

Figure 1.--Map of the United States showing areas covered by the 14 annual volumes on surface-water supply. The area covered by this report is shaded.

Special reports on floods published by the Geological Survey and other agencies--Continued

<u>Report</u>	<u>Issued by</u>
Bull. 1: Magnitude and frequency of floods in Minnesota.	Minnesota Division of Waters.
Bull. 7: The 1912 flood on the lower Mississippi.	Illinois Rivers and Lakes Commission.
The floods of May 1943 in Illinois.	Illinois Division of Waterways.
The storm of July 8, 1951, in north-central Illinois.	Illinois State Water Survey Division.
The storm of July 18-19, 1952, Rockford, Ill., and vicinity.	Do.
Floods in Illinois, magnitude and frequency.	Illinois Division of Waterways.
Units Hydrographs in Illinois.	Do.

RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

The table below contains a list of gaging stations for the area covered by this report, at which records of discharge were collected during the water year October 1957 to September 1958 by agencies other than the Geological Survey. The records of these stations are not contained in publications of the Geological Survey, nor have they been published elsewhere.

Records of discharge collected by agencies other than the Geological Survey			
Stream	Location	Period	Collected by
Blue Earth River.....	Near Rapidan, Minn., at Rapidan hydroelectric plant.	1911-58	Northern States Power Co.
Cannon River.....	Near Cannon Falls, Minn., at Cannon Falls hydroelectric plant.	1921-58	Do.
Minnesota River.....	Near Granite Falls, Minn., at Minnesota Falls hydroelectric plant.	1928-58	Do.
Mississippi River....	Near Anoka, Minn., at Coon Rapids hydroelectric plant.	1918-58	Do.
Do.....	Minneapolis, Minn., at lower-dam hydroelectric plant.	1900-58	Do.
Do.....	St. Cloud, Minn., at St. Cloud hydroelectric plant.	1924-58	Do.
Do.....	St. Paul, Minn., at Twin City Lock and Dam.	1925-58	Ford Motor Co.

Note.--The Agricultural Research Service of the United States Department of Agriculture has collected records of runoff from selected areas in the upper Mississippi River basin as follows: near Monticello, Ill., beginning in 1949, 2 areas of 40 to 100 acres each; near Colby, Wis., beginning in 1949, 1 area of 350 acres; near Fennimore, Wis., beginning in 1938, 4 areas of 20 to 330 acres; near La Crosse, Wis., beginning in 1933, 3 areas of less than 4 acres each. These records are in the files of the Agricultural Research Service.

HYDROLOGIC CONDITIONS

Streamflow varied greatly during the year; each part of the area covered by this report had periods of excessive and periods of deficient flow. Monthly mean discharges at long-term stations were record-high for the month in June in Illinois and in July in northern Wisconsin. Monthly means were record-low for the month in April in Minnesota. Flow of Sugar River near Brodhead, Wis., was the lowest for July, August, and September in 45 years of record. Flow of Pecatonica River at Freeport Ill. was the lowest for September in 44 years, and deficient for the ninth consecutive month.

On May 31 a flood of Wayman Creek at Garber, Iowa, produced a peak discharge of 15,500 cfs from a drainage area of 6.98 sq mi; the unit runoff is the greatest ever measured in Iowa.

July floods in Illinois, Indiana, Iowa, and Missouri, resulted in maximum discharges of record at several gaging stations, some having records of 20 to 30 years. The July 21 peak on Middle Fork Salt River at Paris, Mo., was the maximum in 20 years of record; however, on Aug. 1 a peak discharge occurred that was more than twice that of July 21.

Figure 2, on p. 13, for which records of three long-term gaging stations were used, shows a comparison of the monthly and yearly mean discharges during the 1958 water year with the median discharge for the period 1921-45.

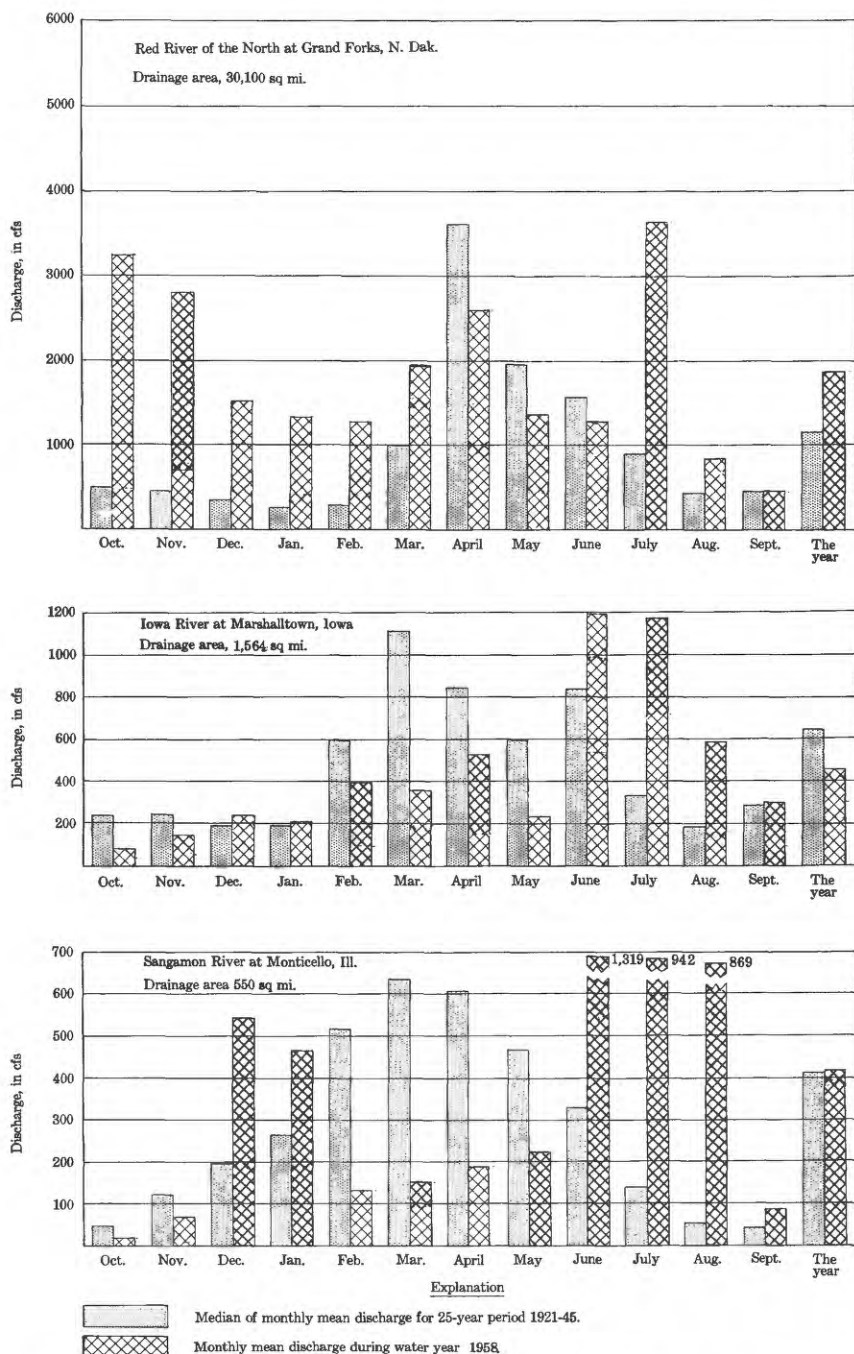


Figure 2.—Comparison of discharge at three key gaging stations during 1958 water year with median discharge for 25-year period.

HUDSON BAY BASIN

SASKATCHEWAN RIVER BASIN

107. Mountain View Irrigation District Canal near Mountain View, Alberta
(International gaging station)

Location.--Lat 49°06'00", long 113°41'30", in NW $\frac{1}{4}$ sec. 4, T.2, R.28 W., fourth meridian, in Alberta, on left bank $1\frac{1}{2}$ miles downstream from headgate, 5 miles southwest of Mountain View, and 7 miles north of international boundary.

Records available.--April 1949 to November 1958 in reports of Geological Survey. April 1935 to November 1958 in reports of Department of Northern Affairs and National Resources, Canada. Irrigation seasons only.

Gage.--Water-stage recorder. Prior to May 12, 1950, staff gage at about the same site at different datum. May 12, 1950, to May 22, 1952, staff or chain gages at site a quarter of a mile upstream at different datums.

Extremes.--1935-58: Maximum daily discharge, 142 cfs Aug. 16, 1957; no flow at times each year.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Canal diverts water from Belly River on right bank for irrigation in Belly and St. Mary River basins in Alberta.

Cooperation.--This is one of a number of stations which are maintained jointly by Canada and the United States.

Discharge, in cubic feet per second, February to November 1958

Day	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	
1		-	0.1	3.3	114	6.6	0.9	0.5	113	4.0	
2		-	.1	2.9	113	7.8	.9	.4	111	4.0	
3		-	.1	3.1	104	6.6	.7	.6	108	2.5	
4		-	.1	2.7	96	6.2	.7	.6	115	*.9	
5		-	0	2.7	95	5.6	.7	.6	115		
6		-	0	2.5	95	9.0	.7	.5	114		
7		-	.1	2.3	102	6.2	.6	.4	92		
8		-	.1	*2.3	87	5.3	.6	.3	115		
9		-	.2	2.1	86	4.7	.6	.2	102		
10		-	.3	2.3	*97	4.4	.6	.2	*1.1		
11		-	2	2.3	95	3.6	.4	.2	.5		
12		-	*.3	6.2	40.2	3.4	*36.5	.2	.3		a.8
13		-	5	5.0	6.2	5.0	86	.1	.3		
14		-	2.7	2.9	5.0	4.7	86	.1	.2		
15		-	.9	2.5	4.0	3.6	82	.1	.2		
16		-	1.0	6.7	3.4	*2.8	80	.1	25.6		
17		-	1.0	3.9	3.2	2.4	79	.1	94		
18		-	.9	1.9	3.2	2.3	103	**1	95		
19		-	.8	1.6	3.2	2.2	118	.1	96		
20		-	1.0	1.6	3.6	2.4	114	.1	98		**6
21		-	1.0	1.5	5.6	2.3	126	.1	97		
22		-	1.2	1.6	5.3	1.9	112	.1	96		
23		-	1.0	1.3	4.7	3.4	1.2	.2	96		
24		-	.8	1.5	4.7	3.4	.7	26.3	96		
25		-	.9	1.5	*4.7	3.0	.6	115	94		a.3
26		(*)	**0.1	.9	1.5	7.0	.5	114	92		
27			.1	1.0	45.2	11.9	.5	114	45.2		
28			.2	1.2	*89	9.9	.7	114	4.3		
29			.1	2.1	97	7.4	1.6	114	1.0		
30			.1	3.3	114	7.0	1.7	.6	114		
31			.1	114	114	1.2	.5	10.9			
Total		0	-	32.8	528.9	1,224.4	119.2	1,035.6	717.2	2,034.5	27.0
Mean		0	-	1.09	17.1	40.8	3.85	33.4	23.9	65.6	0.90
Ac-ft		0	-	65	1,050	2,450	236	2,050	1,420	4,040	54

Calendar year : Max Min Mean Ac-ft
The season : Max - Min - Mean - Ac-ft 11,340

* Discharge measurement made on this day.

** Field estimate made on this day.

a No gage-height record; discharge estimated on basis of 1 field estimate and weather records.

Note.--Stage-discharge relation affected by ice Mar. 26 to Apr. 13.

