

RED RIVER OF THE NORTH BASIN--Continued

05051300 BOIS DE SIOUX RIVER NEAR DORAN, MN

LOCATION.--Lat 46°09'08", long 96°34'44", in NE¹/₄ NE¹/₄ sec. 21, T.131 N., R.47 W., Wilken County, MN, Hydrologic Unit 09020101, on right bank, 10 ft downstream from bridge on County Highway 6, 3 miles downstream from Rabbit River, 4.3 mi southwest of Doran.

DRAINAGE AREA.--1,880 mi² (approximately).

PERIOD OF RECORD.--October 12, 1989 to current year.

GAGE.--Water-stage recorder. Datum of gage is 943.90 ft above sea level (NGVD of 1929), elevation data obtained from Wilkin County Highway Engineers).

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by Lake Traverse-Bois de Sioux Flood Control and Water Conservation project near White Rock, S.D.

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 | .23 | .81 | 5.2 | e.25 | e.00 | e.33 | e550 | 4280 | 1400 | 1340 | 762 | 20 |
| 2 | .38 | 1.6 | 5.2 | e.25 | e.00 | e.50 | e580 | 3950 | 1400 | 1340 | 700 | 10 |
| 3 | .25 | 1.8 | 4.0 | e.26 | e.00 | e.85 | e620 | 3590 | 1390 | 1340 | 651 | 4.9 |
| 4 | .20 | 1.9 | 3.3 | e.26 | e.00 | e2.0 | e670 | 3200 | 1370 | 1330 | 508 | 2.1 |
| 5 | .18 | 1.9 | e3.7 | e.26 | e.00 | e250 | e730 | 2710 | 1370 | 1310 | 459 | 2.2 |
| 6 | .19 | 2.0 | 3.3 | e.26 | e.00 | e370 | e840 | 2390 | 1370 | 1320 | 432 | 2.0 |
| 7 | .18 | 2.2 | e2.0 | e.26 | e.00 | e390 | 2890 | 2230 | 1360 | 1310 | 344 | 2.3 |
| 8 | .18 | 1.6 | e1.2 | e.26 | e.00 | e400 | 4540 | 1980 | 1360 | 1300 | 189 | 2.1 |
| 9 | .18 | 4.0 | e.85 | e.26 | e.00 | e410 | 4990 | 1800 | 1350 | 1280 | 68 | 2.8 |
| 10 | .18 | 4.2 | e.58 | e.27 | e.00 | e410 | 5310 | 1630 | 1510 | 1300 | 17 | 2.9 |
| 11 | .17 | 3.4 | e.47 | e.27 | e.00 | e420 | 5470 | 1530 | 1820 | 1300 | 6.6 | 2.5 |
| 12 | .16 | 2.7 | e.43 | e.27 | e.00 | e425 | 5600 | 1480 | 1650 | 1290 | 3.3 | 2.0 |
| 13 | .15 | 2.3 | e.40 | e.27 | e.00 | e435 | 7630 | 1450 | 1130 | 1280 | 1.5 | 1.6 |
| 14 | .19 | 2.2 | e.38 | e.27 | e.00 | e450 | 8220 | 1430 | 997 | 1280 | 1.3 | 2.1 |
| 15 | .26 | e2.2 | e.37 | e.27 | e.00 | e460 | 7900 | 1420 | 1550 | 1270 | 1.7 | 3.2 |
| 16 | .29 | e2.1 | e.35 | e.25 | e.00 | e470 | 6680 | 1440 | 1610 | 1250 | 1.7 | 3.4 |
| 17 | .29 | 2.1 | e.34 | e.17 | e.00 | e480 | 6040 | 1430 | 1640 | 1260 | 3.2 | 4.3 |
| 18 | .33 | 2.1 | e.33 | e.09 | e.00 | e490 | 6380 | 1420 | 1520 | 1230 | 1.6 | 5.2 |
| 19 | .35 | 3.3 | e.32 | e.02 | e.00 | e500 | 5690 | 1400 | 1330 | 1160 | .67 | 4.9 |
| 20 | .38 | 11 | e.31 | e.00 | e.00 | e510 | 5120 | 1390 | 1330 | 1180 | .75 | 5.1 |
| 21 | .39 | 5.0 | e.30 | e.00 | e.00 | e520 | 4880 | 1390 | 1450 | 1230 | 1.1 | 6.0 |
| 22 | .40 | 2.9 | e.29 | e.00 | e.00 | e520 | 4740 | 1370 | 1600 | 1170 | 1.1 | 8.0 |
| 23 | .40 | 2.5 | e.29 | e.00 | e.03 | e510 | 4690 | 1380 | 1580 | 1080 | 1.0 | 9.4 |
| 24 | .41 | 2.8 | e.28 | e.00 | e.07 | e500 | 4790 | 1390 | 1500 | 787 | .97 | 9.1 |
| 25 | .43 | 3.5 | e.28 | e.00 | e.10 | e490 | 4900 | 1380 | 1450 | 680 | .92 | 8.5 |
| 26 | .44 | 2.8 | e.27 | e.00 | e.13 | e480 | 4910 | 1390 | 1420 | 631 | 1.0 | 7.5 |
| 27 | .45 | 2.3 | e.27 | e.00 | e.17 | e480 | 4840 | 1420 | 1400 | 441 | 1.3 | 7.0 |
| 28 | .46 | 2.5 | e.27 | e.00 | e.22 | e487 | 4780 | 1430 | 1380 | 707 | 2.8 | 6.7 |
| 29 | .48 | 3.4 | e.26 | e.00 | --- | e500 | 4710 | 1410 | 1370 | 1060 | 2.0 | 4.6 |
| 30 | .51 | 5.0 | e.26 | e.00 | --- | e510 | 4530 | 1400 | 1360 | 876 | 2.4 | 3.0 |
| 31 | .52 | --- | e.26 | e.00 | --- | e530 | --- | 1400 | --- | 828 | 9.0 | --- |
| TOTAL | 9.61 | 88.11 | 36.06 | 4.47 | 0.72 | 12400.68 | 134220 | 57510 | 42967 | 35160 | 4175.91 | 155.4 |
| MEAN | .31 | 2.94 | 1.16 | .14 | .026 | 400 | 4474 | 1855 | 1432 | 1134 | 135 | 5.18 |
| MAX | .52 | 11 | 5.2 | .27 | .22 | 530 | 8220 | 4280 | 1820 | 1340 | 762 | 20 |
| MIN | .15 | .81 | .26 | .00 | .00 | .33 | 550 | 1370 | 997 | 441 | .67 | 1.6 |
| AC-FT | 19 | 175 | 72 | 8.9 | 1.4 | 24600 | 266200 | 114100 | 85230 | 69740 | 8280 | 308 |
| CFSM | .00 | .00 | .00 | .00 | .00 | .21 | 2.38 | .99 | .76 | .60 | .07 | .00 |
| IN. | .00 | .00 | .00 | .00 | .00 | .25 | 2.66 | 1.14 | .85 | .70 | .08 | .00 |

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2001, BY WATER YEAR (WY)

| | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| MEAN | 96.1 | 51.4 | 25.2 | 6.82 | 31.5 | 478 | 1423 | 745 | 475 | 473 | 207 | 160 |
| MAX | 592 | 465 | 222 | 43.9 | 155 | 1757 | 5936 | 1893 | 1432 | 1477 | 1486 | 1244 |
| (WY) | 1994 | 1996 | 1999 | 1997 | 1998 | 1995 | 1997 | 1997 | 2001 | 1993 | 1993 | 1993 |
| MIN | .026 | 1.97 | .65 | .077 | .000 | 25.5 | 12.6 | 11.8 | 12.6 | 4.37 | .000 | .000 |
| (WY) | 1991 | 1991 | 1991 | 1991 | 1990 | 1990 | 1990 | 1990 | 1990 | 1990 | 1990 | 1990 |

| SUMMARY STATISTICS | FOR 2000 CALENDAR YEAR | FOR 2001 WATER YEAR | WATER YEARS 1990 - 2001 |
|--------------------------|------------------------|---------------------|-------------------------|
| ANNUAL TOTAL | 29258.50 | 286727.96 | |
| ANNUAL MEAN | 79.9 | 786 | 348 |
| HIGHEST ANNUAL MEAN | | | 786 |
| LOWEST ANNUAL MEAN | | | 8.77 |
| HIGHEST DAILY MEAN | 1220 | Mar 9 | 8220 |
| LOWEST DAILY MEAN | .00 | Sep 13 | .00 |
| ANNUAL SEVEN-DAY MINIMUM | .00 | Sep 13 | .00 |
| MAXIMUM PEAK FLOW | | | 8860c |
| MAXIMUM PEAK STAGE | | | 23.65 |
| INSTANTANEOUS LOW FLOW | | | .00a |
| ANNUAL RUNOFF (AC-FT) | 58030 | 568700 | 252200 |
| ANNUAL RUNOFF (CFSM) | .043 | .42 | .19 |
| ANNUAL RUNOFF (INCHES) | .58 | 5.67 | 2.52 |
| 10 PERCENT EXCEEDS | 229 | 1630 | 1220 |
| 50 PERCENT EXCEEDS | 2.8 | 4.2 | 12 |
| 90 PERCENT EXCEEDS | .15 | .05 | .26 |

- a Result of regulation.
- b Many days, several years; result of regulation.
- c Gage height, 23.54 ft.
- e Estimated.

