

UPPER MISSISSIPPI RIVER MAIN STEM

05331000 MISSISSIPPI RIVER AT ST. PAUL, MN

LOCATION.--LAT 44°56'01", long 93°06'20", in NE¹/₄NE¹/₄ sec.13, T. 28 N., R. 22 W., Ramsey County, Hydrologic Unit 07010206, on left bank in St. Paul, 100 ft upstream from Smith Ave Bridge, 4.8 mi downstream from Minnesota River, and at mile 840.5 upstream from Ohio River.

DRAINAGE AREA.--36,800 mi² (approximately).

PERIOD OF RECORD.--Water year 1867-69, 1872-92 (annual maximums), March 1892 to current year (prior to 1901, fragmentary during some winters). Records prior to March 1892, published in the 19th Annual Report, Part 4, have been found to be unreliable and should not be used. Monthly discharge only for some periods, published in WSP 1308. Gage-height records (winter records incomplete) collected at same site since 1866 are contained in reports of U.S. Weather Bureau, War Department and Mississippi River Commission.

REVISED RECORDS.--WSP 285: 1892-96. WSP 715: Drainage area. WSP 875: 1938. WSP 895: 1939. WSP 1308: 1867(M). WSP 1508: 1897, 1898(M). 1903(M), 1917-18(M). 1928(M), 1929. WRD MN-74: 1973.

GAGE.--Water-stage recorder. Datum of gage is 683.62 ft above sea level. Prior to Mar. 18, 1925, nonrecording gage at several sites within 300 ft of each other and 1.2 miles downstream of present site at present datum. Mar. 19, 1925 to June 24, 1999, recording gage 1.2 miles downstream of present site at present datum. Since September 1938, auxiliary water-stage recorder 5.6 mi downstream.

REMARKS.--Records good to fair except those for estimated days, which are fair to poor. Slight regulation except during extreme floods by reservoirs on headquarters and by power plants. Beginning July 20, 1939, sewage from Minneapolis and St. Paul, which formerly entered the river above station, was diverted to a wastewater treatment plant, thence to river below station. Figures do not include this diversion.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3540	16100	15200	e8470	e7520	e9410	17600	31500	40100	22000	18600	14000
2	3770	16100	15100	e8400	e7530	e9380	18000	28800	36800	22500	17700	13400
3	4050	16500	15300	e8400	e7550	e9510	18500	26000	34100	21800	16500	13800
4	3670	15600	15500	e8240	e7520	e9350	18800	23000	33200	22200	15400	13300
5	3760	15000	15200	e8160	e7130	e9890	19800	22200	32300	23900	15200	13000
6	3980	14000	15400	e7960	e7860	e10100	19800	21400	30800	24800	15000	13300
7	4430	13800	15600	e7840	e7590	e10400	21900	21000	28900	24800	14800	13500
8	4150	13300	15500	e7700	e7610	e10600	25500	21100	28600	23800	14200	14000
9	4560	12900	15400	e7550	e7790	e10400	29800	21600	28900	22800	13700	14400
10	4140	12500	15100	e7450	e7630	10300	32600	22600	29100	22900	13200	14000
11	4800	13100	14800	e7310	e7760	10100	36000	28500	31400	22000	13200	14200
12	4670	13600	14300	e7050	e7750	e10300	38100	34100	31700	20600	13900	14000
13	5090	14400	14300	e7040	e7640	e10400	39300	40000	32000	20100	13000	14100
14	5150	14500	14300	e6830	e8630	e10100	40300	45000	32800	18900	14200	14100
15	4970	15700	14000	e6830	e8780	e10200	41900	49000	33300	18700	14100	14400
16	5390	15000	14300	e6840	e8360	10100	43600	52400	33500	18300	14400	14000
17	6110	15300	13800	e6840	e8980	e10100	44800	56200	34200	17800	15400	14300
18	6390	15200	13700	e6830	e9880	e11300	45200	58100	34200	17700	16000	13900
19	7780	14700	12800	e6930	e10400	e14000	46100	60000	33600	17600	16100	13600
20	9920	15000	11500	e6930	e10700	15600	45900	61500	33300	18100	16300	13200
21	13100	15200	9430	e6930	e10500	16700	45300	61600	32000	18400	15400	12900
22	14400	14300	e7510	e6940	e10200	17600	44600	60600	30000	19900	15300	12000
23	16300	14300	e6590	e6920	e10400	18200	43500	59400	29700	21400	16800	11700
24	15800	15100	e7390	e7140	e10300	18400	42300	57800	30200	22900	16100	11400
25	15700	14600	e7700	e7150	e9930	18000	40700	56100	24300	23900	15900	11000
26	15300	15200	e8040	e7260	e9630	17400	39000	54400	23500	24400	16100	10500
27	15300	15700	e8150	e7260	e9560	16700	36900	52900	22500	25600	15700	10500
28	15700	15000	e8400	e7320	e9480	16000	35800	51100	22300	24000	15100	10200
29	14700	15200	e8640	e7330	---	16400	34400	49100	22200	22000	14800	10800
30	14400	15300	e8680	e7440	---	16900	33200	46700	22200	20400	14400	10700
31	14800	---	e8480	e7440	---	17300	---	43300	---	19300	13500	---
TOTAL	265820	442200	380110	228630	244610	401140	1039300	1317000	911700	663500	470000	388200
MEAN	8575	14740	12260	7375	8736	12940	34640	42480	30390	21400	15160	12940
MAX	16300	16500	15600	8470	10700	18400	46100	61600	40100	25600	18600	14400
MIN	3540	12500	6590	6830	7130	9350	17600	21000	22200	17600	13000	10200
AC-FT	527300	877100	753900	453500	485200	795700	2061000	2612000	1808000	1316000	932200	770000
CFSM	.23	.40	.33	.20	.24	.35	.94	1.15	.83	.58	.41	.35
IN.	.27	.45	.38	.23	.25	.41	1.05	1.33	.92	.67	.48	.39

e Estimated

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1892 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8576	7889	5716	4611	4586	11210	26140	20990	18210	14480	8960	8106
MAX	38210	27660	16080	11500	14700	43240	91610	66470	57170	73590	42550	34380
(WY)	1987	1972	1983	1983	1966	1983	1969	1986	1993	1993	1993	1986
MIN	1289	1348	1277	1097	1300	1757	3421	3085	1980	1272	864	1143
(WY)	1937	1937	1935	1935	1895	1940	1895	1934	1934	1934	1934	1934

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1892 - 1999
ANNUAL TOTAL	5663800	6752210	
ANNUAL MEAN	15520	18500	11700
HIGHEST ANNUAL MEAN			29580
LOWEST ANNUAL MEAN			1935
HIGHEST DAILY MEAN	53900	Apr 9	61600
LOWEST DAILY MEAN	3540	Oct 1	3540
ANNUAL SEVEN-DAY MINIMUM	3800	Sep 30	3890
INSTANTANEOUS PEAK FLOW			62600
INSTANTANEOUS PEAK STAGE			12.57
ANNUAL RUNOFF (AC-FT)	11230000	13390000	8474000
ANNUAL RUNOFF (CFSM)	.42	.50	.32
ANNUAL RUNOFF (INCHES)	5.73	6.83	4.32
10 PERCENT EXCEEDS	30100	36800	27500
50 PERCENT EXCEEDS	14400	15000	7210
90 PERCENT EXCEEDS	5230	7290	2720

