

MINNESOTA RIVER BASIN--Continued

05304500 CHIPPEWA RIVER NEAR MILAN, MN

LOCATION.--Lat 45°06'39", long 95°47'57", in SE¹/₄SE¹/₄ sec. 16, T.119 N., R.41 W., Chippewa County, Hydrologic Unit 07020005, on right bank 20 ft downstream from bridge on State Highway 40, and 5.5 mi east of Milan.

DRAINAGE AREA.--1,880 mi².

PERIOD OF RECORD.--March 1937 to current year.

REVISED RECORDS.--WSP 1145: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 959.69 ft above sea level. Prior to June 15, 1942, nonrecording gage on bridge at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair to poor. Flow may be influenced by regulation from several small lakes upstream from gage.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 18	2200	759	2.80	Jul 9	1900	1,420	3.88
Nov 23	1700	798	2.95	Jul 23	1300	785	2.84
Apr 15	1370	1,370	3.80	Jul 31	1900	1,640	4.24
May 17	1600	*2,700	*5.72	Aug 31	2400	610	2.55
Jun 10	2400	1,650	4.25				

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	159	496	679	e265	e208	e435	1010	890	1130	741	1390	593
2	162	483	664	e250	e212	e428	1010	858	1090	722	993	543
3	164	470	647	e235	e220	e420	1020	830	1050	732	778	506
4	180	462	630	e228	e223	e415	1030	808	1010	745	683	498
5	229	451	635	e224	e225	e410	1040	820	998	725	637	532
6	312	440	644	e220	e240	e405	1120	924	999	688	601	549
7	342	430	635	e216	e260	e403	1290	1080	964	654	549	519
8	333	426	616	e212	e285	e402	1320	1200	953	738	516	489
9	317	427	595	e210	e330	e401	1300	1200	1070	1300	744	469
10	299	460	590	e207	e375	e420	1270	1200	1560	1260	e1630	457
11	282	495	599	e204	e395	e420	1310	1490	1580	1030	e1580	444
12	270	e500	588	e202	e410	e418	1350	1710	1400	886	e1240	457
13	262	e560	551	e200	e420	e420	1330	1600	1300	788	e1080	517
14	260	610	552	e198	e427	e428	1320	1580	1220	715	e1120	492
15	265	608	536	e196	e435	e434	1350	1560	1150	659	e1010	469
16	285	616	528	e202	e430	e460	1350	1940	1100	618	e831	452
17	413	602	515	e203	e420	e495	1320	2610	1030	608	e728	437
18	706	606	507	e202	e405	e545	1300	2450	979	584	703	418
19	731	e605	e450	e201	e398	e600	1270	2160	949	567	703	410
20	689	e650	e415	e201	e392	e650	1240	1980	930	580	690	397
21	647	699	e385	e200	e384	e700	1220	1860	915	632	657	387
22	603	730	e345	e200	e380	e710	1190	1750	894	711	616	381
23	569	779	e320	e200	e382	716	1140	1680	933	773	597	373
24	548	785	e310	e200	e386	717	1110	1600	960	773	555	362
25	522	793	e304	e200	e392	700	1080	1530	918	733	523	354
26	510	783	e300	e200	e400	678	1050	1460	867	675	493	371
27	507	757	e302	e200	e420	666	1030	1390	827	626	469	385
28	510	737	e315	e200	e440	758	1000	1330	804	624	447	392
29	511	721	e310	e200	---	948	957	1280	796	627	444	382
30	512	701	e300	e201	---	966	921	1220	771	635	494	373
31	507	---	e288	e205	---	985	---	1170	---	1480	571	---
TOTAL	12606	17882	15055	6482	9894	17553	35248	45160	31147	23629	24072	13408
MEAN	407	596	486	209	353	566	1175	1457	1038	762	777	447
MAX	731	793	679	265	440	985	1350	2610	1580	1480	1630	593
MIN	159	426	288	196	208	401	921	808	771	567	444	354
AC-FT	25000	35470	29860	12860	19620	34820	69910	89570	61780	46870	47750	26590
CFSM	.22	.32	.26	.11	.19	.30	.62	.77	.55	.41	.41	.24
IN.	.25	.35	.30	.13	.20	.35	.70	.89	.62	.47	.48	.27

e Estimated

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	238	201	126	72.8	76.0	409	1076	687	590	478	278	224
MAX	1996	1318	655	425	432	2141	6606	2462	2248	2507	2183	2273
(WY)	1985	1985	1985	1987	1998	1985	1997	1986	1984	1995	1993	1986
MIN	5.51	8.67	4.77	.094	.000	2.92	90.9	81.6	36.8	15.1	6.19	3.50
(WY)	1977	1977	1977	1940	1940	1965	1959	1939	1940	1940	1976	1976

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1938 - 1999
ANNUAL TOTAL	211704	252136	
ANNUAL MEAN	580	691	372 ^a
HIGHEST ANNUAL MEAN			1307
LOWEST ANNUAL MEAN			45.4
HIGHEST DAILY MEAN	1720	Apr 3	2610
LOWEST DAILY MEAN	150	Jan 15	159
ANNUAL SEVEN-DAY MINIMUM	157	Jan 12	200
INSTANTANEOUS PEAK FLOW			2700
INSTANTANEOUS PEAK STAGE			5.72
INSTANTANEOUS LOW FLOW			155
ANNUAL RUNOFF (AC-FT)	419900	500100	269400
ANNUAL RUNOFF (CFSM)	.31	.37	.20
ANNUAL RUNOFF (INCHES)	4.19	4.99	2.69
10 PERCENT EXCEEDS	1040	1300	995
50 PERCENT EXCEEDS	542	599	140
90 PERCENT EXCEEDS	180	227	16

a Median of annual mean discharges is 300 ft³/s.
 b From highwater mark.
 c Many days in 1940.

