



Water-Data Report 2008

06471500 ELM RIVER AT WESTPORT, SD

James Basin
Elm Subbasin

LOCATION.--Lat 45°39'22", long 98°29'48" referenced to North American Datum of 1927, in SW ¼ NW ¼ sec.12, T.125 N., R.64 W., Brown County, SD, Hydrologic Unit 10160004, on upstream side of highway bridge, 0.5 mi north of Westport, 9.3 mi downstream from Willow Creek, and 30.4 mi upstream from mouth.

DRAINAGE AREA.--1,493 mi² of which 444 mi² probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1945 to current year.

REVISED RECORDS.--WDR SD-86-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,309.3 ft above NGVD of 1929. Prior to Aug. 6, 1951, and Apr. 8 to Sept. 9, 1952, nonrecording gage 12 ft upstream at same datum. Aug. 6, 1951, to Apr. 7, 1952, water-stage recorder at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Flow regulated for Aberdeen municipal water supply by dam forming Elm Lake and other small reservoirs upstream, combined capacity, about 16,000 acre-ft. Water temperature and specific conductance are measured with each discharge measurement.

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06471500 ELM RIVER AT WESTPORT, 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	2.3	2.0	e1.3	e1.1	e1.2	e1.8	12	8.3	2.2	12	5.6	1.6
2	2.0	1.8	e1.2	e1.1	e1.1	e1.7	11	9.6	1.9	10	3.9	2.3
3	1.9	1.8	e1.2	e1.2	e1.1	e1.6	11	11	1.9	9.2	3.0	1.7
4	1.7	1.9	e1.2	e1.3	e1.2	e1.8	13	12	1.9	8.5	2.4	1.5
5	1.7	e2.0	e1.1	e1.4	e1.1	e1.7	14	8.8	2.3	7.5	2.2	1.5
6	1.8	e2.1	e1.1	e1.4	e1.1	e1.5	e16	8.5	4.6	6.2	2.0	1.2
7	2.0	e2.1	e1.0	e1.4	e1.2	e1.5	e16	11	7.4	5.3	1.7	1.2
8	2.1	e2.2	e0.90	e1.3	e1.2	e1.6	15	11	8.9	4.6	1.6	1.1
9	2.1	e2.2	e0.95	e1.3	e1.1	e1.7	14	12	7.3	3.9	1.4	1.0
10	1.9	e2.2	e0.95	e1.2	e1.1	e2.0	13	17	5.6	3.5	1.6	0.94
11	1.9	2.5	e1.0	e1.2	e1.0	e2.5	18	16	7.6	3.7	3.3	1.2
12	1.9	2.5	e1.0	e1.2	e1.0	e3.4	18	15	9.1	2.7	11	1.4
13	1.9	2.3	e1.1	e1.2	e1.1	e4.1	14	11	10	2.2	134	3.2
14	2.1	e2.2	e1.1	e1.1	e1.1	e4.2	12	9.7	13	2.8	77	4.0
15	2.4	e2.0	e1.2	e1.2	e1.0	e4.3	11	10	20	3.4	57	3.1
16	2.7	e1.6	e1.2	e1.1	e1.1	e4.5	11	8.9	17	3.8	84	3.2
17	2.5	e2.0	e1.3	e1.1	e1.1	e4.9	12	8.9	17	4.6	76	3.8
18	3.0	e2.3	e1.4	e1.0	e1.0	e5.2	14	6.4	50	4.7	59	3.8
19	2.9	e2.3	e1.4	e1.0	e0.90	5.0	13	8.3	55	6.6	45	3.3
20	2.4	e2.3	e1.4	e0.95	e0.85	5.0	12	6.2	54	7.2	34	2.5
21	3.0	e2.2	e1.4	e0.95	e0.95	6.3	12	5.1	50	6.1	26	2.2
22	3.1	e2.0	e1.3	e1.0	e1.0	12	9.8	5.0	47	6.4	20	2.6
23	3.0	e1.9	e1.3	e1.0	e1.0	17	10	4.1	45	6.7	13	2.5
24	2.6	e1.8	e1.4	e1.0	e1.1	17	11	4.0	40	6.7	9.0	2.1
25	2.2	e1.7	e1.5	e1.1	e1.2	16	13	4.3	34	6.9	7.0	1.9
26	2.2	e1.6	e1.4	e1.1	e1.2	17	13	3.4	27	6.3	5.8	1.7
27	1.9	e1.4	e1.4	e1.2	e1.3	16	11	2.7	23	8.2	4.6	1.6
28	1.5	e1.4	e1.3	e1.2	e1.4	14	10	2.5	20	8.0	3.7	1.4
29	1.5	e1.3	e1.3	e1.1	e1.6	14	9.5	2.6	17	9.9	3.0	1.3
30	2.5	e1.3	e1.2	e1.0	---	14	8.8	3.3	15	6.2	2.4	1.2
31	2.9	---	e1.2	e1.1	---	13	---	2.8	---	7.0	2.0	---
Total	69.6	58.9	37.70	35.50	32.30	216.3	378.1	249.4	614.7	190.8	702.2	62.04
Mean	2.25	1.96	1.22	1.15	1.11	6.98	12.6	8.05	20.5	6.15	22.7	2.07
Max	3.1	2.5	1.5	1.4	1.6	17	18	17	55	12	134	4.0
Min	1.5	1.3	0.90	0.95	0.85	1.5	8.8	2.5	1.9	2.2	1.4	0.94
Ac-ft	138	117	75	70	64	429	750	495	1,220	378	1,390	123

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2008, BY WATER YEAR (WY)

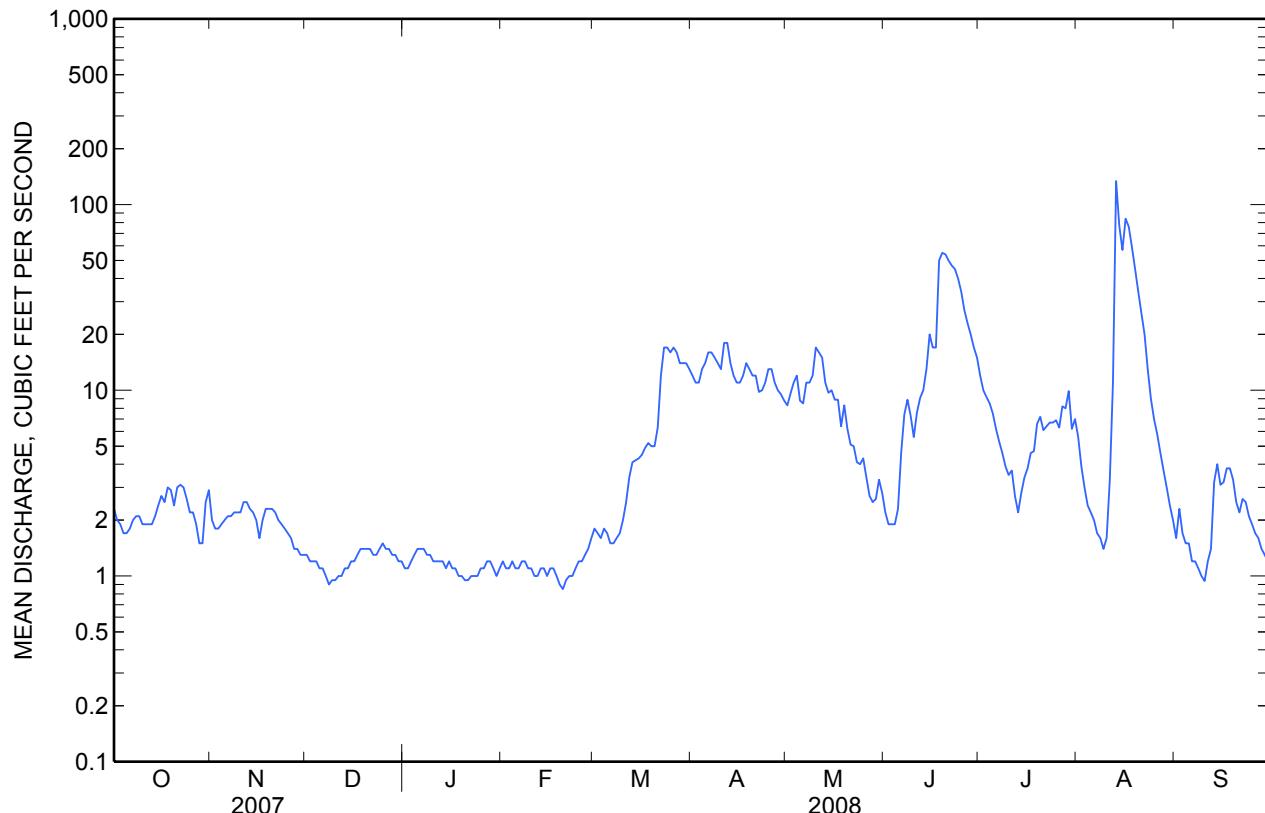
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	8.64	7.45	6.02	3.43	6.85	164	244	84.5	71.3	52.6	15.1	9.29
Max	138	142	137	19.9	113	1,205	2,399	777	1,215	606	197	173
(WY)	(1999)	(1999)	(1999)	(1946)	(1996)	(1997)	(1969)	(1995)	(2005)	(1962)	(1993)	(1999)
Min	0.63	0.74	0.20	0.20	0.00	1.03	0.99	0.63	0.61	2.81	0.53	0.19
(WY)	(2005)	(1946)	(1946)	(1950)	(1949)	(1952)	(1957)	(1959)	(1946)	(1949)	(1946)	(2003)

06471500 ELM RIVER AT WESTPORT, SD—Continued**SUMMARY STATISTICS**

	Calendar Year 2007	Water Year 2008	Water Years 1946 - 2008
Annual total	30,566.10	2,647.54	
Annual mean	83.7	7.23	^a 56.2
Highest annual mean			277
Lowest annual mean			4.12
Highest daily mean	884	Jun 7	Apr 10, 1969
Lowest daily mean	0.90	Jan 13	^b 0.00
Annual seven-day minimum	0.99	Dec 6	Jan 27, 1946
Maximum peak flow		151	12,600
Maximum peak stage		5.53	22.11
Annual runoff (ac-ft)	60,630	5,250	Apr 10, 1969
10 percent exceeds	304	15	74
50 percent exceeds	2.9	2.4	5.2
90 percent exceeds	1.3	1.1	1.2

^a Median of annual mean discharges, 34 ft³/s.

^b No flow for many days in most years prior to 1960.



06471500 ELM RIVER AT WESTPORT, SD—Continued**WATER-QUALITY RECORDS****WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Date	Time	Instan- taneous dis- charge, cfs (00061)	Specif- ic conduc- tance, wat unf μS/cm 25 degC (00095)			Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)
			25 degC (00095)	μS/cm 25 degC (00095)	deg C (00020)		
Oct							
 01...	1635	2.2	1,810	22.0	17.0		
Jan							
 03...	1005	1.2	2,180	-5.6	.0		
Mar							
 13...	0850	4.1	1,740	1.5	.5		
Apr							
 09...	1400	12	1,400	12.0	7.5		
May							
 22...	1050	5.5	1,580	15.5	15.5		
Jul							
 08...	1855	4.5	1,860	23.5	25.0		