Water-Data Report 2008

06422500 BOXELDER CREEK NEAR NEMO, SD

Cheyenne Basin
Middle Cheyenne-Elk Subbasin

LOCATION.--Lat 44°08′38″, long 103°27′16″ referenced to North American Datum of 1927, in SE ¼ SE ¼ sec.12, T.2 N., R.5 E., Lawrence County, SD, Hydrologic Unit 10120111, on right bank at ranch 0.2 mi upstream from county line, 0.9 mi downstream from Jim Creek, and 4.5 mi southeast of Nemo.

DRAINAGE AREA.--96 mi^2, approximately.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1945 to July 1947, May 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,320.27 ft above NGVD of 1929. July 1945 to July 1947 nonrecording gage at site 100 ft upstream at different datum. May 17, 1966, to June 9, 1972, water-stage recorder (destroyed by flood) and June 10, 1972, to Aug. 8, 1972, nonrecording gage, both at site 100 ft upstream at datum 2.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured with each discharge measurement.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood on 6/12/1907 (previously reported as 1911) reached a stage of about 16 ft, present datum with an estimated discharge of 16,000 cfs.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3.9	4.3	e3.9	e2.8	e2.4	e2.5	e5.0	22	174	69	85	34
2	3.7	4.3	e3.9	e2.8	e2.4	e2.5	e6.0	14	204	66	79	35
3	3.6	4.1	e4.1	e2.8	e2.4	e2.4	e7.0	11	221	68	75	34
4	3.7	4.4	e4.2	e2.9	e2.4	e2.3	e7.9	22	207	63	72	42
5	4.0	4.4	e4.1	e3.0	e2.5	e2.2	8.8	46	362	59	73	37
6	3.9	3.7	e4.0	e3.1	e2.5	e2.0	10	67	427	85	205	37
7	4.4	4.1	e3.9	e3.2	e2.5	e1.9	8.9	82	369	287	95	37
8	4.6	4.8	e3.9	e3.3	e2.4	e1.9	11	245	321	148	81	37
9	4.4	4.4	e3.9	e3.4	e2.4	e2.1	10	190	269	127	74	34
10	4.1	4.5	e3.9	e3.4	e2.4	e2.2	10	195	238	104	72	33
11	4.1	4.4	e4.0	e3.4	e2.4	e2.5	8.6	147	236	89	75	34
12	4.0	4.4	e3.9	e3.3	e2.3	e2.5	7.6	126	176	80	64	32
13	4.2	4.4	e3.9	e3.1	e2.3	e2.5	7.7	110	158	75	61	38
14	4.8	4.2	e3.9	e3.0	e2.2	e2.5	11	93	139	70	60	34
15	4.7	3.6	e4.0	e2.8	e2.2	e2.5	23	94	122	66	63	30
16	4.5	4.5	e4.1	e2.6	e2.2	e2.5	36	77	147	64	57	29
17	4.6	4.4	e4.1	e2.4	e2.2	e2.5	24	65	127	60	53	27
18	5.5	4.7	e4.2	e2.2	e2.2	e2.5	19	59	111	98	50	27
19	5.5	4.4	e4.2	e2.1	e2.2	e2.5	21	54	167	254	48	26
20	5.1	4.5	e4.1	e2.0	e2.2	e2.4	26	50	129	129	46	25
21	5.1	3.8	e3.9	e2.0	e2.2	e2.4	26	47	145	111	47	24
22	4.8	e3.7	e3.6	e2.0	e2.2	e2.2	21	55	117	99	42	24
23	4.8	e3.6	e3.6	e2.0	e2.2	e2.3	22	192	148	125	41	24
24	4.6	e4.0	e3.6	e2.1	e2.2	e2.5	22	322	126	195	43	23
25	4.5	e3.9	e3.7	e2.2	e2.3	e2.6	20	285	105	208	44	23
26	4.4	e4.0	e3.7	e2.3	e2.4	e2.7	19	241	97	158	40	23
27	4.5	e4.1	e3.7	e2.4	e2.5	e2.7	17	250	101	137	38	22
28	4.4	e4.0	e3.6	e2.5	e2.5	e2.7	17	229	86	123	37	21
29	4.4	e4.0	e3.5	e2.5	e2.5	e2.8	17	201	80	110	35	21
30	4.4	e4.0	e3.3	e2.4	---	e3.5	17	180	75	102	34	20
31	4.4	---	e3.0	e2.4	---	e4.2	---	172	---	93	34	---
Total	137.6	125.6	119.4	82.4	67.7	77.5	466.5	3,943	5,384	3,522	1,923	887
Mean	4.44	4.19	3.85	2.66	2.33	2.50	15.6	127	179	114	62.0	29.6
Max	5.5	4.8	4.2	3.4	2.5	4.2	36	322	427	287	205	42
Min	3.6	3.6	3.0	2.0	2.2	1.9	5.0	11	75	59	34	20
Ac-ft	273	249	237	163	134	154	925	7,820	10,680	6,990	3,810	1,760

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2008, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	9.60	8.88	6.44	5.46	5.74	11.7	28.2	49.5	58.7	22.3	13.6	9.01
Max	71.1	64.1	37.7	26.4	18.2	44.5	149	275	489	114	62.0	40.0
(WY)	(1999)	(1999)	(1999)	(1999)	(1997)	(1997)	(1997)	(1995)	(1972)	(2008)	(2008)	(1997)
Min	1.68	1.66	1.62	1.42	1.36	2.50	3.03	4.51	3.44	1.70	0.76	1.15
(WY)	(2005)	(1989)	(2006)	(1982)	(1989)	(2008)	(1981)	(2004)	(2004)	(1988)	(1989)	(2004)

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SUMMARY STATISTICS

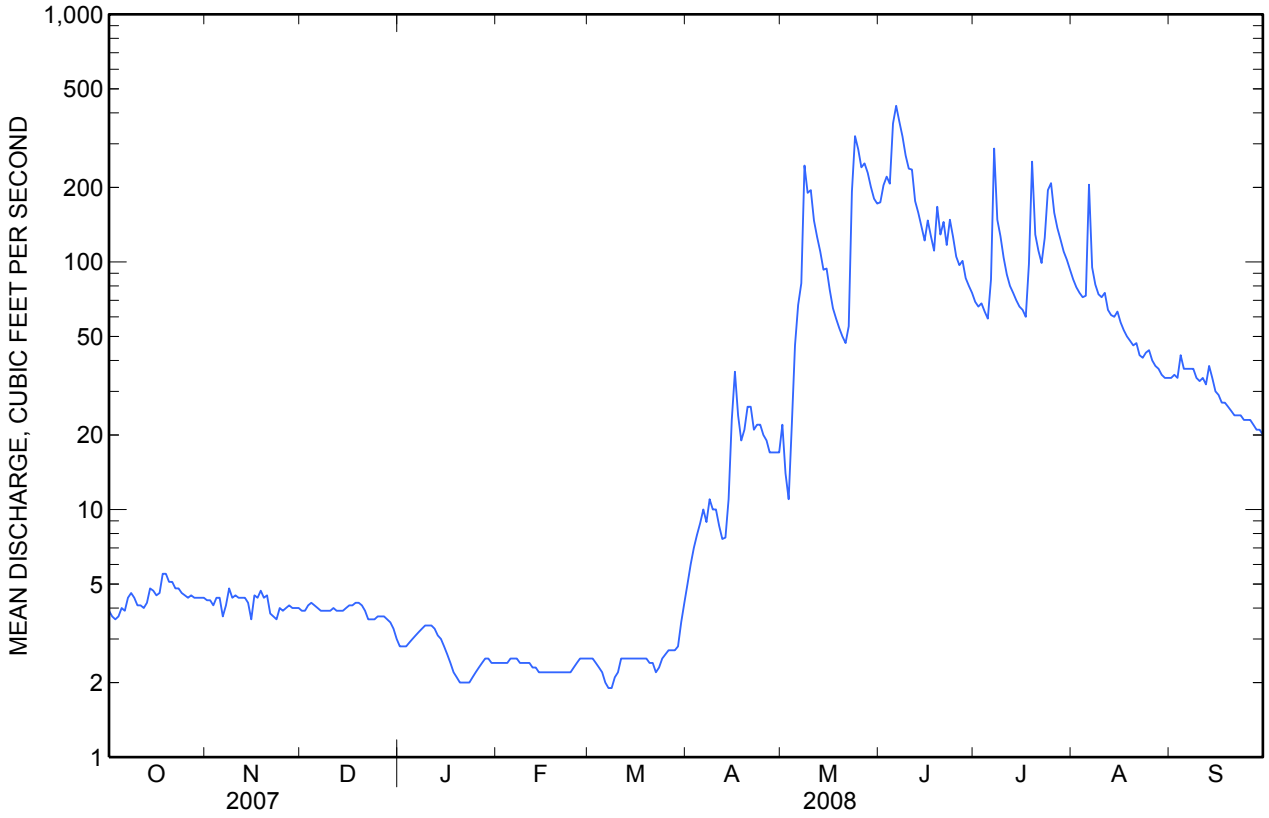
	Calendar Year 2007		Water Year 2008		Water Years 1967 - 2008*	
Annual total	4,242.0		16,735.7			
Annual mean	11.6		45.7		19.1	
Highest annual mean					63.1	1997
Lowest annual mean					3.46	2005
Highest daily mean	174	Jun 2	427	Jun 6	6,700	Jun 10, 1972
Lowest daily mean	1.3	Feb 15	1.9	Mar 7	0.10	Aug 8, 1989
Annual seven-day minimum	1.5	Feb 11	2.1	Jan 18	[a]0.14	Aug 4, 1989
Maximum peak flow			646	Jul 7	[b]30,100	Jun 9, 1972
Maximum peak stage			4.70	Jul 7	[c]20.40	Jun 9, 1972
Annual runoff (ac-ft)	8,410		33,200		13,850	
10 percent exceeds	22		146		43	
50 percent exceeds	4.8		5.5		8.0	
90 percent exceeds	1.8		2.4		2.4	

* Also includes 1946 water year.

[a] Reflects water years1967-2008.

[b] From rating curve extended above 600ft³/s on basis of slope-area measurement of peak flow.

[c] Site and datum then in use (22.0 ft, present site and datum, from floodmarks).



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WATER-QUALITY RECORDS

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Date	Time	Instantaneous discharge, cfs (00061)	Specific conductance, wat unf µS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
Oct					
03...	1350	3.5	359	24.0	14.0
Nov					
13...	1345	4.3	376	5.0	5.4
Jan					
07...	1325	3.2	411	3.0	.2
Feb					
06...	1230	2.5	429	.0	-.6
Apr					
09...	1030	9.3	299	5.0	2.1
Jul					
02...	1015	64	302	15.0	15.5
Aug					
19...	1100	48	321	31.0	14.4