

## MISSOURI-LEWIS AND CLARK RIVER BASIN

06478515 MISSOURI RIVER NEAR GAYVILLE, SD

LOCATION.--Lat 42°51'01", long 97°13'12", in SW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.27, T.93 N., R.54 W., Yankton County, Hydrologic Unit 10170101, 3.8 mi southwest of Gayville, 4.1 mi downstream from James River, and at mile 796.0.

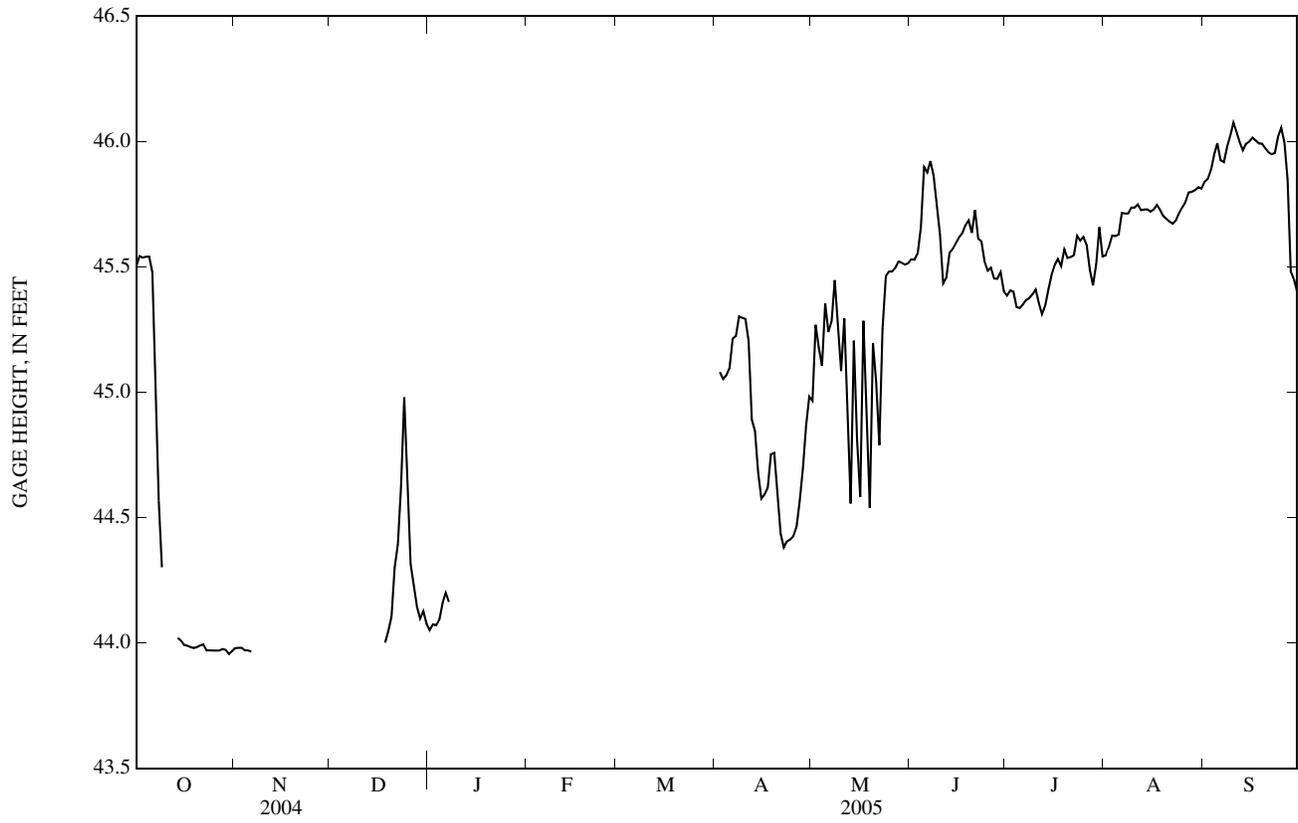
PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,100.00 ft above NGVD of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Records good except for periods of missing record. Stage regulated by Gavins Point Dam 15.0 mi upstream. U.S. Army Corps of Engineers data-collection platform at station. Gage heights for period of October 1969 to September 1980 in files of U.S. Army Corps of Engineers.

GAGE HEIGHT, FEET  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45.50	43.98	---	44.05	---	---	---	44.97	45.53	45.39	45.55	45.84
2	45.54	43.98	---	44.07	---	---	45.08	45.27	45.53	45.41	45.58	45.85
3	45.54	43.98	---	44.07	---	---	45.05	45.18	45.55	45.40	45.62	45.89
4	45.54	43.97	---	44.09	---	---	45.07	45.10	45.66	45.34	45.62	45.95
5	45.54	43.97	---	44.16	---	---	45.10	45.36	45.90	45.34	45.63	45.99
6	45.48	43.96	---	44.20	---	---	45.21	45.24	45.88	45.35	45.72	45.93
7	45.03	---	---	44.16	---	---	45.22	45.28	45.92	45.37	45.71	45.92
8	44.57	---	---	---	---	---	45.30	45.45	45.86	45.38	45.71	45.98
9	44.30	---	---	---	---	---	45.30	45.26	45.75	45.39	45.74	46.02
10	---	---	---	---	---	---	45.29	45.08	45.63	45.41	45.74	46.08
11	---	---	---	---	---	---	45.20	45.29	45.43	45.36	45.75	46.04
12	---	---	---	---	---	---	44.89	44.92	45.46	45.31	45.73	46.00
13	---	---	---	---	---	---	44.84	44.56	45.56	45.35	45.73	45.97
14	44.02	---	---	---	---	---	44.68	45.21	45.57	45.41	45.73	45.99
15	44.01	---	---	---	---	---	44.58	44.81	45.59	45.47	45.72	46.00
16	43.99	---	---	---	---	---	44.59	44.58	45.62	45.51	45.73	46.02
17	43.99	---	---	---	---	---	44.62	45.28	45.63	45.53	45.75	46.00
18	43.98	---	44.00	---	---	---	44.75	44.84	45.67	45.50	45.73	45.99
19	43.98	---	44.05	---	---	---	44.76	44.54	45.69	45.57	45.70	45.99
20	43.98	---	44.11	---	---	---	44.58	45.20	45.64	45.54	45.69	45.97
21	43.99	---	44.30	---	---	---	44.44	45.04	45.73	45.54	45.68	45.96
22	43.99	---	44.39	---	---	---	44.38	44.79	45.61	45.55	45.67	45.95
23	43.97	---	44.63	---	---	---	44.40	45.25	45.60	45.62	45.69	45.95
24	43.97	---	44.98	---	---	---	44.41	45.46	45.52	45.60	45.72	46.02
25	43.97	---	44.67	---	---	---	44.43	45.48	45.49	45.62	45.74	46.05
26	43.97	---	44.31	---	---	---	44.46	45.48	45.50	45.59	45.76	46.00
27	43.97	---	44.23	---	---	---	44.57	45.50	45.45	45.49	45.80	45.85
28	43.98	---	44.14	---	---	---	44.70	45.52	45.45	45.43	45.80	45.48
29	43.97	---	44.10	---	---	---	44.87	45.52	45.48	45.51	45.81	45.45
30	43.96	---	44.13	---	---	---	44.98	45.51	45.40	45.66	45.82	45.40
31	43.97	---	44.08	---	---	---	---	45.51	---	45.54	45.81	---
MEAN	---	---	---	---	---	---	---	45.18	45.61	45.47	45.72	45.92
MAX	---	---	---	---	---	---	---	45.52	45.92	45.66	45.82	46.08
MIN	---	---	---	---	---	---	---	44.54	45.40	45.31	45.55	45.40



## MISSOURI-LEWIS AND CLARK RIVER BASIN

06478540 LITTLE VERMILLION RIVER NEAR SALEM, SD  
(Hydrologic bench-mark station)LOCATION.--Lat 43°47'39", long 97°22'02", in SW<sup>1</sup>/<sub>4</sub> sec.19, T.104 N., R.54 W., McCook County, Hydrologic Unit 10170102, on right bank near downstream end of culvert on county road, 2.0 mi upstream from small left-bank tributary, and 5.2 mi northeast of Salem.DRAINAGE AREA.--78.6 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1966 to current year.

REVISED RECORDS.--WDR SD-84-1, WDR SD-89-1: Drainage area.

GAGE.--Water-stage recorder, crest-stage gage, and concrete dam. Elevation of gage is 1,510 ft above NGVD of 1929, from topographic map.

REMARKS.--Records fair. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

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	0.49	0.05	0.02	0.00	0.00	0.00	0.19	0.57	2.0	2.5	0.04	0.00
2	0.37	0.06	0.01	0.00	0.00	0.00	0.18	0.49	1.8	2.3	0.02	0.00
3	0.29	0.06	0.01	0.00	0.00	0.00	0.16	0.40	2.5	2.2	0.01	0.00
4	0.20	0.05	0.02	0.00	0.00	0.00	0.15	0.35	3.3	1.9	0.09	0.00
5	0.16	0.05	0.02	0.00	0.00	0.00	0.14	0.32	5.1	1.6	0.10	0.00
6	0.13	0.05	0.03	0.00	0.00	0.00	0.13	0.35	6.6	1.4	0.06	0.00
7	0.12	0.04	0.03	0.00	0.00	0.00	0.11	0.45	6.6	1.1	0.03	0.00
8	0.11	0.03	0.04	0.00	0.00	0.00	0.09	0.53	7.9	0.82	0.01	0.00
9	0.09	0.03	0.04	0.00	0.00	0.00	0.08	0.53	8.3	0.62	0.00	0.00
10	0.08	0.03	0.04	0.00	0.00	0.00	0.88	0.53	23	0.41	0.00	0.00
11	0.07	0.02	0.04	0.00	0.00	0.00	3.6	0.67	36	0.25	0.00	0.00
12	0.06	0.01	0.04	0.00	0.00	0.00	4.3	2.3	96	0.15	0.00	0.00
13	0.06	0.01	0.02	0.00	0.00	0.00	4.9	4.0	116	0.10	0.00	0.28
14	0.05	0.01	0.01	0.00	0.00	0.00	3.9	5.2	99	0.06	0.00	1.9
15	0.05	0.01	0.01	0.00	0.00	0.00	3.0	5.9	78	0.03	0.00	2.9
16	0.04	0.01	0.00	0.00	0.00	0.00	2.8	5.6	59	0.01	0.00	2.7
17	0.04	0.01	0.00	0.00	0.00	0.00	2.1	5.2	44	0.00	0.00	2.1
18	0.03	0.01	0.00	0.00	0.00	0.00	1.7	5.1	34	0.00	0.00	1.6
19	0.03	0.02	0.00	0.00	0.00	0.00	1.3	4.2	26	0.00	0.00	1.3
20	0.03	0.04	0.00	0.00	0.00	0.00	1.1	4.3	21	0.00	0.00	1.0
21	0.03	0.04	0.00	0.00	0.00	0.00	1.1	8.1	19	0.00	0.00	0.83
22	0.03	0.05	0.00	0.00	0.00	0.00	2.9	9.6	15	0.00	0.00	0.69
23	0.04	0.05	0.00	0.00	0.00	0.00	4.1	8.5	12	0.00	0.00	0.56
24	0.04	0.04	0.00	0.00	0.00	0.00	3.9	6.5	9.8	0.00	0.00	0.56
25	0.04	0.04	0.00	0.00	0.00	0.00	3.0	5.8	8.0	0.00	0.00	3.1
26	0.04	0.05	0.00	0.00	0.00	0.00	2.1	5.1	6.7	0.00	0.00	4.5
27	0.04	0.05	0.00	0.00	0.00	0.00	1.5	4.3	5.4	0.00	0.00	6.7
28	0.04	0.04	0.00	0.00	0.00	0.01	1.1	3.6	4.4	0.00	0.00	7.1
29	0.05	0.03	0.00	0.00	---	0.02	0.85	2.9	3.5	0.02	0.00	6.0
30	0.05	0.03	0.00	0.00	---	0.09	0.69	2.4	2.9	0.06	0.00	4.6
31	0.05	---	0.00	0.00	---	0.17	---	2.1	---	0.06	0.00	---
TOTAL	2.95	1.02	0.38	0.00	0.00	0.29	52.05	105.89	762.8	15.59	0.36	48.42
MEAN	0.10	0.03	0.01	0.00	0.00	0.01	1.74	3.42	25.4	0.50	0.01	1.61
MAX	0.49	0.06	0.04	0.00	0.00	0.17	4.9	9.6	116	2.5	0.10	7.1
MIN	0.03	0.01	0.00	0.00	0.00	0.00	0.08	0.32	1.8	0.00	0.00	0.00
AC-FT	5.9	2.0	0.8	0.00	0.00	0.6	103	210	1,510	31	0.7	96

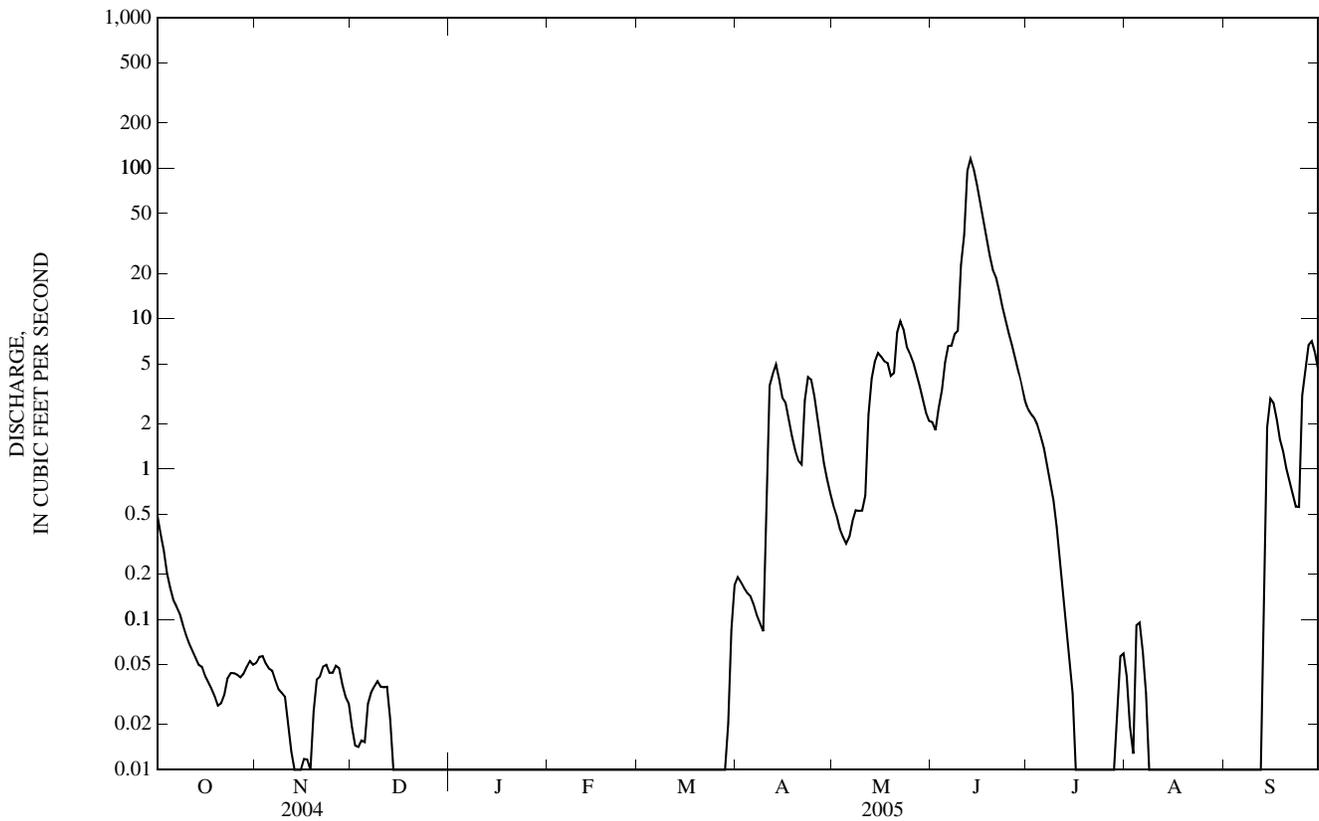
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2005, BY WATER YEAR (WY)

MEAN	2.01	1.40	0.38	0.05	2.16	19.2	21.3	9.88	15.8	13.6	2.78	2.47
MAX	40.0	17.1	4.08	0.91	40.7	158	173	95.7	186	430	50.3	63.0
(WY)	(1996)	(1996)	(1983)	(1983)	(1983)	(1997)	(1997)	(1995)	(1993)	(1993)	(1992)	(1986)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	(1967)	(1967)	(1967)	(1967)	(1968)	(1968)	(1967)	(1967)	(1968)	(1968)	(1967)	(1967)

06478540 LITTLE VERMILLION RIVER NEAR SALEM, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1967 - 2005	
ANNUAL TOTAL	712.58		989.75			
ANNUAL MEAN	1.95		2.71		<sup>a</sup> 7.59	
HIGHEST ANNUAL MEAN					73.4	1993
LOWEST ANNUAL MEAN					<sup>b</sup> 0.00	1968
HIGHEST DAILY MEAN	51	Jun 3	116	Jun 13	2,500	Jul 4, 1993
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Dec 16	<sup>c</sup> 0.00	Oct 1, 1966
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Dec 16	0.00	Oct 1, 1966
MAXIMUM PEAK FLOW			120	Jun 13	<sup>e</sup> 3,300	Jul 4, 1993
MAXIMUM PEAK STAGE			7.23	Jun 13	<sup>d</sup> 11.95	Jul 4, 1993
ANNUAL RUNOFF (AC-FT)	1,410		1,960		5,500	
10 PERCENT EXCEEDS	4.4		5.1		9.2	
50 PERCENT EXCEEDS	0.05		0.03		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

- a Median of annual mean discharges, 2.7 ft<sup>3</sup>/s.
- b Also 1975 and 1981 water years.
- c No flow for many days in each year.
- d From floodmark.
- e Estimated.



## 06478600 EAST FORK VERMILLION RIVER NEAR PARKER, SD

LOCATION.--Lat 43°26'43", long 97°06'34", in NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.33, T.100 N., R.53 W., Turner County, Hydrologic Unit 10170102, on left bank at downstream end of county highway bridge, 4.1 mi upstream from the confluence with West Fork Vermillion River, 14.5 mi west of Tea, and 3.5 mi north-northeast of Parker.

DRAINAGE AREA.--973 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1995 to current year.

REVISED RECORDS.--WDR SD-97-1: 1996 (daily discharges, June 2-5, 21), 1996 (M).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,320 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

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	29	12	e10	e10	e9.5	e8.5	37	27	29	29	13	8.8
2	29	12	e10	e9.5	e10	e8.8	33	27	28	25	13	8.8
3	23	12	e10	e9.0	e11	e9.0	29	23	47	24	13	8.7
4	22	11	10	e8.0	e12	e10	28	21	111	23	15	8.4
5	19	12	10	e7.0	e12	11	27	20	226	21	14	8.2
6	18	11	11	e7.0	e11	11	29	19	392	20	13	8.5
7	17	11	10	e7.3	e10	11	27	20	228	19	12	8.8
8	17	11	11	e8.0	e8.0	12	23	21	429	18	12	9.3
9	17	10	11	e8.0	e7.0	11	20	22	377	18	12	8.8
10	15	9.8	11	e8.0	e7.5	11	25	27	1,160	16	11	12
11	14	10	11	e8.0	e8.0	e10	43	27	752	15	13	38
12	14	10	11	e8.0	e9.0	e10	51	41	751	15	14	66
13	14	9.7	e11	e8.0	e10	e10	60	70	896	15	13	100
14	15	9.3	e10	e7.0	e10	e10	56	77	812	14	12	70
15	13	9.4	e10	e6.0	e10	e10	51	63	656	14	12	49
16	14	9.4	e10	e6.3	e10	e11	70	55	541	14	11	37
17	13	9.4	e10	e6.4	e10	e11	72	51	421	13	11	29
18	12	9.7	e9.5	e6.5	e10	e11	61	59	302	13	11	27
19	11	11	e9.5	e6.6	e10	e12	54	63	209	12	11	25
20	11	11	e9.0	e6.8	e9.5	e13	47	49	148	12	10	22
21	11	12	e9.0	e6.5	e9.0	e14	41	40	138	11	10	19
22	11	11	e8.5	e6.0	e9.0	e14	69	39	117	11	9.7	20
23	12	11	e8.0	e5.8	e9.0	14	64	35	88	11	9.5	20
24	14	11	e8.5	e6.5	e9.0	15	51	29	71	11	9.3	19
25	12	11	e9.0	e8.0	e9.0	16	46	35	57	12	9.5	34
26	12	11	e9.0	e8.0	e9.0	18	44	48	48	12	9.8	85
27	11	11	e9.5	e8.5	e8.0	20	37	42	43	13	10	92
28	11	e11	e10	e8.5	e8.0	24	32	37	40	12	9.9	92
29	11	e10	e11	e8.5	---	27	29	32	36	11	9.6	79
30	12	e10	e11	e8.8	---	36	28	30	32	12	9.2	67
31	15	---	e11	e9.0	---	39	---	28	---	13	9.0	---
TOTAL	469	319.7	309.5	235.5	264.5	448.3	1,284	1,177	9,185	479	351.5	1,080.3
MEAN	15.1	10.7	9.98	7.60	9.45	14.5	42.8	38.0	306	15.5	11.3	36.0
MAX	29	12	11	10	12	39	72	77	1,160	29	15	100
MIN	11	9.3	8.0	5.8	7.0	8.5	20	19	28	11	9.0	8.2
AC-FT	930	634	614	467	525	889	2,550	2,330	18,220	950	697	2,140

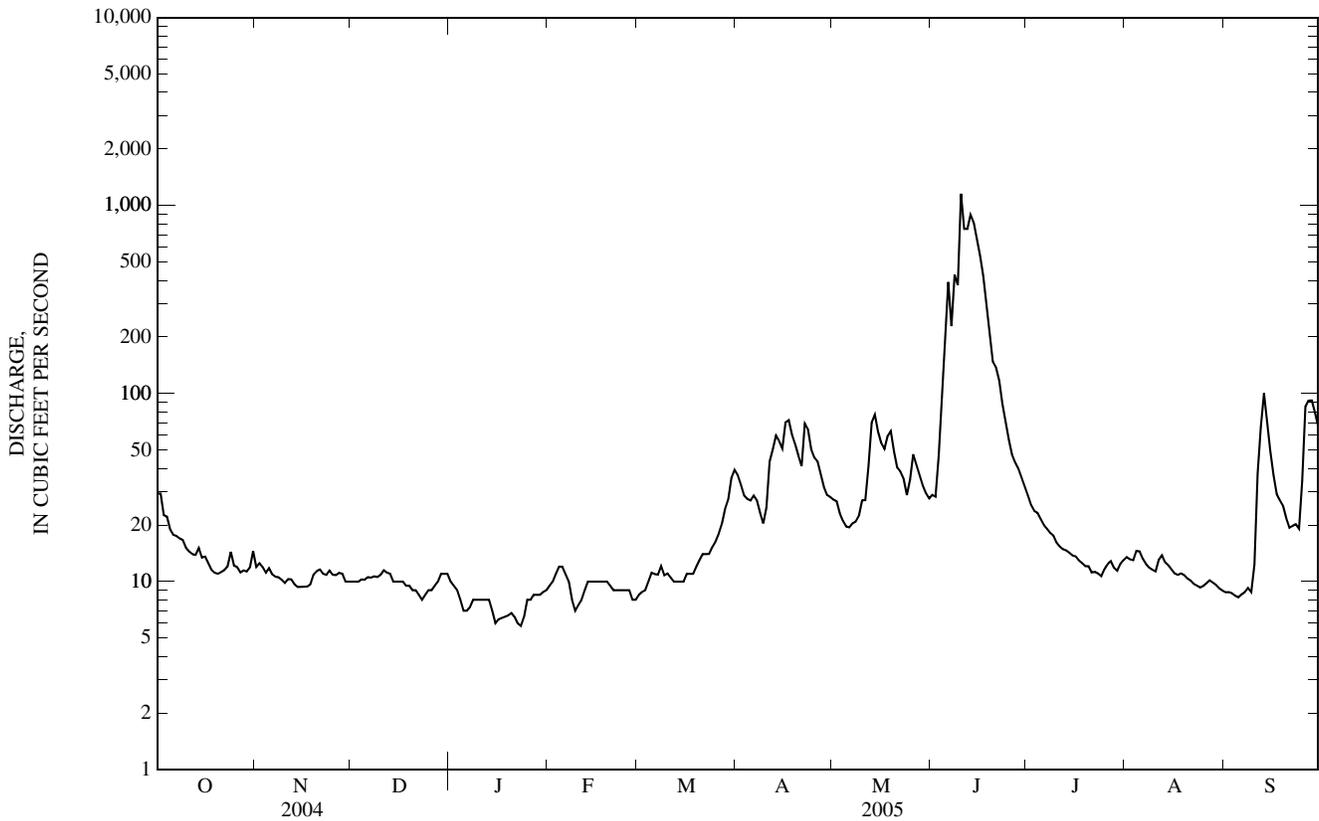
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2005, BY WATER YEAR (WY)

MEAN	76.3	79.2	44.9	27.0	45.7	158	330	214	186	87.2	60.2	51.8
MAX	332	280	151	128	215	732	1,070	832	467	180	156	101
(WY)	(1996)	(1996)	(1996)	(1996)	(1996)	(1997)	(1997)	(1997)	(1996)	(1996)	(1996)	(1999)
MIN	5.35	5.36	2.21	1.80	1.55	14.5	18.0	33.7	36.8	15.5	7.14	5.41
(WY)	(2001)	(2001)	(2001)	(2001)	(2001)	(2005)	(2004)	(2003)	(2000)	(2005)	(2000)	(2000)

06478600 EAST FORK VERMILLION RIVER NEAR PARKER, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1996 - 2005	
ANNUAL TOTAL	11,729.6		15,603.3		<sup>a</sup> 113	
ANNUAL MEAN	32.0		42.7		298	
HIGHEST ANNUAL MEAN					1997	
LOWEST ANNUAL MEAN					2004	
HIGHEST DAILY MEAN	1,210	May 30	1,160	Jun 10	3,960	Mar 29, 1997
LOWEST DAILY MEAN	2.3	Feb 4	5.8	Jan 23	0.95	Feb 2, 2001
ANNUAL SEVEN-DAY MINIMUM	2.3	Feb 4	6.4	Jan 17	1.1	Jan 30, 2001
MAXIMUM PEAK FLOW			2,250	Jun 10	<sup>b</sup> 4,210	Mar 29, 1997
MAXIMUM PEAK STAGE			10.51	Jun 10	<sup>c</sup> 12.75	Mar 22, 1997
ANNUAL RUNOFF (AC-FT)	23,270		30,950		82,060	
10 PERCENT EXCEEDS	52		63		268	
50 PERCENT EXCEEDS	13		12		45	
90 PERCENT EXCEEDS	6.0		8.5		7.5	

- a Median of annual mean discharges, 70 ft<sup>3</sup>/s.
- b Gage height, 12.73 ft.
- c Backwater from ice.
- e Estimated.



## 06478690 WEST FORK VERMILLION RIVER NEAR PARKER, SD

LOCATION.--Lat 43°24'55", long 97°12'18", in NE $\frac{1}{4}$  NE $\frac{1}{4}$  sec.10, T.99 N., R.54 W., Turner County, Hydrologic Unit 10170102, on right bank 10 ft downstream from bridge, 3.7 mi northwest of Parker, and 13.9 mi upstream from confluence with East Fork Vermillion River.

DRAINAGE AREA.--377 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1961 to current year.

REVISED RECORDS.--WDR SD-89-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,340 ft above NGVD of 1929, from topographic map. Prior to Oct. 11, 1973, nonrecording gage and crest-stage gage at same site and datum.

REMARKS.--Records good except those for Feb. 17-28 and Sept. 25-30, which are fair and those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

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	8.1	5.0	2.6	e1.6	e0.80	2.3	46	17	18	24	1.3	0.38
2	7.5	6.2	2.7	e1.5	e0.85	2.2	32	14	18	24	1.2	0.36
3	6.4	5.1	2.7	e1.5	e0.90	2.2	23	13	97	22	1.1	0.39
4	5.7	4.9	2.8	e1.4	e1.1	2.1	19	12	247	18	1.2	0.37
5	5.1	4.3	2.8	e1.3	e1.2	2.1	16	11	380	15	1.1	0.33
6	4.7	4.2	3.2	e1.2	e1.1	2.3	14	10	553	14	0.99	0.33
7	4.4	e4.0	3.3	e1.2	e0.80	2.2	12	11	517	12	0.91	0.36
8	4.3	e4.1	3.2	e1.1	e0.60	2.1	11	11	637	10	0.89	0.34
9	4.0	e4.0	3.0	e1.1	e0.50	2.4	10	11	785	8.9	0.91	0.32
10	3.7	e4.0	3.0	e1.0	e0.65	2.5	14	10	1,240	7.7	0.97	0.29
11	3.6	e4.4	3.1	e0.90	e0.80	2.7	43	12	945	6.4	0.95	0.27
12	3.5	e4.7	2.9	e0.80	e1.0	2.4	67	96	940	5.6	0.89	0.33
13	3.4	e4.8	2.7	e0.70	e5.0	2.6	65	166	954	4.8	0.84	0.64
14	3.5	e4.8	e2.8	e0.60	e7.2	2.5	49	120	672	4.4	0.84	0.40
15	3.4	4.8	e2.8	e0.55	e4.5	2.8	39	78	452	4.4	0.80	0.35
16	3.4	4.5	e2.8	e0.60	e4.2	2.8	63	83	319	4.1	0.76	0.34
17	3.4	4.0	e2.7	e0.60	4.6	3.1	71	91	222	3.2	0.75	0.38
18	3.4	e5.0	e2.5	e0.70	3.8	4.4	58	101	159	2.8	0.98	0.42
19	3.7	e5.0	e2.3	e0.80	3.6	e3.0	47	89	116	2.7	0.80	0.39
20	4.8	e5.0	e2.0	e0.80	3.5	e3.4	37	55	90	3.3	0.71	0.35
21	4.8	e4.5	e1.9	e0.80	3.2	e3.7	30	37	124	2.9	0.66	0.36
22	5.5	e4.2	e1.8	e0.75	3.0	5.2	49	27	126	2.4	0.58	0.35
23	6.1	e4.0	e1.5	e0.75	2.9	8.1	84	21	81	2.1	0.57	0.36
24	5.4	e4.0	e1.5	e0.80	2.7	9.3	69	18	61	1.9	0.57	0.43
25	5.5	e4.0	e1.5	e1.0	2.7	10	51	38	47	2.4	0.59	0.87
26	5.6	e3.5	e1.5	e0.80	2.6	13	37	53	41	2.0	0.59	0.51
27	5.5	e3.2	e1.6	e0.75	2.6	24	28	38	37	1.7	0.54	0.53
28	5.6	e2.8	e1.7	e0.80	2.3	43	23	28	33	1.6	0.50	0.29
29	5.6	e2.7	e1.7	e0.80	---	35	20	22	29	1.5	0.51	0.26
30	5.0	2.6	e1.8	e0.78	---	46	18	21	24	1.5	0.47	0.32
31	4.4	---	e1.8	e0.75	---	64	---	20	---	1.5	0.42	---
TOTAL	149.0	128.3	74.2	28.73	68.70	313.4	1,145	1,334	9,964	218.8	24.89	11.62
MEAN	4.81	4.28	2.39	0.93	2.45	10.1	38.2	43.0	332	7.06	0.80	0.39
MAX	8.1	6.2	3.3	1.6	7.2	64	84	166	1,240	24	1.3	0.87
MIN	3.4	2.6	1.5	0.55	0.50	2.1	10	10	18	1.5	0.42	0.26
AC-FT	296	254	147	57	136	622	2,270	2,650	19,760	434	49	23

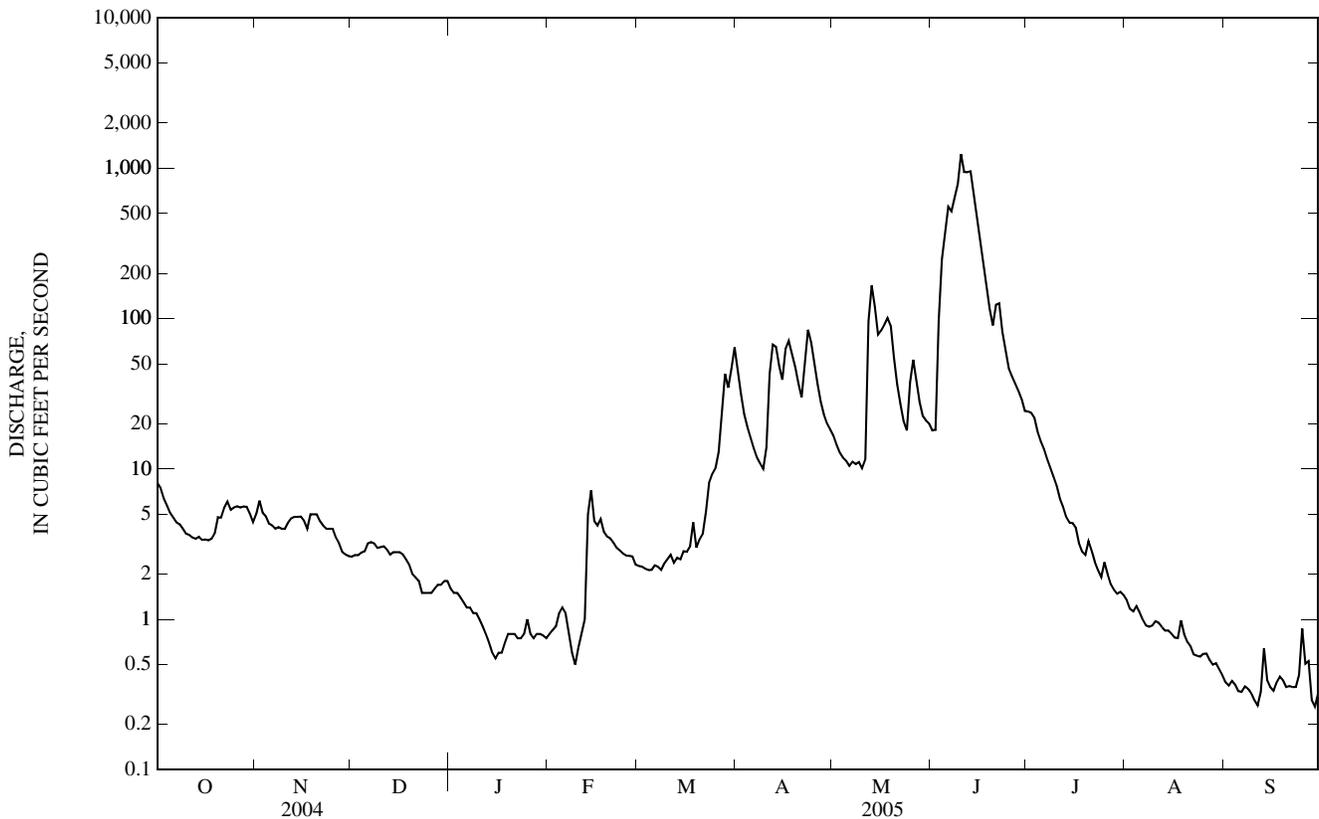
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2005, BY WATER YEAR (WY)

MEAN	6.54	9.32	2.86	1.08	16.2	121	134	61.7	89.1	46.5	9.58	11.0
MAX	106	156	33.4	9.05	267	795	1,112	550	1,345	1,081	144	324
(WY)	(1996)	(1999)	(1999)	(1983)	(1983)	(1997)	(2001)	(1995)	(1984)	(1993)	(1993)	(1986)
MIN	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00
(WY)	(1975)	(1982)	(1965)	(1965)	(1975)	(1981)	(1990)	(1990)	(1981)	(1989)	(1989)	(1989)

06478690 WEST FORK VERMILLION RIVER NEAR PARKER, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1962 - 2005	
ANNUAL TOTAL	6,902.35		13,460.64		<sup>a</sup> 42.4	
ANNUAL MEAN	18.9		36.9		249	
HIGHEST ANNUAL MEAN					0.02 1981	
LOWEST ANNUAL MEAN					4,410 Apr 23, 2001	
HIGHEST DAILY MEAN	984	May 30	1,240	Jun 10	b 0.00 Oct 6, 1961	
LOWEST DAILY MEAN	0.32	Feb 26	0.26	Sep 29	c 0.00 Nov 4, 1961	
ANNUAL SEVEN-DAY MINIMUM	0.35	Feb 15	0.32	Sep 5	d 13.14 May 8, 1993	
MAXIMUM PEAK FLOW			1,370	Jun 10	e 6,370 Apr 23, 2001	
MAXIMUM PEAK STAGE			8.92	Jun 10		
ANNUAL RUNOFF (AC-FT)	13,690		26,700		30,700	
10 PERCENT EXCEEDS	36		62		62	
50 PERCENT EXCEEDS	3.5		3.4		1.2	
90 PERCENT EXCEEDS	0.48		0.57		0.00	

- a Median of annual mean discharges, 20 ft<sup>3</sup>/s.
- b No flow for many days in most years.
- c Gage height, 12.22 ft.
- d Discharge, 6,300 ft<sup>3</sup>/s.
- e Estimated.



## 06479010 VERMILLION RIVER NEAR VERMILLION, SD

LOCATION.--Lat 42°49'02", long 96°55'26", in SE $\frac{1}{4}$  SE $\frac{1}{4}$  NE $\frac{1}{4}$  sec.1, T.92 N., R.52 W., Clay County, Hydrologic Unit 10170102, on left bank 30 ft downstream from bridge, 2.7 mi north of Vermillion, 2.9 mi upstream from Clay Creek, and 10.8 mi upstream from mouth.

DRAINAGE AREA.--2,302 mi<sup>2</sup>, of which 494 mi<sup>2</sup> usually is noncontributing (area was contributing during 1986-88, 1993-2002).

PERIOD OF RECORD.--October 1983 to current year.

REVISED RECORDS.--WDR SD-89-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,125 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite data-collection platform at station. Flow affected by East Vermillion Lake Reservoir, capacity, 550 acres, located about 54 mi upstream. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

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	130	57	55	e37	e45	68	187	187	1,070	434	106	39
2	112	57	59	e35	e46	71	218	172	915	370	101	37
3	102	58	61	e32	e44	79	205	160	915	328	96	36
4	98	61	60	e30	e43	77	178	152	1,530	295	97	35
5	96	63	63	e27	e42	78	156	144	3,350	269	90	34
6	87	63	61	e26	e42	73	141	135	3,040	252	86	36
7	83	59	64	e27	e41	75	129	134	2,840	235	84	35
8	79	57	62	e28	e41	71	127	147	2,890	217	82	35
9	75	56	64	e29	e43	67	121	132	2,830	203	79	33
10	72	55	62	e28	e47	68	115	126	2,660	190	76	32
11	68	53	60	e27	e51	65	115	127	2,490	178	74	30
12	66	52	62	e26	e56	65	123	280	2,290	168	74	31
13	64	52	58	e25	e59	64	204	628	2,170	159	68	31
14	62	53	e54	e23	e88	60	264	810	2,130	151	65	35
15	62	52	e47	e22	e131	56	278	725	2,100	143	63	63
16	61	53	e45	e23	e173	59	262	628	2,060	136	62	75
17	59	53	e46	e24	e166	65	257	525	1,990	130	61	73
18	60	53	e47	e29	e139	67	300	486	1,820	121	63	66
19	59	58	e45	e34	128	66	322	692	1,500	113	62	69
20	58	62	e42	e35	113	61	307	836	1,210	118	62	59
21	57	66	e40	e36	102	63	293	689	1,400	117	58	52
22	56	65	e38	e35	82	64	417	520	1,020	113	54	49
23	57	66	e36	e39	86	68	393	408	848	109	52	46
24	56	65	e35	e43	85	70	371	338	736	105	50	52
25	56	65	e35	e45	79	73	378	302	802	101	49	67
26	56	64	e35	e44	80	82	340	298	690	100	48	72
27	59	64	e36	e42	78	89	296	316	559	173	46	72
28	56	64	e37	e42	80	93	261	358	554	177	45	69
29	56	64	e38	e42	---	97	233	329	566	155	e45	90
30	58	60	e39	e42	---	107	207	281	528	135	40	98
31	56	---	e39	e43	---	143	---	381	---	120	40	---
TOTAL	2,176	1,770	1,525	1,020	2,210	2,304	7,198	11,446	49,503	5,615	2,078	1,551
MEAN	70.2	59.0	49.2	32.9	78.9	74.3	240	369	1,650	181	67.0	51.7
MAX	130	66	64	45	173	143	417	836	3,350	434	106	98
MIN	56	52	35	22	41	56	115	126	528	100	40	30
AC-FT	4,320	3,510	3,020	2,020	4,380	4,570	14,280	22,700	98,190	11,140	4,120	3,080

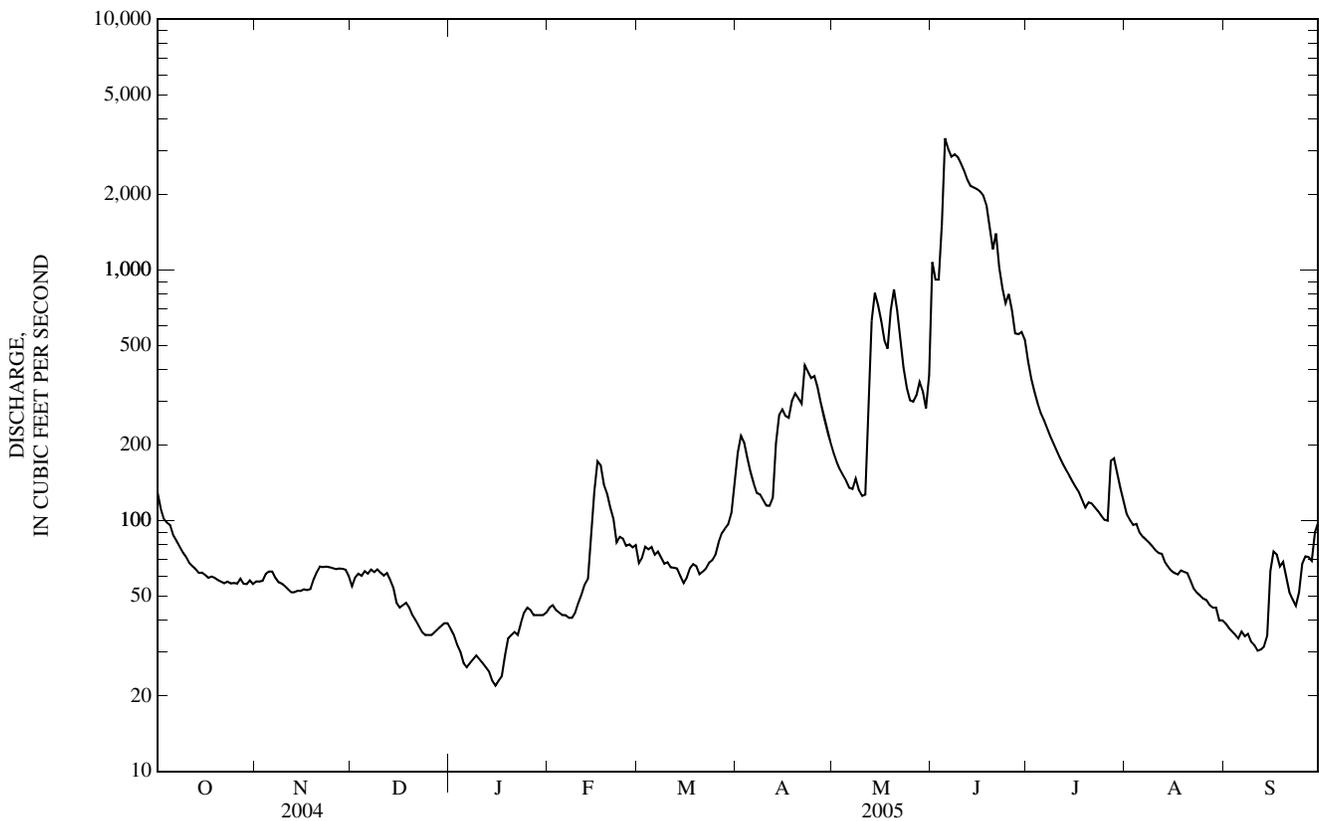
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2005, BY WATER YEAR (WY)

MEAN	144	142	91.9	53.3	95.4	498	1,024	686	848	568	181	149
MAX	643	681	288	204	454	1,693	4,405	2,432	6,062	5,920	1,434	754
(WY)	(1987)	(1999)	(1996)	(1996)	(1994)	(1997)	(1984)	(1995)	(1984)	(1993)	(1993)	(1986)
MIN	5.54	7.99	7.37	6.71	9.00	15.3	13.1	21.8	15.4	14.2	13.2	5.22
(WY)	(1990)	(1990)	(1991)	(1991)	(1989)	(1991)	(1990)	(1991)	(1989)	(1989)	(1990)	(1991)

06479010 VERMILLION RIVER NEAR VERMILLION, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1984 - 2005	
ANNUAL TOTAL	65,059		88,396			
ANNUAL MEAN	178		242		<sup>a</sup> 374	
HIGHEST ANNUAL MEAN					1,416	1993
LOWEST ANNUAL MEAN					27.9	1991
HIGHEST DAILY MEAN	2,120	Jun 3	3,350	Jun 5	20,200	Jun 23, 1984
LOWEST DAILY MEAN	18	Jan 30	22	Jan 15	<sup>b</sup> 3.6	Oct 10, 1991
ANNUAL SEVEN-DAY MINIMUM	19	Jan 29	24	Jan 11	4.5	Oct 6, 1991
MAXIMUM PEAK FLOW			3,660	Jun 5	21,400	Jun 23, 1984
MAXIMUM PEAK STAGE			17.99	Jun 5	31.77	Jun 23, 1984
ANNUAL RUNOFF (AC-FT)	129,000		175,300		270,700	
10 PERCENT EXCEEDS	427		538		841	
50 PERCENT EXCEEDS	75		68		100	
90 PERCENT EXCEEDS	29		36		15	

a Median of annual mean discharges, 270 ft<sup>3</sup>/s.  
 b Also Oct. 18, 1991.  
 e Estimated.



## BIG SIOUX RIVER BASIN

06479215 BIG SIOUX RIVER NEAR FLORENCE, SD

LOCATION.--Lat 45°10'51", long 97°11'09", in NE $\frac{1}{4}$  NE $\frac{1}{4}$  NE $\frac{1}{4}$  sec.17, T.120 N., R.52 W., Grant County, Hydrologic Unit 10170202, on right bank near downstream side of county highway bridge, 11.0 mi northeast of Florence, and 2.2 mi upstream from Indian Creek.

DRAINAGE AREA.--638 mi<sup>2</sup>, of which 570 mi<sup>2</sup> usually is noncontributing.

PERIOD OF RECORD.--June 6, 1984, to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,780.57 ft above NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

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	12	40	5.0	e0.57	0.03	e0.04	9.3	7.1	13	e15	0.61	0.60
2	17	32	4.6	e0.49	0.03	e0.04	7.8	6.6	12	e15	0.53	0.45
3	29	28	4.4	e0.43	e0.10	e0.04	6.1	5.9	12	e13	0.80	0.29
4	24	25	e4.2	e0.36	e0.18	e0.10	5.4	5.6	12	e12	0.73	0.20
5	19	23	e4.0	e0.26	e0.23	e5.0	5.2	5.3	16	e11	0.69	0.17
6	16	21	e3.8	e0.19	e0.16	e15	5.1	5.3	25	e10	0.52	0.18
7	14	20	e3.4	e0.16	e0.13	e18	4.7	5.0	26	e9.1	0.39	0.17
8	13	18	e3.5	e0.14	e0.08	e10	4.5	6.1	71	e9.6	0.26	0.17
9	11	17	e3.4	e0.13	e0.08	e8.0	4.4	24	83	e9.1	0.26	0.16
10	10	15	e3.3	e0.12	e0.11	e5.1	5.3	45	75	e8.5	0.27	0.14
11	9.0	13	e3.2	e0.11	e0.20	e4.0	11	39	82	e7.4	0.40	0.13
12	8.1	11	e2.8	e0.09	e0.20	e3.0	25	31	70	e6.9	0.42	0.21
13	7.2	10	e2.7	e0.08	e0.20	e2.0	28	41	66	e6.9	0.42	0.24
14	6.4	9.5	e2.6	e0.06	e0.20	e1.3	23	41	78	e5.7	0.45	0.21
15	5.7	8.9	e2.3	0.05	e0.20	e0.90	20	33	79	e5.7	0.52	0.21
16	5.2	8.7	e2.1	0.04	e0.15	e0.80	18	27	74	e4.6	0.52	0.20
17	4.6	8.6	e2.0	0.04	e0.15	e0.75	17	24	73	e3.5	0.54	0.18
18	4.3	8.6	e1.9	0.06	e0.10	e0.75	17	21	64	e3.5	0.55	0.19
19	4.1	8.6	e1.9	0.05	e0.10	e1.0	17	19	55	e3.5	0.59	0.22
20	4.2	8.8	e1.8	0.05	e0.09	e1.3	17	17	49	e3.5	0.58	0.19
21	4.2	8.8	e1.7	0.05	e0.08	1.8	17	14	44	3.1	0.52	0.19
22	4.5	8.7	e1.5	0.05	e0.07	2.3	16	12	40	2.3	0.48	0.20
23	6.2	8.4	e1.2	0.05	e0.06	3.2	15	10	37	1.9	0.42	0.19
24	8.1	7.5	e0.84	0.05	e0.06	4.7	13	9.6	e33	1.6	0.41	0.20
25	12	7.0	e0.67	0.05	e0.05	7.7	12	12	e28	1.5	0.55	0.24
26	15	7.0	e0.59	0.05	e0.05	7.3	11	23	e26	1.7	0.60	0.22
27	12	6.7	e0.54	0.04	e0.05	8.9	9.8	28	e23	1.4	0.44	0.21
28	16	6.1	e0.51	0.04	e0.05	10	8.9	22	e20	1.3	0.45	0.21
29	29	e5.7	e0.52	0.03	---	14	8.1	19	e18	1.1	0.44	0.19
30	51	e5.3	e0.54	0.03	---	15	7.4	16	e16	0.86	0.47	0.19
31	43	---	e0.58	0.03	---	11	---	14	---	0.72	0.62	---
TOTAL	424.8	405.9	72.09	3.95	3.19	163.02	369.0	588.5	1,320	180.98	15.45	6.55
MEAN	13.7	13.5	2.33	0.13	0.11	5.26	12.3	19.0	44.0	5.84	0.50	0.22
MAX	51	40	5.0	0.57	0.23	18	28	45	83	15	0.80	0.60
MIN	4.1	5.3	0.51	0.03	0.03	0.04	4.4	5.0	12	0.72	0.26	0.13
AC-FT	843	805	143	7.8	6.3	323	732	1,170	2,620	359	31	13

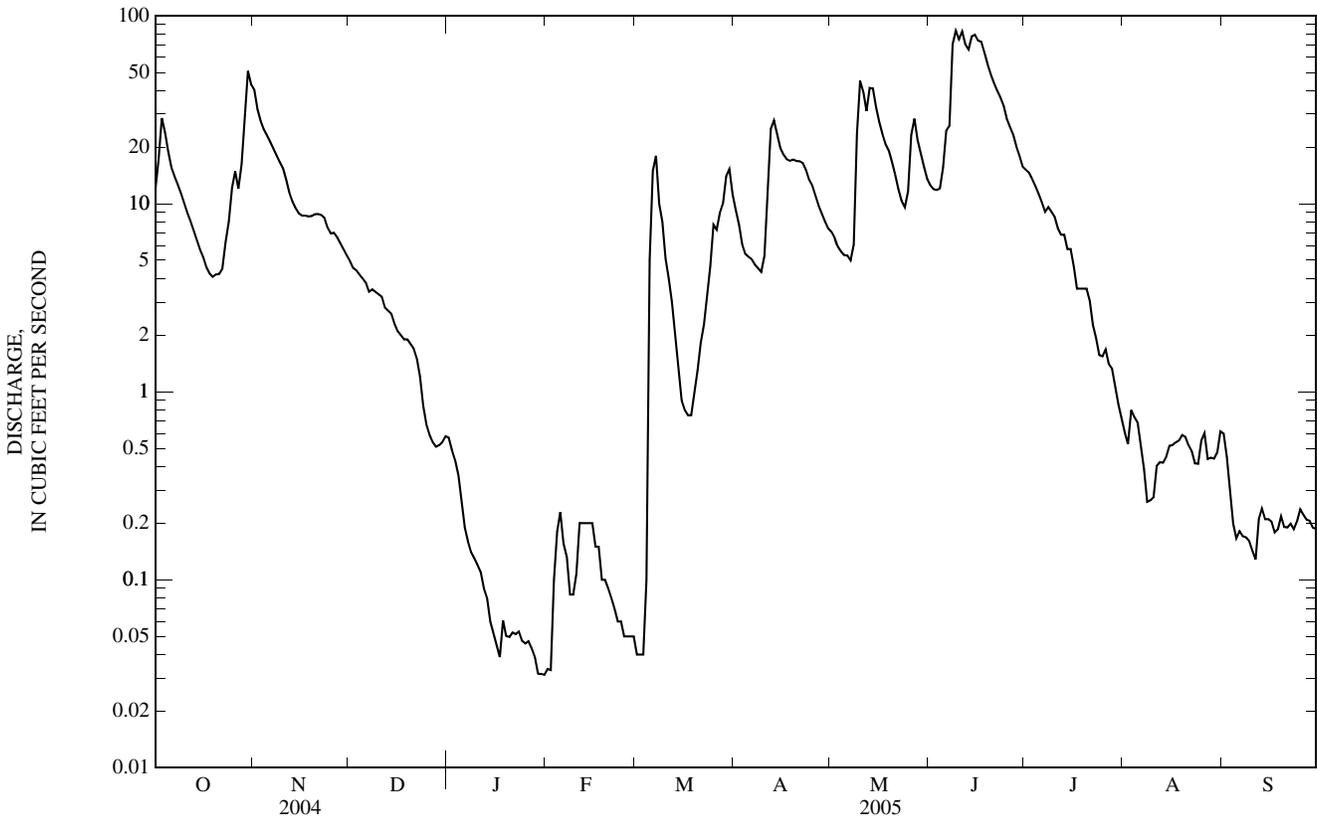
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2005, BY WATER YEAR (WY)

MEAN	6.62	4.75	2.17	0.80	3.93	36.0	51.6	22.1	16.7	20.2	6.20	4.04
MAX	56.0	25.5	8.19	3.05	45.8	111	297	70.5	61.1	169	50.8	20.6
(WY)	(1996)	(1996)	(1996)	(1996)	(1998)	(1986)	(1997)	(1995)	(1986)	(1993)	(1995)	(1986)
MIN	0.01	0.06	0.03	0.00	0.00	0.25	0.75	1.73	0.28	0.02	0.06	0.03
(WY)	(1989)	(1989)	(1990)	(1990)	(1990)	(2001)	(2004)	(1988)	(1988)	(1988)	(2003)	(1988)

06479215 BIG SIOUX RIVER NEAR FLORENCE, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1985 - 2005	
ANNUAL TOTAL	2,331.23		3,553.43		14.6	
ANNUAL MEAN	6.37		9.74		39.6	
HIGHEST ANNUAL MEAN					0.62	
LOWEST ANNUAL MEAN					1,600	
HIGHEST DAILY MEAN	52	Jul 10	83	Jun 9	0.00	Apr 5, 1997
LOWEST DAILY MEAN	0.00	Sep 2	0.03	Jan 29	0.00	Aug 9, 1985
ANNUAL SEVEN-DAY MINIMUM	0.01	Aug 29	0.03	Jan 27	0.00	Dec 16, 1989
MAXIMUM PEAK FLOW			104	Jun 8	2,000	Apr 4, 1997
MAXIMUM PEAK STAGE			7.48	Jun 8	9.52	Apr 2, 1997
ANNUAL RUNOFF (AC-FT)	4,620		7,050		10,590	
10 PERCENT EXCEEDS	23		25		32	
50 PERCENT EXCEEDS	0.90		4.2		1.6	
90 PERCENT EXCEEDS	0.04		0.10		0.07	

- a Median of annual mean discharges, 9.7 ft<sup>3</sup>/s.
- b No flow for some days in water years 1985, 1990-91, and 2004.
- c Gage height, 9.32 ft.
- d Backwater from ice.
- e Estimated.



## 06479438 BIG SIOUX RIVER NEAR WATERTOWN, SD

LOCATION.--Lat 45°00'22", long 97°09'53", in NE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.16, T.118 NR., R.52 WR., Codington County, Hydrologic Unit 10170202, on left bank at downstream side of county highway bridge, 4.9 mi downstream from Mahoney Creek, 6.5 mi upstream from inlet-outlet to Lake Kampeska, and 7.5 mi northwest of Watertown.

DRAINAGE AREA.--1,007 mi<sup>2</sup>, of which 779 mi<sup>2</sup> usually is noncontributing (documented runoff occurred during 1994-2002 water years for 213 mi<sup>2</sup> of the usually noncontributing area).

PERIOD OF RECORD.--October 1972 to current year.

REVISED RECORDS.--WDR SD-78-1: 1973-74(M), 1976-77(M). WDR SD-84-1: Drainage area. WDR SD-94-1 only: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,725.81 ft above NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

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	20	94	e23	e4.0	e0.50	e1.0	23	19	32	21	3.3	1.2
2	e30	85	20	e3.0	e0.60	e1.1	20	19	27	19	3.2	0.96
3	e38	70	19	e2.5	e0.70	e1.2	17	18	24	20	4.9	0.95
4	e45	59	19	e2.5	e0.80	e1.3	15	17	22	19	4.3	1.0
5	e38	52	16	e2.0	e0.75	e1.5	14	15	23	17	4.2	0.97
6	30	47	e15	e2.0	e0.60	e2.0	14	15	23	16	3.9	0.91
7	27	43	e16	e2.0	e0.60	e20	13	15	26	14	3.4	0.93
8	24	40	e14	e1.5	e0.55	e50	13	15	37	15	3.4	1.3
9	21	37	e13	e1.5	e0.55	e55	13	18	90	16	3.0	1.2
10	19	34	e13	e1.0	e0.50	e40	15	56	271	14	2.7	1.2
11	18	32	e14	e1.0	e0.70	e30	22	87	263	13	2.8	0.88
12	17	31	e15	e1.0	e0.90	e25	34	93	256	12	2.8	1.2
13	16	29	e11	e0.80	e1.6	e8.0	48	98	205	12	2.5	2.0
14	14	27	e11	e0.60	e1.6	e7.0	58	119	325	10	2.4	1.9
15	14	27	e12	e0.50	e1.5	e7.0	54	111	432	9.0	2.0	1.6
16	13	26	e10	e0.42	e1.5	e6.5	48	92	321	8.2	2.1	1.5
17	13	26	e10	e0.43	e1.4	e6.0	43	75	202	7.5	2.1	1.3
18	12	25	e9.0	e0.44	e1.4	e6.0	40	64	154	6.9	2.9	1.2
19	12	26	e8.0	e0.46	e1.4	e5.5	38	55	125	6.7	2.3	1.3
20	12	26	e7.8	e0.46	e1.4	e5.5	38	50	98	6.3	2.2	1.2
21	11	26	e7.0	e0.45	e1.3	e6.5	38	47	76	5.4	2.2	1.1
22	12	26	e7.0	e0.45	e1.3	e6.5	37	41	62	4.9	2.4	1.2
23	17	26	e6.5	e0.55	e1.3	e7.0	35	36	52	4.6	2.1	1.1
24	38	26	e6.0	e0.70	e1.2	e8.0	33	32	42	4.5	1.9	1.2
25	42	24	e5.5	e0.60	e1.2	e12	31	32	36	4.3	1.7	1.4
26	45	24	e5.0	e0.55	e1.2	e13	29	35	31	4.2	2.0	1.2
27	43	24	e4.5	e0.50	e1.1	e16	26	41	28	4.2	1.5	1.2
28	41	20	e4.5	e0.45	e1.1	24	24	54	25	4.1	1.5	1.3
29	49	e22	e4.5	e0.45	---	30	22	52	23	3.8	1.6	1.3
30	61	e23	e5.0	e0.40	---	27	21	43	22	3.5	1.5	1.2
31	93	---	e4.5	e0.50	---	25	---	36	---	3.3	1.4	---
TOTAL	885	1,077	335.8	33.71	29.25	454.6	876	1,500	3,353	309.4	80.2	36.90
MEAN	28.5	35.9	10.8	1.09	1.04	14.7	29.2	48.4	112	9.98	2.59	1.23
MAX	93	94	23	4.0	1.6	55	58	119	432	21	4.9	2.0
MIN	11	20	4.5	0.40	0.50	1.0	13	15	22	3.3	1.4	0.88
AC-FT	1,760	2,140	666	67	58	902	1,740	2,980	6,650	614	159	73

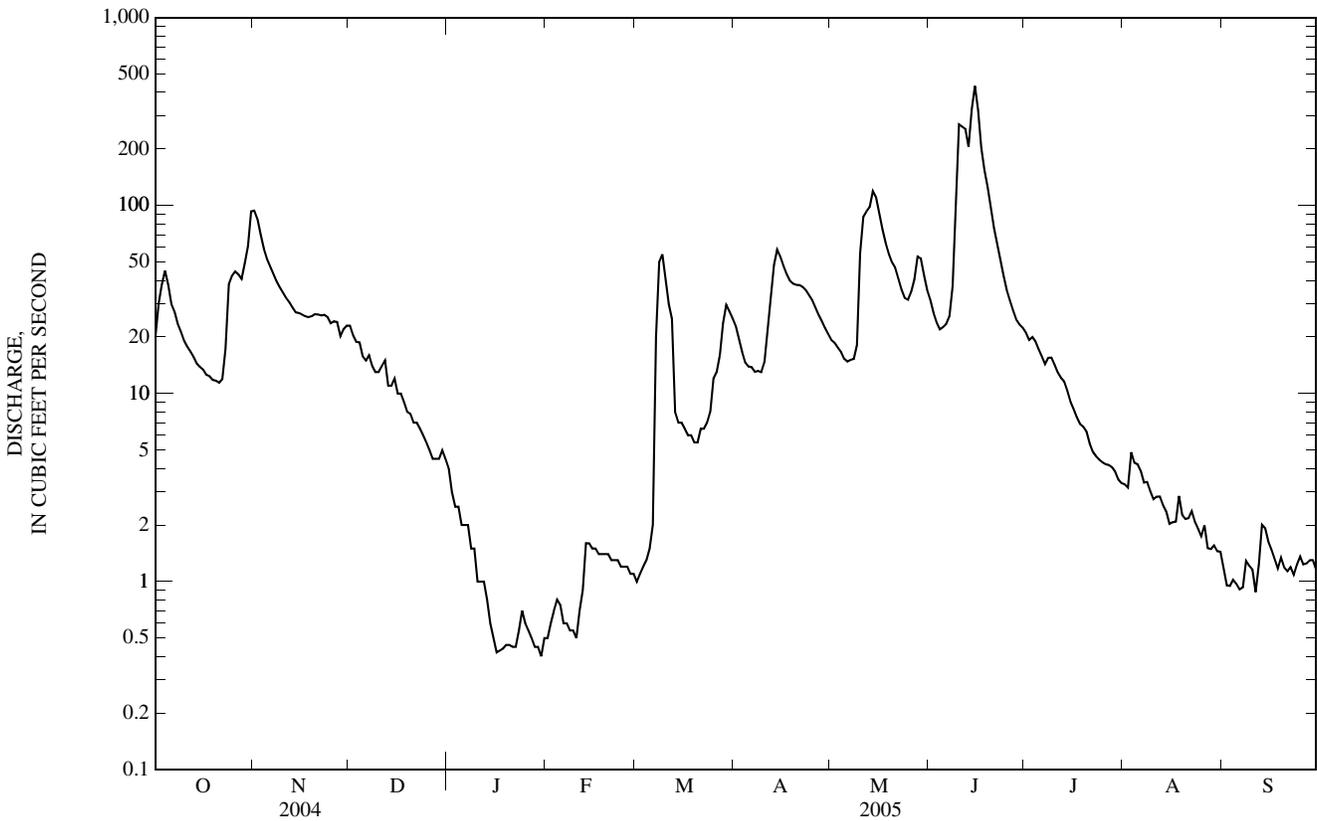
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2005, BY WATER YEAR (WY)

MEAN	16.9	14.6	6.92	2.94	9.38	95.8	160	63.0	52.2	44.0	18.9	11.5
MAX	221	155	55.7	26.5	120	321	1,415	290	184	467	190	125
(WY)	(1996)	(1996)	(1996)	(1996)	(1998)	(1986)	(1997)	(1995)	(1995)	(1993)	(1995)	(1995)
MIN	0.03	0.10	0.01	0.00	0.00	0.26	2.95	0.57	0.03	0.05	0.04	0.03
(WY)	(1989)	(1989)	(1977)	(1977)	(1977)	(1975)	(1990)	(1981)	(1976)	(1976)	(1976)	(1982)

06479438 BIG SIOUX RIVER NEAR WATERTOWN, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1973 - 2005	
ANNUAL TOTAL	4,596.49		8,970.86		<sup>a</sup> 41.4	
ANNUAL MEAN	12.6		24.6		155	
HIGHEST ANNUAL MEAN					2.22	
LOWEST ANNUAL MEAN					1981	
HIGHEST DAILY MEAN	94	Nov 1	432	Jun 15	6,400	Apr 5, 1997
LOWEST DAILY MEAN	0.05	Jan 29	0.40	Jan 30	<sup>b</sup> 0.00	Feb 1, 1974
ANNUAL SEVEN-DAY MINIMUM	0.06	Jan 28	0.44	Jan 16	0.00	Feb 1, 1974
MAXIMUM PEAK FLOW			565	Jun 14	8,000	Apr 7, 2001
MAXIMUM PEAK STAGE			7.84	Jun 14	<sup>c</sup> 12.33	Apr 7, 2001
ANNUAL RUNOFF (AC-FT)	9,120		17,790		29,990	
10 PERCENT EXCEEDS	32		52		81	
50 PERCENT EXCEEDS	7.0		12		5.4	
90 PERCENT EXCEEDS	0.10		0.97		0.09	

- a Median of annual mean discharges, 24 ft<sup>3</sup>/s.
- b No flow for many days in some years.
- c Backwater from ice.
- e Estimated.



## 06479449 LAKE KAMPESKA AT WATER TREATMENT PLANT, AT WATERTOWN, SD

LOCATION.--Lat 44°55'04", long 97°11'17", in NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.27, T.117 N., R.53 W., Codington County, Hydrologic Unit 10170202, along east/southeast side of Lake Kampeska at Water Treatment Plant northwest of Watertown about 3 mi.

DRAINAGE AREA.--28.8 mi<sup>2</sup>. Does not include upstream drainage area of the Big Sioux River, which can contribute inflow to the lake.

PERIOD OF RECORD.--October 2001 to current year.

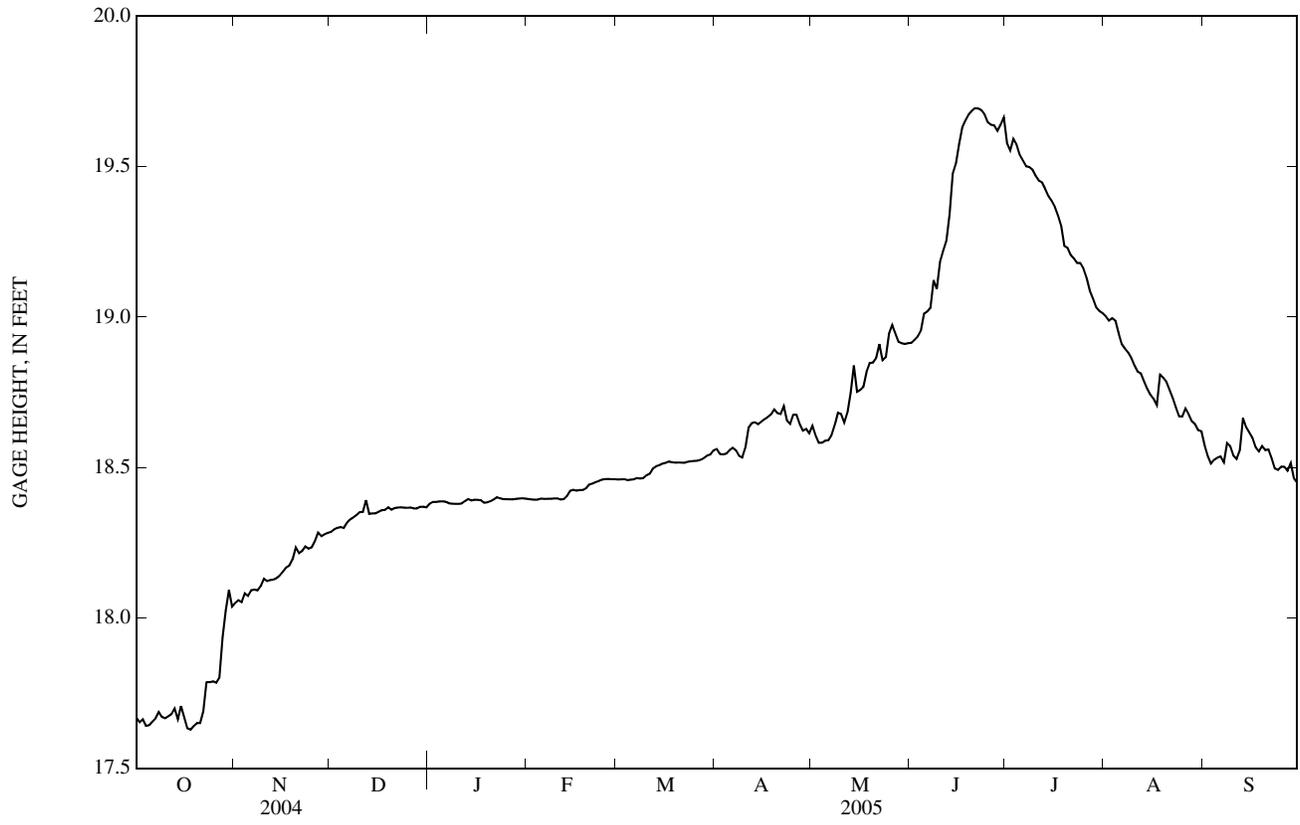
GAGE.--Water-stage recorder. Datum of gage is 1,697.93 ft above NGVD of 1929.

REMARKS.--Published stage records good. Satellite data-collection platform at station. Stage affected by Big Sioux River.

GAGE HEIGHT, FEET  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.67	18.05	18.29	18.38	18.39	18.46	18.56	18.64	18.91	19.58	19.00	18.57
2	17.65	18.06	18.29	18.39	18.39	18.46	18.54	18.61	18.92	19.55	18.99	18.54
3	17.66	18.05	18.30	18.39	18.39	18.46	18.54	18.58	18.94	19.59	19.00	18.51
4	17.64	18.08	18.30	18.39	18.39	18.46	18.55	18.58	18.95	19.57	18.99	18.53
5	17.64	18.07	18.30	18.39	18.40	18.46	18.56	18.59	19.01	19.54	18.95	18.53
6	17.66	18.09	18.32	18.39	18.40	18.46	18.57	18.59	19.02	19.52	18.91	18.54
7	17.67	18.09	18.33	18.38	18.40	18.46	18.56	18.61	19.03	19.50	18.89	18.52
8	17.69	18.09	18.33	18.38	18.40	18.46	18.54	18.64	19.12	19.50	18.88	18.58
9	17.67	18.11	18.34	18.38	18.40	18.46	18.53	18.68	19.09	19.49	18.86	18.57
10	17.67	18.13	18.35	18.38	18.40	18.47	18.57	18.68	19.18	19.47	18.84	18.54
11	17.67	18.12	18.35	18.38	18.39	18.48	18.63	18.65	19.22	19.45	18.82	18.53
12	17.68	18.13	18.39	18.39	18.39	18.50	18.65	18.68	19.25	19.45	18.81	18.56
13	17.70	18.13	18.35	18.39	18.41	18.50	18.65	18.75	19.34	19.43	18.79	18.66
14	17.66	18.13	18.35	18.39	18.42	18.51	18.64	18.84	19.48	19.40	18.76	18.63
15	17.71	18.14	18.35	18.39	18.43	18.51	18.65	18.75	19.51	19.39	18.74	18.62
16	17.67	18.15	18.35	18.39	18.42	18.52	18.66	18.76	19.57	19.37	18.73	18.60
17	17.63	18.17	18.36	18.39	18.42	18.52	18.67	18.77	19.63	19.34	18.71	18.57
18	17.63	18.17	18.36	18.38	18.42	18.52	18.68	18.82	19.65	19.30	18.81	18.55
19	17.64	18.20	18.37	18.38	18.43	18.52	18.69	18.85	19.67	19.24	18.80	18.57
20	17.65	18.23	18.36	18.39	18.44	18.52	18.68	18.85	19.69	19.23	18.79	18.56
21	17.65	18.21	18.36	18.39	18.45	18.52	18.68	18.86	19.69	19.21	18.76	18.56
22	17.69	18.22	18.37	18.40	18.45	18.52	18.70	18.91	19.69	19.20	18.73	18.53
23	17.79	18.24	18.37	18.40	18.45	18.52	18.66	18.86	19.69	19.18	18.70	18.50
24	17.79	18.23	18.37	18.39	18.46	18.52	18.64	18.87	19.67	19.18	18.67	18.49
25	17.79	18.23	18.37	18.39	18.46	18.52	18.68	18.95	19.65	19.16	18.67	18.50
26	17.78	18.25	18.37	18.39	18.46	18.52	18.68	18.97	19.64	19.13	18.70	18.50
27	17.80	18.28	18.36	18.39	18.46	18.53	18.64	18.95	19.64	19.09	18.68	18.49
28	17.93	18.27	18.36	18.40	18.46	18.53	18.62	18.92	19.62	19.06	18.65	18.51
29	18.02	18.28	18.37	18.40	---	18.54	18.63	18.91	19.64	19.03	18.64	18.46
30	18.09	18.28	18.37	18.40	---	18.54	18.61	18.91	19.66	19.02	18.62	18.45
31	18.04	---	18.37	18.40	---	18.56	---	18.91	---	19.01	18.62	---
MEAN	17.73	18.16	18.35	18.39	18.42	18.50	18.62	18.77	19.39	19.33	18.79	18.54
MAX	18.09	18.28	18.39	18.40	18.46	18.56	18.70	18.97	19.69	19.59	19.00	18.66
MIN	17.63	18.05	18.29	18.38	18.39	18.46	18.53	18.58	18.91	19.01	18.62	18.45

06479449 LAKE KAMPESKA AT WATER TREATMENT PLANT, AT WATERTOWN, SD—Continued

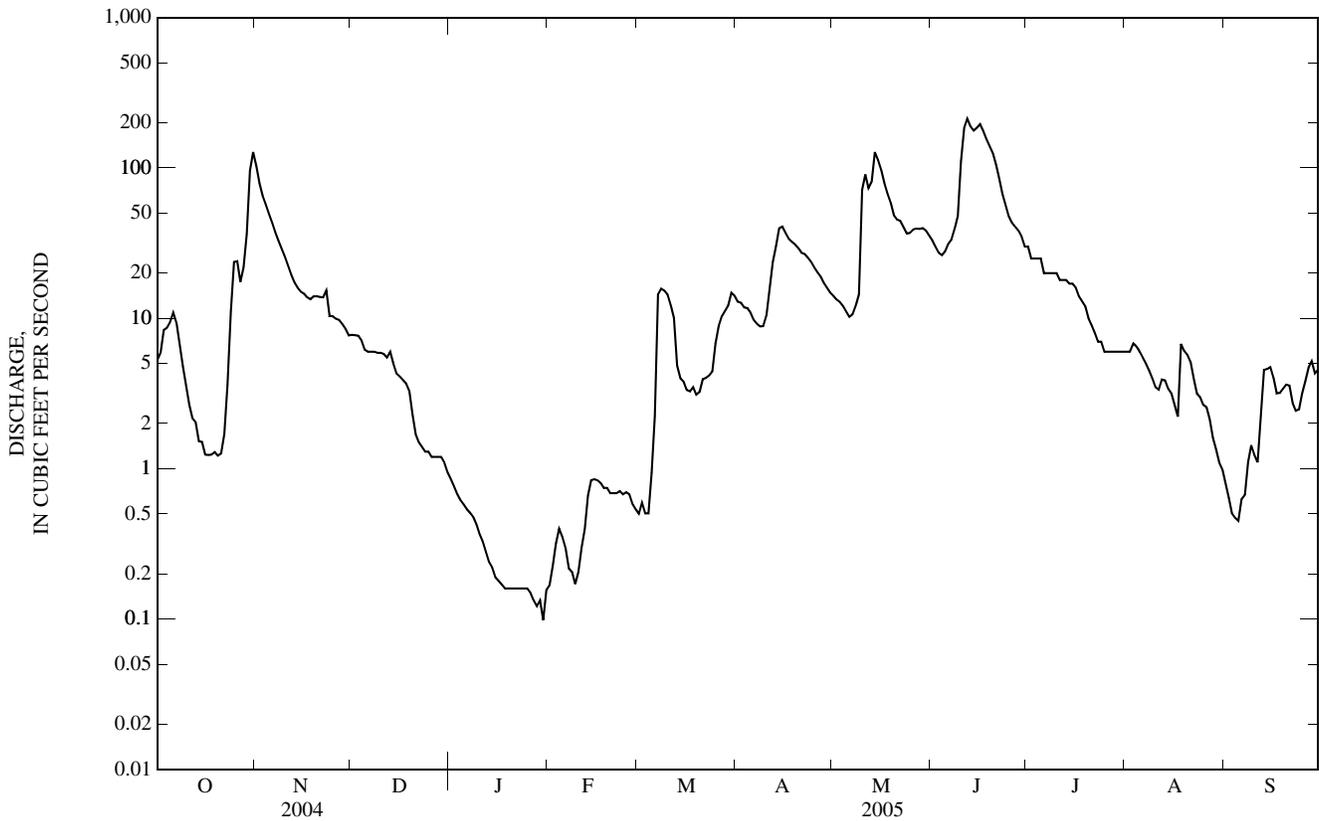




06479500 BIG SIOUX RIVER AT WATERTOWN, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1946-1972,2000-2005	
ANNUAL TOTAL	2,297.26		7,041.87		32.1	
ANNUAL MEAN	6.28		19.3		116	
HIGHEST ANNUAL MEAN					2001	
LOWEST ANNUAL MEAN					1959	
HIGHEST DAILY MEAN	128	Oct 31	213	Jun 12	2,270	Apr 7, 2001
LOWEST DAILY MEAN	0.00	Aug 19	0.10	Jan 30	<sup>a</sup> 0.00	Dec 9, 1945
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 16	0.14	Jan 24	0.00	Dec 9, 1945
MAXIMUM PEAK FLOW			218	Jun 12	<sup>b</sup> 5,800	Apr 6, 1997
MAXIMUM PEAK STAGE			7.01	Jun 12	<sup>c</sup> 12.49	Apr 6, 1997
ANNUAL RUNOFF (AC-FT)	4,560		13,970		23,280	
10 PERCENT EXCEEDS	16		44		82	
50 PERCENT EXCEEDS	1.5		6.0		1.9	
90 PERCENT EXCEEDS	0.02		0.46		0.00	

- a No flow at times in most years.
- b Includes 1997 partial-record year.
- c Backwater from ice.
- e Estimated.



## 06479515 WILLOW CREEK NEAR WATERTOWN, SD

LOCATION.--Lat 44°55'08", long 97°02'43", in NE $\frac{1}{4}$  NE $\frac{1}{4}$  NE $\frac{1}{4}$  sec.27, T.117 N., R.52 W., Codington County, Hydrologic Unit 10170202, on right downstream bank at bridge, about 6.7 river miles upstream from mouth, and about 4.0 mi northeast of Watertown.

DRAINAGE AREA.--109 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1971 to September 1986 daily streamflow. October 1996 to September 1997 crest-stage partial record. October 1999 to current year (seasonal mean daily gage heights and yearly instantaneous peak discharge).

REVISED RECORDS.--WDR SD-00-1: 1972(M,P); 1977-80, 1983(M); 1984(M,P, June 15 daily discharge); 1985(M); 1986(M, P, Mar. 27-31 daily discharge).

GAGE.--Water-stage recorder. Datum of gage is 1,731.29 ft above NGVD of 1929, from GPS survey. Prior to October 1999, 2 mi downstream at datum 1,721.24 ft above NGVD of 1929.

REMARKS.--Published record good. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

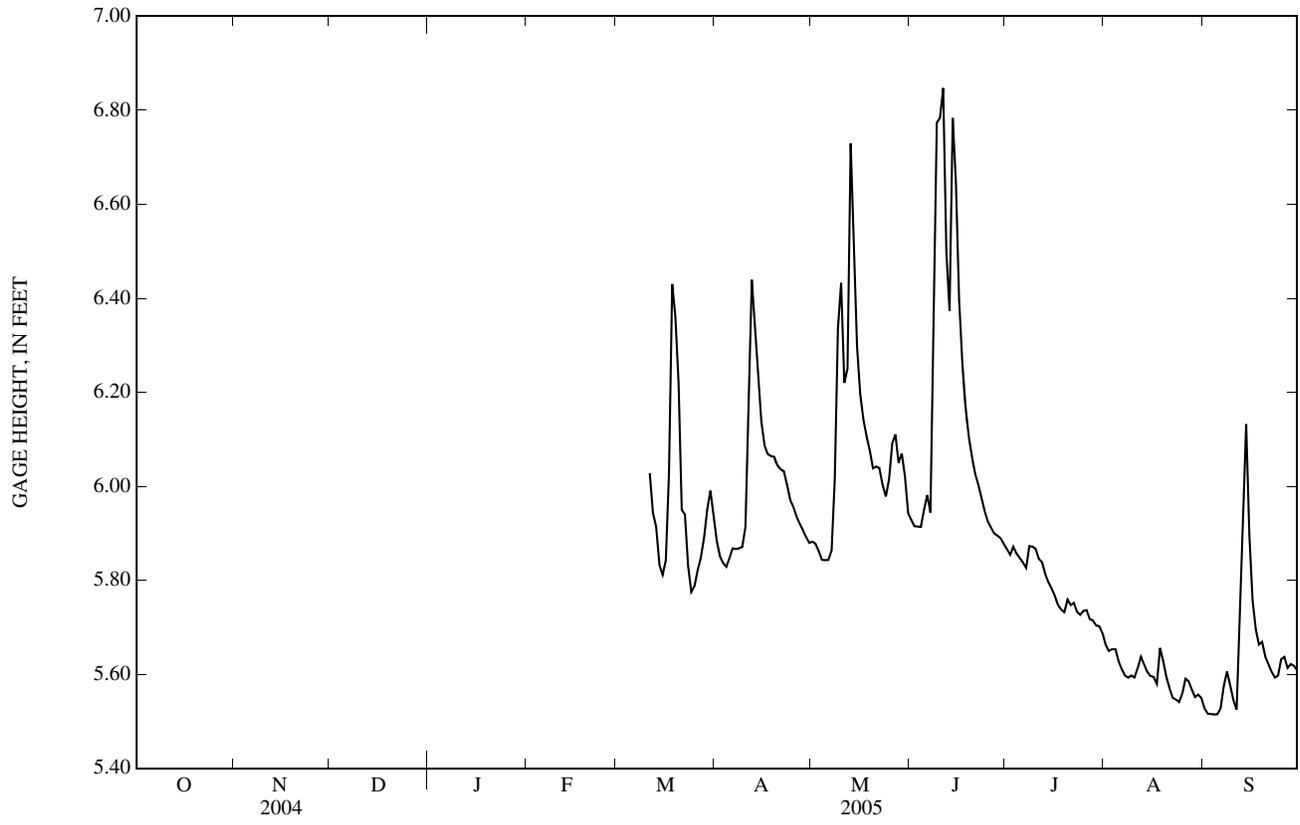
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,650 ft<sup>3</sup>/s, Apr. 5, 1997, gage height, 10.93 ft, from floodmark, at different site and datum; maximum gage height, 12.51 ft, Apr. 7, 2001, backwater from ice.

EXTREMES FOR CURRENT YEAR.--Maximum discharge for water year 2005, 188 ft<sup>3</sup>/s, Oct. 29, gage height, 7.48 ft.

GAGE HEIGHT, FEET  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	5.88	5.88	5.93	5.87	5.66	5.53
2	---	---	---	---	---	---	5.85	5.88	5.91	5.85	5.65	5.52
3	---	---	---	---	---	---	5.84	5.86	5.91	5.87	5.65	5.52
4	---	---	---	---	---	---	5.83	5.84	5.91	5.86	5.65	5.51
5	---	---	---	---	---	---	5.85	5.84	5.95	5.85	5.63	5.51
6	---	---	---	---	---	---	5.87	5.84	5.98	5.84	5.61	5.53
7	---	---	---	---	---	---	5.87	5.86	5.94	5.83	5.60	5.58
8	---	---	---	---	---	---	5.87	6.01	6.38	5.87	5.59	5.61
9	---	---	---	---	---	---	5.87	6.34	6.77	5.87	5.60	5.58
10	---	---	---	---	---	---	5.91	6.43	6.78	5.87	5.59	5.55
11	---	---	---	---	---	6.03	6.11	6.22	6.85	5.85	5.61	5.52
12	---	---	---	---	---	5.94	6.44	6.25	6.50	5.84	5.64	5.75
13	---	---	---	---	---	5.91	6.33	6.73	6.37	5.81	5.62	5.93
14	---	---	---	---	---	5.83	6.24	6.46	6.78	5.80	5.61	6.13
15	---	---	---	---	---	5.81	6.14	6.30	6.65	5.78	5.60	5.90
16	---	---	---	---	---	5.84	6.09	6.20	6.40	5.77	5.59	5.76
17	---	---	---	---	---	6.03	6.07	6.14	6.26	5.75	5.58	5.70
18	---	---	---	---	---	6.43	6.06	6.11	6.17	5.74	5.66	5.66
19	---	---	---	---	---	6.36	6.06	6.08	6.11	5.73	5.63	5.67
20	---	---	---	---	---	6.22	6.04	6.04	6.06	5.76	5.59	5.64
21	---	---	---	---	---	5.95	6.04	6.04	6.03	5.75	5.57	5.62
22	---	---	---	---	---	5.94	6.03	6.04	6.00	5.75	5.55	5.60
23	---	---	---	---	---	5.83	6.00	6.00	5.98	5.73	5.55	5.59
24	---	---	---	---	---	5.78	5.97	5.98	5.95	5.73	5.54	5.60
25	---	---	---	---	---	5.79	5.96	6.01	5.93	5.73	5.56	5.63
26	---	---	---	---	---	5.82	5.94	6.09	5.91	5.74	5.59	5.64
27	---	---	---	---	---	5.85	5.92	6.11	5.90	5.72	5.59	5.61
28	---	---	---	---	---	5.89	5.91	6.05	5.89	5.71	5.57	5.62
29	---	---	---	---	---	5.95	5.89	6.07	5.89	5.70	5.55	5.62
30	---	---	---	---	---	5.99	5.88	6.02	5.88	5.70	5.56	5.61
31	---	---	---	---	---	5.94	---	5.94	---	5.69	5.55	---
MEAN	---	---	---	---	---	---	5.99	6.09	6.17	5.79	5.60	5.64
MAX	---	---	---	---	---	---	6.44	6.73	6.85	5.87	5.66	6.13
MIN	---	---	---	---	---	---	5.83	5.84	5.88	5.69	5.54	5.51

06479515 WILLOW CREEK NEAR WATERTOWN, SD—Continued



## BIG SIOUX RIVER BASIN

## 06479520 BIG SIOUX RIVER BELOW WATERTOWN, SD

LOCATION.--Lat 44°50'52", long 97°02'57", in NE $\frac{1}{4}$  NE $\frac{1}{4}$  NE $\frac{1}{4}$  sec.22, T.116 N., R.52 W., Codington County, Hydrologic Unit 10170202, on left bank near the downstream end of bridge on township gravel road, 3.0 river miles downstream from mouth of Willow Creek, 3.3 river miles upstream from the Codington-Hamlin County line, and 4.1 mi southeast of Watertown.

DRAINAGE AREA.--1,902 mi<sup>2</sup>, of which 1,391 mi<sup>2</sup> usually is noncontributing (documented runoff occurred during 1994-2002 water years for 213 mi<sup>2</sup> of the usually noncontributing area).

PERIOD OF RECORD.--October 1994 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,694.29 ft above NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

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	76	119	e26	e7.0	e6.9	e6.6	23	24	55	81	15	9.3
2	74	99	e23	e6.4	e7.4	e6.8	21	23	52	72	15	9.0
3	79	87	e22	e6.2	e8.2	e7.6	20	21	53	80	14	8.9
4	49	76	e22	e5.8	e8.8	e25	21	20	54	71	13	8.9
5	35	72	e22	e5.4	e7.7	e40	21	20	72	64	e12	8.9
6	32	70	e21	e5.3	e5.7	e45	21	19	73	63	e9.9	11
7	29	62	e21	e5.2	e5.4	e37	20	20	71	59	e11	12
8	24	57	e20	e5.3	e5.5	e32	20	48	136	69	e10	19
9	21	53	e20	e5.4	e5.9	e31	21	85	152	64	e9.5	12
10	19	49	e20	e5.3	e6.6	e30	27	77	203	54	9.3	10
11	19	43	e19	e5.5	e7.8	e30	55	110	254	51	11	10
12	18	40	e18	e5.6	e8.0	e30	82	121	250	46	11	34
13	16	37	e18	e4.9	e7.7	e29	84	133	238	40	10	78
14	15	36	e17	e4.3	e7.3	e29	82	146	242	37	9.9	26
15	17	35	e16	e4.2	e7.0	e29	75	136	259	34	10	24
16	15	35	e16	e4.3	e6.9	e25	72	117	229	31	11	18
17	15	34	e15	e4.4	e6.9	e23	69	102	213	28	10	16
18	15	33	e15	e5.6	e6.4	e20	70	92	194	24	35	15
19	15	36	e14	e6.7	e6.4	e15	66	84	178	23	13	18
20	14	36	e12	e6.7	e6.4	13	57	69	169	25	12	15
21	14	35	e9.9	e6.0	e6.3	11	55	74	158	22	11	15
22	14	37	e8.6	e6.2	e6.3	12	51	67	146	21	11	14
23	50	33	e8.3	e5.1	e6.3	12	48	56	136	21	11	14
24	21	32	e8.2	e6.4	e5.9	14	45	63	123	19	11	14
25	24	28	e8.2	e7.0	e5.8	14	43	67	112	19	11	20
26	29	33	e8.7	e6.6	e5.9	16	35	70	107	21	13	17
27	26	30	e8.8	e6.5	e5.9	18	35	65	102	18	11	15
28	121	29	e8.8	e6.3	e5.9	19	32	61	89	18	10	17
29	153	28	e9.5	e6.4	---	22	28	57	85	16	10	17
30	152	e27	e10	e6.3	---	25	26	61	94	15	9.8	16
31	132	---	e8.1	e6.4	---	25	---	54	---	15	9.9	---
TOTAL	1,333	1,421	474.1	178.7	187.2	692.0	1,325	2,162	4,299	1,221	370.3	522.0
MEAN	43.0	47.4	15.3	5.76	6.69	22.3	44.2	69.7	143	39.4	11.9	17.4
MAX	153	119	26	7.0	8.8	45	84	146	259	81	35	78
MIN	14	27	8.1	4.2	5.4	6.6	20	19	52	15	9.3	8.9
AC-FT	2,640	2,820	940	354	371	1,370	2,630	4,290	8,530	2,420	734	1,040

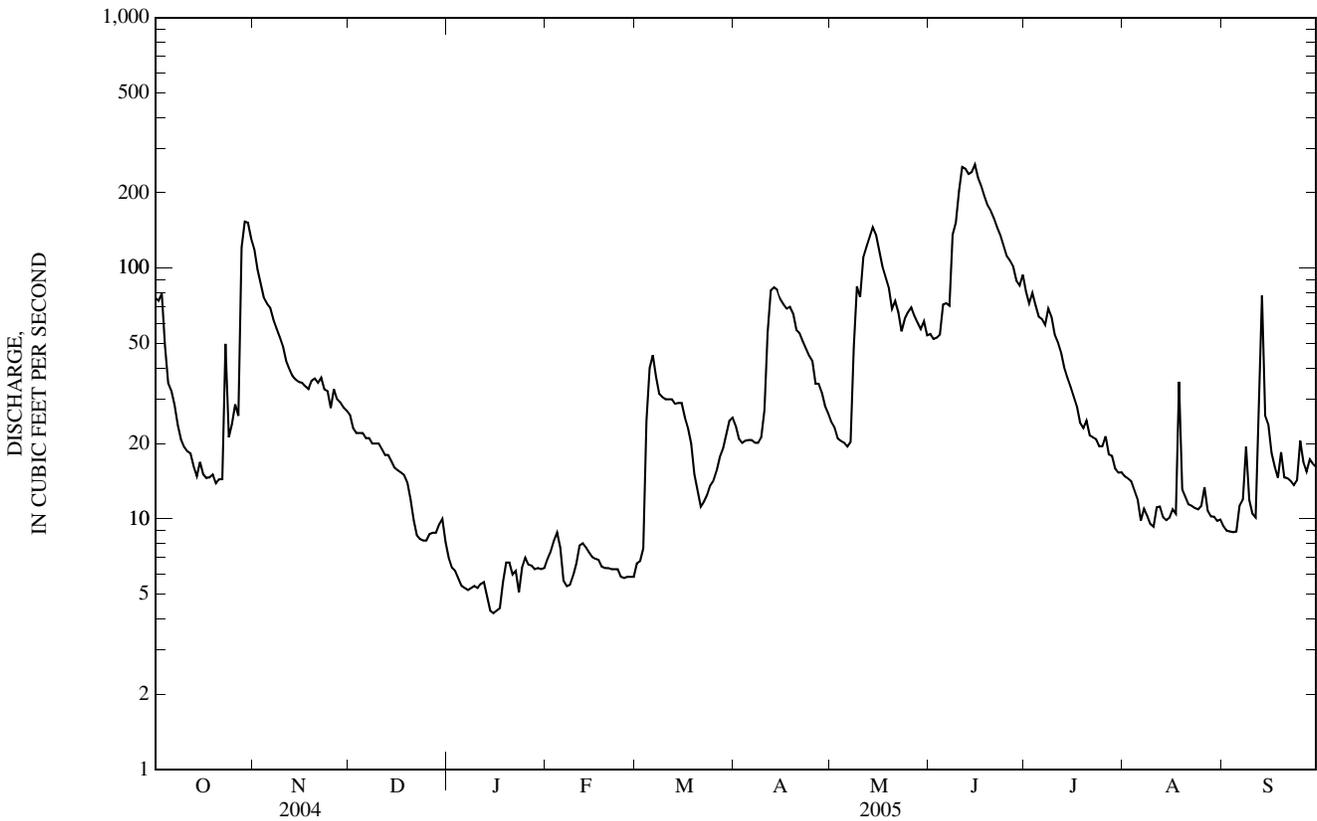
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2005, BY WATER YEAR (WY)

MEAN	60.8	67.7	42.4	24.0	52.9	120	514	295	165	78.8	48.1	36.3
MAX	366	356	183	88.7	210	385	2,309	814	469	321	234	237
(WY)	(1996)	(1996)	(1996)	(1996)	(1998)	(1996)	(1997)	(1997)	(1995)	(1995)	(1995)	(1995)
MIN	5.07	6.49	4.76	2.51	2.12	6.06	11.6	14.9	20.9	11.0	6.47	4.53
(WY)	(2001)	(2004)	(2004)	(2004)	(2001)	(2001)	(2004)	(2004)	(2000)	(2002)	(2003)	(2000)

06479520 BIG SIOUX RIVER BELOW WATERTOWN, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1995 - 2005	
ANNUAL TOTAL	7,696.6		14,185.3		<sup>a</sup> 125	
ANNUAL MEAN	21.0		38.9		311	
HIGHEST ANNUAL MEAN					12.2	
LOWEST ANNUAL MEAN					1997	
HIGHEST DAILY MEAN	153	Oct 29	259	Jun 15	4,350	Apr 11, 1997
LOWEST DAILY MEAN	1.6	Jan 29	4.2	Jan 15	1.0	Feb 10, 2001
ANNUAL SEVEN-DAY MINIMUM	1.7	Jan 25	4.7	Jan 11	1.6	Feb 10, 2001
MAXIMUM PEAK FLOW			277	Jun 15	<sup>b</sup> 6,700	Apr 11, 1997
MAXIMUM PEAK STAGE			7.14	Jun 15	<sup>c</sup> 13.13	Apr 2, 1997
ANNUAL RUNOFF (AC-FT)	15,270		28,140		90,750	
10 PERCENT EXCEEDS	44		88		338	
50 PERCENT EXCEEDS	14		21		28	
90 PERCENT EXCEEDS	2.4		6.4		5.5	

- a Median of annual mean discharges, 93 ft<sup>3</sup>/s.
- b Gage height, 12.99 ft.
- c Backwater from ice.
- e Estimated.



## 06479525 BIG SIOUX RIVER NEAR CASTLEWOOD, SD

LOCATION.--Lat 44°43'54", long 97°02'39", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.26, T.115 N., R.52 W., Hamlin County, Hydrologic Unit 10170202, on right bank at upstream side of bridge on State Highway 22, 3.2 mi east of intersection of U.S. Highway 81 and State Highway 22, and 1.0 mi northwest of Castlewood.

DRAINAGE AREA.--1,997 mi<sup>2</sup>, of which 1,427 mi<sup>2</sup> usually is noncontributing (documented runoff occurred during 1994-2002 water years for 213 mi<sup>2</sup> of the usually noncontributing area).

PERIOD OF RECORD.--October 1976 to current year.

REVISED RECORDS.--WDR SD-84-1: Drainage area. WDR SD-94-1 only: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,667.52 ft above NGVD of 1929 (South Dakota Department of Transportation bench mark).

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

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	48	162	e32	e7.8	e7.0	e6.5	39	38	61	80	19	8.4
2	78	136	e30	e7.1	e7.5	e6.5	36	36	57	68	17	7.7
3	89	114	e28	e6.7	e8.0	e7.0	35	34	54	66	18	7.6
4	63	101	e28	e6.2	e9.0	e10	35	33	54	69	16	7.7
5	48	92	e27	e5.9	e8.0	e18	35	32	56	60	15	7.9
6	42	87	e27	e5.8	e6.0	e40	35	32	81	56	12	8.7
7	39	80	e26	e5.7	e5.4	e35	34	32	67	54	13	11
8	35	74	e25	e5.7	e5.5	e30	34	55	119	54	12	20
9	30	69	e24	e5.7	e5.5	e29	35	91	185	67	10	25
10	27	64	e24	e5.7	e6.5	e28	37	86	249	59	9.9	12
11	26	60	e23	e5.8	e7.5	e27	61	126	316	54	10	10
12	25	56	e22	e5.9	e8.0	e27	74	141	330	53	14	22
13	23	53	e21	e5.2	e7.5	e26	100	176	315	52	12	130
14	21	51	e20	e4.6	e7.8	e26	92	190	301	54	11	80
15	22	50	e19	e4.5	e7.0	e25	90	188	330	46	10	70
16	21	49	e19	e4.5	e7.0	e23	82	168	305	43	11	54
17	20	47	e18	e4.7	e7.0	e21	76	146	282	41	11	39
18	19	46	e17	e6.0	e6.5	e19	74	126	252	40	39	30
19	20	46	e17	e6.9	e6.5	e17	75	118	226	38	29	30
20	19	49	e15	e6.9	e6.5	e15	68	100	208	36	16	25
21	20	47	e12	e6.2	e6.5	e14	64	92	192	36	14	20
22	20	48	e9.9	e6.3	e6.5	e14	63	89	172	31	12	18
23	34	46	e9.3	e5.0	e6.5	e16	58	79	148	32	11	16
24	40	44	e9.0	e6.1	e6.0	e20	55	74	130	32	11	16
25	28	e41	e9.1	e6.6	e6.0	e23	55	79	111	29	11	19
26	34	41	e9.1	e6.5	e6.0	e25	49	93	100	34	15	28
27	35	e38	e9.4	e6.4	e6.0	e28	46	79	93	30	14	19
28	80	e36	e9.7	e6.4	e6.0	e33	47	75	86	25	10	19
29	193	e34	e10	e6.5	---	37	42	69	79	22	9.6	20
30	207	e33	e11	e6.5	---	40	40	68	73	20	9.5	18
31	176	---	e9.2	e6.5	---	40	---	65	---	20	8.8	---
TOTAL	1,582	1,894	569.7	186.3	189.2	726.0	1,666	2,810	5,032	1,401	430.8	799.0
MEAN	51.0	63.1	18.4	6.01	6.76	23.4	55.5	90.6	168	45.2	13.9	26.6
MAX	207	162	32	7.8	9.0	40	100	190	330	80	39	130
MIN	19	33	9.0	4.5	5.4	6.5	34	32	54	20	8.8	7.6
AC-FT	3,140	3,760	1,130	370	375	1,440	3,300	5,570	9,980	2,780	854	1,580

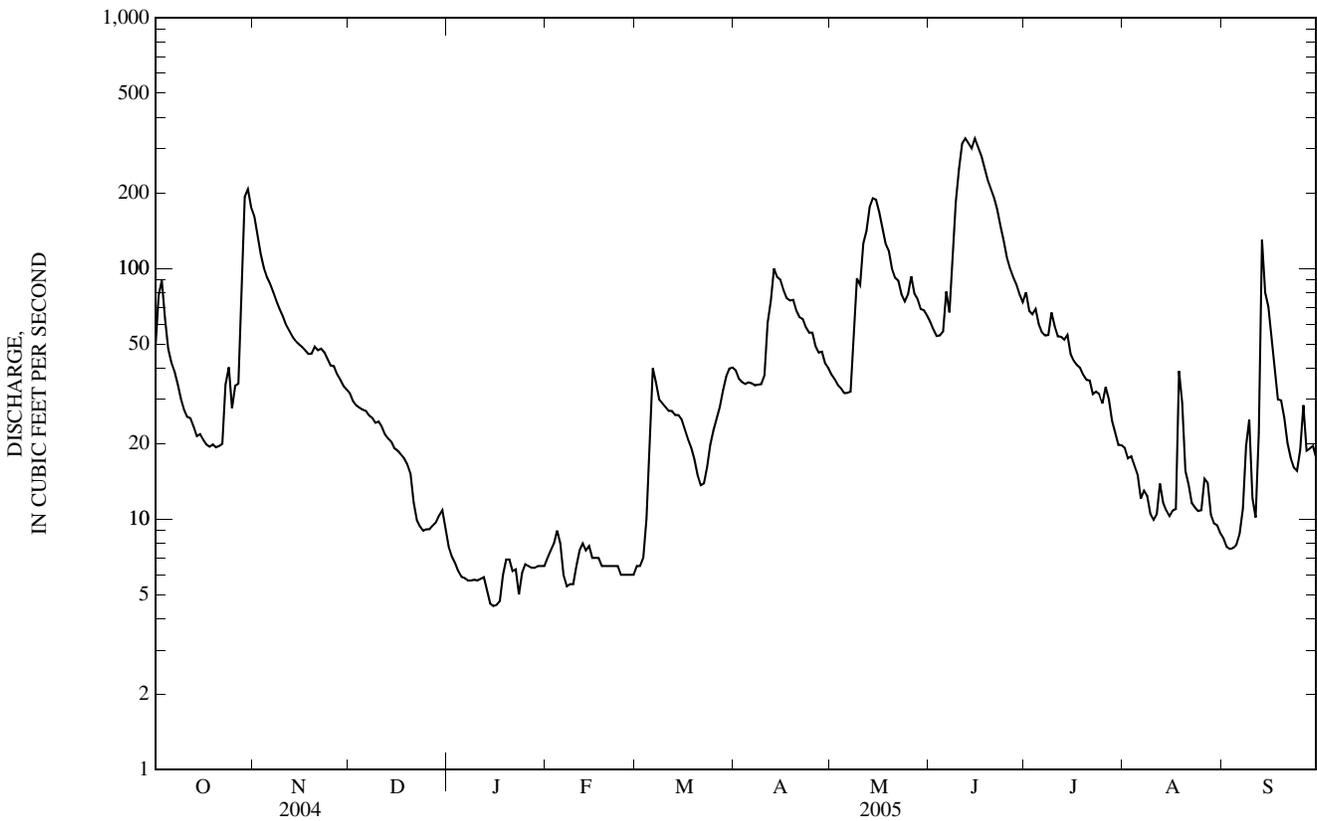
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2005, BY WATER YEAR (WY)

	43.7	43.8	27.4	15.3	31.0	133	354	192	135	87.1	61.2	42.4
MEAN	43.7	43.8	27.4	15.3	31.0	133	354	192	135	87.1	61.2	42.4
MAX	424	414	210	96.9	204	562	2,544	834	508	419	375	217
(WY)	(1996)	(1996)	(1996)	(1996)	(1998)	(1994)	(1997)	(1995)	(1995)	(1993)	(1993)	(1995)
MIN	1.06	0.71	0.04	0.00	0.00	0.04	7.60	3.28	3.11	3.17	2.33	2.94
(WY)	(1977)	(1977)	(1977)	(1977)	(1977)	(2001)	(1990)	(1977)	(1988)	(1988)	(1983)	(1990)

06479525 BIG SIOUX RIVER NEAR CASTLEWOOD, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1977 - 2005	
ANNUAL TOTAL	10,476.8		17,286.0		<sup>a</sup> 97.2	
ANNUAL MEAN	28.6		47.4		333	
HIGHEST ANNUAL MEAN					8.15 1990	
LOWEST ANNUAL MEAN					4,090 Apr 11, 1997	
HIGHEST DAILY MEAN	207	Oct 30	330	Jun 12	b 0.00 Dec 30, 1976	
LOWEST DAILY MEAN	2.2	Jan 24	4.5	Jan 15	c 0.00 Dec 30, 1976	
ANNUAL SEVEN-DAY MINIMUM	2.2	Jan 24	5.0	Jan 11	d 13.19 Apr 7, 1997	
MAXIMUM PEAK FLOW			346	Jun 11	70,400	
MAXIMUM PEAK STAGE			7.20	Jun 11	243	
ANNUAL RUNOFF (AC-FT)	20,780		34,290		22	
10 PERCENT EXCEEDS	73		100		2.1	
50 PERCENT EXCEEDS	17		29			
90 PERCENT EXCEEDS	3.1		6.5			

- a Median of annual mean discharges, 53 ft<sup>3</sup>/s.
- b No flow for many days in some years.
- c Gage height, 12.87 ft, backwater from ice.
- d Backwater from ice.
- e Estimated.



## 06479770 BIG SIOUX RIVER NEAR BRUCE, SD

LOCATION.--Lat 44°28'04", long 96°53'14", in SE $\frac{1}{4}$  NE $\frac{1}{4}$  NE $\frac{1}{4}$  sec.36, T.112 N., R.51 W., Brookings County, Hydrologic Unit 10170202, on right bank at downstream end of county highway bridge, 7.4 mi downstream from confluence with Peg Munky Run, 4.9 mi east-northeast of Oakwood Lakes State Park, and 1.8 mi north of Bruce.

DRAINAGE AREA.--To be determined.

PERIOD OF RECORD.--October 2000 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,620 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

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	99	384	e80	e19	e12	e13	67	88	127	115	32	25
2	99	325	e76	e18	e13	e13	64	84	120	114	31	23
3	155	279	e73	e16	e14	e14	63	80	117	114	33	21
4	162	240	e67	e16	e15	e19	62	77	117	104	36	20
5	144	213	e63	e16	e15	e27	61	75	119	99	29	19
6	117	194	e59	e14	e13	e41	61	75	119	93	28	27
7	101	177	e57	e13	e10	e50	60	73	138	89	26	29
8	93	162	e53	e12	e9.0	e55	59	81	151	97	25	40
9	82	154	e50	e11	e9.0	e69	61	111	156	94	25	42
10	74	144	e49	e10	e10	e91	70	169	268	92	24	44
11	70	133	e48	e9.7	e11	e74	109	200	361	91	25	40
12	66	126	e48	e9.3	e12	e64	189	218	504	84	26	43
13	64	120	e49	e8.4	e12	e56	232	283	552	81	24	95
14	e60	113	e50	e7.1	e14	e62	238	374	517	78	25	241
15	58	110	e50	e6.4	e14	e53	213	347	594	73	25	219
16	54	109	e50	e6.2	e15	e43	194	319	538	68	25	137
17	52	106	e50	e6.5	e14	e39	180	280	469	64	25	106
18	50	105	e48	e7.9	e13	e52	172	255	410	62	42	85
19	50	106	e46	e10	e13	e41	165	229	361	57	38	117
20	49	106	e42	e13	e13	e46	157	206	319	61	49	113
21	48	107	e41	e13	e13	e49	147	190	289	56	35	88
22	49	113	e36	e11	e13	e53	141	180	264	51	31	70
23	52	110	e33	e10	e13	55	133	177	238	48	29	62
24	51	106	e33	e12	e13	56	126	163	210	45	27	58
25	65	e95	e29	e14	e13	53	121	157	185	46	27	65
26	56	e86	e26	e13	e14	55	115	163	168	44	30	75
27	55	e79	e25	e12	e13	64	107	169	152	44	32	81
28	82	e78	e23	e12	e13	68	101	165	140	43	31	76
29	389	e73	e26	e12	---	68	97	154	134	39	31	68
30	774	e78	e25	e12	---	70	92	142	127	36	28	65
31	500	---	e22	e12	---	69	---	131	---	34	27	---
TOTAL	3,820	4,331	1,427	362.5	356.0	1,582	3,657	5,415	7,964	2,216	921	2,194
MEAN	123	144	46.0	11.7	12.7	51.0	122	175	265	71.5	29.7	73.1
MAX	774	384	80	19	15	91	238	374	594	115	49	241
MIN	48	73	22	6.2	9.0	13	59	73	117	34	24	19
AC-FT	7,580	8,590	2,830	719	706	3,140	7,250	10,740	15,800	4,400	1,830	4,350

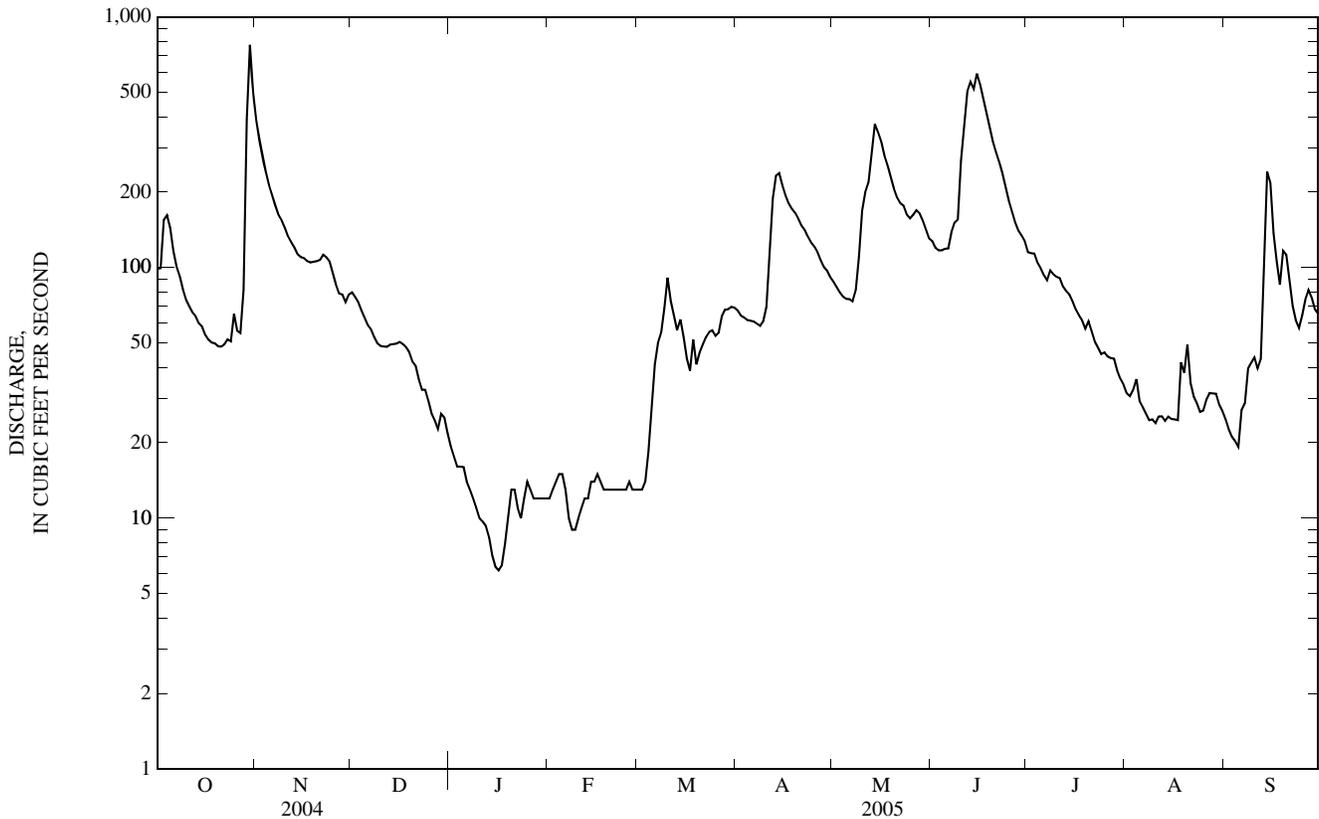
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2005, BY WATER YEAR (WY)

MEAN	67.4	63.3	40.7	17.6	25.6	85.1	494	386	329	188	114	87.6
MAX	160	144	128	59.4	107	151	1,986	1,477	1,112	694	451	256
(WY)	(2002)	(2005)	(2002)	(2002)	(2002)	(2002)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)
MIN	10.3	11.1	3.76	0.39	0.18	4.56	27.5	9.13	32.2	31.3	14.0	9.06
(WY)	(2004)	(2004)	(2001)	(2001)	(2001)	(2001)	(2004)	(2004)	(2003)	(2003)	(2004)	(2003)

06479770 BIG SIOUX RIVER NEAR BRUCE, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2001 - 2005	
ANNUAL TOTAL	23,655.1		34,245.5		158	
ANNUAL MEAN	64.6		93.8		502	
HIGHEST ANNUAL MEAN					2001	
LOWEST ANNUAL MEAN					2003	
HIGHEST DAILY MEAN	774	Oct 30	774	Oct 30	3,540	Apr 9, 2001
LOWEST DAILY MEAN	3.2	Feb 3	6.2	Jan 16	0.10	Feb 10, 2001
ANNUAL SEVEN-DAY MINIMUM	3.5	Feb 1	7.4	Jan 12	0.14	Feb 8, 2001
MAXIMUM PEAK FLOW			867	Oct 30	3,810	Apr 9, 2001
MAXIMUM PEAK STAGE			6.40	Oct 30	10.60	Apr 9, 2001
ANNUAL RUNOFF (AC-FT)	46,920		67,930		114,600	
10 PERCENT EXCEEDS	164		208		322	
50 PERCENT EXCEEDS	36		62		39	
90 PERCENT EXCEEDS	5.1		13		5.0	

e Estimated.



## 06480000 BIG SIOUX RIVER NEAR BROOKINGS, SD

LOCATION.--Lat 44°10'48", long 96°44'55", in NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.8, T.108 N., R.49 W., Moody County, Hydrologic Unit 10170203, on right bank 3 ft downstream from highway bridge, 2.2 mi downstream from Medary Creek, and 9.5 mi southeast of Brookings.

DRAINAGE AREA.--3,898 mi<sup>2</sup>, of which 1,479 mi<sup>2</sup> usually is noncontributing (documented runoff occurred during 1994-2002 water years for 213 mi<sup>2</sup> of the usually noncontributing area).

PERIOD OF RECORD.--August 1953 to current year.

REVISED RECORDS.--WDR SD-84-1: Drainage area. WDR SD-94-1 only: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,551.91 ft above NGVD of 1929. Prior to May 30, 1959, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

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	215	541	e120	e37	e23	e30	125	150	217	278	71	40
2	194	462	e130	e32	e25	e32	126	141	209	256	67	38
3	183	388	e125	e28	e28	e35	119	135	207	243	64	36
4	183	330	e120	e27	e32	e42	118	131	221	233	65	35
5	204	292	e120	e25	e28	e49	112	130	239	207	65	35
6	202	263	e115	e24	e22	62	108	121	246	192	64	46
7	184	241	e107	e23	e20	73	106	136	259	181	61	58
8	161	228	e98	e21	e22	90	113	151	281	185	57	115
9	146	218	e90	e20	e26	109	121	146	300	213	53	160
10	139	212	e85	e20	e30	131	117	158	357	192	46	180
11	130	191	e80	e20	e35	135	208	206	479	169	45	190
12	122	179	e82	e20	e35	121	326	276	650	160	46	183
13	114	172	e90	e19	e34	110	421	334	780	156	46	192
14	108	166	e95	e18	e32	112	501	381	885	184	43	212
15	109	163	e91	e17	e29	102	503	457	952	206	41	274
16	104	162	e89	e16	e26	97	460	482	984	184	42	331
17	101	154	e87	e18	e35	87	428	471	995	153	43	281
18	99	149	e85	e20	e40	103	406	445	928	124	72	212
19	100	e150	e80	e23	e38	88	368	401	814	113	98	244
20	96	e150	e75	e25	e36	88	338	372	692	115	74	307
21	102	e150	e70	e25	e35	96	317	360	671	105	67	337
22	98	e148	e62	e21	e33	94	290	328	617	97	64	320
23	98	e147	e58	e23	e30	95	267	296	568	91	55	276
24	98	e143	e52	e25	e30	100	252	284	546	88	51	246
25	95	e140	e50	e25	e30	95	233	280	517	89	49	259
26	97	e132	e48	e23	e35	98	214	273	484	100	55	297
27	99	e126	e46	e23	e32	101	199	266	452	90	57	313
28	100	e121	e43	e21	e32	115	186	265	396	89	50	307
29	117	e117	e41	e21	---	128	172	268	369	84	48	295
30	192	e113	e50	e21	---	128	160	224	327	82	48	278
31	445	---	e39	e21	---	127	---	219	---	76	44	---
TOTAL	4,435	6,148	2,523	702	853	2,873	7,414	8,287	15,642	4,735	1,751	6,097
MEAN	143	205	81.4	22.6	30.5	92.7	247	267	521	153	56.5	203
MAX	445	541	130	37	40	135	503	482	995	278	98	337
MIN	95	113	39	16	20	30	106	121	207	76	41	35
AC-FT	8,800	12,190	5,000	1,390	1,690	5,700	14,710	16,440	31,030	9,390	3,470	12,090

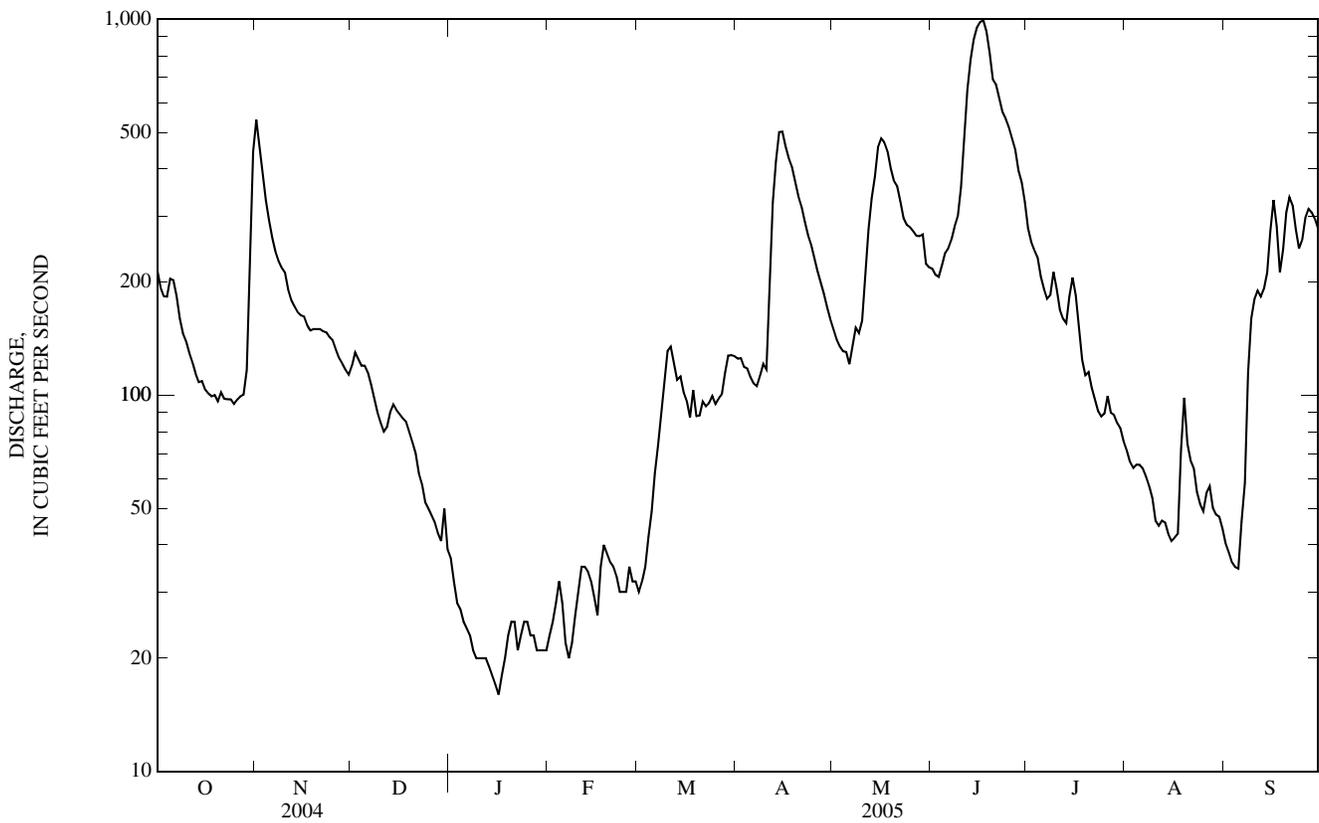
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2005, BY WATER YEAR (WY)

MEAN	141	119	71.6	37.9	69.2	476	924	549	579	333	195	155
MAX	1,424	1,007	563	284	606	2,037	5,717	2,804	3,432	3,269	1,553	1,693
(WY)	(1996)	(1996)	(1996)	(1996)	(1998)	(1985)	(1997)	(1986)	(1984)	(1993)	(1993)	(1986)
MIN	0.04	0.09	0.09	0.00	0.00	1.45	27.3	21.4	13.5	0.94	0.02	0.01
(WY)	(1977)	(1977)	(1977)	(1977)	(1956)	(1975)	(1959)	(1959)	(1976)	(1976)	(1976)	(1976)

06480000 BIG SIOUX RIVER NEAR BROOKINGS, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1954 - 2005	
ANNUAL TOTAL	41,060		61,460		<sup>a</sup> 304	
ANNUAL MEAN	112		168		1,174	
HIGHEST ANNUAL MEAN					15.5	
LOWEST ANNUAL MEAN					31,200	
HIGHEST DAILY MEAN	541	Nov 1	995	Jun 17	0.00	Apr 9, 1969
LOWEST DAILY MEAN	10	Jan 28	16	Jan 16	0.00	Jan 18, 1956
ANNUAL SEVEN-DAY MINIMUM	10	Jan 26	18	Jan 11	0.00	Jan 18, 1956
MAXIMUM PEAK FLOW			1,020	Jun 17	33,900	Apr 9, 1969
MAXIMUM PEAK STAGE			6.15	Jun 17	14.77	Apr 9, 1969
ANNUAL RUNOFF (AC-FT)	81,440		121,900		220,600	
10 PERCENT EXCEEDS	233		368		788	
50 PERCENT EXCEEDS	95		115		69	
90 PERCENT EXCEEDS	16		28		5.0	

a Median of annual mean discharges, 170 ft<sup>3</sup>/s.  
 b No flow at times in 1956, 1976, 1977, and 1982.  
 c Estimated.



## 06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD

LOCATION.--Lat 43°47'25", long 96°44'42", in NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.29, T.104 N., R.49 W., Minnehaha County, Hydrologic Unit 10170203, on left bank at downstream side of highway bridge, 0.2 mi downstream from confluence of divided channels, and 3.0 mi southwest of Dell Rapids.

DRAINAGE AREA.--4,483 mi<sup>2</sup>, of which 1,479 mi<sup>2</sup> usually is noncontributing (documented runoff occurred during 1994-2002 water years for 213 mi<sup>2</sup> of the usually noncontributing area).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1948 to current year.

REVISED RECORDS.--WDR SD-84-1: Drainage area. WDR SD-94-1 only: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,455.99 ft above NGVD of 1929. Prior to Nov. 11, 1949, nonrecording gage and Nov. 11, 1949, to Sept. 30, 1951, water-stage recorder, at present site at datum 0.04 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

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	353	229	e140	e75	e40	e76	256	248	335	478	195	69
2	312	412	e144	e71	e45	e82	234	230	324	439	171	69
3	267	471	e139	e66	e45	e85	215	220	338	397	153	69
4	240	438	e180	e61	e50	e91	201	214	378	368	255	63
5	230	401	e185	e57	e55	e101	186	205	815	350	266	61
6	226	367	187	e53	e55	e105	175	202	963	332	191	77
7	248	335	194	e49	e50	e119	170	208	669	307	154	178
8	246	310	197	e47	e45	e115	169	215	588	302	133	569
9	228	291	180	e45	e45	123	165	227	606	315	119	573
10	210	272	188	e43	e50	141	173	244	600	313	108	389
11	192	260	e175	e41	e55	163	338	243	752	311	128	313
12	182	249	e135	e38	e55	e130	482	297	819	341	115	290
13	167	234	e99	e34	e90	e90	516	400	895	370	98	380
14	161	223	e110	e29	e130	e110	561	467	986	325	90	439
15	150	217	e140	e27	e105	e130	599	502	1,130	296	87	376
16	144	213	e135	e26	e100	e140	659	522	1,170	284	89	368
17	144	207	e122	e28	e90	e140	632	559	1,170	280	86	391
18	138	205	e115	e29	e90	e90	586	567	1,150	255	91	396
19	133	208	e110	e31	e90	e100	550	561	1,090	232	95	363
20	130	207	e99	e32	e95	e130	514	534	988	232	112	360
21	132	205	e94	e34	e95	e160	476	498	1,210	218	138	415
22	130	210	e89	e31	e95	151	444	457	1,570	197	126	439
23	137	204	e84	e28	e95	135	415	438	1,140	179	107	431
24	137	207	e81	e31	e90	139	386	405	874	166	101	410
25	129	205	e76	e36	e85	150	363	388	789	170	94	1,100
26	124	194	e72	e43	e80	177	342	404	764	606	89	1,330
27	125	195	e74	e35	e80	242	319	403	691	681	87	816
28	126	193	e75	e35	e70	267	301	393	622	465	82	666
29	133	e180	e77	e35	---	253	284	370	578	342	81	596
30	126	e170	e81	e35	---	264	267	356	527	266	78	532
31	138	---	e78	e40	---	283	---	342	---	220	72	---
TOTAL	5,538	7,712	3,855	1,265	2,070	4,482	10,978	11,319	24,531	10,037	3,791	12,528
MEAN	179	257	124	40.8	73.9	145	366	365	818	324	122	418
MAX	353	471	197	75	130	283	659	567	1,570	681	266	1,330
MIN	124	170	72	26	40	76	165	202	324	166	72	61
AC-FT	10,980	15,300	7,650	2,510	4,110	8,890	21,770	22,450	48,660	19,910	7,520	24,850

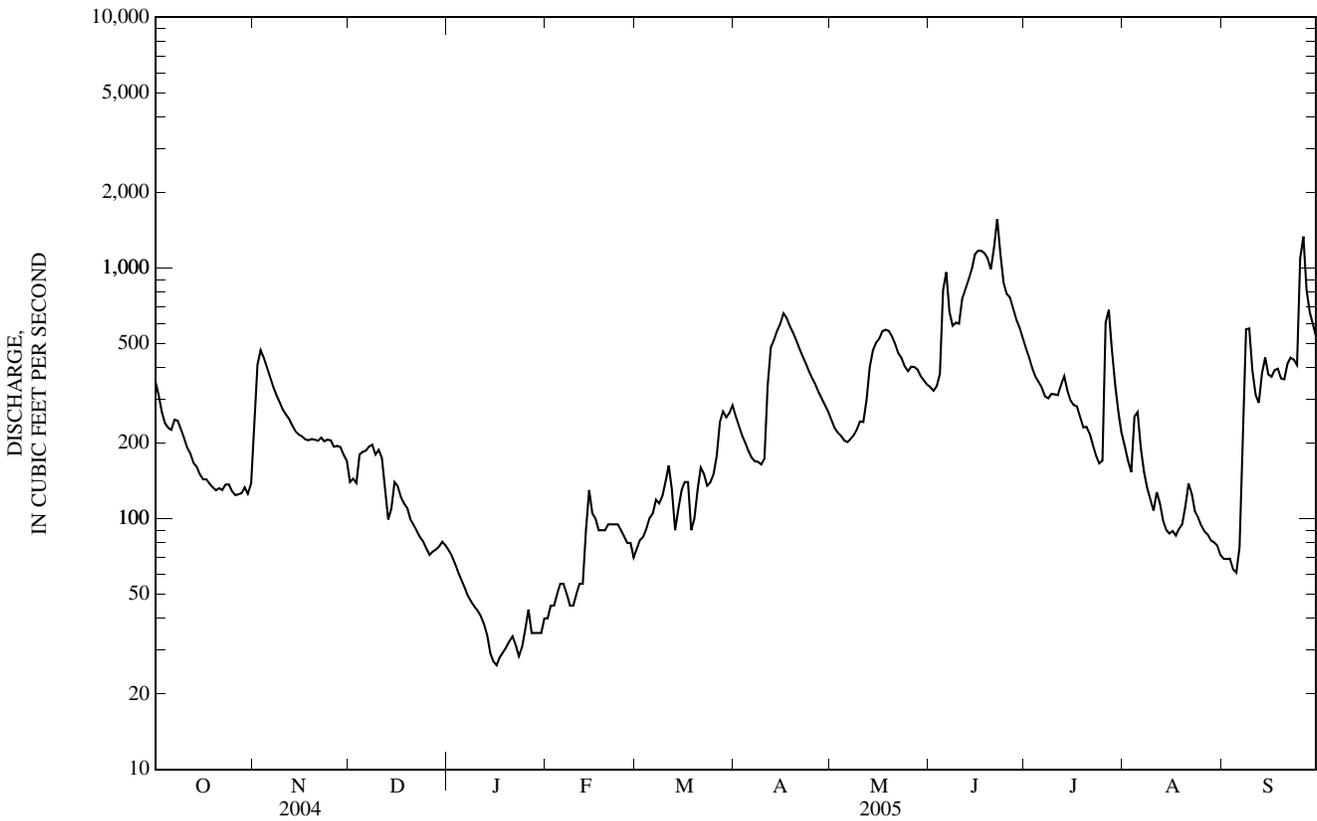
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2005, BY WATER YEAR (WY)

MEAN	177	158	101	49.7	93.9	668	1,415	723	737	468	261	207
MAX	1,736	1,365	665	294	586	2,813	8,439	3,699	5,392	5,362	1,914	2,541
(WY)	(1996)	(1996)	(1996)	(1996)	(1998)	(1985)	(1997)	(1986)	(1984)	(1993)	(1993)	(1986)
MIN	1.60	3.43	2.30	0.71	1.30	10.6	45.3	42.6	19.4	2.77	0.17	0.00
(WY)	(1977)	(1977)	(1977)	(1977)	(1977)	(1975)	(1959)	(1981)	(1976)	(1976)	(1976)	(1976)

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1949 - 2005	
ANNUAL TOTAL	71,549		98,106			
ANNUAL MEAN	195		269		<sup>a</sup> 422	
HIGHEST ANNUAL MEAN					1,654	1993
LOWEST ANNUAL MEAN					23.1	1959
HIGHEST DAILY MEAN	1,620	May 31	1,570	Jun 22	35,000	Apr 10, 1969
LOWEST DAILY MEAN	16	Feb 2	26	Jan 16	<sup>b</sup> 0.00	Aug 25, 1976
ANNUAL SEVEN-DAY MINIMUM	16	Jan 31	29	Jan 14	0.00	Aug 25, 1976
MAXIMUM PEAK FLOW			1,800	Sep 25	41,300	Apr 9, 1969
MAXIMUM PEAK STAGE			8.11	Sep 25	16.47	Apr 9, 1969
ANNUAL RUNOFF (AC-FT)	141,900		194,600		305,500	
10 PERCENT EXCEEDS	422		575		1,020	
50 PERCENT EXCEEDS	142		194		105	
90 PERCENT EXCEEDS	21		55		12	

a Median of annual mean discharges, 260 ft<sup>3</sup>/s.  
 b Also Aug. 26 to Oct. 17, 1976.  
 c Estimated.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: Water years 1960-62, October 1967 to September 1984. Sediment records: periodic samples taken 1966-69, 1977-82, 2004 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1967 to September 1971, October 1974 to September 1975, October 1979 to September 1984, March 2004 to current year (seasonal).

SPECIFIC CONDUCTANCE: October 1967 to September 1970, October 1973 to September 1984, and March 2004 to current year (seasonal).

pH: March 2004 to current year (seasonal).

DISSOLVED OXYGEN: March 2004 to current year (seasonal).

TURBIDITY: March 2004 to current year (seasonal).

SUSPENDED SEDIMENT DISCHARGE: October 1967 to September 1976.

REMARKS.--Data published in the tables below are rated as follows: temperature, good; specific conductance, good; pH, good; dissolved oxygen, poor; and turbidity, good except those for Oct. 1-5, 2004 and Apr. 13-May 24, 2005, which are poor. Daily records are collected at 15-minute intervals using multi-parameter water-quality instrument from March to November. Satellite data-collection platform at station. Interruptions in daily records due to probes fouling and/or instrument malfunctions.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily, 33.5°C, July 7, 12, 16, 20, 1974; minimum daily, 0.0°C for many days.

SPECIFIC CONDUCTANCE: Maximum daily, 2,100 µS/cm, Jan. 27, 1977; minimum daily, 140 µS/cm, Apr. 9, 1969.

pH: Maximum daily, 9.4 standard units, Mar. 26, 2004; minimum daily, 7.6 standard units, May 30, 31, 2004 and Sept. 8,9, 2005.

DISSOLVED OXYGEN: Maximum daily, 22.3 mg/L, Aug. 28, 2004; minimum daily, 2.2 mg/L, Aug. 3, 2004.

TURBIDITY: Maximum daily, 910 FN units, June 4, 2005; minimum daily, 5.1 NT units, Nov. 28, 2004.

TEMPERATURE, WATER, DEGREES CELSIUS  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	16.8	13.5	15.6	---	---	---	---	---	---	---	---	---
2	13.5	11.4	12.2	---	---	---	---	---	---	---	---	---
3	13.9	11.3	12.4	---	---	---	---	---	---	---	---	---
4	13.3	11.5	12.4	---	---	---	---	---	---	---	---	---
5	13.3	11.1	12.0	---	---	---	---	---	---	---	---	---
6	14.3	12.2	13.3	7.3	5.4	6.4	---	---	---	---	---	---
7	14.9	13.7	14.3	---	---	---	---	---	---	---	---	---
8	16.0	14.2	14.9	6.9	6.0	6.5	---	---	---	---	---	---
9	15.3	13.7	14.4	7.6	5.7	6.5	---	---	---	---	---	---
10	14.8	13.2	13.8	8.6	6.6	7.9	---	---	---	---	---	---
11	14.5	13.1	13.8	6.6	3.4	4.9	---	---	---	---	---	---
12	14.0	12.4	13.1	3.4	2.2	2.9	---	---	---	---	---	---
13	12.5	10.8	12.1	3.2	1.9	2.4	---	---	---	---	---	---
14	10.8	---	10.3	2.8	1.9	2.2	---	---	---	---	---	---
15	9.0	---	8.3	4.3	2.1	3.2	---	---	---	---	---	---
16	7.9	5.6	6.6	5.8	3.7	4.8	---	---	---	---	---	---
17	9.0	6.0	7.1	5.6	4.8	5.1	---	---	---	---	---	---
18	9.3	7.0	8.0	5.9	5.1	5.5	---	---	---	---	---	---
19	11.1	7.9	9.3	5.8	5.4	5.6	---	---	---	---	---	---
20	10.7	9.5	10.1	5.4	3.6	4.7	---	---	---	---	---	---
21	10.6	9.8	10.1	3.6	2.7	3.2	---	---	---	---	---	---
22	13.0	10.3	11.4	4.1	2.7	3.2	---	---	---	---	---	---
23	13.3	11.3	12.2	3.1	1.6	2.7	---	---	---	---	---	---
24	12.5	10.3	11.1	2.0	0.6	1.4	---	---	---	---	---	---
25	11.8	9.3	10.3	1.4	0.5	0.9	---	---	---	---	---	---
26	---	---	---	2.9	1.0	2.0	---	---	---	---	---	---
27	---	---	---	2.9	1.4	2.4	---	---	---	---	---	---
28	---	---	---	1.4	0.3	0.9	---	---	---	---	---	---
29	---	---	---	0.8	0.0	0.2	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	16.8	5.6	11.6	8.6	0.0	3.7	---	---	---	---	---	---



## BIG SIOUX RIVER BASIN

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	891	796	851	---	---	---	---	---	---	---	---	---
2	950	851	899	1,000	844	954	---	---	---	---	---	---
3	990	950	968	---	---	---	---	---	---	---	---	---
4	993	981	987	---	---	---	---	---	---	---	---	---
5	1,000	967	987	---	---	---	---	---	---	---	---	---
6	991	962	975	834	804	817	---	---	---	---	---	---
7	1,010	991	998	849	834	844	---	---	---	---	---	---
8	1,000	989	996	885	845	865	---	---	---	---	---	---
9	1,000	989	997	911	885	896	---	---	---	---	---	---
10	1,010	961	979	919	906	911	---	---	---	---	---	---
11	990	964	977	940	919	930	---	---	---	---	---	---
12	994	985	989	966	940	953	---	---	---	---	---	---
13	990	960	976	981	965	970	---	---	---	---	---	---
14	977	954	967	981	974	978	---	---	---	---	---	---
15	975	961	969	976	970	973	---	---	---	---	---	---
16	980	952	967	989	969	978	---	---	---	---	---	---
17	955	938	948	997	983	989	---	---	---	---	---	---
18	948	927	938	1,010	993	1,000	---	---	---	---	---	---
19	953	912	933	1,010	989	995	---	---	---	---	---	---
20	955	932	940	1,000	987	992	---	---	---	---	---	---
21	1,010	955	982	1,020	1,000	1,010	---	---	---	---	---	---
22	1,020	993	1,020	1,020	1,000	1,010	---	---	---	---	---	---
23	1,010	991	1,000	1,020	1,000	1,010	---	---	---	---	---	---
24	1,010	975	995	1,020	1,010	1,020	---	---	---	---	---	---
25	999	981	990	1,040	1,020	1,030	---	---	---	---	---	---
26	992	979	985	1,050	1,030	1,040	---	---	---	---	---	---
27	1,000	987	994	1,060	1,050	1,050	---	---	---	---	---	---
28	---	---	---	1,090	1,060	1,070	---	---	---	---	---	---
29	---	---	---	1,090	1,040	1,080	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	1,020	796	971	1,090	804	975	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	778	754	769	971	957	965
2	---	---	---	---	---	---	781	766	771	963	944	956
3	---	---	---	---	---	---	784	752	770	950	843	915
4	---	---	---	---	---	---	759	726	744	909	835	867
5	---	---	---	---	---	---	761	728	746	923	883	905
6	---	---	---	---	---	---	753	721	737	904	875	889
7	---	---	---	---	---	---	778	740	761	890	854	871
8	---	---	---	---	---	---	784	757	770	884	857	872
9	---	---	---	---	---	---	819	781	799	923	883	903
10	---	---	---	---	---	---	820	768	801	933	913	921
11	---	---	---	---	---	---	837	750	778	940	910	921
12	---	---	---	---	---	---	1,010	837	946	940	918	930
13	---	---	---	---	---	---	1,020	971	997	983	934	962
14	---	---	---	---	---	---	1,020	984	998	1,000	966	983
15	---	---	---	---	---	---	1,030	990	1,010	1,010	965	985
16	---	---	---	---	---	---	1,050	992	1,010	1,030	1,010	1,020
17	---	---	---	---	---	---	1,080	1,050	1,070	1,040	1,030	1,040
18	---	---	---	---	---	---	1,080	1,050	1,070	1,050	1,030	1,040
19	---	---	---	---	---	---	1,070	1,030	1,050	1,050	1,040	1,040
20	---	---	---	---	---	---	1,040	1,020	1,030	1,040	1,020	1,030
21	---	---	---	---	---	---	1,040	1,030	1,040	1,040	1,010	1,020
22	---	---	---	---	---	---	1,040	1,030	1,040	1,010	991	1,000
23	---	---	---	---	---	---	1,060	1,040	1,040	1,010	994	999
24	---	---	---	---	---	---	1,040	1,030	1,040	1,040	1,010	1,020
25	---	---	---	---	---	---	1,030	1,020	1,020	1,050	986	1,020
26	---	---	---	---	---	---	1,020	1,010	1,010	1,000	975	985
27	---	---	---	---	---	---	1,020	1,010	1,010	1,010	977	989
28	---	---	---	---	---	---	1,010	995	1,010	988	967	977
29	---	---	---	---	---	---	996	966	980	969	935	946
30	---	---	---	738	704	721	970	959	967	950	934	940
31	---	---	---	754	718	738	---	---	---	945	928	937
MONTH	---	---	---	754	704	730	1,080	721	926	1,050	835	963





## 06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	13.3	12.4	12.8	---	---	---	---	---	---
2	---	---	---	13.2	11.6	12.4	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	14.9	10.6	12.5	12.9	12.3	12.7	---	---	---	---	---	---
7	12.4	10.0	11.2	12.5	12.1	12.3	---	---	---	---	---	---
8	---	---	---	12.7	12.2	12.4	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	11.8	11.2	11.5	---	---	---	---	---	---
18	---	---	---	11.7	11.2	11.5	---	---	---	---	---	---
19	---	---	---	11.5	10.8	11.2	---	---	---	---	---	---
20	---	---	---	12.1	10.9	11.5	---	---	---	---	---	---
21	13.6	10.7	11.8	13.1	12.0	12.5	---	---	---	---	---	---
22	14.5	10.4	11.6	13.1	12.5	12.8	---	---	---	---	---	---
23	14.0	10.0	11.5	13.2	12.4	12.8	---	---	---	---	---	---
24	15.1	10.7	12.3	13.9	13.0	13.4	---	---	---	---	---	---
25	15.4	11.3	12.9	14.1	13.4	13.7	---	---	---	---	---	---
26	15.2	11.6	12.9	14.0	12.8	13.5	---	---	---	---	---	---
27	15.0	11.4	12.6	13.5	12.7	13.1	---	---	---	---	---	---
28	---	---	---	14.4	13.1	13.7	---	---	---	---	---	---
29	---	---	---	14.9	13.7	14.3	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	15.4	10.0	12.1	14.9	10.8	12.7	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	14.6	12.1	13.1	15.8	10.2	13.1
2	---	---	---	---	---	---	15.1	11.6	13.1	17.8	11.9	14.7
3	---	---	---	---	---	---	16.1	11.6	13.6	---	---	---
4	---	---	---	---	---	---	15.7	11.4	13.5	---	---	---
5	---	---	---	---	---	---	16.0	10.9	12.9	---	---	---
6	---	---	---	---	---	---	12.7	9.9	11.8	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	15.1	10.5	12.6	---	---	---
15	---	---	---	---	---	---	12.7	10.4	11.5	---	---	---
16	---	---	---	---	---	---	14.7	9.9	12.0	---	---	---
17	---	---	---	---	---	---	16.0	10.7	13.2	---	---	---
18	---	---	---	---	---	---	16.7	10.8	13.9	---	---	---
19	---	---	---	---	---	---	18.4	10.7	14.4	---	---	---
20	---	---	---	---	---	---	15.2	10.5	12.5	---	---	---
21	---	---	---	---	---	---	12.7	9.6	11.3	---	---	---
22	---	---	---	---	---	---	14.3	9.5	11.8	---	---	---
23	---	---	---	---	---	---	16.9	12.0	14.2	---	---	---
24	---	---	---	---	---	---	17.7	12.8	15.1	---	---	---
25	---	---	---	---	---	---	16.3	12.7	14.4	9.6	6.4	7.8
26	---	---	---	---	---	---	15.6	10.6	13.0	12.6	7.7	10
27	---	---	---	---	---	---	17.0	11.1	13.9	14.1	8.2	11.1
28	---	---	---	---	---	---	18.2	12.6	15.0	15.7	8.9	12.0
29	---	---	---	---	---	---	15.4	9.7	12.6	14.5	8.8	11.4
30	---	---	---	12.9	11.4	12.1	14.7	9.5	12.1	14.2	8.8	11.5
31	---	---	---	15.0	11.7	13.2	---	---	---	10.5	3.3	6.8
MONTH	---	---	---	15.0	11.4	12.7	18.4	9.5	13.1	17.8	3.3	10.9



## 06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD—Continued

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/- 2.5 DEGREES, FNU  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	39	26	30	---	---	---	---	---	---
2	---	---	---	44	32	37	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	48	22	31	28	20	23	---	---	---	---	---	---
7	44	27	34	32	23	27	---	---	---	---	---	---
8	46	23	30	27	18	22	---	---	---	---	---	---
9	37	23	30	23	17	20	---	---	---	---	---	---
10	45	23	29	34	23	27	---	---	---	---	---	---
11	56	25	34	28	12	17	---	---	---	---	---	---
12	41	24	29	36	11	13	---	---	---	---	---	---
13	42	22	29	13	9.8	11	---	---	---	---	---	---
14	45	17	25	14	8.8	10	---	---	---	---	---	---
15	56	20	28	11	8.4	9.5	---	---	---	---	---	---
16	41	16	27	13	7.6	9.1	---	---	---	---	---	---
17	38	16	22	10	7.0	8.6	---	---	---	---	---	---
18	---	---	---	12	7.5	9.0	---	---	---	---	---	---
19	57	28	43	67	8.8	12	---	---	---	---	---	---
20	64	30	47	13	8.6	11	---	---	---	---	---	---
21	---	31	---	19	6.4	7.9	---	---	---	---	---	---
22	38	30	33	8.5	6.2	7.3	---	---	---	---	---	---
23	60	32	36	15	6.0	7.1	---	---	---	---	---	---
24	38	28	33	37	5.6	6.8	---	---	---	---	---	---
25	32	26	29	7.2	5.9	6.4	---	---	---	---	---	---
26	32	27	29	7.9	5.8	6.6	---	---	---	---	---	---
27	39	28	31	27	5.8	7.1	---	---	---	---	---	---
28	---	---	---	11	5.1	6.4	---	---	---	---	---	---
29	---	---	---	12	5.2	6.3	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	64	16	31	67	5.1	14	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	55	14	21	---	---	---
2	---	---	---	---	---	---	51	16	25	---	---	---
3	---	---	---	---	---	---	46	16	23	---	---	---
4	---	---	---	---	---	---	41	23	28	45	36	41
5	---	---	---	---	---	---	61	26	36	57	38	43
6	---	---	---	---	---	---	58	37	45	70	36	43
7	---	---	---	---	---	---	---	---	---	85	37	43
8	---	---	---	---	---	---	---	---	---	90	39	46
9	---	---	---	---	---	---	---	---	---	75	43	58
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	30	17	22
13	---	---	---	---	---	---	---	---	---	44	17	21
14	---	---	---	---	---	---	36	22	30	40	20	23
15	---	---	---	---	---	---	42	24	32	46	19	23
16	---	---	---	---	---	---	63	28	36	37	---	---
17	---	---	---	---	---	---	54	35	43	---	12	---
18	---	---	---	---	---	---	110	50	70	24	9.2	14
19	---	---	---	---	---	---	120	59	93	28	11	15
20	---	---	---	---	---	---	120	54	75	---	---	---
21	---	---	---	---	---	---	200	98	140	---	---	---
22	---	---	---	---	---	---	300	83	200	---	---	---
23	---	---	---	---	---	---	86	35	53	---	---	---
24	---	---	---	---	---	---	52	26	36	---	---	---
25	---	---	---	---	---	---	56	29	39	31	17	21
26	---	---	---	---	---	---	69	28	39	28	21	24
27	---	---	---	---	---	---	82	26	39	45	22	28
28	---	---	---	---	---	---	---	---	---	40	27	33
29	---	---	---	---	---	---	---	---	---	67	30	37
30	---	---	---	24	11	14	---	---	---	53	32	42
31	---	---	---	37	16	23	---	---	---	99	45	58
MONTH	---	---	---	38	11	19	300	14	55	99	9.2	33

## BIG SIOUX RIVER BASIN

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD—Continued

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/- 2.5 DEGREES, FNU—  
CONTINUED

DAY	MAX	MIN	MEAN									
1	240	69	130	86	47	57	270	37	78	31	20	23
2	280	220	250	91	47	61	64	34	42	39	24	29
3	540	260	350	69	46	60	260	33	43	41	21	29
4	910	500	720	72	46	59	80	35	62	33	18	23
5	---	---	---	100	52	72	79	44	60	54	18	23
6	---	---	---	160	66	110	81	43	54	54	21	27
7	---	---	---	---	---	---	96	42	53	190	27	57
8	---	---	---	170	82	110	---	---	---	440	110	230
9	56	41	50	220	81	110	---	---	---	---	---	---
10	64	42	47	---	---	---	91	35	56	---	---	---
11	74	49	62	---	---	---	98	33	70	---	---	---
12	74	56	64	---	---	---	---	---	---	---	---	---
13	88	56	67	82	33	44	---	---	---	---	---	---
14	80	63	73	---	30	40	---	---	---	---	---	---
15	94	65	79	48	28	39	---	---	---	75	32	38
16	---	---	---	72	30	39	---	---	---	49	31	39
17	---	---	---	55	32	42	51	29	36	71	32	45
18	90	77	83	100	41	60	52	35	41	85	37	46
19	94	74	82	---	---	---	64	34	40	52	35	40
20	88	72	78	---	---	---	63	37	46	54	35	40
21	140	75	110	---	---	---	67	42	55	64	34	43
22	140	100	110	---	---	---	75	41	51	51	35	43
23	130	100	110	58	33	41	60	41	50	52	35	40
24	130	84	99	83	39	46	76	49	61	82	38	43
25	140	74	95	78	40	50	---	---	---	180	40	110
26	83	58	71	160	60	110	---	---	---	160	68	100
27	68	52	61	170	27	98	64	31	44	80	50	63
28	82	47	58	620	95	490	61	31	40	78	49	55
29	80	48	57	590	180	290	44	26	36	62	41	48
30	83	47	57	200	100	190	54	21	31	86	36	43
31	---	---	---	220	130	190	33	20	24	---	---	---
MONTH	910	41	120	620	27	100	270	20	49	440	18	53
YEAR	910	5.1	58									

## WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Specific conductance, wat unf 25 degC (00095)	pH, water, unfltrd field, std units (00400)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Turbidity, IR LED light, det ang 90 deg, FNU (63680)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	Suspended sediment concentration mg/L (80154)	Suspended sediment, sieve diameter percent <.063mm (70331)
NOV 16...	1345	213	984	8.5	13.0	5.8	7.8	730	11.6	97	8	98
MAY 24...	1500	402	1,030	8.5	21.4	22.1	18	727	10.6	128	50	97
JUN 08...	1600	618	1,020	8.4	25.0	23.2	51	722	9.6	120	115	94
JUN 16...	1400	1,250	1,040	8.0	25.5	22.2	81	730	--	--	627	99

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## BIG SIOUX RIVER BASIN

06481480 SKUNK CREEK NEAR CHESTER, SD

LOCATION.--Lat 43°50'53", long 96°50'10", in NE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.4, T.104 N., R.50 W., Minnehaha County, Hydrologic Unit 10170203, on right bank near downstream of county highway bridge, 5.6 mi southeast of Chester.

DRAINAGE AREA.--53.2 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1984 to September 1987, October 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,557.23 ft above NGVD of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

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	27	7.1	3.4	e1.8	e1.1	e1.8	26	8.1	8.5	61	30	1.4
2	25	5.2	3.3	e1.8	e1.2	1.9	23	7.8	9.5	54	26	1.4
3	24	3.0	3.3	e1.7	e1.3	2.0	18	7.1	15	48	22	1.2
4	21	2.4	3.3	e1.6	e1.4	2.2	15	5.8	20	42	24	1.3
5	18	1.8	3.4	e1.6	e1.6	2.3	13	5.1	36	38	25	1.2
6	15	1.4	3.6	e1.6	e1.3	3.6	12	4.7	39	35	26	2.7
7	11	1.4	3.9	e1.6	e1.0	3.6	12	4.3	37	34	25	8.3
8	8.7	1.3	4.2	e1.5	e0.80	2.8	11	4.8	49	38	21	42
9	7.8	1.2	4.2	e1.5	e0.90	2.9	11	7.3	53	43	18	53
10	5.7	1.3	4.1	e1.5	e1.0	2.8	12	7.1	66	42	16	55
11	3.5	1.3	4.3	e1.5	e1.2	2.9	27	6.5	91	42	17	48
12	2.7	2.2	3.9	e1.5	1.3	2.0	41	11	109	44	15	45
13	2.3	6.4	e3.5	e1.5	4.1	2.3	45	20	105	42	13	47
14	2.5	4.1	e3.6	e1.5	4.6	2.2	44	28	101	38	13	48
15	3.0	3.5	e3.8	e1.4	3.1	2.1	42	29	103	33	12	43
16	2.9	2.5	3.8	e1.3	2.4	2.0	44	27	108	31	12	36
17	2.8	1.9	3.7	e1.3	2.0	e1.9	42	24	e95	28	10	30
18	2.6	1.2	3.1	e1.3	1.9	e1.9	40	23	e90	24	11	26
19	2.0	1.5	e2.9	e1.4	1.8	e2.0	38	22	e90	21	9.1	29
20	1.8	1.8	e2.9	e1.3	1.9	e2.2	35	20	e90	30	7.4	31
21	2.7	2.8	e2.6	e1.2	1.9	e2.9	31	17	e100	32	6.6	33
22	3.9	4.0	e2.2	e1.0	1.6	e3.8	27	12	e100	31	6.0	34
23	15	4.3	e2.0	e1.1	1.6	e4.2	23	9.9	e100	31	6.0	35
24	7.2	4.1	e2.0	e1.4	1.6	e5.0	19	6.4	e110	29	5.4	37
25	5.5	3.9	e1.8	1.6	1.7	5.6	16	7.7	e115	46	4.9	152
26	3.8	4.1	e1.6	1.4	1.9	8.4	14	12	e110	65	4.4	128
27	2.5	4.2	1.6	1.1	1.7	10	13	15	e100	60	3.7	125
28	2.0	3.9	1.6	1.1	e1.8	12	11	12	e90	47	6.6	111
29	1.7	e3.5	1.9	1.0	---	16	9.5	9.1	80	44	4.6	105
30	3.4	e3.4	2.4	1.0	---	21	8.6	6.8	67	38	3.2	100
31	12	---	2.1	1.0	---	26	---	5.8	---	34	1.8	---
TOTAL	249.0	90.7	94.0	43.1	49.70	162.3	723.1	386.3	2,287.0	1,225	405.7	1,410.5
MEAN	8.03	3.02	3.03	1.39	1.77	5.24	24.1	12.5	76.2	39.5	13.1	47.0
MAX	27	7.1	4.3	1.8	4.6	26	45	29	115	65	30	152
MIN	1.7	1.2	1.6	1.0	0.80	1.8	8.6	4.3	8.5	21	1.8	1.2
AC-FT	494	180	186	85	99	322	1,430	766	4,540	2,430	805	2,800

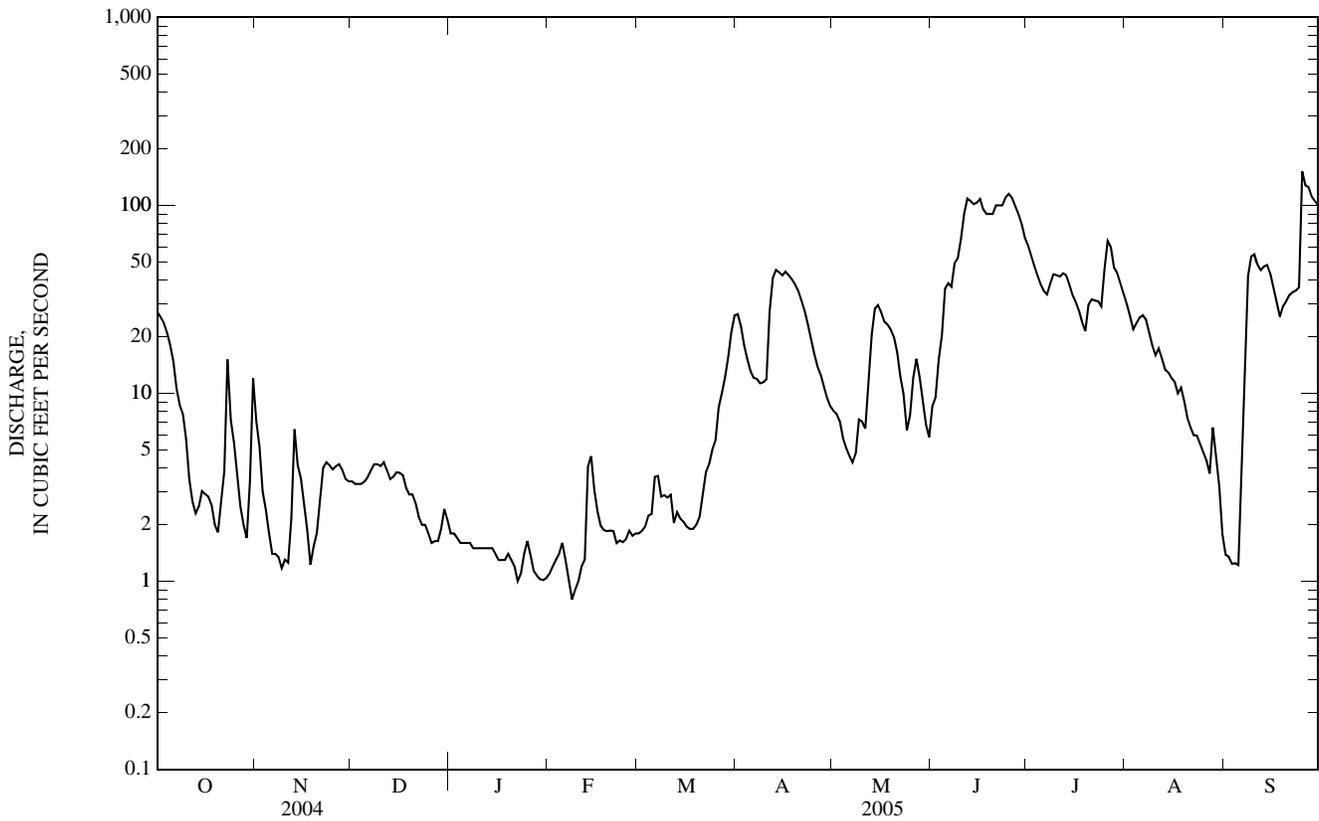
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985-1987,2002 - 2005, BY WATER YEAR (WY)

MEAN	35.7	13.9	8.14	4.29	5.36	74.2	102	62.0	47.9	42.6	9.38	45.3
MAX	210	71.2	37.5	22.2	22.9	270	284	304	191	154	38.5	256
(WY)	(1987)	(1987)	(1987)	(1987)	(1987)	(1985)	(1986)	(1986)	(1986)	(1986)	(1986)	(1986)
MIN	0.43	0.40	0.37	0.21	0.06	4.31	2.40	3.36	1.09	0.49	0.48	0.42
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2003)	(2004)	(2004)	(2002)	(2002)	(2003)	(2003)

06481480 SKUNK CREEK NEAR CHESTER, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1985-1987,2002 - 2005	
ANNUAL TOTAL	2,862.86		7,126.40		37.7	
ANNUAL MEAN	7.82		19.5		110	
HIGHEST ANNUAL MEAN					1986	
LOWEST ANNUAL MEAN					5.57	
HIGHEST DAILY MEAN	83	Jul 12	152	Sep 25	813	Sep 22, 1986
LOWEST DAILY MEAN	0.01	Feb 25	0.80	Feb 8	0.01	Feb 25, 2004
ANNUAL SEVEN-DAY MINIMUM	0.02	Feb 22	1.1	Jan 27	0.02	Feb 22, 2004
MAXIMUM PEAK FLOW			<sup>a</sup> 183	Sep 25	1,060	Sep 21, 1986
MAXIMUM PEAK STAGE			<sup>b</sup> 5.46	Jun 25	6.95	Sep 21, 1986
ANNUAL RUNOFF (AC-FT)	5,680		14,140		27,280	
10 PERCENT EXCEEDS	25		48		106	
50 PERCENT EXCEEDS	2.7		6.0		3.5	
90 PERCENT EXCEEDS	0.14		1.4		0.44	

- a Gage height, 4.07 ft.
- b Backwater from vegetation.
- e Estimated.



## 06481500 SKUNK CREEK AT SIOUX FALLS, SD

LOCATION.--Lat 43°32'01", long 96°47'26", in NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.24, T.101 N., R.50 W., Minnehaha County, Hydrologic Unit 10170203, on left bank 5 ft downstream from bridge on Marion Road, 1.3 mi upstream from mouth, 1.8 mi downstream from small right-bank tributary, and 4.0 mi southwest of Sioux Falls.

DRAINAGE AREA.--622 mi<sup>2</sup>, of which 8.51 mi<sup>2</sup> is probably noncontributing.

PERIOD OF RECORD.--May 1948 to current year. October 2001 to September 2003, daily gage height. May 1948 to September 1971 published as "near Sioux Falls".

REVISED RECORDS.--WDR SD-84-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,400.10 ft above NGVD of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Oct. 24, 1949, nonrecording gage, and Oct. 24, 1949, to Apr. 28, 1972, water-stage recorder, both at site 1.9 mi upstream at datum 15.19 ft higher. Apr. 28, 1972, to Sept. 30, 2002, near downstream end of bridge, at same site, at datum 5.00 ft higher (gage moved from right to left bank May 18, 1987).

REMARKS.--Records good except those for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

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	74	28	17	e9.0	e6.5	e9.0	105	49	77	111	48	10
2	68	35	19	e8.0	e7.0	e10	91	46	82	101	43	9.1
3	66	33	17	e6.8	e8.0	e11	77	44	115	95	41	8.0
4	62	30	20	e6.0	9.2	e12	66	43	301	86	43	7.0
5	57	28	18	e6.0	11	e13	62	41	547	79	39	10
6	52	26	e17	e6.0	9.8	16	58	41	508	73	35	12
7	47	25	e18	e6.0	e7.0	20	54	47	412	75	33	17
8	44	24	e19	e6.0	e6.5	22	52	53	386	85	32	117
9	39	24	21	e5.9	e6.5	19	50	54	397	77	31	140
10	34	23	21	e5.8	e6.5	19	69	53	365	71	28	130
11	32	22	19	e5.0	e7.5	16	151	64	393	66	52	106
12	31	22	20	e4.5	e8.5	e14	196	172	401	62	36	101
13	28	20	e17	e3.8	e30	e11	200	233	386	58	36	87
14	26	20	14	e3.4	e40	e11	170	217	348	57	31	94
15	25	23	14	e3.1	e30	e14	153	176	321	56	28	88
16	25	25	17	e3.0	e25	e14	183	151	287	52	25	75
17	25	24	19	e3.0	e20	e14	207	131	250	48	24	66
18	25	24	20	e3.0	e19	e12	178	135	218	46	38	57
19	24	30	13	e3.3	e18	e12	152	126	193	42	32	51
20	25	26	e13	e3.5	e17	e10	125	109	171	52	27	47
21	25	26	e11	e4.0	e14	e9.0	116	92	166	42	22	47
22	26	25	e8.0	e4.5	e13	e9.0	154	79	163	45	19	46
23	29	26	e7.0	e5.0	e13	e14	147	67	152	43	17	45
24	27	25	e7.0	5.5	e12	e20	125	60	142	50	16	64
25	36	24	e7.0	7.7	e11	e30	104	69	131	94	15	91
26	31	25	e7.0	7.8	e12	e40	87	81	130	47	17	191
27	27	e23	e7.0	e6.8	e12	60	74	103	132	65	20	356
28	26	e20	e7.5	e6.5	e9.0	83	66	97	131	71	13	350
29	25	e18	e8.0	e6.3	---	84	59	85	128	77	12	313
30	25	17	e9.0	e6.3	---	95	54	69	122	58	12	254
31	24	---	e9.0	e6.0	---	105	---	70	---	53	12	---
TOTAL	1,110	741	440.5	167.5	389.0	828.0	3,385	2,857	7,555	2,037	877	2,989.1
MEAN	35.8	24.7	14.2	5.40	13.9	26.7	113	92.2	252	65.7	28.3	99.6
MAX	74	35	21	9.0	40	105	207	233	547	111	52	356
MIN	24	17	7.0	3.0	6.5	9.0	50	41	77	42	12	7.0
AC-FT	2,200	1,470	874	332	772	1,640	6,710	5,670	14,990	4,040	1,740	5,930

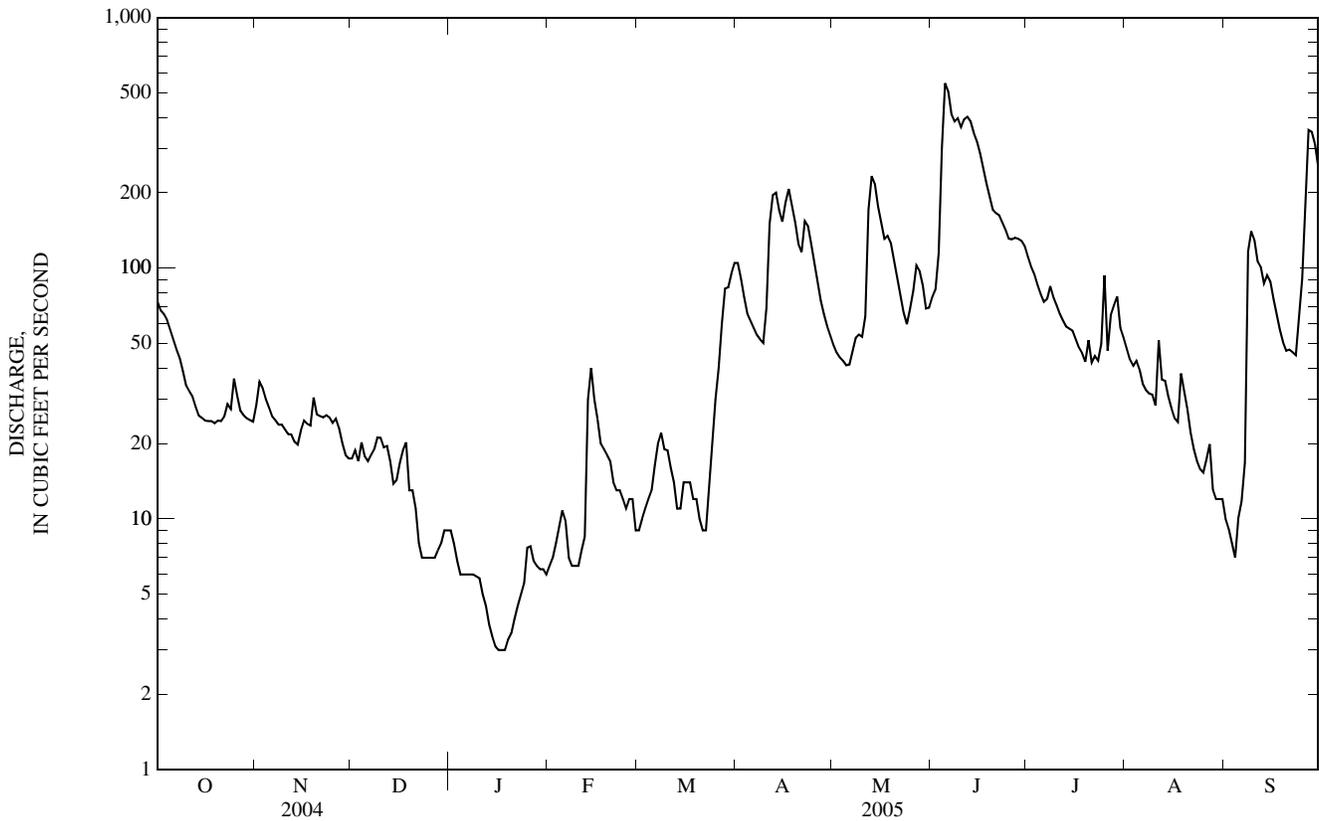
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949-2001,2004 - 2005, BY WATER YEAR (WY)

MEAN	31.8	32.4	17.0	8.07	34.2	196	282	155	154	116	45.0	39.7
MAX	405	358	177	76.0	321	869	1,530	967	1,903	2,915	655	798
(WY)	(1987)	(1999)	(1999)	(1999)	(1983)	(1983)	(1984)	(1995)	(1984)	(1993)	(1993)	(1986)
MIN	0.14	0.29	0.10	0.05	0.04	1.20	1.35	0.82	0.50	0.16	0.11	0.07
(WY)	(1959)	(1965)	(1965)	(1977)	(1977)	(1968)	(1959)	(1981)	(1977)	(1977)	(1976)	(1958)

06481500 SKUNK CREEK AT SIOUX FALLS, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1949-2001,2004-2005	
ANNUAL TOTAL	26,399.1		23,376.1			
ANNUAL MEAN	72.1		64.0		<sup>a</sup> 92.7	
HIGHEST ANNUAL MEAN					625	1993
LOWEST ANNUAL MEAN					1.55	1981
HIGHEST DAILY MEAN	3,430	May 30	547	Jun 5	11,500	Jun 17, 1957
LOWEST DAILY MEAN	1.1	Feb 3	3.0	Jan 16	<sup>b</sup> 0.00	Jan 26, 1951
ANNUAL SEVEN-DAY MINIMUM	1.3	Jan 28	3.2	Jan 14	0.00	Jan 26, 1951
MAXIMUM PEAK FLOW			564	Jun 5	<sup>c</sup> 29,400	Jun 17, 1957
MAXIMUM PEAK STAGE			5.80	Jun 5	17.78	Jun 17, 1957
ANNUAL RUNOFF (AC-FT)	52,360		46,370		67,160	
10 PERCENT EXCEEDS	146		152		201	
50 PERCENT EXCEEDS	27		31		10	
90 PERCENT EXCEEDS	2.4		7.0		0.60	

- a Median of annual mean discharges, 56 ft<sup>3</sup>/s.
- b No flow at times in some years.
- c Site and datum then in use, from rating curve extended above 8,100 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow.
- e Estimated.



## BIG SIOUX RIVER BASIN

## 06482000 BIG SIOUX RIVER AT SIOUX FALLS, SD

LOCATION.-- Lat 43°30'05", long 96°44'55", in SE $\frac{1}{4}$  SW $\frac{1}{4}$  SW $\frac{1}{4}$  sec.32, T. 101 N., R.50 W., Minnehaha County, Hydrologic Unit 10170203, on right bank near upstream end of bridge on Western Avenue, 0.1 mi downstream from previous gage, and 2.2 mi downstream from mouth of Skunk Creek.

DRAINAGE AREA.-- 5,197mi<sup>2</sup>, of which 1,487 mi<sup>2</sup> usually is noncontributing(documented runoff occurred during 1994-2002 water years for 213 mi<sup>2</sup> of the usually noncontributing area).

PERIOD OF RECORD.--August 1943 to September 1960, October 1, 2004 to September 30, 2005.

GAGE.-- Water-stage recorder. Elevation of gage is 1,400 ft above NGVD of 1929, from topographic map.

REMARKS.-- Records good except those for estimated daily discharges, which are poor. Satellite data- collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

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	235	121	84	e32	e17	e19	148	239	312	380	122	22
2	214	121	84	e30	e18	e20	134	233	277	369	114	20
3	207	119	99	e30	e18	e21	119	230	380	363	118	19
4	199	116	155	e26	e16	22	108	219	583	353	132	18
5	195	171	165	e34	e15	23	105	182	647	340	112	25
6	192	298	195	e32	e14	25	109	180	629	321	106	45
7	189	321	196	e32	e12	28	135	185	646	297	104	37
8	183	313	202	e30	e12	29	135	201	662	333	100	227
9	175	292	235	e30	e13	25	135	192	578	259	84	244
10	173	275	199	e30	e14	28	203	191	383	240	79	268
11	170	272	169	e29	e17	26	303	226	369	227	134	244
12	169	264	177	e25	e18	25	296	398	381	229	65	243
13	166	254	e88	e20	e150	26	294	425	361	225	56	235
14	146	242	e105	e17	e75	30	268	403	382	221	49	230
15	125	231	e129	e15	62	23	273	362	509	209	45	227
16	125	186	e114	e14	44	25	306	356	543	168	41	212
17	79	68	e102	e14	e41	24	300	303	490	163	40	207
18	43	131	e99	e16	36	22	307	292	456	163	75	189
19	39	221	e88	e19	33	e20	342	335	434	158	50	211
20	36	250	e76	e20	31	e19	309	311	405	202	42	193
21	35	204	e73	e22	26	22	305	292	407	161	37	192
22	40	196	e61	e17	25	23	390	275	423	139	32	189
23	41	249	e55	e17	24	28	338	265	428	112	29	187
24	36	207	e44	e20	23	38	312	256	380	116	27	288
25	46	214	e43	e26	25	45	303	289	357	468	27	389
26	67	219	e38	e23	21	51	286	273	347	139	42	344
27	67	219	e34	e19	22	67	270	293	358	144	45	492
28	78	214	e35	e19	19	89	259	289	403	152	30	524
29	117	212	e35	e18	---	93	250	279	395	201	24	494
30	168	166	e42	e17	---	127	244	265	390	138	24	451
31	108	---	e38	e16	---	122	---	311	---	129	24	---
TOTAL	3,863	6,366	3,259	709	841	1,185	7,286	8,550	13,315	7,119	2,009	6,666
MEAN	125	212	105	22.9	30.0	38.2	243	276	444	230	64.8	222
MAX	235	321	235	34	150	127	390	425	662	468	134	524
MIN	35	68	34	14	12	19	105	180	277	112	24	18
AC-FT	7,660	12,630	6,460	1,410	1,670	2,350	14,450	16,960	26,410	14,120	3,980	13,220

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944-1960, 2005, BY WATER YEAR (WY)

MEAN	101	90.3	56.0	26.1	131	670	1,200	569	666	377	211	141
MAX	383	333	159	83.1	637	2,126	6,140	1,412	2,718	858	678	581
(WY)	(1947)	(1947)	(1947)	(1947)	(1944)	(1948)	(1952)	(1952)	(1957)	(1948)	(1953)	(1951)
MIN	2.15	5.65	3.45	2.45	2.04	27.4	45.0	55.7	37.0	4.25	6.89	1.64
(WY)	(1956)	(1956)	(1956)	(1959)	(1959)	(1956)	(1959)	(1956)	(1959)	(1959)	(1958)	(1955)

06482000 BIG SIOUX RIVER AT SIOUX FALLS, SD—Continued

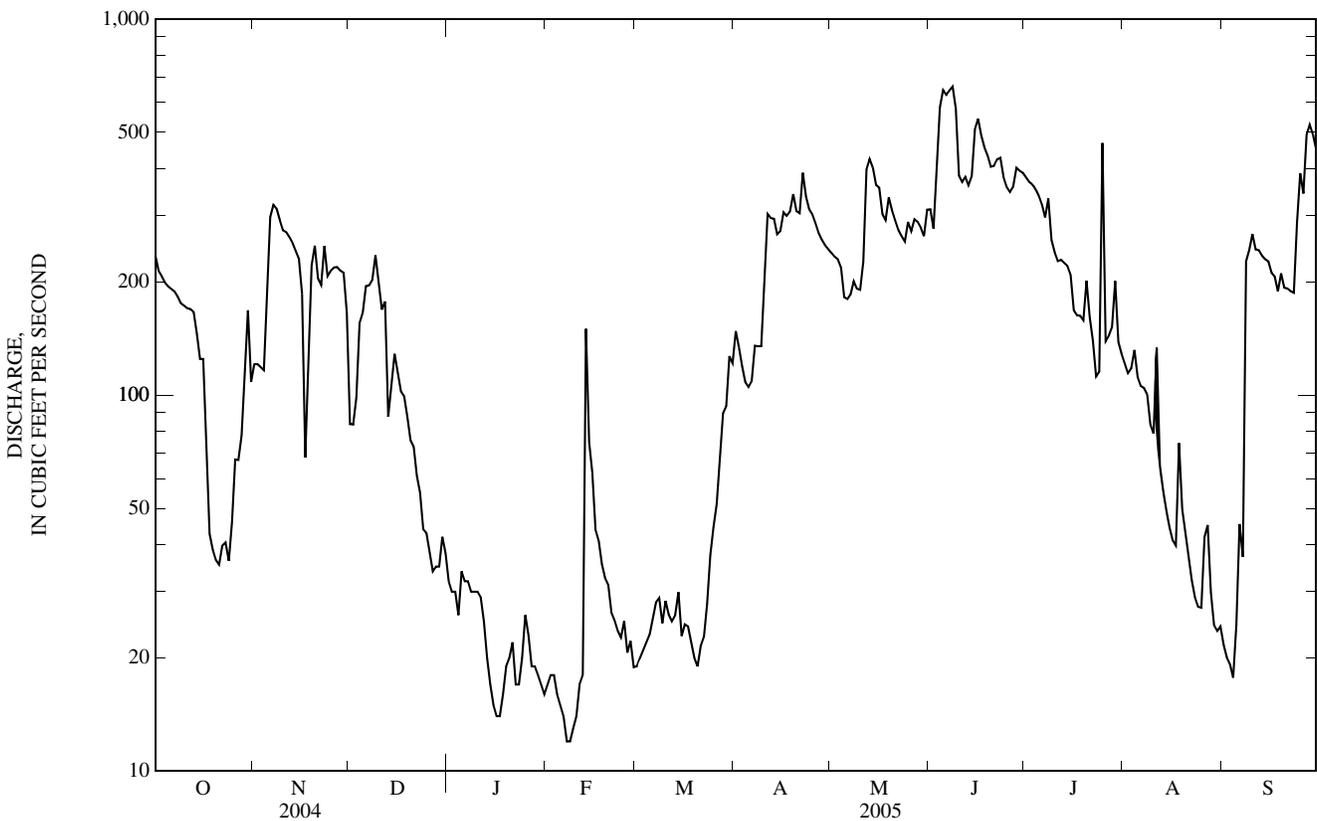
SUMMARY STATISTICS

FOR 2005 WATER YEAR

WATER YEARS 1944-1960, 2005

ANNUAL TOTAL	61,168			
ANNUAL MEAN	168		353	
HIGHEST ANNUAL MEAN			925	1952
LOWEST ANNUAL MEAN			33.8	1959
HIGHEST DAILY MEAN	662	Jun 8	13,800	Jun 17, 1957
LOWEST DAILY MEAN	12	Feb 7	0.50	Jan 22, 1959
ANNUAL SEVEN-DAY MINIMUM	14	Feb 4	0.89	Sep 13, 1955
MAXIMUM PEAK FLOW	1,200	Jun 4	<sup>a</sup> 16,200	Jun 17, 1957
MAXIMUM PEAK STAGE	5.29	Jun 4	16.01	Jun 17, 1957
ANNUAL RUNOFF (AC-FT)	121,300		255,700	
10 PERCENT EXCEEDS	365		848	
50 PERCENT EXCEEDS	138		96	
90 PERCENT EXCEEDS	21		7.0	

a Maximum combined discharge, bypass and main channel.  
 e Estimated.



## 06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD

LOCATION.--Lat 43°34'01", long 96°42'39", in SW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.10, T.101 N., R.49 W., Minnehaha County, Hydrologic Unit 10170203, on right bank 20 ft downstream from bridge on North Cliff Avenue and 4.1 mi upstream from Slip Up Creek.

DRAINAGE AREA.--5,216 mi<sup>2</sup>, of which 1,487 mi<sup>2</sup> usually is noncontributing (documented runoff occurred during 1994-2002 water years for 213 mi<sup>2</sup> of the usually noncontributing area).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1962 to September 1971 (gage heights and discharge measurements only in files of U.S. Army Corps of Engineers). October 1971 to current year.

REVISED RECORDS.--WDR SD-84-1: Drainage area. WDR SD-94-1 only: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,294.18 ft above NGVD of 1929 (levels by U.S. Army Corps of Engineers). Prior to Dec. 15, 1971, nonrecording gage 20 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow is regulated by a flood-control diversion channel, which starts 16.1 river miles upstream from gage, just north of Foss Air Field, and rejoins the river 0.4 mi upstream from gage since July 1961. U.S. Army Corps of Engineers satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 10, 1969, reached a stage of 27.45 ft, discharge, 40,700 ft<sup>3</sup>/s.

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	440	196	153	88	47	80	384	323	494	592	225	85
2	380	337	159	82	46	98	346	297	377	540	202	82
3	346	485	142	77	44	86	310	277	610	476	193	81
4	311	518	190	e77	49	98	281	268	1,140	419	216	79
5	294	391	181	e72	57	102	269	255	1,300	380	250	81
6	280	391	210	e60	62	119	233	240	1,550	371	211	125
7	282	376	206	e55	e50	128	224	239	1,320	499	174	141
8	290	356	209	e52	e49	129	215	269	1,170	499	158	605
9	266	334	253	e50	e48	119	210	252	1,140	355	146	654
10	244	296	227	e48	e50	141	358	267	1,080	326	133	518
11	222	292	178	e48	e52	140	589	374	1,100	316	192	370
12	210	285	212	e48	e58	151	724	726	1,250	310	168	336
13	204	275	102	e39	e300	101	793	621	1,290	356	145	344
14	198	264	119	e35	e170	126	808	690	1,240	325	134	447
15	198	248	158	e32	e130	162	889	693	1,360	309	122	424
16	185	256	142	e32	110	163	1,010	731	1,430	273	118	371
17	225	236	132	e32	101	165	980	755	1,410	264	118	378
18	194	207	e125	e32	107	93	879	825	1,370	253	181	390
19	188	262	e120	34	107	114	860	742	1,320	228	129	376
20	180	278	e110	35	116	150	778	702	1,230	299	126	327
21	177	233	e105	38	102	173	746	650	1,220	230	132	352
22	181	199	e100	e37	107	180	824	573	1,570	226	141	396
23	183	271	e90	35	104	167	669	511	1,460	201	127	396
24	179	221	e85	37	110	176	601	471	1,160	205	118	556
25	163	223	e78	43	89	188	534	486	989	777	118	939
26	153	229	e78	49	97	204	496	452	932	336	132	1,570
27	161	234	e78	45	98	262	439	490	858	686	125	1,330
28	159	225	e78	45	72	354	391	469	792	584	112	1,130
29	145	225	e79	44	---	358	362	433	732	503	102	989
30	187	193	e88	44	---	459	338	391	658	313	97	883
31	150	---	91	45	---	410	---	514	---	254	91	---
TOTAL	6,975	8,536	4,278	1,490	2,532	5,396	16,540	14,986	33,552	11,705	4,636	14,755
MEAN	225	285	138	48.1	90.4	174	551	483	1,118	378	150	492
MAX	440	518	253	88	300	459	1,010	825	1,570	777	250	1,570
MIN	145	193	78	32	44	80	210	239	377	201	91	79
AC-FT	13,830	16,930	8,490	2,960	5,020	10,700	32,810	29,720	66,550	23,220	9,200	29,270

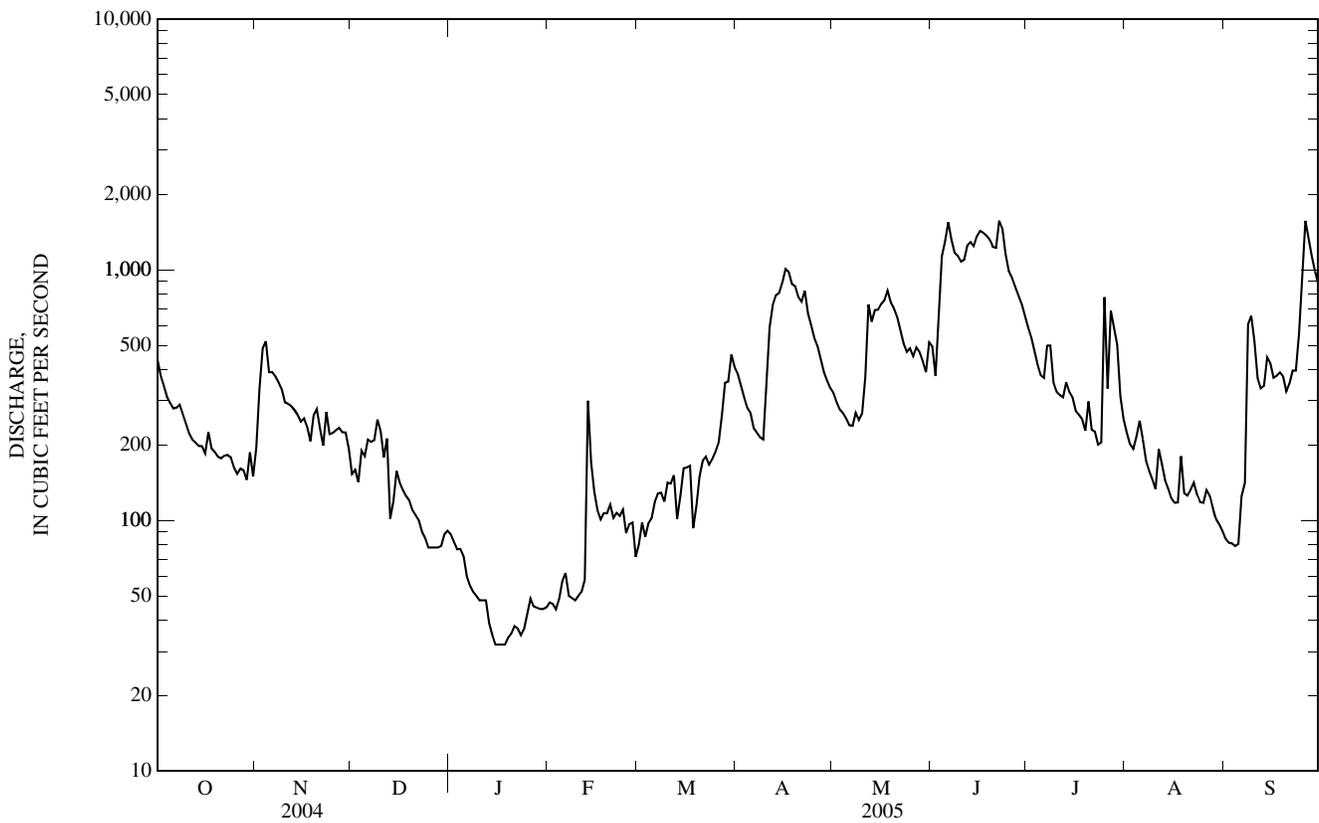
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2005, BY WATER YEAR (WY)

MEAN	313	295	193	100	176	1,042	1,923	1,200	1,157	823	428	371
MAX	1,869	1,528	793	437	798	3,479	9,974	4,516	6,880	8,612	2,528	3,468
(WY)	(1996)	(1996)	(1999)	(1996)	(1983)	(1985)	(1997)	(1986)	(1984)	(1993)	(1993)	(1986)
MIN	15.9	17.4	15.0	6.26	10.2	31.7	40.8	54.4	31.6	19.4	20.3	16.7
(WY)	(1989)	(1977)	(1990)	(1982)	(1989)	(1975)	(1990)	(1977)	(1976)	(1976)	(1976)	(1976)

06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1972 - 2005	
ANNUAL TOTAL	105,852		125,381			
ANNUAL MEAN	289		344		a669	
HIGHEST ANNUAL MEAN					2,312	1993
LOWEST ANNUAL MEAN					50.4	1981
HIGHEST DAILY MEAN	5,470	May 30	1,570	Jun 22	20,700	Jun 22, 1984
LOWEST DAILY MEAN	19	Jan 30	32	Jan 15	0.81	Feb 13, 1982
ANNUAL SEVEN-DAY MINIMUM	20	Jan 27	33	Jan 14	1.3	Feb 8, 1982
MAXIMUM PEAK FLOW			1,700	Jun 6	21,600	Jun 22, 1984
MAXIMUM PEAK STAGE			9.48	Jun 6	25.40	Jun 22, 1984
ANNUAL RUNOFF (AC-FT)	210,000		248,700		484,700	
10 PERCENT EXCEEDS	532		824		1,740	
50 PERCENT EXCEEDS	188		225		203	
90 PERCENT EXCEEDS	23		59		25	

a Median of annual mean discharges, 460 ft<sup>3</sup>/s.  
 e Estimated.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1972 to September 1981. Sediment records: Periodic samples taken October 2001 to current year.

PERIOD OF DAILY RECORD.--

- WATER TEMPERATURE: October 2001 to November 2004, and March to September 2005(seasonal).
- SPECIFIC CONDUCTANCE: October 2001 to November 2004, and March to September 2005(seasonal).
- pH: October 2001 to November 2004, and March to September 2005(seasonal).
- DISSOLVED OXYGEN: October 2001 to November 2004, and March to September 2005(seasonal).
- TURBIDITY: October 2001 to November 2004, and March to September 2005(seasonal).

REMARKS.--Data published in the tables below are rated as follows: temperature, good; specific conductance, good; pH, good; dissolved oxygen, poor; and turbidity, good except those for Oct. 1-6, 2004, which are poor. Daily records are collected at 15-minute intervals using multi-parameter water-quality instrument from March to November. Satellite data-collection platform at station. Interruptions in daily records due to probes fouling and/or instrument malfunctions.

EXTREMES FOR PERIOD OF DAILY RECORD.--

- WATER TEMPERATURE: Maximum daily, 32.7°C, Aug. 16, 17, 2003; minimum daily, 0.0°C, many days.
- SPECIFIC CONDUCTANCE: Maximum daily, 5,260 µS/cm, Feb. 24, 2002; minimum daily, 94 µS/cm, Aug. 21, 2002.
- pH: Maximum daily, 9.2 standard units, Apr. 5, 11, 2003, and Mar. 26, 2004; minimum daily, 7.4 standard units, Sept. 5, 2003 and Aug. 12, 2005.
- DISSOLVED OXYGEN: Maximum daily, 20.7 mg/L, May 6, 2005; minimum daily, 0.1 mg/L, Apr. 13, 2003.
- TURBIDITY: Maximum daily, 1,060 FN units, Aug. 21, 2002; minimum daily, 1.8 FN units, Feb. 26, 2002.

TEMPERATURE, WATER, DEGREES CELSIUS  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	16.8	13.1	15.5	8.1	7.6	7.9	---	---	---	---	---	---
2	13.1	11.5	12.4	8.7	7.3	8.0	---	---	---	---	---	---
3	14.4	12.0	13.1	8.0	6.7	7.3	---	---	---	---	---	---
4	13.6	11.6	12.6	7.5	6.2	6.7	---	---	---	---	---	---
5	13.0	11.0	12.2	6.7	5.2	6.1	---	---	---	---	---	---
6	14.0	---	---	8.2	6.2	7.2	---	---	---	---	---	---
7	14.8	14.0	14.4	8.1	7.0	7.5	---	---	---	---	---	---
8	15.8	14.6	14.9	7.3	6.1	6.7	---	---	---	---	---	---
9	15.0	13.7	14.4	8.6	6.1	7.2	---	---	---	---	---	---
10	14.4	13.4	14.0	9.2	6.9	8.5	---	---	---	---	---	---
11	14.2	13.6	13.9	6.9	4.1	4.9	---	---	---	---	---	---
12	13.6	12.5	13.0	4.2	2.9	3.7	---	---	---	---	---	---
13	12.8	10.9	12.1	3.8	2.3	3.1	---	---	---	---	---	---
14	10.9	9.5	10.0	3.4	2.3	2.9	---	---	---	---	---	---
15	9.5	7.1	8.6	5.1	3.3	4.1	---	---	---	---	---	---
16	7.6	5.8	6.7	6.7	5.1	5.9	---	---	---	---	---	---
17	8.6	6.5	7.5	7.3	5.4	5.8	---	---	---	---	---	---
18	9.4	7.5	8.4	6.5	5.3	6.0	---	---	---	---	---	---
19	10.2	7.9	9.0	6.5	6.2	6.4	---	---	---	---	---	---
20	10.5	9.3	9.9	6.2	4.2	5.1	---	---	---	---	---	---
21	10.3	9.5	9.9	4.2	3.1	3.5	---	---	---	---	---	---
22	13.3	10.2	11.7	4.8	3.3	3.9	---	---	---	---	---	---
23	13.2	12.0	12.5	4.3	2.2	3.3	---	---	---	---	---	---
24	12.3	10.5	11.4	2.4	1.3	1.8	---	---	---	---	---	---
25	11.6	9.5	10.6	2.3	1.1	1.7	---	---	---	---	---	---
26	10.9	9.3	10.1	4.1	2.3	3.2	---	---	---	---	---	---
27	11.4	9.8	10.6	4.1	1.8	3.3	---	---	---	---	---	---
28	12.9	11.2	12.0	1.8	0.6	1.0	---	---	---	---	---	---
29	14.5	12.8	13.5	1.4	0.5	0.9	---	---	---	---	---	---
30	12.9	8.7	10.7	1.1	0.0	0.4	---	---	---	---	---	---
31	9.0	7.4	8.2	---	---	---	---	---	---	---	---	---
MONTH	16.8	5.8	11.5	9.2	0.0	4.8	---	---	---	---	---	---



06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	847	803	832	1,030	949	984	---	---	---	---	---	---
2	888	845	870	959	941	948	---	---	---	---	---	---
3	930	888	908	980	937	965	---	---	---	---	---	---
4	972	927	950	937	666	781	---	---	---	---	---	---
5	1,010	970	992	768	657	690	---	---	---	---	---	---
6	1,040	1,010	1,020	795	723	755	---	---	---	---	---	---
7	1,030	1,000	1,020	835	795	821	---	---	---	---	---	---
8	1,010	989	1,000	857	835	843	---	---	---	---	---	---
9	1,020	984	1,000	874	857	868	---	---	---	---	---	---
10	1,020	999	1,010	904	874	888	---	---	---	---	---	---
11	1,020	998	1,010	922	904	914	---	---	---	---	---	---
12	1,040	1,010	1,030	938	922	931	---	---	---	---	---	---
13	1,030	1,000	1,020	952	938	946	---	---	---	---	---	---
14	1,020	992	1,010	967	951	960	---	---	---	---	---	---
15	1,020	983	996	981	967	975	---	---	---	---	---	---
16	1,020	1,000	1,010	990	946	982	---	---	---	---	---	---
17	1,020	931	975	987	936	958	---	---	---	---	---	---
18	949	937	943	1,010	979	995	---	---	---	---	---	---
19	951	921	937	1,010	875	944	---	---	---	---	---	---
20	932	915	924	989	907	957	---	---	---	---	---	---
21	936	922	929	1,010	987	999	---	---	---	---	---	---
22	959	936	948	1,020	984	1,010	---	---	---	---	---	---
23	960	939	950	1,010	991	998	---	---	---	---	---	---
24	973	939	958	1,020	1,010	1,020	---	---	---	---	---	---
25	990	966	977	1,020	1,000	1,010	---	---	---	---	---	---
26	1,000	977	990	1,020	989	1,000	---	---	---	---	---	---
27	1,010	964	990	1,020	986	1,000	---	---	---	---	---	---
28	998	964	987	1,020	1,010	1,020	---	---	---	---	---	---
29	1,090	985	1,020	1,030	1,010	1,030	---	---	---	---	---	---
30	1,100	1,010	1,040	1,060	1,010	1,040	---	---	---	---	---	---
31	1,060	996	1,020	---	---	---	---	---	---	---	---	---
MONTH	1,100	803	976	1,060	657	941	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	719	682	698	1,090	1,050	1,070
2	---	---	---	---	---	---	738	707	721	1,070	1,040	1,050
3	---	---	---	---	---	---	744	706	728	1,060	1,040	1,050
4	---	---	---	---	---	---	731	670	701	1,060	1,010	1,040
5	---	---	---	---	---	---	714	666	691	1,150	985	1,010
6	---	---	---	---	---	---	765	687	716	998	976	990
7	---	---	---	---	---	---	787	756	770	1,010	959	976
8	---	---	---	---	---	---	813	760	789	979	923	942
9	---	---	---	---	---	---	825	802	815	965	951	959
10	---	---	---	---	---	---	848	634	770	960	939	947
11	---	---	---	---	---	---	787	584	680	947	831	899
12	---	---	---	---	---	---	798	727	763	882	669	735
13	---	---	---	---	---	---	909	756	852	962	757	890
14	---	---	---	---	---	---	942	909	932	997	962	982
15	---	---	---	---	---	---	945	885	931	1,010	989	1,000
16	---	---	---	---	---	---	944	920	937	989	952	970
17	---	---	---	---	---	---	978	939	958	1,040	964	996
18	---	---	---	---	---	---	1,020	978	1,010	1,020	979	1,000
19	---	---	---	---	---	---	1,030	1,010	1,020	1,060	1,010	1,040
20	---	---	---	---	---	---	1,040	1,020	1,030	1,050	1,020	1,030
21	---	---	---	---	---	---	1,060	965	1,040	1,030	984	1,010
22	---	---	---	---	---	---	1,060	907	1,000	1,020	1,000	1,010
23	---	---	---	---	---	---	1,100	1,060	1,070	1,020	1,000	1,010
24	---	---	---	---	---	---	1,110	1,090	1,100	1,030	1,000	1,020
25	---	---	---	---	---	---	1,140	1,090	1,110	1,030	---	---
26	---	---	---	---	---	---	1,120	1,100	1,110	1,060	1,010	1,040
27	---	---	---	---	---	---	1,120	1,090	1,100	1,060	1,010	1,030
28	---	---	---	---	---	---	1,100	1,080	1,090	1,060	1,020	1,040
29	---	---	---	---	---	---	1,100	1,080	1,090	1,030	999	1,010
30	---	---	---	880	705	739	1,100	1,070	1,090	1,040	1,000	1,020
31	---	---	---	719	685	696	---	---	---	1,030	620	938
MONTH	---	---	---	880	685	718	1,140	584	910	1,150	620	990





06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	10.3	8.5	9.3	13.1	12.3	12.7	---	---	---	---	---	---
2	11.4	9.9	10.6	13.5	12.4	12.9	---	---	---	---	---	---
3	11.3	9.8	10.4	13.6	12.5	13.0	---	---	---	---	---	---
4	11.9	9.8	10.7	13.7	12.7	13.3	---	---	---	---	---	---
5	12.3	9.9	10.7	13.9	13.2	13.5	---	---	---	---	---	---
6	11.6	9.3	10.0	13.8	13.0	13.3	---	---	---	---	---	---
7	11.2	9.9	10.2	14.1	13.0	13.6	---	---	---	---	---	---
8	12.5	10.0	10.6	14.4	13.6	14.0	---	---	---	---	---	---
9	13.4	10.4	11.5	14.5	13.0	13.8	---	---	---	---	---	---
10	13.9	10.7	11.8	14.8	12.9	13.1	---	---	---	---	---	---
11	13.9	10.9	11.9	15.7	13.8	15.0	---	---	---	---	---	---
12	14.7	11.0	12.4	16.2	15.1	15.6	---	---	---	---	---	---
13	---	---	---	16.6	15.2	15.9	---	---	---	---	---	---
14	---	---	---	16.6	15.6	16.0	---	---	---	---	---	---
15	---	---	---	16.0	14.3	15.3	---	---	---	---	---	---
16	---	---	---	15.0	13.7	14.3	---	---	---	---	---	---
17	---	---	---	14.4	11.7	12.8	---	---	---	---	---	---
18	---	---	---	12.3	11.6	11.8	---	---	---	---	---	---
19	---	---	---	12.2	11.5	11.8	---	---	---	---	---	---
20	---	---	---	13.5	12.2	12.8	---	---	---	---	---	---
21	---	---	---	14.4	12.9	13.5	---	---	---	---	---	---
22	---	---	---	14.0	12.7	13.2	---	---	---	---	---	---
23	11.7	10.1	10.8	14.6	12.8	13.7	---	---	---	---	---	---
24	12.3	10.5	11.2	15.3	13.8	14.4	---	---	---	---	---	---
25	12.6	10.9	11.6	15.4	13.8	14.4	---	---	---	---	---	---
26	12.8	11.0	11.6	15.1	13.1	13.8	---	---	---	---	---	---
27	12.9	11.0	11.7	15.1	13.1	13.9	---	---	---	---	---	---
28	12.0	10.3	11.0	16.4	14.2	15.2	---	---	---	---	---	---
29	12.3	9.6	10.7	16.7	14.9	15.5	---	---	---	---	---	---
30	13.1	9.6	11.4	16.9	14.8	15.6	---	---	---	---	---	---
31	14.6	11.5	12.8	---	---	---	---	---	---	---	---	---
MONTH	14.7	8.5	11.1	16.9	11.5	13.9	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	12.1	10.8	11.4	13.5	11.5	12.6
2	---	---	---	---	---	---	12.5	10.9	11.6	14.2	11.7	13.0
3	---	---	---	---	---	---	12.8	10.7	11.6	13.6	10.3	12.1
4	---	---	---	---	---	---	12.3	10.0	11.0	13.2	10.0	11.2
5	---	---	---	---	---	---	11.8	9.4	10.3	18.7	9.9	12.9
6	---	---	---	---	---	---	11.5	9.3	10.2	20.7	10.1	12.6
7	---	---	---	---	---	---	11.6	9.3	10.3	14.2	10.0	11.5
8	---	---	---	---	---	---	11.2	9.2	10.0	13.3	9.7	11.4
9	---	---	---	---	---	---	11.0	8.9	9.9	12.0	9.4	10.5
10	---	---	---	---	---	---	10.2	8.6	9.7	12.7	10.0	11.0
11	---	---	---	---	---	---	10.4	9.9	10.1	12.8	10.1	11.4
12	---	---	---	---	---	---	10.9	9.9	10.4	14.2	11.7	13.3
13	---	---	---	---	---	---	11.2	9.9	10.7	---	---	---
14	---	---	---	---	---	---	11.4	9.9	10.6	---	---	---
15	---	---	---	---	---	---	11.0	9.6	10.5	---	---	---
16	---	---	---	---	---	---	11.1	10.2	10.7	---	---	---
17	---	---	---	---	---	---	10.9	8.5	10.0	---	---	---
18	---	---	---	---	---	---	10.1	8.0	9.1	11.3	9.7	10.4
19	---	---	---	---	---	---	9.7	7.7	8.5	11.8	10.0	11.0
20	---	---	---	---	---	---	9.3	7.5	8.4	13.0	10.4	11.4
21	---	---	---	---	---	---	9.5	7.9	8.7	12.6	10.3	11.2
22	---	---	---	---	---	---	11.0	8.7	10.2	12.8	10.4	11.6
23	---	---	---	---	---	---	11.9	9.9	10.9	12.8	10.6	11.7
24	---	---	---	---	---	---	11.8	8.9	10.6	---	---	---
25	---	---	---	---	---	---	11.2	9.4	10.4	---	---	---
26	---	---	---	---	---	---	11.9	10.4	11.2	9.8	8.4	8.9
27	---	---	---	---	---	---	12.6	10.2	11.8	10.3	8.4	9.4
28	---	---	---	---	---	---	12.6	10.1	11.6	11.3	8.9	9.7
29	---	---	---	---	---	---	12.3	10.2	11.3	11.4	8.7	9.8
30	---	---	---	11.2	10.1	10.7	12.8	10.9	11.9	11.3	9.0	10.0
31	---	---	---	12.0	11.0	11.5	---	---	---	10.6	8.7	9.5
MONTH	---	---	---	12.0	10.1	11.1	12.8	7.5	10.5	20.7	8.4	11.2



06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD—Continued

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/- 2.5 DEGREES, FNU  
 WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	37	26	29	23	17	20	---	---	---	---	---	---
2	27	20	23	71	22	28	---	---	---	---	---	---
3	29	21	25	39	24	26	---	---	---	---	---	---
4	32	24	28	30	24	26	---	---	---	---	---	---
5	56	24	28	36	22	25	---	---	---	---	---	---
6	---	---	---	38	26	31	---	---	---	---	---	---
7	40	35	38	37	32	34	---	---	---	---	---	---
8	38	33	35	35	29	30	---	---	---	---	---	---
9	40	33	36	40	28	30	---	---	---	---	---	---
10	42	35	38	54	29	35	---	---	---	---	---	---
11	41	36	38	33	18	23	---	---	---	---	---	---
12	36	29	33	24	17	18	---	---	---	---	---	---
13	34	27	31	24	15	17	---	---	---	---	---	---
14	27	20	23	17	14	15	---	---	---	---	---	---
15	22	17	20	20	15	16	---	---	---	---	---	---
16	18	14	16	34	14	17	---	---	---	---	---	---
17	26	16	19	16	10	13	---	---	---	---	---	---
18	26	22	24	15	10	13	---	---	---	---	---	---
19	29	23	26	30	14	21	---	---	---	---	---	---
20	31	26	29	27	12	18	---	---	---	---	---	---
21	30	27	29	13	9.5	11	---	---	---	---	---	---
22	29	25	26	11	8.2	9.3	---	---	---	---	---	---
23	33	26	29	14	8.8	11	---	---	---	---	---	---
24	32	27	30	10	7.4	8.2	---	---	---	---	---	---
25	31	26	27	9.0	7.1	7.7	---	---	---	---	---	---
26	30	22	25	13	7.4	8.5	---	---	---	---	---	---
27	30	23	26	11	7.1	9.0	---	---	---	---	---	---
28	30	25	27	7.7	6.4	6.9	---	---	---	---	---	---
29	30	26	28	7.8	6.5	7.1	---	---	---	---	---	---
30	46	21	32	9.7	6.3	7.3	---	---	---	---	---	---
31	21	15	17	---	---	---	---	---	---	---	---	---
MONTH	56	14	28	71	6.3	18	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	24	17	20	---	---	---
2	---	---	---	---	---	---	25	18	21	---	---	---
3	---	---	---	---	---	---	35	19	26	---	---	---
4	---	---	---	---	---	---	50	26	31	18	14	15
5	---	---	---	---	---	---	55	31	38	26	13	15
6	---	---	---	---	---	---	57	30	40	20	14	16
7	---	---	---	---	---	---	64	26	34	23	14	16
8	---	---	---	---	---	---	37	26	30	24	16	19
9	---	---	---	---	---	---	41	22	27	62	19	28
10	---	---	---	---	---	---	130	25	54	73	27	39
11	---	---	---	---	---	---	130	22	54	75	44	57
12	---	---	---	---	---	---	28	22	24	110	51	82
13	---	---	---	---	---	---	31	22	24	87	48	67
14	---	---	---	---	---	---	35	21	27	---	56	---
15	---	---	---	---	---	---	59	28	34	---	---	---
16	---	---	---	---	---	---	43	33	35	---	---	---
17	---	---	---	---	---	---	48	36	42	---	---	---
18	---	---	---	---	---	---	51	32	42	30	14	21
19	---	---	---	---	---	---	50	30	37	28	13	18
20	---	---	---	---	---	---	37	26	31	84	15	22
21	---	---	---	---	---	---	33	20	24	34	19	23
22	---	---	---	---	---	---	39	22	27	40	17	23
23	---	---	---	---	---	---	40	18	21	---	---	---
24	---	---	---	---	---	---	44	22	30	---	---	---
25	---	---	---	---	---	---	45	28	35	---	---	---
26	---	---	---	---	---	---	180	31	57	37	17	25
27	---	---	---	---	---	---	---	---	---	36	16	25
28	---	---	---	---	---	---	---	---	---	27	18	22
29	---	---	---	---	---	---	---	---	---	28	17	20
30	---	---	---	50	20	29	---	---	---	45	20	26
31	---	---	---	25	16	20	---	---	---	120	18	41
MONTH	---	---	---	50	16	24	180	17	33	120	13	30

## 06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD—Continued

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/- 2.5 DEGREES, FNU—  
CONTINUED

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	98	21	41	90	39	47	---	---	---	26	16	20
2	71	17	27	83	42	49	---	---	---	32	16	21
3	80	18	37	78	41	51	68	41	49	34	18	24
4	420	18	88	63	41	47	66	41	53	37	17	24
5	130	35	56	50	38	44	68	39	52	36	17	23
6	250	84	140	49	33	41	80	38	54	48	22	32
7	160	48	71	110	27	46	140	53	82	49	19	30
8	75	47	56	110	25	48	---	---	---	130	30	54
9	76	45	56	52	23	29	---	---	---	67	47	58
10	68	55	61	34	19	24	---	---	---	60	45	52
11	86	57	67	34	19	22	---	---	---	52	41	44
12	110	73	83	52	16	21	---	---	---	46	34	40
13	140	80	100	64	15	26	---	---	---	52	37	45
14	170	86	110	38	27	30	---	---	---	55	36	44
15	250	83	110	40	28	33	---	---	---	47	39	43
16	250	87	110	---	---	---	---	---	---	45	36	39
17	170	82	99	---	---	---	40	23	30	46	35	40
18	120	83	96	---	---	---	100	27	43	43	32	39
19	190	83	98	---	---	---	35	23	29	51	32	41
20	100	69	81	---	---	---	40	23	31	46	34	38
21	100	69	77	---	---	---	46	27	34	44	30	35
22	180	84	130	---	---	---	48	30	36	41	30	36
23	310	92	120	43	27	35	49	29	35	48	33	38
24	94	67	79	94	29	38	40	28	33	130	33	46
25	73	54	62	290	46	110	39	25	31	100	43	62
26	56	49	52	77	42	52	42	29	34	250	100	200
27	54	35	43	---	---	---	41	27	33	150	81	110
28	57	32	39	---	---	---	38	21	29	---	---	---
29	50	33	42	---	---	---	43	20	29	91	49	60
30	170	35	57	---	---	---	37	23	30	72	42	51
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	420	17	76	290	15	42	140	20	39	250	16	48
YEAR	420	6.3	39									

## WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Specific conductance, wat unfltrd 25 degC (00095)	pH, water, unfltrd field, std units (00400)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Turbidity, IR LED light, det ang 90 deg, FNU (63680)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	Suspended sediment concentration mg/L (80154)	Suspended sediment, sieve diameter percent <.063mm (70331)
NOV 17...	1300	245	963	8.3	13.0	5.8	12	735	12.0	100	17	98
JUN 07...	1655	1,200	920	8.0	30.0	23.3	59	724	8.6	106	122	97
JUN 22...	1330	1,640	932	8.0	32.0	25.6	140	735	8.1	103	261	98

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## BIG SIOUX RIVER BASIN

## 06482610 SPLIT ROCK CREEK AT CORSON, SD

LOCATION.--Lat 43°36'59", long 96°33'54", in NE $\frac{1}{4}$  NW $\frac{1}{4}$  sec.26, T.102 N., R.48 W., Minnehaha County, Hydrologic Unit 10170203, on left bank 6 ft downstream from highway bridge, 0.3 mi east of Corson, and 3.4 mi upstream from mouth.

DRAINAGE AREA.--464 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1965 to September 1997 and October 2001 to current year. February 1951 to September 1965 gage heights and discharge measurements only in files of U.S. Army Corps of Engineers. October 1989 to September 1997 operated as crest-stage partial-record gage.

REVISED RECORDS.--WDR SD-84-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,304.22 ft above NGVD of 1929 (levels by U.S. Army Corps of Engineers). February 1951 to Aug. 15, 1964, nonrecording gage at datum 0.15 ft higher. Aug. 15, 1964, to Sept. 3, 1970, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 17, 1957, reached a stage of 15.41 ft, discharge, 19,300 ft<sup>3</sup>/s.

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	55	36	40	e22	e19	e18	108	67	72	136	183	22
2	54	35	40	e21	e21	e19	87	64	71	114	136	21
3	54	35	41	e20	e23	e20	75	59	85	100	105	20
4	53	36	34	e19	e22	22	67	56	150	86	94	20
5	53	33	e32	e18	e20	23	63	55	280	74	119	19
6	51	32	31	e17	e15	27	63	52	310	67	134	26
7	49	31	38	e18	e13	29	60	57	299	65	124	40
8	49	31	36	e19	e12	30	61	64	292	74	102	337
9	47	31	e36	e20	e13	26	56	69	287	98	84	454
10	45	33	e36	e21	e14	28	66	69	281	92	70	422
11	43	32	e36	e22	e16	30	243	75	301	91	70	362
12	41	30	e39	e23	e17	e23	292	106	292	786	64	257
13	39	30	e37	e22	e19	e25	290	135	290	573	58	189
14	36	33	e33	e18	e20	e27	259	122	293	332	55	200
15	38	33	e32	e15	e21	e28	229	123	290	235	50	255
16	38	35	e30	e15	e19	e27	270	129	289	166	46	269
17	37	35	e33	e17	e20	e26	277	117	261	125	43	238
18	36	34	e32	e20	e21	e25	249	117	231	105	78	182
19	36	41	e31	e27	e21	e24	224	110	194	86	62	157
20	35	49	e29	e25	e20	24	196	98	161	93	58	133
21	35	51	e28	e24	e19	27	172	90	347	108	54	117
22	36	47	e27	e23	e18	25	183	87	1,010	91	50	104
23	39	44	e27	e23	e18	25	147	76	818	80	44	93
24	38	42	e27	e26	e19	31	126	68	601	71	36	96
25	37	40	e27	e25	e19	44	115	69	469	70	33	203
26	36	38	e27	e20	e19	60	103	70	367	65	36	724
27	34	e37	e27	e17	e18	84	93	74	287	289	36	1,100
28	36	e36	e27	e17	e17	128	81	77	233	408	32	946
29	38	e34	e27	e16	---	158	76	74	193	399	28	685
30	38	e37	e25	e17	---	150	72	69	161	326	25	488
31	37	---	e23	e18	---	138	---	66	---	246	25	---
TOTAL	1,293	1,091	988	625	513	1,371	4,403	2,564	9,215	5,651	2,134	8,179
MEAN	41.7	36.4	31.9	20.2	18.3	44.2	147	82.7	307	182	68.8	273
MAX	55	51	41	27	23	158	292	135	1,010	786	183	1,100
MIN	34	30	23	15	12	18	56	52	71	65	25	19
AC-FT	2,560	2,160	1,960	1,240	1,020	2,720	8,730	5,090	18,280	11,210	4,230	16,220

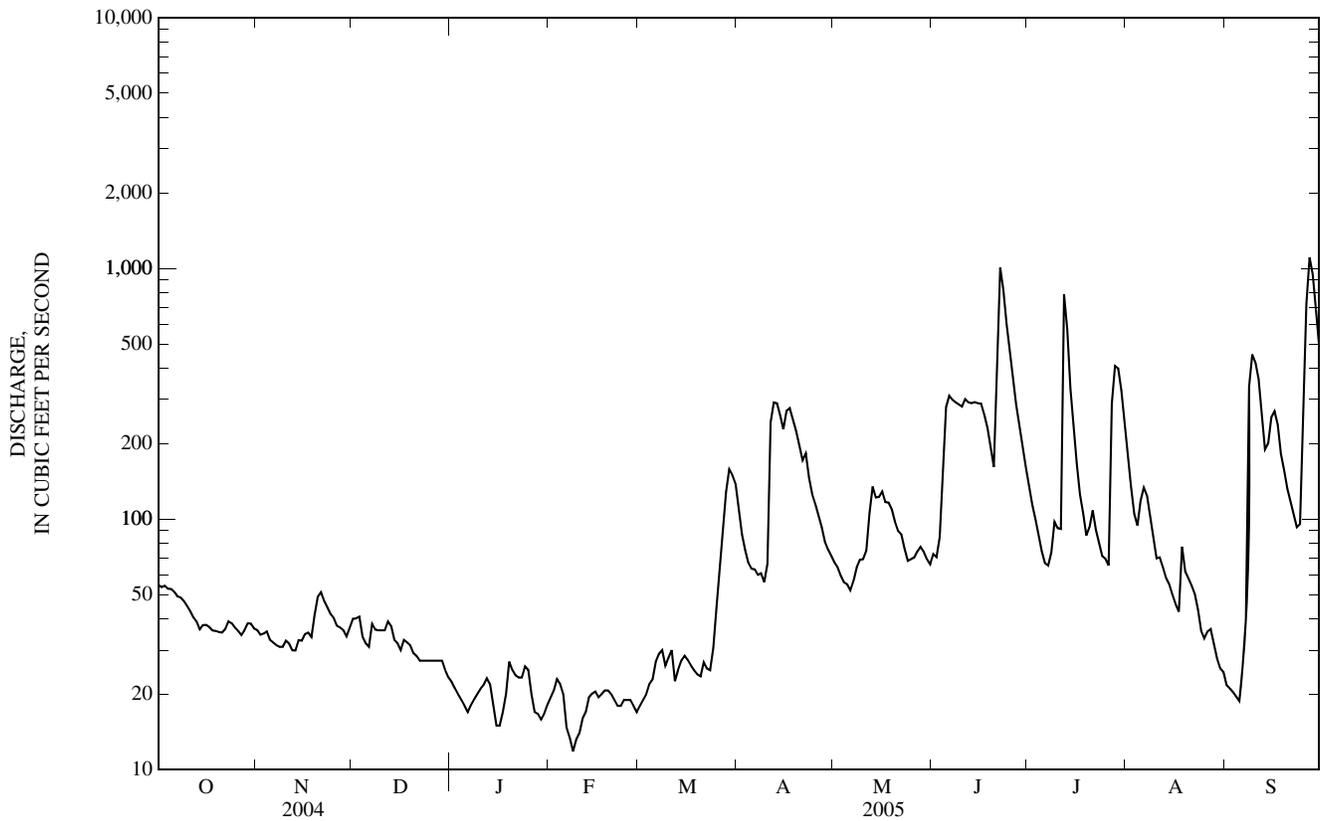
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966-1989, 2002 - 2005, BY WATER YEAR (WY)

MEAN	45.6	49.6	26.8	17.8	43.5	249	286	122	164	68.6	41.4	76.4
MAX	231	372	86.8	75.3	299	859	2,019	526	1,595	403	364	1,212
(WY)	(1987)	(1983)	(2002)	(1973)	(1983)	(1983)	(1969)	(1984)	(1984)	(1983)	(1979)	(1986)
MIN	2.72	3.07	2.28	0.42	0.20	11.1	17.2	7.86	3.57	2.43	0.82	1.82
(WY)	(1968)	(1968)	(1977)	(1977)	(1977)	(1975)	(1968)	(1981)	(1976)	(1976)	(1976)	(1976)

06482610 SPLIT ROCK CREEK AT CORSON, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1966-1989, 2002-2005	
ANNUAL TOTAL	39,315		38,027		<sup>a</sup> 99.1	
ANNUAL MEAN	107		104		348	
HIGHEST ANNUAL MEAN					11.3	
LOWEST ANNUAL MEAN					16,400	
HIGHEST DAILY MEAN	2,060	May 30	1,100	Sep 27	0.00	Apr 8, 1969
LOWEST DAILY MEAN	16	Jan 29	12	Feb 8	0.00	Jul 20, 1966
ANNUAL SEVEN-DAY MINIMUM	17	Jan 27	14	Feb 6	0.00	Jan 28, 1977
MAXIMUM PEAK FLOW			1,180	Jun 22	<sup>c</sup> 18,900	May 8, 1993
MAXIMUM PEAK STAGE			5.81	Jun 22	<sup>d</sup> 17.58	May 8, 1993
ANNUAL RUNOFF (AC-FT)	77,980		75,430		71,800	
10 PERCENT EXCEEDS	205		280		187	
50 PERCENT EXCEEDS	48		47		25	
90 PERCENT EXCEEDS	23		20		4.5	

- a Median of annual mean discharges, 69 ft<sup>3</sup>/s.
- b No flow at times in some years.
- c Includes water years 1990-97 during crest-stage gage partial-record year.
- d From floodmark.
- e Estimated.



## 06483500 ROCK RIVER NEAR ROCK VALLEY, IA

LOCATION.--Lat 43°12'52", long 96°17'39", in SW $\frac{1}{4}$  SW $\frac{1}{4}$  sec.16, T.97 N., R.46 W., Sioux County, Hydrologic Unit 10170204, on left bank 15 ft upstream from bridge on County Highway K30, 0.3 mi north of Rock Valley, and 19.4 mi (revised) upstream from mouth.

DRAINAGE AREA.--1,592 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1948 to current year.

REVISED RECORDS.--WSP 1439: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,222.54 ft above NGVD of 1929. Prior to Aug. 13, 1952, nonrecording gage with supplementary water-stage recorder operating above 6.2 ft gage height. June 4, 1949 to Aug. 12, 1952 and Aug. 13, 1952 to May 4, 1976, water-stage recorder, at site 3.2 mi downstream at datum 10.73 ft lower.

REMARKS.--Records are considered good, except for those estimated daily discharges, which are poor. U.S. Army Corps of Engineers rain gage and data collection platform with satellite telemetry at station. Precipitation records are available online at the U.S. Army Corps of Engineers website: [www2.mvr.usace.army.mil/WaterControl/datamining2.cfm](http://www2.mvr.usace.army.mil/WaterControl/datamining2.cfm).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1897 reached a stage of 17.0 ft, former site and datum, discharge not determined, from information by State Highway Commission.

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	630	346	322	e152	e136	e181	610	698	789	938	480	149
2	596	338	344	e143	e166	e221	544	660	771	867	425	138
3	565	328	346	e141	e180	229	495	627	832	814	386	131
4	534	325	350	e134	e180	234	465	603	946	739	357	122
5	506	317	336	e129	e174	226	443	580	3,110	668	337	114
6	483	316	324	e124	e194	213	451	575	2,820	618	363	121
7	475	312	332	e129	e180	206	499	575	2,630	591	354	128
8	468	302	325	e126	e166	207	505	605	2,410	688	313	226
9	449	296	324	e141	e155	188	487	646	2,200	847	285	588
10	433	299	318	e138	e149	181	482	755	2,090	918	264	769
11	419	288	311	e141	e170	189	633	851	2,010	855	264	703
12	405	282	306	e140	e260	175	1,140	1,160	1,930	716	276	519
13	398	277	e161	e129	e403	138	1,790	1,620	1,790	636	259	462
14	388	275	e145	e119	e700	133	1,920	1,900	2,360	586	246	466
15	379	279	e207	e113	e542	161	1,630	1,820	3,030	529	231	752
16	370	281	e224	e117	e401	221	1,470	1,610	2,500	478	216	724
17	358	287	e215	e118	e315	201	1,500	1,470	2,040	438	223	583
18	349	294	e196	e124	e290	182	1,560	1,390	1,690	401	274	547
19	343	317	e141	e132	e348	99	1,490	1,340	1,440	372	386	503
20	337	352	e162	e135	e278	125	1,380	1,210	1,270	356	423	454
21	334	378	e142	e133	e244	138	1,270	1,090	1,800	371	366	425
22	341	391	e134	e121	e248	146	1,310	1,080	2,590	430	309	403
23	354	391	e124	e122	e220	163	1,330	1,060	3,220	414	271	373
24	357	380	e127	e125	e250	202	1,230	1,010	2,660	384	244	407
25	354	362	e142	e141	e211	249	1,120	958	2,020	1,680	227	911
26	341	365	e139	e136	e222	297	1,030	983	1,740	1,590	226	2,620
27	336	380	e142	e135	e228	385	934	1,030	1,530	947	211	4,240
28	336	370	e144	e139	e196	542	854	982	1,380	786	199	3,720
29	350	363	e145	e136	---	760	790	914	1,200	731	189	2,610
30	360	338	e166	e140	---	776	741	851	1,020	635	176	2,000
31	352	---	e157	e143	---	701	---	804	---	548	164	---
TOTAL	12,700	9,829	6,951	4,096	7,206	8,069	30,103	31,457	57,818	21,571	8,944	25,908
MEAN	410	328	224	132	257	260	1,003	1,015	1,927	696	289	864
MAX	630	391	350	152	700	776	1,920	1,900	3,220	1,680	480	4,240
MIN	334	275	124	113	136	99	443	575	771	356	164	114
AC-FT	25,190	19,500	13,790	8,120	14,290	16,000	59,710	62,390	114,700	42,790	17,740	51,390

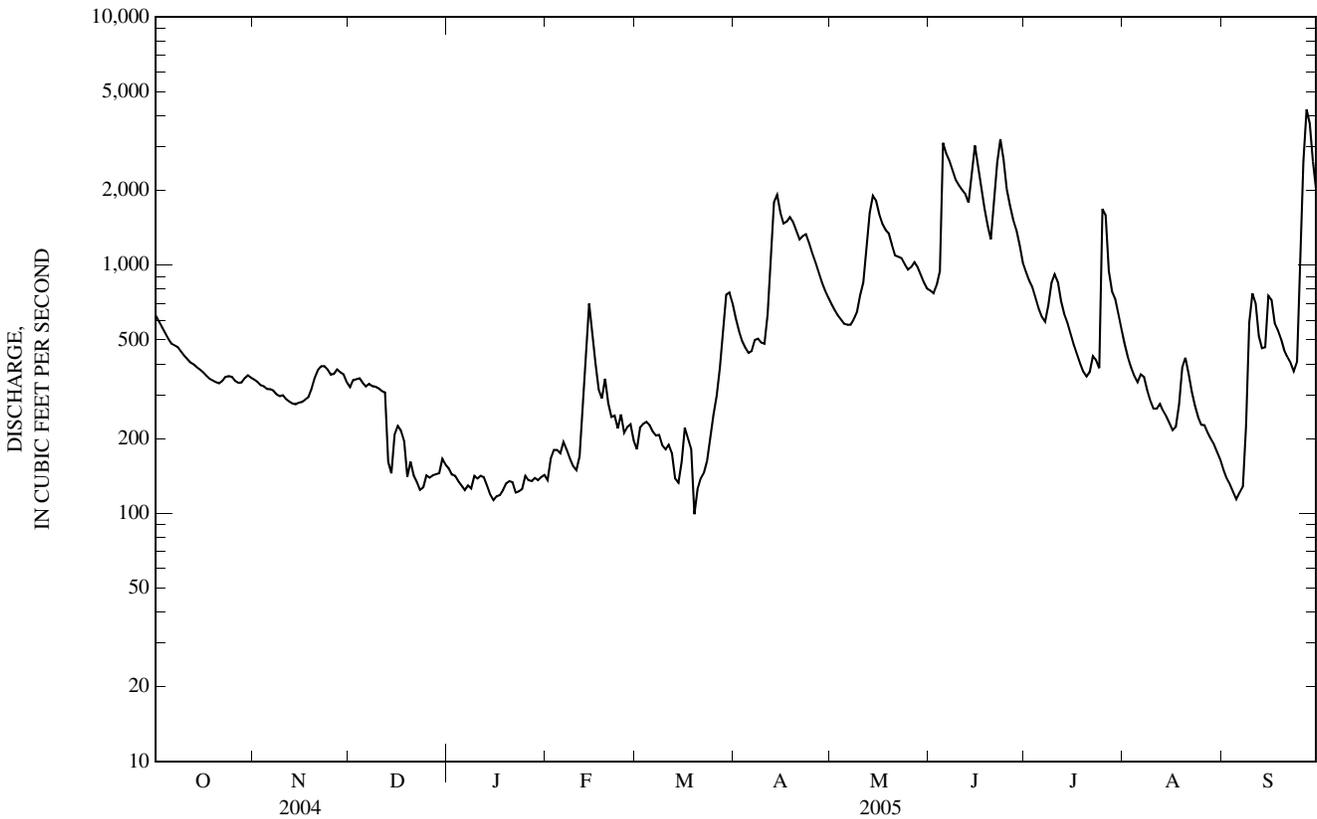
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2005, BY WATER YEAR (WY)

MEAN	231	256	148	82.2	216	987	1,299	720	982	609	269	249
MAX	1,232	2,039	676	434	1,059	4,646	6,507	3,728	6,495	9,088	2,251	2,135
(WY)	(1993)	(1980)	(1983)	(1996)	(1966)	(1997)	(1969)	(1993)	(1993)	(1993)	(1993)	(1986)
MIN	2.39	9.70	3.22	0.04	0.30	35.1	35.9	44.4	46.3	21.9	6.79	3.26
(WY)	(1959)	(1959)	(1959)	(1977)	(1959)	(1959)	(1959)	(1968)	(1964)	(1976)	(1976)	(1955)

06483500 ROCK RIVER NEAR ROCK VALLEY, IA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1949 - 2005	
ANNUAL TOTAL	210,314		224,652			
ANNUAL MEAN	575		615		504	
HIGHEST ANNUAL MEAN					2,656	1993
LOWEST ANNUAL MEAN					31.0	1968
HIGHEST DAILY MEAN	6,820	Mar 2	4,240	Sep 27	35,400	Apr 7, 1969
LOWEST DAILY MEAN	28	Feb 15	99	Mar 19	<sup>a</sup> 0.00	Feb 20, 1959
ANNUAL SEVEN-DAY MINIMUM	38	Feb 14	122	Jan 13	0.00	Feb 27, 1959
MAXIMUM PEAK FLOW			4,460	Sep 27	40,400	Apr 7, 1969
MAXIMUM PEAK STAGE			9.68	Sep 27	<sup>b</sup> 17.32	Apr 7, 1969
INSTANTANEOUS LOW FLOW			72	Mar 19		
ANNUAL RUNOFF (AC-FT)	417,200		445,600		365,100	
10 PERCENT EXCEEDS	1,400		1,510		1,140	
50 PERCENT EXCEEDS	356		363		140	
90 PERCENT EXCEEDS	53		139		17	

a Many days during winter periods in 1959 and 1977.  
 b At location and datum then in use.  
 c Estimated.



## BIG SIOUX RIVER BASIN

06485500 BIG SIOUX RIVER AT AKRON, IA

LOCATION.--Lat 42°50'14", long 96°33'41", in SW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.30, T.93 N., R.48 W., Plymouth County, Hydrologic Unit 10170203, on left bank 15 ft downstream from Iowa Highway 403 bridge, 0.5 mi northwest of Akron, and 2.9 mi upstream from Union Creek.

DRAINAGE AREA.--8,424 mi<sup>2</sup>, of which 1,487 mi<sup>2</sup> usually is noncontributing (documented runoff occurred during 1994-2002 water years for 213 mi<sup>2</sup> of the usually noncontributing area).

PERIOD OF RECORD.--October 1928 to current year.

REVISED RECORDS.--WSP 1309: 1929(M), 1931-33(M), 1936(M), 1938(M), 1940(M). WSP 1389: Drainage area. WDR SD-84-1: Drainage area. WDR SD-94-1 only: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,118.90 ft above NGVD of 1929. Prior to Dec. 3, 1934, nonrecording gage at bridge 0.5 mi downstream at same datum. From Dec. 3, 1934, to Oct. 31, 1985, water-stage recorder at site 0.6 mi downstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

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	1,590	788	843	e440	e330	688	1,570	1,650	1,830	2,700	1,650	465
2	1,560	809	814	e425	e340	617	1,470	1,590	1,920	2,500	1,450	442
3	1,500	788	807	e410	e345	642	1,350	1,520	2,100	2,310	1,260	426
4	1,430	822	765	e395	e350	724	1,230	1,460	2,140	2,150	1,120	407
5	1,330	943	756	e385	e355	684	1,140	1,410	4,670	2,000	1,010	394
6	1,250	1,030	754	e380	e350	665	1,090	1,370	7,410	1,830	963	395
7	1,200	1,000	755	e375	e335	658	1,050	1,350	6,990	1,750	952	395
8	1,160	929	763	e370	e325	653	1,060	1,350	6,510	1,710	978	402
9	1,110	919	770	e370	e320	657	1,050	1,370	6,010	2,000	894	463
10	1,090	904	770	e365	e315	661	1,060	1,420	5,250	2,090	828	1,250
11	1,060	884	768	e360	e326	641	1,160	1,540	4,740	2,020	789	1,930
12	1,020	846	783	e360	e382	641	1,440	1,900	4,430	1,910	763	1,840
13	986	821	715	e355	e493	635	2,360	2,660	4,270	1,740	784	1,630
14	959	813	e650	e350	e1,080	602	3,070	3,250	4,580	2,060	804	1,430
15	939	802	e600	e345	e2,000	575	3,210	3,310	4,950	2,050	722	1,280
16	912	798	e600	e340	e2,000	593	2,990	3,200	4,940	1,780	672	1,530
17	897	790	e650	e335	e1,950	652	2,920	3,040	4,630	1,590	638	1,640
18	872	790	e690	e330	e1,900	685	3,120	2,960	4,300	1,420	647	1,540
19	857	841	e690	e325	e1,800	670	3,230	2,900	3,980	1,260	670	1,530
20	865	841	e670	e325	e1,800	615	3,070	3,020	3,730	1,170	781	1,380
21	835	876	e670	e320	e2,000	550	2,870	2,710	3,610	1,120	863	1,260
22	830	950	e640	e320	e1,900	588	2,730	2,470	3,820	1,100	761	1,130
23	833	945	e620	e315	e1,800	624	2,730	2,330	4,480	1,120	678	1,060
24	833	903	e600	e315	944	655	2,800	2,210	5,400	1,040	639	1,070
25	829	900	e580	e310	758	691	2,550	2,110	5,250	1,060	614	1,150
26	822	898	e560	e310	730	727	2,340	2,030	4,210	2,280	611	1,690
27	805	887	e540	e310	742	782	2,150	2,060	3,740	2,840	583	3,220
28	783	890	e520	e310	708	881	2,010	2,040	3,550	1,860	567	5,070
29	781	878	e500	e315	---	1,070	1,870	2,000	3,250	1,990	555	5,090
30	791	835	e475	e320	---	1,440	1,740	1,920	2,950	2,070	525	4,240
31	783	---	e460	e325	---	1,600	---	1,820	---	1,910	497	---
TOTAL	31,512	26,120	20,778	10,810	26,678	22,566	62,430	65,970	129,640	56,430	25,268	45,749
MEAN	1,017	871	670	349	953	728	2,081	2,128	4,321	1,820	815	1,525
MAX	1,590	1,030	843	440	2,000	1,600	3,230	3,310	7,410	2,840	1,650	5,090
MIN	781	788	460	310	315	550	1,050	1,350	1,830	1,040	497	394
AC-FT	62,500	51,810	41,210	21,440	52,920	44,760	123,800	130,900	257,100	111,900	50,120	90,740

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2005, BY WATER YEAR (WY)

MEAN	536	531	368	220	512	2,328	3,329	1,878	2,234	1,502	767	684
MAX	4,039	3,022	1,987	920	2,399	8,866	20,690	9,499	15,820	21,740	6,200	7,313
(WY)	(1987)	(1980)	(1999)	(1996)	(1966)	(1983)	(1969)	(1993)	(1984)	(1993)	(1993)	(1986)
MIN	32.9	47.9	32.1	6.68	12.1	124	139	73.3	100	50.7	45.2	36.4
(WY)	(1959)	(1959)	(1977)	(1977)	(1936)	(1931)	(1931)	(1934)	(1933)	(1931)	(1976)	(1976)

06485500 BIG SIOUX RIVER AT AKRON, IA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1929 - 2005	
ANNUAL TOTAL	496,822		523,951		1,241	
ANNUAL MEAN	1,357		1,435		6,271	
HIGHEST ANNUAL MEAN					120	
LOWEST ANNUAL MEAN					77,500	
HIGHEST DAILY MEAN	10,200	Jun 2	7,410	Jun 6	4.0	1931
LOWEST DAILY MEAN	150	Feb 17	310	Jan 25	4.4	Apr 9, 1969
ANNUAL SEVEN-DAY MINIMUM	153	Feb 14	312	Jan 23	23.38	Jan 15, 1977
MAXIMUM PEAK FLOW			7,640	Jun 6	80,800	Apr 9, 1969
MAXIMUM PEAK STAGE			16.20	Jun 6	23.38	Apr 26, 2001
ANNUAL RUNOFF (AC-FT)	985,400		1,039,000		899,100	
10 PERCENT EXCEEDS	2,970		3,070		2,920	
50 PERCENT EXCEEDS	881		944		420	
90 PERCENT EXCEEDS	194		378		74	

- a Median of annual mean discharges, 900 ft<sup>3</sup>/s.
- b Gage height, 22.99 ft.
- c Discharge, 40,400 ft<sup>3</sup>/s.
- e Estimated.

