

Water-Data Report 2009

05087500 MIDDLE RIVER AT ARGYLE, MN

Lower Red Basin
Snake Subbasin

LOCATION.--Lat 48°20'25", long 96°48'58" referenced to North American Datum of 1927, in NE ¼ NW ¼ sec.15, T.156 N., R.48 W., Marshall County, MN, Hydrologic Unit 09020309, on left bank 30 ft upstream from bridge on County Highway 4 in Argyle and 14 mi upstream from mouth.

DRAINAGE AREA.--255 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March to September 1945, November 1950 to September 1981, February 1982 to current year. Monthly discharge only for some periods, published in WSP 1728.

GAGE.--Water-stage recorder. Datum of gage is 828.53 ft above sea level (NGVD of 1929). Prior to Nov. 8, 1951, nonrecording gage and Nov. 8, 1951 to Sept. 18, 1952, water-stage recorder at site 800 ft downstream at datum 1.0 ft higher. Sept. 19, 1952 to June 28, 1982, recording gage at site 800 feet downstream at present datum. June 29, 1982 to Sept. 20, 1983, nonrecording gage at present site and datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 1950 reached a stage of 15.25 ft present datum, site then in use, from floodmarks, discharge, 2,790 ft³/s.

05087500 MIDDLE RIVER AT ARGYLE, MN—Continued

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	e2.9	68	e36	e5.5	e5.0	e5.8	e450	464	184	1,400	28	7.7
2	e2.9	64	e32	e5.4	e5.1	e5.8	e420	542	150	1,140	25	7.0
3	e2.9	61	e29	e5.4	e5.2	e5.9	e390	522	125	932	23	6.3
4	e3.7	58	e25	e5.3	e5.2	e6.0	387	443	107	704	21	5.7
5	e9.7	63	e22	e5.2	e5.2	e6.0	357	358	93	529	18	5.1
6	e7.7	83	e19	e5.2	e5.2	e5.9	348	291	83	403	17	4.5
7	e8.5	283	e17	e5.1	e5.3	e5.8	328	250	74	306	16	3.9
8	e13	450	e15	e5.0	e5.3	e5.7	381	220	70	232	16	4.4
9	e19	485	e13	e5.0	e5.4	e5.6	527	193	66	175	15	6.4
10	e26	438	e11	e5.0	e5.4	e5.5	685	173	64	142	14	4.2
11	e38	335	e10	e4.8	e5.5	e5.4	769	155	66	116	13	3.8
12	e52	285	e9.5	e4.4	e5.5	e5.4	814	140	67	99	12	3.5
13	e73	241	e9.0	e4.3	e5.5	e5.4	878	133	66	86	12	3.2
14	268	207	e8.5	e4.0	e5.5	e5.6	946	135	62	75	12	6.5
15	354	192	e8.2	e4.0	e5.5	e6.4	962	152	57	67	12	7.3
16	336	184	e7.8	e4.0	e5.5	e20	921	162	52	165	13	6.7
17	280	178	e7.6	e4.1	e5.6	e60	811	156	47	269	16	5.9
18	226	e170	e7.6	e4.2	e5.7	e110	687	141	43	249	17	5.4
19	185	e155	e7.6	e4.3	e5.8	e160	592	124	40	225	17	5.6
20	154	e145	e7.5	e4.3	e6.1	e250	515	111	40	182	19	5.6
21	132	e135	e7.2	e4.4	e6.3	e360	451	100	142	139	24	4.1
22	118	e130	e7.0	e4.3	e6.3	e560	396	92	159	107	27	3.2
23	107	123	e6.8	e4.3	e6.3	852	350	85	123	85	26	2.8
24	98	100	e6.6	e4.3	e6.2	e1,200	317	77	96	71	23	3.1
25	93	84	e6.4	e4.1	e6.1	e1,500	285	75	79	59	20	3.3
26	89	74	e6.2	e4.1	e6.0	e1,750	259	81	63	51	17	2.8
27	86	e64	e6.0	e4.2	e6.0	e1,400	243	150	103	44	15	3.2
28	81	e54	e5.9	e4.3	e5.9	e1,100	250	271	542	38	13	3.0
29	78	e46	e5.8	e4.4	---	e780	280	290	1,140	34	11	3.2
30	74	e42	e5.7	e4.8	---	e600	327	275	1,770	31	9.7	2.6
31	71	---	e5.6	e4.9	---	e500	---	231	---	31	8.7	---
Total	3,089.3	4,997	371.5	142.6	157.6	11,288.2	15,326	6,592	5,773	8,186	530.4	140.0
Mean	99.7	167	12.0	4.60	5.63	364	511	213	192	264	17.1	4.67
Max	354	485	36	5.5	6.3	1,750	962	542	1,770	1,400	28	7.7
Min	2.9	42	5.6	4.0	5.0	5.4	243	75	40	31	8.7	2.6
Ac-ft	6,130	9,910	737	283	313	22,390	30,400	13,080	11,450	16,240	1,050	278
Cfsm	0.39	0.65	0.05	0.02	0.02	1.43	2.00	0.83	0.75	1.04	0.07	0.02
In.	0.45	0.73	0.05	0.02	0.02	1.65	2.24	0.96	0.84	1.19	0.08	0.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	14.5	21.9	4.05	1.70	2.88	43.2	245	103	104	69.4	20.6	18.3
Max	99.7	535	22.2	8.77	69.8	364	966	896	660	688	405	272
(WY)	(2009)	(2001)	(1995)	(1995)	(2000)	(2009)	(1997)	(1996)	(1970)	(1975)	(2005)	(1993)
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.20	2.12	0.37	0.00	0.00	0.00
(WY)	(1954)	(1954)	(1954)	(1953)	(1953)	(1954)	(1991)	(1981)	(1973)	(1961)	(1961)	(1952)

05087500 MIDDLE RIVER AT ARGYLE, MN—Continued

SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1945 - 2009	
Annual total	14,832.84		56,593.6			
Annual mean	40.5		155		^a 54.4	
Highest annual mean					198	1999
Lowest annual mean					1.60	1977
Highest daily mean	485	Nov 9	1,770	Jun 30	4,800	May 19, 1996
Lowest daily mean	0.00	Aug 30	2.6	Sep 30	^b 0.00	Aug 18, 1952
Annual seven-day minimum	0.07	Aug 25	3.0	Sep 24	0.00	Aug 18, 1952
Maximum peak flow			^c 1,880	Jun 30	5,020	May 19, 1996
Maximum peak stage			^d 15.99	Mar 26	^e 18.27	May 19, 1996
Annual runoff (ac-ft)	29,420		112,300		39,410	
Annual runoff (cfsm)	0.159		0.608		0.213	
Annual runoff (inches)	2.16		8.26		2.90	
10 percent exceeds	115		450		115	
50 percent exceeds	9.1		40		3.4	
90 percent exceeds	0.67		4.4		0.00	

^a Median of annual mean discharges is 44 ft³/s.

^b Many days, several years.

^c Gage height 14.98 ft.

^d Backwater from ice.

^e From floodmark.

