

UPPER MISSISSIPPI RIVER MAIN STEM

05385000 ROOT RIVER NEAR HOUSTON, MN

LOCATION.--4346"07", long 9134"11", in SW 1 / 4 NW 1 / 4 sec. 33, T.104 N., R.6 W., Houston County, Hydrologic Unit 07040008, on right bank 0.2 mi north of Houston and 1.6 mi upstream from South Fork and 18.2 mi upstream from mouth.

DRAINAGE AREA.--1,250 mi² (revised).

PERIOD OF RECORD.--May 1909 to September 1917, May to November 1929, March 1930 to 1983, 1991 to current year. Operated as high-flow partial-record station October 1983 to September 1990. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1508: 1911-12. WSP 1628: 1948(P).

GAGE.--Water-stage recorder. Datum of gage is 667.00 ft above mean sea level. May 28, 1909 to Sept. 30, 1917, nonrecording gage at site 1.3 mi downstream at different datum. May 4, 1929 to Sept. 27, 1933, nonrecording gage and Sept. 28, 1933 to June 26, 1980, recording gage at site 0.9 mi upstream at datum 671.86 ft.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Slight diurnal fluctuation at low flows caused by power plants above station.

EXTREME FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s and maximum (*).

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height (ft)
		(ft ³ /s)	(ft)			(ft ³ /s)	
June 29	0700	*7590	*12.13	(No other peak greater than base discharge.)			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	568	617	493	441	e480	1630	2670	930	880	2890	855	1020
2	569	623	490	498	e470	1450	3550	907	829	2340	838	953
3	578	621	490	512	e440	1310	3020	895	797	2280	833	903
4	576	618	493	500	e440	1220	2490	877	780	2550	925	872
5	570	607	489	493	e450	1140	2150	853	772	2010	1080	839

6	565	596	486	508	e460	1080	1910	825	773	1800	1110	817
7	554	584	474	509	e470	1040	1750	824	768	1720	1020	786
8	546	576	481	504	e480	996	1630	897	752	3060	1010	760
9	563	573	488	492	e470	984	1540	944	774	2650	998	735
10	565	569	491	e470	e470	909	1460	994	791	2470	1750	724
11	562	561	491	e440	e460	805	1360	1000	825	2030	1070	710
12	559	551	510	e410	e460	774	1280	990	921	1790	963	698
13	750	543	486	e370	e460	813	1230	963	977	1630	914	691
14	790	531	465	e400	e460	838	1220	930	993	1510	888	679
15	1110	536	459	e420	e460	811	1190	903	993	1400	884	675
16	1050	538	498	e440	465	811	1170	901	1020	1300	859	666
17	949	523	496	e440	633	792	1160	906	1080	1220	1340	656
18	890	512	479	e440	1680	788	1280	873	1110	1170	1570	650
19	846	529	471	e440	2230	790	1260	857	1510	1200	1120	641
20	805	524	480	e440	2670	778	1180	823	1370	1190	1080	645
21	768	535	476	e440	2140	749	1120	794	2420	1200	1110	638
22	738	523	455	e450	1660	731	1090	779	2330	1190	1160	621
23	716	524	462	e465	1440	738	1050	765	2200	1100	1180	604
24	703	499	476	e465	1570	767	1010	774	1810	1040	1070	e610
25	683	514	476	e465	1520	816	976	811	1700	1000	998	617
26	666	533	463	e470	1380	942	965	825	1740	972	947	621
27	645	532	464	e470	1540	1490	950	824	1810	949	913	623
28	641	512	474	e470	1630	1970	947	823	3850	930	999	613
29	637	502	482	e475	---	2090	944	824	6830	906	1030	619
30	631	495	475	e480	---	2520	939	803	4110	893	1240	628
31	615	---	476	e480	---	2440	---	850	---	875	1140	---
TOTAL	21408	16501	14889	14297	27488	35012	44491	26964	47515	49265	32894	21314
MEAN	691	550	480	461	982	1129	1483	870	1584	1589	1061	710
MAX	1110	623	510	512	2670	2520	3550	1000	6830	3060	1750	1020

MIN	546	495	455	370	440	731	939	765	752	875	833	604
AC-FT	42460	32730	29530	28360	54520	69450	88250	53480	94250	97720	65250	42280
CFSM	.54	.43	.38	.36	.77	.89	1.17	.68	1.25	1.25	.84	.56
IN.	.63	.48	.44	.42	.81	1.03	1.30	.79	1.39	1.44	.96	.62

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	514	512	430	410	491	1411	1191	822	896	794	647	569
MAX	1465	1494	1671	1152	1427	3512	4963	2440	2803	3252	2257	2105
(WY)	1974	1983	1992	1973	1966	1961	1965	1973	1974	1978	1993	1938
MIN	193	218	189	172	168	251	274	234	261	236	231	243
(WY)	1934	1934	1934	1959	1959	1931	1931	1934	1934	1964	1958	1933

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1910 - 1998		
ANNUAL TOTAL	330008			352038			
ANNUAL MEAN	904			964		730	
HIGHEST ANNUAL MEAN						1590	1993
LOWEST ANNUAL MEAN						294	1931
HIGHEST DAILY MEAN	6530		Mar 28	6830	Jun 29	31100	Apr 1 1952
LOWEST DAILY MEAN	430		Jan 11	370a	Jan 13	82	Nov 28 1937
ANNUAL SEVEN-DAY MINIMUM	435		Jan 9	417	Jan 11	113	Dec 25 1933
INSTANTANEOUS PEAK FLOW				7590	Jun 29	37000	Apr 1 1952
INSTANTANEOUS PEAK STAGE				12.13	Jun 29	18.32a	Mar 2 1965
INSTANTANEOUS LOW FLOW						65b	Dec 26 1933

ANNUAL RUNOFF (AC-FT)	654600		698300		528800		
ANNUAL RUNOFF (CFSM)	.71		.76		.57		
ANNUAL RUNOFF (INCHES)	9.67		10.31		7.81		
10 PERCENT EXCEEDS	1430		1710		1300		
50 PERCENT EXCEEDS	670		811		464		
90 PERCENT EXCEEDS	453		470		262		

a Backwater from ice.

b Also occurred, Feb. 25, 1935.

