

## RED RIVER OF THE NORTH BASIN--Continued

05087500 MIDDLE RIVER AT ARGYLE, MN

LOCATION.--Lat 48°20'25", long 96°48'58", in NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec. 15, T.156 N., R.48 W., Marshall County, Hydrologic Unit 09020309, on left bank 30 ft upstream of bridge on County Highway 4 in Argyle and 14 mi upstream from mouth.

DRAINAGE AREA.--255 mi<sup>2</sup>.

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. October 1981 to January 1982, operated as a high-flow partial-record station.

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 ft<sup>3</sup>/s.

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	69	21	e10	e4.2	e3.3	e480	75	61	10	141	e20	e14
2	62	24	e10	e4.0	e3.2	e320	72	57	10	121	e19	e12
3	55	23	e9.8	e4.0	e3.2	e250	128	59	8.3	107	e19	e10
4	51	22	e9.6	e4.0	e3.1	e190	188	59	9.5	97	e18	e8.6
5	47	21	e9.3	e4.0	e3.1	e150	301	54	8.1	92	e18	e7.6
6	43	20	e9.0	e4.0	e3.1	e120	313	49	7.2	86	e17	e6.8
7	40	19	e8.7	e4.0	e3.0	e100	293	45	7.3	81	e16	e6.2
8	37	18	e8.3	e3.9	e3.0	e90	271	42	7.5	78	e15	e5.9
9	35	19	e7.8	e3.8	e2.9	e74	243	39	11	76	e15	e5.8
10	32	18	e7.5	e3.7	e2.9	e58	208	39	15	76	e15	e5.7
11	30	17	e7.1	e3.6	e2.8	e50	168	39	21	81	e14	e5.7
12	29	18	e6.8	e3.6	e2.8	e46	138	38	35	81	e14	e5.7
13	29	16	e6.4	e3.5	e2.8	e42	117	37	44	77	e14	e5.6
14	28	15	e6.0	e3.5	e2.8	e38	103	37	65	71	e14	e5.6
15	27	15	e5.6	e3.4	e2.7	e33	94	39	152	66	e13	e5.6
16	25	14	e5.3	e3.4	e2.7	30	86	41	322	62	e13	e5.6
17	31	14	e5.1	e3.4	e2.7	e29	84	38	479	58	e15	e5.7
18	26	14	e5.1	e3.4	e2.8	e29	86	34	510	52	e17	e5.9
19	23	12	e5.0	e3.4	e2.8	e28	89	30	440	45	e21	e6.0
20	24	12	e5.0	e3.4	e2.9	28	88	27	352	40	e30	e6.1
21	26	13	e4.9	e3.4	e3.1	26	87	24	341	36	e46	e6.1
22	25	12	e4.8	e3.4	e3.6	24	83	20	529	30	e50	e6.0
23	24	13	e4.8	e3.4	e4.0	25	79	19	764	28	e51	e5.9
24	23	13	e4.7	e3.4	e5.5	26	76	19	915	e28	e47	e5.8
25	24	12	e4.7	e3.4	e9.2	28	72	19	793	e26	e42	e5.7
26	23	12	e4.6	e3.4	e30	38	70	21	583	e26	e37	e5.6
27	24	e11	e4.6	e3.3	e350	77	68	21	433	e25	e32	e5.5
28	24	11	e4.5	e3.3	e710	113	66	18	320	e24	e29	e5.4
29	23	11	e4.4	e3.3	e850	110	66	14	234	e23	e23	e5.4
30	22	e10	e4.4	e3.3	---	94	64	12	175	e22	e20	e5.3
31	21	---	e4.3	e3.3	---	82	---	11	---	e21	e17	---
TOTAL	1002	470	198.1	111.1	2024.0	2828	3876	1062	7600.9	1877	731	196.8
MEAN	32.3	15.7	6.39	3.58	69.8	91.2	129	34.3	253	60.5	23.6	6.56
MAX	69	24	10	4.2	850	480	313	61	915	141	51	14
MIN	21	10	4.3	3.3	2.7	24	64	11	7.2	21	13	5.3
AC-FT	1990	932	393	220	4010	5610	7690	2110	15080	3720	1450	390
CFSM	.13	.06	.03	.01	.27	.36	.51	.13	.99	.24	.09	.03
IN.	.15	.07	.03	.02	.30	.41	.57	.15	1.11	.27	.11	.03

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2000, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.4	8.57	3.47	1.39	2.93	37.5	232	93.2	81.5	62.8	13.1	18.4
MAX	94.1	108	22.2	8.77	69.8	335	966	896	660	688	265	272
(WY)	1983	1995	1995	1995	2000	1995	1997	1996	1970	1975	1993	1993
MIN	.000	.000	.000	.000	.000	.000	.20	2.12	.37	.000	.000	.000
(WY)	1954	1954	1954	1953	1953	1954	1991	1981	1973	1961	1961	1952

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1945 - 2000
ANNUAL TOTAL	71073.1	21976.9	
ANNUAL MEAN	195	60.0	47.4 <sup>a</sup>
HIGHEST ANNUAL MEAN			198
LOWEST ANNUAL MEAN			1.60
HIGHEST DAILY MEAN	2250	915	4800
LOWEST DAILY MEAN	1.0	2.7	.00 <sup>b</sup>
ANNUAL SEVEN-DAY MINIMUM	1.8	2.8	.00
INSTANTANEOUS PEAK FLOW		935 <sup>c</sup>	5020
INSTANTANEOUS PEAK STAGE		13.32 <sup>d</sup>	18.27 <sup>e</sup>
ANNUAL RUNOFF (AC-FT)	141000	43590	34340
ANNUAL RUNOFF (CFSM)	.76	.24	.19
ANNUAL RUNOFF (INCHES)	10.37	3.21	2.53
10 PERCENT EXCEEDS	601	120	99
50 PERCENT EXCEEDS	35	21	2.8
90 PERCENT EXCEEDS	2.1	3.4	.00

<sup>a</sup> Median of annual mean discharges is 40 ft<sup>3</sup>/s.  
<sup>b</sup> Many days, several years.  
<sup>c</sup> Gage-height, 12.50 ft.  
<sup>d</sup> Backwater from ice.  
<sup>e</sup> Estimated.  
<sup>f</sup> From floodmark.

