

05291000 WHETSTONE RIVER NEAR BIG STONE CITY, SD

LOCATION.--Lat 45°17'32", long 96°29'14", in SE¹/₄NW¹/₄ sec. 18, T.121 N., R.46 W., Grant County, Hydrologic Unit 07020001, on right bank 20 ft downstream from former highway bridge site, 1.5 mi west of Big Stone City, S.D., and 4.5 mi upstream from Big Stone Lake.

DRAINAGE AREA.--398 mi².

PERIOD OF RECORD.--March 1910 to November 1912 (no winter records), and March 1931 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 895: Drainage area. WSP 1308: 1932(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 996.96 ft in sea level (NGVD of 1912). Mar. 8, 1910 to Nov. 30, 1912, nonrecording gage 2 mi downstream at different datum. Mar. 18, 1931 to May 3, 1939, nonrecording gage, at site 20 ft upstream at present datum. May 4, 1939 to Nov. 8, 1952, water-stage recorder at site 80 ft down-stream at present datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair to poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 26 ft in June 1919, present site and datum, from information by local resident, discharge 29,000 ft³/s, from dam break.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 230 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr 22	2100	*62	1.97	No peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.9	12	14	e10	e6.5	e32	22	35	15	5.6	4.7	2.5
2	8.3	14	15	e10	e6.8	e29	21	33	15	10	4.3	2.7
3	9.0	14	15	e9.9	e7.0	e28	19	30	16	10	4.2	3.0
4	9.1	12	16	e9.7	e7.1	e29	19	28	16	8.7	4.3	3.5
5	8.7	11	18	e9.5	e7.2	e30	19	25	18	8.7	4.7	3.7
6	8.7	11	21	e9.4	e7.2	e31	19	22	15	10	4.7	3.4
7	8.8	12	17	e9.4	e7.4	e32	20	21	13	9.5	4.9	3.8
8	9.1	12	15	e9.4	e7.6	e34	17	26	12	7.5	5.1	3.4
9	8.9	11	16	e9.4	e7.8	e37	15	27	11	6.9	4.6	3.3
10	8.0	11	17	e9.4	e7.9	38	16	24	11	7.9	4.5	3.0
11	8.2	12	15	e9.4	e8.0	36	16	30	10	9.1	4.4	2.6
12	8.6	14	17	e9.4	e8.0	36	15	31	11	15	e4.3	2.3
13	9.2	13	18	e9.4	e7.8	34	16	32	12	14	e4.0	2.1
14	9.6	13	15	e9.3	e7.6	31	17	27	11	10	e3.7	2.2
15	9.7	13	14	e9.2	e7.4	29	18	23	11	8.3	e3.2	2.3
16	9.7	13	e11	e9.0	e7.2	28	22	22	10	12	e3.0	2.2
17	9.2	13	e10	e8.8	e7.2	26	24	21	10	16	e3.3	2.2
18	10	13	e9.0	e8.5	e7.2	24	25	21	10	16	e3.8	2.3
19	11	13	e10	e8.2	e7.2	24	26	19	10	14	e3.8	2.2
20	12	14	e11	e7.9	e7.2	24	33	17	8.4	12	e3.6	2.2
21	15	15	e12	e7.4	e7.2	24	45	17	6.8	11	e3.4	2.3
22	11	14	e11	e7.1	e7.2	23	57	17	7.1	10	e3.2	3.9
23	12	13	e11	e6.8	e7.4	23	56	18	9.0	9.5	e3.1	4.6
24	11	14	e10	e6.6	e7.7	25	49	19	7.6	9.1	e3.0	4.8
25	11	15	e10	e6.4	e10	27	41	15	7.8	13	e2.9	4.0
26	11	15	e10	e6.3	e14	29	36	15	9.2	11	e2.8	3.5
27	11	14	e10	e6.2	e18	27	35	15	9.6	8.3	e2.7	3.6
28	11	15	e10	e6.2	e25	25	40	15	8.0	6.5	e2.6	4.5
29	11	16	e10	e6.2	e35	24	43	15	7.1	6.0	e2.5	4.0
30	11	13	e10	e6.2	---	22	37	15	6.9	5.7	e2.4	3.7
31	14	---	e10	e6.2	---	22	---	14	---	5.2	2.2	---
TOTAL	312.7	395	408.0	256.8	278.8	883	838	689	324.5	306.5	113.9	93.8
MEAN	10.1	13.2	13.2	8.28	9.61	28.5	27.9	22.2	10.8	9.89	3.67	3.13
MAX	15	16	21	10	35	38	57	35	18	16	5.1	4.8
MIN	7.9	11	9.0	6.2	6.5	22	15	14	6.8	5.2	2.2	2.1
AC-FT	620	783	809	509	553	1750	1660	1370	644	608	226	186
CFSM	.03	.03	.03	.02	.02	.07	.07	.06	.03	.02	.01	.01
IN.	.03	.04	.04	.02	.03	.08	.08	.06	.03	.03	.01	.01

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 2000, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14.9	14.7	9.85	6.40	15.1	159	210	91.8	75.9	58.2	19.7	10.5
MAX	280	122	56.0	36.3	168	612	1677	491	478	885	327	77.0
(WY)	1996	1996	1999	1994	1998	1978	1997	1972	1984	1993	1991	1995
MIN	.60	.40	.20	.000	.000	2.85	3.63	.77	1.42	.035	.000	.36
(WY)	1932	1935	1935	1934	1934	1969	1934	1934	1936	1934	1934	1935

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1910 - 2000
ANNUAL TOTAL	17159.3	4900.0	
ANNUAL MEAN	47.0	13.4	58.9 ^a
HIGHEST ANNUAL MEAN			232
LOWEST ANNUAL MEAN			1.52
HIGHEST DAILY MEAN	277	Mar 18	6600
LOWEST DAILY MEAN	5.2	Aug 27	.00 ^b
ANNUAL SEVEN-DAY MINIMUM	5.8	Aug 21	.00
INSTANTANEOUS PEAK FLOW			62 ^c
INSTANTANEOUS PEAK STAGE			2.37 ^d
INSTANTANEOUS LOW FLOW			1.9
ANNUAL RUNOFF (AC-FT)	34040	9720	42670
ANNUAL RUNOFF (CFSM)	.12		.034
ANNUAL RUNOFF (INCHES)	1.60		.46
10 PERCENT EXCEEDS	125	27	108
50 PERCENT EXCEEDS	17	10	8.5
90 PERCENT EXCEEDS	8.9	3.7	1.4

^a Median of annual mean discharges is 46 ft³/s.
^b Many days, several years.
^c Gage-height, 1.97 ft.
^d Backwater from ice.
^e Estimated.

