

RED RIVER OF THE NORTH BASIN

05104500 ROSEAU RIVER BELOW SOUTH FORK NEAR MALUNG, MN

LOCATION.--Lat 48° 47'30", long 95° 44'40", in NW¼SW¼ sec. 6, T.161 N., R.39 W., Roseau County, Hydrologic Unit 09020314, on left bank 0.3 mi downstream from South Fork and 1.5 mi northwest of Malung.

DRAINAGE AREA.--573 mi².

PERIOD OF RECORD.--October 1946 to current year.

REVISED RECORDS.--WSP 2113: 1948, 1950, 1951, 1956(M), 1957(M), 1962(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,029.67 ft, adjustment of 1912.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Some flow bypasses the gaging station through a natural overflow channel 0.8 mi upstream and returns to river 0.5 mi downstream. Overflow begins at stage of about 13.0 ft, discharge, 1,800 ft³/s. These records include any flow in the overflow channel.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
JUL	AUG	SEP							
1	10	e55	e39	e27	e20	20	e25	858	127
106	48	3.9							
2	13	e51	e39	e27	e20	20	e28	751	123
142	41	3.8							
3	12	e48	38	e27	e20	19	e90	664	128
280	34	3.7							
4	9.8	e44	38	e27	e20	19	e250	593	157
481	29	3.1							
5	8.9	e42	38	e26	e20	19	e1500	540	199
514	25	3.2							
6	7.7	e47	39	e26	e20	19	e2500	482	207
481	22	2.9							
7	7.7	e49	39	26	e20	19	e2200	443	172
398	20	3.1							
8	13	e51	38	e25	e20	19	e1900	584	142
297	18	3.6							
9	22	e50	38	e25	e20	19	e1600	800	118
233	15	3.1							
10	15	e50	38	e24	e20	19	e1400	866	87

191	14	2.9							
11	9.9	e49	38	e24	e20	19	e1200	826	74
159	12	3.6							
12	9.5	e49	37	e23	e20	18	e1050	753	62
134	10	4.3							
13	8.7	e48	e37	22	e20	17	e950	648	50
119	9.7	3.9							
14	8.0	e48	e37	e22	e20	17	e1200	565	44
108	8.3	3.2							
15	7.7	e47	e36	e21	e20	15	e1700	516	39
98	8.0	2.3							
16	7.5	e46	e36	e20	e20	13	e2400	490	34
87	9.8	2.6							
17	7.8	e45	e36	19	e20	13	e3000	461	32
79	9.7	3.0							
18	11	e45	e35	18	e20	16	e4000	409	31
68	9.1	2.9							
19	20	e44	e35	e19	e20	17	e4300	355	29
59	8.3	3.1							
20	22	e44	e34	e20	e20	18	4150	312	27
51	7.9	3.6							
21	38	e43	e33	e20	e20	19	3910	277	26
44	6.8	3.7							
22	36	e43	e31	e20	e20	19	3540	255	22
38	6.8	3.6							
23	e35	e42	e29	e20	20	19	3050	250	19
34	7.7	6.5							
24	e33	e42	27	e20	17	19	2550	251	21
30	5.2	8.3							
25	e30	e42	27	e20	17	20	2080	245	28
27	5.8	8.2							
26	e29	e41	27	e20	19	20	1700	234	30
38	5.8	10							
27	e27	e41	27	20	19	20	1410	208	35
39	5.9	15							
28	e36	e40	27	20	20	21	1180	187	54
55	5.5	25							
29	e46	e40	27	20	---	e22	1050	170	95
64	5.0	30							
30	e52	e39	e27	e20	---	e24	972	154	101
62	4.4	27							
31	e58	---	e27	e20	---	e24	---	138	---
55	3.8	---							
TOTAL	651.2	1365	1054	688	552	582	56885	14285	2313
4571	421.5	203.1							
MEAN	21.0	45.5	34.0	22.2	19.7	18.8	1896	461	77.1
147	13.6	6.77							
MAX	58	55	39	27	20	24	4300	866	207
514	48	30							
MIN	7.5	39	27	18	17	13	25	138	19

27	3.8	2.3							
AC-FT	1290	2710	2090	1360	1090	1150	112800	28330	4590
9070	836	403							
CFSM	.04	.08	.06	.04	.03	.03	3.31	.80	.13
.26	.02	.01							
IN.	.04	.09	.07	.04	.04	.04	3.69	.93	.15
.30	.03	.01							

o e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
JUL	AUG	SEP							
MEAN	66.9	50.1	15.9	7.61	5.73	63.4	609	322	214
160	62.5	81.0							
MAX	351	362	65.6	22.2	19.7	525	2035	1589	1140
1152	585	710							
(WY)	1983	1995	1995	1997	1997	1995	1966	1950	1968
1968	1968	1957							
MIN	.029	.16	.013	.000	.000	.83	5.60	8.77	4.16
.092	.000	.025							
(WY)	1991	1991	1977	1977	1977	1977	1991	1990	1980
1980	1961	1988							
<i>SUMMARY STATISTICS FOR 1996 CALENDAR YEAR</i>			<i>FOR 1997 WATER YEAR</i>			<i>WATER YEARS 1947 - 1997</i>			
ANNUAL TOTAL			95899.7			83570.8			
ANNUAL MEAN			262			229			138a
HIGHEST ANNUAL MEAN									
304		1950							
LOWEST ANNUAL MEAN									
7.28		1990							
HIGHEST DAILY MEAN			6970	May 19		4300	Apr 19	6970	May
19 1996									
LOWEST DAILY MEAN			3.8	Sep 22		2.3	Sep 15	.00b	Jul
23 1961									
ANNUAL SEVEN-DAY MIN			4.3	Sep 19		3.0	Sep 14	.00	Jul
23 1961									
INSTANTANEOUS PEAK FLOW								7310	May
19 1996									
INSTANTANEOUS PEAK STAGE						22.98c	Apr 6	23.45c	Apr
20 1996									
INSTANTANEOUS LOW FLOW						2.0	Sep 15		
ANNUAL RUNOFF (AC-FT)			190200			165800		100100	
ANNUAL RUNOFF (CFSM)			.46			.40		.24	
ANNUAL RUNOFF (INCHES)			6.23			5.43		3.27	
10 PERCENT EXCEEDS			633			573		316	
50 PERCENT EXCEEDS			33			28		18	
90 PERCENT EXCEEDS			9.1			7.7		1.6	

o a Median of annual mean discharges is 114 ft³/s.

- b Many days, several years.
- c From highwater mark, backwater from ice.