



Water-Data Report 2009

05316580 MINNESOTA RIVER AT MORTON, MN

Minnesota Basin
Middle Minnesota Subbasin

LOCATION.--Lat 44°32'46", long 94°59'46" referenced to North American Datum of 1927, in NE ¼ SE ¼ sec.36, T.113 N., R.35 W., Redwood County, MN, Hydrologic Unit 07020007, on right bank 10 ft downstream from highway bridge, ½ mi southwest of town of Morton, and 203 mi upstream from mouth.

DRAINAGE AREA.--8,970 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2000 to current year.

REVISED RECORDS.--Unpublished, 2009: 2001(M).

GAGE.--Water-stage recorder.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation from Big Stone Lake, Marsh Lake, and Lac qui Parle dams.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	181	938	e1,070	e641	e412	e593	17,300	5,080	1,540	1,120	436	787
2	180	885	e1,050	e641	e409	e713	16,500	4,930	1,500	1,000	403	663
3	182	843	e999	e631	e406	e887	15,500	4,820	1,470	939	409	529
4	200	835	e947	e626	e407	e915	14,600	4,670	1,440	943	394	423
5	224	835	e898	e639	e413	e901	13,700	4,470	1,430	905	350	307
6	263	852	e839	e641	e422	e936	12,800	4,330	1,410	888	363	253
7	380	923	e806	e641	e429	e947	12,100	4,190	e1,330	862	383	233
8	415	1,010	e782	e637	e432	e950	11,600	4,060	e1,310	842	387	221
9	449	1,090	e752	e634	e439	e907	11,200	3,970	e1,360	828	410	216
10	456	1,270	e725	e627	e460	e788	11,100	3,860	e1,470	806	601	215
11	525	1,500	e703	e615	e489	e700	11,100	3,750	e1,530	763	797	203
12	597	1,710	e687	e609	e535	e673	10,700	3,620	e1,570	764	746	237
13	633	1,640	e666	e593	e565	e674	9,960	3,500	e1,560	776	702	205
14	674	1,620	e656	e584	e569	e685	9,340	3,370	e1,520	746	674	209
15	665	1,660	e656	e569	e569	e702	8,800	3,270	e1,430	738	637	209
16	666	1,710	e647	e519	e576	e959	8,410	3,250	e1,340	742	601	189
17	652	1,720	e638	e487	e576	e1,580	8,050	3,040	e1,280	726	556	189
18	644	1,680	e640	e458	e579	e2,570	7,710	2,910	e1,260	700	556	195
19	632	1,590	e638	e448	e584	e3,190	7,460	2,810	1,230	694	640	179
20	568	1,510	e640	e434	e584	e3,730	7,210	2,730	1,350	694	695	177
21	550	e1,250	e631	e424	e579	e4,050	6,960	2,590	1,350	697	621	179
22	569	e1,100	e624	e426	e578	e4,810	6,710	2,370	1,340	732	696	193
23	678	e1,080	e628	e426	e578	e6,370	6,450	2,280	1,290	667	787	181
24	697	e1,060	e624	e437	e576	9,050	6,200	2,250	1,250	610	827	184
25	792	e1,210	e633	e431	e578	10,600	5,890	2,200	1,230	576	819	245
26	912	e1,290	e641	e419	e580	10,800	5,660	2,100	1,210	493	823	327
27	992	e1,300	e641	e412	e580	10,700	5,560	1,940	1,270	520	862	380
28	1,100	e1,270	e633	e405	e585	11,500	5,380	1,770	1,290	523	869	588
29	1,080	e1,180	e621	e402	---	13,300	5,260	1,650	1,220	500	838	605
30	989	e1,100	e617	e410	---	15,900	5,200	1,570	1,190	431	818	506
31	954	---	e622	e408	---	17,400	---	1,540	---	438	818	---
Total	18,499	37,661	22,354	16,274	14,489	138,480	284,410	98,890	40,970	22,663	19,518	9,227
Mean	597	1,255	721	525	517	4,467	9,480	3,190	1,366	731	630	308
Max	1,100	1,720	1,070	641	585	17,400	17,300	5,080	1,570	1,120	869	787
Min	180	835	617	402	406	593	5,200	1,540	1,190	431	350	177
Ac-ft	36,690	74,700	44,340	32,280	28,740	274,700	564,100	196,100	81,260	44,950	38,710	18,300
Cfs/m	0.07	0.14	0.08	0.06	0.06	0.50	1.06	0.36	0.15	0.08	0.07	0.03
In.	0.08	0.16	0.09	0.07	0.06	0.57	1.18	0.41	0.17	0.09	0.08	0.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	927	979	776	597	613	2,273	7,652	4,923	3,910	2,005	782	530
Max	2,301	2,130	2,197	1,967	2,145	4,557	26,720	11,780	6,049	3,619	1,385	1,520
(WY)	(2006)	(2005)	(2006)	(2006)	(2006)	(2007)	(2001)	(2001)	(2001)	(2005)	(2002)	(2005)
Min	98.2	231	178	148	188	555	740	1,349	1,366	731	378	235
(WY)	(2001)	(2004)	(2004)	(2004)	(2004)	(2001)	(2004)	(2004)	(2009)	(2009)	(2006)	(2007)

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SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 2001 - 2009	
Annual total	702,492		723,435			
Annual mean	1,919		1,982		2,164	
Highest annual mean					4,252	2001
Lowest annual mean					1,036	2004
Highest daily mean	8,010	Jun 14	17,400	Mar 31	45,400	Apr 15, 2001
Lowest daily mean	177	Sep 28	177	Sep 20	^a 81	Oct 6, 2000
Annual seven-day minimum	181	Sep 27	184	Sep 18	86	Oct 5, 2000
Maximum peak flow			17,500	Mar 31	45,400	Apr 15, 2001
Maximum peak stage			24.38	Mar 31	^b 29.26	Apr 16, 2001
Instantaneous low flow			167	Oct 3	^a 80	Oct 6, 2000
Annual runoff (ac-ft)	1,393,000		1,435,000		1,567,000	
Annual runoff (cfsm)	0.214		0.221		0.241	
Annual runoff (inches)	2.91		3.00		3.28	
10 percent exceeds	5,660		5,450		5,490	
50 percent exceeds	918		764		928	
90 percent exceeds	303		403		246	

^a Due in part to regulation.

^b Maximum recorded, peak stage was less than 30.0 feet.

