Water-Data Report 2008

06475000 JAMES RIVER NEAR REDFIELD, SD

James Basin
Middle James Subbasin

LOCATION.--Lat 44°54′38″, long 98°28′18″ referenced to North American Datum of 1927, in NW ¼ NW ¼ NW ¼ sec.31, T.117 N., R.63 W., Spink County, SD, Hydrologic Unit 10160006, on left bank near downstream side of county highway bridge, 2.8 mi northeast of Redfield, and 0.7 mi downstream from Turtle Creek.

DRAINAGE AREA.--13,911 mi^2 of which 4,118 mi^2 probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1950 to current year. Crest-stage partial record, October 1990 to September 1997.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,239.50 ft above NGVD of 1929. From March 1950 to July 25, 1951, nonrecording gage. Daily discharge from July 26, 1951, to Sept. 30, 1981, water-stage recorder. Both gages described above at site 4.5 mi downstream from present site and at different datum. Daily discharge from Oct. 1, 1981, to Oct. 8, 1986, water-stage recorder at site 0.6 mi downstream at same datum.

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. Flow below 100 ft^3/s for water years 1964-79 may be unreliable because of wind effect. Satellite data-collection platform at station. Water temperature and specific conductance are measured with each discharge measurement.

06475000 JAMES RIVER NEAR REDFIELD, SD—Continued

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	584	258	e130	e90	e65	e36	347	173	92	289	205	133
2	562	251	e115	e85	e65	e36	340	173	91	280	227	150
3	545	246	e115	e90	e65	e34	318	154	92	264	238	145
4	534	242	e120	e105	e65	e34	299	148	89	253	234	131
5	516	235	e110	e110	e60	e32	303	145	101	244	218	122
6	505	229	e105	e115	e55	e30	e280	146	175	235	198	124
7	494	224	e100	e115	e55	e28	e290	151	167	223	180	129
8	482	216	e100	e110	e55	e30	313	153	160	215	159	126
9	471	208	e105	e110	e50	e32	309	150	160	210	144	121
10	461	203	e110	e100	e46	e32	316	154	164	205	135	125
11	453	200	e115	e100	e44	e34	329	149	323	200	120	129
12	446	197	e120	e95	e44	e36	347	152	569	185	150	125
13	440	199	e120	e95	e42	e39	370	155	542	177	163	123
14	439	198	e110	e90	e38	e30	372	161	494	167	167	122
15	442	199	e110	e90	e36	e31	369	167	476	159	179	121
16	438	197	e110	e85	e36	e33	346	170	462	151	177	119
17	425	196	e115	e80	e36	e36	318	171	456	186	181	117
18	422	192	e115	e80	e36	e40	299	165	441	196	201	131
19	401	191	e120	e75	e34	e42	287	157	429	241	228	134
20	388	190	e120	e75	e32	e44	273	146	411	250	247	112
21	379	189	e120	e75	e32	e48	245	141	390	240	255	108
22	363	e175	e115	e75	e34	e56	213	133	370	232	254	110
23	348	e180	e115	e70	e36	e66	194	106	352	211	246	110
24	334	e180	e110	e65	e36	e78	182	125	342	189	237	106
25	323	e185	e110	e70	e36	e105	178	115	350	175	220	102
26	314	e170	e105	e75	e36	e130	174	108	340	164	203	99
27	293	e150	e100	e75	e36	e170	173	106	360	166	186	101
28	282	e140	e100	e80	e38	e200	173	100	339	168	168	108
29	278	e135	e100	e70	e38	e230	171	98	312	171	153	122
30	274	e130	e95	e65	---	e260	171	98	296	180	143	135
31	264	---	e90	e65	---	e300	---	94	---	192	135	---
Total	12,900	5,905	3,425	2,680	1,281	2,332	8,299	4,364	9,345	6,418	5,951	3,640
Mean	416	197	110	86.5	44.2	75.2	277	141	312	207	192	121
Max	584	258	130	115	65	300	372	173	569	289	255	150
Min	264	130	90	65	32	28	171	94	89	151	120	99
Ac-ft	25,590	11,710	6,790	5,320	2,540	4,630	16,460	8,660	18,540	12,730	11,800	7,220

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2008, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	134	125	78.5	36.5	26.9	201	743	719	465	372	283	159
Max	1,368	1,353	971	411	272	1,151	4,812	3,408	2,311	1,736	1,481	1,606
(WY)	(2000)	(1999)	(1999)	(1999)	(1999)	(1986)	(1969)	(2001)	(1999)	(1999)	(1999)	(1999)
Min	0.00	0.00	0.00	0.00	0.00	0.00	1.36	0.46	0.08	0.00	0.00	0.00
(WY)	(1955)	(1956)	(1956)	(1956)	(1956)	(1975)	(1959)	(1959)	(1977)	(1959)	(1959)	(1958)

06475000 JAMES RIVER NEAR REDFIELD, SD—Continued

SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1951 - 2008*	
Annual total	296,857.05		66,540			
Annual mean	813		182		[a]280	
Highest annual mean					1,294	1999
Lowest annual mean					0.45	1959
Highest daily mean	4,010	May 14	584	Oct 1	7,280	Apr 13, 1969
Lowest daily mean	0.15	Feb 16	28	Mar 7	[b]0.00	Nov 8, 1950
Annual seven-day minimum	0.21	Feb 14	31	Mar 4	0.00	Jan 25, 1951
Maximum peak flow			[c]579	Jun 12	[d]17,000	Apr 3, 1997
Maximum peak stage			[c]6.72	Jun 12	[f]31.10	Apr 6, 1997
Annual runoff (ac-ft)	588,800		132,000		202,600	
10 percent exceeds	1,980		361		842	
50 percent exceeds	616		153		52	
90 percent exceeds	0.60		43		0.00	

* Excludes 1991-1997, parital record crest-stage gage. See PERIOD OF RECORD.

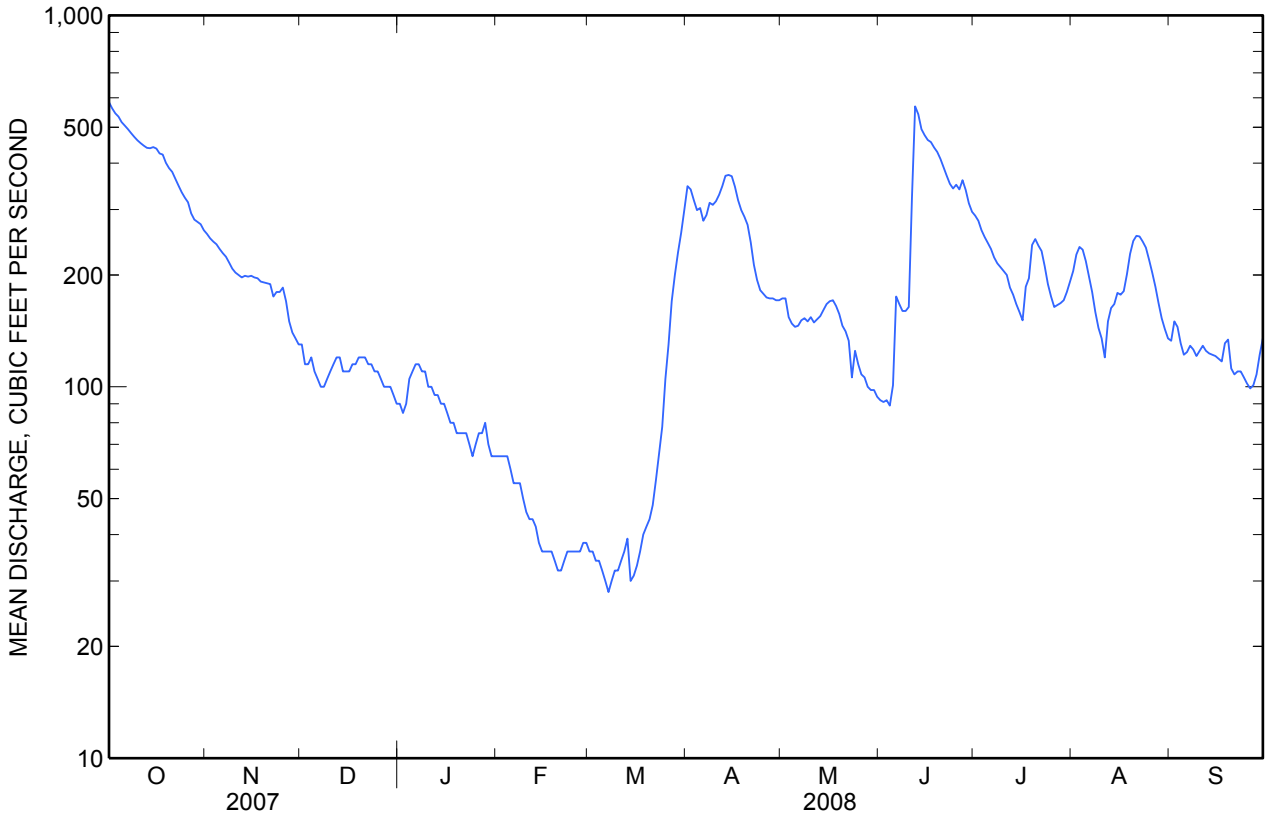
[a] Median of annual mean discharges, 180 ft^3/s.

[b] No flow for many days in some years.

[c] Stage falling, maximum daily discharge 584 ft^3/s, Oct.1; maximum gage height, 6.74 ft, Oct. 1.

[d] Gage height, 29.92 ft. Reflects 1997 partial-record year.

[f] Backwater from ice, from floodmark.



06475000 JAMES RIVER NEAR REDFIELD, SD—Continued

WATER-QUALITY RECORDS

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Date	Time	Instantaneous discharge, cfs (00061)	Specific conductance, wat unf µS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
Oct					
01...	1005	594	1,280	11.0	14.5
Jan					
04...	1100	107	2,020	-6.7	.0
Mar					
11...	1040	35	2,380	4.5	.0
Apr					
14...	1040	365	1,500	7.5	6.0
May					
23...	1640	82	2,040	21.5	17.5
28...	1250	102	2,030	16.0	14.0
Jul					
09...	1510	216	1,440	32.0	29.0