Water-Data Report 2012

06414000 RAPID CREEK AT RAPID CITY, SD

Cheyenne Basin
Rapid Subbasin

LOCATION.--Lat 44°05'07.90", long 103°14'28.98" 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.--414 mi^2.

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.

REVISED RECORDS.--WDR SD-10-1: Drainage area.

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 Jun. 10, 1972, to Nov. 1, 1972, nonrecording gage at site 800 ft downstream at datum 0.80 ft higher. July 1942 to Jun. 9, 1972, water-stage recorder at site 300 ft downstream at datum 0.80 ft higher (destroyed by flood).

REMARKS.--Records good except those for estimated daily discharges, which are poor. The water treatment plant upstream from the station occasionally pumps water from the stream. 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 ft^3/s, Jul. 13, 1962, gage height, 8.37 ft, datum then in use; minimum daily discharge, 2.0 ft^3/s, Apr. 20, 1962. 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 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	74	62	86	81	78	73	60	59	57	58	57	58
2	73	63	86	66	77	71	60	57	56	61	58	57
3	73	63	86	95	78	71	64	55	54	60	59	57
4	72	68	79	85	76	71	64	55	53	62	64	58
5	70	69	65	79	75	70	58	64	52	65	64	52
6	76	69	65	78	76	70	59	57	52	77	62	46
7	77	69	99	76	77	69	59	55	74	77	61	44
8	71	68	90	68	66	68	59	63	61	77	60	42
9	73	69	82	84	74	69	58	66	61	75	60	42
10	71	71	84	79	72	69	57	64	69	64	56	42
11	71	71	87	e68	52	69	56	62	56	64	65	40
12	71	69	84	e56	68	69	57	63	60	67	61	40
13	72	69	87	76	84	68	56	63	57	65	58	40
14	72	68	87	72	90	68	67	62	49	65	57	40
15	73	68	85	79	82	68	87	60	49	64	57	41
16	72	68	84	69	74	68	66	54	51	66	59	41
17	77	68	83	54	74	68	66	52	48	74	47	41
18	65	71	86	60	72	67	64	56	47	82	44	41
19	64	76	87	56	77	67	62	72	47	71	43	40
20	63	68	85	62	76	66	61	62	62	71	40	40
21	62	78	89	74	73	65	60	56	47	73	39	40
22	61	80	79	96	76	66	57	54	45	78	40	43
23	61	78	75	81	75	66	57	58	45	71	40	45
24	61	77	83	83	72	66	55	73	44	68	41	44
25	61	76	89	78	72	66	52	63	47	75	42	41
26	61	74	90	84	73	67	53	77	42	e45	43	44
27	62	74	84	80	70	67	71	64	41	e67	48	40
28	63	73	87	72	74	66	60	60	41	e61	50	38
29	63	73	90	82	74	64	59	57	50	e60	50	38
30	62	82	84	82	---	61	59	54	57	e60	50	38
31	63	---	86	80	---	60	---	54	---	58	54	---
Total	2,110	2,132	2,613	2,335	2,157	2,093	1,823	1,871	1,574	2,081	1,629	1,313
Mean	68.1	71.1	84.3	75.3	74.4	67.5	60.8	60.4	52.5	67.1	52.5	43.8
Max	77	82	99	96	90	73	87	77	74	82	65	58
Min	61	62	65	54	52	60	52	52	41	45	39	38
Ac-ft	4,190	4,230	5,180	4,630	4,280	4,150	3,620	3,710	3,120	4,130	3,230	2,600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2012, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	44.0	41.5	40.1	38.1	38.7	47.0	71.9	127	154	102	78.1	56.2
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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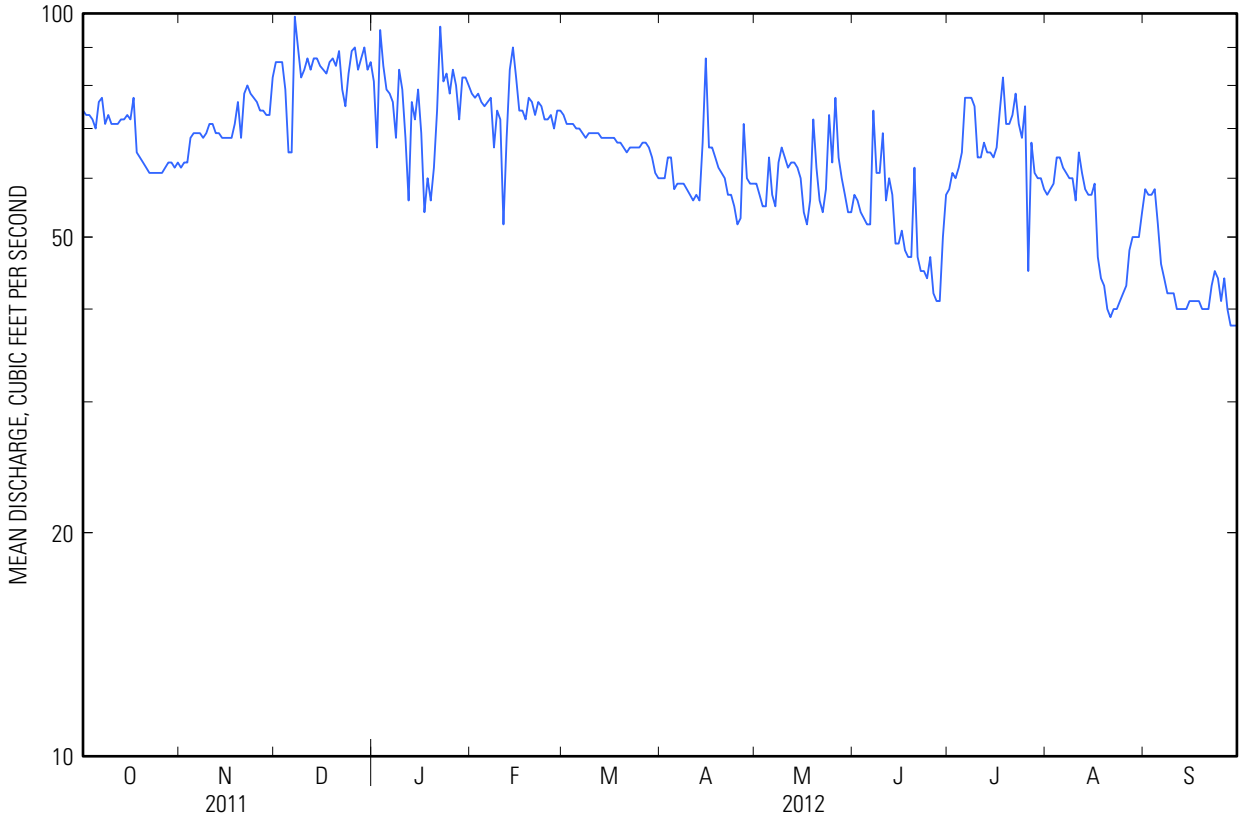
SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 1964 - 2012*	
Annual total	46,923		23,731			
Annual mean	129		64.8		70.0	
Highest annual mean					207	1999
Lowest annual mean					31.5	1990
Highest daily mean	669	May 30	99	Dec 7	5,600	Jun 10, 1972
Lowest daily mean	39	Jan 1	38	Sep 28	5.5	Jan 16, 2005
Annual seven-day minimum	56	Feb 20	40	Sep 11	8.6	Jan 24, 1978
Maximum peak flow			203	Jul 17	[a]50,000	Jun 9, 1972
Maximum peak stage			4.65	Jul 17	[b]19.66	Jun 9, 1972
Annual runoff (ac-ft)	93,070		47,070		50,690	
10 percent exceeds	182		82		127	
50 percent exceeds	87		65		46	
90 percent exceeds	62		45		24	

* Regulated period only (1964-2012). 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 2011 TO SEPTEMBER 2012

[ft^3/s, cubic feet per second; °C, degrees Celsius; µS/cm, microsiemens per centimeter; --, no data]

Date	Sample start time	Discharge, instantaneous, ft^3/s (00061)	Specific conductance, water, unfiltered, µS/cm at 25°C (00095)	Temperature, air, °C (00020)	Temperature, water, °C (00010)
10-18-2011	**0732**	64	--	4.0	--
11-30-2011	**0832**	81	--	6.0	5.0
01-10-2012	**1144**	74	521	15.0	4.5
02-16-2012	**0859**	68	--	7.0	--
04-03-2012	**1359**	65	500	18.0	11.3
06-08-2012	**0829**	60	513	20.0	17.0
07-26-2012	**0903**	43	475	--	18.3
09-05-2012	**0641**	52	429	--	13.9