

RAINY RIVER BASIN--Continued

05133500 RAINY RIVER AT MANITOU RAPIDS, MN
(International Gaging Station)

LOCATION.--Lat 48°38'04", long 93°54'47", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36, T.160 N., R.26 W., Koochiching County, Hydrologic Unit 09030004, on left bank at Manitou Rapids, 4 mi west of Indus.

DRAINAGE AREA.--19,400 mi² (approximately).

PERIOD OF RECORD.--July 1928 to current year. Monthly discharge only for some periods, published in WSP 1308. October 1911 to October 1924 (gage heights only) at site near Birchdale in files of U.S. Army Corps of Engineers. Published as "near Birchdale" 1932-34.

GAGE.--Water-stage recorder. Datum of gage is 1,062.48 ft above sea level (NGVD of 1929). Prior to Nov. 10, 1934, nonrecording gage at site near Birchdale, 7 mi. downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diurnal fluctuation caused by power plants at International Falls. Some regulation at Rainy and Namakan Lakes affects low and medium flows.

COOPERATION.--This station is one of the international gaging stations maintained by the United States under agreement with Canada.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7560	12400	14100	e8500	e10200	e9000	6220	39800	48600	33700	23500	22500
2	7280	12900	13200	e10500	e10200	e9200	5500	40200	48100	32900	36500	21900
3	9280	15800	12000	e11600	e9900	e9100	5470	41100	47600	32000	43300	22000
4	9750	19000	e11000	e11700	e6400	e6000	5690	41500	46800	31100	44100	20900
5	9680	19500	e11800	e11600	e6100	e5400	5940	41100	45900	29700	42700	18800
6	9830	19300	e11900	e11500	e9000	e8600	6270	40200	44800	28300	40400	17500
7	9460	19700	e11800	e8700	e9400	e8700	7890	39200	43900	23400	38300	16300
8	7300	21800	e11700	e8400	e9400	e8700	10500	38600	43100	21300	36900	15900
9	6680	23400	e11600	e11000	e9200	e8700	13400	38500	42700	20200	36200	15800
10	7800	24300	e8500	e11400	e8800	e8300	20000	38300	42300	16800	35900	15800
11	9090	24200	e8300	e11300	e5800	e6200	24300	38200	42000	15200	35600	15700
12	9190	23700	e11000	e10800	e5600	e5900	28500	38100	41500	14100	35300	15600
13	9040	23100	e11000	e10200	e8800	e8600	32600	37700	41200	12900	34900	15300
14	8430	23600	e9400	e7400	e9100	e9400	35900	37200	41900	12500	34200	15000
15	6500	23300	e10000	e6700	e8600	e9900	43600	36700	43800	12300	33800	15300
16	6590	21800	e11800	e10200	e8300	e9600	44500	36500	46400	12000	34200	15300
17	9860	20900	e8700	e10700	e8200	e9000	45400	36600	46900	12600	34800	15300
18	10700	20000	e8800	e10900	e5700	e6700	45400	37000	45900	16200	33700	13800
19	10100	19300	e12000	e10900	e5400	e6090	42700	36600	44400	18300	33000	13200
20	9750	18500	e12000	e10700	e8000	e9050	41500	36300	43000	20900	32000	12900
21	9220	16900	e11900	e6700	e8900	e9690	41700	37700	41900	22200	29000	12700
22	8070	15800	e11800	e6500	e9600	e9820	41200	42400	40800	22200	27300	12200
23	7720	15500	e11700	e9900	e8000	e9720	40300	51100	39900	21700	24800	10100
24	8140	15600	e8400	e10200	e8000	e9040	40000	57500	39000	19200	23500	10100
25	8260	15800	e8300	e10400	e5600	e6200	40500	60100	38200	16700	22900	12100
26	9940	15900	e11300	e10600	e5400	e6990	41400	60000	37400	15600	22400	12500
27	11200	15900	e11600	e10400	e8400	e9790	41800	58300	36700	14500	21700	11400
28	11400	16000	e11800	e6700	e8700	e9400	41700	56300	36100	13300	22200	10900
29	10300	16100	e12100	e6500	---	e8880	41100	54000	35200	12700	22500	10100
30	10600	15900	e11800	e10500	---	e8880	40200	51400	34400	12800	23300	7270
31	12000	---	e8600	e10800	---	e8360	---	49700	---	13200	23500	---
TOTAL	280720	565900	339900	303900	224700	258910	881180	1347900	1270400	600500	982200	444170
MEAN	9055	18860	10960	9803	8025	8352	29370	43480	42350	19370	31680	14810
MAX	12000	24300	14100	11700	10200	9900	45400	60100	48600	33700	44100	22500
MIN	6500	12400	8300	6500	5400	5400	5470	36300	34400	12000	21700	7270
AC--FT	556800	1122000	674200	602800	445700	513500	1748000	2674000	2520000	1191000	1948000	881000
CFSM	.47	.97	.57	.51	.41	.43	1.51	2.24	2.18	1.00	1.63	.76
IN.	.54	1.09	.65	.58	.43	.50	1.69	2.58	2.44	1.15	1.88	.85

05133500 RAINY RIVER AT MANITOU RAPIDS, MN--Continued
(International Gaging Station)

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2001, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11890	11470	10200	9139	8710	8953	15680	19890	20110	16660	11710	11180
MAX	42410	37280	27790	18430	17240	16640	38100	52880	49480	47970	33700	30620
(WY)	1942	1972	1972	1972	1969	1945	1966	1950	1950	1950	1944	1988
MIN	4728	3796	3190	2900	3129	2926	4378	4106	3676	3483	3422	3746
(WY)	1981	1977	1930	1931	1931	1931	1977	1977	1980	1980	1980	1998

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1929 - 2001
ANNUAL TOTAL	4399650	7500380	
ANNUAL MEAN	12020	20550	12980
HIGHEST ANNUAL MEAN			23260
LOWEST ANNUAL MEAN			4470
HIGHEST DAILY MEAN	26700	Jul 7	71300
LOWEST DAILY MEAN	4500	Feb 21	928
ANNUAL SEVEN-DAY MINIMUM	6360	Mar 19	1500
MAXIMUM PEAK FLOW		60700	71600
MAXIMUM PEAK STAGE		18.74	21.04
ANNUAL RUNOFF (AC-FT)	8727000	14880000	9404000
ANNUAL RUNOFF (CFSM)	.62	1.06	.67
ANNUAL RUNOFF (INCHES)	8.44	14.38	9.09
10 PERCENT EXCEEDS	19800	41900	25600
50 PERCENT EXCEEDS	11000	13400	10300
90 PERCENT EXCEEDS	7050	7770	5030

a Also occurred on Feb. 26 and Mar. 5.
e Estimated.

