

SW. Br. File



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
WASHINGTON, D.C. 20242

Code 4035 5402

June 27, 1969

SURFACE WATER BRANCH TECHNICAL MEMORANDUM NO. 69.11

To: Regional Hydrologists and District Chiefs, WRD  
From: Chief, Surface Water Branch  
Subject: PROGRAMS AND PLANS - Storage and Retrieval System for Annual Peak Discharges

The Division is preparing a nationwide data bank of annual peak discharges. Initially data will be stored only for those stations which are published in the nationwide series of flood-frequency reports (Water-Supply Papers 1671-1689). Data are being extracted from the Water-Supply Papers and Annual Reports and prepared for computer input by a work unit at headquarters. This work will be completed by October 1, 1969 and each district will be sent a printout of their data for review. The data bank will be available for computer computation of frequency curves by the Log-Pearson method, which is a part of the Study of Surface-Water Data Programs that is being conducted in the Districts in FY 1970.

The effort at headquarters will take care of all stations included in the nationwide flood-frequency series. Data for regular gaging stations and crest-stage stations with 10 or more years of record, that were not included in the Water-Supply Papers, may be added to the data bank at the option of the District. If the District wishes to add stations, the data should be listed according to the attached instructions on special forms (sample attached). A supply of the forms may be obtained by calling the Hydraulics Section (Extension 5018). Completed forms should be sent to:

U. S. Geological Survey  
Washington, D. C. 20242  
Code 4027 5402  
Attention: A. Rice Green

Please advise Mr. Green by July 31 as to the number of the station year plan to submit and about when to expect receipt of the data. Negative replies are not required.

For purposes of the Study of Surface-Water Data Programs, it would be desirable to include the additional stations in the data bank and run the Log-Pearson curves. However, this is not essential and the Districts may choose to draw graphical curves for these short records instead of computing the theoretical curve. Stations not included in the work at headquarters would have a maximum length of record of 14 years.

The short records should be utilized in the study by determining either the computed or graphical curve. The recurrence interval of values taken from the station frequency curves and used in regression analysis should not exceed twice the length of record. For example,  $Q_{20}$  would be the maximum with a 10-year record and  $Q_{10}$  with a 5-year record.

*Rolland W. Carter*  
Rolland W. Carter

#### Attachments

WRD Distribution: A, FO-LS

ANNUAL PEAK DATA-DISCHARGE AND GAGE HEIGHT  
INSTRUCTIONS TO DISTRICTS FOR LISTING DATA

July 10, 1969

1. List data for all gaging stations in your district not included in Water-Supply Papers 1671-1689 that have 10 or more years of annual peak discharge record through the 1967 water year.
2. A sample is attached (sheet 4) showing the requested data for Chippewa River near Milan, Minn., station 3045 in Part 5. A step-by-step explanation follows.
3. Line 1 ("Line" refers to the bold numbers 1, 2, and 3's that appear in column number 1).

Columns 2-10      Station number.

Always completely fill in columns 2-7, using zeros when appropriate. Note that column 7 always represents units. Columns 9 and 10 are filled in only when the permanent station number includes tenths and hundredths.

Columns 11-55      Station name.

When necessary because of limited space, use abbreviations such as R for river, C for creek, ab for above, nr for near, etc. Columns 45-55 are not shown on sample, sheet 4, because of sheet size limitations of the Xerox printer.

4. Line 2 - Gage datum

Columns 2-9      List datum used at the end of the 1967 water year. Show datum to hundredths of a foot.

5. Line 3 - Annual peak data

Columns 2-5      Water year.

Printed on forms for 1958-67. If necessary to list for earlier years, extend upward as shown on sample (sheet 4).

- Columns 6-11      Date of annual peak discharge.  
Note. --Only one date can be listed for an annual peak. If the record shows more than one date, list (in general) the first date. Some exceptions to the general rule are (1) a series of three dates; e. g. June 7-9 (use June 8), and (2) two dates showing the same discharge with a slightly higher gage height on one of the dates (use the date of the higher gage height).
- Columns 12-16      Gage height of maximum discharge.  
Note. --List only gage heights referenced or corrected to the 1967 datum, or in the case of stations discontinued prior to 1967, to the last datum in effect.
- Column 17          Remarks (qualified on max. gage height).  
Leave blank if unqualified. List 1 if stage is due to backwater; list 2 if not annual maximum gage height; when both apply, list 2.
- Columns 18-24      Maximum discharge.  
Discharges are instantaneous annual peaks unless otherwise qualified in column 25.  
Note. --When annual peak is between 0 and 0.49 cfs, list peak as 0, when annual peak is greater than 0.49 cfs, round to the nearest second foot.
- Column 25          Remarks (qualifier on discharge).  
Leave blank if unqualified. List 1 if discharge is maximum daily; list 2 if discharge is approximate (used when estimated, transferred from other site, or qualified elsewhere as "about"); list 3 if discharge is caused by dam failure.
- Column 26          Regulation or diversion.  
Leave blank if peaks insignificantly affected. List 1 for regulation or diversion with unknown effect on peaks; list 2 for regulation or diversion with significant effect on some or all peaks.
- Columns 27-30      Beginning date of the historical period to which the peak discharge or stage applies. For example, the station manuscript may contain the statement "the flood of 1964 was the greatest since at least 1890." List 1890 in columns 27-30 in line 3 for 1964.

Columns 31-36 Date of maximum gage height (not to be used except when different than date of maximum discharge stage).

Columns 37-41 Maximum gage height; shown only where different from gage height of maximum Q; omitted if not at 1967, or last used datum.

Column 42 Remarks.  
List 1 if stage is due to backwater.

PROGRAM IDENTIFICATION:

PROGRAM INFORMATION:

**ANNUAL FLOOD LISTING**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
STA NO										STATION NAME																																	
1 053045.										CHIPPEWA RIVER NEAR MILAN MINN																																	
GAGE DATUM																																											
2 959.69																																											
3 1953																																											
3 1954																																											
3 1955																																											
3 1956																																											
957																																											

**ANNUAL PEAK DISCHARGES**

WATER YEAR	DATE OF FLOOD			GAGE HT MAX Q	REMARKS	MAXIMUM Q	QUALITY REG/DIV	HIST DATE	DATE OF MAX GAGE HT			MAX GAGE HT & MAX Q	BW
	mo	day	yr						mo	day	yr		
3 1958				.								.	
3 1959				.								.	
3 1960				.								.	
3 1961				.								.	
3 1962	04	04	62	8.32		1680						.	
3 1963	06	03	63	3.70		852						.	
3 1964	04	15	64	4.53		1380						.	
3 1965	04	11	65	11.93		6770						.	
3 1966	03	17	66	9.49		4820						.	
3 1967	03	30	67	7.58		3290						.	

19-1634  
1967

= ZERO   
  = ALPHA O   
  = ONE   
  = ALPHA I   
  = TWO   
  = ALPHA Z