

## UPPER MISSISSIPPI RIVER MAIN STEM--Continued

05372995 SOUTH FORK ZUMBRO RIVER AT ROCHESTER, MN

LOCATION.--Lat 44°03'42", long 92°27'58", in NW $\frac{1}{4}$ NE $\frac{1}{4}$  sec. 23, T.107 N., R.14 W., Olmsted County, Hydrologic Unit 07040004, on left bank 50 ft downstream from 37th Street bridge, 0.2 mi upstream from wastewater treatment plant, and 2.0 mi downstream from Silver Lake Dam.

DRAINAGE AREA.--303 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1981 to current year.

GAGE.--Water-stage recorder. Datum of gage is 950.00 ft above sea level (NGVD of 1929). Prior to Mar. 1981, recording gage at site 0.6 miles downstream. Record published as "near Rochester, MN" and under downstream order number 05373000. Peak flow record is considered equivalent at both sites but daily-mean streamflows are not.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Some regulation at times from Silver Lake.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 6, 1978, reached a stage of about 28.0 ft, on upstream side of bridge, discharge 30,500 ft<sup>3</sup>/s. This is the highest known stage since at least 1908.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jun 11	0400	2,180	7.65	Aug 17	0600	*2,400	*8.14
Jun 21	0700	2,080	7.42				

Minimum discharge, 50 ft<sup>3</sup>/s, Feb. 4, gage height, 2.18 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	79	133	68	72	125	113	249	e88	218	140	173
2	89	78	126	66	e69	e113	116	235	116	197	131	169
3	83	73	123	63	e67	e106	107	215	244	175	190	164
4	83	72	117	61	68	e104	102	199	636	163	390	159
5	81	71	154	65	76	e106	100	191	841	164	227	153
6	76	71	159	69	76	e112	99	203	540	179	190	166
7	73	71	157	65	79	118	98	187	368	176	174	151
8	72	69	149	69	84	152	105	195	305	172	164	146
9	93	69	149	73	98	234	106	187	256	168	157	140
10	98	68	143	77	141	169	104	174	233	e171	148	138
11	88	69	137	80	114	177	198	178	1020	e169	141	132
12	86	65	133	79	124	206	276	177	611	e162	141	131
13	149	87	131	79	94	390	263	176	483	e140	149	127
14	141	73	124	80	109	319	230	167	395	121	136	159
15	133	72	119	80	108	224	215	162	325	111	129	138
16	118	69	119	76	107	183	209	156	272	100	126	131
17	109	67	117	62	97	198	194	149	244	96	712	126
18	104	77	113	65	114	187	187	143	222	e116	325	123
19	105	81	110	73	178	182	176	137	297	e150	226	130
20	105	73	93	74	261	176	168	132	217	e169	195	129
21	98	72	91	74	221	173	179	125	1080	e208	367	124
22	105	73	130	77	180	143	176	119	940	e259	425	120
23	95	87	92	77	179	157	174	117	550	e184	344	116
24	95	139	76	75	178	159	175	115	418	e163	289	116
25	90	127	96	74	175	135	169	115	359	175	255	154
26	85	133	92	78	163	139	163	113	430	165	233	154
27	82	140	87	80	134	130	225	108	341	158	213	144
28	80	138	88	82	158	128	308	105	294	150	199	135
29	81	138	88	84	---	125	327	105	258	153	190	136
30	80	138	78	79	---	122	275	98	228	155	183	135
31	81	---	72	81	---	118	---	91	---	149	176	---
TOTAL	2949	2639	3596	2285	3524	5110	5337	4823	12611	5036	7065	4219
MEAN	95.1	88.0	116	73.7	126	165	178	156	420	162	228	141
MAX	149	140	159	84	261	390	327	249	1080	259	712	173
MIN	72	65	72	61	67	104	98	91	88	96	126	116
AC-FT	5850	5230	7130	4530	6990	10140	10590	9570	25010	9990	14010	8370
CFSM	0.31	0.29	0.38	0.24	0.42	0.54	0.59	0.51	1.39	0.54	0.75	0.46

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	148	141	115	75.5	127	354	430	328	293	244	173	168
MAX	824	338	358	167	454	760	1269	735	1014	663	501	1075
(WY)	1987	1992	1992	1983	1984	1983	2001	2001	1993	1993	1990	1986
MIN	20.0	24.5	21.0	22.5	23.8	109	79.4	88.3	49.0	23.2	24.6	31.5
(WY)	1990	1990	1990	1990	1990	2001	2000	1989	1989	1988	1988	1988

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1981 - 2002
ANNUAL TOTAL	109051	59194	
ANNUAL MEAN	299	162	218
HIGHEST ANNUAL MEAN			431 1993
LOWEST ANNUAL MEAN			87.3 1989
HIGHEST DAILY MEAN	4410 Apr 12	1080 Jun 21	7710 Sep 21 1986
LOWEST DAILY MEAN	47 Feb 23	61 Jan 4	12 Sep 12 1988
ANNUAL SEVEN-DAY MINIMUM	49 Feb 17	65 Jan 1	14 Sep 8 1988
MAXIMUM PEAK FLOW		2400 Aug 17	10000 Sep 21 1986
MAXIMUM PEAK STAGE		8.14 Aug 17	20.77 Sep 21 1986
INSTANTANEOUS LOW FLOW		50a Feb 4	10a Oct 23 1981
ANNUAL RUNOFF (AC-FT)	216300	117400	157600
ANNUAL RUNOFF (CFSM)	0.99	0.54	0.72
10 PERCENT EXCEEDS	783	258	473
50 PERCENT EXCEEDS	115	134	123
90 PERCENT EXCEEDS	59	74	49

a Due in part to regulation.  
e Estimated.

