Water-Data Report 2012

06421500 RAPID CREEK NEAR FARMINGDALE, SD

Cheyenne Basin
Rapid Subbasin

LOCATION.--Lat 43°56'31.61", long 102°51'12.50" referenced to North American Datum of 1927, in SW ¼ SW ¼ SW ¼ sec.19, T.1 S., R.11 E., Pennington County, SD, Hydrologic Unit 10120110, on right bank at downstream side of bridge, 2 mi southeast of Farmingdale, and 4.8 mi downstream from Antelope Creek.

DRAINAGE AREA.--605 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1946 to current year. October 1989 to September 1990, operated as a partial-record crest-stage gage.

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 2,700 ft above NGVD of 1929, from topographic map. Prior to Sept. 19, 1947, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Pactola Dam 67 mi upstream since Aug. 22, 1956 (reservoir filled from August 1956 to June 1963). Maximum discharge prior to regulation, 2,640 ft^3/s, Jun. 21, 1947, gage height, 8.40 ft; no flow at times in 1949, 1952-56, 1958-63. Diversions of irrigation of about 10,000 acres upstream from station. Satellite data-collection platform at station. Water temperature and specific conductance measured with each discharge measurement.

Suggested citation: U.S. Geological Survey, 2013, Water-resources data for the United States, Water Year 2012: U.S. Geological Survey Water-Data Report WDR-US-2012, site 06421500, accessed at http://wdr.water.usgs.gov/wy2012/pdfs/06421500.2012.pdf

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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	60	71	e65	e65	e70	140	65	58	31	e7.5	15	6.6
2	60	70	e60	e65	e65	107	64	58	30	e8.0	17	9.1
3	60	72	e55	e75	e60	94	65	58	30	8.2	19	12
4	59	73	e55	e80	e65	82	69	54	28	7.3	18	9.6
5	58	75	e50	e85	e65	83	67	55	24	6.8	16	14
6	64	75	e50	e80	e65	82	65	72	24	9.9	13	20
7	89	77	e60	e70	e55	81	71	55	22	29	14	20
8	73	76	e65	e65	e50	80	65	51	64	22	11	17
9	65	77	e60	e65	e50	79	62	52	51	25	6.8	13
10	71	77	e60	e70	e50	80	55	58	45	23	11	14
11	67	77	e65	e60	e45	80	57	55	62	20	15	11
12	66	78	e65	e55	e50	80	58	55	34	16	25	10
13	68	79	e65	e55	e60	79	56	55	31	14	27	6.7
14	72	78	e70	e60	e75	78	57	55	40	14	18	8.0
15	71	80	e70	e65	e85	78	95	50	30	12	16	6.4
16	72	79	e65	e60	e90	78	133	41	28	14	16	7.9
17	72	84	e70	e55	e85	78	75	32	30	11	15	8.7
18	79	80	e80	e55	e80	73	73	23	24	14	17	9.4
19	71	e65	e70	e60	e80	73	68	25	22	42	13	12
20	69	e60	e70	e55	e85	72	65	60	22	19	13	11
21	69	e60	e60	e60	e90	74	63	26	41	19	7.9	11
22	69	e65	e60	e60	e100	77	60	22	34	22	7.9	13
23	69	e70	e60	e55	e95	75	60	18	28	27	9.1	12
24	68	e75	e65	e60	e85	72	59	22	23	25	6.0	14
25	69	e75	e65	e60	e85	71	56	61	20	21	e3.5	19
26	69	e70	e65	e65	e95	72	50	53	16	39	e2.8	19
27	67	e70	e60	e70	113	75	55	73	15	30	2.0	17
28	68	e75	e65	e70	117	75	103	62	e9.0	16	2.5	14
29	67	e75	e70	e75	119	73	69	42	e7.5	27	3.3	14
30	68	e70	e75	e70	---	72	61	41	e7.0	18	3.0	11
31	69	---	e70	e75	---	70	---	33	---	15	3.1	---
Total	2,118	2,208	1,985	2,020	2,229	2,483	2,021	1,475	872.5	581.7	366.9	370.4
Mean	68.3	73.6	64.0	65.2	76.9	80.1	67.4	47.6	29.1	18.8	11.8	12.3
Max	89	84	80	85	119	140	133	73	64	42	27	20
Min	58	60	50	55	45	70	50	18	7.0	6.8	2.0	6.4
Ac-ft	4,200	4,380	3,940	4,010	4,420	4,930	4,010	2,930	1,730	1,150	728	735

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	52.8	57.3	52.3	50.0	55.0	76.2	103	147	166	73.8	51.4	44.2
Max	246	257	215	147	180	176	343	754	607	305	340	155
(WY)	(1999)	(1999)	(1999)	(1997)	(1997)	(1996)	(1999)	(1997)	(1997)	(1999)	(1997)	(1997)
Min	17.3	27.5	17.8	17.7	15.0	30.9	11.5	17.2	13.1	11.2	11.1	8.36
(WY)	(1993)	(2008)	(2008)	(1988)	(1988)	(1981)	(1981)	(1979)	(1966)	(2006)	(2004)	(2005)

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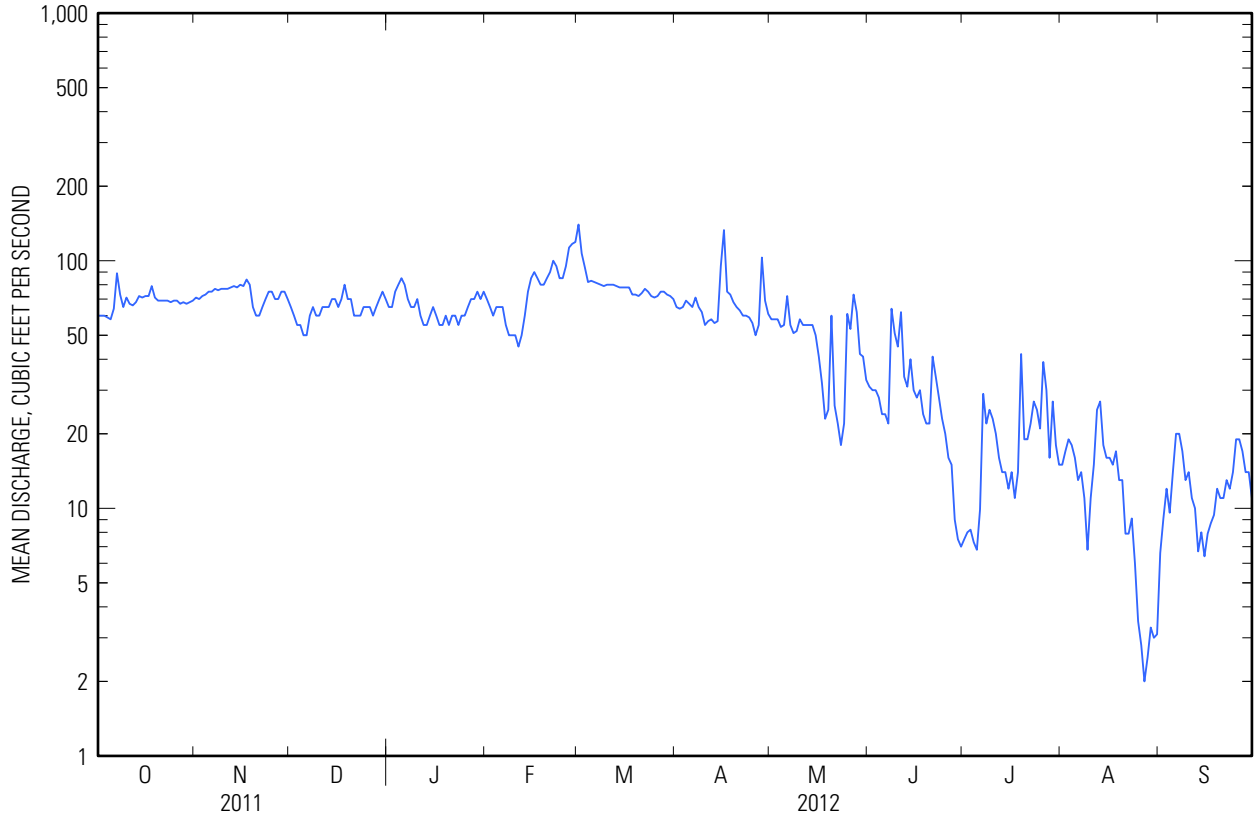
SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 1964 - 2012*	
Annual total	48,608		18,730.5			
Annual mean	133		51.2		77.5	
Highest annual mean					269	1997
Lowest annual mean					24.8	1989
Highest daily mean	1,370	May 30	140	Mar 1	2,860	Jun 10, 1972
Lowest daily mean	37	Jan 1	2.0	Aug 27	[a]0.00	May 30, 1969
Annual seven-day minimum	55	Jan 1	2.9	Aug 25	0.00	Jun 1, 1969
Maximum peak flow			[b]186	Mar 1	[c]7,320	Jun 10, 1972
Maximum peak stage			[d]7.61	Jan 23	12.69	May 24, 2010
Annual runoff (ac-ft)	96,410		37,150		56,160	
10 percent exceeds	218		80		152	
50 percent exceeds	85		60		48	
90 percent exceeds	61		11		17	

* Regulated period only (1964-2012). See REMARKS.
[a] No flow at times in 1969-1971.
[b] Gage height, 6.93 ft.
[c] From rating curve extended above 400 ft³/s on basis of contracted-opening and flow-over-road measurement of peak flow, gage height, 11.85 ft, from floodmarks.
[d] Backwater from ice.



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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]

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)
10-04-2011	**1220**	60	790	33.0	18.0
11-16-2011	**1140**	82	891	10.0	1.3
01-13-2012	**1041**	57	883	15.0	0.0
02-15-2012	**0944**	96	785	4.5	0.0
03-21-2012	**1026**	75	855	14.5	7.7
04-23-2012	**0812**	65	987	25.0	12.9
05-17-2012	**1342**	34	912	31.0	21.4
05-18-2012	**0858**	21	940	31.0	18.4
06-18-2012	**0840**	23	985	28.0	22.7
07-03-2012	**0850**	8.8	1,180	30.0	24.8
08-20-2012	**0923**	14	974	26.5	18.4