Water-Data Report 2012

06479010 VERMILLION RIVER NEAR VERMILLION, SD

Lewis and Clark Lake Basin
Vermillion Subbasin

LOCATION.--Lat 42°49′02″, long 96°55′26″ referenced to North American Datum of 1927, in SE ¼ SE ¼ NE ¼ sec.1, T.92 N., R.52 W., Clay County, SD, Hydrologic Unit 10170102, on left bank 30 ft downstream from bridge, 2.7 mi north of Vermillion, 2.9 mi upstream from Clay Creek, and 10.8 mi upstream from mouth.

DRAINAGE AREA.--2,253 mi^2 of which 478 mi^2 probably is noncontributing, (area was contributing during 1986-88, 1993-2002)

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1983 to current year.

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,121.12 ft above NGVD of 1929, from levels by United States Geological Survey.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Occasional backwater caused by high flows from the Missouri River on some years. Satellite data-collection platform at station. Flow affected by East Vermillion Lake Reservoir, capacity, 550 acres, located about 54 mi upstream. Water temperature and specific conductance measured with each discharge measurement.

06479010 VERMILLION RIVER NEAR VERMILLION, 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	131	139	e100	e70	e48	e60	171	163	281	68	23	10
2	134	142	e90	e60	e46	e70	166	162	280	67	24	11
3	129	140	e80	e65	e48	e110	154	159	302	64	22	11
4	123	141	e70	e70	e48	e150	145	155	292	62	24	11
5	122	144	e65	e75	e48	e200	140	231	269	60	21	12
6	125	141	e60	e70	e50	e220	137	275	248	58	20	11
7	124	134	e65	e65	e48	e250	130	256	229	56	19	11
8	129	131	e70	e65	e46	e280	123	581	209	54	19	11
9	126	137	e65	e70	e46	308	120	1,120	190	52	18	10
10	125	140	e70	e75	e44	348	120	1,420	174	50	17	10
11	134	138	e80	e70	e42	366	117	1,630	158	49	16	10
12	142	136	e95	e60	e42	400	117	1,760	143	47	17	10
13	139	134	e107	e55	e44	413	121	1,720	137	45	17	10
14	139	126	e110	e60	e44	395	124	1,160	126	43	16	10
15	137	125	e105	e65	e46	364	139	806	121	41	16	10
16	135	e120	e95	e60	e46	336	146	624	117	40	16	10
17	133	e115	e100	e55	e46	314	152	515	110	39	15	11
18	127	e115	e95	e55	e44	294	164	436	108	39	16	11
19	128	e110	e85	e50	e46	277	167	374	102	37	16	11
20	129	e100	e75	e48	e48	263	158	334	98	36	15	10
21	135	e80	e70	e46	e48	253	168	309	95	34	14	10
22	138	e90	e70	e48	e50	255	175	315	92	33	14	9.8
23	139	e115	e75	e48	e50	248	178	331	92	33	14	9.6
24	141	e135	e75	e44	e46	237	180	358	91	31	14	11
25	142	e140	e75	e46	e42	226	176	330	86	31	14	10
26	141	e135	e80	e46	e44	215	160	314	81	30	14	10
27	141	e125	e75	e48	e44	207	151	305	78	28	13	9.7
28	141	e120	e70	e48	e46	196	153	356	75	27	12	9.7
29	139	e115	e75	e48	e50	185	151	325	72	27	12	9.9
30	138	e110	e75	e50	---	185	150	303	69	26	11	9.9
31	138	---	e75	e50	---	178	---	291	---	24	11	---
Total	4,144	3,773	2,497	1,785	1,340	7,803	4,453	17,418	4,525	1,331	510	310.6
Mean	134	126	80.5	57.6	46.2	252	148	562	151	42.9	16.5	10.4
Max	142	144	110	75	50	413	180	1,760	302	68	24	12
Min	122	80	60	44	42	60	117	155	69	24	11	9.6
Ac-ft	8,220	7,480	4,950	3,540	2,660	15,480	8,830	34,550	8,980	2,640	1,010	616

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2012, BY WATER YEAR (WY)

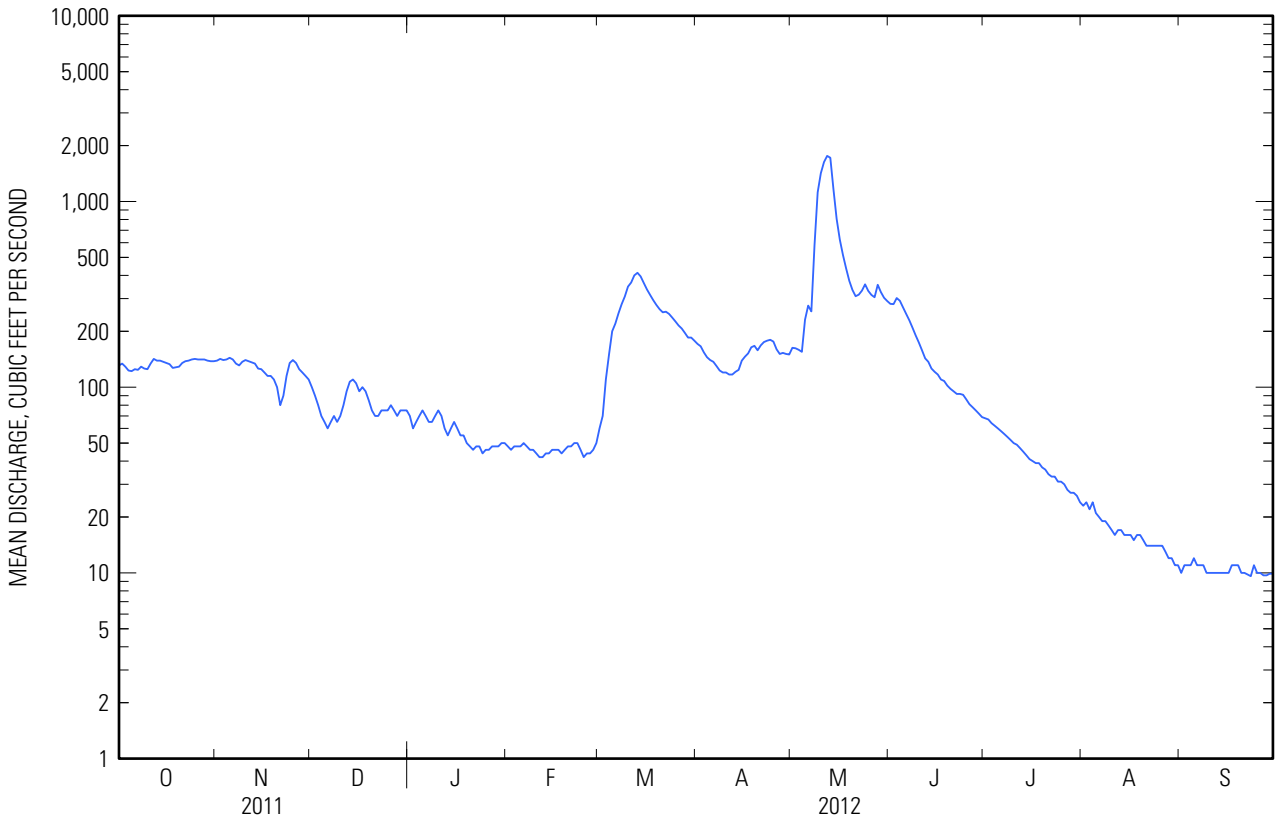
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	180	155	91.1	59.3	111	652	1,014	690	873	571	275	175
Max	1,190	681	288	204	479	3,320	4,405	2,432	6,062	5,920	3,305	1,378
(WY)	(2011)	(1999)	(1996)	(1996)	(2011)	(2010)	(1984)	(1995)	(1984)	(1993)	(2010)	(2010)
Min	5.54	7.99	7.37	6.71	9.00	15.3	13.1	21.8	15.4	14.2	13.2	5.22
(WY)	(1990)	(1990)	(1991)	(1991)	(1989)	(1991)	(1990)	(1991)	(1989)	(1989)	(1990)	(1991)

06479010 VERMILLION RIVER NEAR VERMILLION, SD—Continued

SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 1984 - 2012	
Annual total	318,817		49,889.6			
Annual mean	873		136		[a]404	
Highest annual mean					1,416	1993
Lowest annual mean					27.9	1991
Highest daily mean	4,870	Apr 24	1,760	May 12	20,200	Jun 23, 1984
Lowest daily mean	60	Dec 6	9.6	Sep 23	[b]3.6	Oct 10, 1991
Annual seven-day minimum	66	Dec 4	10	Sep 22	4.5	Oct 6, 1991
Maximum peak flow			1,810	May 13	21,400	Jun 23, 1984
Maximum peak stage			11.89	May 13	31.77	Jun 23, 1984
Annual runoff (ac-ft)	632,400		98,960		293,000	
10 percent exceeds	2,380		284		1,020	
50 percent exceeds	340		88		110	
90 percent exceeds	90		14		19	

[a] Median of annual mean discharges, 290 ft³/s.
[b] Also Oct. 18, 1991.



06479010 VERMILLION RIVER NEAR VERMILLION, 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)
10-25-2011	**0950**	143	1,650	10.0	11.0
12-13-2011	**0840**	107	1,790	1.0	1.0
03-07-2012	**1035**	264	1,690	0.0	2.0
04-17-2012	**0955**	149	1,540	12.0	9.0
05-14-2012	**1315**	1,080	980	31.0	19.0
06-06-2012	**1005**	251	1,800	25.5	24.0
07-17-2012	**0820**	40	1,610	29.3	24.2
08-21-2012	**1440**	14	1,730	31.7	24.5