

Water-Data Report 2013

06478000 JAMES RIVER NEAR MITCHELL, SD

James Basin
Lower James Subbasin

LOCATION.--Lat 43°39'32", long 97°55'08" referenced to North American Datum of 1927, in NW ¼ NE ¼ NW ¼ sec.9, T.102 N., R.59 W., Hanson County, SD, Hydrologic Unit 10160011, on right bank at downstream side of bridge on county road, 6.5 mi southeast of Mitchell, 6.9 mi downstream of Firesteel Creek, and 2.3 mi upstream of Enemy Creek.

DRAINAGE AREA.--19,074 mi² of which 2,051 mi² probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1953 to September 1958 (published as "near Alexandria") and August 1965 to September 1972. Miscellaneous peak discharge measurement in 1995, partial-record crest-stage gage in 1997, and miscellaneous discharge measurements in 2001. October 2001 to current year.

REVISED RECORDS.--WDR SD-11-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,193.48 ft above NGVD of 1929. Miscellaneous discharge measurements made in 2001 at present site and datum. Miscellaneous discharge measurements made in 1995 and 1997 at datum 1,197.93 ft above NGVD of 1929 at site 7.2 mi upstream (SD Hwy 38). August 1965 to September 1972 at datum 1,198.00 ft above NGVD of 1929 (South Dakota Department of Transportation bench mark) at site 6.7 mi upstream (Interstate I-90), and was nonrecording gage Aug. 17 to Dec. 7, 1965. July 1953 to September 1958 nonrecording gage at datum 1,195.03 ft above NGVD of 1929 at site 3.8 mi downstream.

REMARKS.--Only daily discharges above 500 ft³/s published because flows less than 500 ft³/s are unreliable due to wind effect. Low flow regulated by dams forming Arrowwood and Jim Lakes, combined capacity, 16,530 acre-ft, and by dam forming Jamestown Reservoir, capacity, 229,470 acre-ft, since May 1953, and by dam forming Pipestem Reservoir, capacity, 147,000 acre-ft, since 1973. Satellite data-collection platform at station. Water temperature and specific conductance measured with each discharge measurement.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,400 ft³/s, Mar. 25, 2011, gage height, 25.20 ft (from floodmark); maximum gage height, 23.14 ft, Apr. 7, 1997 (gage height at different site and/or datum).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge at current site, 24,700 ft³/s, Apr. 11, 2001, from rating curve extended above 20,100 ft³/s, gage height, 25.33 ft (from floodmark).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2790 ft³/s, Jul. 2 (also Jul. 3), gage height, 17.09 ft.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	---	---	905	1,920	2,740	1,560	1,130
2	---	---	---	---	---	---	548	885	1,910	2,780	1,560	1,120
3	---	---	---	---	---	---	1,050	860	1,920	2,770	1,560	1,110
4	---	---	---	---	---	---	1,430	821	1,910	2,710	1,540	1,100
5	---	---	---	---	---	---	1,540	797	1,890	2,610	1,520	1,090
6	---	---	---	---	---	---	1,490	794	1,830	2,480	1,500	1,080
7	---	---	---	---	---	---	1,390	823	1,770	2,320	1,480	1,080
8	---	---	---	---	---	---	1,170	929	1,720	2,170	1,480	1,070
9	---	---	---	---	---	---	1,030	980	1,720	2,110	1,460	1,060
10	---	---	---	---	---	---	999	987	1,660	2,050	1,460	1,040
11	---	---	---	---	---	---	1,050	980	1,650	1,940	1,640	1,020
12	---	---	---	---	---	---	981	947	1,650	1,860	1,550	1,000
13	---	---	---	---	---	---	877	901	1,660	1,830	1,470	984
14	---	---	---	---	---	---	855	848	1,680	1,870	1,410	972
15	---	---	---	---	---	---	886	809	1,670	1,900	1,370	953
16	---	---	---	---	---	---	985	798	1,650	1,920	1,340	950
17	---	---	---	---	---	---	1,070	785	1,620	1,980	1,310	963
18	---	---	---	---	---	---	1,110	773	1,600	2,050	1,280	950
19	---	---	---	---	---	---	1,120	796	1,560	2,130	1,260	1,010
20	---	---	---	---	---	---	1,110	976	1,510	2,170	1,250	964
21	---	---	---	---	---	---	1,040	1,110	1,450	2,180	1,250	975
22	---	---	---	---	---	---	970	1,070	1,420	2,140	1,240	1,040
23	---	---	---	---	---	---	930	1,050	1,540	2,070	1,230	1,030
24	---	---	---	---	---	---	934	1,040	1,770	1,980	1,200	971
25	---	---	---	---	---	---	944	1,020	1,990	1,900	1,160	923
26	---	---	---	---	---	---	935	1,040	2,180	1,810	1,130	905
27	---	---	---	---	---	---	934	1,150	2,320	1,740	1,130	880
28	---	---	---	---	---	---	934	1,390	2,440	1,680	1,140	909
29	---	---	---	---	---	---	942	1,610	2,570	1,630	1,130	889
30	---	---	---	---	---	---	919	1,820	2,680	1,590	1,120	863
31	---	---	---	---	---	---	---	1,890	---	1,570	1,130	---
Total	---	---	---	---	---	---	---	31,584	54,860	64,680	41,860	30,031
Mean	---	---	---	---	---	---	---	1,019	1,829	2,086	1,350	1,001
Max	---	---	---	---	---	---	---	1,890	2,680	2,780	1,640	1,130
Min	---	---	---	---	---	---	---	773	1,420	1,570	1,120	863
Ac-ft	---	---	---	---	---	---	---	62,650	108,800	128,300	83,030	59,570

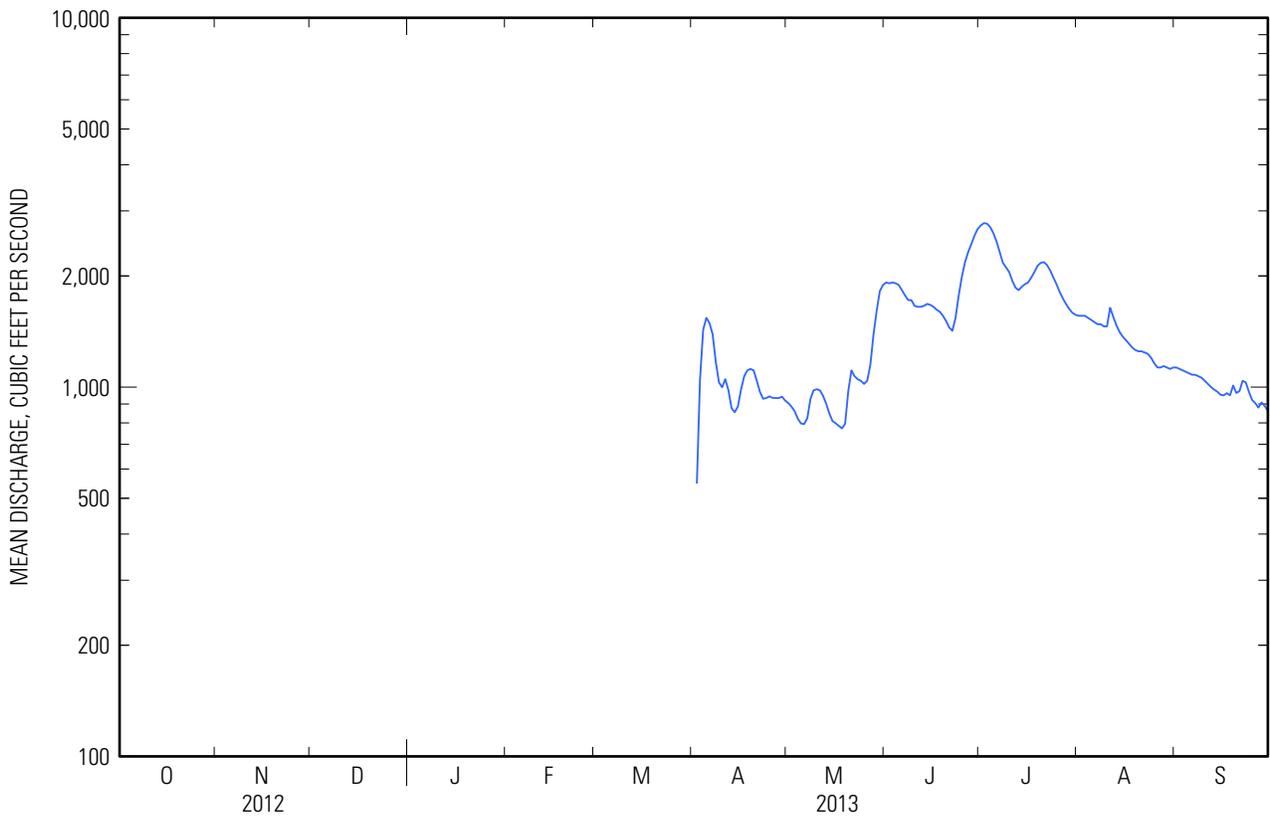
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2013, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	466	386	284	125	40.3	454	2,507	2,273	1,853	1,482	1,124	538
Max	2,820	2,677	2,205	1,147	148	1,340	13,950	11,020	10,250	8,984	6,866	3,230
(WY)	(2012)	(2012)	(2012)	(2012)	(2002)	(1966)	(2011)	(2011)	(2010)	(2011)	(2011)	(2011)
Min	2.15	5.25	5.98	3.44	4.52	19.3	75.7	60.9	64.4	28.0	6.14	2.05
(WY)	(1957)	(1956)	(1956)	(1971)	(1956)	(1968)	(1968)	(1956)	(1971)	(1955)	(1970)	(1970)

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SUMMARY STATISTICS

Water Years 1953 - 2013		
Annual mean	305	
Highest annual mean	1,249	1969
Lowest annual mean	62.7	1956
Highest daily mean	27,200	Mar 25, 2011
Lowest daily mean	1.0	Sep 26, 1958
Annual seven-day minimum	1.1	Sep 24, 1958
Annual runoff (ac-ft)	221,100	
10 percent exceeds	753	
50 percent exceeds	71	
90 percent exceeds	7.0	

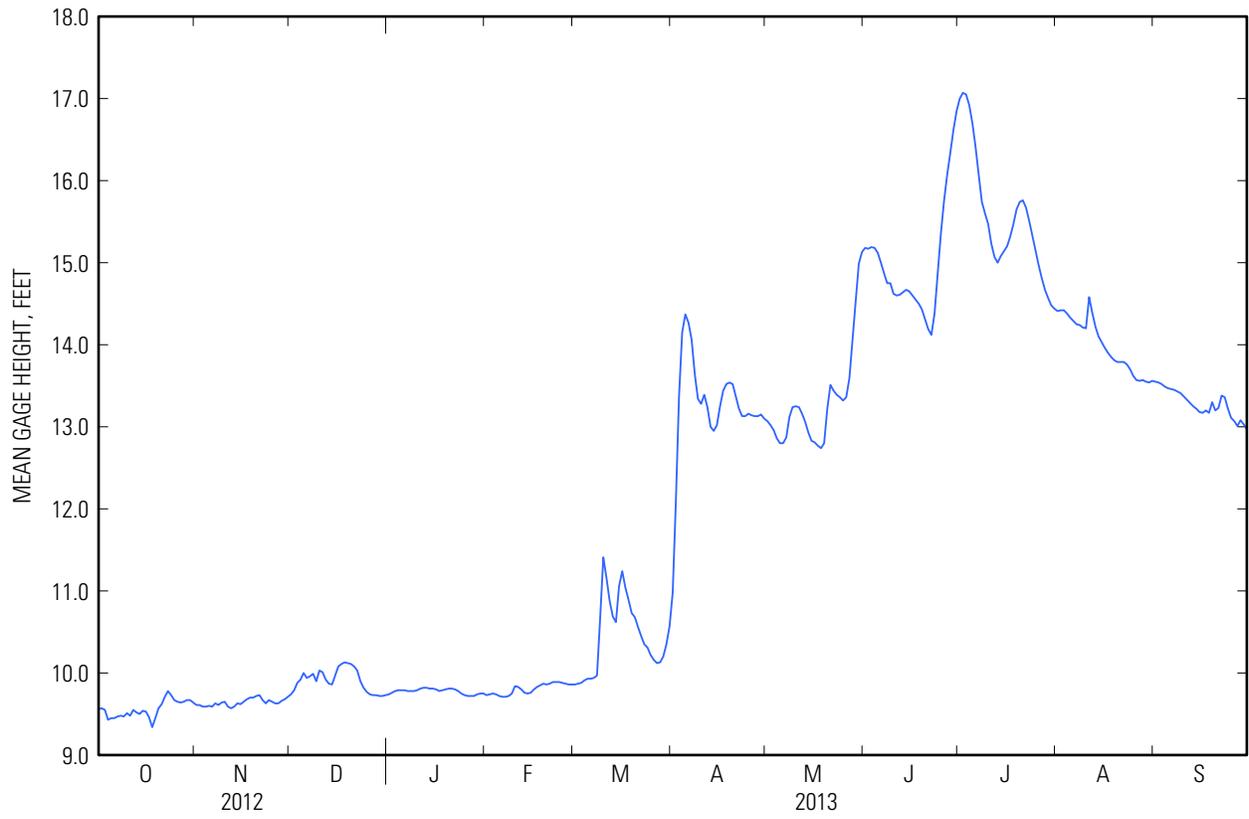


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GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	9.56	9.61	9.74	9.74	9.73	9.86	10.98	13.07	15.18	17.00	14.41	13.55
2	9.57	9.61	9.79	9.76	9.74	9.87	12.09	13.02	15.17	17.07	14.42	13.54
3	9.55	9.59	9.88	9.78	9.75	9.88	13.37	12.96	15.19	17.05	14.42	13.52
4	9.43	9.59	9.92	9.79	9.74	9.91	14.15	12.86	15.18	16.92	14.38	13.49
5	9.45	9.60	10.00	9.79	9.72	9.93	14.37	12.80	15.12	16.70	14.33	13.47
6	9.45	9.59	9.94	9.79	9.71	9.93	14.27	12.80	15.00	16.41	14.29	13.46
7	9.47	9.63	9.96	9.78	9.71	9.94	14.06	12.87	14.87	16.07	14.25	13.45
8	9.48	9.61	9.99	9.78	9.72	9.97	13.64	13.12	14.75	15.74	14.24	13.43
9	9.47	9.64	9.90	9.78	9.75	10.67	13.34	13.24	14.75	15.60	14.21	13.41
10	9.51	9.65	10.03	9.79	9.84	11.41	13.28	13.25	14.62	15.47	14.20	13.37
11	9.48	9.59	10.01	9.81	9.83	11.16	13.39	13.24	14.60	15.23	14.58	13.33
12	9.55	9.57	9.92	9.82	9.80	10.88	13.24	13.16	14.61	15.07	14.39	13.29
13	9.52	9.59	9.87	9.82	9.76	10.69	13.00	13.06	14.64	15.00	14.22	13.25
14	9.50	9.63	9.86	9.81	9.75	10.62	12.95	12.93	14.67	15.08	14.10	13.22
15	9.54	9.62	9.97	9.81	9.76	11.06	13.02	12.83	14.65	15.14	14.03	13.18
16	9.53	9.65	10.08	9.80	9.80	11.24	13.25	12.81	14.60	15.20	13.96	13.17
17	9.46	9.68	10.11	9.78	9.83	11.04	13.44	12.77	14.55	15.32	13.90	13.20
18	9.34	9.70	10.13	9.79	9.85	10.89	13.52	12.74	14.50	15.47	13.85	13.17
19	9.45	9.70	10.12	9.80	9.87	10.73	13.54	12.80	14.43	15.65	13.81	13.30
20	9.57	9.72	10.11	9.81	9.86	10.68	13.52	13.22	14.31	15.74	13.79	13.20
21	9.62	9.73	10.08	9.81	9.87	10.56	13.37	13.51	14.19	15.76	13.79	13.23
22	9.71	9.67	10.03	9.80	9.89	10.45	13.22	13.44	14.12	15.67	13.79	13.38
23	9.78	9.63	9.90	9.78	9.89	10.35	13.13	13.39	14.38	15.51	13.76	13.36
24	9.73	9.67	9.82	9.75	9.89	10.31	13.13	13.36	14.87	15.33	13.70	13.22
25	9.67	9.65	9.77	9.73	9.88	10.22	13.16	13.32	15.35	15.15	13.62	13.11
26	9.65	9.63	9.74	9.72	9.87	10.16	13.14	13.36	15.75	14.97	13.57	13.07
27	9.64	9.63	9.73	9.72	9.86	10.12	13.13	13.59	16.07	14.81	13.56	13.01
28	9.65	9.66	9.73	9.72	9.86	10.13	13.13	14.06	16.34	14.67	13.57	13.08
29	9.67	9.68	9.72	9.74	---	10.20	13.15	14.53	16.62	14.57	13.55	13.03
30	9.67	9.71	9.72	9.75	---	10.35	13.10	14.99	16.85	14.48	13.54	12.97
31	9.64	---	9.73	9.75	---	10.57	---	15.13	---	14.44	13.56	---
Mean	9.56	9.64	9.91	9.78	9.80	10.44	13.27	13.30	15.00	15.56	13.99	13.28
Max	9.78	9.73	10.13	9.82	9.89	11.41	14.37	15.13	16.85	17.07	14.58	13.55
Min	9.34	9.57	9.72	9.72	9.71	9.86	10.98	12.74	14.12	14.44	13.54	12.97

06478000 JAMES RIVER NEAR MITCHELL, SD—Continued



06478000 JAMES RIVER NEAR MITCHELL, SD—Continued**WATER-QUALITY RECORDS****WATER-QUALITY DATA****WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013**

[ft³/s, cubic feet per second; °C, degrees Celsius; μS/cm, microsiemens per centimeter]

Date	Sample start time	Discharge, instanta- neous, ft³/s (00061)	Specific conduc- tance, water, unfiltered, μS/cm at 25°C (00095)	Tempera- ture, air, °C (00020)	Tempera- ture, water, °C (00010)
04-04-2013	0935	1,360	1,340	8.0	4.2
06-11-2013	0912	1,690	1,500	24.5	2.4
07-23-2013	0855	2,050	1,070	24.0	26.4
09-04-2013	0836	1,100	1,170	28.5	23.7