

Water-Data Report 2008

06414000 RAPID CREEK AT RAPID CITY, SD

Cheyenne Basin
Rapid Subbasin

LOCATION.--Lat 44°05'09", long 103°14'31" referenced to North American Datum of 1927, in NE ¼ SE ¼ SW ¼ sec.35, T.2 N., R.7 E., Pennington County, SD, Hydrologic Unit 10120110, on left bank 1,300 ft upstream from 12th Street in Rapid City and 3.6 mi downstream from Canyon Lake Dam.

DRAINAGE AREA.--410 mi², approximately.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1903 to November 1906, July 1942 to current year. Monthly discharge only for some periods, published in WSP 1309.

GAGE.--Water-stage recorder. Datum of gage is 3,230.14 ft above NGVD of 1929. Prior to Nov. 30, 1906, nonrecording gage at site 1.0 mi downstream at different datum, and June 10, 1972, to Nov. 1, 1972, nonrecording gage at site 800 ft downstream at datum 0.80 ft higher. July 1942 to June 9, 1972, water-stage recorder at site 300 ft downstream at datum 0.80 ft higher (destroyed by flood).

REMARKS.--Records good. Several small diversions upstream from station to municipal park pools and for irrigation of about 320 acres. Flow regulated by Pactola Dam 25.4 mi upstream since Aug. 22, 1956 (reservoir filled from August 1956 to June 1963). Maximum discharge prior to Sept. 30, 1963, 3,300 ft³/s, July 13, 1962, gage height, 8.37 ft, datum then in use; minimum daily discharge, 2.0 ft³/s, Apr. 20, 1962. National Weather Service telemeter at station. U.S. Army Corps of Engineers satellite data-collection platform at station. Water temperature and specific conductance measured with each discharge measurement.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 12, 13, 1920, reached a stage of 14.4 ft present datum, from floodmarks.

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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	24	26	25	26	27	28	25	41	68	45	48	51
2	23	26	25	25	28	29	25	41	87	43	47	52
3	24	27	25	25	27	26	24	42	115	47	48	48
4	25	27	32	27	27	28	24	35	174	48	50	49
5	25	26	31	30	28	27	23	32	191	45	59	48
6	26	26	29	30	26	28	24	30	128	81	82	45
7	28	27	26	28	26	24	23	31	104	79	55	43
8	27	26	27	25	27	29	23	58	95	64	51	41
9	27	25	27	25	27	27	24	42	91	58	55	39
10	27	25	26	27	e24	27	33	54	83	53	57	37
11	28	26	25	27	26	28	33	37	78	48	53	37
12	28	26	25	28	27	28	27	34	74	46	59	38
13	30	27	23	27	28	26	25	32	68	45	55	47
14	31	27	27	26	28	26	25	32	64	41	62	38
15	30	27	26	27	27	26	25	31	60	39	65	37
16	30	27	25	26	28	26	24	e30	72	48	60	36
17	28	27	25	e23	29	26	24	e30	69	60	58	36
18	26	27	27	e22	28	27	24	e30	65	101	50	36
19	26	27	28	e22	27	26	23	e29	100	85	44	35
20	26	28	28	e21	27	26	23	31	78	66	45	33
21	27	28	29	e21	27	25	23	31	85	61	46	34
22	26	26	26	e23	27	24	24	108	75	67	44	35
23	26	24	23	e24	28	24	25	185	70	91	44	35
24	25	28	24	e25	29	25	25	340	70	70	51	34
25	25	28	30	26	31	25	24	163	67	56	62	33
26	26	29	28	27	27	25	23	103	63	50	60	33
27	27	27	24	28	28	26	24	117	62	48	53	33
28	28	27	24	31	29	26	23	92	54	47	51	33
29	26	25	23	30	29	25	23	85	51	45	51	33
30	26	25	23	27	---	25	23	75	48	48	50	31
31	26	---	25	27	---	26	---	70	---	47	49	---
Total	827	797	811	806	797	814	738	2,091	2,509	1,772	1,664	1,160
Mean	26.7	26.6	26.2	26.0	27.5	26.3	24.6	67.5	83.6	57.2	53.7	38.7
Max	31	29	32	31	31	29	33	340	191	101	82	52
Min	23	24	23	21	24	24	23	29	48	39	44	31
Ac-ft	1,640	1,580	1,610	1,600	1,580	1,610	1,460	4,150	4,980	3,510	3,300	2,300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2008, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	43.1	40.2	38.6	36.3	37.1	45.8	68.7	122	148	101	77.1	55.3
Max	170	192	167	112	111	152	232	490	505	296	263	158
(WY)	(1999)	(1999)	(1999)	(1997)	(1997)	(1996)	(1999)	(1997)	(1999)	(1999)	(1998)	(1997)
Min	15.4	20.8	20.1	15.9	15.9	18.3	17.6	32.0	25.4	45.8	35.5	24.2
(WY)	(1989)	(1982)	(1991)	(1978)	(1978)	(1991)	(1981)	(2005)	(2005)	(1986)	(2005)	(2006)

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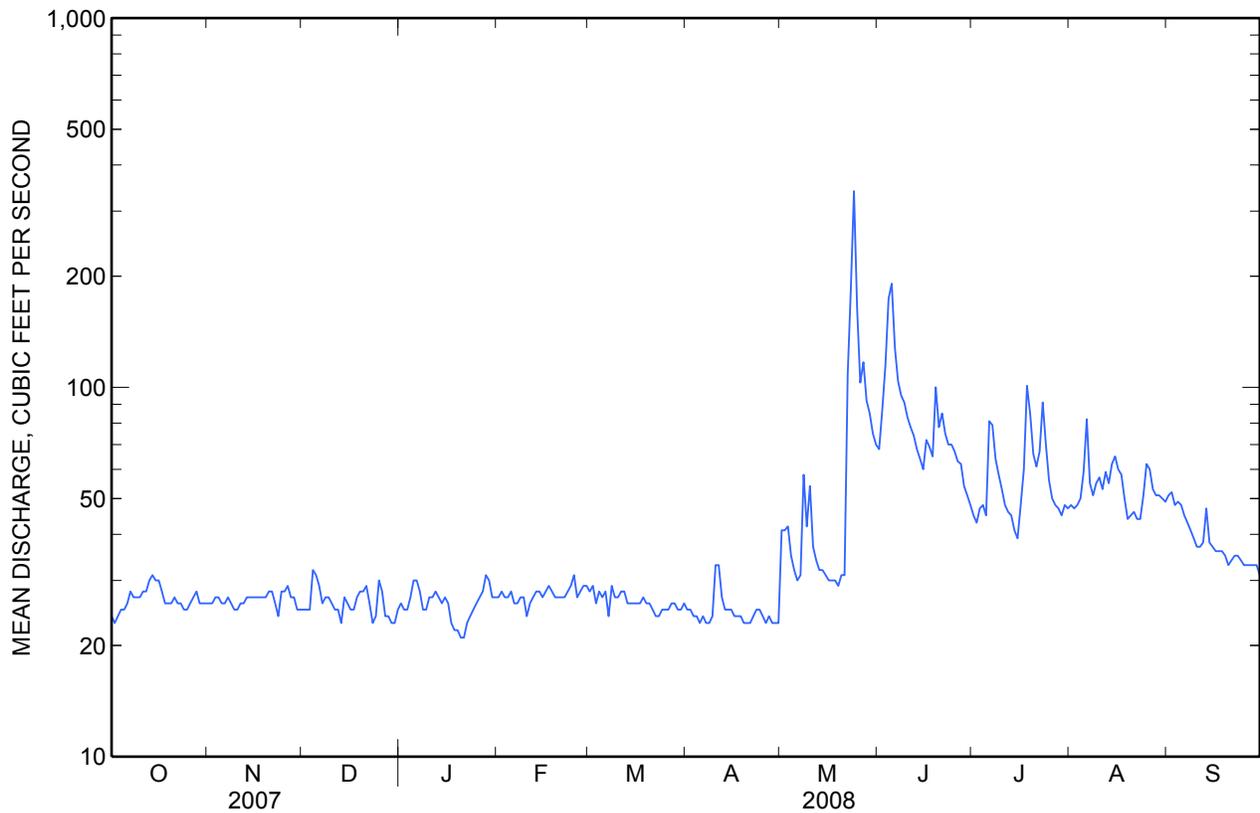
SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1964 - 2008*	
Annual total	12,369		14,786			
Annual mean	33.9		40.4		67.8	
Highest annual mean					207	1999
Lowest annual mean					31.5	1990
Highest daily mean	120	Aug 17	340	May 24	5,600	Jun 10, 1972
Lowest daily mean	19	Feb 3	21	Jan 20	5.5	Jan 16, 2005
Annual seven-day minimum	22	Jan 31	22	Jan 17	8.6	Jan 24, 1978
Maximum peak flow			487	May 24	^a 50,000	Jun 9, 1972
Maximum peak stage			5.56	May 24	^b 19.66	Jun 9, 1972
Annual runoff (ac-ft)	24,530		29,330		49,140	
10 percent exceeds	61		68		122	
50 percent exceeds	27		28		44	
90 percent exceeds	23		24		23	

* Regulated period only (1964-2008). See REMARKS.

^a On basis of slope-area measurement of peak flow.

^b From floodmarks.



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WATER-QUALITY RECORDS

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Date	Time	Instan- taneous dis- charge, cfs (00061)	Specif- ic	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)
			conduc- tance, wat unf μ S/cm 25 degC (00095)		
Oct					
31...	1640	26	634	10.0	10.2
Dec					
03...	1525	24	720	8.5	5.8
Jan					
09...	1435	23	610	5.0	3.9
Feb					
25...	1450	29	601	-3.0	6.0
Apr					
14...	1220	25	688	33.0	10.5
Jun					
25...	1325	65	712	29.0	20.9
Jul					
30...	1425	47	592	33.0	22.9
Sep					
12...	1450	38	669	23.5	15.7