## 05270700 MISSISSIPPI RIVER AT ST. CLOUD, MN

LOCATION.--Lat 45°32'50", long 94°08'44", in SE¼SW¼ sec. 1, T. 35 N., R. 31 W., Sherburne County, Hydrologic Unit 07010203, on left bank about 250 ft below the left downstream end of the City of St. Cloud hydropower dam and at mile 926.3 upstream from Ohio River.

DRAINAGE AREA.--13,320 $mi^2$ (approximately).

PERIOD OF RECORD.--October 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is 958.49 ft above sea level (NGVD of 1929).

REMARKS.--Records good except those for estimated daily discharge, which are fair to poor. Flow partly regulated by power plants and reservoirs.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7,740 | 7,980 | 4,820 | 4,320 | e3,940 | e3,690 | 13,100 | 9,850 | 15,800 | 12,000 | 4,640 | 2,700 |
| 2 | 6,950 | 8,050 | 4,790 | 4,340 | e3,960 | e3,690 | 14,500 | 9,400 | 15,200 | 12,000 | 4,310 | 2,550 |
| 3 | 7,280 | 8,090 | 4,680 | e4,250 | e3,990 | e3,690 | 15,500 | 8,720 | 14,500 | 12,200 | 4,250 | 2,780 |
| 4 | 7,200 | 8,470 | 4,940 | e4,230 | e3,990 | e3,720 | 15,000 | 8,560 | 14,300 | 11,600 | 4,190 | 2,560 |
| 5 | 7,140 | 7,960 | 4,540 | e4,210 | e3,970 | e3,750 | 16,100 | 8,060 | 15,000 | 10,500 | 3,960 | 2,860 |
| 6 | 7,060 | 8,050 | 4,260 | e4,160 | e3,980 | e3,770 | 17,100 | 7,870 | 14,800 | 10,400 | 3,600 | 3,240 |
| 7 | 6,990 | 7,830 | 4,710 | e4,140 | e3,970 | e4,210 | 15,000 | 7,460 | 15,300 | 10,000 | 3,680 | 2,960 |
| 8 | 6,800 | 7,490 | 4,480 | e4,090 | e3,990 | e4,080 | 14,800 | 7,010 | 16,300 | 9,630 | 3,520 | 3,150 |
| 9 | 6,440 | 7,640 | 5,120 | e4,070 | e3,990 | e4,070 | 14,300 | 7,120 | 16,700 | 8,750 | 3,720 | 2,860 |
| 10 | 6,300 | 7,520 | 5,150 | e4,050 | e4,010 | e4,210 | 14,400 | 6,830 | 17,500 | 8,310 | 3,450 | 2,690 |
| 11 | 6,070 | 7,130 | 5,480 | e4,040 | e4,020 | e4,030 | 15,300 | 6,520 | 17,900 | 7,680 | 3,300 | 3,280 |
| 12 | 5,840 | 6,950 | 5,020 | e4,020 | e4,030 | e3,980 | 16,700 | 6,670 | 19,300 | 7,630 | 3,490 | 3,500 |
| 13 | 6,030 | 6,610 | 4,050 | e3,920 | e4,050 | e3,890 | 18,400 | 6,640 | 19,400 | 7,240 | 3,020 | 4,280 |
| 14 | 5,790 | 6,630 | 3,590 | e3,700 | e4,060 | e3,840 | 18,900 | 7,110 | 20,000 | 6,570 | 2,870 | 4,410 |
| 15 | 5,690 | 6,720 | 3,650 | e3,850 | e4,040 | e3,760 | 19,400 | 7,170 | 20,800 | 6,680 | 2,950 | 4,280 |
| 16 | 5,320 | 6,550 | 4,210 | e4,000 | e4,020 | e3,720 | 19,200 | 6,840 | 21,100 | 6,010 | 2,640 | 4,540 |
| 17 | 5,390 | 6,750 | 4,090 | e4,020 | e3,990 | e3,680 | 18,800 | 7,110 | 20,800 | 5,960 | 3,010 | 4,550 |
| 18 | 5,410 | 6,410 | 3,650 | e4,020 | e3,940 | e3,700 | 18,500 | 7,500 | 20,200 | 5,470 | 3,470 | 4,560 |
| 19 | 5,640 | 6,290 | 3,940 | e4,050 | e3,900 | 3,720 | 17,900 | 7,910 | 18,800 | 5,400 | 3,000 | 4,960 |
| 20 | 5,550 | 6,610 | 2,640 | e4,040 | e3,870 | 3,780 | 17,600 | 7,700 | 17,900 | 5,490 | 2,910 | 4,580 |
| 21 | 5,490 | 6,630 | 4,010 | e4,010 | e3,830 | 3,850 | 16,800 | 7,730 | 17,500 | 5,030 | 2,890 | 4,470 |
| 22 | 5,310 | 6,560 | 4,450 | e4,020 | e3,810 | 3,850 | 16,300 | 8,520 | 16,400 | 5,270 | 2,820 | 4,230 |
| 23 | 5,790 | 6,720 | 4,400 | e4,010 | e3,790 | 4,420 | 15,300 | 8,450 | 16,700 | 5,180 | 2,310 | 3,890 |
| 24 | 5,650 | 6,820 | 4,340 | e3,990 | e3,770 | 4,860 | 14,000 | 8,310 | 15,900 | 4,930 | 2,070 | 3,830 |
| 25 | 5,600 | 6,340 | 4,030 | e3,960 | e3,760 | 5,230 | 13,600 | 9,130 | 15,100 | 4,860 | 2,420 | 4,130 |
| 26 | 6,520 | 5,840 | 4,100 | e3,960 | e3,740 | 5,490 | 13,000 | 10,600 | 13,900 | 5,130 | 3,630 | 4,000 |
| 27 | 6,280 | 5,980 | 4,230 | e3,950 | e3,720 | 6,080 | 11,900 | 11,800 | 13,100 | 4,470 | 3,020 | 3,990 |
| 28 | 6,680 | 6,160 | 3,910 | e3,940 | e3,700 | 7,220 | 11,100 | 14,000 | 12,100 | 4,690 | 2,670 | 3,990 |
| 29 | 7,040 | 5,980 | 4,380 | e3,930 | --- | 7,750 | 10,700 | 15,100 | 11,300 | 5,000 | 3,050 | 3,590 |
| 30 | 7,390 | 5,220 | 4,240 | e3,930 | --- | 9,850 | 10,400 | 15,600 | 11,600 | 4,470 | 2,590 | 3,720 |
| 31 | 7,580 | --- | 4,450 | e3,960 | --- | 12,100 | --- | 16,200 | --- | 4,530 | 2,850 | --- |
| TOTAL | 195,960 | 207,980 | 134,350 | 125,180 | 109,830 | 147,680 | 463,600 | 277,490 | 495,200 | 223,080 | 100,300 | 111,130 |
| MEAN | 6,321 | 6,933 | 4,334 | 4,038 | 3,922 | 4,764 | 15,450 | 8,951 | 16,510 | 7,196 | 3,235 | 3,704 |
| MAX | 7,740 | 8,470 | 5,480 | 4,340 | 4,060 | 12,100 | 19,400 | 16,200 | 21,100 | 12,200 | 4,640 | 4,960 |
| MIN | 5,310 | 5,220 | 2,640 | 3,700 | 3,700 | 3,680 | 10,400 | 6,520 | 11,300 | 4,470 | 2,070 | 2,550 |
| AC-FT | 388,700 | 412,500 | 266,500 | 248,300 | 217,800 | 292,900 | 919,600 | 550,400 | 982,200 | 442,500 | 198,900 | 220,400 |
| CFSM | 0.47 | 0.52 | 0.33 | 0.30 | 0.29 | 0.36 | 1.16 | 0.67 | 1.24 | 0.54 | 0.24 | 0.28 |
| IN. | 0.55 | 0.58 | 0.38 | 0.35 | 0.31 | 0.41 | 1.29 | 0.77 | 1.38 | 0.62 | 0.28 | 0.31 |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2005, BY WATER YEAR (WY)

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MEAN | 5,554 | 5,813 | 4,624 | 3,954 | 3,808 | 5,976 | 13,310 | 11,250 | 8,800 | 8,258 | 4,613 | 4,610 |
| MAX | 15,680 | 9,675 | 7,434 | 5,616 | 5,796 | 10,600 | 29,710 | 22,020 | 20,310 | 16,830 | 9,687 | 9,763 |
| (WY) | (1996) | (1996) | (1997) | (1997) | (1997) | (1995) | (2001) | (2001) | (2001) | (1993) | (1999) | (1999) |
| MIN | 1,922 | 2,370 | 2,310 | 1,927 | 1,815 | 3,075 | 6,134 | 5,054 | 3,743 | 3,606 | 1,535 | 2,064 |
| (WY) | (2004) | (2004) | (1991) | (1991) | (1990) | (2003) | (2000) | (2004) | (1992) | (2004) | (1989) | (2003) |

05270700 MISSISSIPPI RIVER AT ST. CLOUD, MN—Continued

| SUMMARY STATISTICS | FOR 2004 CALENDAR YEAR | | FOR 2005 WATER YEAR | | WATER YEARS 1988 - 2005 | |
|---|---|---|---|---|---|---|
| ANNUAL TOTAL | 1,686,930 | | 2,591,780 | | | |
| ANNUAL MEAN | 4,609 | | 7,101 | | 6,708 | |
| HIGHEST ANNUAL MEAN | | | | | 9,947 | 2001 |
| LOWEST ANNUAL MEAN | | | | | 3,723 | 2004 |
| HIGHEST DAILY MEAN | 8,910 | Jun 5 | 21,100 | Jun 16 | 45,100 | Apr 9, 1997 |
| LOWEST DAILY MEAN | 1,190 | Aug 21 | 2,070 | Aug 24 | 1,010 | Aug 24, 1989 |
| ANNUAL SEVEN-DAY MINIMUM | 1,400 | Aug 29 | 2,630 | Aug 19 | 1,250 | Aug 13, 1989 |
| MAXIMUM PEAK FLOW | | | a22,100 | Jun 14 | 46,900 | Apr 8, 1997 |
| MAXIMUM PEAK STAGE | | | 8.04 | Jun 14 | 11.44 | Apr 8, 1997 |
| INSTANTANEOUS LOW FLOW | | | a1,600 | Aug 24 | b478 | Aug 22, 2004 |
| ANNUAL RUNOFF (AC-FT) | 3,346,000 | | 5,141,000 | | 4,860,000 | |
| ANNUAL RUNOFF (CFSM) | 0.346 | | 0.533 | | 0.504 | |
| ANNUAL RUNOFF (INCHES) | 4.71 | | 7.24 | | 6.84 | |
| 10 PERCENT EXCEEDS | 7,510 | | 15,300 | | 12,600 | |
| 50 PERCENT EXCEEDS | 4,360 | | 5,150 | | 5,360 | |
| 90 PERCENT EXCEEDS | 2,120 | | 3,590 | | 2,550 | |

a Due in part to regulation.
b Due to rgulation.
e Estimated.