

RED RIVER OF THE NORTH BASIN--Continued

05054000 RED RIVER OF THE NORTH AT FARGO, ND

LOCATION.--Lat 46°51'40", long 96°47'00", in NW¹/₄NE¹/₄ 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 National Geodetic Vertical Datum of 1929. 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 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 to cities of Fargo and Moorhead, MN from the Sheyenne River.

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 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1140	837	753	e470	e420	e1500	1550	1430	1130	1250	1240	812
2	1140	827	e690	e470	e415	e2200	1450	1430	1100	1160	1170	1090
3	1090	811	662	e470	e415	e2400	1410	1430	1080	1160	1120	1430
4	1030	793	644	e460	e415	e2500	1390	1440	1210	1220	1060	1160
5	970	764	632	e460	e410	e2600	1380	1440	1310	1310	986	928
6	950	760	580	e460	e410	e2600	1360	1400	1360	1270	898	752
7	1030	763	442	e460	e410	e2500	1330	1370	1360	2280	805	625
8	1040	762	426	e455	e410	e2600	1280	1410	1350	2430	739	566
9	1050	768	518	e455	e410	e3000	1200	1370	1350	2180	713	540
10	1060	773	679	e455	e410	e3300	1190	1400	1330	2090	699	492
11	1070	768	650	e450	e405	3580	1190	1420	1280	2010	697	451
12	1090	766	560	e450	e405	3350	1190	1440	1240	1890	687	436
13	1100	778	e500	e445	e400	2990	1180	1470	1250	1920	656	440
14	1100	779	e480	e440	e400	2530	1180	1530	1290	1980	741	443
15	1140	774	e430	e440	e400	2150	1170	1670	1270	2100	701	447
16	1110	773	e370	e440	e400	1930	1160	1710	1530	2170	752	463
17	1090	766	e340	e440	e400	1700	1160	1670	1650	1990	750	475
18	1070	762	e300	e440	e400	1570	1170	1630	1540	1800	740	448
19	1050	761	e290	e440	e400	1550	1180	1560	1650	1670	723	408
20	1020	745	e320	e440	e400	1500	1240	1470	5220	1660	689	384
21	992	722	e370	e440	e410	1540	1450	1450	5000	1740	700	374
22	951	708	e410	e440	e430	1740	1770	1420	3560	1760	703	504
23	917	662	e450	e435	e450	2370	1810	1380	2920	1590	696	441
24	908	636	482	e435	e500	3020	1860	1350	2190	1380	684	470
25	899	654	515	e430	e550	3060	1840	1320	1790	1310	709	468
26	891	668	518	e430	e640	2550	1750	1290	1830	1270	552	440
27	877	661	496	e425	e780	2110	1660	1290	1620	1270	355	414
28	859	686	476	e425	e1000	1910	1600	1250	1620	1320	389	309
29	843	622	474	e420	e1300	1740	1550	1210	1450	1390	650	237
30	844	647	468	e420	---	1680	1490	1220	1350	1410	833	347
31	842	---	481	e420	---	1660	---	1140	---	1340	1170	---
TOTAL	31163	22196	15406	13760	14195	71430	42140	44010	53830	51320	24007	16794
MEAN	1005	740	497	444	489	2304	1405	1420	1794	1655	774	560
MAX	1140	837	753	470	1300	3580	1860	1710	5220	2430	1240	1430
MIN	842	622	290	420	400	1500	1160	1140	1080	1160	355	237
AC-FT	61810	44030	30560	27290	28160	141700	83580	87290	106800	101800	47620	33310
+	1310	1230	1250	1210	1190	562	1210	1410	1280	1440	1720	1280
*	63120	45260	31810	28500	29350	142300	84790	88700	108100	103200	49340	34590

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1901 - 2000, BY WATER YEAR (WY)

MEAN	332	288	243	220	232	784	1935	1133	1073	906	439	339
MAX	1741	942	1261	740	1353	4722	17920	5365	5122	5692	3293	2280
(WY)	1994	1907	1999	1986	1998	1995	1997	1997	1962	1962	1993	1993
MIN	.000	.000	.000	.000	.18	26.8	102	8.12	2.87	.000	.000	.000
(WY)	1935	1937	1938	1933	1933	1937	1934	1934	1936	1934	1932	1934

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR		FOR 2000 WATER YEAR		WATER YEARS 1901 - 2000	
ANNUAL TOTAL	548248		400251			
ANNUAL MEAN	1502 (*1522)		1094 (*1117)		662	
HIGHEST ANNUAL MEAN					2619	
LOWEST ANNUAL MEAN					17.5	
HIGHEST DAILY MEAN	4800	Mar 21	5220	Jun 20	27800	Apr 17 1997
LOWEST DAILY MEAN	290	Dec 19	237	Sep 29	.00	Jul 25 1932
ANNUAL SEVEN-DAY MINIMUM	343	Dec 16	343	Dec 16	.00	Jul 25 1932
INSTANTANEOUS PEAK FLOW			5630	Jun 20	28000 ^a	Apr 17 1997
INSTANTANEOUS PEAK STAGE			22.82	Jun 21	39.72	Apr 18 1997
ANNUAL RUNOFF (AC-FT)	1087000 (*1103000)		793900 (*809000)		479300	
10 PERCENT EXCEEDS	2740		1900		1490	
50 PERCENT EXCEEDS	1270		978		324	
90 PERCENT EXCEEDS	601		418		41	

^a Gage height, 22.20 ft
^e Estimated
 + Diversions in acre-feet to cities of Fargo and Moorhead
 * Adjusted for diversions to cities of Fargo and Moorhead

