

UPPER MISSISSIPPI RIVER MAIN STEM--Continued

05385000 ROOT RIVER NEAR HOUSTON, MN

LOCATION.--43°46'07", long 91°34'11", in SW¹/₄NW¹/₄ 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.

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 sea level (NGVD of 1929). 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 fair except those for estimated daily discharges, which are fair to poor. Slight diurnal fluctuation at low flows caused by power plant upstream.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 20	0900	10,800	13.99	Jun 21	1300	5,840	10.52
Jun 2	1900	*34,600	*17.59	Jul 11	2000	20,200	16.10
Jun 17	1100	6,560	11.22				

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	777	703	605	e530	e510	1170	652	572	3510	1520	936	1030
2	806	684	624	e530	e510	1090	641	562	20900	1470	1260	1020
3	804	671	634	e530	e510	1010	637	555	15200	1560	1030	972
4	790	666	638	e530	e510	957	610	551	5400	1610	922	944
5	781	666	614	e530	e520	914	581	552	5410	1470	904	879
6	775	651	618	e520	e520	881	585	546	5990	1390	933	845
7	766	642	605	e520	e520	859	586	543	4210	1530	925	832
8	773	643	603	e520	e520	847	585	541	3320	1470	898	821
9	772	657	600	e520	e530	849	585	551	2770	1800	883	800
10	761	662	601	e520	e530	833	587	539	2370	7940	865	784
11	745	668	589	e520	e530	823	591	548	2070	15600	841	770
12	740	654	586	e520	e530	808	589	571	1850	11800	825	767
13	731	647	601	e520	e530	806	588	568	1690	4440	817	749
14	725	642	593	e520	e530	788	591	543	4010	3350	811	756
15	722	631	594	e520	e530	778	595	534	5420	2780	804	726
16	738	630	602	e520	e535	759	590	540	5190	2390	787	710
17	721	627	571	e520	e540	730	586	576	6050	2110	898	701
18	710	627	548	e520	e540	705	588	1450	3950	1880	974	698
19	704	634	e510	e495	e550	700	608	6340	3010	1720	915	696
20	704	625	e490	e450	e560	693	622	7950	2730	1600	861	689
21	708	623	e480	e430	e570	685	637	3220	5190	1490	836	671
22	702	625	e490	e420	637	713	639	2470	4320	1380	831	668
23	693	708	e500	e430	1080	720	631	2050	2970	1300	846	677
24	688	724	e510	e430	2850	734	612	1740	2500	1220	853	672
25	688	697	e520	e430	2150	741	597	1530	2310	1170	824	663
26	687	676	e520	e440	2280	724	593	1370	2240	1190	906	659
27	685	659	e520	e440	1950	713	592	1270	1960	1180	1940	654
28	683	638	e530	e450	1510	692	585	1230	1790	1080	1860	648
29	686	634	e530	e460	1230	677	577	1170	1710	1020	1350	643
30	714	631	e530	e480	---	672	570	1150	1620	984	1170	641
31	711	---	e530	e500	---	662	---	1150	---	949	1080	---
TOTAL	22690	19645	17486	15265	24812	24733	18030	43482	131660	82393	30585	22785
MEAN	732	655	564	492	856	798	601	1403	4389	2658	987	760
MAX	806	724	638	530	2850	1170	652	7950	20900	15600	1940	1030
MIN	683	623	480	420	510	662	570	534	1620	949	787	641
AC-FT	45010	38970	34680	30280	49210	49060	35760	86250	261100	163400	60670	45190
CFSM	.59	.52	.45	.39	.68	.64	.48	1.12	3.51	2.13	.79	.61
IN.	.68	.58	.52	.45	.74	.74	.54	1.29	3.92	2.45	.91	.68

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 2000, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	521	519	435	414	501	1395	1201	845	948	834	667	576
MAX	1465	1494	1671	1152	1427	3512	4963	2440	4389	3252	2257	2105
(WY)	1974	1983	1992	1973	1966	1961	1965	1973	2000	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 1999 CALENDAR YEAR		FOR 2000 WATER YEAR		WATER YEARS 1910 - 2000	
ANNUAL TOTAL	439493		453566			
ANNUAL MEAN	1204		1239		744	
HIGHEST ANNUAL MEAN					1590	
LOWEST ANNUAL MEAN					294	
HIGHEST DAILY MEAN	7020		Jul 21		20900	
LOWEST DAILY MEAN	480		Dec 21		420	
ANNUAL SEVEN-DAY MINIMUM	500		Dec 19		431	
INSTANTANEOUS PEAK FLOW					34600	
INSTANTANEOUS PEAK STAGE					17.59 ^a	
INSTANTANEOUS LOW FLOW					65 ^c	
ANNUAL RUNOFF (AC-FT)	871700		899600		539200	
ANNUAL RUNOFF (CFSM)	.96		.99		.60	
ANNUAL RUNOFF (INCHES)	13.08		13.50		8.09	
10 PERCENT EXCEEDS	2280		2180		1320	
50 PERCENT EXCEEDS	888		698		472	
90 PERCENT EXCEEDS	598		520		262	

^a From highwater mark.
^b Backwater from ice.
^c Also occurred Feb. 25, 1935.
^e Estimated.

