

05331000 MISSISSIPPI RIVER AT ST. PAUL, MN

LOCATION.--LAT 44°56'02", long 93°06'21", 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.--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 (NGVD of 1929). 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 poor. Flow-routing techniques were used from Oct. 1 to Mar. 31, May 1-13, and July 15 to Sept. 30. Routed discharges are considered fair to poor. Slight regulation, except during extreme floods, by reservoirs on headquarters and by power plants. Beginning July 20, 1939, effluent from Minneapolis and St. Paul, which formerly entered the river above station, was diverted to a wastewater treatment plant, thence to river about 4 miles below station. Daily-mean discharge figures do not include this diversion.

COOPERATION.--Records of discharge from the Metro Plant wastewater treatment plant were provided by the Metropolitan Council - Environmental Services.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20,800	15,800	e12,000	e7,340	e5,550	e7,360	25,100	24,700	33,500	28,700	10,100	6,500
2	20,100	17,800	e11,100	e7,510	e5,660	e7,070	26,700	23,600	32,800	28,600	9,660	6,840
3	19,100	19,200	e10,300	e7,140	e5,830	e6,920	28,400	21,900	31,700	28,200	9,620	6,870
4	17,800	19,900	e9,800	e6,840	e5,620	e6,750	30,000	20,600	30,800	27,100	9,360	7,820
5	17,800	20,100	e10,400	e6,700	e5,940	e6,740	29,800	19,300	30,100	25,800	8,840	8,600
6	17,500	20,100	e10,800	e6,570	e6,020	e6,950	29,700	18,600	29,600	24,400	8,270	7,610
7	16,500	19,200	e10,200	e5,960	e6,400	e7,060	30,200	17,600	29,500	24,200	7,700	8,000
8	16,300	18,600	e9,870	e6,070	e6,190	e7,480	28,900	17,300	32,200	23,800	6,960	8,270
9	15,700	17,900	e10,000	e6,520	e6,450	e8,350	28,000	17,300	33,700	22,700	7,390	8,100
10	15,500	17,200	e9,790	e6,380	e6,480	e8,950	26,700	17,400	35,700	21,100	7,030	8,140
11	15,200	e16,900	e10,400	e6,080	e6,310	e9,230	26,300	18,600	37,800	20,100	7,140	7,590
12	14,900	e16,300	e10,500	e6,190	e6,360	e9,520	27,700	19,800	39,300	18,900	6,710	7,270
13	13,800	e15,600	e10,900	e6,300	e6,370	e9,310	30,500	21,200	41,500	17,900	6,590	8,320
14	13,300	e15,100	e8,140	e5,850	e6,540	e8,800	35,200	23,100	43,400	17,200	6,600	10,900
15	13,100	e14,500	e6,680	e5,060	e6,950	e8,750	38,000	25,900	44,700	16,400	6,190	11,800
16	12,800	e14,600	e7,220	e5,130	e7,610	e8,770	40,500	27,500	46,100	15,000	5,980	12,700
17	12,800	e14,000	e7,710	e5,110	e8,530	e8,550	41,900	29,200	47,200	15,000	5,980	13,400
18	12,000	e13,700	e8,120	e5,100	e8,900	e8,140	42,900	30,800	47,200	14,000	6,010	13,500
19	11,900	e13,800	e7,360	e5,450	e9,220	e7,960	43,800	32,600	46,600	13,200	6,260	13,500
20	11,600	e13,400	e6,690	e5,400	e9,500	e7,890	44,000	34,000	45,800	12,900	6,910	13,600
21	12,000	e13,300	e5,730	e5,480	e9,570	e7,790	43,900	34,700	44,900	12,700	6,940	13,400
22	11,600	e13,400	e5,190	e5,530	e9,050	e7,790	43,200	34,500	43,000	12,400	7,260	13,400
23	11,600	e13,500	e5,440	e5,480	e8,610	e7,960	42,000	34,900	41,500	11,500	7,120	14,300
24	11,400	e13,500	e5,440	e5,300	e8,160	e8,160	40,100	34,800	40,300	11,900	6,860	13,000
25	11,500	e13,700	e5,730	e5,330	e7,940	e8,800	37,800	34,100	38,800	11,900	6,280	12,600
26	11,300	e13,800	e5,800	e5,960	e7,720	e9,260	35,300	34,100	36,700	11,700	5,650	12,900
27	11,700	e13,200	e6,310	e5,640	e7,360	e10,200	33,000	34,500	35,000	11,300	6,900	16,400
28	12,200	e12,800	e6,680	e5,440	e7,470	11,600	30,900	34,200	34,000	10,800	8,010	19,400
29	13,300	e12,700	e6,650	e5,270	---	13,600	28,600	34,200	31,400	9,880	7,120	22,300
30	14,400	e12,800	e6,850	e5,360	---	17,200	26,800	33,900	30,100	10,500	6,680	23,700
31	14,600	---	e7,030	e5,480	---	20,700	---	33,500	---	10,900	6,720	---
TOTAL	444,100	466,400	254,830	182,970	202,310	283,610	1,015,900	838,400	1,134,900	540,680	224,840	350,730
MEAN	14,330	15,550	8,220	5,902	7,225	9,149	33,860	27,050	37,830	17,440	7,253	11,690
MAX	20,800	20,100	12,000	7,510	9,570	20,700	44,000	34,900	47,200	28,700	10,100	23,700
MIN	11,300	12,700	5,190	5,060	5,550	6,740	25,100	17,300	29,500	9,880	5,650	6,500
AC-FT	880,900	925,100	505,500	362,900	401,300	562,500	2,015,000	1,663,000	2,251,000	1,072,000	446,000	695,700
CFSM	0.39	0.42	0.22	0.16	0.20	0.25	0.92	0.73	1.03	0.47	0.20	0.32
IN.	0.45	0.47	0.26	0.18	0.20	0.29	1.03	0.85	1.15	0.55	0.23	0.35
+	286	282	274	273	278	275	285	288	303	290	290	299
‡MEAN	14,600	15,800	8,490	6,180	7,500	9,420	34,100	27,300	38,100	17,700	7,540	12,000
‡CFSM	0.40	0.43	0.23	0.17	0.21	0.26	0.93	0.74	1.04	0.48	0.21	0.33
‡IN	0.41	0.44	0.24	0.18	0.22	0.27	0.94	0.75	1.05	0.49	0.22	0.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1892 - 2005, BY WATER YEAR (WY)

MEAN	8,606	7,980	5,786	4,666	4,622	11,060	26,440	21,380	18,850	14,750	8,967	8,152
MAX	38,210	27,660	16,080	11,500	14,700	43,240	96,590	70,430	57,170	73,590	42,550	34,380
(WY)	(1987)	(1972)	(1983)	(1983)	(1966)	(1983)	(2001)	(2001)	(1993)	(1993)	(1993)	(1986)
MIN	1,289	1,348	1,277	1,097	1,300	1,757	3,421	3,085	1,980	1,272	864	1,143
(WY)	(1937)	(1937)	(1935)	(1935)	(1895)	(1940)	(1895)	(1934)	(1934)	(1934)	(1934)	(1934)

05331000 MISSISSIPPI RIVER AT ST. PAUL, MN—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1892 - 2005	
ANNUAL TOTAL	4,471,140		5,939,670		11,850	
ANNUAL MEAN	12,220		16,270		1,935	
HIGHEST ANNUAL MEAN					29,580	1986
LOWEST ANNUAL MEAN					1,935	1934
HIGHEST DAILY MEAN	46,900	Jun 16	47,200	Jun 17, 18	171,000	Apr 16, 1965
LOWEST DAILY MEAN	2,580	Jan 20	5,060	Jan 15	632	Aug 26, 1934
ANNUAL SEVEN-DAY MINIMUM	2,810	Jan 30	5,250	Jan 15	741	Aug 26, 1934
MAXIMUM PEAK FLOW			47,400	Jun 17	171,000	Apr 16, 1965
MAXIMUM PEAK STAGE			9.99	Jun 17	26.01	Apr 16, 1965
ANNUAL RUNOFF (AC-FT)	8,869,000		11,780,000		8,586,000	
ANNUAL RUNOFF (CFSM)	0.332		0.442		0.322	
ANNUAL RUNOFF (INCHES)	4.52		6.00		4.38	
10 PERCENT EXCEEDS	23,800		34,300		27,500	
50 PERCENT EXCEEDS	10,000		12,000		7,200	
90 PERCENT EXCEEDS	3,200		6,080		2,730	

+ Diversion, in cubic feet per second, from wastewater treatment plant.
 ++Adjusted for discharges from wastewater treatment plant.
 e Estimated.

