Water-Data Report 2012

06478513 JAMES RIVER NEAR YANKTON SD

James Basin
Lower James Subbasin

LOCATION.--Lat 42°59′45″, long 97°22′10″ referenced to North American Datum of 1927, in NE ¼ NW ¼ sec.5, T.94 N., R.55 W., Yankton County, SD, Hydrologic Unit 10160011, on left bank at downstream side of highway bridge, 3.9 mi upstream from Beaver Creek, 17.2 mi upstream from mouth, and 9.0 mi northeast of Yankton.

DRAINAGE AREA.--20,947 mi^2 of which 2,056 mi^2 probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1981 to September 1995 (continuous-record), October 1995 to September 2004 (crest-stage partial record), October 2009 to current year.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,153.38 ft above NGVD of 1929.

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

06478513 JAMES RIVER NEAR YANKTON SD—Continued

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	3,070	2,890	2,620	e2,300	e950	e700	1,270	1,520	1,220	520	106	89
2	3,040	2,900	2,590	e2,100	e900	e675	1,240	1,520	1,220	479	107	87
3	3,010	2,930	2,550	e1,800	e850	e675	1,180	1,550	1,210	450	e106	85
4	2,990	2,910	2,390	e1,700	e800	e700	1,160	1,550	1,180	420	e105	81
5	2,960	2,900	2,210	e1,900	e775	e800	1,120	1,540	1,130	400	e104	77
6	2,910	2,900	e2,150	e2,050	e725	824	1,060	1,600	1,080	375	e103	76
7	2,890	2,900	e2,500	e2,100	e700	779	1,000	1,860	1,040	342	102	82
8	2,940	2,900	e2,800	e2,150	e680	902	923	2,430	983	317	101	86
9	2,920	2,890	e3,000	e2,050	e670	1,090	872	2,950	922	297	94	85
10	2,930	2,910	e3,100	e1,900	e650	1,090	824	3,280	852	287	84	89
11	2,950	2,940	e3,200	e1,600	e630	1,090	795	3,560	795	283	82	89
12	3,020	2,940	e3,250	e875	e620	1,120	784	3,880	759	277	80	80
13	3,020	2,950	e3,200	e800	e610	1,140	799	4,150	750	276	77	74
14	3,010	2,950	e3,100	e810	e590	1,150	782	4,320	705	266	73	73
15	3,000	2,940	e3,000	e1,000	e580	1,170	804	4,310	692	259	76	76
16	2,990	2,930	e2,900	e1,250	e570	1,230	809	4,140	726	233	73	78
17	2,960	2,900	e2,850	e1,500	e550	1,380	883	3,810	697	209	69	75
18	2,940	2,890	e2,800	e1,700	e540	1,540	1,160	3,270	650	196	69	70
19	2,920	2,870	e2,750	e1,800	e550	1,680	1,350	2,450	596	188	72	69
20	2,920	2,850	e2,700	e1,700	e575	1,780	1,490	2,080	588	184	72	68
21	2,910	2,670	e2,650	e1,500	e600	1,870	1,610	1,830	584	170	68	68
22	2,900	2,740	e2,600	e1,400	e625	1,920	1,740	1,630	573	161	68	67
23	2,890	2,720	e2,570	e1,300	e615	1,940	1,780	1,500	568	152	71	66
24	2,890	2,670	e2,530	e1,200	e575	1,900	1,750	1,440	571	149	75	66
25	2,880	2,630	e2,500	e1,150	e525	1,840	1,710	1,370	583	143	80	65
26	2,880	2,570	e2,480	e1,100	e500	1,740	1,680	1,290	559	131	86	63
27	2,900	2,610	e2,440	e1,050	e440	1,650	1,630	1,250	512	123	92	62
28	2,890	2,630	e2,400	e1,050	e480	1,550	1,610	1,240	549	118	95	63
29	2,890	2,660	e2,450	e1,050	e650	1,470	1,560	1,280	590	119	97	63
30	2,880	2,630	e2,400	e1,000	---	1,390	1,540	1,270	569	112	94	62
31	2,890	---	e2,400	e1,000	---	1,310	---	1,240	---	106	89	---
Total	91,190	84,720	83,080	45,885	18,525	40,095	36,915	71,110	23,453	7,742	2,670	2,234
Mean	2,942	2,824	2,680	1,480	639	1,293	1,230	2,294	782	250	86.1	74.5
Max	3,070	2,950	3,250	2,300	950	1,940	1,780	4,320	1,220	520	107	89
Min	2,880	2,570	2,150	800	440	675	782	1,240	512	106	68	62
Ac-ft	180,900	168,000	164,800	91,010	36,740	79,530	73,220	141,000	46,520	15,360	5,300	4,430

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2012, BY WATER YEAR (WY) *

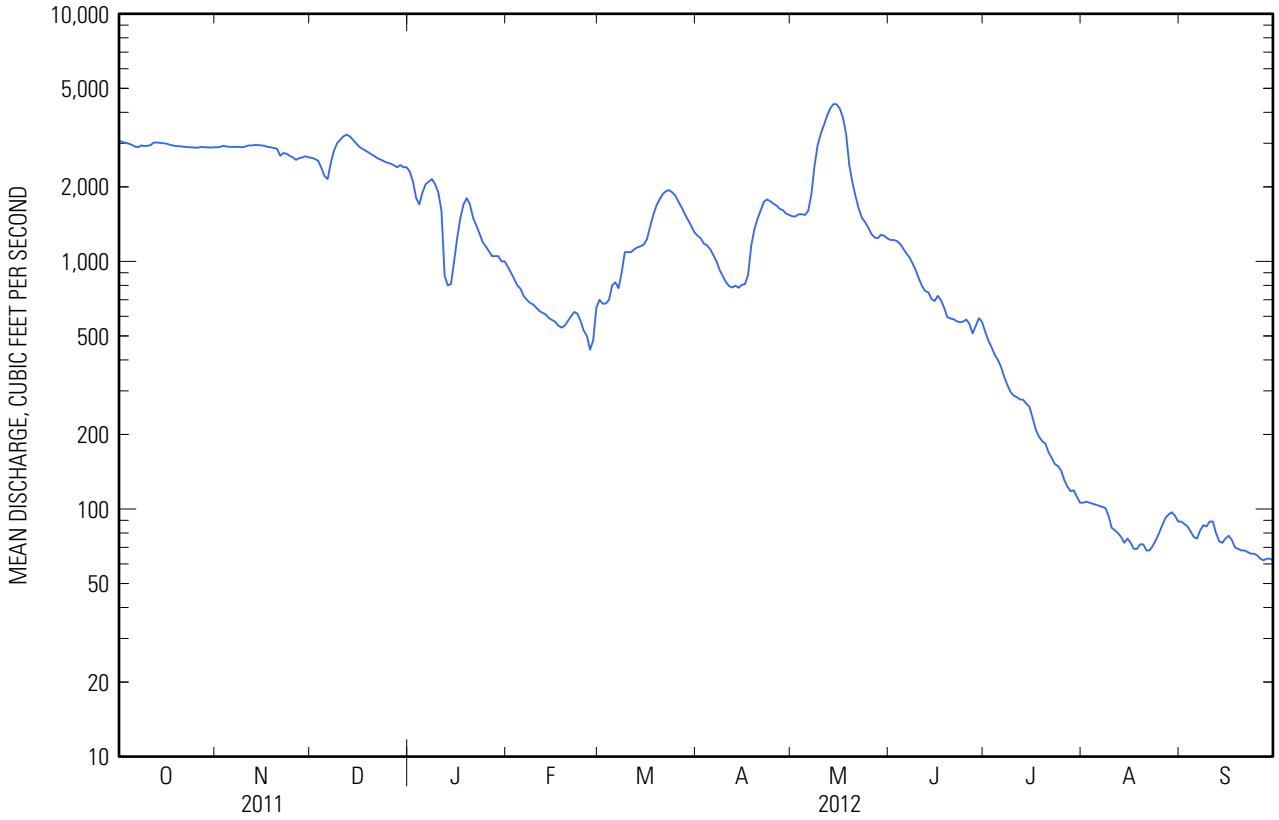
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	691	615	470	254	281	2,240	4,207	3,374	2,977	2,413	1,469	801
Max	2,942	2,946	2,680	1,480	907	12,150	17,320	14,070	13,520	10,580	8,051	3,855
(WY)	(2012)	(2010)	(2012)	(2012)	(1994)	(2010)	(2011)	(1995)	(2010)	(2010)	(2011)	(2011)
Min	5.97	4.79	15.6	9.10	27.3	40.1	24.1	67.9	108	21.9	16.9	10.2
(WY)	(1982)	(1982)	(1982)	(1991)	(1990)	(1990)	(1990)	(1992)	(1992)	(1988)	(1989)	(1989)

06478513 JAMES RIVER NEAR YANKTON SD—Continued

SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 1982 - 2012*	
Annual total	2,361,030		507,619			
Annual mean	6,469		1,387		[a]1,654	
Highest annual mean					6,317	2010
Lowest annual mean					56.5	1990
Highest daily mean	29,000	Mar 28	4,320	May 14	29,000	Mar 28, 2011
Lowest daily mean	260	Feb 2	62	Sep 27	0.78	Oct 4, 1981
Annual seven-day minimum	291	Jan 31	63	Sep 24	2.2	Oct 1, 1981
Maximum peak flow			[b]4,350	May 14	[c]29,200	Mar 28, 2011
Maximum peak stage			[b]9.67	May 14	24.34	Jun 23, 1984
Annual runoff (ac-ft)	4,683,000		1,007,000		1,198,000	
10 percent exceeds	15,500		2,930		4,440	
50 percent exceeds	3,640		1,140		320	
90 percent exceeds	396		82		25	

* Excludes water years 1996 to 2009.
[a] Median of annual mean discharges, 1040 ft³/s.
[b] Also May 15.
[c] Gage height, 22.24 ft.



06478513 JAMES RIVER NEAR YANKTON SD—Continued

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	**1545**	2,830	1,180	32.0	17.7
11-15-2011	**0730**	2,980	1,120	5.0	4.4
11-15-2011	**1050**	2,900	1,120	19.0	5.3
01-09-2012	**1210**	1,930	1,520	7.0	1.0
02-07-2012	**1415**	690	1,610	-2.0	.0
03-08-2012	**1650**	952	1,570	8.0	5.0
04-17-2012	**0945**	806	1,640	18.0	13.1
04-17-2012	**1400**	915	1,640	23.0	14.7
06-06-2012	**1409**	902	1,790	36.0	25.1
06-21-2012	**0645**	568	1,820	22.0	23.8
06-21-2012	**1100**	581	1,810	23.5	24.8
07-24-2012	**1545**	150	1,900	37.5	32.5
08-20-2012	**1429**	68	2,010	26.0	24.6