

Water-Data Report 2009

05050000 BOIS DE SIOUX RIVER NEAR WHITE ROCK, SD

Upper Red Basin
Bois De Sioux Subbasin

LOCATION.--Lat 45°51'45", long 96°34'25" referenced to North American Datum of 1927, in SW ¼ SW ¼ sec.27, T.128 N., R.47 W., Roberts County, SD, Hydrologic Unit 09020101, on Sisseton Indian Reservation, on left bank at Big Slough Outlet, 300 ft downstream from White Rock Dam, 4 mi south of White Rock and 5 mi northwest of Wheaton, MN.

DRAINAGE AREA.--1,160 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1941 to current year.

GAGE.--Water-stage recorder. Datum of gage is 960.00 ft. above sea level, (adjustment of 1912, levels by U.S. Army Corps of Engineers). Prior to Jan. 14, 1943, nonrecording gage at same site at datum 0.11 ft lower. Jan. 15, 1943 to Sept. 30, 1963, water-stage recorder at same site at datum 0.11 ft lower.

REMARKS.--Records good to fair except those for estimated daily discharges, which are poor. Flow regulated by Lake Traverse-Boise de Sioux Flood Control and Water Conservation project. Backwater from Rabbit River at times.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	4.5	68	40	17	e74	e34	3,810	1,330	223	6.4	0.50	0.25
2	4.3	64	18	16	e71	e61	3,790	1,300	97	5.4	0.39	0.21
3	3.8	66	11	16	e69	e91	3,730	1,280	26	4.4	0.56	0.22
4	3.4	67	10	17	e66	e158	3,720	1,250	10	4.8	0.74	e0.19
5	3.5	72	10	17	e65	e253	3,750	1,220	9.4	3.9	0.75	e0.20
6	e5.0	80	10	17	e67	e418	3,700	1,170	8.9	3.3	0.72	e0.21
7	13	103	9.1	17	e61	e449	3,610	1,130	8.9	2.8	1.4	0.16
8	14	106	9.3	16	e59	e445	3,580	1,110	9.5	2.4	1.4	0.15
9	12	105	9.1	16	e62	e599	3,510	1,100	9.9	2.5	1.6	e5.2
10	14	107	8.2	16	e65	e735	3,020	1,090	9.2	2.5	1.5	15
11	18	107	8.4	15	e62	e763	e1,890	1,070	9.1	2.4	1.4	14
12	22	249	7.9	e15	e56	e736	e1,860	1,060	9.3	2.2	1.1	15
13	36	566	7.7	e14	e49	e753	e1,880	1,060	8.9	1.8	1.2	14
14	33	572	e8.5	e14	e47	e751	e3,310	1,070	8.5	2.1	0.60	12
15	22	508	e7.9	e15	e45	e757	3,510	1,080	8.3	2.5	0.50	11
16	20	499	7.1	e16	e44	e753	3,500	1,060	8.9	1.6	1.9	11
17	19	494	e7.1	e17	e42	e739	3,490	1,050	55	1.3	2.0	10
18	17	492	e7.1	e17	e41	e739	3,460	1,050	154	0.93	1.7	9.2
19	16	440	7.1	e18	e40	e733	3,410	1,040	223	0.75	2.1	8.5
20	15	441	e7.2	e20	e40	e506	3,320	1,040	121	0.65	4.0	7.7
21	13	543	e7.8	e48	e42	e322	2,980	995	121	0.70	2.0	8.4
22	15	468	e7.1	e125	e40	e304	2,730	825	198	0.68	1.5	10
23	21	375	e6.8	e133	e37	e281	2,120	675	360	0.57	1.2	11
24	20	245	e7.1	e118	e29	e254	1,700	670	432	0.53	1.0	11
25	34	101	e7.3	e109	e27	e253	1,510	663	406	0.44	0.92	9.8
26	35	58	e8.2	e103	e28	e259	1,430	594	292	0.42	0.69	9.4
27	32	58	e8.7	e98	e31	e253	1,370	509	196	0.37	0.63	9.9
28	41	54	e9.0	e92	e30	e258	1,330	412	197	0.28	0.56	8.5
29	55	52	e15	e88	---	e648	1,330	344	170	0.28	0.43	8.0
30	64	51	e17	e83	---	e2,550	1,350	338	82	0.30	0.33	6.7
31	69	---	e17	e86	---	e3,550	---	330	---	0.33	0.29	---
Total	694.5	7,211	321.7	1,409	1,389	19,405	83,700	28,915	3,471.8	59.53	35.61	226.89
Mean	22.4	240	10.4	45.5	49.6	626	2,790	933	116	1.92	1.15	7.56
Max	69	572	40	133	74	3,550	3,810	1,330	432	6.4	4.0	15
Min	3.4	51	6.8	14	27	34	1,330	330	8.3	0.28	0.29	0.15
Ac-ft	1,380	14,300	638	2,790	2,760	38,490	166,000	57,350	6,890	118	71	450
Cfs/m	0.02	0.21	0.01	0.04	0.04	0.54	2.41	0.80	0.10	0.00	0.00	0.01
In.	0.02	0.23	0.01	0.05	0.04	0.62	2.68	0.93	0.11	0.00	0.00	0.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	38.4	26.9	12.9	6.20	9.35	111	376	336	272	192	72.7	37.0
Max	588	482	207	152	148	823	3,814	1,445	1,103	1,066	1,182	1,062
(WY)	(2005)	(2005)	(1999)	(2006)	(1997)	(2007)	(1997)	(1997)	(1986)	(2005)	(1993)	(1993)
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.01	0.00	0.00	0.00
(WY)	(1942)	(1942)	(1942)	(1942)	(1942)	(1942)	(1942)	(1977)	(1977)	(1961)	(1970)	(1960)

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SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1942 - 2009	
Annual total	56,015.61		146,839.03			
Annual mean	153		402		^a 125	
Highest annual mean					536	1997
Lowest annual mean					0.38	1977
Highest daily mean	1,010	Jun 16	3,810	Apr 1	7,710	Apr 16, 1997
Lowest daily mean	0.46	Aug 10	0.15	Sep 8	^b 0.00	Oct 1, 1941
Annual seven-day minimum	0.64	Aug 4	0.19	Sep 2	0.00	Oct 1, 1941
Maximum peak flow			^c 3,850	Apr 1	^d 8,750	Apr 20, 1997
Maximum peak stage			15.03	Apr 1	16.90	Apr 20, 1997
Instantaneous low flow			^e <0.10	Sep 3	^b 0.00	Oct 1, 1941
Annual runoff (ac-ft)	111,100		291,300		90,200	
Annual runoff (cfsm)	0.132		0.347		0.107	
Annual runoff (inches)	1.80		4.71		1.46	
10 percent exceeds	543		1,230		429	
50 percent exceeds	10		31		4.4	
90 percent exceeds	2.1		0.93		0.00	

^a Median of annual mean discharges is 71 ft³/s.

^b Many days, several years, result of regulation.

^c Affected by regulation; gage-height, 15.03 ft.

^d Estimated from observed readings made under non-ideal conditions. Some evidence that peak occurred Apr. 16 at discharge of 7,930 ft³/s.

^e Result of regulation.

