

Water-Data Report 2012

06330000 MISSOURI RIVER NEAR WILLISTON, ND

Lake Sakakawea Basin
Lake Sakakawea Subbasin

LOCATION.--Lat 48°06'29", long 103°42'51" referenced to North American Datum of 1927, in NW ¼ NE ¼ sec.6, T.153 N., R.101 W., McKenzie County, ND, Hydrologic Unit 10110101, on right bank of Missouri River, 100 ft downstream from bridge about 5 miles SW of Williston.

DRAINAGE AREA.--164,500 mi², approximately.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--DAILY GAGE HEIGHT--April 1966 to current year.

PERIOD OF RECORD.--DAILY DISCHARGE--October 1897 to July 1965. October 1897 to September 1928 monthly discharge only, published in WSP 1309; figures of daily discharge April 1905 to May 1907 published in WSP 172, 208, and 246 have been found to be unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 1,830.20 ft above National Geodetic Vertical Datum of 1929. See WSP 1917 for history of changes prior to April 1966.

REMARKS.--Stage regulated by upstream reservoirs and backwater from Lake Sakakawea. Estimated daily gage heights based on incomplete daily record.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height recorded, 30.33 ft, June 21, 2011; minimum daily recorded, 7.80 ft, November 2, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum daily gage height recorded, 22.70 ft, February 1, may have been higher during period of missing record, February 1-3; minimum daily recorded, 13.61 ft, September 4.

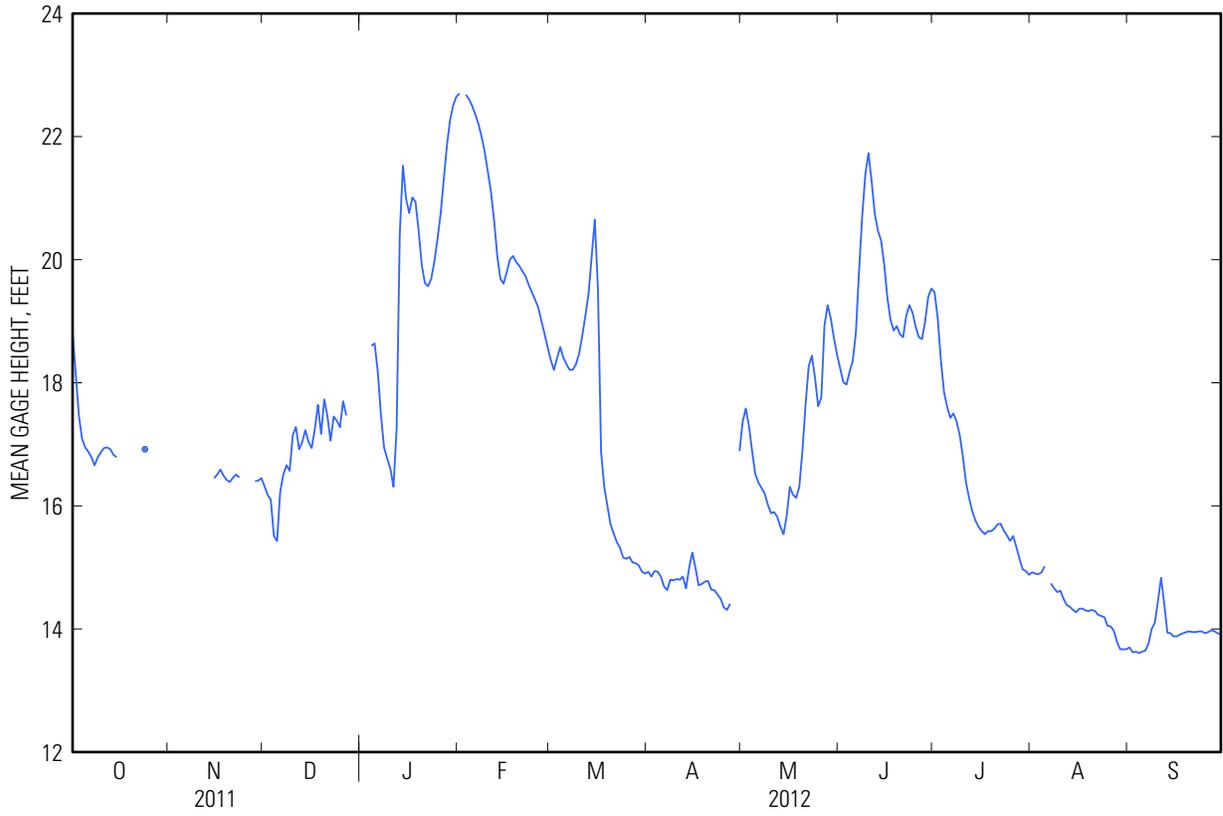
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GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	18.82	---	16.32	---	e22.70	e18.37	14.93	17.37	18.23	19.47	14.92	13.70
2	18.14	---	16.18	---	---	e18.21	14.85	17.58	18.01	19.05	14.90	13.62
3	17.47	---	16.10	---	e22.68	18.40	14.94	17.30	17.97	18.37	14.89	13.63
4	17.09	---	15.51	e18.60	22.61	18.58	14.93	16.89	18.18	17.85	14.92	13.61
5	16.95	---	15.43	18.64	22.50	18.41	14.85	16.52	18.36	17.61	e15.02	13.63
6	16.88	---	16.23	18.19	22.36	18.30	14.69	16.38	18.82	17.43	---	13.65
7	16.79	---	16.51	17.49	22.21	18.21	14.63	16.29	19.82	17.50	e14.74	13.76
8	16.66	---	16.66	16.95	22.00	18.21	14.80	16.20	20.71	17.37	14.66	14.00
9	16.79	---	16.57	16.77	21.75	18.30	14.79	16.02	21.39	17.15	14.60	14.10
10	16.87	---	17.15	16.61	21.43	18.47	14.81	15.88	21.73	16.80	14.62	14.45
11	16.94	---	17.28	16.31	21.10	18.76	14.80	15.90	21.27	16.38	14.49	14.83
12	16.95	---	16.92	17.25	20.63	19.09	14.85	15.82	20.74	16.12	14.39	14.41
13	16.92	---	17.04	20.41	20.06	19.44	14.66	15.66	20.47	15.91	14.36	13.94
14	16.83	---	17.23	21.53	19.69	20.05	15.00	15.54	20.31	15.76	14.31	13.93
15	e16.79	e16.45	17.04	20.99	19.61	20.65	15.24	15.84	19.92	15.66	14.27	13.88
16	---	16.51	16.94	20.76	19.80	e19.52	14.99	16.31	19.38	15.59	14.33	13.88
17	---	16.59	17.25	21.01	20.00	16.87	14.71	16.18	19.02	15.54	14.33	13.91
18	---	16.49	17.64	20.94	20.06	16.31	14.73	16.13	18.85	15.59	14.30	13.93
19	---	16.42	17.17	20.47	19.96	16.00	14.77	16.31	18.92	15.59	14.29	13.95
20	---	16.39	17.73	19.91	19.90	15.70	14.78	16.90	18.79	15.63	14.31	13.96
21	---	16.46	17.46	19.62	19.81	15.55	14.64	17.65	18.74	15.70	14.29	13.95
22	---	16.51	17.06	19.57	19.73	15.41	14.63	18.27	19.09	15.71	14.23	13.95
23	---	16.46	17.45	19.69	19.59	15.32	14.56	18.44	19.26	15.60	14.21	13.96
24	e16.92	---	17.38	19.97	e19.47	15.16	14.49	18.08	19.14	15.52	14.19	13.96
25	---	---	17.28	20.34	19.35	15.14	14.35	17.62	18.91	15.43	14.05	13.93
26	---	---	17.70	20.75	19.23	15.17	14.31	17.76	18.74	15.51	14.04	13.95
27	---	---	e17.47	21.31	e19.01	15.08	e14.41	18.93	18.71	15.33	13.97	13.98
28	---	e16.40	---	21.86	18.80	15.07	---	19.26	19.00	15.14	13.79	13.96
29	---	16.41	---	22.27	18.58	15.03	---	19.05	19.40	14.97	13.67	13.93
30	---	16.45	---	22.51	---	14.93	e16.89	18.73	19.53	14.94	13.67	13.91
31	---	---	---	22.65	---	14.90	---	18.46	---	14.88	13.67	---
Mean	---	---	---	---	---	17.18	---	17.07	19.38	16.29	---	13.94
Max	---	---	---	---	---	20.65	---	19.26	21.73	19.47	---	14.83
Min	---	---	---	---	---	14.90	---	15.54	17.97	14.88	---	13.61

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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-65, 1969-70, 1974-82, 1992.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: May 1951 to June 1965, October 2009 to current year.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 26.7° C, July 21, 22, 1958; minimum recorded, 0.0° C, many days in most winter months.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 22.4° C, July 23-25; minimum recorded, 0.5° C, many days in January and February.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	15.9	15.0	15.4	8.2	7.3	8.0	2.7	2.3	2.4	1.4	0.8	1.0
2	16.1	15.2	15.6	8.0	7.3	7.8	2.5	1.8	2.2	1.0	0.9	0.9
3	16.3	15.5	15.9	7.7	7.0	7.4	2.5	1.6	2.1	1.2	0.8	0.9
4	16.5	15.7	16.1	7.3	6.6	7.0	2.0	1.6	1.8	1.1	0.8	0.9
5	16.8	15.9	16.4	7.0	6.6	6.8	1.8	1.3	1.5	0.9	0.8	0.9
6	16.7	16.2	16.5	6.7	6.0	6.3	1.6	1.1	1.4	1.0	0.7	0.9
7	16.6	16.1	16.4	6.0	5.2	5.6	1.4	1.3	1.3	1.3	1.0	1.0
8	16.1	15.1	15.6	5.5	4.8	5.2	1.6	1.1	1.3	1.1	1.0	1.0
9	15.2	14.3	14.6	5.1	4.4	4.9	1.7	0.7	1.2	1.4	0.7	1.0
10	14.3	13.7	14.0	4.7	4.1	4.5	1.5	0.7	1.2	1.2	1.1	1.1
11	13.8	13.1	13.4	4.6	3.8	4.3	1.6	0.6	1.1	1.2	1.0	1.2
12	13.3	12.6	13.0	4.7	4.3	4.4	1.1	1.0	1.1	1.3	0.9	1.1
13	13.1	12.6	12.9	4.9	4.5	4.7	1.1	1.0	1.0	1.1	0.9	1.0
14	12.8	12.1	12.4	5.3	4.8	4.9	1.0	1.0	1.0	1.2	0.9	0.9
15	12.2	11.6	12.0	5.1	4.5	4.8	1.0	0.9	1.0	0.9	0.8	0.9
16	11.9	11.1	11.5	4.6	3.7	4.3	1.0	0.9	0.9	1.1	0.8	0.9
17	11.3	10.6	11.0	4.1	3.3	3.7	1.3	0.9	0.9	1.3	0.8	0.8
18	10.9	10.2	10.6	3.5	2.6	3.2	0.9	0.9	0.9	1.2	0.6	0.8
19	10.5	9.9	10.3	2.9	2.2	2.5	1.2	0.6	0.9	1.0	0.7	0.8
20	10.4	9.9	10.2	2.6	1.7	2.1	1.2	0.8	0.9	0.8	0.8	0.8
21	10.4	9.9	10.2	2.3	1.8	1.9	1.0	0.8	0.8	0.8	0.7	0.8
22	10.6	10.0	10.3	2.0	1.4	1.8	0.9	0.8	0.8	0.8	0.7	0.8
23	10.8	10.4	10.6	1.9	1.3	1.6	1.3	0.6	0.8	0.8	0.6	0.7
24	10.8	10.6	10.7	1.8	1.3	1.6	1.1	0.7	0.8	---	---	---
25	10.6	10.2	10.4	2.4	1.8	2.1	0.9	0.8	0.8	0.9	0.5	0.7
26	10.3	9.7	10.0	2.8	2.1	2.5	0.8	0.6	0.8	0.7	0.5	0.7
27	9.8	9.1	9.5	2.6	2.0	2.4	0.8	0.8	0.8	0.9	0.7	0.7
28	9.2	8.4	8.9	2.8	2.2	2.5	0.9	0.8	0.8	0.7	0.6	0.7
29	8.7	8.4	8.5	2.8	2.6	2.6	0.8	0.8	0.8	0.7	0.6	0.7
30	8.4	7.7	8.2	2.6	2.5	2.5	0.9	0.8	0.8	0.7	0.6	0.6
31	8.2	7.5	8.0	---	---	---	0.9	0.7	0.8	0.8	0.6	0.6
Month	16.8	7.5	12.2	8.2	1.3	4.1	2.7	0.6	1.1	---	---	---

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TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	---	---	---	---	---	---	7.1	6.5	6.8	10.0	9.6	9.7
2	0.9	0.6	0.6	---	---	---	7.6	6.9	7.3	10.6	10.0	10.3
3	0.6	0.6	0.6	---	---	---	7.9	7.3	7.6	11.0	10.6	10.7
4	0.6	0.6	0.6	---	---	---	8.1	7.5	7.8	11.4	11.0	11.2
5	0.8	0.5	0.6	---	---	---	8.1	7.5	7.8	11.8	11.4	11.6
6	0.6	0.6	0.6	---	---	---	8.0	7.9	8.0	11.9	11.7	11.8
7	0.7	0.6	0.6	---	---	---	8.2	7.6	7.9	11.7	10.9	11.3
8	0.7	0.5	0.6	---	---	---	7.8	7.3	7.6	11.0	10.5	10.7
9	0.6	0.6	0.6	---	---	---	7.5	6.8	7.3	11.9	10.9	11.2
10	0.8	0.5	0.6	---	---	---	7.3	6.5	7.0	13.8	11.9	12.7
11	0.8	0.6	0.7	---	---	---	7.1	6.5	6.8	13.6	12.4	12.9
12	0.7	0.5	0.6	---	---	---	6.9	6.7	6.8	14.4	12.6	13.4
13	0.7	0.6	0.6	---	---	---	7.5	6.8	7.1	15.2	13.3	14.2
14	---	---	---	---	---	---	8.0	7.3	7.6	16.3	14.2	15.0
15	---	---	---	---	---	---	8.7	7.8	8.2	16.7	14.8	15.7
16	---	---	---	---	---	---	8.6	8.0	8.4	17.5	15.6	16.4
17	---	---	---	---	---	---	8.7	7.6	8.1	18.0	16.7	17.3
18	---	---	---	---	---	---	8.3	7.5	8.0	18.1	17.1	17.5
19	---	---	---	3.6	2.4	2.9	8.1	8.0	8.0	17.8	16.7	17.1
20	---	---	---	4.1	3.0	3.6	8.1	7.9	8.0	17.8	16.6	17.1
21	---	---	---	4.4	3.6	4.0	8.2	8.0	8.1	17.8	17.0	17.4
22	---	---	---	4.9	3.7	4.3	---	---	---	18.2	17.6	17.8
23	---	---	---	5.0	4.1	4.6	9.6	8.8	9.1	18.0	16.9	17.5
24	---	---	---	5.7	4.5	5.0	10.7	9.6	10.0	16.9	15.4	16.1
25	---	---	---	5.8	4.5	5.3	11.6	10.3	11.0	15.4	13.6	14.5
26	---	---	---	5.4	5.3	5.3	11.7	11.5	11.6	13.6	12.1	12.7
27	---	---	---	5.7	5.1	5.4	---	---	---	12.1	11.7	11.8
28	---	---	---	5.5	5.4	5.5	---	---	---	11.8	10.9	11.4
29	---	---	---	5.8	5.5	5.6	---	---	---	10.9	10.4	10.6
30	---	---	---	6.2	5.3	5.9	---	---	---	11.1	10.7	10.8
31	---	---	---	6.7	6.1	6.3	---	---	---	11.8	11.1	11.3
Month	---	---	---	---	---	---	---	---	---	18.2	9.6	13.5

06330000 MISSOURI RIVER NEAR WILLISTON, ND—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	13.2	11.8	12.4	19.9	19.7	19.8	21.9	21.8	21.8	18.7	18.5	18.6
2	14.6	13.2	13.9	20.1	19.9	20.0	21.8	21.6	21.7	18.6	18.5	18.5
3	15.9	14.6	15.2	20.3	20.1	20.2	21.6	20.9	21.3	18.5	18.4	18.5
4	16.9	15.9	16.3	20.4	20.3	20.3	20.9	19.9	20.3	18.4	18.1	18.3
5	17.5	16.9	17.2	20.4	20.3	20.4	---	---	---	18.1	17.6	17.9
6	18.0	17.5	17.6	20.4	20.1	20.2	---	---	---	17.6	17.4	17.5
7	18.3	18.0	18.2	20.1	20.0	20.0	---	---	---	17.4	17.0	17.2
8	18.3	18.0	18.1	20.0	20.0	20.0	20.2	19.9	20.0	17.0	16.8	16.9
9	18.1	17.7	17.8	20.2	20.0	20.1	20.4	20.2	20.3	16.8	16.6	16.7
10	17.8	17.6	17.7	20.6	20.2	20.4	20.4	20.2	20.3	16.7	16.6	16.6
11	17.8	16.9	17.3	21.0	20.6	20.8	20.3	19.9	20.1	16.9	16.7	16.8
12	16.9	16.1	16.4	21.2	21.0	21.1	19.9	19.6	19.7	16.9	16.6	16.7
13	16.2	16.1	16.2	21.3	21.2	21.2	19.7	19.5	19.6	16.6	16.1	16.3
14	16.3	16.2	16.3	21.4	21.3	21.4	19.6	19.4	19.5	16.1	15.6	15.8
15	16.4	16.3	16.4	21.4	21.2	21.3	19.6	19.3	19.5	15.6	15.3	15.5
16	16.5	16.4	16.5	21.3	21.1	21.2	19.3	18.6	18.8	15.4	15.2	15.3
17	16.6	16.5	16.6	21.4	21.3	21.3	18.6	18.3	18.4	15.2	14.9	15.0
18	16.9	16.6	16.8	21.4	21.3	21.3	18.4	18.2	18.3	14.9	14.7	14.8
19	17.3	16.9	17.1	21.7	21.4	21.5	18.3	18.1	18.2	14.8	14.7	14.8
20	17.4	17.3	17.4	22.2	21.7	22.0	18.5	18.3	18.4	14.8	14.6	14.7
21	17.4	17.4	17.4	22.2	22.1	22.2	18.8	18.5	18.6	14.7	14.5	14.6
22	17.4	17.4	17.4	22.3	22.1	22.2	19.0	18.8	18.9	14.6	14.2	14.4
23	17.6	17.4	17.5	22.4	22.3	22.3	19.2	19.0	19.1	14.3	13.9	14.1
24	17.7	17.6	17.6	22.4	22.3	22.4	19.2	19.1	19.2	14.0	13.8	13.9
25	17.7	17.6	17.6	22.4	22.2	22.3	19.2	18.7	18.9	14.1	13.9	14.0
26	18.1	17.6	17.8	22.2	21.8	21.9	18.7	18.2	18.4	14.2	14.1	14.1
27	18.8	18.1	18.5	21.8	21.3	21.5	18.2	18.0	18.1	14.4	14.2	14.3
28	19.2	18.8	19.1	21.4	21.2	21.2	18.1	18.0	18.1	14.6	14.4	14.5
29	19.5	19.2	19.4	21.6	21.3	21.4	18.4	18.1	18.2	14.8	14.6	14.7
30	19.7	19.5	19.6	21.8	21.5	21.6	18.7	18.4	18.6	14.9	14.8	14.8
31	---	---	---	21.9	21.7	21.8	18.7	18.6	18.7	---	---	---
Month	19.7	11.8	17.1	22.4	19.7	21.1	---	---	---	18.7	13.8	15.9