

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 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 fair 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 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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	430	655	561	e590	614	e520	e1940	1220	1550	829	1230	1100
2	451	709	736	e570	640	e550	e1910	1350	1380	796	1200	1010
3	452	736	783	e550	643	e580	e1680	1380	1200	781	1200	935
4	459	758	723	e550	e590	e600	e1410	1330	1090	755	1180	903
5	484	743	696	e650	e560	e640	e1180	1340	1020	697	1150	846
6	488	719	715	e690	e530	e700	e1050	1360	975	661	1090	830
7	452	689	731	e680	e510	e730	e1050	1310	922	792	1010	848
8	430	660	777	e660	e530	e770	e1100	1480	878	808	926	830
9	432	633	839	e650	e570	e830	e1190	1400	2020	894	868	812
10	588	611	870	e650	e610	e880	e1350	1580	1520	1920	874	805
11	527	579	904	e670	e620	e930	e1320	1940	966	3200	851	799
12	545	545	e1050	684	e610	e990	e1300	2100	846	3720	817	802
13	566	540	1150	672	e624	e1080	1330	2100	850	4210	763	766
14	581	538	1170	665	e660	e1160	1430	2070	829	e4200	728	723
15	639	533	1160	665	e688	e1260	1440	2050	809	e3700	727	652
16	655	530	1080	663	e700	e1280	1290	2010	791	e3000	820	577
17	656	524	1040	676	e700	e1280	1180	1950	768	e2300	977	554
18	671	524	926	e670	e710	e1300	1190	1810	791	e2050	1000	590
19	666	535	792	e660	e720	e1350	1240	1700	810	e1900	1020	615
20	647	522	711	e650	e730	e1350	1250	1720	822	e1780	1010	551
21	609	554	588	e650	e720	e1300	1210	1760	990	e1660	973	515
22	576	577	501	e650	e690	e1200	1170	1740	905	e1600	944	492
23	565	597	592	e640	e650	e979	1150	1700	967	e1510	995	482
24	598	605	646	e620	e645	e762	1170	1650	898	e1470	1020	464
25	590	623	591	e580	e640	e830	1180	1600	1150	e1400	978	457
26	578	616	469	e550	e600	e903	1150	1520	1060	e1350	866	469
27	598	650	438	e560	e540	e840	1130	1470	957	e1300	756	457
28	601	487	520	e560	e510	e874	1130	1480	890	1260	670	445
29	599	325	e585	e570	---	e986	1170	1470	882	1220	506	426
30	594	398	e610	e580	---	e1300	1170	1450	870	1240	583	383
31	608	---	e600	600	---	e1670	---	1470	---	1210	1040	---
TOTAL	17335	17715	23554	19475	17554	30424	38460	50510	30406	54213	28772	20138
MEAN	559	590	760	628	627	981	1282	1629	1014	1749	928	671
MAX	671	758	1170	690	730	1670	1940	2100	2020	4210	1230	1100
MIN	430	325	438	550	510	520	1050	1220	768	661	506	383
AC-FT	34380	35140	46720	38630	34820	60350	76290	100200	60310	107500	57070	39940
CFSM	0.08	0.09	0.11	0.09	0.09	0.14	0.19	0.24	0.15	0.26	0.14	0.10
IN.	0.09	0.10	0.13	0.11	0.10	0.17	0.21	0.28	0.17	0.30	0.16	0.11
+	1290	1180	1180	1210	1120	1160	1150	1320	1420	1580	1570	1440
†	35670	36320	47900	39840	35940	61510	77440	101500	61740	109100	58640	41380

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1901 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	328	289	243	224	236	773	2010	1157	1080	923	439	330
MAX	1741	942	801	740	1353	4722	17920	5365	5120	5690	3293	2280
(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

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1901 - 2002

ANNUAL TOTAL		807908		348556								
ANNUAL MEAN		2213		955						671		
HIGHEST ANNUAL MEAN										2619		1997
LOWEST ANNUAL MEAN										17.5		1934
HIGHEST DAILY MEAN			20200	Apr 14	4210	Jul 13	27800	Apr 17	1997			
LOWEST DAILY MEAN			293	Aug 19	325	Nov 29	0.00	Jul 25	1932			
ANNUAL SEVEN-DAY MINIMUM			449	Sep 29	443	Sep 24	0.00	Jul 25	1932			
MAXIMUM PEAK FLOW					4250	Jul 13	28000	Apr 17	1997			
MAXIMUM PEAK STAGE					19.17	Jul 13	39.72	Apr 18	1997			
ANNUAL RUNOFF (AC-FT)		1602000		691400			485800					
ANNUAL RUNOFF (CFSM)		0.33		0.14			0.099					
ANNUAL RUNOFF (INCHES)		4.42		1.91			1.34					
10 PERCENT EXCEEDS		4370		1520			1500					
50 PERCENT EXCEEDS		777		792			330					
90 PERCENT EXCEEDS		545		530			41					

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

