 1983
41016	CUCKMERE AT SHEEPWASH BRIDGE COWBEECH	5611 1150	30 06 1967	05 01 1983
41018	KIRD AT TANYARDS WISBOROUGH GREEN	5044 1256	20 06 1969	29 12 1982
41020	BEVERN STREAM AT CLAPPERS BRIDGE	5423 1161	01 10 1969	06 01 1983
41021	CLAYHILL STREAM AT OLD SHIP	5448 1153	01 10 1973	30 09 1978
41022	LOD AT HALFWAY BRIDGE	4931 1223	01 10 1973	03 01 1983
41025	LOXWOOD STREAM AT DRUNGEWICK	5060 1309	01 10 1973	03 01 1983
41026	COCKHAISE BROOK AT HOLYWELL	5376 1262	01 10 1971	05 01 1983
41027	ROTHER AT PRINCE'S MARSH	4772 1270	01 10 1972	11 01 1983
41028	CHESS ST AT CHESS BRIDGE	5217 1173	13 11 1964	21 12 1982
41801	HORSEBRIDGE P.S. PEVENSY LEVEL AREA	5788 1100	02 08 1968	30 12 1974
41806	NORTH END ST. AT ALLINGTON FARM	5385 1138	17 07 1964	29 05 1980
41807	BEVERN STREAM AT E. CHILTINGTON	5368 1153	23 12 1966	31 07 1980
42001	WALLINGTON AT NORTH FAREHAM	4587 1075	01 10 1976	01 01 1985
42011	HAMBLE AT FROG MILL	4523 1149	16 08 1972	31 12 1982
42014	BLACKWATER AT OWER	4328 1174	01 10 1976	01 01 1985
43002d	STOUR AT ENSBURY	4089 0964	20 11 1959	30 09 1973
43005	AVON AT QUEENS FALLS, AMESBURY	4151 1413	26 07 1965	09 02 1987
43006	NADDER AT WILTON PARK	4098 1308	09 02 1966	09 02 1987
43007d	STOUR AT THROOP MILL	4113 0958	01 10 1973	02 02 1987
43009	UPPER STOUR AT HAMMOON	3820 1147	25 04 1968	05 02 1987
43014	EAST AVON AT UPAVON	4133 1559	01 10 1970	09 02 1987
43017	WEST AVON AT UPAVON	4133 1559	01 10 1970	09 02 1987
44003	ASKER AT WEST BRIDGE BRIDPORT	3470 0928	01 10 1966	13 02 1980
45001	EXE AT THORVERTON	2936 1016	13 04 1956	09 10 1988
45002	EXE AT STOODLEIGH	2943 1178	01 04 1960	09 10 1988
45003	CULM AT WOODMILL	3021 1058	29 01 1962	09 10 1988
45004	AXE AT WHITFORD	3262 0953	05 11 1964	09 10 1988
45005	OTTER AT DOTTON	3087 0885	29 09 1962	11 10 1988
45006	QUARME AT ENTERWELL	2919 1356	02 07 1964	04 10 1973
45008	OTTER AT FENNY BRIDGE	3115 0986	01 10 1974	11 10 1988
45009	EXE AT PIXTON	2935 1260	30 09 1973	09 10 1988

Table A1.1 (continued)

NUMBER	NAME	GRID REF	RECORD STARTS	RECORD ENDS
45801	BACK BROOK AT HAWKERLAND	3058 0887	19 08 1967	04 10 1973
45804	BARLE AT BRUSHFORD	2927 1258	01 04 1966	01 10 1981
45805	EXE AT PIXTON	2935 1260	28 04 1966	04 10 1973
45806	CREEDY AT COWLEY	2901 0967	23 03 1964	01 10 1987
46002	TEIGN AT PRESTON	2856 0746	13 04 1956	12 10 1988
46003	DART AT AUSTINS BRIDGE	2751 0659	19 09 1958	12 10 1988
46005	EAST DART AT BELLEVER BRIDGE	2657 0775	06 03 1964	06 10 1988
46006	ERME AT ERMINGTON	2642 0532	01 10 1974	01 10 1988
46007	WEST DART AT DUNNABRIDGE	2643 0742	01 10 1972	30 09 1981
46008	AVON AT LODDISWELL	2719 0476	01 10 1971	01 10 1981
46801	ERME AT ERME INTAKE	2640 0632	01 09 1970	30 09 1973
46806	AVON AT AVON INTAKE	2681 0641	01 10 1939	31 03 1957
47001	TAMAR AT GUNNISLAKE	2426 0725	26 06 1956	26 11 1987
47004	LYNHER AT PILLATON MILL	2369 0626	10 05 1961	17 10 1987
47005	OTTERY AT WERRINGTON PARK	2336 0866	14 04 1961	15 01 1988
47006	LYO AT LIFTON PARK	2388 0842	08 08 1962	30 09 1973
47007	YEALM AT PUSLINCH	2574 0511	17 05 1962	30 09 1973
47008	THRUSHEL AT TINHAY	2398 0856	28 11 1969	05 01 1988
47009	TIDDY AT TIDEFORD	2343 0595	05 12 1969	06 01 1988
47010	TAMAR AT CROWFORD BRIDGE	2290 0991	01 07 1972	05 01 1988
47011	PLYM AT CARNWOOD	2522 0613	01 06 1971	30 09 1981
47014	WALKHAM AT HORRABRIDGE	2513 0699	01 10 1973	29 12 1987
48001	FOWEY AT TREKEIVESTEPS	2227 0698	23 09 1969	17 10 1987
48003	FAL AT TREGONY	1921 0447	10 04 1961	07 01 1988
48004	WARLEGGAN AT TRENGOFFE	2159 0674	22 09 1969	31 12 1987
48005	KENWYN AT TRURO	1820 0450	01 10 1968	07 01 1988
48006	COBER AT HELSTON	1654 0273	01 10 1968	31 12 1987
48007	KENNALL AT PONSANOOTH	1762 0377	01 10 1968	07 01 1988
48009	ST NEOT AT CRAIGSHILL WOOD	2184 0662	10 03 1971	01 10 1983
48010	SEATON AT TREBROWN BRIDGE	2299 0596	02 08 1972	06 01 1988
48011e	FOWEY AT RESTORMELL II	2098 0624	01 10 1972	07 01 1988
48902e	FOWEY AT RESTORMEL	2108 0613	07 04 1961	30 09 1973
49001	CAMEL AT DENBY/GROGLEY	2017 0682	03 04 1957	02 01 1988
49002	HAYLE AT ST EARTH	1549 0342	26 02 1957	31 12 1987
49003	DE LANK AT DE LANK	2132 0765	23 11 1966	07 01 1988
49004	GANNEL AT GWILLS BRIDGE	1829 0593	15 12 1969	24 12 1987
50001	TAW AT UMBERLEIGH	2608 1237	26 09 1958	02 10 1973
50002	TORRIDGE AT TORRINGTON	2500 1185	06 07 1960	02 10 1973
50007	TAW AT TAW BRIDGE	2673 1068	01 10 1973	31 12 1981
50802	WEST OKEMENT AT VELLAKE	3557 0903	23 07 1967	04 10 1973
50803	MOLE AT WOODLEIGH	3660 1211	11 01 1965	30 09 1973
50810	LITTLE DART AT DART BRIDGE	2669 1137	01 10 1973	06 10 1981
51002	HORNER WATER AT WEST LUCCOMBE	2898 1458	16 03 1973	09 12 1988
51003	WASHFORD AT BEGGERN HUISH	3040 1395	01 10 1966	09 12 1988
52003	HALSE WATER AT BISHOPS HULL	3206 1253	07 11 1961	09 12 1988
52004	ISLE AT ASHFORD MILL	3361 1188	17 09 1962	28 12 1988
52005	STONE AT BISHOPS HULL	3206 1250	01 10 1969	09 12 1988
52006	YEO AT PEN MILL	3573 1162	18 05 1962	06 12 1988
52007	PARRETT AT CHISELBOROUGH	3461 1144	01 10 1966	06 12 1988
52009	SHEPPEY AT FENNY CASTLE	3498 1439	31 12 1963	07 12 1988
52010	BRUE AT LOVINGTON	3590 1318	01 10 1964	06 12 1988
52011	CARY AT SOMERTON	3498 1291	02 09 1965	30 09 1988
52014	STONE AT GREENHAM	3078 1202	13 05 1966	30 09 1981
52015	LAND YEO AT WRAXALL BRIDGE	3483 1716	29 12 1970	12 12 1988
52016	CURRY POOL AT CURRY POOL FARM	3221 1382	30 04 1971	05 12 1988
52017	CONGREBURY YEO AT IWOOD	3452 1631	01 10 1973	12 12 1988
52020	GALLICA STREAM AT GALLICA BRIDGE	3571 1100	01 10 1966	30 09 1979
53001	AVON AT MELKSHAM	3903 1641	03 12 1937	02 12 1988
53002	SEMINGTON BROOK AT SEMINGTON	3907 1605	01 10 1973	19 12 1988
53003f	AVON AT BATH ST JAMES	3753 1645	25 11 1939	06 10 1969
53004	CHEW AT COMPTON DANDO	3648 1647	26 02 1958	31 12 1988
53005	MIDFORD BROOK AT MIDFORD	3763 1611	21 04 1961	20 12 1988
53006	FROME AT FRENCHAY	3637 1772	07 07 1961	31 12 1988
53007	FROME AT TELLISFORD	3805 1564	21 04 1961	20 12 1988
53008	AVON AT GT SOMERFORD	3966 1832	16 12 1963	04 12 1987
53009	MELLOW BK AT MELLOW	3741 1581	01 01 1966	20 12 1988
53013	MARDEN AT STANLEY	3955 1729	01 10 1969	19 12 1988
53017	BOYD AT BITTON	3681 1698	01 10 1973	20 12 1988
53018f	AVON AT BATHFORD	3786 1671	01 10 1969	02 12 1988
53019	WOODBIDGE BROOK AT CRAB MILL	3949 1866	13 04 1964	31 12 1976
53020	GAUZE BROOK AT RODBOURNE	3937 1840	28 03 1963	19 12 1988
53023	SHERSTON AVON AT FOSSEWAY	3891 1870	01 10 1976	19 12 1988
53025	MELLS AT VALLIS	3757 1491	31 12 1979	20 12 1988
54001	SEVERN AT BEWOLEY	3782 2762	23 06 1923	02 01 1986
54002	AVON AT EVESHAM	4040 2438	13 09 1937	07 01 1986
54004	SOME AT STONELEIGH	4332 2731	19 03 1951	02 01 1986
54005	SEVERN AT MONTFORD	3412 3144	28 04 1952	02 01 1986

Table A1.1 (continued)

NUMBER	NAME	GRID REF	RECORD STARTS	RECORD ENDS
54006	STOUR AT KIDDERMINSTER	3829 2768	23 07 1952	31 12 1985
54007	ARROW AT BROOM	4086 2536	19 03 1956	01 01 1986
54008	TEME AT TENBURY WELLS	3597 2686	22 08 1956	24 12 1985
54010	STOUR AT ALSCOT PARK	4208 2507	15 12 1958	08 01 1986
54011	SALWARPE AT HARFORD MILL	3868 2618	28 07 1958	02 01 1986
54012	TERN AT WALCOT	3592 3123	11 05 1959	02 01 1986
54013	CLYWEDOG AT CRIBYMAU	2944 2855	01 01 1959	30 09 1965
54014	SEVERN AT ABERMULE	3164 2958	15 06 1960	02 01 1986
54016	RODEN AT RODINGTON	3589 3141	02 03 1961	02 01 1986
54017	LEADON AT WEDDERBURN BRIDGE	3777 2234	14 08 1961	02 01 1986
54018	REA BROOK AT HOOKAGATE	3466 3092	01 10 1962	06 01 1986
54019	AVON AT STARETON	4333 2715	26 09 1962	02 01 1986
54020	PERRY AT YEATON	3434 3192	25 09 1963	03 01 1986
54022	SEVERN AT PLYNLIMON FLUME	2853 2872	27 04 1951	02 12 1973
54023	BADSEY BROOK AT OFFENHAM	4063 2449	02 05 1968	07 01 1986
54025	DULAS AT RHOS Y PENREF	2950 2824	01 10 1969	05 01 1984
54026	CHELT AT SLATE MILL	3892 2264	01 10 1969	10 01 1986
54028	VYRNWY AT LLANYMYNECH	3252 3195	01 10 1972	02 01 1986
54029	TEME AT KNIGHTSFORD BRIDGE	3735 2557	01 10 1970	30 12 1985
54032	SEVERN AT SAXONS LODE	3863 2390	01 10 1970	27 12 1985
54034	DOWLES BROOK AT DOWLES	3768 2764	01 10 1971	30 09 1985
54036	ISBOURNE AT HINTON ON THE GREEN	4023 2408	26 12 1972	07 01 1986
54038	TANAT AT LLANYBLODWEL	3252 3225	11 05 1973	03 01 1986
54057	SEVERN AT HAW BRIDGE	3844 2279	01 10 1975	27 12 1985
54065	RODEN AT STANTON	3565 3241	01 10 1973	30 09 1978
54088	LITTLE AVON AT BERKELEY	3683 1988	07 08 1978	21 12 1988
55001g	WYE AT CADORA	3535 2090	29 10 1936	01 10 1969
55002	WYE AT BELMONT	3485 2388	07 01 1908	29 12 1983
55003	LUGG AT LUGWARDINE	3548 2405	01 12 1939	29 12 1983
55004	IRFON AT ABERNANT	2892 2460	01 10 1937	28 12 1983
55005h	WYE AT RHAYADER	2969 2676	09 11 1937	06 10 1969
55007	WYE AT ERWOOD	3076 2445	02 11 1937	28 12 1983
55008	WYE AT CEFN BRWYN	2829 2838	20 07 1951	31 12 1985
55009i	MONNOW AT KENTCHURCH	3419 2251	01 10 1948	07 10 1973
55010	WYE AT PANT MAWR	2843 2825	26 08 1952	03 01 1984
55011	ITHON AT LLANDEWI	3105 2683	09 09 1959	12 11 1973
55012	IRFON AT CILMERY	2995 2507	30 09 1966	28 12 1983
55013	ARROW AT TITLEY MILL	3328 2585	23 06 1966	31 12 1983
55014	LUGG AT BYTON	3364 2647	01 10 1966	29 12 1983
55015	HONDDU AT TAFOLOG	3277 2294	29 03 1953	28 12 1983
55016	ITHON AT DISSERTH	3024 2578	29 07 1968	01 10 1973
55017	CHWEFRU AT CARREG Y WEN	2998 2531	01-07 1968	05 11 1973
55018	FROME AT YARKHILL	3615 2428	14 06 1968	29 12 1983
55021	LUGG AT BUTTS BRIDGE	3502 2589	06 10 1969	27 05 1982
55022	TROTHY AT MITCHEL TROY	3503 2112	06 10 1969	28 12 1983
55023g	WYE AT REDBROOK	3528 2110	24 09 1969	28 12 1983
55025	LLYNFI AT THREE COCKS	3166 2373	30 07 1970	19 12 1983
55026h	WYE AT DDOL FARM	2976 2676	06 10 1969	28 12 1983
55029i	MONNOW AT GROSMONT	3415 2249	01 10 1973	28 12 1983
56001	USK AT CHAIN BRIDGE	3345 2056	12 02 1957	02 01 1985
56002	EBBW AT RHIWDERYN	3259 1889	24 04 1957	02 01 1985
56003	HONDDU AT THE FORGE BRECON	3051 2297	01 10 1963	30 09 1984
56004	USK AT LLANDETTY	3127 2203	05 11 1965	27 12 1984
56005	AFON LLWYD AT PONTHIR	3330 1924	15 06 1966	27 12 1984
56006	USK AT TRALLONG	2947 2295	01 10 1963	27 12 1984
56011	SIRHOWY AT WATTSVILLE	3206 1912	01 10 1971	22 06 1983
56012	GRYWNE AT MILLBROOK	3241 2176	01 10 1971	31 12 1984
56013	YSCIR AT PONTARYSCIR	3003 2304	01 10 1972	31 12 1984
56015	OLWAY BROOK AT OLWAY INN	3384 2010	01 10 1974	31 12 1984
56019	EBBW AT ABERBEEG	3210 2015	01 10 1975	02 01 1985
57003	TAFF AT TONGWYNLAIS	3132 1818	01 10 1960	30 09 1973
57004	CYNON AT ABERCYNON	3079 1956	26 12 1960	04 01 1984
57005	TAFF AT PONTYPRIDD	3079 1897	12 03 1968	04 01 1984
57006	RHONDDA AT TREHAFOD	3054 1909	28 06 1968	04 01 1984
57007	TAFF AT FIDDLERS ELBOW	3089 1951	18 04 1973	04 01 1984
57008	RHYMNEY AT LLANEDERYN	3225 1821	08 09 1972	04 01 1984
57009	ELY AT ST FAGANS	3121 1770	22 10 1974	04 01 1984
57010	ELY AT LANELAY	3034 1827	31 07 1967	04 01 1984
57015	TAFF AT MERTHYR TYDFIL	3043 2068	05 12 1978	04 01 1984
57803	CLUN AT CROSS INN	3053 1824	27 01 1967	30 09 1973
58001	OGMORE AT BRIDGEND	2904 1794	01 10 1960	30 09 1985
58002	NEATH AT RESOLVEN	2815 2017	01 10 1960	31 12 1983
58003	EWENNY AT EWENNY PRIORY	2914 1780	28 12 1960	20 03 1970
58004	AFAN AT CWMAVON	2781 1919	08 12 1961	27 01 1971
58005	OGMORE AT BRYMENYN	2904 1844	01 10 1969	30 10 1985
58006	MELLTE AT PONTNEATHVAUGHAN	2915 2082	10 02 1971	31 12 1983
58007	LLYNFI AT COYTRAHEN	2891 1855	01 10 1970	30 09 1985

Table A1.1 (continued)

NUMBER	NAME	GRID REF	RECORD STARTS	RECORD ENDS
58008	DULAIS AT CILFREW	2778 2008	08 12 1971	31 12 1983
58009	EWENNY AT KEEPERS LODGE	2920 1782	01 11 1971	06 11 1985
58010	HEPSTE AT ESGAIR CARNAU	2969 2134	03 09 1975	31 12 1981
58011	THAW AT GIGMAN BRIDGE	3017 1716	01 10 1973	31 12 1983
59001	TAWE AT YNYS TANGLWS	2685 1998	18 10 1956	02 10 1973
59002	LOUGHOR AT TIRYDAIL	2623 2127	12 09 1967	31 12 1983
60001	TYWI AT TY CASTELL	2491 2204	01 01 1958	03 01 1984
60002	COTHI AT FELIN MYNACHDY	2508 2225	30 08 1961	01 01 1984
60003	TAF AT CLOG Y FRAN	2238 2160	31 07 1964	18 11 1982
60004	DEWI FAWR AT GLASFYRN FORD	2290 2175	21 02 1967	06 01 1984
60005	BRAN AT LLANDOVERY	2771 2343	08 04 1968	01 01 1984
60006	GWILI AT GLANGWILI	2431 2220	02 05 1968	04 10 1973
60007	TYWI AT DOLAU HIRION	2762 2362	25 04 1968	01 01 1984
60009	SAWDE AT FELIN Y CWM	2712 2266	01 01 1973	01 01 1984
60012	TWRCH AT DOOL LAS	2650 2440	10 09 1970	01 01 1984
60013	COTHI AT PONT YNYS BRECHFA	2537 2301	27 07 1971	10 07 1981
61001	WESTERN CLEDDAU AT PRENDERGAST MILL	1954 2177	28 07 1961	01 01 1984
61002	EASTERN CLEDDAU AT CANASTON BRIDGE	2072 2153	30 11 1959	01 01 1984
61003	GWAUM AT CILRHEDYD BRIDGE	2005 2349	17 09 1968	01 01 1984
62001	TEIFI AT GLAN TEIFI	2244 2416	05 06 1959	01 01 1984
62002	TEIFI AT LLANFAIR	2433 2406	01 12 1970	03 02 1983
63001	YSTWYTH AT PONT LLOLWYN	2591 2774	29 06 1961	01 10 1973
63002	RHEIDOL AT LLANBADARN FAWR	2601 2804	22 10 1963	03 01 1984
63003	WYRE AT LLANRHYSTYD	2542 2698	01 10 1968	03 12 1979
64001	DOVEY AT DOVEY BRIDGE	2745 3019	27 09 1962	02 01 1986
64002	DYSYNNI AT PONT Y GARTH	2632 3066	03 11 1965	02 01 1986
64005	WNION AT DOLGELLAU	2730 3179	18 05 1969	30 01 1974
64006	LERI AT DOLYBONT	2635 2882	30 01 1974	02 01 1986
65001	GLASLYN AT BEDDGELERT	2592 3478	06 10 1969	02 01 1986
65002	DWYRYD AT MAENTWROG	2670 3415	04 05 1967	30 01 1974
65004	GWYRFAI AT BONTNEWYDD	2484 3599	13 03 1971	02 01 1986
65005	ERCH AT PENCAENEWYDD	2400 3404	05 09 1972	02 01 1986
65006	SEIONT AT PEBLIG MILL	2493 3623	01 10 1975	02 01 1986
65007	DWYFAWR AT GARNDOLBERMAEN	2499 3429	19 02 1975	02 01 1986
66001	CLWYD AT PONT Y CAMBWL	3069 3709	29 05 1964	01 10 1969
66002	ELWY AT PANT YR ONEN	3021 3704	26 07 1961	24 12 1973
66003	ALED AT BRYN ALED	2957 3703	24 07 1963	07 01 1986
66004	WHEELER AT BODFARI	3105 3714	31 12 1973	13 01 1986
66005	CLWYD AT RUTHIN WEIR	3122 3592	01 10 1972	18 10 1984
66006	ELWY AT PONT Y GWYDDEL	2952 3718	31 12 1973	07 01 1986
66011	CONWAY AT CWM LLANERCH	2802 3581	29 05 1964	07 01 1986
66801	UPPERCONWAY AT BLAEN Y COED	2804 3452	17 11 1950	04 06 1958
67002	DEE AT ERBISTOCK RECTORY	3357 3413	29 12 1937	31 12 1973
67003	BRENIG AT LLYN BRENIG OUTFLOW	2974 3539	29 09 1964	31 12 1973
67005	CEIRIOG AT BRYNKINALT WEIR	3295 3373	01 10 1952	03 11 1983
67006	ALWEN AT DRUID	3042 3436	12 01 1960	03 01 1986
67007j	DEE AT GLYNDYFRDWHY	3155 3428	20 01 1964	31 12 1973
67008	ALYN AT PONT Y CAPEL	3336 3541	29 05 1965	08 01 1986
67009	ALYN AT RHYDYMWHY	3206 3667	17 08 1957	06 01 1986
67013	HIRNANT AT PLAS RHIWEDOG	2946 3349	10 07 1967	02 01 1980
67014j	DEE AT CORWEN	3069 3433	31 12 1973	17 01 1986
67015	DEE AT MANLEY HALL	3348 3415	01 01 1974	31 12 1985
67018	DYFRDWHY AT NEW INN	2874 3308	24 12 1968	31 12 1985
67019	TRYWERYN AT WEIR X	2932 3360	28 07 1960	30 09 1964
67025	CLYWEDOG AT BOWLING BANK	3396 3483	01 10 1975	13 01 1986
68001	WEAVER BELOW ASHBROOK	3670 3633	27 05 1937	02 01 1986
68002k	GOWY AT PICTON	3443 3714	26 05 1949	04 01 1980
68003	DANE AT RUDHEATH	3668 3718	16 05 1949	02 01 1986
68004	VALLEY WISTASTON BK AT MARSHFIELD BRIDGE	3674 3552	01 10 1957	02 01 1986
68005	WEAVER AT AUDLEM	3653 3431	19 06 1936	07 02 1986
68006	DANE AT HULME WALFIELD	3845 3644	14 08 1953	02 01 1986
68007	WINCHAM BROOK AT LOSTOCK GRALAM	3697 3757	01 10 1963	02 01 1986
68010	FENDER AT FORD	3281 3880	25 04 1973	30 09 1981
68014	SANDERSONS BROOK AT SANDBACH	3754 3652	20 08 1964	30 09 1969
68015	GOWY AT HUXLEY	3497 3624	01 10 1973	06 01 1986
68018	DANE AT CONGLETON PARK	3861 3632	20 07 1936	26 12 1985
68020k	GOWY AT BRIDGE TRAFFORD	3448 3711	01 10 1979	06 01 1986
68911	ARLEY BROOK AT GORE FARM	3281 3880	03 01 1975	30 09 1982
69001	MERSEY AT IRLAM WEIR	3728 3936	28 09 1934	27 12 1985
690021	IRWELL AT ADELPHI WEIR	3824 3987	11 11 1935	03 01 1980
69003	IRK AT SCOTLAND WEIR	3841 3992	01 10 1949	06 01 1986
69006	BOLLIN AT DUNHAM MASSEY	3727 3875	01 10 1936	03 01 1986
69007	MERSEY AT ASHTON WEIR	3772 3936	11 06 1958	03 01 1986
69008	DEAN AT STANNEYLANDS	3846 3830	29 11 1966	03 01 1986
69011	MICKER BROOK AT CHEADLE	3855 3889	29 03 1968	03 01 1986
69012	BOLLIN AT WILMSLOW	3850 3815	01 02 1968	05 01 1986
69013	SINDERLAND BROOK AT PARTINGTON	3726 3905	01 01 1968	27 12 1985

Table A1.1 (continued)

NUMBER	NAME	GRID REF	RECORD STARTS	RECORD ENDS
69015	ETHEROW AT COMPSTALL	3962 3908	20 03 1969	03 01 1986
69017	GOYT AT MARPLE BRIDGE	3964 3898	20 03 1969	03 01 1986
69018	NEWTON BROOK AT NEWTON-LE-WILLOWS	3585 3933	27 08 1969	01 05 1981
69019	WORSLEY BROOK AT ECCLES	3753 3980	26 08 1969	06 01 1986
69020	MEDLOCK AT LONDON ROAD	3849 3975	24 04 1969	06 01 1986
69023	ROCH AT BLACKFORD BRIDGE	3807 4077	15 02 1949	03 01 1980
69024	CROAL AT FARNWORTH WEIR	3743 4068	15 12 1948	06 11 1985
69025 <sup>1</sup>	IRWELL AT MANCHESTER RACECOURSE	3821 4004	04 01 1980	06 01 1986
69027	TAME AT PORTWOOD	3906 3918	15 03 1943	03 01 1986
69034	MUSBURY BROOK AT HELMSHORE INTAKE	3775 4213	03 01 1960	06 10 1969
69035	IRWELL AT BURY BRIDGE	3797 4109	06 01 1976	06 01 1986
69040	IRWELL AT STUBBINS	3793 4188	01 10 1974	06 01 1986
69041	TAME AT BROOMSTAIR BRIDGE	3938 3953	13 06 1968	02 01 1986
69802	ETHEROW AT WOODHEAD	4102 3998	23 02 1937	31 12 1975
70003	DOUGLAS AT CENTRAL PARK WIGAN	3587 4061	01 10 1973	07 01 1986
70004	YARROW AT CROSTON MILL	3498 4180	01 10 1973	07 01 1986
70005	LOSTOCK AT LITTLEWOOD BRIDGE	3497 4197	01 10 1974	07 01 1986
70006	TAMD AT NEWBURGH	3469 4107	15 02 1965	03 07 1981
71001	RIBBLE AT SAMLESBURY	3589 4304	06 04 1960	07 01 1986
71003	CROASDALE BECK AT CROASDALE FLUME	3706 4546	04 06 1957	14 11 1977
71004	CALDER AT WHALLEY ABBEY	3729 4360	01 10 1969	02 01 1986
71005	BOTTOMS BECK AT BOTTOMS BECK FLUME	3745 4565	14 04 1960	31 12 1975
71006	RIBBLE AT HENTHORN	3722 4392	01 10 1968	02 01 1986
71007	RIBBLE AT HODDER FOOT	3709 4379	23 07 1965	07 01 1980
71008	HODDER AT HODDER PLACE	3704 4399	01 10 1969	02 01 1986
71009	RIBBLE AT JUMBLES ROCK	3702 4376	14 05 1970	02 01 1986
71010	PENDLE WATER AT BARDEN LANE	3837 4351	01 10 1971	02 01 1986
71011	RIBBLE AT ARNFORD	3839 4556	01 10 1969	02 01 1986
71013	DARWEN AT EWOOD BRIDGE	3677 4262	01 10 1973	07 01 1986
71014	DARWEN AT BLUE BRIDGE	3565 4278	01 10 1974	07 01 1986
71802	RIBBLE AT HALTON WEST	3850 4552	29 04 1966	03 10 1969
71803	HODDER AT HIGHER HODDER BRIDGE	3697 4411	23 09 1960	03 10 1969
72001 <sup>m</sup>	LUNE AT HALTON	3503 4647	01 10 1969	19 01 1977
72002	WYRE AT ST MICHAELS ON WYRE	3463 4411	14 08 1962	08 01 1986
72004 <sup>m</sup>	LUNE AT CATON	3529 4653	19 01 1977	31 12 1984
72005	LUNE AT KILLINGTON NEW BRIDGE	3622 4907	09 05 1969	03 01 1985
72006	LUNE AT KIRKBY LONSDALE	3615 4778	01 10 1968	31 12 1984
72009	WENNING AT WENNING ROAD BRIDGE	3615 4701	27 11 1970	31 12 1984
72011	RAWTHEY AT BRIGG FLATTS	3639 4911	21 06 1968	03 01 1985
72013	BORROWBECK AT BORROW BRIDGE WEIR	3609 5014	20 02 1976	02 02 1981
72014	CONDER AT GALGATE	3481 4554	04 09 1975	31 12 1984
72015	LUNE AT LUNES BRIDGE	3612 5029	02 02 1979	03 01 1985
72016	WYRE AT SCORTON WEIR	3501 4500	12 01 1967	03 01 1986
72804	LUNE AT BROADRAINE	3621 4901	02 07 1963	30 09 1969
72807	WENNING AT HORNBY	3586 4684	01 05 1957	31 12 1984
73001	LEVEN AT NEWBY BRIDGE	3371 4863	28 12 1938	03 10 1969
73002	CRAKE AT LOW NIBTHWAITE	3294 4882	21 08 1963	30 09 1969
73005	KENT AT SEDGWICK	3509 4874	01 10 1968	03 01 1985
73008	BELA AT BEETHAM	3496 4806	07 07 1969	31 12 1984
73009	SPRINT AT SPRINT MILL	3514 4961	11 03 1970	27 12 1984
73011	MINT AT MINT BRIDGE	3524 4944	28 07 1970	27 12 1984
73013	ROTHAY AT MILLER BRIDGE HOUSE	3371 5042	24 09 1968	28 12 1984
73014	BRAITHAY AT JEFFY KNOTTS	3360 5034	07 09 1970	28 12 1984
73015	KEER AR HIGH KEER WEIR	3523 4719	18 05 1971	06 10 1981
73803	WINSTER AT LOBBY BRIDGE	3424 4885	01 10 1969	01 10 1981
73805	KENT AT KENDAL	3517 4919	13 11 1963	02 10 1969
74001	DUDDON AT DUDDON HALL	3196 4896	05 01 1968	28 12 1984
74002	IRT AT GALESYKE	3136 5038	08 12 1967	03 01 1985
74005	EHEM AT BRAYSTONES	3009 5061	25 10 1973	04 01 1985
74006	CALDER AT CALDER HALL	3035 5045	01 10 1973	04 01 1985
75002	DERWENT AT CAMERTON	3038 5305	12 08 1960	03 01 1985
75004	COCKER AT SOUTHWAITE BRIDGE	3131 5281	05 04 1967	03 01 1985
75005	DERWENT AT PORTINSCALE	3251 5239	17 12 1971	03 01 1985
75006	NEWLANDS BECK AT BRAITHWAITE	3240 5239	16 08 1968	02 01 1986
75007	GLENDERAMACKIN AT THRELKELD	3323 5248	01 04 1969	06 05 1981
75009	GRETA AT LOW BRIERY	3286 5242	25 03 1971	03 01 1985
75010	MARRON AT ULLOCK	3074 5238	28 04 1972	06 05 1981
75017	ELLEN AT BULLGILL	3096 5384	30 09 1975	03 01 1985
76002	EDEN AT WARWICK BRIDGE	3470 5567	13 11 1959	02 01 1985
76003	EAMONT AT UDFORD	3578 5306	20 04 1961	02 01 1985
76004	LOWTHER AT EAMONT BRIDGE	3527 5287	27 07 1962	02 01 1985
76005	EDEN AT TEMPLE SOWERBY	3605 5283	01 05 1964	02 01 1985
76007	EDEN AT SHEEPMOUNT	3390 5571	03 02 1967	02 01 1985
76008	IRTHING AT GREENHOLME	3486 5581	15 08 1967	02 01 1985
76009	CALDEW AT HOLME HILL	3378 5469	30 04 1968	03 01 1985
76010	PETTERIL AT HARRABY GREEN	3412 5545	13 02 1970	02 01 1985
76011	COAL BURN AT COALBURN	3693 5777	01 01 1967	02 06 1971

Table A1.1 (continued)

NUMBER	NAME	GRID REF	RECORD STARTS	RECORD ENDS
76014	EDEN AT KIRKBY STEPHEN	3773 5097	01 09 1971	01 01 1986
77001	ESK AT NETHERBY	3390 5718	24 08 1961	14 04 1983
77002	ESK AT CANONBIE	3397 5751	05 10 1962	07 01 1990
77003	LIDDEL AT ROWANBURNFOOT	3415 5759	01 01 1974	03 01 1986
77005	LYNE AT CLIFF BRIDGE	3412 5662	08 07 1976	02 01 1985
78003	ANNAN AT BRYDEKIRK	3191 5704	16 08 1967	02 01 1990
78004	KINNEL AT REDHALL	3077 5868	20 11 1960	03 01 1990
78005	KINNEL AT BRIDGEMUIR	3091 5845	01 01 1979	03 01 1990
79002	NITH AT FRIARS CARSE	2923 5851	01 07 1957	03 01 1990
79003	NITH AT HALL BRIDGE	2684 6129	15 10 1959	03 01 1990
79004	SCAR AT CAPENOCH	2845 5940	20 09 1963	05 01 1990
79005	CLUDEN AT FIDDLERS FORD	2928 5795	07 10 1963	03 01 1990
79006	NITH AT DRUMLANRIG	2858 5994	24 05 1967	10 01 1990
80001	URR AT DALBEATTIE	2822 5610	29 10 1963	04 01 1990
80003	WHITE LAGGAN BURN AT LOCH DEE	2468 5781	01 01 1981	04 01 1990
80801	PULLAUGH BURN DIVERSION WORKS WEIR	2544 5742	13 12 1961	28 09 1970
81002	CREE AT NEWTON STEWART	2412 5653	24 04 1963	03 01 1990
81003	LUCE AT AIRYHEMING	2180 5599	15 12 1966	03 01 1990
82001	GIRVAN AT ROBSTONE	2217 5997	04 09 1963	31 12 1982
82003	STINCHAR AT BALNOWLART	2108 5832	01 01 1975	31 12 1987
83002	GARNOCK AT DALRY	2293 6488	01 01 1960	31 12 1969
83004	LUGAR AT LANGHOLM	2508 6217	01 01 1973	31 12 1987
83005	IRVINE AT SHEWALTON	2345 6369	01 01 1973	31 12 1981
83006	AYR AT MAINHOLME	2361 6216	01 01 1976	31 12 1982
83802	IRVINE AT KILMARNOCK	2430 6369	29 08 1913	31 12 1988
84001	KELVIN AT KILLERMONT	2558 6705	01 01 1949	31 12 1982
84002	CALDER WATER AT MUIRSHIEL	2309 6638	27 12 1966	30 09 1973
84003	CLYDE AT HAZELBANK	2835 6452	27 09 1955	27 12 1988
84004	CLYDE AT SILLS	2927 6424	01 10 1955	31 12 1982
84005	CLYDE AT BLAIRSTON	2704 6579	01 10 1955	27 12 1988
84006	KELVIN AT BRIDGEND	2672 6749	15 08 1956	31 12 1982
84007	SOUTH CALDER AT FORGEWOOD	2751 6585	20 01 1965	31 12 1982
84008	ROTTEN CALDER AT RED LEES	2679 6604	01 10 1966	31 12 1982
84009	NETHAN AT KIRKMUIRHILL	2809 6429	01 10 1966	31 12 1982
84011	GRYFFE AT CRAIGEND	2415 6664	26 09 1963	31 12 1982
84012	WHITE CART AT HAWKHEAD	2499 6629	27 08 1963	31 12 1988
84013	CLYDE AT DALDOWIE	2672 6616	23 05 1963	27 12 1988
84014	AVON AT FAIRHOLM	2755 6518	15 01 1964	27 12 1988
84015	KELVIN AT DRYFIELD	2638 6739	01 01 1947	28 12 1988
84016	LUGGIE WATER AT CONDORRAT	2739 6725	01 05 1968	28 12 1988
84017	BLACK CART AT MILLIKEN PARK	2411 6620	04 12 1967	30 09 1973
84018	CLYDE AT TULLIFORD MILL	2891 6404	01 01 1969	31 12 1982
84019	NORTH CALDER AT CALDER PARK	2681 6625	18 12 1962	31 12 1982
84020	GLAZERT WATER AT MILTON OF CAMPSIE	2656 6763	01 01 1969	28 12 1988
84023	BOTHLIN BURN AT AUCHENGEICH	2680 6717	01 01 1974	31 12 1982
84025	LUGGIE AT OXGANG	2666 6734	01 01 1974	31 12 1982
84026	ALLANDER AT MILNGAVIE	2558 6738	01 01 1974	28 12 1988
84806	CLYDE AT CAMBUSNETHAN	2786 6522	27 09 1955	31 10 1964
85002	ENDRICK WATER AT GAIDREW	2485 6866	29 09 1963	31 12 1982
85003	FALLOCH AT GLEN FALLOCH	2321 7197	01 01 1971	31 12 1987
86001	LITTLE EACHAIG AT DALINLONGART	2143 6821	01 12 1967	31 12 1987
87801	ALLT UAINNE AT INTAKE	2263 7113	01 01 1951	31 12 1971
89804	STRAE AT DUILLETTER	2146 7294	04 01 1978	05 01 1989
90801	NEVIS AT ACHREOCH	2167 7690	16 02 1956	30 09 1962
91002	LOCHY AT CAMISKY	2145 7805	01 01 1980	30 12 1988
91802	ALLT LEACHDACH AT INTAKE	2261 7781	28 12 1938	31 12 1974
93001	CARRON AT NEW KELSO	1942 8429	01 01 1979	05 01 1989
94001	EWE AT POOLEWE	1859 8803	01 01 1970	29 12 1988
95801	LITTLE GRUINARD AT LITTLE GRUINARD	1944 8897	15 11 1962	11 02 1968
95803	ABHAIN CUILEG AT BRAEMORE	2193 8790	05 03 1963	01 05 1968
96001	HALLADALE AT HALLADALE	2891 9561	01 01 1975	30 12 1988
96002	NAVER AT APIGILL	2713 9568	01 01 1978	02 01 1989
97002	THURSO AT HALKIRK	3131 9595	01 01 1972	26 12 1988
201002	FAIRYWATER AT DUDGEON BRIDGE	2406 3758	01 10 1971	08 01 1985
201005	CAMOWEN AT CAMOWEN TERRACE	2460 3730	28 04 1972	08 01 1985
201006	DRUMRAGH AT CAMPSIE BRIDGE	2458 3722	01 08 1972	08 01 1985
201007	BURNDENNET AT BURNDENNET BRIDGE	2372 4047	05 05 1975	08 01 1985
201008	DERG AT CASTLE DERG	2265 3842	29 10 1975	08 01 1985
203010	BLACKWATER AT MAYDOWN BRIDGE	2820 3519	23 06 1970	01 01 1985
203012	BALLINDERRY AT BALLINDERRY BRIDGE	2926 3799	07 06 1970	01 01 1985
203013	MAIN AT ANDRAID	3092 3973	22 06 1970	06 12 1983
203017	UPPER BAWN AT DYNES BRIDGE	3043 3509	01 10 1970	02 01 1985
203018	SIX MILE WATER AT ANTRIM	3146 3867	26 08 1970	10 01 1985
203019	CLAUDY AT GLENONE BRIDGE	2962 4037	22 12 1970	08 01 1985
203020	MOYOLA AT MOYOLA NEW BRIDGE	2955 3905	11 01 1971	03 01 1985
203021	KELLSWATER AT CURRYS BRIDGE	3106 3971	20 05 1971	01 01 1985
203025	CALLAN AT CALLAN NEW BRIDGE	2893 3524	31 08 1971	01 01 1985



Table A1.1 (continued)

NUMBER	NAME	GRID REF	RECORD STARTS	RECORD ENDS
203026	GLENAVY AT GLENAVY	3149 3725	18 03 1973	03 01 1985
203028	AGIVEY AT WHITEHILL	2883 4193	10 11 1972	08 01 1985
203033	UPPER BANN AT BANNFIELD	3233 3341	19 03 1975	03 01 1985
203911	MAIN AT DROMONA	3052 4086	27 05 1970	06 12 1983
204001	BUSH AT SENEIRL	2942 4362	21 08 1972	01 01 1985
205003	LAGAN AT DUNMURRY	3299 3679	02 09 1969	03 01 1985
205004	LAGAN AT NEWFORGE	3329 3693	11 07 1972	03 01 1985
205005	RAVERNET AT RAVERNET	3267 3613	14 07 1972	03 01 1985
205008	LAGAN AT DRUMMILLER	3236 3525	14 03 1974	03 01 1985
205011	ANNACLOY AT KILMORE	3448 3509	23 11 1979	03 01 1985
206001	CLANYRE AT MOUNT MILL BRIDGE	3086 3309	26 10 1971	03 01 1985
206002	JERRETS PASS AT JERRETS PASS	3064 3332	09 12 1971	03 01 1985

Table A1.2 Register of gauging stations - annual maxima only

NUMBER	NAME	GRID REF	RECORD
6901	NESS AT NESS CASTLE FARM	2639 8410	1929 - 1961
6906	ALLT BHLARAIDH AT INVERMORISTON	2377 8168	1953 - 1961
12004	GIRNOCK BURN AT LITTMILL	3324 7956	1969 - 1980
15005	MELGAM AT LOCH OF LINRATHEN	3275 7558	1926 - 1966
15017	BRAAN AT BALLINLOAN	2979 7406	1975 - 1980
16002	EARN AT ABERUCHILL	2754 7216	1955 - 1972
21021	TWEED AT SPROUSTON	3752 6354	1969 - 1981
21023	LEET WATER AT COLDSTREAM	3839 6396	1973 - 1981
21027	BLACKADDER AT MOUTH BRIDGE	3826 6530	1974 - 1981
25019	LEVEN AT EASBY	4585 5087	1970 - 1978
25022	BALDER AT BALDERHEAD RESERVOIR	3931 5182	1974 - 1978
25023	TEES AT COW GREEN RESERVOIR	3813 5288	1971 - 1978
26001	WEST BECK AT WANSFORD BRIDGE	5064 4560	1953 - 1974
26002	HULL AT HEMPHOLME LOCK	5080 4498	1949 - 1968
26003	FOSTON BECK AT FOSTON MILL	5093 4548	1959 - 1981
26004	GYPSY RACE AT BRIDLINGTON	5165 4675	1971 - 1981
27032	HEBDEN BECK AT HEBDEN	4025 4643	1965 - 1981
27038	COSTA BECK AT GATEHOUSES	4774 4836	1969 - 1981
27811	AIRE AT BROTHERTON	4495 4243	1964 - 1968
27852	LITTLE DON AT LANGSETT RESERVOIR	4215 4005	1910 - 1931
28027	EREWASH AT STAPLEFORD	4482 3364	1965 - 1982
29005	RASE AT BISHOPSBRIDGE	5032 3912	1971 - 1983
30006	SLEA AT LEASINGHAM MILL	5088 3485	1975 - 1983
30013	HEIGHTON BECK AT HEIGHTON	5042 3696	1976 - 1983
30015	CRINGLE BROOK AT STOKE ROCHFORD	4925 3297	1976 - 1983
31004	MELLAND AT TALLINGTON WEIR	5095 3078	1967 - 1985
32006	NENE(KISLINGBURY BRANCH) AT UPTON MILL	4721 2592	1940 - 1985
33002	BEDFORD OUSE AT BEDFORD	5055 2495	1959 - 1984
33005	BEDFORD OUSE AT THORNBOROUGH MILL	4736 2353	1950 - 1972
33007	NAR AT MARHAM	5723 3119	1968 - 1983
33028	FLIT AT SHEFFORD	5143 2393	1966 - 1983
33032	HEACHAM AT HEACHAM	5685 3375	1973 - 1983
33049	STANFORD WATER AT BUCKENHAM TOFTS	5834 2953	1967 - 1979
33052	SWAFFHAM LODGE AT SWAFFHAM BULBECK	5553 2628	1967 - 1983
33054	BABINGLEY AT CASTLE RISING	5680 3252	1976 - 1983
33805	BEECHAMWELL BROOK AT BEECHAMWELL	5738 3036	1964 - 1972
33813	MEL AT MELDRETH	5378 2466	1964 - 1983
34012	BURN AT ROYS MILL, BURNHAM OVERY	5842 3428	1966 - 1986
35001	GIPPING AT CONSTANTINE WEIR	6154 2441	1961 - 1977
35011	BELSTEAD BROOK AT BELSTEAD	6143 2420	1967 - 1974
36001	STOUR AT STRATFORD ST.MARY	6042 2340	1935 - 1974
36012	STOUR AT KEDINGTON	5708 2450	1968 - 1984
37021	ROMAN AT BOUNSTEAD BRIDGE	5985 2205	1965 - 1972
38001	LEA AT FEILDES WEIR (DMF)	5390 2092	1851 - 1985
38011	MIMRAM AT FULLING MILL	5225 2169	1957 - 1972
38013	UPPER LEE AT LUTON HOOD	5118 2185	1960 - 1978
38018	LEE AT WATER HALL	5299 2099	1971 - 1978
39006	WINDRUSH AT NEWBRIDGE MILL	4402 2019	1950 - 1982
39010	COLNE AT DENHAM	5052 1864	1952 - 1982
39014	VER AT HANSTEADS	5151 2016	1957 - 1972
39015	WHITENATER AT LODGE FARM	4731 1523	1963 - 1982
39019	LAMBOURN AT SHAW	4470 1682	1962 - 1982
39020	COLN AT BIBURY	4122 2062	1963 - 1982
39031	LAMBOURN AT WELFORD	4411 1731	1962 - 1972
39032	LAMBOURN AT EAST SHEFFORD	4390 1745	1966 - 1982
39033	WINTERBOURNE STREAM AT BAGNOR	4453 1694	1962 - 1982
39037	KENNET AT MARLBOROUGH	4187 1686	1972 - 1982
39042	LEACH AT PRIORY MILL LECHLADE	4227 1994	1972 - 1982
39088	CHESS AT RICKMANSWORTH	5066 1947	1974 - 1983
39089	GADE AT BURY MILL	5053 2077	1974 - 1982
41015	EMS AT WESTBOURNE	4755 1074	1967 - 1981
41023	LAVANT AT GRAYLINGWELL	4871 1064	1971 - 1981
42005	WALLOP BK AT BROUGHTON	4311 1330	1955 - 1983
42006	MEON AT MISLINGFORD	4589 1141	1958 - 1983
42007	ALRE AT DROVE LANE	4574 1326	1969 - 1983
42008	CHERITON STREAM AT SEWARDS BR	4574 1323	1970 - 1982
42009	CANDOVER STREAM AT BOROUGH BR	4568 1323	1970 - 1983
42010	ITCHEN AT HIGHBRIDGE	4467 1213	1958 - 1983
42012	ANTON AT FULLERTON	4379 1393	1973 - 1981
42801	HERMITAGE AT HAVANT	4711 1068	1953 - 1968
43001	AVON AT RINGWOOD	4142 1054	1959 - 1966
43003	AVON AT EAST MILLS FLUME	4158 1154	1965 - 1984
43004	BOURNE AT LAVERSTOCK MILL	4157 1304	1964 - 1983
43008	WYLYE AT SOUTH NEWTON	4086 1343	1967 - 1985
43010	ALLEN AT LOVERLY(ORICHEL MILL)	4006 1085	1970 - 1980
43012	WYLYE AT NORTON BAVANT	3909 1428	1969 - 1985
43018	ALLEN AT WALFORD MILL	4008 1007	1974 - 1985

Table A1.2 (continued)

NUMBER	NAME	GRID REF	RECORD
44002	PIDDLE AT BAGGS MILL	3913 0876	1965 - 1984
44004	FROME AT DORCHESTER	3708 0903	1969 - 1984
44006	SYDLING WATER AT SYDLING ST NICHOLAS	3632 0997	1969 - 1985
44008	SOUTH WINTERBOURNE AT WINTERBOURNE STEEP	3629 0897	1974 - 1985
44009	WEY AT BROADWEY	3666 0839	1975 - 1985
50006	MOLE AT WOODLEIGH	2660 1211	1973 - 1988
51001	DONIFORD ST AT SWILL BRIDGE	3088 1428	1966 - 1987
52801	TONE AT WADHAMS FARM	3055 1268	1967 - 1972
54003	VYRNWY AT VYRNWY RESERVOIR	3019 3191	1927 - 1966
54024	WORFE AT BURCOTE	3747 2953	1969 - 1984
54027	FROME AT EBLEY MILL	3831 2047	1971 - 1984
54040	MEESE AT TIBBERTON	3680 3205	1973 - 1984
54041	TERN AT EATON-ON-TERN	3649 3230	1972 - 1984
54044	TERN AT TERNHILL	3629 3316	1972 - 1984
54052	BAILEY BROOK AT TERNHILL	3629 3316	1972 - 1984
54058	STOKE PARK BROOK AT STOKE PARK	3644 3260	1972 - 1977
54059	ALLFORD BROOK AT ALLFORD	3654 3223	1972 - 1977
54060	POTFORD BROOK AT POTFORD	3634 3220	1972 - 1977
54061	HODNET BROOK AT HODNET	3628 3288	1972 - 1976
54062	STOKE BROOK AT STOKE	3637 3280	1972 - 1984
54090	TANLLWYTH AT TANLLWYTH FLUME	2843 2876	1973 - 1987
54091	SEVERN AT HAFREN FLUME	2843 2878	1976 - 1987
54092	HORE AT HORE FLUME	2846 2873	1974 - 1987
54809	SEVERN AT UPTON	3865 2399	1955 - 1969
55033	WYE AT GWY FLUME	2824 2853	1973 - 1983
55034	CYFF AT CYFF FLUME	2824 2842	1973 - 1983
55035	IAGO AT IAGO FLUME	2826 2854	1973 - 1983
55930	CLEARWYN AT DOL Y MYNACH	2910 2620	1928 - 1947
56007	SENNI AT PONT HEN HAFOD	2928 2255	1968 - 1983
67010	GELYN AT CYNEFAIL	2843 3420	1966 - 1974
67803	DEE AT CHESTER WEIR	3418 3663	1898 - 1968
70002	DOUGLAS AT WANES BLADES BRIDGE	3476 4126	1967 - 1984
72803	LUNE AT HALTON UPPER WEIR	3513 4648	1939 - 1970
83003	AYR AT CATRINE	2525 6259	1969 - 1980
85001	LEVEN AT LINNBRANE	2394 6803	1963 - 1970
86002	EACHAIG AT ECKFORD	2140 6843	1968 - 1972
205010	LAGAN AT BANOGE	3123 3540	1977 - 1983
205906	LAGAN AT BLARIS	3259 3628	1972 - 1979
206004	WOODBURN CONTROL AREA (FLOWS X 100)	3372 3899	1959 - 1969
206006	ANNALONG AT RECORDER	3349 3232	1895 - 1942



## Appendix 2 Peaks-over-threshold statistics

Table A2.1 presents statistics summarizing record length and seasonality.

Also presented are a second set of statistics for data which have been standardized by adjusting the threshold to give an average of four peaks a year. These variables and the new threshold are identified by the suffix 4 (eg.MMF4).

Abbreviations used in Table A2.1 are given below.

THRESH	.....	Threshold in $m^3 s^{-1}$
EX	.....	Number of exceedences
RECORD	.....	Number of years of record - excluding gaps
EX/YRS	.....	Average number of exceedences per year
MMF	.....	Modal month of flood
MPD	.....	Mean POT day of flood
SDMPD	.....	Standard deviation of day of flood about MPD

Table A2.1 Peaks-over-threshold statistics

STATION	THRESH	EX	RECORD	EX/YRS	MHF	MPD	SDMPD	THRESH4	EX4	MMF4	MPD4	SDMPD4
2001	97.00	74	14.0	5.3	JAN	23 DEC	66	107.36	56	NOV	19 DEC	73
3002	106.00	68	15.0	4.5	DEC	8 DEC	51	110.17	61	DEC	11 DEC	49
3003	210.00	38	11.0	3.5	DEC	1 DEC	59					
3801	42.00	51	8.6	6.0	NOV/DEC	5 DEC	58	50.69	35	NOV	11 DEC	55
3803	32.54	38	8.4	4.5	DEC	8 DEC	76	33.28	34	DEC	8 DEC	76
3901	22.00	39	6.5	6.0	DEC	14 DEC	59	33.32	27	DEC	19 DEC	56
4001	191.00	79	11.3	7.0	JAN	31 DEC	56	245.64	46	JAN	24 DEC	47
4003	30.00	78	15.0	5.2	JAN/DEC	7 DEC	60	35.63	60	JAN/OCT	6 DEC	60
5901	180.00	68	14.0	4.9	JAN	17 DEC	56	200.28	56	JAN	18 DEC	54
6007	190.00	90	16.0	5.6	DEC	17 DEC	60	220.37	64	DEC	17 DEC	52
6008	14.58	73	9.0	8.1	DEC	18 DEC	58	20.75	36	DEC	7 DEC	46
6903	164.00	83	14.6	5.7	JAN	18 DEC	60	184.02	59	JAN	16 DEC	62
7001	107.00	192	28.4	6.8	OCT/DEC	15 NOV	81	131.42	114	OCT	11 NOV	76
7002	145.00	157	30.5	5.1	DEC	12 NOV	85	159.61	123	NOV/DEC	9 NOV	85
7003	18.50	123	31.5	3.9	NOV	24 NOV	101					
8001	242.00	112	26.0	4.3	DEC	8 DEC	102	252.86	104	DEC	4 DEC	101
8002	76.00	181	34.3	5.3	JAN/DEC	21 DEC	68	82.99	138	DEC	20 DEC	66
8003	59.79	103	22.4	4.6	DEC	7 DEC	62	63.26	90	DEC	6 DEC	61
8004	115.20	135	37.4	3.6	OCT	20 OCT	93					
8005	90.00	213	38.3	5.6	JAN	21 DEC	67	103.73	154	DEC	14 DEC	67
8006	285.00	144	37.4	3.9	DEC	2 DEC	86					
8007	38.50	216	37.3	5.8	DEC	14 DEC	59	49.15	150	DEC	14 DEC	54
8008	21.00	137	27.3	5.0	DEC	14 DEC	70	25.81	110	DEC	18 DEC	64
8009	49.00	206	37.9	5.4	DEC	12 DEC	76	55.41	152	DEC	4 DEC	72
8010	126.00	213	38.1	5.6	JAN	19 DEC	68	147.71	153	JAN	11 DEC	67
9001	68.00	107	30.2	3.5	OCT	15 NOV	89					
9002	121.00	112	29.5	3.8	JAN	30 NOV	85					
9003	24.00	69	20.3	3.4	NOV	19 DEC	79					
10001	26.00	209	45.2	4.6	DEC	28 DEC	62	28.46	181	JAN	29 DEC	60
10002	19.00	107	18.0	5.9	JAN	1 JAN	63	24.10	73	JAN	1 JAN	58
11001	71.00	91	20.0	4.5	JAN	6 JAN	73	75.15	81	JAN	5 JAN	76
11002	57.60	89	18.0	4.9	JAN	4 JAN	75	62.56	73	JAN	1 JAN	77
11003	41.00	104	16.0	6.5	MAR	7 JAN	87	49.24	65	MAR	5 JAN	86
12001	195.00	314	60.3	5.2	DEC	17 DEC	69	221.49	242	DEC	14 DEC	70
12002	234.00	91	17.0	5.3	OCT/DEC	16 DEC	70	256.08	69	OCT	16 DEC	66
12003	140.00	83	14.0	5.9	OCT/DEC	4 DEC	70	157.81	57	DEC	6 DEC	65
14001	18.50	104	22.3	4.7	JAN	8 JAN	63	19.88	90	JAN	7 JAN	63
15001	25.00	112	26.4	4.3	OCT	17 NOV	73	25.48	106	OCT	16 NOV	71
15002	3.70	118	24.5	4.8	NOV	1 DEC	73	4.19	98	JAN	5 DEC	71
15003	480.00	114	23.2	4.9	JAN/DEC	25 DEC	56	534.22	93	JAN	24 DEC	49
15004	2.63	104	22.4	4.6	JAN	27 DEC	68	2.97	90	JAN	30 DEC	64
15006	575.30	118	22.1	5.3	JAN	31 DEC	52	656.62	89	JAN	30 DEC	50
15007	210.00	120	24.1	5.0	DEC	19 DEC	49	224.54	97	DEC	20 DEC	49
15008	13.50	183	36.1	5.1	JAN	3 JAN	66	16.61	145	JAN	5 JAN	65
15010	53.00	86	18.0	4.8	DEC	10 DEC	68	56.14	73	DEC	9 DEC	66
15013	46.00	102	15.0	6.8	OCT	29 NOV	67	58.03	61	OCT/NOV	24 NOV	61
15016	100.00	81	15.0	5.4	JAN	17 DEC	67	119.38	61	JAN	19 DEC	59
15808	8.40	40	9.7	4.1	OCT	1 NOV	73	8.54	39	OCT/DEC	2 NOV	74
15809	4.23	90	24.0	3.8	NOV	14 DEC	73					
16001	122.20	154	24.9	6.2	DEC	17 DEC	64	142.04	100	DEC	19 DEC	62
16003	80.08	157	29.8	5.3	DEC	7 DEC	65	89.83	120	DEC	4 DEC	67
17001	30.00	156	21.0	7.4	DEC	13 DEC	68	46.51	84	DEC	9 DEC	65
17002	19.00	15	4.9	3.1	NOV	31 DEC	66					
18001	49.90	89	25.4	3.5	DEC	10 DEC	64					
18002	21.60	108	17.1	6.3	JAN	25 DEC	67	26.27	69	JAN/DEC	21 DEC	61
18003	112.00	81	17.3	4.7	JAN/OCT/DEC	11 DEC	63	119.34	70	DEC	11 DEC	62
18005	58.00	103	18.0	5.7	JAN/DEC	22 DEC	68	63.59	73	DEC	16 DEC	68
18008	48.00	91	16.0	5.7	JAN	18 DEC	65	55.33	65	NOV	16 DEC	66
19001	56.50	152	33.3	4.6	DEC	7 DEC	69	62.61	134	DEC	5 DEC	71
19002	8.90	130	28.6	4.5	DEC	4 DEC	68	9.69	115	DEC	29 NOV	67
19003	11.30	73	18.5	3.9	DEC	19 NOV	75					
19004	9.65	149	28.8	5.2	NOV	4 DEC	92	10.76	116	NOV	30 NOV	88
19005	43.00	90	21.9	4.1	NOV	24 NOV	70	43.08	88	NOV	26 NOV	68
19006	12.10	50	11.6	4.3	NOV	8 NOV	100	13.15	47	NOV	4 NOV	95
19007	29.30	49	12.0	4.1	NOV	15 NOV	90	29.30	49	NOV	15 NOV	90
19008	9.50	40	10.3	3.9	NOV	13 NOV	96					
19010	0.46	18	5.3	3.4	FEB	7 FEB	72					
19011	15.00	52	11.5	4.5	NOV	4 NOV	87	16.89	47	NOV	30 OCT	94
20001	23.00	138	31.0	4.4	NOV	25 DEC	86	24.63	125	NOV	22 DEC	85
20002	1.10	116	24.2	4.8	JAN	17 JAN	79	1.26	97	JAN	17 JAN	80
20003	14.00	77	27.9	2.8	NOV	4 DEC	103					
20004	1.75	22	7.6	2.9	NOV	31 OCT	91					
20005	9.80	108	27.9	3.9	NOV	7 DEC	102					
20006	3.60	99	18.0	5.5	JAN	25 JAN	94	4.73	73	JAN	17 JAN	101
20007	3.20	112	17.0	6.6	JAN/MAR	29 JAN	89	5.86	69	JAN	24 JAN	90
21001	10.52	83	15.0	5.5	OCT/NOV	22 NOV	67	11.46	61	JAN/OCT	29 NOV	72
21002	11.50	42	10.5	4.0	NOV	8 NOV	85	11.50	42	NOV	8 NOV	85

Table A2.1 (continued)

STATION	THRESH	EX	RECORD	EX/YRS	MMF	MPD	SOMPD	THRESH4	EX4	MMF4	MPD4	SDMPD4
21003	100.00	181	42.8	4.2	DEC	9 DEC	63	103.37	172	DEC	7 DEC	62
21005	64.40	119	28.8	4.1	JAN	9 DEC	56	65.33	116	JAN	8 DEC	56
21006	240.00	55	13.2	4.2	SEP/DEC	19 NOV	72	242.53	53	SEP/NOV/DEC	20 NOV	72
21007	118.50	132	28.3	4.7	JAN	6 DEC	71	126.59	114	JAN	5 DEC	68
21008	170.50	146	29.2	5.0	DEC	15 DEC	66	188.14	117	JAN	16 DEC	65
21009	449.00	122	30.0	4.1	DEC	17 DEC	65	451.95	121	DEC	18 DEC	65
21010	260.00	129	25.6	5.0	DEC	7 DEC	66	291.61	103	DEC	7 DEC	67
21011	34.00	59	12.1	4.9	DEC	30 NOV	71	37.09	49	DEC	25 NOV	67
21012	98.00	125	26.3	4.8	DEC	15 DEC	63	107.43	106	DEC	16 DEC	60
21013	27.00	36	11.0	3.3	NOV	20 NOV	86					
21015	30.00	91	23.3	3.9	JAN	8 JAN	75					
21016	15.00	94	22.3	4.2	JAN	15 JAN	86	15.43	90	JAN	10 JAN	86
21017	25.10	52	9.1	5.7	JAN/DEC	10 DEC	75	30.10	37	DEC	27 NOV	75
21019	10.00	26	6.0	4.3	JAN	23 DEC	49	10.55	25	JAN	20 DEC	49
21020	25.00	30	7.3	4.1	JAN/OCT	14 DEC	60	25.00	30	JAN/OCT	14 DEC	60
21022	50.00	78	20.0	3.9	JAN	24 JAN	83					
21024	20.00	158	18.0	8.8	JAN	25 DEC	81	31.21	73	DEC	3 DEC	75
21025	19.00	108	17.0	6.4	JAN	26 DEC	69	24.07	69	DEC	27 DEC	64
21026	25.00	110	16.0	6.9	NOV	24 NOV	72	33.90	65	SEP/NOV	14 NOV	65
21029	18.70	51	9.9	5.2	JAN	2 DEC	70	21.11	40	JAN	2 DEC	73
21030	22.00	39	6.2	6.3	NOV/DEC	20 DEC	57	27.66	25	DEC	25 DEC	55
21031	42.00	95	22.8	4.2	JAN	28 DEC	83	44.11	92	JAN	27 DEC	84
21032	19.00	81	21.4	3.8	JAN	25 DEC	94					
21034	15.00	33	6.2	5.4	JAN/NOV	31 DEC	57	17.43	25	NOV	29 DEC	52
22001	78.00	84	23.2	3.6	NOV	29 DEC	69					
22002	11.00	61	11.4	5.3	JAN	22 JAN	60	13.85	46	JAN	16 JAN	59
22003	9.40	55	13.8	4.0	JAN	25 DEC	93	9.40	55	JAN	25 DEC	93
22004	28.00	91	20.0	4.6	JAN	2 JAN	80	30.82	80	JAN/NOV	28 DEC	82
22006	19.20	127	25.4	5.0	JAN	17 JAN	74	23.47	102	JAN	19 JAN	73
22007	35.70	67	11.9	5.6	NOV	10 JAN	81	45.70	48	NOV	1 JAN	69
22008	4.50	23	5.3	4.4	NOV	17 JAN	71	4.92	22	NOV	20 JAN	65
23001	412.60	105	18.6	5.7	DEC	7 DEC	70	525.54	75	DEC	5 DEC	64
23002	21.00	50	10.9	4.6	JAN	9 DEC	84	22.46	44	JAN	5 DEC	82
23003	247.00	100	27.7	3.6	NOV/DEC	16 DEC	67					
23004	226.00	74	15.5	4.8	DEC	17 NOV	64	244.09	62	DEC	18 NOV	66
23005	137.00	77	19.3	4.0	DEC	26 NOV	70	137.00	77	DEC	26 NOV	70
23006	180.00	52	19.9	2.6	DEC	27 NOV	57					
23007	26.00	64	22.8	2.8	MAR	20 JAN	94					
23008	60.00	94	16.9	5.6	JAN	5 JAN	59	88.50	68	JAN	6 JAN	62
23010	28.00	50	10.2	4.9	JAN/DEC	4 JAN	66	32.12	41	JAN	3 JAN	71
23011	30.00	80	16.4	4.9	NOV	7 DEC	72	33.03	66	NOV	6 DEC	71
23012	32.00	56	10.5	5.3	NOV	19 DEC	66	38.41	43	NOV	16 DEC	65
23013	28.00	63	12.2	5.2	NOV	7 DEC	76	33.85	49	NOV/DEC	2 DEC	73
23015	269.00	87	18.2	4.8	NOV	2 DEC	70	286.37	73	NOV	1 DEC	71
24001	101.40	88	17.3	5.1	JAN/DEC	30 DEC	69	111.35	70	DEC	30 DEC	70
24002	8.80	93	23.9	3.9	JAN	13 JAN	75					
24003	63.00	108	27.9	3.9	NOV	15 DEC	67					
24004	13.20	107	27.0	4.0	JAN/MAR	12 JAN	93	13.20	107	JAN/MAR	12 JAN	93
24005	16.00	153	29.9	5.1	NOV	16 JAN	91	18.88	120	NOV	12 JAN	98
24006	11.40	93	19.7	4.7	NOV/DEC	24 DEC	75	12.53	79	NOV	25 DEC	75
24007	7.00	42	15.9	2.6	JAN	18 JAN	92					
24008	60.00	65	12.0	5.4	JAN/DEC	3 JAN	75	99.19	48	JAN/DEC	30 DEC	62
24009	150.00	38	9.0	4.2	DEC	22 JAN	59	152.62	36	MAR/DEC	25 JAN	60
24801	13.20	85	20.5	4.1	NOV	27 NOV	78	13.31	83	NOV	27 NOV	77
25001	210.00	136	29.9	4.5	DEC	27 DEC	70	229.53	120	DEC	26 DEC	71
25002	163.00	60	15.5	3.9	DEC	2 DEC	80					
25003	9.50	99	17.4	5.7	SEP	22 OCT	91	10.80	70	SEP	9 OCT	85
25004	11.15	131	28.9	4.5	JAN	27 JAN	71	11.89	116	JAN	31 JAN	72
25005	14.90	70	14.3	4.9	JAN	5 JAN	79	16.99	58	JAN	12 JAN	76
25006	39.00	131	26.0	5.0	DEC	18 DEC	77	44.31	105	DEC	24 DEC	80
25007	9.00	39	15.4	2.5	FEB	23 JAN	61					
25008	155.00	67	18.7	3.6	DEC	10 DEC	75					
25009	130.00	83	16.3	5.1	DEC	1 JAN	68	177.85	66	NOV/DEC	30 DEC	67
25010	2.90	93	17.0	5.5	JAN	13 JAN	74	3.41	69	JAN	24 JAN	79
25011	9.00	68	14.0	4.8	NOV/DEC	6 DEC	72	9.54	57	DEC	7 DEC	71
25012	22.00	27	5.4	5.0	DEC	4 DEC	67	24.33	22	DEC	14 DEC	72
25018	90.00	74	13.9	5.3	DEC	17 DEC	67	100.40	56	DEC	9 DEC	64
25020	10.00	52	10.0	5.2	MAR/DEC	12 FEB	79	11.69	40	MAR	4 FEB	74
25021	2.40	90	10.9	8.3	JAN	20 FEB	83	4.32	44	MAR/DEC	23 FEB	81
25808	0.06	42	7.5	5.6	OCT	18 OCT	94	0.07	30	OCT	5 NOV	91
25809	0.04	34	7.5	4.5	JAN	25 DEC	77	0.04	30	JAN	31 DEC	78
25810	0.04	33	4.8	6.9	JAN	5 DEC	94	0.06	20	JAN/AUG	17 NOV	77
26801	0.70	45	8.0	5.6	JAN	11 JAN	54	0.95	32	JAN	23 JAN	56
27001	66.50	197	48.5	4.1	JAN	2 JAN	70	67.11	194	JAN	2 JAN	71
27002	146.00	203	41.5	4.9	JAN	23 DEC	61	156.81	167	JAN	24 DEC	58
27006	37.70	160	26.1	6.1	JAN	6 JAN	93	48.71	105	FEB	21 JAN	93
27007	150.00	135	27.2	5.0	JAN	2 JAN	64	168.97	109	JAN	3 JAN	60

Table A2.1 (continued)

STATION	THRESH	EX	RECORD	EX/YRS	MMF	MPD	SDMPD	THRESH4	EX4	MMF4	MPD4	SDMPD4
27008	118.80	132	27.2	4.9	JAN/DEC	2 JAN	64	127.60	109	JAN	4 JAN	68
27009	265.00	63	26.3	2.4	JAN/MAR	13 JAN	64					
27010	5.25	137	41.6	3.3	JAN	2 DEC	90					
27012	7.36	83	20.8	4.0	DEC	23 DEC	74	7.36	83	DEC	23 DEC	74
27014	49.00	79	15.9	5.0	JAN	14 JAN	74	54.20	64	JAN	10 JAN	67
27015	52.00	72	12.4	5.8	JAN	9 JAN	73	63.47	50	JAN	14 JAN	68
27021	73.00	235	87.3	2.7	DEC	12 JAN	73					
27022	63.90	43	9.0	4.8	DEC	31 DEC	75	70.87	36	DEC	19 DEC	67
27023	15.50	73	22.3	3.3	FEB/NOV	12 JAN	95					
27024	146.00	93	20.6	4.5	DEC	10 DEC	71	150.69	83	DEC	13 DEC	72
27025	21.50	114	21.2	5.4	FEB	2 FEB	75	26.16	85	FEB	4 FEB	72
27026	12.40	160	22.4	7.1	FEB/DEC	14 JAN	85	17.35	90	FEB	18 JAN	80
27027	165.00	53	12.7	4.2	DEC	22 DEC	67	167.48	51	DEC	21 DEC	68
27028	93.00	95	22.1	4.3	DEC	26 DEC	76	94.70	89	DEC	28 DEC	77
27029	75.50	84	20.4	4.1	NOV	2 DEC	70	76.36	82	NOV	4 DEC	69
27030	11.75	142	19.2	7.4	FEB	21 JAN	82	17.17	77	FEB	5 FEB	74
27031	78.50	40	14.3	2.8	DEC	8 JAN	75					
27033	19.80	55	17.3	3.2	JAN/DEC	7 JAN	89					
27034	165.00	64	15.5	4.1	NOV	21 DEC	64	169.01	62	NOV	24 DEC	63
27035	44.00	96	15.3	6.3	NOV	12 DEC	71	49.34	62	NOV	14 DEC	65
27036	62.20	20	5.0	4.0	JAN	7 FEB	72	62.20	20	JAN	7 FEB	72
27040	4.46	66	12.5	5.3	FEB	9 FEB	71	5.63	51	FEB	6 FEB	66
27041	52.00	40	5.3	7.6	JAN/MAR	2 FEB	62	69.06	22	JAN/MAR	4 FEB	57
27042	7.00	56	11.0	5.1	JAN	4 JAN	78	8.71	44	JAN	29 DEC	78
27043	165.00	32	9.9	3.2	NOV	22 DEC	61					
27048	0.76	65	10.1	6.4	JAN	11 MAR	91	0.84	41	MAY	29 MAR	86
27049	20.50	33	8.4	3.9	OCT	27 DEC	79					
27051	1.95	39	6.0	6.5	DEC	2 FEB	69	2.73	24	DEC	11 FEB	71
27052	11.50	17	5.0	3.4	MAR/APR/DEC	3 MAR	75					
27053	45.00	31	7.3	4.3	MAR	1 JAN	58	46.67	30	MAR/DEC	29 DEC	57
27054	7.00	26	6.0	4.3	DEC	2 JAN	88	7.33	24	DEC	12 JAN	92
27055	34.50	18	5.4	3.4	DEC	21 JAN	68					
27058	5.40	20	5.4	3.7	DEC	30 JAN	68					
27059	14.00	21	5.3	4.0	MAR	3 FEB	63	14.00	21	MAR	3 FEB	63
27061	15.20	30	4.2	7.2	MAR	19 JAN	56	21.39	17	MAR/NOV	10 JAN	63
27810	135.00	58	21.1	2.7	DEC	16 DEC	66					
27835	120.00	31	8.8	3.5	NOV	2 DEC	78					
27846	210.00	30	4.5	6.6	DEC	27 DEC	76	226.09	27	DEC	23 DEC	73
28002	9.16	79	15.0	5.3	JAN	9 JAN	54	10.85	61	JAN	10 JAN	51
28003	48.00	141	29.3	4.8	AUG	26 SEP	89	50.57	118	AUG	21 SEP	88
28004	49.90	141	26.3	5.4	DEC	12 DEC	105	52.98	106	DEC	20 DEC	97
28005	59.00	138	23.1	6.0	JAN	12 JAN	80	69.71	93	JAN	12 JAN	73
28006	16.80	161	29.1	5.5	JAN	7 JAN	76	19.31	117	FEB	8 JAN	70
28007	151.20	73	14.0	5.2	JAN	12 JAN	73	176.39	57	JAN	14 JAN	70
28008	55.60	137	31.7	4.3	DEC	22 DEC	69	56.72	127	DEC	20 DEC	69
28009	268.00	109	24.3	4.5	FEB/MAR	26 JAN	62	288.87	98	FEB/MAR	29 JAN	64
28010	95.00	188	45.9	4.1	JAN	3 JAN	61	95.73	184	JAN	4 JAN	61
28011	49.00	158	26.8	5.9	JAN	11 JAN	67	59.55	108	JAN	13 JAN	59
28012	40.60	123	25.3	4.9	FEB	17 JAN	75	44.18	102	FEB	21 JAN	73
28014	17.60	52	10.0	5.2	DEC	28 DEC	74	18.95	41	JAN/DEC	29 DEC	76
28015	6.15	53	8.4	6.3	JAN/MAR	16 FEB	86	8.40	34	FEB	20 FEB	79
28016	8.60	26	7.8	3.3	DEC	15 FEB	89					
28017	13.60	54	16.6	3.3	FEB	14 FEB	68					
28018	71.40	116	23.4	4.9	DEC	3 JAN	61	76.04	94	DEC	5 JAN	62
28019	105.00	119	23.6	5.0	JAN	26 JAN	67	115.73	95	FEB	28 JAN	63
28020	19.00	93	15.2	6.1	FEB	31 DEC	74	23.16	61	JAN	3 JAN	65
28022	259.00	75	16.8	4.5	JAN	4 FEB	53	264.44	68	FEB	8 FEB	55
28024	20.00	67	14.7	4.6	JAN	5 FEB	56	20.94	59	JAN	9 FEB	57
28026	20.00	62	17.5	3.5	FEB	3 FEB	69					
28031	30.00	115	16.8	6.9	JAN	31 DEC	68	37.59	68	NOV	21 DEC	68
28032	1.60	209	18.5	11.3	MAR	15 FEB	90	3.08	75	FEB	3 MAR	77
28033	2.50	58	14.3	4.1	NOV	17 DEC	72	2.50	58	NOV	17 DEC	72
28038	23.00	74	13.8	5.4	NOV	25 DEC	78	27.16	56	NOV	15 DEC	72
28039	13.10	71	11.0	6.4	SEP/DEC	14 OCT	103	15.74	45	DEC	17 OCT	106
28040	5.50	87	16.8	5.2	NOV	2 JAN	85	6.13	68	NOV	27 DEC	82
28041	10.00	82	14.5	5.7	NOV	9 DEC	85	13.17	58	NOV	13 DEC	91
28043	35.00	67	15.9	4.2	JAN	23 JAN	62	36.76	64	FEB	25 JAN	63
28045	6.40	42	13.5	3.1	FEB	26 FEB	72					
28046	7.10	84	16.0	5.3	JAN	19 JAN	55	7.69	64	JAN	25 JAN	57
28047	4.20	47	14.5	3.2	FEB	19 FEB	68					
28048	9.70	88	14.3	6.1	JAN/FEB	28 JAN	61	11.22	58	FEB	7 FEB	67
28049	2.60	54	14.2	3.8	FEB	24 FEB	65					
28051	12.60	66	13.5	4.9	JAN	29 JAN	62	13.38	55	JAN/FEB/DEC	30 JAN	67
28052	7.20	43	14.0	3.1	FEB	25 JAN	74					
28053	13.00	50	8.7	5.7	FEB	21 JAN	69	17.27	35	FEB	28 JAN	54
28054	10.00	58	11.0	5.3	FEB	4 FEB	65	11.34	45	DEC	31 JAN	67
28055	6.80	56	10.9	5.1	FEB	16 JAN	61	7.43	44	FEB	13 JAN	62



Table A2.1 (continued)

STATION	THRESH	EX	RECORD	EX/YRS	MMF	MPD	SDMPD	THRESH4	EX4	MMF4	MPD4	SDMPD4
28056	6.10	44	11.2	3.9	FEB	29 JAN	56					
28058	6.50	35	8.9	3.9	FEB	24 JAN	63					
28059	5.00	165	19.1	8.6	JUL	19 AUG	86	6.81	77	JUN/JUL	5 AUG	63
28060	1.30	38	11.2	3.4	FEB	16 FEB	70					
28061	15.00	51	8.0	6.4	JAN	29 DEC	68	17.09	33	JAN	11 JAN	66
28066	11.00	46	9.2	5.0	AUG/DEC	7 SEP	106	12.46	37	DEC	14 SEP	110
28067	85.00	49	11.0	4.4	FEB	9 FEB	44	90.12	45	FEB	13 FEB	43
28069	67.00	73	15.3	4.8	DEC	18 JAN	76	71.86	62	DEC	24 JAN	71
28070	2.04	258	56.8	4.5	NOV	23 DEC	94	2.13	228	JAN/NOV	27 DEC	94
28804	150.00	455	82.0	5.5	JAN	14 JAN	64	224.96	329	JAN	11 JAN	57
28914	17.60	61	15.1	4.0	FEB/DEC	9 JAN	62	17.60	61	FEB/DEC	9 JAN	62
28921	80.00	64	17.2	3.7	DEC	25 JAN	74					
28923	9.00	63	14.3	4.4	JAN	13 JAN	59	9.55	58	JAN	15 JAN	58
29001	1.13	114	23.1	4.9	JAN	15 FEB	68	1.32	93	FEB	15 FEB	65
29002	2.00	49	11.4	4.3	FEB	23 FEB	52	2.13	46	FEB	24 FEB	54
29003	1.52	78	18.4	4.2	FEB	21 FEB	74	1.63	74	FEB	22 FEB	72
29004	3.00	89	16.6	5.4	JAN	14 FEB	58	3.47	67	JAN/FEB	16 FEB	59
29009	1.20	50	10.4	4.8	FEB	10 FEB	44	1.38	42	FEB	12 FEB	44
30001	7.90	119	25.7	4.6	JAN	8 FEB	68	8.62	103	JAN	6 FEB	68
30002	10.00	105	22.3	4.7	JAN	16 JAN	68	12.69	90	JAN	15 JAN	68
30003	5.65	142	22.1	6.4	JAN/DEC	27 JAN	64	8.57	89	JAN/FEB	30 JAN	59
30004	2.83	115	18.3	6.3	FEB	29 JAN	73	3.83	74	JAN/FEB	3 FEB	76
30005	2.40	97	16.6	5.9	FEB	16 FEB	64	3.73	67	FEB	27 FEB	64
30011	1.63	67	15.7	4.3	FEB	12 FEB	66	1.69	63	FEB	12 FEB	67
30012	4.40	42	10.5	4.0	DEC	30 JAN	64	4.40	42	DEC	30 JAN	64
30014	0.85	58	12.4	4.7	FEB	20 FEB	60	1.00	50	FEB	20 FEB	57
30017	1.95	45	6.0	7.5	MAR	26 FEB	61	3.29	25	DEC	22 FEB	77
31002	8.49	98	24.0	4.1	JAN	6 FEB	52	8.71	96	JAN	5 FEB	53
31005	11.50	136	24.4	5.6	JAN	9 FEB	68	15.60	98	JAN/MAR/DEC	14 FEB	64
31006	5.70	27	6.5	4.1	JAN	4 FEB	76	5.70	27	JAN	4 FEB	76
31010	3.50	96	18.7	5.1	JAN	11 FEB	69	4.17	75	JAN	12 FEB	68
31021	12.68	66	12.0	5.5	JAN	5 FEB	65	16.92	49	JAN	1 FEB	60
31023	0.56	81	14.7	5.5	JAN/MAR	1 MAR	70	0.71	59	APR	5 MAR	74
31025	4.00	37	8.2	4.5	DEC	17 FEB	80	4.62	33	DEC	8 FEB	80
31026	0.30	31	8.0	3.9	DEC	8 FEB	78					
32002	2.12	259	47.9	5.4	FEB	3 FEB	72	2.56	192	JAN	4 FEB	68
32003	3.60	194	47.7	4.1	JAN	31 JAN	64	3.60	194	JAN	31 JAN	64
32004	5.60	275	42.6	6.5	JAN	3 FEB	67	8.04	171	JAN	4 FEB	64
32007	10.08	133	41.5	3.2	JAN	2 FEB	61					
32008	2.80	327	41.6	7.9	JAN	26 JAN	68	4.28	167	JAN	30 JAN	70
32010	39.00	177	43.4	4.1	JAN	1 FEB	61	39.31	174	JAN	1 FEB	61
32029	0.47	37	4.7	7.9	DEC	19 JAN	75	0.79	19	FEB/MAY/DEC	30 JAN	86
33006	3.50	157	28.9	5.4	JAN	28 JAN	59	4.19	116	JAN	28 JAN	50
33009	44.50	129	33.4	3.9	DEC	28 JAN	60					
33011	0.98	150	24.3	6.2	JAN	28 JAN	54	1.39	98	JAN	31 JAN	52
33012	6.80	135	24.3	5.5	FEB	1 FEB	69	9.01	98	FEB	27 JAN	70
33013	2.01	131	24.8	5.3	JAN	31 JAN	54	2.50	100	JAN	31 JAN	50
33014	4.40	106	24.2	4.4	JAN	27 JAN	59	4.63	97	JAN	29 JAN	59
33015	9.60	57	11.9	4.8	DEC	11 JAN	64	10.41	48	FEB	18 JAN	62
33017	56.50	78	18.5	4.2	JAN/FEB	2 FEB	62	56.72	75	FEB	1 FEB	63
33018	8.40	107	22.8	4.7	MAR	3 FEB	65	9.68	92	MAR	5 FEB	66
33019	3.80	117	23.6	5.0	JAN	27 JAN	56	4.38	95	FEB	24 JAN	51
33020	20.00	69	21.9	3.2	FEB/MAR	16 FEB	75					
33021	5.10	86	22.3	3.9	JAN/FEB	15 FEB	60					
33022	10.01	100	20.1	5.0	JAN	2 FEB	68	11.39	81	JAN	3 FEB	65
33023	1.30	89	15.3	5.8	JAN	6 FEB	63	1.80	62	FEB	28 JAN	61
33024	3.96	111	21.4	5.2	JAN	22 JAN	60	4.84	86	JAN	26 JAN	57
33027	2.94	77	19.3	4.0	JAN	2 FEB	57	2.94	77	JAN	2 FEB	57
33029	1.70	80	19.2	4.2	FEB	3 FEB	57	1.76	77	FEB	2 FEB	58
33030	4.30	50	13.8	3.6	OCT	23 DEC	88					
33031	2.86	77	14.3	5.4	JAN	21 JAN	74	3.37	58	NOV	28 JAN	79
33033	1.97	56	11.3	5.0	MAR/APR	18 MAR	87	2.08	46	MAR/APR	22 MAR	84
33034	11.69	44	16.8	2.6	FEB	7 FEB	47					
33037	26.50	90	15.3	5.9	MAR	10 FEB	59	30.80	62	JAN	6 FEB	53
33039	42.00	59	12.3	4.8	JAN/MAR	9 FEB	63	49.30	50	JAN	15 FEB	57
33044	5.70	52	17.6	3.0	JAN	25 JAN	47					
33045	0.50	60	17.7	3.4	JAN/FEB	29 JAN	51					
33046	3.75	62	17.9	3.5	JAN	18 JAN	52					
33048	0.14	76	15.3	5.0	JAN	20 FEB	71	0.15	62	JAN	19 FEB	73
33050	1.00	47	10.3	4.5	FEB/MAY/NOV	22 FEB	84	1.11	42	MAY	26 FEB	80
33051	3.52	81	15.3	5.3	FEB	30 JAN	63	4.40	62	JAN/FEB	1 FEB	56
33055	2.20	35	8.4	4.1	JAN/FEB	13 FEB	57	2.28	34	FEB	13 FEB	58
33057	4.35	36	9.0	4.0	DEC	5 FEB	73	4.35	36	DEC	5 FEB	73
33058	13.30	30	6.7	4.5	MAR	11 FEB	77	13.50	27	MAR	17 FEB	76
33063	1.70	22	4.3	5.1	DEC	31 JAN	61	2.15	18	DEC	31 JAN	67
33809	3.05	65	14.9	4.4	JAN	1 FEB	82	3.43	60	JAN	7 FEB	83
34001	6.50	90	29.6	3.0	JAN	16 JAN	53					

Table A2.1 (continued)

STATION	THRESH	EX	RECORD	EX/YRS	MMF	MPD	SOMPD	THRESH4	EX4	MMF4	MPD4	SOMPD4
34002	4.60	85	30.0	2.8	JAN	12 JAN	51					
34003	2.48	168	28.4	5.9	JAN	10 JAN	64	2.98	114	JAN	9 JAN	61
34004	15.00	64	27.7	2.3	JAN/FEB	14 JAN	46					
34005	1.10	124	26.3	4.7	JAN	13 JAN	55	1.36	106	FEB	11 JAN	54
34006	8.80	53	11.5	4.6	JAN	15 JAN	50	9.48	47	JAN	14 JAN	51
34007	4.10	88	21.2	4.1	JAN	27 JAN	58	4.29	85	JAN	27 JAN	57
34008	0.65	116	21.3	5.4	JAN	28 JAN	72	0.73	86	JAN/FEB	3 FEB	76
34010	5.52	66	19.5	3.4	JAN	29 JAN	70					
34011	2.50	100	21.5	4.7	JAN	31 JAN	59	2.71	86	JAN	2 FEB	60
34018	1.84	50	15.9	3.1	JAN	13 JAN	82					
35003	2.35	116	26.0	4.5	JAN	18 JAN	55	2.59	104	JAN	18 JAN	55
35004	2.44	112	22.6	5.0	JAN	13 JAN	56	2.82	91	JAN	8 JAN	54
35008	3.90	156	23.0	6.8	JAN	28 JAN	63	6.09	95	JAN	18 JAN	62
35010	6.20	91	17.0	5.4	JAN	30 JAN	55	7.31	68	JAN	30 JAN	57
35314	0.29	128	20.3	6.3	DEC	22 DEC	94	0.32	82	DEC	7 DEC	96
36002	3.90	105	17.3	6.1	JAN	26 JAN	59	5.03	70	JAN	30 JAN	54
36003	0.88	133	23.3	5.7	JAN	27 JAN	52	1.19	94	JAN	31 JAN	55
36004	2.36	77	18.3	4.2	JAN	26 JAN	57	2.62	74	JAN	27 JAN	58
36005	4.60	76	17.3	4.4	JAN	29 JAN	55	4.90	70	JAN	26 JAN	56
36006	12.60	123	16.3	7.6	JAN	30 JAN	57	17.39	66	JAN	1 FEB	52
36007	1.40	113	21.3	5.3	JAN	30 JAN	50	1.80	86	JAN	1 FEB	52
36008	7.25	112	16.3	6.9	JAN	29 JAN	61	12.08	66	JAN	21 JAN	58
36009	1.23	93	17.9	5.2	JAN	31 JAN	65	1.45	72	JAN	30 JAN	58
36010	2.70	75	18.3	4.1	JAN	29 JAN	65	2.78	74	JAN	29 JAN	65
36011	2.20	113	17.6	6.4	JAN	30 JAN	91	3.07	71	JAN	21 JAN	85
36015	18.90	55	13.7	4.0	JAN	31 JAN	65	18.90	55	JAN	31 JAN	65
37001	10.90	165	29.9	5.5	JAN	20 JAN	59	12.95	120	JAN	22 JAN	54
37003	1.65	136	23.1	5.9	JAN	25 JAN	61	2.28	93	JAN/DEC	28 JAN	65
37005	5.70	90	17.2	5.2	JAN	4 FEB	54	6.83	69	JAN	2 FEB	56
37006	10.70	109	24.1	4.5	JAN	25 JAN	59	11.69	97	JAN	24 JAN	59
37007	7.00	117	22.3	5.3	JAN	27 JAN	66	8.01	90	JAN	24 JAN	62
37008	8.65	30	8.0	3.7	FEB	17 JAN	51					
37009	1.71	12	4.0	3.0	JAN	19 JAN	35					
37010	5.20	111	17.3	6.4	JAN	1 FEB	52	6.83	70	JAN	31 JAN	48
37011	3.40	84	17.3	4.9	JAN	23 JAN	59	3.77	70	JAN	20 JAN	55
37012	2.90	76	17.3	4.4	JAN	30 JAN	55	3.19	70	JAN	29 JAN	55
37013	3.40	78	17.2	4.5	JAN	2 FEB	63	3.96	69	JAN	1 FEB	65
37014	4.29	80	15.8	5.1	JAN	21 JAN	56	5.47	64	JAN/FEB	23 JAN	60
37016	3.95	89	21.5	4.1	DEC	19 JAN	59	4.06	87	DEC	19 JAN	58
37017	6.40	63	17.3	3.7	JAN	28 JAN	54					
37018	3.50	36	9.3	3.9	JAN	12 FEB	77					
37019	4.90	71	14.5	4.9	SEP	4 DEC	149	5.18	58	SEP	4 JAN	147
37020	5.60	67	16.7	4.0	JAN	16 JAN	55	5.60	67	JAN	16 JAN	55
37031	4.80	85	22.6	3.8	OCT	18 JAN	104					
38002	2.26	226	39.1	5.8	JAN	13 JAN	53	3.20	157	JAN	13 JAN	55
38003	1.30	101	27.1	3.7	JUN	10 MAY	113					
38004	5.60	106	20.7	5.1	JAN	16 JAN	56	6.89	83	JAN	15 JAN	54
38007	3.20	150	29.3	5.1	NOV	15 NOV	105	3.63	118	NOV	9 NOV	111
38020	3.40	40	8.6	4.6	MAR	28 JAN	65	3.71	35	FEB	27 JAN	63
38021	3.80	41	8.3	5.0	DEC	29 JAN	61	4.44	34	DEC	28 JAN	62
38022	11.80	154	25.7	6.0	SEP	29 AUG	75	13.69	103	JUN/AUG	28 AUG	72
38026	2.90	32	5.5	5.8	JAN	17 JAN	62	3.44	22	JAN	19 JAN	61
39001	200.00	346	102.0	3.4	JAN	22 JAN	53					
39002	100.00	121	46.0	2.6	JAN	29 JAN	44					
39003	4.90	166	29.3	5.7	NOV	25 JAN	121	5.18	141	NOV	9 JAN	123
39004	1.83	190	34.2	5.6	JUL/OCT	4 SEP	86	2.03	137	AUG	29 AUG	79
39005	7.08	53	11.3	4.7	JUN/AUG	1 AUG	68	7.41	46	JUN	1 AUG	68
39007	12.70	171	31.0	5.5	JAN	13 JAN	67	14.87	124	JAN	13 JAN	67
39008	39.65	151	33.0	4.6	JAN	26 JAN	54	43.00	133	JAN	26 JAN	53
39011	14.00	68	15.3	4.5	JAN	30 DEC	64	15.43	62	JAN	2 JAN	67
39012	9.40	66	24.2	2.7	SEP	3 SEP	93					
39016	22.00	120	22.1	5.4	JAN	2 FEB	60	25.44	89	JAN	2 FEB	59
39017	1.95	99	21.7	4.6	MAR	4 FEB	71	2.10	87	MAR	30 JAN	73
39018	6.40	88	16.1	5.5	JAN	1 FEB	55	7.85	65	FEB	26 JAN	60
39021	13.50	106	18.7	5.7	JAN	6 FEB	53	16.96	75	JAN/FEB	4 FEB	52
39022	10.00	82	18.0	4.6	JAN	26 JAN	61	10.60	73	JAN	22 JAN	61
39023	2.45	21	4.8	4.3	FEB	25 FEB	124	2.48	20	FEB	31 JAN	131
39024	3.90	99	21.2	4.7	NOV	22 DEC	71	4.31	85	NOV	17 DEC	72
39025	8.61	129	16.4	7.9	JAN	12 JAN	61	12.24	66	JAN	11 JAN	62
39026	8.20	78	16.8	4.6	JAN	8 FEB	56	9.00	68	JAN/FEB	10 FEB	54
39027	1.80	66	14.9	4.4	JAN/DEC	31 JAN	61	1.83	60	JAN	29 JAN	57
39028	1.17	51	15.5	3.3	DEC	8 FEB	60					
39029	1.39	21	8.0	2.6	JAN	6 FEB	110					
39034	13.00	49	13.0	3.8	JAN/FEB	8 FEB	50					
39035	2.00	78	14.0	5.6	JAN	5 FEB	48	2.40	56	FEB	10 FEB	44
39036	0.25	83	15.0	5.5	JAN/DEC	20 DEC	94	0.30	61	DEC	25 DEC	90
39038	11.19	75	15.6	4.8	JAN	26 JAN	65	12.01	63	JAN	27 JAN	67

Table A2.1 (continued)

STATION	THRESH	EX	RECORD	EX/YRS	MMF	MPD	SDMPD	THRESH4	EX4	MMF4	MPD4	SDMPD4
39040	7.10	57	11.3	5.1	FEB	2 FEB	36	7.58	46	FEB	2 FEB	37
39044	3.10	70	11.0	6.4	DEC	8 JAN	68	5.19	45	DEC	29 DEC	72
39049	4.10	185	26.1	7.1	NOV	21 OCT	103	6.65	105	NOV	10 OCT	89
39052	3.80	141	25.9	5.4	JAN/DEC	22 DEC	107	4.50	104	JAN/NOV	15 DEC	106
39053	13.70	111	21.9	5.1	DEC	30 DEC	81	15.93	88	NOV	21 DEC	82
39055	2.00	56	9.4	5.9	NOV	23 OCT	93	2.78	38	JUN/NOV	3 OCT	98
39056	5.00	61	8.7	7.0	JUL/OCT	13 SEP	110	5.73	35	OCT	10 SEP	87
39057	7.84	53	9.5	5.5	NOV	17 DEC	94	8.80	39	NOV	4 DEC	90
39058	2.00	59	8.7	6.8	JUL	2 SEP	95	2.31	35	MAY/AUG/OCT	18 AUG	78
39069	16.00	50	10.9	4.6	DEC	13 DEC	77	20.29	44	JAN/DEC	13 DEC	76
39081	6.40	28	4.4	6.4	MAR	24 FEB	58	8.15	18	MAR	23 FEB	54
39086	6.00	30	8.1	3.7	DEC	29 NOV	79					
39090	5.80	42	7.0	6.0	MAR	9 FEB	57	6.72	29	MAR	12 FEB	49
39813	1.50	52	10.8	4.8	DEC	2 JAN	71	1.67	44	DEC	1 JAN	66
39820	3.90	80	16.6	4.8	OCT	30 OCT	97	4.25	67	OCT	5 NOV	95
39821	11.17	290	45.5	6.4	NOV	22 NOV	109	14.14	183	NOV	4 NOV	114
39824	2.54	75	17.9	4.2	SEP	12 AUG	66	2.56	72	SEP	10 AUG	65
39827	3.70	39	7.7	5.0	AUG/SEP	16 SEP	94	3.96	31	SEP	15 SEP	84
39828	3.00	111	21.9	5.1	AUG	28 AUG	94	3.27	88	AUG	29 AUG	93
39830	1.20	41	7.3	5.6	AUG	16 AUG	78	1.33	30	AUG	18 AUG	74
39831	1.40	42	7.3	5.7	AUG	15 AUG	68	1.62	30	JUN	6 AUG	69
39834	14.40	45	8.9	5.1	DEC	5 NOV	110	15.44	36	DEC	3 NOV	110
39856	4.50	65	6.9	9.4	OCT	7 SEP	94	7.37	28	JUN	16 AUG	91
40003	89.00	115	30.2	3.8	JAN	8 JAN	57					
40004	19.00	78	24.3	3.2	NOV	27 DEC	65					
40005	18.80	108	28.1	3.8	JAN	3 JAN	62					
40006	2.80	121	25.3	4.8	JAN/NOV/DEC	3 JAN	72	3.33	102	NOV	30 DEC	71
40007	29.10	112	25.2	4.5	JAN	28 DEC	65	29.76	101	JAN	26 DEC	63
40008	16.50	83	26.0	3.2	NOV/DEC	28 DEC	57					
40009	17.02	90	25.3	3.6	JAN	1 JAN	60					
40010	15.60	110	25.4	4.3	JAN	6 JAN	65	16.27	102	DEC	7 JAN	65
40011	15.60	63	22.5	2.8	JAN	2 JAN	49					
40012	2.30	59	19.4	3.0	JAN	21 JAN	73					
40016	3.50	58	14.3	4.1	JUN	26 JUL	82	3.50	58	JUN	26 JUL	82
40017	11.70	66	17.5	3.8	NOV	14 DEC	56					
40018	1.70	123	19.3	6.4	JAN	28 JAN	75	2.07	78	DEC	22 JAN	72
40020	15.90	75	13.0	5.8	JAN	18 DEC	55	21.00	52	JAN	17 DEC	55
40022	3.05	93	18.3	5.1	JAN	10 JAN	68	3.53	74	JAN	1 JAN	67
40809	3.26	126	15.9	7.9	NOV	18 DEC	71	5.70	64	NOV	6 DEC	72
41003	19.10	72	22.0	3.3	NOV	16 DEC	55					
41005	15.00	133	22.9	5.8	JAN	29 DEC	66	19.03	92	JAN/NOV	25 DEC	66
41006	17.35	80	18.5	4.3	NOV	19 DEC	63	18.80	74	NOV	20 DEC	63
41007	23.70	68	15.6	4.4	DEC	9 JAN	77	26.25	63	JAN	10 JAN	75
41011	15.50	81	16.2	5.0	JAN	3 JAN	60	17.83	65	JAN	30 DEC	60
41012	8.00	98	15.2	6.4	JAN	26 DEC	61	10.84	61	NOV	22 DEC	63
41014	39.00	36	9.3	3.9	JAN/DEC	19 DEC	73					
41016	2.38	118	15.5	7.6	JAN	26 DEC	60	3.53	63	NOV	13 DEC	57
41018	6.50	99	13.4	7.4	JAN/DEC	31 DEC	68	9.31	54	JAN/DEC	6 JAN	73
41020	5.90	82	13.2	6.2	JAN/NOV	22 DEC	58	8.15	53	JAN/NOV	12 DEC	52
41021	1.50	28	5.0	5.6	JAN	25 DEC	55	1.87	20	NOV	15 DEC	49
41022	6.60	59	9.3	6.4	DEC	23 DEC	60	8.84	38	JAN/DEC	25 DEC	60
41025	17.00	44	9.3	4.8	DEC	18 DEC	74	18.96	38	DEC	22 DEC	72
41026	4.50	45	11.3	4.0	JAN	25 DEC	48	4.50	45	JAN	25 DEC	48
41027	5.00	42	10.3	4.1	DEC	22 DEC	53	5.00	42	DEC	22 DEC	53
41028	4.50	59	18.1	3.3	JAN/DEC	31 DEC	50					
41801	1.05	31	6.4	4.8	NOV	7 SEP	84	1.23	26	JUN/NOV	2 SEP	77
41806	0.46	50	15.9	3.2	NOV	10 DEC	71					
41807	1.30	86	13.6	6.3	JAN	31 DEC	58	1.70	55	JAN	28 DEC	56
42001	7.80	36	8.3	4.4	DEC	14 JAN	55	8.01	34	DEC	16 JAN	55
42011	4.74	50	10.4	4.8	JAN/DEC	19 JAN	60	5.10	42	DEC	24 JAN	60
42014	8.80	42	8.3	5.1	DEC	28 DEC	57	9.94	34	DEC	22 DEC	51
43002	64.00	74	12.9	5.7	JAN	7 JAN	57	76.35	52	JAN	2 JAN	57
43005	7.21	73	21.5	3.4	JAN	3 FEB	51					
43006	8.80	111	21.0	5.3	JAN/DEC	18 JAN	51	10.13	85	JAN	19 JAN	48
43007	64.00	47	13.3	3.5	JAN/DEC	16 JAN	51					
43009	44.00	97	18.8	5.2	JAN	8 JAN	54	55.17	76	DEC	7 JAN	53
43014	1.97	84	16.4	5.1	JAN	24 JAN	62	2.18	66	JAN	30 JAN	57
43017	2.40	89	16.4	5.4	JAN	29 JAN	51	2.97	66	JAN	1 FEB	48
44003	7.00	58	13.4	4.3	JAN	8 JAN	63	7.33	54	JAN	12 JAN	60
45001	97.70	156	32.5	4.8	JAN	20 DEC	51	108.47	130	DEC	21 DEC	48
45002	79.15	122	28.5	4.3	JAN	24 DEC	49	82.78	115	DEC	24 DEC	49
45003	30.00	127	26.7	4.8	JAN	16 JAN	56	32.41	107	JAN	17 JAN	55
45004	49.10	91	23.9	3.8	JAN	10 JAN	58					
45005	33.60	118	26.0	4.5	JAN	19 JAN	59	35.97	105	JAN	22 JAN	60
45006	4.50	34	9.3	3.7	DEC	10 DEC	55					
45008	23.50	59	14.0	4.2	JAN/DEC	20 JAN	64	24.00	57	JAN/DEC	18 JAN	65
45009	22.40	84	9.0	9.3	JAN	6 JAN	44	30.63	37	JAN	8 JAN	35

Table A2.1 (continued)

STATION	THRESH	EX	RECORD	EX/YRS	MMF	MPD	SOMPD	THRESH4	EX4	MMF4	MPD4	SOMPD4		
45801	0.68	31	4.9	6.3	JAN	30	DEC	73	0.87	20	JAN	27	DEC	71
45804	43.82	47	13.1	3.6	NOV	21	DEC	62						
45805	22.40	28	7.4	3.8	JAN	29	DEC	55						
45806	49.00	79	21.5	3.7	JAN	14	JAN	49						
46002	83.50	120	32.5	3.7	JAN	5	JAN	55						
46003	109.00	170	30.1	5.7	JAN	26	DEC	62	125.16	121	JAN	24	DEC	62
46005	26.00	62	24.6	2.5	DEC	4	DEC	72						
46006	34.60	21	14.0	1.5	DEC	21	DEC	65						
46007	43.40	32	9.0	3.6	JAN/DEC	4	JAN	60						
46008	30.00	26	10.0	2.6	FEB	29	JAN	59						
46801	15.50	13	3.1	4.2	NOV	7	NOV	63	15.50	13	NOV	7	NOV	63
46806	15.78	80	17.4	4.6	NOV	29	NOV	73	16.31	70	NOV	29	NOV	69
47001	166.00	163	31.4	5.2	DEC	21	DEC	54	187.50	126	DEC	22	DEC	53
47004	23.70	150	26.4	5.7	JAN	29	DEC	49	27.53	106	JAN	27	DEC	47
47005	23.35	154	22.7	6.8	DEC	21	DEC	55	31.93	91	JAN	19	DEC	57
47006	57.30	52	10.7	4.9	JAN	15	DEC	64	61.22	43	JAN/NOV	16	DEC	62
47007	16.50	48	11.4	4.2	JAN/NOV	22	DEC	72	16.78	46	NOV	24	DEC	72
47008	30.00	92	18.1	5.1	JAN	28	DEC	56	31.29	73	DEC	29	DEC	59
47009	3.60	138	18.1	7.6	DEC	12	JAN	43	4.47	73	JAN/DEC	8	JAN	41
47010	36.00	82	13.0	6.3	DEC	19	DEC	63	43.11	52	NOV	14	DEC	62
47011	22.40	50	10.3	4.8	JAN	18	JAN	66	24.21	42	JAN	12	JAN	66
47014	15.60	67	14.2	4.7	NOV	11	DEC	66	16.45	57	DEC	15	DEC	70
48001	10.30	97	18.1	5.4	JAN	23	DEC	54	11.29	73	JAN/DEC	17	DEC	56
48003	6.38	141	22.2	6.3	DEC	11	JAN	55	8.22	89	DEC	8	JAN	52
48004	4.90	85	18.3	4.7	JAN	19	DEC	57	5.46	74	JAN	17	DEC	60
48005	2.50	81	16.9	4.8	JAN	9	JAN	46	2.74	68	JAN	15	JAN	45
48006	3.05	125	16.8	7.4	JAN	16	JAN	47	3.87	68	FEB	18	JAN	45
48007	2.80	77	17.0	4.5	FEB	27	JAN	41	2.91	69	FEB	25	JAN	41
48009	5.00	42	12.5	3.3	JAN	27	DEC	54						
48010	4.50	58	15.4	3.8	DEC	3	JAN	44						
48011	27.70	58	15.3	3.8	DEC	19	DEC	55						
48902	27.70	62	12.5	5.0	DEC	20	DEC	51	29.83	50	JAN	23	DEC	48
49001	29.40	160	30.7	5.2	JAN	20	DEC	54	34.25	124	JAN/DEC	21	DEC	54
49002	3.00	103	27.9	3.7	FEB	25	JAN	43						
49003	8.00	86	19.2	4.5	DEC	12	DEC	61	8.33	77	DEC	10	DEC	63
49004	6.00	89	16.8	5.3	JAN	13	JAN	47	7.23	68	JAN	10	JAN	50
50001	125.00	67	15.0	4.5	DEC	11	DEC	60	132.87	61	DEC	10	DEC	57
50002	158.80	41	12.1	3.4	DEC	3	DEC	65						
50007	26.00	47	8.3	5.7	DEC	2	JAN	52	30.85	34	JAN/DEC	1	JAN	53
50802	13.30	31	6.2	5.0	JAN/DEC	23	NOV	87	14.40	25	JAN/DEC	27	OCT	94
50803	112.00	33	8.7	3.8	DEC	14	DEC	59						
50810	14.00	78	8.0	9.7	DEC	18	DEC	62	20.52	33	DEC	21	DEC	55
51002	2.43	46	10.1	4.6	JAN	23	DEC	58	2.65	41	JAN	23	DEC	56
51003	2.40	95	18.0	5.3	JAN	14	JAN	61	2.87	72	FEB	14	JAN	59
52003	5.00	136	24.7	5.5	JAN	24	JAN	53	5.81	99	JAN	21	JAN	52
52004	17.80	118	25.8	4.6	JAN	13	JAN	57	18.60	104	JAN	9	JAN	58
52005	21.10	108	17.5	6.2	JAN	17	JAN	49	29.86	70	JAN	8	JAN	42
52006	30.80	81	25.5	3.2	JAN/DEC	19	JAN	56						
52007	11.70	68	18.4	3.7	JAN	8	JAN	60						
52009	4.20	90	23.2	3.9	DEC	29	DEC	83						
52010	20.40	111	23.8	4.7	JAN/DEC	3	JAN	72	21.61	96	JAN	3	JAN	71
52011	6.70	89	22.0	4.0	JAN	12	JAN	63	6.70	89	JAN	12	JAN	63
52014	7.50	45	14.0	3.2	JAN	9	JAN	52						
52015	1.08	60	11.4	5.3	JAN	8	JAN	60	1.33	46	JAN	15	JAN	58
52016	1.30	73	17.5	4.2	DEC	16	JAN	61	1.39	71	DEC	15	JAN	61
52017	5.30	73	14.0	5.2	DEC	23	JAN	63	6.25	56	DEC	18	JAN	60
52020	9.20	40	7.4	5.4	OCT	2	JAN	80	11.09	30	JAN/FEB	9	JAN	82
53001	35.00	260	50.3	5.2	JAN	12	JAN	59	41.14	202	JAN	9	JAN	57
53002	14.70	73	15.2	4.8	DEC	13	JAN	50	16.56	61	DEC	10	JAN	49
53003	77.00	148	29.9	5.0	DEC	5	JAN	56	84.26	120	NOV/DEC	5	JAN	54
53004	7.07	164	30.8	5.3	DEC	9	JAN	58	8.49	124	DEC	6	JAN	54
53005	11.50	159	27.5	5.8	JAN/DEC	12	JAN	53	14.62	111	DEC	10	JAN	54
53006	12.87	147	27.5	5.3	JAN	8	JAN	60	15.57	110	JAN	9	JAN	56
53007	30.86	118	27.7	4.3	DEC	9	JAN	58	31.54	111	DEC	9	JAN	58
53008	17.60	127	23.9	5.3	JAN/DEC	13	JAN	57	20.47	96	JAN/DEC	16	JAN	54
53009	6.20	115	23.0	5.0	JAN	12	JAN	51	7.29	92	JAN	13	JAN	50
53013	7.60	102	19.2	5.3	JAN	23	JAN	54	9.09	77	JAN	21	JAN	55
53017	6.10	68	15.2	4.5	JAN	10	JAN	49	6.26	61	JAN	12	JAN	50
53018	77.00	95	16.4	5.8	JAN	11	JAN	51	95.89	66	JAN	14	JAN	47
53019	5.20	60	12.7	4.7	JAN	8	JAN	60	6.01	51	JAN	9	JAN	60
53020	2.30	79	25.7	3.1	DEC	12	JAN	61						
53023	4.25	45	12.0	3.8	JAN	16	JAN	44						
53025	10.00	53	9.0	5.9	JAN/DEC	30	DEC	56	11.26	36	JAN	8	JAN	59
54001	210.00	313	59.5	5.3	JAN	5	JAN	57	229.96	238	JAN	10	JAN	55
54002	65.80	213	48.3	4.4	JAN	21	JAN	61	72.91	194	JAN	24	JAN	62
54004	12.80	218	34.2	6.4	DEC	16	JAN	93	15.44	137	DEC	16	JAN	88
54005	200.00	150	33.7	4.5	DEC	27	DEC	57	203.54	135	DEC	28	DEC	58

Table A2.1 (continued)

STATION	THRESH	EX	RECORD	EX/YRS	MMF	MPD	SDMPD	THRESH4	EX4	MMF4	MPD4	SDMPD4
54006	9.00	191	28.2	6.8	DEC	25 JAN	105	11.25	113	MAR/DEC	1 FEB	98
54007	30.00	102	29.7	3.4	DEC	11 JAN	72					
54008	63.00	118	25.3	4.7	JAN	10 JAN	65	71.01	102	JAN	12 JAN	66
54010	18.00	116	26.2	4.4	JAN/DEC	2 FEB	65	18.70	105	JAN	2 FEB	65
54011	8.40	127	27.3	4.7	JAN/DEC	23 JAN	75	9.04	110	DEC	21 JAN	75
54012	17.30	200	26.7	7.5	JAN	14 JAN	70	23.46	107	JAN	14 JAN	66
54013	25.00	33	6.7	4.9	DEC	23 DEC	62	27.45	27	DEC	23 DEC	64
54014	105.00	120	25.6	4.7	DEC	22 DEC	58	111.72	103	DEC	21 DEC	58
54016	8.80	77	16.8	4.6	DEC	30 JAN	66	9.50	68	DEC	29 JAN	67
54017	15.20	80	19.7	4.1	JAN	24 JAN	55	15.52	79	JAN	25 JAN	54
54018	15.60	63	13.7	4.6	DEC	9 FEB	72	16.78	55	DEC	10 FEB	74
54019	13.40	83	18.0	4.6	DEC	1 FEB	73	14.67	73	DEC	5 FEB	73
54020	6.40	82	22.3	3.7	DEC	22 JAN	58					
54022	6.80	120	22.1	5.4	NOV/DEC	30 NOV	75	7.73	89	DEC	28 NOV	75
54023	5.40	103	17.6	5.8	JAN	1 FEB	68	6.46	71	JAN	5 FEB	70
54025	11.60	77	14.3	5.4	JAN	30 DEC	59	12.43	58	JAN	5 JAN	56
54026	4.26	64	11.3	5.7	DEC	4 JAN	125	4.93	46	FEB	8 JAN	140
54028	146.20	72	13.3	5.4	DEC	18 DEC	49	161.93	54	DEC	25 DEC	49
54029	110.00	37	13.2	2.8	JAN	1 FEB	44					
54032	271.00	74	15.2	4.9	DEC	23 JAN	51	286.71	61	JAN/DEC	25 JAN	47
54034	3.75	62	14.0	4.4	MAR/DEC	7 FEB	64	3.91	57	MAR	12 FEB	64
54036	6.40	52	13.0	4.0	DEC	31 JAN	68	6.40	52	DEC	31 JAN	68
54038	41.00	72	12.7	5.7	JAN	31 DEC	51	48.11	51	JAN	27 DEC	49
54057	315.00	57	10.2	5.6	DEC	27 JAN	54	360.47	41	DEC	25 JAN	54
54065	6.13	24	5.0	4.8	JAN	29 JAN	56	7.85	20	JAN	24 JAN	57
54088	7.70	50	9.4	5.3	NOV/DEC	21 DEC	69	11.48	38	NOV/DEC	4 JAN	66
55001	354.00	145	32.9	4.4	JAN	3 JAN	53	364.74	132	JAN	3 JAN	51
55002	235.00	448	71.2	6.3	DEC	27 DEC	57	295.62	285	DEC	30 DEC	57
55003	35.80	233	44.1	5.3	JAN	19 JAN	59	42.96	177	JAN	18 JAN	61
55004	35.00	215	46.1	4.7	NOV	6 DEC	71	37.15	185	NOV	4 DEC	69
55005	59.00	131	31.7	4.1	JAN	17 DEC	69	60.42	127	JAN	16 DEC	68
55007	255.00	253	45.9	5.5	JAN	30 DEC	57	288.39	184	JAN	26 DEC	55
55008	8.20	249	34.1	7.3	NOV	1 DEC	79	10.90	137	NOV	28 NOV	83
55009	62.00	102	21.8	4.7	NOV	9 JAN	67	66.05	88	JAN/NOV	9 JAN	67
55010	25.00	178	30.4	5.9	DEC	4 DEC	79	30.07	122	NOV	4 DEC	78
55011	30.00	66	14.2	4.7	DEC	6 DEC	67	31.87	57	DEC	8 DEC	65
55012	110.00	61	17.0	3.6	DEC	6 DEC	59					
55013	13.00	90	17.5	5.1	JAN	13 JAN	53	15.02	71	JAN/DEC	10 JAN	54
55014	17.00	49	17.2	2.8	JAN/DEC	24 JAN	47					
55015	9.60	126	30.8	4.1	DEC	22 DEC	77	9.72	124	DEC	22 DEC	76
55016	55.00	21	5.2	4.1	DEC	13 DEC	60					
55017	10.00	24	5.3	4.5	DEC	28 NOV	62	10.65	22	NOV/DEC	24 NOV	58
55018	13.20	57	15.5	3.7	JAN	14 FEB	56					
55021	24.00	50	12.6	4.0	JAN	27 JAN	37	24.00	50	JAN	27 JAN	37
55022	17.00	62	14.0	4.4	JAN	20 JAN	42	18.46	56	JAN	24 JAN	41
55023	354.00	67	14.3	4.7	FEB/DEC	19 JAN	45	369.85	58	FEB/DEC	20 JAN	43
55025	16.50	74	13.4	5.5	JAN	6 JAN	53	20.28	54	JAN	3 JAN	47
55026	59.00	92	14.2	6.5	NOV	20 DEC	54	70.11	57	NOV	25 DEC	62
55029	62.00	55	10.2	5.4	JAN	12 JAN	53	72.08	41	JAN	12 JAN	53
56001	198.00	129	27.8	4.6	JAN	2 JAN	55	212.09	112	JAN	1 JAN	56
56002	38.00	189	26.5	7.1	JAN	22 DEC	61	51.06	107	JAN	22 DEC	60
56003	11.00	107	20.6	5.2	DEC	28 DEC	53	12.35	83	DEC	28 DEC	53
56004	179.00	78	19.1	4.1	DEC	28 DEC	54	180.12	77	DEC	30 DEC	53
56005	24.00	100	18.0	5.6	JAN	18 DEC	62	26.84	75	JAN/OCT	15 DEC	65
56006	72.00	114	21.2	5.4	DEC	21 DEC	53	84.79	85	DEC	24 DEC	50
56011	18.80	66	11.7	5.6	JAN	23 DEC	60	21.38	47	DEC	2 JAN	57
56012	10.40	67	13.3	5.1	JAN	4 JAN	65	11.32	54	MAR	1 JAN	69
56013	19.00	48	12.3	3.9	JAN/FEB/DEC	26 DEC	56					
56015	16.90	52	10.2	5.1	JAN	19 JAN	53	16.96	41	JAN	13 JAN	54
56019	23.00	48	9.2	5.2	MAR/NOV	11 DEC	70	24.59	37	DEC	7 DEC	62
57003	159.90	48	12.7	3.8	DEC	14 DEC	49					
57004	38.00	120	22.9	5.2	DEC	25 DEC	54	40.66	92	DEC	24 DEC	53
57005	145.50	86	15.8	5.4	JAN	28 DEC	56	163.92	64	DEC	26 DEC	55
57006	46.00	103	14.7	7.0	NOV	11 DEC	67	60.11	59	NOV	8 DEC	63
57007	55.00	49	10.7	4.6	JAN	8 JAN	51	60.54	43	JAN	7 JAN	51
57008	52.00	64	11.3	5.7	DEC	24 DEC	59	58.49	46	JAN/DEC	15 DEC	57
57009	32.00	44	9.2	4.8	NOV	18 DEC	50	33.59	37	NOV	18 DEC	48
57010	18.99	73	15.8	4.6	NOV	9 DEC	71	20.29	64	NOV	15 DEC	72
57015	39.00	31	5.0	6.1	MAR	12 JAN	46	48.53	21	MAR	12 JAN	49
57803	10.50	37	6.7	5.5	NOV	3 DEC	85	12.07	27	NOV	13 DEC	81
58001	56.00	129	24.5	5.3	DEC	12 DEC	59	63.49	98	DEC	7 DEC	58
58002	96.00	130	21.9	5.9	DEC	15 DEC	65	112.38	88	DEC	12 DEC	63
58003	13.30	49	9.2	5.3	DEC	7 DEC	70	14.50	37	DEC	15 DEC	69
58004	27.00	73	8.8	8.3	DEC	4 DEC	63	44.24	36	DEC	30 NOV	58
58005	20.20	102	16.1	6.3	NOV	12 DEC	60	27.16	65	NOV	10 DEC	54
58006	36.00	57	12.9	4.4	NOV	21 DEC	63	37.92	52	NOV	18 DEC	61
58007	22.50	84	15.0	5.6	NOV	1 DEC	70	24.57	61	NOV	28 NOV	72

Table A2.1 (continued)

STATION	THRESH	EX	RECORD	EX/YRS	MMF	MPD	SDMPD	THRESH4	EX4	MMF4	MPD4	SDMPD4		
58008	25.77	64	12.1	5.3	DEC	16	DEC	66	28.39	49	NOV/DEC	5	DEC	65
58009	17.00	69	14.0	4.9	NOV	21	DEC	65	18.37	57	NOV	10	DEC	62
58010	8.19	40	6.3	6.4	NOV	19	DEC	65	8.85	26	MAR/NOV	21	DEC	65
58011	4.20	54	7.2	7.5	DEC	31	DEC	59	4.78	29	FEB	10	JAN	60
59001	122.00	90	17.0	5.3	DEC	20	NOV	74	137.98	68	DEC	12	NOV	63
59002	31.00	75	16.3	4.6	DEC	11	DEC	64	34.01	66	OCT/DEC	9	DEC	63
60001	200.00	121	26.0	4.7	JAN	14	DEC	58	220.61	105	JAN	14	DEC	57
60002	76.00	112	22.3	5.0	DEC	17	DEC	58	83.77	90	JAN/DEC	18	DEC	62
60003	42.00	92	18.3	5.0	DEC	19	DEC	51	45.07	74	DEC	18	DEC	49
60004	11.00	63	16.4	3.8	JAN	14	DEC	59						
60005	15.50	98	15.7	6.2	NOV	5	DEC	61	22.60	63	NOV	6	DEC	62
60006	39.50	19	5.4	3.5	JAN	15	DEC	70						
60007	91.00	42	15.7	2.7	NOV	20	DEC	69						
60009	78.00	31	11.0	2.8	JAN/FEB	27	DEC	68						
60012	8.00	61	13.3	4.6	JAN/OCT/NOV	13	DEC	67	8.45	54	JAN/NOV/DEC	16	DEC	63
60013	65.00	54	10.0	5.4	DEC	25	DEC	48	72.39	40	JAN/DEC	25	DEC	50
61001	32.00	141	22.4	6.3	JAN/DEC	24	DEC	57	37.61	90	JAN/NOV	18	DEC	58
61002	42.00	131	24.1	5.4	DEC	13	DEC	51	48.53	97	DEC	12	DEC	55
61003	8.90	69	15.1	4.6	JAN	20	DEC	64	10.10	62	NOV	22	DEC	66
62001	118.05	107	24.6	4.4	JAN/DEC	14	DEC	50	123.66	99	JAN	14	DEC	51
62002	65.00	64	12.2	5.3	JAN	24	DEC	60	72.92	49	JAN	24	DEC	62
63001	47.00	79	12.3	6.4	NOV	2	DEC	74	57.07	50	NOV/DEC	8	DEC	78
63002	40.00	133	20.2	6.6	DEC	9	DEC	71	50.55	81	NOV	5	DEC	70
63003	16.00	40	11.2	3.6	JAN	29	DEC	74						
64001	164.00	159	23.2	6.8	DEC	13	DEC	66	201.59	93	DEC	12	DEC	62
64002	36.00	96	20.1	4.8	NOV	25	NOV	78	40.06	81	OCT/NOV	18	NOV	74
64005	80.00	14	4.7	3.0	NOV	29	OCT	73						
64006	8.50	61	11.9	5.1	OCT	23	NOV	78	9.33	48	OCT	22	NOV	74
65001	65.00	61	16.1	3.8	NOV	25	NOV	69						
65002	63.00	38	6.7	5.6	OCT	13	NOV	84	78.93	27	OCT	21	OCT	88
65004	13.00	60	14.8	4.1	JAN/NOV	16	DEC	62	13.00	60	JAN/NOV	16	DEC	62
65005	6.20	75	13.3	5.6	NOV	7	DEC	59	6.90	54	NOV	10	DEC	58
65006	24.00	51	10.3	5.0	OCT/NOV/DEC	4	DEC	66	27.45	42	DEC	5	DEC	63
65007	21.00	61	10.9	5.6	OCT/DEC	27	NOV	72	24.14	44	DEC	30	NOV	75
66001	251.00	25	5.3	4.7	DEC	17	DEC	70	262.56	22	DEC	20	DEC	66
66002	35.40	67	12.4	5.4	NOV	13	DEC	74	40.83	50	DEC	12	DEC	69
66003	12.60	91	21.8	4.2	JAN	10	DEC	62	12.83	88	JAN	8	DEC	62
66004	2.00	42	10.5	4.0	FEB	7	FEB	75	2.00	42	FEB	7	FEB	75
66005	6.00	62	12.0	5.1	DEC	29	DEC	50	6.41	49	DEC	29	DEC	49
66006	39.00	44	12.0	3.7	JAN	14	DEC	58						
66011	272.00	81	21.6	3.8	DEC	11	DEC	63						
66801	9.10	35	7.5	4.6	JAN	7	DEC	97	9.51	31	JAN	14	DEC	94
67002	134.00	161	35.9	4.5	NOV	17	DEC	54	139.97	144	NOV	19	DEC	55
67003	7.80	39	9.3	4.2	DEC	25	NOV	87	8.12	38	DEC	28	NOV	84
67005	15.20	142	31.1	4.6	DEC	20	DEC	61	16.10	125	DEC	20	DEC	57
67006	33.60	143	26.0	5.5	DEC	15	DEC	60	40.42	104	DEC	15	DEC	57
67007	93.00	64	9.9	6.4	DEC	13	DEC	63	113.75	40	DEC	17	DEC	61
67008	13.00	94	20.5	4.6	DEC	12	JAN	72	13.91	83	DEC	12	JAN	72
67009	4.10	104	28.4	3.7	DEC	31	DEC	69						
67013	10.30	68	12.5	5.4	JAN	8	DEC	70	13.18	50	NOV/DEC	8	DEC	71
67014	93.00	79	12.0	6.6	JAN	28	DEC	49	131.68	49	JAN	27	DEC	48
67015	134.00	47	12.0	3.9	JAN	30	DEC	51						
67018	39.00	109	16.0	6.8	NOV	2	DEC	62	46.98	65	NOV	1	DEC	57
67019	30.40	32	4.2	7.7	NOV	18	DEC	76	35.98	17	NOV	11	DEC	77
67025	9.20	32	9.3	3.4	FEB/DEC	14	JAN	61						
68001	25.00	279	47.8	5.8	JAN	3	JAN	64	29.48	192	JAN	5	JAN	63
68002	10.10	156	30.6	5.1	DEC	26	DEC	77	11.16	123	NOV	2	JAN	84
68003	34.90	154	36.5	4.2	DEC	12	DEC	74	35.88	146	DEC	13	DEC	72
68004	6.30	119	27.5	4.3	JAN/DEC	31	DEC	92	6.47	111	JAN	1	JAN	92
68005	10.30	246	49.6	5.0	JAN	4	JAN	66	11.88	199	JAN	1	JAN	63
68006	31.00	124	31.1	4.0	SEP/DEC	20	NOV	82	31.00	124	SEP/DEC	20	NOV	82
68007	11.20	95	20.3	4.7	DEC	22	DEC	71	12.09	82	DEC	26	DEC	68
68010	2.60	45	8.4	5.3	FEB	26	NOV	99	2.92	34	SEP	26	NOV	89
68014	0.54	34	4.8	7.0	DEC	13	DEC	106	0.67	20	MAY/DEC	6	DEC	105
68015	3.20	66	12.2	5.4	DEC	27	DEC	63	3.82	49	DEC	23	DEC	65
68018	21.00	213	34.4	6.2	JAN/NOV	14	DEC	74	26.31	138	JAN	15	DEC	73
68020	10.10	46	6.2	7.4	DEC	8	JAN	62	15.22	25	DEC	3	JAN	70
68911	4.00	35	7.7	4.5	DEC	7	JAN	50	4.31	31	DEC	9	JAN	49
69001	87.76	232	51.0	4.6	JAN	16	DEC	72	91.94	205	JAN/NOV	15	DEC	70
69002	108.00	231	43.7	5.3	NOV	25	NOV	70	119.67	175	JAN/OCT/NOV	23	NOV	67
69003	18.40	232	33.7	6.9	OCT/DEC	5	NOV	87	22.65	135	DEC	5	NOV	83
69006	28.10	174	44.5	3.9	JAN	17	DEC	66						
69007	75.40	131	27.2	4.8	DEC	20	DEC	71	84.91	109	DEC	24	DEC	71
69008	5.00	90	18.7	4.8	JAN	28	DEC	75	5.53	75	JAN	22	DEC	78
69011	6.90	122	17.8	6.9	NOV/DEC	9	DEC	81	8.96	72	DEC	28	NOV	78
69012	8.20	91	17.4	5.2	NOV	8	DEC	85	9.09	70	NOV	10	DEC	79
69013	3.80	93	18.0	5.2	JAN/DEC	6	DEC	95	4.24	72	NOV	28	NOV	97

Table A2.1 (continued)

STATION	THRESH	EX	RECORD	EX/YRS	MMF	MPD	SDMPD	THRESH4	EX4	MMF4	MPD4	SDMPD4
69015	21.50	90	16.7	5.4	NOV	5 JAN	74	24.08	67	MAR	12 JAN	77
69017	20.05	130	16.7	7.8	NOV	2 JAN	74	28.40	67	NOV	6 JAN	70
69018	2.05	53	11.7	4.5	NOV	14 DEC	75	2.52	47	NOV	6 DEC	73
69019	2.63	119	16.3	7.3	JAN/NOV	25 NOV	87	3.55	66	NOV	1 NOV	72
69020	7.20	97	16.7	5.8	DEC	21 NOV	86	8.32	67	DEC	1 DEC	81
69023	46.00	145	30.9	4.7	DEC	27 NOV	71	48.35	124	DEC	30 NOV	74
69024	28.00	214	36.7	5.8	DEC	20 NOV	78	34.18	147	DEC	19 NOV	75
69025	108.00	50	6.0	8.3	JAN	2 JAN	58	162.57	25	JAN/OCT/DEC	19 DEC	54
69027	28.00	183	36.2	5.1	JAN	4 DEC	82	31.10	145	JAN	30 NOV	83
69034	2.68	48	9.7	5.0	OCT	12 OCT	77	2.73	39	OCT	14 OCT	75
69035	85.00	48	9.9	4.9	JAN/DEC	13 DEC	57	98.87	40	DEC	15 DEC	58
69040	39.00	54	11.2	4.8	JAN	19 DEC	56	46.61	45	JAN/DEC	18 DEC	58
69041	29.40	60	16.5	3.6	NOV	10 DEC	87					
69802	7.10	205	36.5	5.6	NOV	7 NOV	82	8.16	147	NOV	12 NOV	82
70003	7.84	78	12.2	6.4	JAN	21 DEC	66	9.83	49	JAN	14 DEC	61
70004	15.00	85	12.2	7.0	JAN	20 DEC	61	18.96	49	JAN	28 DEC	60
70005	7.30	85	11.1	7.7	JAN	14 DEC	62	13.89	45	DEC	18 DEC	61
70006	7.00	78	16.0	4.9	NOV	22 NOV	86	8.10	64	NOV	22 NOV	76
71001	326.00	143	25.1	5.7	DEC	8 DEC	70	391.21	101	DEC	5 DEC	70
71003	5.26	119	16.9	7.1	DEC	17 NOV	76	6.95	68	DEC	23 NOV	82
71004	96.00	64	16.3	3.9	JAN	17 DEC	63					
71005	8.40	58	15.1	3.8	DEC	14 NOV	64					
71006	134.00	77	15.2	5.1	NOV	9 DEC	65	144.35	61	JAN/NOV/DEC	11 DEC	66
71007	285.00	31	14.2	2.2	NOV/DEC	9 DEC	68					
71008	93.00	124	16.2	7.7	NOV	8 DEC	67	138.05	65	NOV	10 DEC	65
71009	350.00	71	15.6	4.5	NOV	14 DEC	59	374.62	63	NOV	9 DEC	61
71010	34.00	92	14.2	6.5	JAN	11 DEC	74	43.93	57	JAN/DEC	29 NOV	72
71011	111.00	30	16.2	1.9	JAN/NOV	11 DEC	57					
71013	11.60	101	12.3	8.2	JAN	6 DEC	70	17.62	50	DEC	7 DEC	69
71014	42.00	77	11.3	6.8	JAN	11 DEC	63	59.00	46	DEC	9 DEC	57
71802	111.00	15	3.2	4.6	OCT	31 DEC	92	133.24	13	OCT	19 DEC	102
71803	191.00	53	9.0	5.9	DEC	22 NOV	88	216.28	37	DEC	23 NOV	86
72001	402.00	22	7.3	3.0	NOV	25 NOV	71					
72002	89.00	99	22.4	4.4	DEC	23 NOV	66	91.51	90	DEC	23 NOV	66
72004	402.00	35	8.0	4.4	NOV	16 DEC	53	421.48	32	NOV	14 DEC	54
72005	115.00	64	14.8	4.3	NOV	12 DEC	65	117.31	60	NOV	11 DEC	66
72006	275.00	69	16.3	4.2	NOV	11 DEC	60	278.65	66	NOV	15 DEC	58
72009	50.00	67	14.1	4.8	NOV	10 DEC	56	54.65	57	NOV	10 DEC	55
72011	170.00	70	15.9	4.4	NOV	5 DEC	70	174.62	64	NOV	5 DEC	72
72013	32.00	19	5.0	3.8	NOV	23 NOV	61					
72014	16.10	52	9.3	5.6	NOV	28 NOV	56	19.02	38	NOV	25 NOV	53
72015	114.00	27	5.7	4.7	NOV	27 DEC	54	126.53	23	NOV	30 DEC	50
72016	41.30	76	14.5	5.3	NOV	9 NOV	84	47.09	58	NOV	9 NOV	82
72804	130.00	24	6.2	3.9	DEC	15 NOV	55					
72807	142.00	125	27.5	4.5	NOV/DEC	4 DEC	65	154.98	111	DEC	4 DEC	67
73001	46.30	101	30.8	3.3	OCT	30 NOV	62					
73002	10.00	22	6.1	3.6	OCT	25 NOV	74					
73005	72.50	67	16.3	4.1	DEC	12 DEC	60	74.02	66	DEC	10 DEC	60
73008	22.00	62	15.5	4.0	NOV	16 DEC	63	22.00	62	NOV	16 DEC	63
73009	19.40	49	14.8	3.3	NOV	9 DEC	58					
73011	26.00	49	14.4	3.4	NOV	5 DEC	57					
73013	53.60	71	16.3	4.4	NOV	5 DEC	54	57.78	66	NOV	3 DEC	55
73014	30.00	68	14.3	4.8	NOV	30 NOV	63	31.37	58	NOV	2 DEC	60
73015	7.50	48	10.4	4.6	NOV	21 NOV	62	7.97	42	NOV	30 NOV	62
73803	5.60	56	12.0	4.7	NOV	29 NOV	63	5.94	49	JAN/NOV	1 DEC	62
73805	76.00	29	5.9	4.9	DEC	17 NOV	60	84.27	24	OCT/DEC	22 NOV	56
74001	62.50	76	17.0	4.5	DEC	4 DEC	60	65.35	68	DEC	1 DEC	61
74002	9.50	102	16.9	6.0	OCT	17 NOV	78	11.96	68	OCT	24 NOV	67
74005	47.00	61	11.0	5.5	OCT	30 NOV	58	52.94	45	OCT	25 NOV	58
74006	25.50	45	11.3	4.0	OCT	20 NOV	77	25.50	45	OCT	20 NOV	77
75002	113.50	114	24.4	4.7	NOV	27 NOV	60	122.11	98	OCT	28 NOV	55
75004	38.00	39	17.8	2.2	OCT	28 NOV	57					
75005	67.50	52	13.0	4.0	DEC	15 DEC	43	67.50	52	DEC	15 DEC	43
75006	20.00	88	17.4	5.1	NOV/DEC	7 DEC	56	24.78	70	NOV	7 DEC	52
75007	45.00	47	12.1	3.9	JAN/NOV	14 DEC	50					
75009	56.00	59	13.7	4.3	JAN/NOV	15 DEC	52	57.56	55	JAN/NOV	17 DEC	52
75010	11.60	35	9.0	3.9	JAN	20 DEC	64					
75017	15.00	64	9.3	6.9	NOV	3 DEC	52	20.94	38	JAN	30 NOV	47
76002	296.00	96	25.1	3.8	DEC	12 DEC	56					
76003	92.30	125	23.6	5.3	DEC	12 DEC	51	105.30	95	DEC	8 DEC	49
76004	77.29	63	22.4	2.8	DEC	15 DEC	58					
76005	186.00	68	20.7	3.3	DEC	5 DEC	60					
76007	410.00	49	17.9	2.7	NOV	12 DEC	55					
76008	85.00	82	17.4	4.7	NOV	23 NOV	66	95.23	70	NOV	19 NOV	63
76009	39.00	81	16.7	4.9	NOV	11 DEC	65	46.28	67	NOV	12 DEC	60
76010	16.00	51	14.9	3.4	JAN	26 DEC	51					
76011	0.88	19	4.3	4.4	OCT	30 OCT	76	0.89	18	OCT	30 OCT	80

Table A2.1 (continued)

STATION	THRESH	EX	RECORD	EX/YRS	MMF	MPD	SDMPD	THRESH4	EX4	MMF4	MPD4	SDMPD4
76014	52.50	64	14.3	4.5	NOV	8 DEC	54	56.70	58	NOV	5 DEC	54
77001	400.40	71	21.3	3.3	NOV	28 NOV	62					
77002	190.00	113	27.3	4.1	NOV/DEC	30 NOV	65	197.79	110	NOV/DEC	1 DEC	65
77003	138.00	63	12.0	5.2	NOV	4 DEC	62	164.04	49	NOV	2 DEC	64
77005	72.00	45	8.5	5.3	DEC	24 NOV	72	79.72	34	DEC	1 DEC	69
78003	179.00	122	22.4	5.5	JAN	7 DEC	64	195.10	90	JAN	4 DEC	64
78004	37.00	158	28.5	5.5	SEP	15 NOV	75	42.02	114	OCT	12 NOV	72
78005	72.00	56	11.0	5.1	DEC	22 NOV	74	78.01	45	DEC	19 NOV	74
79002	282.00	127	32.5	3.9	JAN	27 NOV	62					
79003	45.00	155	30.2	5.1	JAN	9 DEC	58	48.79	121	JAN	8 DEC	58
79004	81.55	129	26.3	4.9	JAN/NOV	29 NOV	62	89.85	106	JAN/DEC	26 NOV	61
79005	71.60	122	26.2	4.6	DEC	29 NOV	58	74.91	105	DEC	3 DEC	58
79006	164.00	111	22.6	4.9	JAN	6 DEC	57	181.23	91	DEC	2 DEC	53
80001	56.00	126	26.2	4.8	OCT	26 NOV	61	60.22	105	NOV/DEC	29 NOV	63
80003	7.00	49	9.0	5.4	SEP	18 SEP	59	7.31	37	AUG/SEP	11 SEP	58
80801	9.50	35	8.8	4.0	NOV/DEC	30 NOV	65	9.50	35	NOV/DEC	30 NOV	65
81002	127.50	129	26.7	4.8	OCT/DEC	16 NOV	64	139.58	107	JAN/DEC	17 NOV	65
81003	81.00	112	23.1	4.9	JAN/OCT/NOV	21 NOV	69	89.74	93	DEC	20 NOV	70
82001	60.00	99	19.3	5.1	OCT/DEC	22 NOV	59	63.70	78	OCT/NOV	26 NOV	59
82003	102.00	60	10.0	6.0	DEC	9 NOV	62	128.76	40	SEP/DEC	2 NOV	54
83002	36.60	51	10.0	5.1	SEP	24 OCT	72	40.21	41	SEP	14 OCT	63
83004	63.00	117	15.0	7.8	NOV	18 NOV	59	88.48	60	JAN	13 NOV	54
83005	90.00	61	9.0	6.8	SEP	21 NOV	64	127.90	36	SEP	15 NOV	65
83006	170.00	42	7.0	6.0	SEP	3 NOV	55	202.00	28	SEP	31 OCT	50
83802	48.00	460	70.4	6.5	DEC	21 NOV	72	55.78	283	DEC	13 NOV	73
84001	51.00	182	34.0	5.4	DEC	24 NOV	69	65.27	136	JAN/SEP/NOV	19 NOV	64
84002	11.31	23	6.0	3.9	OCT	19 OCT	92					
84003	144.00	210	33.3	6.3	JAN/DEC	11 DEC	65	174.26	134	JAN	12 DEC	64
84004	112.00	138	27.3	5.1	JAN	15 DEC	63	127.30	110	JAN	15 DEC	65
84005	219.00	198	33.2	6.0	DEC	12 DEC	66	251.32	133	DEC	8 DEC	61
84006	9.41	151	26.3	5.7	NOV	17 NOV	62	10.97	106	NOV	14 NOV	61
84007	9.56	92	16.6	5.5	JAN	3 DEC	78	11.61	67	OCT	23 NOV	78
84008	16.50	71	16.3	4.4	NOV	3 DEC	61	17.20	66	NOV	4 DEC	60
84009	22.51	79	16.3	4.9	NOV	19 NOV	59	24.30	66	NOV	19 NOV	56
84011	36.70	121	19.3	6.3	NOV	8 DEC	69	42.14	78	NOV	6 DEC	66
84012	63.30	184	25.3	7.3	NOV	28 NOV	69	80.50	102	NOV	28 NOV	60
84013	221.00	140	24.6	5.7	NOV	4 DEC	59	256.36	99	DEC	25 NOV	56
84014	88.30	129	25.0	5.2	DEC	30 NOV	67	98.47	100	DEC	26 NOV	61
84015	37.00	271	42.0	6.5	DEC	22 NOV	71	46.70	168	OCT	15 NOV	68
84016	7.50	166	20.7	8.0	DEC	26 NOV	69	11.21	83	JAN	19 NOV	68
84017	16.50	30	5.8	5.1	OCT	14 DEC	87	18.13	24	OCT	7 DEC	80
84018	130.00	83	14.0	5.9	NOV	15 DEC	54	151.60	56	JAN	22 DEC	45
84019	15.95	110	20.0	5.5	NOV	26 NOV	65	18.14	81	NOV	24 NOV	60
84020	26.00	148	20.0	7.4	NOV/DEC	15 NOV	68	35.99	80	NOV	10 NOV	62
84023	5.00	47	9.0	5.2	OCT/NOV	20 NOV	65	5.90	36	SEP/OCT	15 NOV	65
84025	16.00	43	9.0	4.8	NOV	1 DEC	57	17.73	36	OCT	25 NOV	59
84026	11.00	143	15.0	9.5	OCT/DEC	21 NOV	73	18.27	60	OCT/DEC	10 NOV	68
84806	171.00	54	9.1	5.9	DEC	29 NOV	74	203.78	37	DEC	25 NOV	73
85002	77.00	98	19.3	5.1	OCT	28 NOV	68	80.80	78	NOV	30 NOV	67
85003	104.00	98	17.0	5.8	NOV	19 NOV	65	116.40	68	DEC	19 NOV	64
86001	27.50	134	20.1	6.7	OCT	5 NOV	76	32.08	81	OCT	2 NOV	71
87801	5.90	104	21.0	5.0	OCT	30 OCT	80	6.40	84	OCT	28 OCT	82
89804	28.44	133	11.0	12.1	DEC	21 NOV	65	40.74	45	DEC	25 NOV	64
90801	29.50	36	5.9	6.1	AUG/DEC	23 OCT	91	32.90	24	SEP/DEC	28 OCT	94
91002	323.50	50	9.0	5.6	DEC	9 DEC	50	391.66	36	DEC	11 DEC	52
91802	4.20	176	34.9	5.0	OCT	8 DEC	79	4.47	141	OCT	2 DEC	81
93001	87.50	53	10.0	5.3	DEC	2 DEC	59	100.12	41	DEC	5 DEC	60
94001	47.00	89	18.0	4.9	NOV	16 DEC	81	54.23	72	NOV	16 DEC	71
95801	0.70	35	5.2	6.7	DEC	21 NOV	57	1.09	21	OCT/DEC	18 NOV	56
95803	45.00	39	4.3	9.0	MAR	9 JAN	79	69.12	18	MAR	31 JAN	63
96001	56.00	83	14.0	5.9	DEC	5 DEC	79	70.34	56	OCT	21 NOV	74
96002	64.00	65	11.0	5.9	DEC	12 DEC	59	78.37	45	NOV/DEC	15 DEC	56
97002	51.00	82	17.0	4.8	NOV	10 DEC	60	56.05	68	NOV	5 DEC	61
201002	50.00	59	13.3	4.4	JAN	27 DEC	53	52.42	54	JAN	25 DEC	51
201005	48.00	51	12.7	4.0	JAN	30 DEC	55	48.00	51	JAN	30 DEC	55
201006	80.00	53	12.4	4.3	JAN	7 JAN	57	82.74	50	JAN	5 JAN	54
201007	26.00	53	9.6	5.5	OCT	17 NOV	63	29.12	39	JAN	17 NOV	69
201008	107.00	63	9.2	6.8	JAN	9 DEC	64	128.63	37	NOV	4 DEC	61
203010	61.50	55	14.5	3.8	DEC	29 DEC	48					
203012	70.00	67	14.6	4.6	JAN	23 DEC	56	73.09	59	JAN	25 DEC	54
203013	110.00	63	13.5	4.7	DEC	26 NOV	63	120.78	54	DEC	21 NOV	58
203017	50.00	60	14.3	4.2	JAN	1 JAN	53	50.63	58	JAN	1 JAN	52
203018	47.00	56	14.4	3.9	JAN	24 DEC	56					
203019	21.50	59	14.0	4.2	JAN	1 JAN	48	22.05	57	JAN	2 JAN	47
203020	74.00	60	13.8	4.3	JAN	2 JAN	62	75.05	56	JAN	2 JAN	62
203021	50.00	49	13.6	3.6	JAN/SEP	21 NOV	65					
203025	25.50	66	13.3	4.9	JAN	7 JAN	58	28.95	54	JAN	3 JAN	61



Table A2.1 (continued)

STATION	THRESH	EX	RECORD	EX/YRS	MMF	MPD	SDMPD	THRESH4	EX4	MMF4	MPD4	SDMPD4
203026	6.40	65	11.7	5.5	JAN	20 DEC	70	8.40	47	JAN	15 DEC	60
203028	40.00	58	12.2	4.8	JAN	20 DEC	61	44.11	49	JAN	22 DEC	58
203033	33.00	65	9.8	6.6	DEC	22 DEC	63	39.37	40	JAN	20 DEC	54
203911	32.00	54	13.5	4.0	JAN	18 DEC	61	32.00	54	JAN	18 DEC	61
204001	51.50	52	11.9	4.4	JAN	13 DEC	54	53.22	48	JAN	12 DEC	54
205003	37.50	50	15.1	3.3	JAN	27 DEC	64					
205004	37.00	52	12.5	4.2	JAN	28 DEC	54	37.78	50	JAN	30 DEC	54
205005	9.00	46	12.5	3.7	JAN	16 DEC	56					
205008	12.00	56	10.8	5.2	OCT	16 DEC	85	14.28	44	OCT	14 DEC	82
205011	21.80	27	5.1	5.3	JAN/DEC	24 DEC	81	22.44	21	JAN	5 JAN	83
206001	10.00	74	13.2	5.6	JAN	4 JAN	51	11.67	53	JAN	6 JAN	48
206002	4.00	72	13.1	5.5	JAN/DEC	31 DEC	55	5.03	53	DEC	27 DEC	58



## Appendix 3 Annual maximum statistics

Table A3.1 presents statistics giving the maximum, median and mean of the annual maximum flows together with their coefficient of variation.

Abbreviations used in Table A3.1 are given below

NUM AM . . . . . Number of annual maximum

DATE MAX . . . . . Date of maximum flood for record held

MAX FLOOD . . . . . Maximum flood in  $\text{m}^3\text{s}^{-1}$

MEDAF . . . . . Median flood of annual maximum series in  $\text{m}^3\text{s}^{-1}$

QBAR . . . . . Arithmetic mean of series in  $\text{m}^3\text{s}^{-1}$

CV . . . . . Coefficient of variation of series as a fraction  
(standard deviation divided by QBAR)

Table A3.1 Annual maximum statistics

NUMBER	NUM AM	DATE MAX	MAX FLOOD	HEDAF	QBAR	CV
2001	13	01 12 1985	311.93	178.36	194.08	0.28
3002	14	20 09 1981	353.51	188.08	204.66	0.34
3003	10	05 10 1978	847.50	348.84	403.78	0.43
3801	8	18 12 1954	96.80	72.65	73.87	0.22
3803	7	24 01 1955	110.85	62.40	68.03	0.37
3901	6	27 12 1954	92.62	62.75	62.71	0.30
4001	11	21 11 1947	506.17	312.01	342.63	0.25
4003	14	04 10 1981	196.34	78.32	89.41	0.48
5901	13	12 02 1962	599.68	316.14	318.05	0.30
6007	15	31 12 1983	504.31	353.28	362.49	0.17
6008	8	04 10 1981	55.40	42.54	40.23	0.29
6901	33	20 12 1936	594.30	370.73	374.23	0.23
6903	14	20 12 1936	557.54	313.56	325.79	0.31
6906	7	27 10 1957	23.21	16.70	17.69	0.25
7001	28	20 09 1981	577.70	201.63	234.60	0.44
7002	30	16 08 1970	2402.27	316.49	436.44	0.95
7003	31	17 08 1970	89.82	40.49	43.54	0.45
8001	24	17 08 1970	1241.80	418.64	487.94	0.48
8002	34	18 12 1966	325.45	129.39	147.43	0.42
8003	22	17 12 1966	223.48	102.26	106.94	0.37
8004	37	25 08 1960	532.04	224.71	242.39	0.46
8005	38	18 12 1966	375.08	147.69	179.09	0.40
8006	37	17 08 1970	1597.82	507.70	557.22	0.51
8007	37	17 12 1966	276.92	89.70	111.40	0.54
8008	26	06 09 1958	155.07	58.66	69.31	0.59
8009	37	17 12 1966	202.26	95.92	104.21	0.32
8010	37	19 12 1966	441.22	234.48	242.73	0.31
9001	29	17 08 1970	235.53	119.20	121.93	0.34
9002	29	05 05 1968	521.59	231.88	231.16	0.42
9003	20	27 03 1987	80.41	38.87	43.45	0.41
10001	45	06 11 1951	97.31	48.55	50.44	0.32
10002	17	04 11 1984	91.04	46.42	51.91	0.47
11001	19	13 10 1982	279.46	132.93	139.31	0.42
11002	17	13 10 1982	189.11	106.13	112.86	0.30
11003	15	13 10 1982	188.55	92.93	100.44	0.35
12001	60	24 01 1937	1134.45	412.62	414.99	0.43
12002	16	13 10 1982	839.78	552.02	528.32	0.30
12003	13	17 10 1982	397.05	296.75	289.49	0.26
12004	11	26 09 1981	27.20	19.50	17.87	0.34
14001	22	11 02 1977	71.21	42.93	41.64	0.35
15001	27	29 09 1962	99.09	43.60	46.93	0.37
15002	24	30 09 1962	14.58	6.65	7.50	0.38
15003	31	15 01 1975	1461.50	663.81	780.53	0.32
15004	44	01 10 1946	10.48	6.41	6.37	0.33
15005	38	01 10 1940	25.24	15.52	15.38	0.24
15006	30	30 01 1974	1581.35	838.00	943.10	0.29
15007	30	28 12 1955	558.80	284.02	333.47	0.31
15008	36	11 12 1957	46.85	30.40	30.11	0.22
15010	17	23 08 1985	151.03	102.04	102.55	0.30
15013	14	22 11 1974	142.23	103.95	100.49	0.30
15016	14	07 02 1989	252.05	176.14	181.95	0.22
15017	6	15 11 1978	205.00	120.10	123.23	0.50
15808	12	06 10 1967	18.40	12.85	12.83	0.17
15809	20	05 11 1951	14.43	7.63	7.78	0.42
16001	30	16 02 1950	283.05	190.90	190.56	0.19
16002	18	28 01 1973	100.24	57.69	60.51	0.28
16003	28	13 01 1975	283.26	162.16	169.81	0.28
17001	19	15 11 1978	222.01	96.18	98.33	0.44
17002	5	01 12 1970	40.64	29.24	28.98	0.37
18001	25	30 01 1974	99.00	65.60	69.46	0.19
18002	17	12 02 1962	64.04	40.80	41.95	0.20
18003	26	13 12 1961	259.62	180.25	182.74	0.21
18005	17	30 09 1985	127.26	92.07	92.23	0.21
18008	15	03 03 1979	115.74	82.53	84.37	0.20
19001	33	23 11 1969	177.68	119.00	114.87	0.33
19002	28	03 11 1984	32.57	15.23	17.99	0.41
19003	18	31 10 1977	46.00	19.79	19.98	0.40
19004	29	03 11 1984	38.14	20.26	20.08	0.35
19005	21	31 10 1977	165.80	78.77	89.09	0.36
19006	18	13 08 1966	70.41	31.60	31.09	0.44
19007	19	13 08 1966	164.73	67.57	68.21	0.45
19008	17	13 08 1966	65.04	22.30	22.76	0.59
19010	6	19 03 1971	5.56	0.83	1.56	1.26
19011	18	13 08 1966	72.94	42.18	38.70	0.38
20001	30	04 08 1966	111.94	48.78	52.96	0.50
20002	23	04 01 1982	6.87	3.09	3.08	0.57
20003	27	03 11 1984	131.50	29.21	37.61	0.76

Table A3.1 (continued)

NUMBER	NUM AM	DATE MAX	MAX FLOOD	MEDAF	QBAR	CV
20004	8	14 08 1966	28.22	4.42	7.61	1.19
20005	26	03 11 1984	59.16	22.02	23.26	0.53
20006	17	02 10 1981	30.59	11.41	12.98	0.68
20007	16	26 05 1983	60.17	15.00	18.84	0.75
21001	15	15 01 1962	28.94	19.10	18.95	0.25
21002	9	04 08 1966	63.14	21.05	25.14	0.58
21003	42	07 01 1949	1079.26	169.07	214.65	0.78
21005	28	15 01 1962	232.13	122.82	126.34	0.32
21006	20	31 10 1977	1153.10	439.61	462.49	0.44
21007	28	31 10 1977	564.53	233.58	252.15	0.35
21008	29	03 01 1982	582.45	310.48	331.93	0.30
21009	29	04 01 1982	1555.73	723.22	769.89	0.34
21010	32	31 10 1977	1174.10	466.92	545.48	0.37
21011	20	31 10 1977	205.20	82.51	88.94	0.52
21012	26	31 10 1977	269.55	182.21	182.53	0.18
21013	18	04 01 1982	70.70	45.22	43.38	0.31
21015	23	03 11 1984	238.32	59.73	70.08	0.65
21016	22	03 11 1984	67.46	34.37	35.62	0.43
21017	17	30 10 1977	153.20	62.11	65.57	0.41
21019	13	30 10 1977	33.40	24.70	23.11	0.24
21020	15	30 10 1977	141.40	47.85	57.92	0.53
21021	12	04 01 1982	1649.50	663.25	780.95	0.48
21022	19	03 11 1984	279.80	117.30	136.42	0.58
21023	9	30 10 1977	71.80	48.40	48.97	0.22
21024	17	03 11 1984	161.88	58.56	65.01	0.47
21025	16	04 01 1982	80.44	38.61	43.20	0.37
21026	15	30 10 1977	71.81	50.90	52.54	0.15
21027	7	03 01 1982	92.80	42.10	48.69	0.45
21029	7	25 09 1965	47.78	37.68	39.21	0.14
21030	12	11 12 1972	110.01	56.70	60.51	0.40
21031	22	20 11 1965	147.97	81.33	83.87	0.36
21032	21	02 10 1981	105.00	41.34	43.75	0.48
21034	5	30 01 1974	63.78	31.65	37.38	0.43
22001	23	04 01 1982	289.70	130.00	148.34	0.42
22002	11	08 01 1971	39.04	25.84	24.71	0.32
22003	13	05 11 1967	39.85	13.82	17.62	0.52
22004	19	13 08 1966	150.27	63.88	70.63	0.51
22006	24	02 03 1981	150.24	46.96	62.53	0.64
22007	11	17 10 1967	225.49	81.27	95.63	0.58
22008	10	22 11 1969	21.30	9.19	11.58	0.52
23001	23	17 10 1967	1496.93	902.67	926.27	0.28
23002	10	28 08 1956	64.46	42.10	42.87	0.31
23003	27	23 03 1968	637.71	402.56	418.03	0.27
23004	20	21 11 1963	544.66	342.35	358.97	0.23
23005	19	30 08 1975	335.65	213.83	229.92	0.27
23006	19	03 11 1984	309.94	248.09	245.06	0.16
23007	21	05 11 1967	96.27	38.49	45.46	0.44
23008	16	19 02 1970	275.74	143.34	155.98	0.36
23010	9	30 08 1975	105.63	61.46	64.97	0.33
23011	16	03 11 1984	106.67	59.81	63.30	0.33
23012	10	25 11 1979	128.49	79.55	80.76	0.36
23013	11	25 11 1979	127.15	53.15	67.85	0.42
23015	17	02 12 1954	729.67	467.01	483.10	0.21
24001	17	05 11 1967	380.89	174.63	189.26	0.35
24002	24	05 11 1967	39.09	20.12	20.30	0.43
24003	27	23 03 1968	223.93	118.97	121.91	0.28
24004	26	27 12 1978	42.94	22.91	25.39	0.35
24005	29	26 03 1986	81.00	30.97	36.54	0.41
24006	19	11 09 1976	38.64	24.52	24.60	0.27
24007	15	27 12 1978	28.70	12.63	13.86	0.44
24008	12	26 08 1986	276.27	206.58	205.01	0.20
24009	8	27 12 1978	353.05	213.66	239.18	0.26
24801	21	18 08 1967	36.47	26.15	26.00	0.27
25001	29	23 03 1968	667.20	354.63	370.98	0.25
25002	15	23 03 1968	445.58	280.44	262.04	0.36
25003	17	13 08 1966	24.63	15.10	16.72	0.21
25004	28	29 03 1979	59.21	22.36	23.94	0.44
25005	19	28 03 1979	107.42	36.11	44.37	0.57
25006	25	02 01 1982	118.02	68.43	72.97	0.29
25007	15	14 08 1971	41.90	13.79	18.22	0.65
25008	18	25 03 1968	513.01	210.19	239.11	0.38
25009	14	03 01 1982	472.30	323.40	321.98	0.29
25010	17	14 08 1971	11.73	5.99	6.61	0.42
25011	14	17 07 1983	34.60	15.50	17.87	0.45
25012	10	02 01 1976	60.57	31.98	34.78	0.29
25018	13	02 01 1976	258.78	149.74	159.42	0.26
25019	9	11 09 1976	20.43	5.63	6.70	0.80

Table A3.1 (continued)

NUMBER	NUM AM	DATE MAX	MAX FLOOD	MEDAF	QBAR	CV
25020	9	28 03 1979	26.58	18.80	18.25	0.25
25021	10	29 03 1979	20.97	7.44	8.59	0.57
25022	5	20 03 1979	17.11	8.65	10.48	0.36
25023	7	25 12 1974	29.65	20.75	21.06	0.27
25808	5	10 01 1955	0.11	0.08	0.08	0.17
25809	5	07 12 1957	0.07	0.05	0.06	0.21
25810	3	24 08 1957	0.11	0.10	0.10	0.08
26001	22	10 12 1965	11.61	5.52	6.29	0.41
26002	20	03 12 1960	18.94	12.54	12.73	0.31
26003	22	10 02 1977	2.96	1.84	1.82	0.46
26004	11	03 03 1977	3.50	0.63	1.25	1.06
26801	12	09 10 1974	3.89	1.67	1.67	0.48
27001	48	12 09 1968	305.75	116.90	134.58	0.43
27002	40	15 02 1950	417.35	236.61	250.18	0.28
27006	24	22 06 1982	304.48	86.93	109.56	0.58
27007	27	04 01 1982	537.93	277.70	276.94	0.28
27008	26	07 03 1963	259.34	174.63	174.56	0.21
27009	26	06 01 1982	380.95	296.72	296.25	0.12
27010	41	23 06 1946	31.03	9.42	10.42	0.45
27012	20	21 08 1954	26.30	12.26	13.49	0.43
27014	15	10 10 1960	142.68	85.07	89.82	0.33
27015	15	21 02 1970	159.00	81.60	95.64	0.30
27021	98	01 10 1941	348.29	153.45	162.94	0.43
27022	8	09 12 1965	286.34	121.49	147.49	0.50
27023	29	13 04 1970	62.29	22.93	26.34	0.48
27024	20	23 03 1968	430.94	237.26	248.52	0.27
27025	19	23 06 1982	105.34	51.71	53.64	0.42
27026	22	16 07 1973	103.87	39.38	46.81	0.51
27027	13	09 12 1965	422.11	266.15	273.67	0.22
27028	21	17 10 1967	211.01	137.84	139.00	0.22
27029	20	26 11 1960	340.00	140.82	161.87	0.49
27030	18	13 04 1970	66.63	43.52	41.47	0.38
27031	17	16 10 1967	272.21	127.00	128.07	0.50
27032	16	02 01 1976	8.86	3.74	4.49	0.40
27033	16	15 05 1967	59.45	40.30	38.26	0.31
27034	15	23 03 1968	380.37	224.28	240.22	0.27
27035	15	27 10 1980	89.15	60.76	61.00	0.16
27036	4	04 02 1972	100.00	81.76	85.53	0.12
27038	13	30 07 1978	3.16	1.37	1.45	0.38
27040	12	25 02 1977	13.73	9.95	10.05	0.33
27041	5	29 12 1978	124.73	114.49	113.87	0.11
27042	10	11 09 1976	56.38	32.91	33.37	0.33
27043	9	02 01 1982	413.30	315.37	282.43	0.32
27048	9	22 06 1982	2.77	1.25	1.48	0.44
27049	8	12 09 1976	74.58	56.19	58.62	0.17
27051	5	27 12 1978	6.06	3.79	4.18	0.27
27052	4	22 06 1982	43.56	28.77	28.40	0.56
27053	7	08 03 1979	206.21	169.17	151.31	0.33
27054	5	22 03 1981	17.63	15.03	14.72	0.16
27055	5	22 03 1981	78.76	65.50	67.71	0.15
27058	5	03 01 1982	18.38	18.18	17.17	0.09
27059	5	28 12 1978	39.10	23.57	25.05	0.33
27061	3	21 03 1981	38.88	34.24	34.40	0.13
27810	20	26 11 1960	379.31	209.61	214.22	0.33
27811	5	09 12 1965	573.88	544.41	536.49	0.06
27835	7	09 12 1965	376.34	279.93	296.09	0.25
27846	5	17 10 1967	404.97	391.62	391.28	0.04
27852	22	01 01 1931	39.89	19.27	19.80	0.37
28002	15	17 03 1947	41.52	26.22	26.42	0.24
28003	29	08 09 1972	108.04	71.77	71.89	0.19
28004	26	11 07 1968	78.97	63.94	63.76	0.11
28005	22	25 01 1960	171.69	120.30	118.11	0.27
28006	27	11 02 1977	57.48	28.32	30.30	0.35
28007	14	05 12 1960	403.28	261.33	270.92	0.25
28008	31	04 12 1960	150.79	83.40	91.13	0.28
28009	24	26 02 1977	948.04	450.95	491.63	0.39
28010	46	10 12 1965	520.87	142.71	163.21	0.49
28011	25	09 12 1965	266.20	102.25	109.46	0.45
28012	24	11 02 1977	189.42	72.26	76.65	0.51
28014	10	04 12 1960	50.08	36.02	31.40	0.38
28015	8	21 02 1966	19.81	15.11	13.81	0.43
28016	7	03 11 1968	16.87	13.20	12.97	0.23
28017	16	02 11 1968	38.41	26.71	23.27	0.43
28018	23	11 02 1977	213.66	121.05	131.20	0.31
28019	20	31 12 1981	692.29	175.69	194.97	0.63
28020	28	27 10 1954	65.74	41.03	40.00	0.27
28022	15	26 02 1977	937.95	452.59	480.64	0.36

Table A3.1 (continued)

NUMBER	NUM AM	DATE MAX	MAX FLOOD	MEDAF	QBAR	CV
28024	14	27 04 1981	109.19	43.36	48.97	0.61
28026	16	06 05 1969	56.91	41.45	39.92	0.34
28027	18	22 06 1982	39.10	19.50	20.72	0.39
28031	16	10 08 1971	137.00	55.00	62.69	0.38
28032	18	25 02 1977	11.55	5.29	5.68	0.48
28033	12	15 07 1973	10.01	3.79	4.48	0.44
28038	12	19 10 1971	80.44	49.03	52.35	0.26
28039	10	30 12 1981	54.08	29.74	30.82	0.37
28040	15	28 01 1978	15.86	9.92	11.12	0.27
28041	14	10 08 1971	99.60	26.93	32.10	0.66
28043	14	15 07 1973	155.62	59.39	69.91	0.54
28045	17	25 02 1977	22.46	9.82	10.49	0.42
28046	14	21 11 1971	20.69	12.22	11.87	0.26
28047	14	16 07 1973	58.42	12.34	17.83	0.97
28048	13	24 04 1971	31.77	18.58	20.27	0.36
28049	15	01 08 1982	15.73	7.56	7.54	0.60
28051	12	28 06 1973	25.24	21.50	19.97	0.25
28052	13	11 02 1977	18.80	9.45	9.50	0.35
28053	8	30 12 1981	38.38	28.67	28.22	0.23
28054	10	15 08 1980	31.46	26.21	23.09	0.32
28055	10	19 10 1971	28.93	16.05	16.87	0.48
28056	9	24 02 1977	17.23	12.36	11.20	0.36
28058	8	30 05 1979	21.50	15.22	14.25	0.44
28059	18	13 10 1979	21.32	11.70	12.09	0.32
28060	10	25 02 1977	2.67	2.11	2.01	0.29
28061	7	03 01 1980	29.27	26.24	24.78	0.19
28066	9	30 05 1979	24.05	16.17	17.51	0.21
28067	10	25 02 1977	297.27	145.94	157.35	0.51
28069	14	30 12 1981	329.60	114.09	136.37	0.52
28070	56	01 07 1958	27.81	4.30	5.34	0.90
28804	82	19 03 1947	1107.33	494.25	522.33	0.42
28914	14	31 12 1981	48.88	28.03	30.61	0.29
28921	16	14 01 1968	174.14	104.29	111.42	0.31
28923	13	16 07 1973	43.85	16.33	19.03	0.44
29001	23	26 04 1981	6.94	2.44	2.51	0.57
29002	11	26 04 1981	8.71	4.26	4.01	0.53
29003	18	02 11 1968	7.35	3.11	3.21	0.47
29004	16	26 04 1981	22.84	7.01	7.56	0.62
29005	13	26 04 1981	23.97	7.25	8.38	0.69
29009	10	26 04 1981	7.05	2.43	2.68	0.63
30001	25	11 02 1977	37.61	17.55	18.17	0.51
30002	21	26 08 1981	41.54	20.05	21.27	0.42
30003	22	25 04 1981	57.00	17.29	18.79	0.62
30004	21	26 04 1981	15.21	6.72	7.52	0.46
30005	16	09 03 1975	15.20	8.21	8.24	0.54
30006	9	01 03 1977	5.29	2.31	2.30	0.66
30011	16	26 04 1981	16.24	2.68	4.16	0.98
30012	10	26 04 1981	26.58	10.17	11.47	0.58
30013	6	13 02 1977	1.22	0.81	0.83	0.27
30014	12	15 08 1980	9.10	2.42	2.84	0.82
30015	8	26 04 1981	2.07	1.91	1.75	0.20
30017	6	15 08 1980	11.65	8.47	8.38	0.34
31002	27	10 03 1975	36.66	18.54	17.86	0.55
31004	19	10 03 1975	93.26	41.43	44.51	0.47
31005	24	09 03 1975	107.13	32.47	38.41	0.59
31006	6	06 05 1969	22.81	11.03	13.03	0.48
31010	18	15 08 1980	22.79	8.60	10.15	0.55
31021	12	09 03 1975	39.35	29.63	28.35	0.35
31023	14	14 08 1980	7.75	1.67	2.54	0.91
31025	8	02 06 1981	22.46	10.95	12.94	0.45
31026	8	14 08 1980	1.24	0.80	0.87	0.24
32002	46	17 03 1947	15.00	5.31	5.43	0.48
32003	45	26 04 1981	22.00	7.32	9.05	0.67
32004	42	02 07 1958	30.03	15.37	15.54	0.38
32006	46	18 03 1947	63.25	14.37	15.15	0.56
32007	45	08 03 1941	31.51	17.78	17.19	0.40
32008	39	16 03 1947	29.56	10.21	10.20	0.55
32010	46	18 03 1947	255.00	62.60	67.88	0.56
32029	5	30 05 1969	4.23	2.54	2.32	0.60
33002	26	11 03 1975	143.40	79.48	85.72	0.40
33005	23	31 01 1971	30.10	22.00	21.75	0.23
33006	28	20 11 1974	13.17	7.41	7.69	0.35
33007	16	12 02 1977	7.87	3.59	4.08	0.45
33009	33	12 07 1968	183.06	85.85	93.76	0.40
33011	23	28 04 1981	6.66	3.59	3.17	0.54
33012	24	26 04 1981	24.46	16.09	14.93	0.42
33013	24	17 09 1968	15.60	5.21	6.03	0.56

Table A3.1 (continued)

NUMBER	NUM AM	DATE MAX	MAX FLOOD	MEAF	QBAR	CV
33014	23	17 09 1968	21.90	8.44	8.62	0.48
33015	11	11 07 1968	23.89	16.12	15.42	0.34
33017	17	16 07 1968	142.11	96.99	96.61	0.29
33018	22	09 03 1975	26.40	15.87	16.89	0.35
33019	23	29 04 1981	15.31	8.00	7.83	0.39
33020	21	12 07 1968	42.23	13.88	17.64	0.62
33021	22	06 05 1978	13.40	7.65	7.27	0.47
33022	19	08 04 1979	26.58	21.11	18.67	0.36
33023	20	06 05 1978	6.70	3.73	3.43	0.52
33024	21	02 02 1979	11.62	8.43	7.92	0.35
33027	19	06 05 1978	8.88	4.97	4.68	0.51
33028	18	06 05 1978	7.50	5.44	4.99	0.36
33029	19	16 09 1968	4.12	2.73	2.88	0.36
33030	13	18 04 1975	17.49	9.20	8.60	0.58
33031	14	15 08 1980	25.27	6.91	9.53	0.74
33032	11	01 08 1980	1.27	0.57	0.63	0.59
33033	11	18 11 1974	6.39	3.72	3.95	0.44
33034	16	28 04 1981	24.13	18.66	16.73	0.35
33037	15	28 12 1979	83.15	62.42	57.80	0.39
33039	12	29 04 1981	108.00	96.21	81.81	0.39
33044	17	03 02 1979	13.84	8.20	8.33	0.37
33045	17	16 09 1968	3.40	1.19	1.27	0.64
33046	17	16 09 1968	17.65	7.78	7.78	0.50
33048	15	01 02 1979	0.55	0.28	0.27	0.44
33049	13	17 05 1969	1.07	0.72	0.74	0.29
33050	10	06 05 1978	2.98	1.99	1.84	0.35
33051	15	07 03 1972	13.99	8.07	8.36	0.45
33052	16	05 07 1983	0.98	0.44	0.46	0.54
33054	8	11 02 1977	2.14	1.34	1.49	0.35
33055	8	06 05 1978	6.50	3.99	4.45	0.28
33057	8	28 12 1979	8.47	7.08	7.01	0.16
33058	6	28 12 1979	33.81	24.28	25.50	0.29
33063	4	27 04 1981	5.04	4.84	4.83	0.04
33805	9	03 03 1966	0.54	0.38	0.36	0.40
33809	15	09 08 1968	16.20	8.25	7.36	0.60
33813	20	05 05 1978	0.48	0.26	0.26	0.42
34001	29	17 09 1968	21.80	10.75	11.25	0.44
34002	29	16 09 1968	61.92	8.95	10.47	1.00
34003	28	26 04 1981	18.30	6.27	6.74	0.54
34004	27	28 04 1981	37.60	19.80	19.91	0.37
34005	26	27 04 1981	8.77	2.55	2.99	0.58
34006	11	17 09 1968	112.79	22.97	33.62	0.96
34007	21	16 09 1968	37.15	14.82	14.80	0.62
34008	21	26 04 1981	2.64	1.13	1.20	0.35
34010	19	26 04 1981	27.11	15.62	14.72	0.52
34011	21	12 02 1977	9.81	4.22	4.26	0.44
34012	21	20 02 1977	1.43	0.61	0.67	0.44
34018	15	27 04 1981	11.00	3.07	3.84	0.69
35001	15	17 09 1968	50.97	19.30	20.28	0.52
35003	26	01 02 1979	11.70	7.94	7.20	0.44
35004	22	02 02 1979	11.90	5.67	5.96	0.48
35008	23	02 02 1979	34.00	14.71	15.99	0.51
35010	18	02 02 1979	41.32	14.68	15.20	0.54
35011	8	13 03 1969	10.76	4.16	4.66	0.69
35314	17	28 10 1955	0.67	0.47	0.48	0.28
36001	40	01 01 1968	99.12	29.85	32.84	0.56
36002	23	15 09 1968	23.00	8.15	8.65	0.43
36003	23	01 02 1979	8.85	3.66	3.62	0.55
36004	18	15 09 1968	28.00	6.39	7.28	0.79
36005	23	01 02 1979	28.04	11.56	12.44	0.51
36006	22	17 09 1968	90.00	36.61	38.14	0.49
36007	21	01 02 1979	11.02	4.17	4.85	0.66
36008	24	16 09 1968	85.00	20.10	21.63	0.70
36009	17	01 02 1979	5.71	4.12	3.66	0.45
36010	18	16 09 1968	21.00	6.62	7.93	0.68
36011	17	05 05 1978	10.63	5.74	5.95	0.40
36012	17	05 05 1978	23.17	12.65	12.58	0.42
36015	13	02 02 1979	38.66	33.90	29.10	0.32
37001	29	22 11 1974	62.41	22.93	24.35	0.44
37003	22	14 12 1974	8.89	4.95	5.11	0.40
37005	24	02 02 1979	24.06	12.49	13.76	0.46
37006	24	21 11 1974	37.00	19.70	19.87	0.39
37007	22	21 11 1974	38.60	14.29	16.10	0.50
37008	7	13 03 1969	21.87	14.02	13.46	0.44
37009	11	13 03 1969	6.25	3.43	3.51	0.39
37010	23	22 11 1974	22.45	11.73	12.52	0.44
37011	23	01 02 1979	18.50	9.67	9.06	0.47



Table A3.1 (continued)

NUMBER	NUM AM	DATE	MAX	MAX FLOOD	MEDAF	QBAR	CV
37012	22	17 03	1980	34.71	10.37	11.97	0.72
37013	22	08 12	1982	15.75	8.40	8.44	0.41
37014	15	06 05	1978	23.00	12.22	11.69	0.60
37016	21	01 02	1979	31.89	7.61	10.52	0.74
37017	17	06 05	1978	17.10	13.34	11.75	0.39
37018	9	21 11	1974	23.50	4.63	7.36	0.91
37019	14	21 11	1974	13.87	6.76	8.03	0.34
37020	16	10 12	1982	16.46	12.94	12.04	0.35
37021	8	23 01	1971	29.14	4.50	10.01	1.16
37031	21	15 09	1968	39.60	9.49	13.10	0.68
38001	112	23 10	1857	280.00	39.02	42.74	0.66
38002	39	13 03	1947	18.40	6.51	6.46	0.53
38003	26	15 09	1968	3.54	1.70	1.93	0.37
38004	20	16 09	1968	42.50	12.03	14.41	0.63
38007	29	01 07	1958	14.15	6.09	7.05	0.47
38011	16	16 09	1968	0.65	0.43	0.40	0.34
38013	19	15 09	1968	6.79	2.46	2.71	0.55
38018	8	30 05	1979	15.82	8.47	8.78	0.51
38020	8	05 05	1978	15.78	7.85	7.76	0.61
38021	8	30 05	1979	20.69	9.35	9.76	0.57
38022	25	20 07	1965	39.68	22.42	24.14	0.34
38026	5	22 11	1974	12.96	10.92	9.44	0.53
39001	101	18 11	1894	1064.82	307.83	325.36	0.42
39002	46	17 03	1947	349.19	140.07	147.71	0.41
39003	31	16 09	1968	56.00	7.43	10.04	0.90
39004	31	15 09	1968	5.73	2.46	2.89	0.38
39005	11	15 09	1968	21.00	14.16	12.24	0.41
39006	33	06 12	1960	23.12	11.96	11.92	0.29
39007	30	17 09	1968	42.27	20.39	21.57	0.26
39008	33	07 12	1960	83.08	66.20	66.50	0.24
39010	30	07 05	1978	14.90	10.29	10.24	0.28
39011	14	16 09	1968	78.82	24.45	29.53	0.59
39012	23	06 08	1981	26.30	13.20	13.42	0.37
39014	16	15 09	1968	3.11	1.59	1.64	0.36
39015	20	21 11	1974	1.65	1.12	1.10	0.26
39016	21	11 06	1971	71.00	38.00	37.53	0.29
39017	20	10 07	1968	16.26	5.51	5.90	0.63
39018	15	06 03	1972	19.01	10.77	10.28	0.45
39019	21	13 11	1974	5.05	3.66	3.57	0.23
39020	20	26 02	1977	4.90	3.51	3.47	0.28
39021	18	28 12	1979	40.09	25.87	26.34	0.28
39022	18	16 09	1968	28.52	16.65	16.92	0.29
39023	18	06 08	1981	4.17	2.88	2.93	0.21
39024	21	15 09	1968	15.23	6.20	7.24	0.39
39025	16	11 06	1971	21.24	15.55	15.31	0.19
39026	16	28 12	1979	54.10	17.09	22.08	0.67
39027	14	22 11	1974	3.77	2.31	2.33	0.32
39028	15	14 11	1974	3.53	2.44	2.52	0.29
39029	8	28 12	1979	3.26	2.04	2.14	0.33
39031	11	10 04	1967	2.95	1.95	1.89	0.36
39032	17	06 02	1969	2.50	1.83	1.74	0.33
39033	21	15 03	1982	0.60	0.36	0.37	0.38
39034	13	28 12	1979	26.70	23.50	20.91	0.30
39035	14	31 01	1971	4.76	3.59	3.53	0.31
39036	15	06 08	1981	0.77	0.56	0.49	0.40
39037	11	25 02	1977	6.14	3.08	3.20	0.53
39038	15	07 05	1978	27.53	20.37	19.56	0.37
39040	11	09 02	1974	10.80	9.45	8.84	0.30
39042	11	30 12	1979	5.12	3.54	3.63	0.37
39044	11	14 11	1974	11.70	9.01	9.12	0.14
39049	25	16 08	1977	42.00	9.84	15.24	0.80
39052	25	01 06	1981	18.10	7.90	8.63	0.47
39053	21	16 09	1968	61.43	23.88	25.74	0.39
39055	8	17 08	1977	11.49	4.78	6.07	0.44
39056	7	13 06	1977	11.58	8.20	8.87	0.20
39057	8	26 06	1982	13.13	10.88	11.05	0.11
39058	7	13 06	1977	4.01	3.21	3.29	0.19
39069	10	28 12	1979	68.50	46.75	45.20	0.30
39081	4	16 03	1982	15.60	12.40	12.44	0.21
39086	8	27 12	1979	17.00	13.00	12.04	0.35
39088	10	16 08	1977	1.46	1.27	1.24	0.17
39089	8	05 07	1983	1.21	0.82	0.85	0.33
39090	7	28 12	1979	19.86	10.81	12.44	0.29
39813	10	16 09	1968	19.00	3.23	4.73	1.10
39820	14	07 06	1963	16.42	6.44	7.36	0.44
39821	42	16 08	1977	51.00	23.91	23.64	0.38
39824	17	15 09	1968	9.34	4.57	4.81	0.37

Table A3.1 (continued)

NUMBER	NUM AM	DATE MAX	MAX FLOOD	MEDAF	QBAR	CV
39827	6	15 09 1968	12.34	5.19	6.24	0.53
39828	18	16 08 1977	7.53	4.39	4.81	0.33
39830	7	15 09 1968	5.66	2.06	2.50	0.58
39831	7	15 09 1968	4.25	2.17	2.30	0.40
39834	8	26 07 1962	38.83	30.24	29.25	0.29
39856	6	16 08 1977	19.05	13.42	14.08	0.23
40003	30	16 09 1968	300.42	130.17	148.25	0.44
40004	24	04 11 1967	98.65	38.52	37.85	0.54
40005	28	28 12 1979	106.02	38.80	44.43	0.49
40006	24	15 09 1968	56.60	6.46	9.23	1.16
40007	24	03 11 1960	119.38	46.21	50.21	0.41
40008	25	28 03 1975	35.36	23.72	23.55	0.29
40009	25	11 02 1974	49.08	27.71	29.56	0.34
40010	24	15 09 1968	212.00	28.11	34.53	1.12
40011	22	22 03 1975	32.37	20.80	21.06	0.29
40012	18	16 09 1968	49.00	2.65	5.29	2.07
40016	14	27 08 1977	32.66	8.15	9.61	0.75
40017	17	25 11 1982	48.68	29.35	28.75	0.40
40018	18	15 09 1968	23.00	3.28	4.51	1.05
40020	12	28 12 1979	34.39	30.25	28.88	0.18
40022	18	20 03 1975	13.00	6.63	7.01	0.40
40809	15	22 11 1974	9.92	8.67	8.39	0.17
41003	22	30 01 1961	83.49	32.47	36.35	0.56
41005	22	22 11 1974	85.26	30.67	38.84	0.56
41006	18	22 11 1974	62.12	32.18	34.47	0.38
41007	15	15 09 1968	291.57	77.55	79.35	0.82
41011	15	16 09 1968	157.12	34.98	44.71	0.81
41012	14	22 11 1974	35.12	20.97	21.80	0.36
41014	9	28 12 1979	83.30	70.91	67.57	0.16
41015	15	18 04 1975	6.42	1.59	1.81	0.80
41016	15	21 11 1974	26.50	5.40	9.33	0.85
41018	13	27 12 1979	43.72	19.99	20.02	0.50
41020	13	20 01 1975	17.80	12.05	12.24	0.24
41021	5	21 11 1974	4.28	3.69	3.19	0.32
41022	9	27 12 1979	41.50	16.92	20.71	0.48
41023	9	24 11 1974	4.09	1.02	1.48	0.76
41025	9	27 12 1979	95.91	34.99	41.74	0.52
41026	11	22 11 1974	17.13	10.02	9.29	0.51
41027	10	27 12 1979	22.96	11.57	11.66	0.47
41028	17	21 11 1974	14.25	7.27	7.81	0.35
41801	6	14 06 1971	3.35	2.03	2.10	0.40
41806	15	04 11 1967	1.34	0.72	0.76	0.42
41807	12	04 11 1967	6.19	2.97	3.23	0.40
42001	8	29 11 1976	17.59	14.93	14.56	0.13
42005	27	02 03 1966	1.98	1.05	1.09	0.35
42006	26	04 12 1960	5.94	2.76	2.94	0.38
42007	15	18 02 1977	2.87	2.23	2.35	0.14
42008	13	13 06 1979	2.07	1.30	1.42	0.27
42009	14	01 02 1975	1.44	0.97	1.00	0.21
42010	25	28 01 1968	12.73	8.72	9.14	0.20
42011	10	29 11 1976	11.16	8.45	7.82	0.34
42012	9	31 01 1975	4.25	3.63	3.58	0.19
42014	8	27 12 1979	28.37	16.57	17.32	0.29
42801	16	22 10 1966	15.57	6.80	7.65	0.44
43001	8	01 11 1960	112.82	61.27	65.60	0.31
43002	12	06 11 1966	210.47	126.61	131.46	0.27
43003	20	11 03 1967	81.73	43.71	45.12	0.29
43004	20	04 03 1966	3.94	2.26	2.38	0.37
43005	21	15 02 1974	19.79	12.68	12.56	0.30
43006	20	28 12 1979	47.88	15.64	18.21	0.47
43007	13	28 12 1979	292.62	109.93	124.28	0.49
43008	19	15 02 1974	20.46	12.29	12.23	0.30
43009	18	27 12 1979	234.54	118.50	118.56	0.35
43010	11	21 02 1974	4.96	3.50	3.53	0.36
43012	17	30 05 1979	6.74	4.68	4.56	0.28
43014	16	27 12 1979	6.13	4.00	3.87	0.30
43017	16	27 12 1979	10.48	5.83	5.79	0.36
43018	12	27 12 1979	8.98	7.12	6.69	0.31
44002	20	08 01 1968	11.86	8.23	8.33	0.19
44003	13	31 05 1979	27.10	12.27	13.00	0.43
44004	15	27 12 1979	23.13	15.58	15.65	0.24
44006	17	30 05 1979	1.57	0.78	0.86	0.39
44008	12	06 02 1979	0.85	0.44	0.43	0.49
44009	11	30 05 1979	3.32	1.85	1.86	0.49
45001	32	04 12 1960	456.56	175.31	185.09	0.39
45002	27	04 12 1960	339.62	149.08	151.16	0.35
45003	26	10 07 1968	202.00	67.51	81.11	0.50

Table A3.1 (continued)

NUMBER	NUM AM	DATE MAX	MAX FLOOD	MEDAF	QBAR	CV
45004	23	27 12 1979	243.16	99.90	108.34	0.49
45005	26	10 07 1968	348.29	70.34	81.58	0.72
45006	9	18 12 1965	18.35	9.76	9.90	0.38
45008	14	31 05 1981	131.73	49.81	62.83	0.48
45009	9	19 12 1982	71.61	50.36	48.57	0.31
45801	5	16 07 1972	12.04	3.93	4.68	0.92
45804	12	09 03 1981	153.26	85.68	88.01	0.39
45805	7	20 02 1967	50.06	39.18	38.96	0.26
45806	21	27 12 1979	195.78	100.48	100.76	0.45
46002	32	30 09 1960	391.78	168.00	164.54	0.40
46003	30	27 12 1979	549.74	217.22	233.55	0.34
46005	24	27 12 1979	67.06	41.13	41.99	0.29
46006	14	01 09 1988	77.63	46.22	46.64	0.34
46007	9	27 12 1979	131.85	75.65	73.76	0.39
46008	10	27 12 1979	88.95	64.98	59.49	0.36
46801	9	27 06 1968	32.11	23.37	24.21	0.15
46806	17	16 11 1944	47.88	24.73	26.39	0.27
47001	31	28 12 1979	703.56	277.90	311.50	0.36
47004	26	27 12 1979	106.99	43.85	44.72	0.39
47005	22	27 12 1979	133.07	54.25	56.19	0.39
47006	11	04 11 1967	274.70	122.82	131.12	0.45
47007	19	17 11 1963	25.99	21.34	21.08	0.15
47008	18	27 12 1979	124.65	48.00	51.54	0.45
47009	18	27 12 1979	10.24	5.73	5.88	0.25
47010	12	20 09 1980	67.85	54.94	55.42	0.18
47011	10	27 12 1979	113.31	45.61	48.32	0.53
47014	14	26 12 1979	69.85	30.69	31.96	0.41
48001	18	26 12 1979	38.94	16.58	18.88	0.43
48003	21	27 12 1979	58.09	12.86	14.89	0.71
48004	18	26 12 1979	23.91	9.95	10.62	0.50
48005	16	26 12 1979	13.59	5.29	5.81	0.44
48006	17	28 12 1979	16.84	5.31	6.28	0.52
48007	17	28 12 1979	6.25	3.87	3.87	0.27
48009	12	27 12 1979	21.08	8.35	9.82	0.46
48010	15	27 12 1979	14.35	6.16	6.80	0.38
48011	15	27 12 1979	128.96	45.30	53.18	0.55
48902	12	04 11 1967	98.56	54.48	55.61	0.33
49001	30	27 12 1979	229.73	48.59	61.47	0.64
49002	26	01 01 1963	15.00	4.16	5.45	0.51
49003	16	21 09 1980	35.80	14.48	15.38	0.42
49004	16	05 10 1977	25.55	12.98	14.46	0.42
50001	31	09 01 1968	581.78	221.30	245.69	0.43
50002	28	28 12 1979	730.00	254.05	283.61	0.45
50006	15	27 09 1974	174.80	101.60	114.52	0.33
50007	9	27 12 1979	128.03	52.59	61.71	0.51
50802	6	17 06 1971	53.00	23.89	27.82	0.50
50803	18	09 01 1968	419.15	165.72	195.46	0.54
50810	8	09 03 1981	61.78	35.43	36.56	0.41
51001	21	10 07 1968	131.33	15.26	22.66	1.22
51002	9	18 11 1986	9.99	6.09	5.92	0.38
51003	16	26 05 1983	27.34	5.85	7.16	0.81
52003	22	10 07 1968	28.32	10.26	12.42	0.55
52004	25	20 12 1981	28.72	26.74	25.07	0.16
52005	26	11 02 1968	112.66	67.38	66.18	0.44
52006	24	27 12 1979	97.96	43.75	47.24	0.37
52007	13	29 05 1979	58.51	27.55	30.28	0.36
52009	23	10 07 1968	9.27	7.39	7.02	0.20
52010	24	30 05 1979	94.77	45.44	49.03	0.43
52011	23	31 05 1979	15.01	10.45	10.15	0.23
52014	12	10 07 1968	23.79	14.36	14.99	0.32
52015	11	27 09 1974	5.28	2.49	2.92	0.48
52016	17	01 12 1976	7.70	2.56	3.43	0.59
52017	13	28 01 1975	13.97	9.48	9.57	0.34
52020	8	30 05 1979	38.48	20.28	21.46	0.49
52801	6	10 07 1968	5.05	3.65	3.60	0.34
53001	49	11 07 1968	197.79	59.62	75.41	0.52
53002	15	27 12 1979	50.00	25.93	26.38	0.35
53003	29	04 12 1960	351.52	127.74	159.65	0.47
53004	30	10 07 1968	226.48	25.76	37.12	1.08
53005	27	10 07 1968	55.18	28.28	31.07	0.39
53006	27	10 07 1968	70.00	30.49	32.86	0.42
53007	27	11 07 1968	113.24	57.75	61.39	0.34
53008	23	11 07 1968	106.13	38.91	41.36	0.51
53009	22	10 07 1968	29.91	13.53	15.38	0.39
53013	19	12 06 1971	33.84	14.68	18.10	0.51
53017	15	30 05 1979	27.42	13.04	14.36	0.45
53018	17	27 12 1979	299.29	162.88	162.33	0.37

Table A3.1 (continued)

NUMBER	NUM AM	DATE MAX	MAX FLOOD	MEDAF	QBAR	CV
53019	12	11 06 1971	66.45	22.10	26.05	0.72
53020	25	10 07 1968	13.00	3.55	4.74	0.62
53023	12	30 05 1979	11.53	6.93	7.40	0.25
53025	8	31 01 1983	33.87	18.96	22.06	0.37
54001	62	21 03 1947	671.10	356.68	376.66	0.28
54002	48	11 07 1968	361.91	148.68	157.20	0.49
54003	40	03 11 1931	240.63	87.24	100.23	0.51
54004	33	26 03 1955	57.65	31.18	29.99	0.43
54005	33	05 12 1960	467.23	301.72	299.83	0.22
54006	33	27 03 1955	52.20	16.78	18.96	0.56
54007	29	30 12 1981	91.50	42.19	47.22	0.38
54008	29	03 12 1960	261.13	145.55	148.73	0.38
54010	26	11 07 1968	82.63	37.19	37.90	0.44
54011	27	24 01 1960	46.41	20.18	22.83	0.46
54012	26	03 07 1968	61.07	40.18	38.92	0.28
54013	6	12 12 1964	120.48	69.46	72.84	0.41
54014	24	04 12 1960	616.90	201.64	236.79	0.56
54016	24	03 07 1968	30.75	14.86	15.11	0.34
54017	24	10 02 1977	48.80	20.01	23.02	0.38
54018	21	09 12 1965	38.11	21.90	21.93	0.27
54019	23	11 07 1968	98.82	33.51	35.49	0.56
54020	22	15 01 1968	11.63	9.07	9.28	0.17
54022	22	05 08 1973	27.97	11.84	13.95	0.40
54023	17	14 06 1977	15.82	10.99	10.28	0.38
54024	16	31 12 1981	15.92	6.63	7.16	0.39
54025	14	05 08 1973	24.30	21.25	20.06	0.18
54026	16	27 12 1979	10.98	9.02	8.55	0.21
54027	14	30 05 1979	19.08	10.69	11.64	0.28
54028	14	06 08 1973	544.03	242.82	269.90	0.37
54029	15	28 12 1979	276.32	172.70	171.12	0.27
54032	15	31 12 1981	670.93	423.83	447.04	0.26
54034	14	28 09 1976	19.04	9.37	10.56	0.46
54036	12	30 05 1979	27.08	15.23	15.04	0.49
54038	12	03 01 1982	90.45	77.92	74.34	0.17
54040	12	31 12 1981	8.90	5.49	5.66	0.27
54041	13	12 02 1977	18.63	10.54	11.57	0.33
54044	13	11 02 1977	12.05	4.60	5.93	0.50
54052	13	11 02 1977	4.12	3.06	2.81	0.28
54057	10	25 02 1977	808.35	507.33	537.00	0.22
54058	6	06 08 1973	3.13	2.58	2.62	0.11
54059	6	06 08 1973	3.63	0.93	1.32	0.94
54060	6	06 08 1973	1.78	0.92	1.00	0.42
54061	5	05 08 1973	0.65	0.22	0.28	0.83
54062	13	11 02 1977	5.50	0.45	1.46	1.17
54065	5	11 02 1974	18.79	13.93	13.67	0.29
54088	9	29 01 1986	43.07	30.09	29.81	0.27
54090	15	15 08 1977	5.46	2.11	2.31	0.39
54091	12	15 08 1977	22.40	6.16	7.21	0.68
54092	14	06 10 1980	7.66	6.40	6.15	0.15
54809	15	25 01 1960	538.00	470.00	459.27	0.10
55001	32	20 03 1947	925.88	515.48	539.49	0.24
55002	72	04 12 1960	958.43	413.67	431.70	0.26
55003	43	20 03 1947	61.67	51.61	50.61	0.10
55004	46	06 08 1973	129.96	55.30	60.07	0.29
55005	31	13 12 1964	279.81	115.01	137.01	0.48
55007	45	04 12 1960	1205.77	542.18	580.99	0.40
55008	33	05 08 1973	59.13	17.00	19.20	0.53
55009	22	24 01 1960	192.57	112.55	115.20	0.31
55010	27	05 08 1957	132.63	49.30	53.78	0.35
55011	14	09 12 1965	67.63	54.91	51.39	0.21
55012	17	27 12 1979	355.47	157.63	177.35	0.40
55013	17	27 12 1979	77.80	30.10	33.15	0.50
55014	17	14 01 1968	54.27	25.41	28.12	0.36
55015	30	24 10 1960	54.56	17.29	19.42	0.46
55016	5	06 08 1973	114.51	91.85	89.36	0.25
55017	5	06 08 1973	44.84	20.45	23.20	0.54
55018	14	26 05 1969	26.82	21.21	20.85	0.16
55021	11	27 12 1979	52.04	38.15	38.24	0.26
55022	10	13 11 1974	40.71	36.15	33.05	0.25
55023	14	27 12 1979	756.98	472.77	512.74	0.21
55025	13	27 12 1979	198.42	43.52	51.73	0.88
55026	13	06 08 1973	252.05	116.34	124.60	0.34
55029	10	27 12 1979	200.30	118.70	126.99	0.27
55033	11	06 10 1980	10.45	7.96	8.15	0.15
55034	11	31 01 1983	6.17	5.47	5.43	0.09
55035	11	11 12 1980	2.06	1.85	1.81	0.11
55930	20	01 01 1946	142.19	90.93	90.37	0.25

Table A3.1 (continued)

NUMBER	NUM AM	DATE MAX	MAX FLOOD	MEDAF	QBAR	CV
56001	26	27 12 1979	945.00	367.73	409.84	0.40
56002	27	27 12 1979	247.30	90.91	100.56	0.44
56003	21	27 12 1979	72.82	23.45	24.80	0.54
56004	19	27 12 1979	774.24	310.14	343.67	0.43
56005	18	27 12 1979	100.00	43.04	48.76	0.38
56006	21	27 12 1979	323.73	156.38	162.99	0.39
56007	15	27 12 1979	49.65	25.54	26.66	0.34
56011	11	27 12 1979	113.36	30.34	40.38	0.64
56012	13	27 12 1979	61.68	19.94	24.10	0.53
56013	12	16 06 1974	79.29	32.89	39.05	0.50
56015	10	21 03 1981	18.71	17.80	17.17	0.13
56019	9	15 10 1983	85.53	41.86	49.16	0.45
57003	13	03 12 1960	682.67	297.02	342.42	0.41
57004	21	27 12 1979	181.67	64.01	75.03	0.46
57005	15	27 12 1979	651.09	260.90	288.19	0.40
57006	14	27 12 1979	197.42	93.42	99.53	0.35
57007	10	27 12 1979	320.50	102.01	124.39	0.60
57008	11	27 12 1979	148.46	81.28	86.85	0.28
57009	8	11 03 1981	68.13	47.35	49.71	0.22
57010	15	31 01 1983	70.60	30.83	39.03	0.39
57015	3	21 03 1981	93.99	81.02	79.91	0.18
57803	6	01 07 1968	23.21	17.10	18.21	0.19
58001	25	03 12 1960	175.63	110.37	108.76	0.28
58002	22	27 12 1979	502.78	172.74	200.08	0.45
58003	8	29 12 1965	22.52	19.60	19.34	0.11
58004	8	17 12 1965	158.30	93.24	96.39	0.42
58005	16	10 03 1981	95.97	42.11	46.82	0.37
58006	12	27 12 1979	128.83	59.23	64.44	0.38
58007	15	01 11 1970	59.80	37.99	39.95	0.29
58008	11	04 11 1973	87.10	39.03	44.98	0.35
58009	13	04 08 1985	53.32	31.54	33.00	0.40
58010	6	27 12 1979	15.18	12.79	12.50	0.20
58011	10	27 09 1974	6.44	6.13	5.85	0.09
59001	16	01 11 1970	272.71	225.28	211.54	0.21
59002	16	04 08 1973	144.24	68.69	73.55	0.39
60001	25	27 12 1979	571.02	312.83	351.04	0.29
60002	22	27 12 1979	216.70	127.29	136.11	0.27
60003	18	11 03 1981	86.48	64.26	68.97	0.15
60004	15	27 12 1979	23.39	17.21	17.92	0.21
60005	15	05 08 1973	63.60	38.33	40.58	0.35
60006	5	20 12 1971	79.93	71.14	72.02	0.08
60007	15	17 06 1971	298.71	136.52	163.76	0.41
60009	10	27 12 1979	268.93	124.85	136.15	0.42
60012	13	29 10 1977	32.77	14.70	17.91	0.48
60013	9	27 12 1979	244.06	120.35	133.86	0.38
61001	22	01 02 1979	72.58	51.98	50.82	0.26
61002	23	11 03 1981	125.10	81.26	81.69	0.23
61003	15	20 11 1971	28.06	15.40	16.84	0.26
62001	24	27 12 1979	343.74	185.52	198.92	0.28
62002	11	27 12 1979	227.48	131.98	142.02	0.36
63001	12	05 08 1973	206.90	102.07	116.83	0.39
63002	19	06 08 1973	139.41	78.01	83.03	0.30
63003	11	06 08 1973	93.03	26.02	30.50	0.75
64001	23	06 08 1973	405.74	316.57	306.40	0.19
64002	19	21 11 1980	120.43	63.04	69.61	0.30
64005	4	05 08 1973	185.36	154.15	156.51	0.14
64006	11	28 09 1978	23.60	16.82	17.36	0.26
65001	16	17 07 1973	132.64	93.76	95.03	0.17
65002	6	16 07 1973	171.80	143.10	142.06	0.12
65004	14	21 03 1981	46.95	20.50	22.31	0.37
65005	13	21 03 1981	19.51	10.95	12.00	0.29
65006	10	21 03 1981	57.05	40.63	42.65	0.21
65007	10	21 03 1981	57.27	33.79	36.18	0.23
66001	26	13 12 1964	72.16	40.05	45.61	0.29
66002	12	12 12 1964	150.45	66.56	80.53	0.45
66003	22	14 10 1976	49.85	27.80	28.55	0.36
66004	9	11 02 1977	5.24	3.64	3.73	0.30
66005	12	14 03 1982	13.28	9.71	9.88	0.14
66006	11	14 10 1976	135.21	75.93	75.90	0.33
66011	21	12 12 1964	522.36	367.24	372.93	0.21
66801	6	30 09 1953	18.21	14.68	14.87	0.16
67002	30	08 02 1946	626.58	254.41	294.83	0.43
67003	9	31 07 1972	28.82	14.75	16.72	0.33
67005	31	09 12 1965	65.13	29.56	31.31	0.39
67006	25	12 12 1964	186.14	77.73	79.60	0.41
67007	9	13 12 1964	554.40	182.04	237.13	0.58
67008	20	25 09 1976	60.27	24.04	25.87	0.36

Table A3.1 (continued)

NUMBER	NUM AM	DATE MAX	MAX FLOOD	MEDAF	QBAR	CV
67009	28	26 09 1976	21.87	8.78	9.37	0.39
67010	9	13 01 1968	20.31	16.29	16.76	0.15
67013	12	19 10 1971	37.67	24.32	24.58	0.34
67014	11	22 03 1981	271.32	224.65	206.38	0.26
67015	11	27 12 1979	259.26	217.13	205.76	0.20
67018	14	02 09 1983	86.01	56.63	62.79	0.20
67019	8	04 12 1960	90.23	46.17	51.55	0.41
67025	10	29 09 1976	43.05	19.25	21.96	0.47
67803	71	09 02 1946	455.72	189.55	203.94	0.37
68001	45	08 02 1946	212.37	48.97	56.35	0.54
68002	30	03 07 1968	19.98	16.24	15.65	0.19
68003	36	13 12 1964	117.05	64.29	64.59	0.31
68004	26	11 02 1977	20.46	11.96	11.48	0.34
68005	49	08 02 1946	44.08	21.21	22.84	0.32
68006	31	08 09 1965	122.31	51.06	58.91	0.42
68007	21	11 02 1977	52.61	24.13	24.55	0.38
68010	8	25 09 1976	21.11	4.87	7.85	0.79
68014	5	02 07 1968	1.85	1.44	1.51	0.18
68015	12	06 08 1981	19.54	9.02	8.54	0.51
68018	32	20 09 1946	82.51	37.64	40.41	0.33
68020	6	06 08 1981	38.01	32.46	28.66	0.31
68911	7	18 11 1981	11.57	8.55	8.02	0.25
69001	51	23 01 1944	266.11	153.44	166.20	0.28
69002	41	20 09 1946	585.00	227.76	229.21	0.42
69003	30	11 06 1970	71.64	41.72	43.51	0.31
69006	44	13 12 1964	55.30	40.61	40.37	0.18
69007	26	28 12 1978	450.03	166.42	202.55	0.47
69008	17	16 07 1973	20.70	9.42	10.31	0.34
69011	17	16 07 1973	37.51	18.39	17.98	0.39
69012	16	16 07 1973	23.35	14.16	14.90	0.27
69013	17	27 11 1983	26.33	8.50	11.29	0.52
69015	16	16 07 1973	70.00	36.58	40.80	0.36
69017	15	16 07 1973	165.49	49.33	58.75	0.53
69018	11	28 12 1978	31.70	10.10	11.80	0.69
69019	16	10 10 1983	12.65	7.06	7.03	0.42
69020	16	09 12 1983	26.86	13.73	15.78	0.36
69023	30	20 01 1954	211.73	100.47	114.72	0.38
69024	36	18 07 1964	119.45	57.13	60.25	0.31
69025	5	27 10 1980	473.98	289.50	317.41	0.31
69027	36	09 12 1983	102.22	58.47	60.68	0.32
69034	8	18 07 1964	5.89	5.02	4.87	0.18
69035	9	27 10 1980	306.05	149.35	182.83	0.39
69040	11	27 10 1980	137.01	86.84	91.28	0.26
69041	15	09 12 1983	122.23	64.88	62.98	0.36
69802	29	29 07 1939	42.24	13.42	14.89	0.47
70002	18	28 12 1978	43.64	27.57	28.70	0.25
70003	12	09 12 1983	24.50	15.86	15.94	0.27
70004	12	09 12 1983	106.05	33.83	43.27	0.64
70005	11	27 10 1980	46.88	17.51	19.54	0.54
70006	14	25 09 1976	47.96	12.65	15.68	0.65
71001	24	27 10 1980	995.50	628.89	644.16	0.24
71003	15	08 08 1967	30.52	13.31	13.79	0.44
71004	21	27 10 1980	226.60	149.97	154.62	0.22
71005	14	08 08 1967	26.30	15.52	16.34	0.33
71006	16	09 12 1983	312.73	218.18	228.88	0.20
71007	14	16 10 1967	479.58	370.62	374.90	0.20
71008	16	23 10 1980	495.57	219.02	230.20	0.35
71009	15	27 10 1980	1221.90	588.88	622.15	0.32
71010	14	27 10 1980	133.66	72.81	74.21	0.30
71011	16	27 10 1980	143.05	121.73	121.09	0.08
71013	12	27 10 1980	56.65	30.62	31.50	0.31
71014	11	27 10 1980	206.93	111.76	110.96	0.39
71802	3	23 03 1968	169.37	157.24	157.64	0.07
71803	9	11 12 1964	512.28	360.78	361.14	0.19
72001	17	23 03 1968	929.59	658.24	649.71	0.23
72002	22	23 10 1980	189.47	143.35	143.67	0.20
72004	7	02 01 1982	854.03	621.24	626.44	0.27
72005	13	14 11 1980	315.14	207.88	219.97	0.33
72006	16	02 01 1982	579.46	441.99	429.88	0.25
72009	13	01 10 1981	131.32	90.13	95.59	0.24
72011	16	02 01 1982	445.60	295.23	291.36	0.30
72013	4	15 11 1978	80.09	60.88	62.37	0.27
72014	9	08 12 1983	91.06	37.73	49.76	0.59
72015	5	25 11 1979	327.96	247.28	260.99	0.21
72016	13	22 11 1980	180.65	79.35	86.30	0.45
72803	32	01 01 1954	1047.00	611.00	602.53	0.27
72804	6	06 10 1967	292.12	252.79	243.26	0.22

Table A3.1 (continued)

NUMBER	NUM AM	DATE	MAX	MAX FLOOD	MEDAF	QBAR	CV
72807	27	08 08 1967	1246.76	304.45	338.05	0.61	
73001	30	02 12 1954	135.77	61.46	68.45	0.35	
73002	6	12 12 1964	29.68	22.32	22.51	0.30	
73005	16	03 01 1982	195.46	112.47	120.87	0.28	
73008	15	21 03 1981	55.63	27.25	32.71	0.33	
73009	14	02 01 1982	51.07	30.47	30.26	0.28	
73011	14	10 03 1981	64.08	35.64	39.17	0.26	
73013	16	25 11 1979	185.64	112.42	111.66	0.35	
73014	14	02 01 1982	68.90	44.58	44.87	0.21	
73015	10	27 10 1980	27.11	12.96	13.05	0.47	
73803	12	27 10 1980	11.84	8.46	8.51	0.17	
73805	5	08 12 1964	220.71	151.42	157.32	0.32	
74001	16	30 10 1977	160.30	114.50	116.43	0.23	
74002	13	02 10 1968	46.86	20.45	23.98	0.40	
74005	8	30 10 1977	109.47	86.57	82.61	0.22	
74006	11	30 10 1977	58.68	35.25	39.68	0.24	
75002	24	03 01 1982	258.23	184.39	183.17	0.23	
75004	17	31 10 1977	84.73	51.13	53.02	0.32	
75005	12	26 11 1979	173.12	111.81	114.21	0.31	
75006	17	19 12 1982	48.62	45.48	42.51	0.14	
75007	11	11 12 1972	77.68	69.13	68.08	0.11	
75009	11	19 12 1982	155.27	86.26	98.26	0.35	
75010	8	30 10 1977	35.57	17.59	20.08	0.40	
75017	9	24 10 1980	63.41	52.85	45.57	0.38	
76002	24	23 03 1968	860.00	417.10	443.06	0.29	
76003	23	23 03 1968	274.92	166.52	166.16	0.25	
76004	22	23 03 1968	231.55	101.25	115.68	0.40	
76005	20	23 03 1968	400.97	251.30	256.55	0.21	
76007	17	24 03 1968	1094.19	483.63	558.67	0.34	
76008	17	03 01 1982	354.28	155.43	180.76	0.36	
76009	16	25 11 1979	178.65	78.00	95.49	0.44	
76010	14	26 11 1979	40.21	23.70	24.94	0.27	
76011	3	08 10 1967	2.70	2.04	2.12	0.26	
76014	14	25 11 1979	220.47	123.82	130.45	0.41	
77001	21	31 10 1977	1112.20	595.18	690.12	0.30	
77002	26	31 10 1977	636.58	360.28	397.25	0.24	
77003	11	19 12 1982	389.68	249.50	276.75	0.22	
77005	8	22 08 1979	138.57	122.86	118.78	0.12	
78003	22	09 10 1967	477.54	296.45	313.69	0.22	
78004	27	30 10 1977	112.71	67.44	68.19	0.26	
78005	10	21 09 1985	155.08	131.62	126.91	0.21	
79002	32	15 01 1962	997.44	453.72	475.98	0.30	
79003	29	15 01 1962	225.09	75.19	82.44	0.44	
79004	26	19 12 1982	255.29	146.20	153.79	0.23	
79005	25	22 12 1977	270.99	110.10	127.38	0.33	
79006	22	30 10 1977	429.62	303.39	302.96	0.20	
80001	25	18 10 1982	159.37	103.85	104.49	0.22	
80003	8	20 09 1985	9.53	8.99	8.83	0.07	
80801	7	13 08 1966	16.33	12.31	12.99	0.18	
81002	26	27 09 1980	350.59	217.73	229.03	0.28	
81003	22	12 08 1987	283.60	150.90	150.72	0.29	
82001	19	09 10 1967	101.49	88.90	86.74	0.14	
82003	10	19 12 1982	271.06	195.66	188.45	0.25	
83002	9	08 08 1961	82.70	54.60	55.40	0.21	
83003	12	17 01 1974	292.00	128.15	162.78	0.47	
83004	14	02 01 1981	270.33	156.79	168.56	0.37	
83005	8	08 08 1979	375.50	232.95	241.71	0.31	
83006	6	02 01 1981	365.80	271.80	276.80	0.23	
83802	69	08 08 1961	227.00	71.13	79.76	0.38	
84001	35	18 10 1954	159.38	95.59	98.21	0.25	
84002	18	09 09 1962	35.77	16.31	18.81	0.30	
84003	33	31 10 1977	514.81	271.90	289.20	0.30	
84004	27	16 01 1962	443.01	191.10	213.26	0.37	
84005	33	21 09 1985	669.69	382.77	404.59	0.27	
84006	26	08 12 1979	23.40	15.79	15.63	0.24	
84007	15	13 08 1966	51.64	20.84	22.37	0.50	
84008	16	08 10 1977	51.50	30.00	30.45	0.31	
84009	16	31 10 1977	80.50	38.70	41.02	0.37	
84011	19	25 11 1979	98.28	61.31	64.14	0.20	
84012	25	13 01 1984	187.12	120.32	122.35	0.25	
84013	23	22 09 1985	755.17	391.54	429.25	0.32	
84014	24	13 08 1966	409.78	181.21	188.25	0.37	
84015	41	18 09 1985	83.51	61.75	60.23	0.15	
84016	20	18 11 1979	34.66	21.63	21.32	0.35	
84017	5	02 11 1969	56.26	27.66	32.84	0.42	
84018	13	31 10 1977	467.80	239.80	247.07	0.31	
84019	19	02 10 1981	65.61	36.26	35.71	0.38	

Table A3.1 (continued)

NUMBER	NUM AM	DATE MAX	MAX FLOOD	MEDAF	QBAR	CV
84020	19	05 11 1971	76.19	58.05	60.33	0.17
84023	8	09 09 1978	13.50	11.20	10.12	0.26
84025	8	02 10 1981	51.70	26.30	29.77	0.37
84026	14	18 09 1985	64.59	32.80	36.68	0.37
84806	9	16 01 1962	519.57	287.97	310.23	0.30
85001	8	19 12 1966	123.22	104.77	106.72	0.10
85002	19	27 09 1981	149.90	119.20	121.16	0.12
85003	16	13 08 1986	185.17	154.58	156.75	0.09
86001	19	02 11 1979	112.78	52.65	56.96	0.33
86002	5	11 10 1968	88.48	80.04	77.69	0.14
87801	20	19 09 1953	11.30	8.50	8.60	0.17
89804	10	18 10 1983	67.55	57.69	56.68	0.16
90801	7	01 03 1956	54.50	38.90	42.77	0.20
91002	8	27 12 1983	1195.30	711.85	727.77	0.32
91802	33	25 05 1953	13.26	6.42	6.96	0.29
93001	9	31 12 1983	286.80	141.90	166.81	0.34
94001	17	31 12 1983	185.93	125.51	121.49	0.23
95801	4	16 12 1966	12.55	4.50	5.77	0.84
95803	2	03 03 1967	146.89	104.08	104.08	0.58
96001	13	20 09 1981	230.85	139.16	137.88	0.34
96002	10	04 10 1981	291.43	151.69	163.96	0.41
97002	16	24 11 1980	181.18	106.23	107.56	0.35
201002	13	25 11 1979	109.94	86.46	80.97	0.19
201005	12	02 12 1978	128.39	79.41	81.71	0.23
201006	12	22 10 1980	144.88	113.69	116.09	0.15
201007	8	14 11 1978	65.14	48.65	47.84	0.21
201008	8	26 11 1979	205.02	188.52	183.62	0.09
203010	14	06 01 1982	103.18	83.33	83.56	0.16
203012	14	23 10 1980	176.26	127.84	128.53	0.24
203013	13	03 10 1981	294.54	175.16	186.04	0.33
203017	14	28 12 1978	159.28	95.42	94.33	0.29
203018	14	28 12 1978	165.00	84.80	88.95	0.37
203019	13	23 10 1980	54.52	32.17	35.17	0.26
203020	12	19 01 1973	132.88	121.26	107.69	0.22
203021	13	02 10 1981	97.08	66.87	71.02	0.21
203025	13	03 10 1981	50.02	42.77	41.18	0.22
203026	11	28 12 1978	29.87	20.03	18.82	0.47
203028	11	14 02 1974	114.06	72.51	74.86	0.34
203033	9	17 10 1976	100.04	57.21	68.07	0.27
203911	13	23 12 1982	100.35	52.68	56.22	0.30
204001	9	03 10 1981	96.43	74.85	76.62	0.15
205003	14	28 12 1978	75.97	60.34	60.31	0.17
205004	12	28 12 1978	126.49	72.27	74.36	0.35
205005	12	28 12 1978	53.53	22.69	23.64	0.60
205008	10	27 12 1978	36.31	25.34	24.53	0.27
205010	7	28 12 1978	212.21	120.70	127.26	0.39
205011	4	03 10 1981	58.60	40.13	43.08	0.28
205906	8	28 12 1978	83.09	48.61	46.72	0.44
206001	12	19 01 1973	38.07	21.54	21.30	0.34
206002	12	03 10 1981	16.17	10.82	10.53	0.31
206004	11	15 08 1970	18.69	12.12	12.28	0.29
206006	44	24 08 1942	30.51	15.57	15.52	0.34





