



A, NIOBRARA RIVER BELOW BOX BUTTE RESERVOIR, NEBR.



B, WIND RIVER NEAR CROWHEART, WYO.

FIGURE 1.—GAGING-STATION STRUCTURES.

the stream. Records are published for the water which begins on October 1 and ends on September 30. A calendar for the water year 1958 is shown on page IV for the purpose of finding the day of the week for any date.

The description of the station gives the location, drainage area, records available, type and history of gages, average discharge, extremes of discharge, general remarks, and notations of revisions of the previously published record. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage, given under "Location" for some stations, is that determined and used by the Corps of Engineers unless otherwise noted. Under "Records available" are given the periods for which there are published records generally equivalent to those at the present site. Under "Gage" are given the type of gage currently in use and the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of records available. Under "Average discharge" is given the average discharge for the number of years indicated. It is not given for stations having fewer than five complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. Under "Extremes" are given the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation (also the minimum discharge if useful); and the minimum gage height (unless it is of no importance). In the first paragraph, the data given are for the complete current water year unless otherwise specified. In the second paragraph, the data given are for the periods of record within the calendar year dates in the heading (not necessarily those for the complete years indicated by the heading dates). Reliable information concerning major floods that have occurred outside the period of record are given in the third or last paragraph under "Extremes." Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder, a crest-stage indicator, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge, it is given separately. Information pertaining to the accuracy of the records and conditions which affect the natural flow at the gaging station is given under "Remarks."

Previously published records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual reports. In order to make it easier to find such revised records, a paragraph headed "Revisions (water years)" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1933 stands for the water October 1, 1932, to September 30, 1933. If no daily, monthly, or annual figures of discharge are concerned in the revision, that fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the

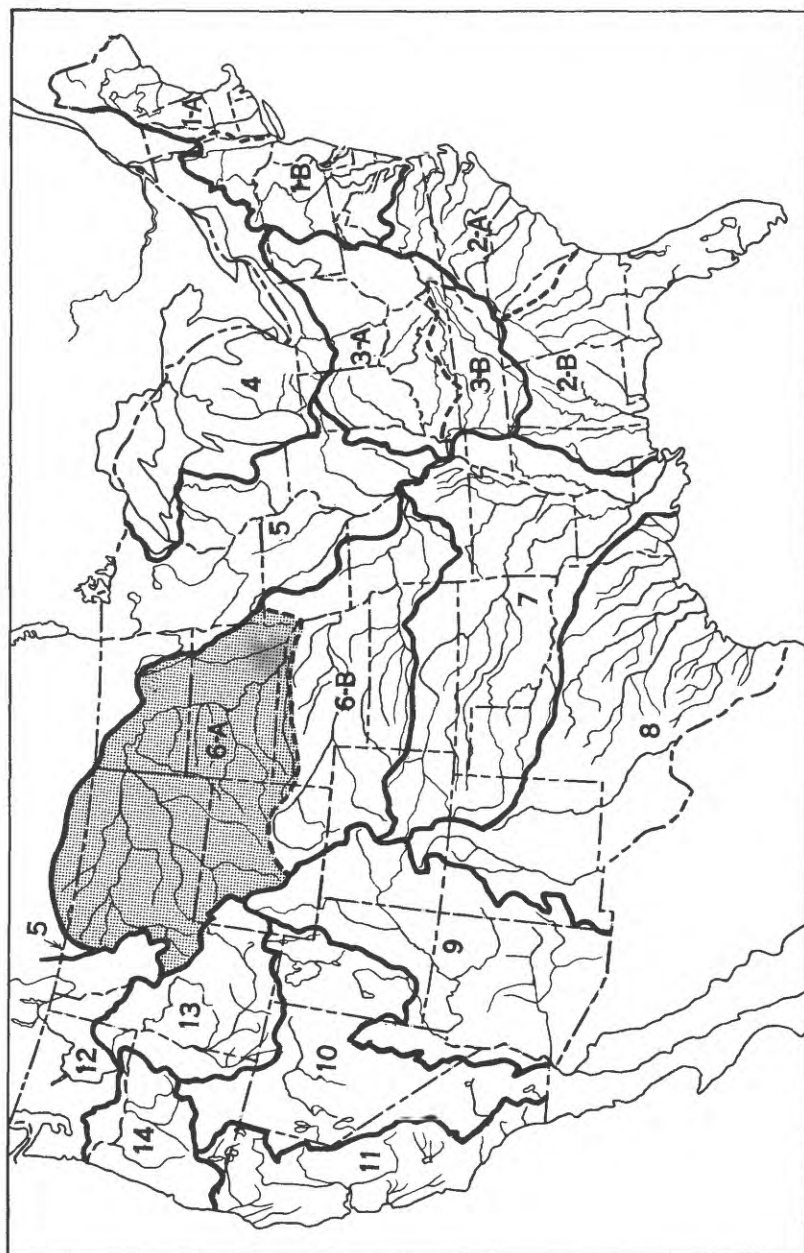


Figure 2.--Map of the United States showing areas covered by the 18 annual volumes on surface-water supply. The area covered by this report is shaded.

<u>Report</u>	<u>Issued by</u>
WSP 147: Destructive floods in the United States in 1904.	U. S. Geological Survey.
WSP 162: Destructive floods in the United States in 1905.	Do.
WSP 520-G: Some floods in the Rocky Mountain region.	Do.
WSP 771: Floods in the United States, magnitude and frequency.	Do.
WSP 847: Maximum discharges at stream-measurement stations through September 1938.	Do.
WSP 1137-A: Missouri River Basin Floods of April-May 1950 in North and South Dakota.	Do.
WSP 1137-I: Summary of floods in the United States during 1950.	Do.
WSP 1227-D: Summary of floods in the United States during 1951.	Do.
WSP 1260-B: Floods of April 1952 in the Missouri River basin.	Do.
WSP 1260-F: Summary of floods in the United States during 1952.	Do.
WSP 1320-A: Floods of June 1953 in Northwestern Iowa.	Do.
WSP 1320-B: Missouri River Basin Floods of 1953 in Montana.	Do.
WSP 1370-A: Floods of June 1954 in Iowa.	Do.
Bull. 1: Iowa floods, magnitude and frequency.	Iowa Highway Research Board.
Floods in Nebraska, magnitude and frequency.	Nebraska State Department of Roads and Irrigation.

RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

The Agricultural Research Service of the United States Department of Agriculture has collected records of discharge from 13 areas near Newell, S. Dak., beginning in 1957, ranging from 30 to 13,000 acres. These records are in the files of the Agriculture Research Service.

HYDROLOGIC CONDITIONS

Runoff was generally above median at the beginning of the water year for the area covered by this report except in Montana. Below median runoff was characteristic throughout most of the remainder of the water year except during November and December in North and South Dakota when it was excessive. No noteworthy floods occurred during the water year. For three key gaging stations in the area covered by this report a comparison of monthly and yearly mean discharges for the 1958 water year with the median discharges for the 25-year period (1921-45) is shown in figure 3 on opposite page.

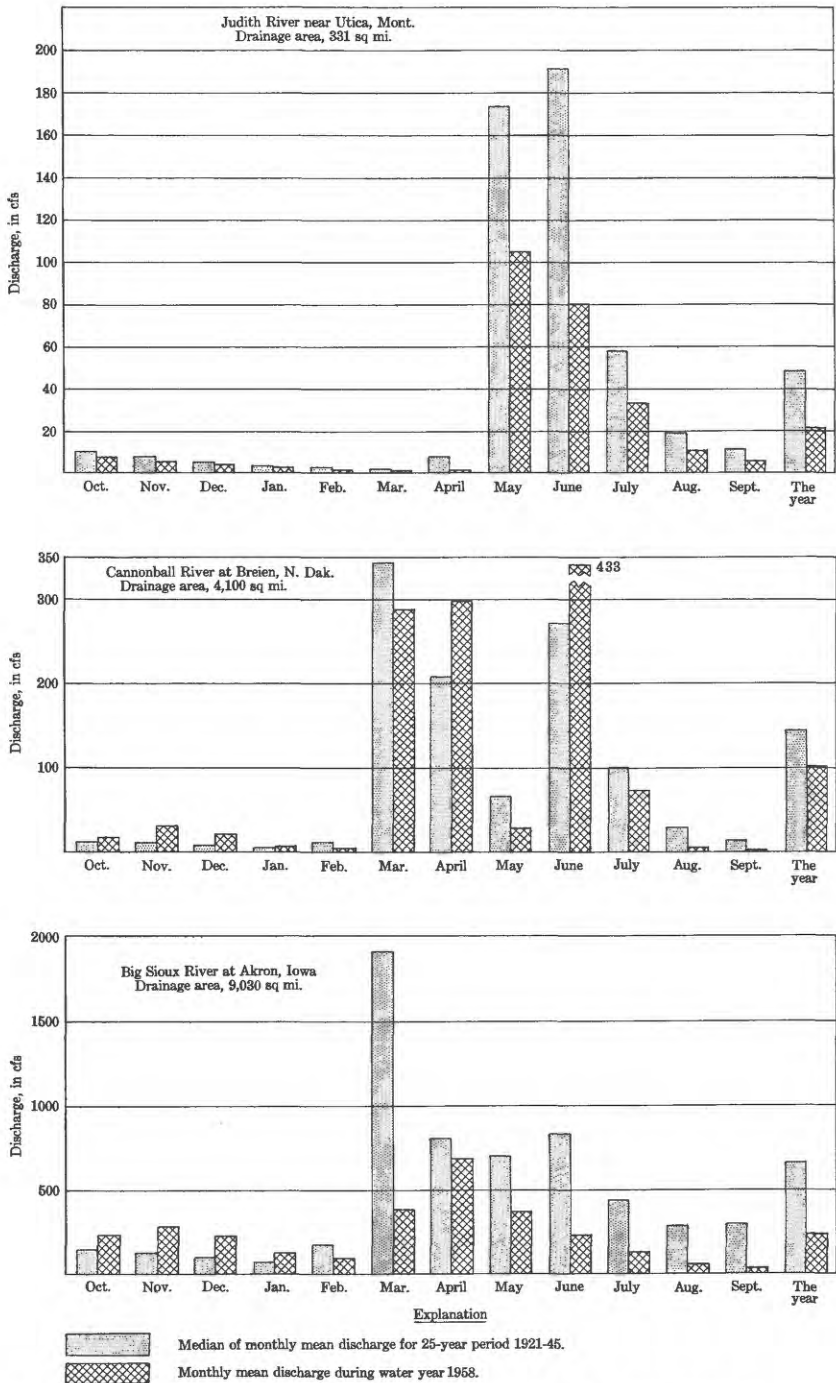


Figure 3. Comparison of discharge at three key gaging stations during 1958 water year with median discharge for 25-year period.

MISSOURI RIVER MAIN STEM

110. Red Rock River at Kennedy Ranch, near Lakeview, Mont.

Location.--Lat 44°39', long 112°03', near center of sec. 2, T. 14 S., R. 4 W., on right bank at Kennedy Ranch, 4 miles upstream from Long Creek and 14 miles northwest of Lakeview.

Drainage area.--323 sq mi (revised).

Records available.--July 1936 to September 1958 (no winter records 1943-58).

Gage.--Water-stage recorder and wooden control. Datum of gage is 6,596.37 ft above mean sea level, unadjusted. Prior to Sept. 30, 1936, staff gage and Oct. 1, 1936, to Aug. 27, 1942, water-stage recorder, at site 1 mile upstream at different datum.

Extremes.--Maximum discharge recorded during year, 590 cfs Apr. 30 (gage height, 3.77 ft); minimum recorded, 37 cfs Sept. 2, 3.
1936-58: Maximum discharge recorded, 1,360 cfs Apr. 30, 1952 (gage height, 5.24 ft); minimum, 1.5 cfs Sept. 2, 1940.

Remarks.--Records good. Diversions for irrigation of about 6,000 acres above station.

Revisions (water years).--WSP 1086: 1946. WSP 1339: 1937.

Rating table, water year 1957-58 (gage height, in feet,
and discharge, in cubic feet per second)

1.6	34	3.0	393
1.8	58	3.5	535
2.0	90	4.0	681
2.5	223		

Discharge, in cubic feet per second, water year October 1957 to September 1958

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58							570	362	155	58	43
2	*50							557	365	*152	54	43
3	52							546	362	146	57	40
4	57							540	362	146	52	42
5	55							519	359	144	*52	42
6	57							505	359	141	53	41
7	55							502	343	136	52	41
8	57							502	327	133	52	41
9	59							474	310	131	53	42
10	62							446	310	131	57	43
11	62							435	323	128	54	48
12	64							449	323	122	53	49
13	64							494	320	110	53	53
14	66							502	330	104	48	52
15	72							486	330	102	48	45
16	76							483	313	102	48	*48
17	76							449	306	96	48	49
18	74							417	285	92	53	50
19	76							396	274	92	49	46
20	83							381	292	85	48	46
21	81							371	274	83	48	43
22	81							362	249	77	50	48
23	79							362	227	76	49	44
24	77							368	216	74	48	50
25	79							376	223	69	48	49
26	85							384	216	65	48	50
27	85							*387	197	64	46	50
28	85							384	178	64	45	52
29	79							368	163	62	44	53
30	86							359	157	61	42	53
31	*90	-----			-----		570	349	-----	58	42	-----
Total	2,182	-	-	-	-	-	-	15,725	8,655	3,201	1,552	1,396
Mean	70.4	-	-	-	-	-	-	443	288	103	50.1	46.5
Ac-ft	4,330	-	-	-	-	-	-	27,220	17,170	6,350	3,080	2,770
Calendar year	: Max		Min		Mean		Ac-ft					
Water year	: Max		Min		Mean		Ac-ft					

* Discharge measurement made on this day.

