

UPPER MISSISSIPPI RIVER MAIN STEM--Continued

05227500 MISSISSIPPI RIVER AT AITKIN, MN

LOCATION.--Lat 46°32'26", long 93°42'26", in SW¹/₄NW¹/₄ sec. 24, T.47 N., R.27 W., Aitkin County, Hydrologic Unit 07010104, on right bank upstream side of highway bridge at north edge of Aitkin, 1 mi downstream from Ripple River and at mile 1,055.9 upstream from Ohio River.

DRAINAGE AREA.--6,140 mi² (approximately).

PERIOD OF RECORD.--March 1945 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,182.41 ft above sea level (NGVD of 1929, levels by U.S. Army Corps of Engineers). Mar. 1, 1945 to Mar. 14, 1961, nonrecording gage, and Mar. 15, 1961 to Sept. 30, 1967, water-stage recorder at same site at datum 3.0 ft higher. Diversion channel: Non-recording gage and crest-stage gage. Datum of gage is 1,182.02 ft above sea level (NGVD of 1929). Apr. 9, 1955 to Apr. 10, 1956, nonrecording gage at site 4 mi downstream at different datum. Apr. 11, 1956 to Sept. 30, 1967, nonrecording gage at same site at datum 3.0 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by Winnibigoshish Lake, Leech Lake, Pokegama Lake, and Sandy Lake. Water diverted at medium and high stages into Aitkin diversion channel 6.5 mi above station, bypasses station and returns to river 15.5 mi below station. Diversion began Apr. 2, 1955. These records include flow in diversion channel.

EXTREMES FOR CURRENT YEAR.--Main channel: Maximum discharge, 3940 ft³/s, Oct. 1; gage height, 10.66 ft. Diversion channel: Maximum discharge, 2070 ft³/s, Oct. 1, gage height, 9.54 ft. (estimate based on observer reading and correlation graph).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5990	4790	3970	e3000	e2450	e3100	2570	1950	2170	3290	1720	1570
2	5970	4750	3980	e3000	e2430	e3000	2500	1940	2130	3220	1700	1620
3	5920	4720	4010	e3000	e2400	e3000	2510	1940	2040	3150	1620	1680
4	5830	4710	4020	e3000	e2380	e3050	2500	1940	1950	3130	1550	1710
5	5690	4660	4000	e3000	e2350	e3150	2540	1920	1880	3050	1510	1720
6	5560	4570	3910	e3000	e2300	e3350	2850	1900	1800	2890	1470	1710
7	5500	4530	3870	e3000	e2270	e3650	3150	1900	1750	2770	1370	1710
8	5490	4520	3820	e3000	e2250	e4100	3220	2210	1670	2660	1280	1740
9	5530	4510	3820	e3000	e2250	e4500	3210	3100	1550	2610	1270	1820
10	5580	4490	e3800	e3000	e2250	e4400	3190	3880	1450	2570	1280	1900
11	5620	4410	e3700	e2980	e2250	e4150	3150	4390	1330	2500	1200	1940
12	5650	4330	e3600	e2980	e2250	e4000	3020	4700	1220	2450	1090	1950
13	5660	4280	e3600	e2970	e2240	e3750	2940	4880	1130	2440	1050	1930
14	5640	4270	e3650	e2900	e2220	e3600	2760	5010	1110	2440	1050	1880
15	5580	4250	e3650	e2900	e2200	3460	2480	5000	1120	2430	1180	1820
16	5540	4220	e3300	e2880	e2200	3210	2280	4900	1260	2410	1530	1790
17	5540	4180	e2750	e2850	e2200	3020	2200	4720	1470	2380	1930	1770
18	5510	4140	e2300	e2810	e2200	2880	2160	4570	1810	2340	2270	1730
19	5480	4150	e2000	e2730	e2200	2810	2110	4310	2240	2300	2390	1700
20	5430	4190	e1850	e2700	e2200	2770	2080	4000	2530	2230	2410	1670
21	5430	4240	e1800	e2650	e2200	2750	2070	3680	2750	2140	2440	1630
22	5390	4230	e1850	e2630	e2220	2680	2150	3440	2960	2060	2330	1620
23	5290	4210	e2000	e2620	e2250	2570	2160	3260	3160	1980	2150	1650
24	5200	4200	e2150	e2620	e2270	2570	2130	3090	3430	1890	2070	1660
25	5140	4180	e2350	e2600	e2350	2730	2110	2910	3690	1850	1940	1650
26	5090	4150	e2500	e2580	e2850	2810	2060	2750	3810	1870	1770	1670
27	5030	4120	e2650	e2570	e3250	2820	2020	2560	3720	1850	1620	1690
28	4960	4090	e2750	e2540	e3300	2810	1980	2400	3550	1810	1540	1710
29	4900	4020	e2850	e2520	e3230	2780	1930	2280	3470	1780	1510	1710
30	4870	3960	e2950	e2500	---	2700	1920	2220	3370	1760	1470	1710
31	4820	---	e3000	e2470	---	2660	---	2180	---	1720	1530	---
TOTAL	168830	130070	96450	87000	69410	98830	73950	99930	67520	73970	51240	52060
MEAN	5446	4336	3111	2806	2393	3188	2465	3224	2251	2386	1653	1735
MAX	5990	4790	4020	3000	3300	4500	3220	5010	3810	3290	2440	1950
MIN	4820	3960	1800	2470	2200	2570	1920	1900	1110	1720	1050	1570
AC-FT	334900	258000	191300	172600	137700	196000	146700	198200	133900	146700	101600	103300
CFSM	.89	.71	.51	.46	.39	.52	.40	.53	.37	.39	.27	.28
IN.	1.02	.79	.58	.53	.42	.60	.45	.61	.41	.45	.31	.32

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2000, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2716	2796	2299	1977	1891	2262	5165	5239	3652	3112	2365	2254
MAX	6534	6756	4498	3525	3196	5415	10830	15510	8072	8201	8270	6689
(WY)	1966	1972	1997	1966	1966	1945	1966	1950	1965	1993	1953	1986
MIN	313	328	324	345	398	638	1074	669	540	346	273	321
(WY)	1977	1977	1977	1977	1977	1977	1977	1958	1988	1961	1961	1976

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1945 - 2000
ANNUAL TOTAL	1629510	1069260	
ANNUAL MEAN	4464	2921	2970
HIGHEST ANNUAL MEAN			4985
LOWEST ANNUAL MEAN			796
HIGHEST DAILY MEAN	9570	May 17	19900
LOWEST DAILY MEAN	1650	Feb 27	153
ANNUAL SEVEN-DAY MINIMUM	1740	Feb 24	195
INSTANTANEOUS PEAK FLOW			20000
INSTANTANEOUS PEAK STAGE			22.49 ^a
INSTANTANEOUS LOW FLOW			151
ANNUAL RUNOFF (AC-FT)	3232000	2121000	2152000
ANNUAL RUNOFF (CFSM)	.73		.48
ANNUAL RUNOFF (INCHES)	9.87		6.57
10 PERCENT EXCEEDS	6810	4760	5880
50 PERCENT EXCEEDS	4400	2620	2370
90 PERCENT EXCEEDS	2140	1670	980

^a Present datum.
^e Estimated.

