

Figure 1. 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.

Part 5. Hudson Bay and upper Mississippi River basins.

6. Missouri River basin, in two volumes:
 - A, Missouri River basin above Sioux City, Iowa.
 - B, Missouri River basin below Sioux City, Iowa.
7. Lower Mississippi River basin.
8. Western Gulf of Mexico basins.
9. Colorado River basin.
10. The Great Basin.
11. Pacific slope basins in California.
12. Pacific slope basins in Washington and upper Columbia River basin.
13. Snake River basin.
14. Pacific slope basins in Oregon and lower Columbia River basin.

Water-supply papers and other publications of the Geological Survey containing data on the water resources of the United States may be purchased or consulted as follows:

1. Copies may be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., who will, on application, furnish lists giving prices. A list of Geological Survey publications may also be obtained by applying to the Director, Geological Survey, Washington, D. C.
 2. Sets of the reports may be consulted in the libraries of the principal cities in the United States.
 3. Sets are available for consultation in the offices of the Water Resources Division of the Geological Survey. Addresses of the offices in the area covered by this report are given on page 2.
- Early records of the flow of streams in the United States are published in the reports listed below. In many of these reports records for years earlier than those indicated have been included for some streams.

Streamflow data for the years 1884-1901, in reports of the Geological Survey

(A = Annual Report; B = Bulletin)

Report	Character of data	Year
10th A, pt. 2	Descriptive information only.	
11th A, pt. 2	Monthly discharge and descriptive information.....	1884 to September 1890.
12th A, pt. 2do.....	1884 to June 30, 1891.
13th A, pt. 3do.....	1884-92.
14th A, pt. 2	Monthly discharge.....	1888-93.
B 131.....	Descriptions, measurements, gage heights, and ratings.....	1893-94.
16th A, pt. 2	Descriptive information only.	
B 140.....	Descriptions, measurements, gage heights, ratings, and monthly discharge.	1895.
WSP 11.....	Gage heights.....	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge..	1895-96.
WSP 15.....	Descriptions, measurements, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries above Kansas River.	1897.
WSP 16.....	Descriptions, measurements, and gage heights of streams west of the Mississippi River, except Missouri River and tributaries above Kansas River.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge.	1897.
WSP 27.....	Measurements, ratings, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries.	1898.
WSP 28.....	Measurements, ratings, and gage heights of streams west of the Mississippi River, except Missouri River and tributaries.	1898.
20th A, pt. 4	Monthly discharge.....	1898.
WSP 35 to 39.	Descriptions, measurements, gage heights, and ratings.....	1899.
21st A, pt. 4	Monthly discharge.....	1899.
WSP 47 to 52.	Descriptions, measurements, gage heights, and ratings.....	1900.
22d A, pt. 4.	Monthly discharge.....	1900.
WSP 65, 66..	Descriptions, measurements, gage heights, and ratings.....	1901.
WSP 75.....	Monthly discharge.....	1901.

Reports on surface-water supply containing records from 1899 to date for drainage basins in this report are listed on the following page. The data for any particular gaging station will, in general, be found in the reports covering the years during which the station was maintained.

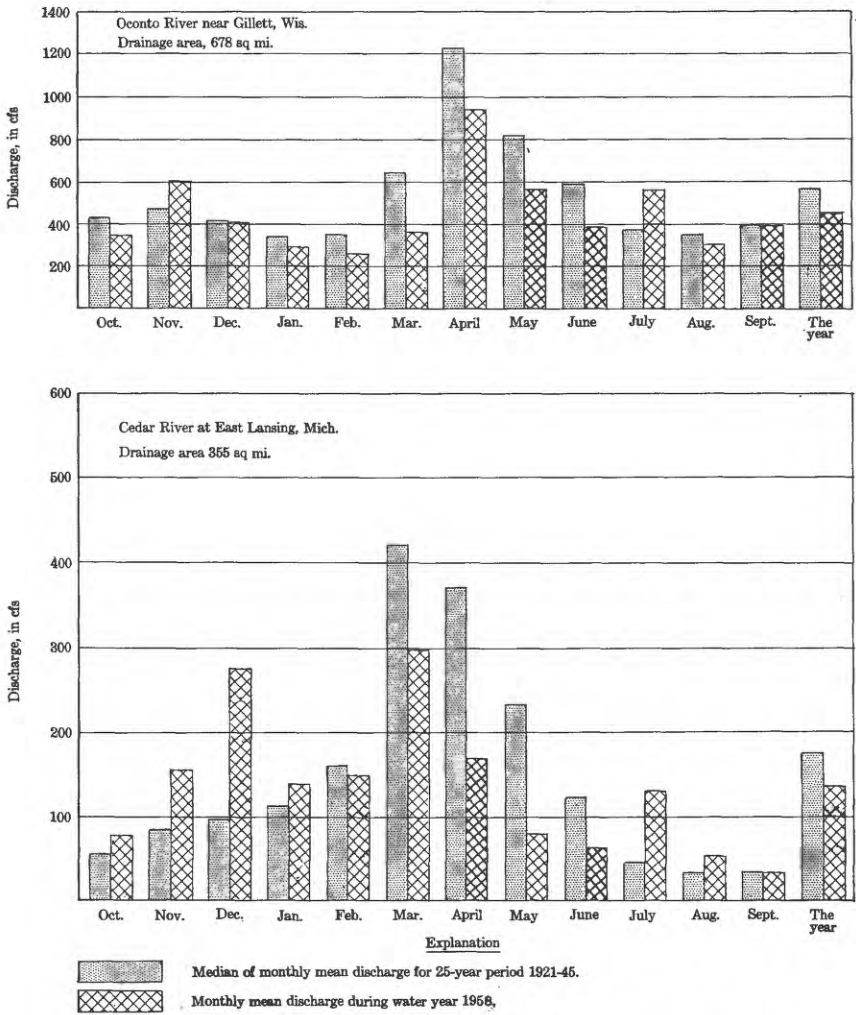


Figure 2. Comparison of discharge at two key gaging stations during 1958 water year with median discharge for 25-year period.

STREAMS TRIBUTARY TO LAKE SUPERIOR

105. Pigeon River at Middle Falls, below International Bridge, Minn.

(International gaging station)

Location.--Lat 48°00'44", long 89°36'58", in NE $\frac{1}{4}$ sec. 24, T. 64 N., R. 6 E., on right bank 400 ft upstream from Middle Falls, $\frac{3}{4}$ miles upstream from mouth, and $5\frac{3}{4}$ miles downstream from International Bridge.

Drainage area.--600 sq mi.

Records available.--June to October 1921, May to November 1922, May 1923, July 1923 to September 1958. Published as "at International Bridge" April 1924 to September 1940. Monthly discharge only for some periods, published in WSP 1307. June 1921 to September 1958 in reports of Water Resources Branch, Department of Northern Affairs and National Resources, Canada.

Gage.--Water-stage recorder. Datum of gage is 789.58 ft above mean sea level, datum of 1929. Prior to Sept. 2, 1936, staff gage and Sept. 2, 1936, to Sept. 30, 1940, wire-weight gage at International Bridge, $5\frac{3}{4}$ miles upstream at datum 100.24 ft higher.

Average discharge.--35 years (1923-58), 495 cfs.

Extremes.--Maximum discharge during year, 793 cfs Apr. 16 (gage height, 3.04 ft); minimum, 55 cfs Aug. 29 (gage height, 0.40 ft).

1923-58: Maximum discharge, 11,000 cfs May 5, 1934 (gage height, 7.6 ft, site and datum then in use), from rating curve extended above 7,000 cfs; minimum, 27 cfs Nov. 4, 1945 (gage height, -0.08 ft).

Remarks.--Records good except those for periods of ice effect, which are fair.

Cooperation.--This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Revisions (water years).--WSP 744: 1927, 1928. WSP 804: 1934(M). WSP 974: Drainage area. WSP 1337: 1924(M), 1925, 1926-28(M), 1931(M), 1938(M), 1941(M), 1945-46(M), 1947, 1948(M), 1950(M).

Rating table, water year 1957-58, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.4	55
.8	103
1.0	137
2.0	414
3.0	775

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	112	109	128	86	98	96	125	338	186	91	68	314
2	109	122	125	86	96	95	139	314	173	91	65	317
3	108	178	120	84	96	95	160	300	160	90	64	402
4	106	202	118	84	94	94	180	288	158	85	63	494
5	104	189	116	84	92	94	235	274	178	85	63	371
6	103	173	111	84	90	94	260	250	217	85	62	323
7	102	163	108	84	88	92	290	236	215	86	59	314
8	104	150	105	85	87	92	310	234	189	86	57	335
9	106	140	104	*87	85	92	325	223	170	90	60	311
10	104	135	103	86	84	90	340	223	155	93	63	261
11	102	145	101	90	83	90	355	234	142	93	63	239
12	99	168	100	92	83	88	380	231	133	93	63	247
13	99	178	100	94	82	88	430	220	122	86	62	231
14	98	212	99	96	81	88	500	204	114	80	71	236
15	*109	230	100	98	81	88	580	194	108	76	73	178
16	135	200	101	98	81	90	771	186	99	74	74	*170
17	142	165	103	97	81	90	749	178	94	72	68	220
18	133	140	105	96	81	90	658	181	90	68	63	247
19	124	125	106	95	81	90	575	181	85	65	*60	252
20	116	140	107	93	81	88	510	183	82	64	59	294
21	116	165	107	92	82	90	471	*173	82	60	58	329
22	118	180	107	91	85	90	564	170	79	*60	57	288
23	118	*195	106	90	90	90	697	158	80	59	62	320
24	116	200	105	*88	94	90	606	158	*85	63	64	402
25	115	190	101	88	100	91	517	191	100	71	64	433
26	112	175	98	90	102	92	455	217	135	74	63	426
27	109	160	97	91	104	95	395	247	148	76	59	461
28	108	150	96	93	*98	*97	425	245	148	77	57	436
29	106	145	94	96		101	*371	236	108	77	58	420
30	106	130	92	98		108	344	215	94	74	65	534
31	106		90	99		116		196		73	126	
Total	3,445	4,954	3,253	2,617	2,480	2,886	12,668	6,888	3,909	2,417	2,013	9,805
Mean	111	165	105	90.9	88.6	93.1	422	222	130	78.0	64.9	327
Cfs/m	0.185	0.275	0.175	0.152	0.148	0.155	0.370	0.370	0.217	0.130	0.106	0.545
In.	0.21	0.31	0.20	0.17	0.15	0.18	0.79	0.43	0.24	0.15	0.12	0.61
Calendar year 1957: Max		5,280		Min	90	Mean	397	Cfs/m	0.662	In.	8.98	
Water year 1957-58: Max		771		Min	57	Mean	158	Cfs/m	0.263	In.	3.56	

Peak discharge (base, 3,000 cfs).--No peak above base.

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 8-11, Nov. 15 to Apr. 15.

