

05054000 RED RIVER OF THE NORTH AT FARGO, ND

LOCATION.--Lat 46°51'40", long 96°47'00", in NW¼NE¼ sec.18, T.139 N., R.48 W., Cass County, Hydrologic Unit 09020104, at waterplant on 4th St. S. in Fargo, 25 mi upstream from mouth of Sheyenne River, and at mile 453.

DRAINAGE AREA.--6,800 mi² (approximately).

PERIOD OF RECORD.--May 1901 to current year. Published as "at Moorhead, MN.", 1901. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1308: 1902-4, 1906-7, 1910-14, 1916, 1918, 1924. WSP 1388: 1905-6, 1917-20(M), 1935(M), 1938-39(M), 1943.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 861.8 ft above sea level. Oct. 1, 1960, to Sept. 30, 1962, water-stage recorder at present site at datum 5.6 ft higher. See WSP 1728 or 1913 for history of changes prior to Oct. 1, 1960.

REMARKS.--Records good except for periods where discharge is less than 200 ft³/s, which are fair, and for estimated daily discharges, which are poor. Flow regulated by Orwell Reservoir, flood storage capacity, 13,300 acre-ft at elevation 1,070 ft above mean sea level, adjustment of 1912; Mud Lake, flood storage capacity, 78,600 acre-ft at elevation 981 ft above mean sea level, adjustment of 1912; Lake Traverse, flood storage capacity, 75,100 acre-ft at elevation 981 ft above mean sea level, adjustment of 1912; and numerous other controlled lakes and ponds and several powerplants. Figures of daily discharge do not include diversions from the Sheyenne River to the cities of Fargo, ND and Moorhead, MN.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 7, 1897, reached a stage of 39.1 ft present datum, discharge, 25,000 ft³/s at site 1.5 mi downstream.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	360	418	e385	e350	e365	e320	648	854	916	6,500	908	187
2	372	394	e370	e335	e355	e330	589	794	876	5,930	934	175
3	377	377	e355	e340	e350	e310	608	744	824	4,950	904	126
4	391	404	e345	e355	e340	e305	579	753	796	3,760	864	107
5	388	388	e340	e365	e330	e305	468	800	784	3,150	850	97
6	453	374	e345	e365	e315	e305	417	871	916	2,920	814	95
7	421	375	e345	e365	e300	e305	413	806	808	2,760	786	88
8	427	376	e345	e365	e325	e305	496	773	717	2,610	771	84
9	434	382	e360	e360	e330	e305	551	979	699	2,660	756	86
10	432	388	e375	e360	e330	e305	532	1,020	741	2,540	754	95
11	448	389	e380	e355	e330	e305	516	1,000	724	2,780	718	90
12	437	383	e380	e340	e330	e305	539	1,010	847	3,090	724	88
13	424	384	e380	e307	e330	e305	544	1,040	755	3,110	703	154
14	405	374	e380	e330	e330	e300	498	1,120	700	3,020	685	110
15	397	291	e380	e360	e330	e310	484	1,210	671	2,900	660	105
16	399	e280	e380	e375	e340	e335	538	1,330	672	2,780	581	104
17	407	281	e380	e375	e360	e410	620	1,410	661	2,660	497	116
18	425	295	e380	e345	e370	e630	722	1,390	645	2,550	467	169
19	409	357	e375	e325	e370	e740	1,060	1,430	670	2,470	434	143
20	419	439	e370	e315	e355	e780	1,310	1,390	650	2,330	360	159
21	421	467	e365	e310	e345	e800	1,670	1,390	606	1,960	229	190
22	425	422	e360	e310	e330	e800	1,780	1,330	820	1,630	142	149
23	433	388	e350	e320	e310	e770	1,540	1,270	2,130	1,470	127	89
24	423	334	e340	e330	e305	e740	1,310	1,240	1,670	1,390	170	63
25	409	e325	e330	e330	e305	e820	1,140	1,190	2,340	1,260	180	51
26	413	280	e310	e325	e310	e940	1,030	1,150	3,370	1,170	165	48
27	421	261	e330	e325	e325	948	e960	1,120	4,440	1,160	143	46
28	437	279	e350	e325	e330	948	e900	1,090	5,720	1,120	146	48
29	436	326	e370	e350	---	882	885	1,070	6,480	1,070	132	52
30	431	e365	e380	e360	---	799	886	1,050	6,680	1,050	154	61
31	425	---	e365	e365	---	712	---	991	---	933	171	---
TOTAL	12,899	10,796	11,200	10,637	9,345	16,674	24,233	33,615	49,328	79,683	15,929	3,175
MEAN	416	360	361	343	334	538	808	1,084	1,644	2,570	514	106
MAX	453	467	385	375	370	948	1,780	1,430	6,680	6,500	934	190
MIN	360	261	310	307	300	300	413	744	606	933	127	46
AC-FT	25,590	21,410	22,220	21,100	18,540	33,070	48,070	66,680	97,840	158,100	31,600	6,300
CFSM	0.06	0.05	0.05	0.05	0.05	0.08	0.12	0.16	0.24	0.38	0.08	0.02
IN.	0.07	0.06	0.06	0.06	0.05	0.09	0.13	0.18	0.27	0.44	0.09	0.02
+	1,300	1,240	1,230	1,290	1,180	1,300	1,240	860	1,340	1,520	1,940	1,680
*	26,890	22,650	23,450	22,390	19,720	34,370	49,310	67,540	99,180	159,620	33,540	7,980

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1901 - 2003, BY WATER YEAR (WY)

MEAN	329	290	244	226	237	771	1,998	1,156	1,085	939	439	328
MAX	1,741	942	801	740	1,353	4,722	17,920	5,365	5,120	5,690	3,293	2,280
(WY)	(1994)	(1907)	(1987)	(1986)	(1998)	(1995)	(1997)	(1997)	(1962)	(1962)	(1993)	(1993)
MIN	0.000	0.000	0.000	0.000	0.18	26.8	102	8.12	2.87	0.000	0.000	0.000
(WY)	(1935)	(1937)	(1938)	(1933)	(1933)	(1937)	(1934)	(1934)	(1936)	(1934)	(1932)	(1934)

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SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1901 - 2003	
ANNUAL TOTAL	324,847		277,514			
ANNUAL MEAN	890 *(911)		760 *(782)		681	
HIGHEST ANNUAL MEAN					2,619	1997
LOWEST ANNUAL MEAN					17.5	1934
HIGHEST DAILY MEAN	4,210	Jul 13	6,680	Jun 30	27,800	Apr 17, 1997
LOWEST DAILY MEAN	261	Nov 27	46	Sep 27	0.00	Jul 25, 1932
ANNUAL SEVEN-DAY MINIMUM	310	Nov 24	53	Sep 24	0.00	Jul 25, 1932
MAXIMUM PEAK FLOW			6,710	Jun 30	28,000	Apr 17, 1997
MAXIMUM PEAK STAGE			22.63	Jun 30	39.72	Apr 18, 1997
ANNUAL RUNOFF (AC-FT)	644,300 *(660,100)		550,400 *(566,600)		486,500 *(493,200)	
ANNUAL RUNOFF (CFSM)	0.13		0.11		0.099	
ANNUAL RUNOFF (INCHES)	1.78		1.52		1.34	
10 PERCENT EXCEEDS	1,520		1,400		1,500	
50 PERCENT EXCEEDS	755		407		330	
90 PERCENT EXCEEDS	375		173		42	

+ Diversions, in acre-ft, to cities of Fargo and Moorhead.
 * Adjusted for diversions to cities of Fargo and Moorhead.
 e Estimated.

