06342500 MISSOURI RIVER AT BISMARCK, ND

Lake Oahe Basin
Painted Woods-Square Butte Subbasin

LOCATION.--Lat 46°48′51″, long 100°49′17″ referenced to North American Datum of 1983, in SE ¼ NW ¼ SE ¼ sec.31, T.139 N., R.80 W., Burleigh County, ND, Hydrologic Unit 10130101, on left bank 40 ft upstream from Bismarck City waterplant, 2,100 ft downstream from Burlington Northern Railway bridge, 1.6 mi northwest of Bismarck Post Office, 3.5 mi upstream from Heart River, and at mile 1,314.5.

DRAINAGE AREA.--186,400 mi², approximately.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--DAILY DISCHARGE--October to November 1927, April 1928 to current year. See WSP 1729 or 1917 for history of data prior to April 1928.

PERIOD OF RECORD.--DAILY GAGE HEIGHT--October 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,618.28 ft above National Geodetic Vertical Datum of 1929, revised. See WSP 1729 or 1917 for history of changes prior to September 30, 1937.

REMARKS.--Records good except for estimated daily discharges, which are poor.

REGULATION.--Flow regulated by Lake Sakakawea (station 06338000), 75.4 mi upstream, since November 1953.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 31.6 ft, March 31, 1881, present site and datum, ice jam. A stage of 30.4 ft occurred on March 14, 1910, present site and datum, ice jam.

EXTREMES FOR PERIOD PRIOR TO REGULATION.--Prior to completion of Garrison Dam in 1953, maximum discharge, 500,000 ft³/s, April 6, 1952, gage height, 27.90 ft.

EXTREMES FOR PERIOD AFTER REGULATION.--Since completion of Garrison Dam in 1953, maximum discharge, 155,000 ft³/s, June 25, 28, 2011, gage height, 19.05 ft; maximum gage height, 19.25 ft, July 1, 2011.

Suggested citation: U.S. Geological Survey, 2014, Water-resources data for the United States, Water Year 2013: U.S. Geological Survey Water-Data Report WDR-US-2013, site 06342500, accessed at http://wdr.water.usgs.gov/wy2013/pdfs/06342500.2013.pdf

06342500 MISSOURI RIVER AT BISMARCK, ND—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	19,400	20,600	23,700	e17,600	e24,200	e25,100	17,600	20,500	23,700	20,900	20,200	21,000
2	19,200	20,900	23,100	e17,400	e24,200	e25,000	18,500	20,400	25,200	21,000	20,300	20,000
3	19,500	21,700	23,600	e17,500	e24,100	e24,800	20,300	20,200	27,400	21,100	19,800	20,100
4	19,800	22,900	23,400	e18,300	e24,200	e24,700	21,300	20,600	28,100	20,800	20,300	19,700
5	19,500	23,300	23,200	e18,500	e24,000	25,100	21,900	19,700	25,100	21,500	20,000	20,400
6	19,400	23,300	23,100	e19,000	e23,500	25,100	21,500	19,800	24,100	20,300	20,300	19,700
7	19,500	22,900	21,200	e19,900	e24,000	23,800	21,200	19,800	24,100	19,700	20,300	20,100
8	19,500	23,500	20,300	e19,800	e24,100	22,300	21,100	20,300	23,600	19,600	20,100	20,100
9	19,500	23,500	20,200	e20,300	e24,400	22,800	20,700	20,300	24,000	20,400	20,200	20,300
10	19,500	23,600	20,700	e21,200	e24,600	20,900	20,800	21,000	23,600	20,500	20,300	20,400
11	19,500	23,500	21,100	e21,800	e24,800	20,100	22,100	22,600	23,600	19,800	20,200	19,800
12	19,300	22,900	18,200	e22,300	e24,800	20,800	20,900	22,000	23,000	20,400	20,400	21,100
13	19,500	23,300	17,400	e23,100	e24,700	18,800	20,200	22,100	22,700	20,000	20,300	21,300
14	19,600	23,400	17,500	e23,800	e24,700	18,000	20,900	22,200	22,000	20,600	20,300	20,900
15	19,800	23,400	17,600	e23,900	e24,700	17,200	20,600	21,700	22,200	19,900	21,000	20,200
16	20,000	23,400	17,200	e22,800	e24,700	17,500	20,100	22,300	22,300	20,300	20,200	20,500
17	20,200	23,600	17,400	e21,000	e24,700	18,200	20,000	22,300	22,100	19,900	20,200	19,100
18	20,100	23,400	17,300	e23,700	e24,500	18,300	20,000	22,400	21,600	20,200	20,300	17,100
19	19,100	23,400	17,300	e24,300	e24,400	18,400	19,900	22,400	21,900	19,600	20,100	16,700
20	19,300	23,500	17,300	e24,500	e24,700	19,500	19,800	22,700	21,200	20,000	20,000	15,800
21	20,900	23,300	e17,300	e25,100	e24,500	20,600	19,800	23,300	21,200	20,200	20,200	14,900
22	20,300	23,200	e16,500	e25,100	e24,300	20,000	20,100	23,300	21,300	20,200	20,400	15,400
23	20,400	23,300	e16,400	e25,200	e24,000	20,100	20,600	23,400	22,500	19,900	20,000	15,000
24	20,500	23,300	e16,400	e25,000	e23,800	18,800	20,300	24,000	21,900	20,200	20,000	e14,100
25	20,400	23,400	e16,400	e25,000	e24,000	17,600	20,900	23,900	22,000	20,900	19,700	e14,000
26	20,300	23,400	e16,700	e25,100	e24,000	17,100	20,400	23,600	21,800	19,900	19,600	e14,000
27	20,900	23,600	e17,100	e25,000	e24,500	16,700	21,000	23,200	21,500	20,000	20,400	e14,000
28	21,600	23,500	e16,500	e24,800	e25,200	16,600	20,700	23,400	21,400	20,100	20,900	13,900
29	20,500	23,400	e16,400	e24,800	---	16,800	20,800	23,500	20,800	20,100	20,900	13,600
30	21,300	23,100	e16,400	e24,700	---	17,000	20,800	23,900	20,700	20,700	21,400	13,700
31	21,200	---	e16,900	e24,300	---	17,700	---	23,800	---	20,000	21,000	---
Total	619,500	693,500	583,800	694,800	682,300	625,400	614,800	684,600	686,600	628,700	629,300	536,900
Mean	19,980	23,120	18,830	22,410	24,370	20,170	20,490	22,080	22,890	20,280	20,300	17,900
Max	21,600	23,600	23,700	25,200	25,200	25,100	22,100	24,000	28,100	21,500	21,400	21,300
Min	19,100	20,600	16,400	17,400	23,500	16,600	17,600	19,700	20,700	19,600	19,600	13,600
Ac-ft	1,229,000	1,376,000	1,158,000	1,378,000	1,353,000	1,240,000	1,219,000	1,358,000	1,362,000	1,247,000	1,248,000	1,065,000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2013, BY WATER YEAR (WY)

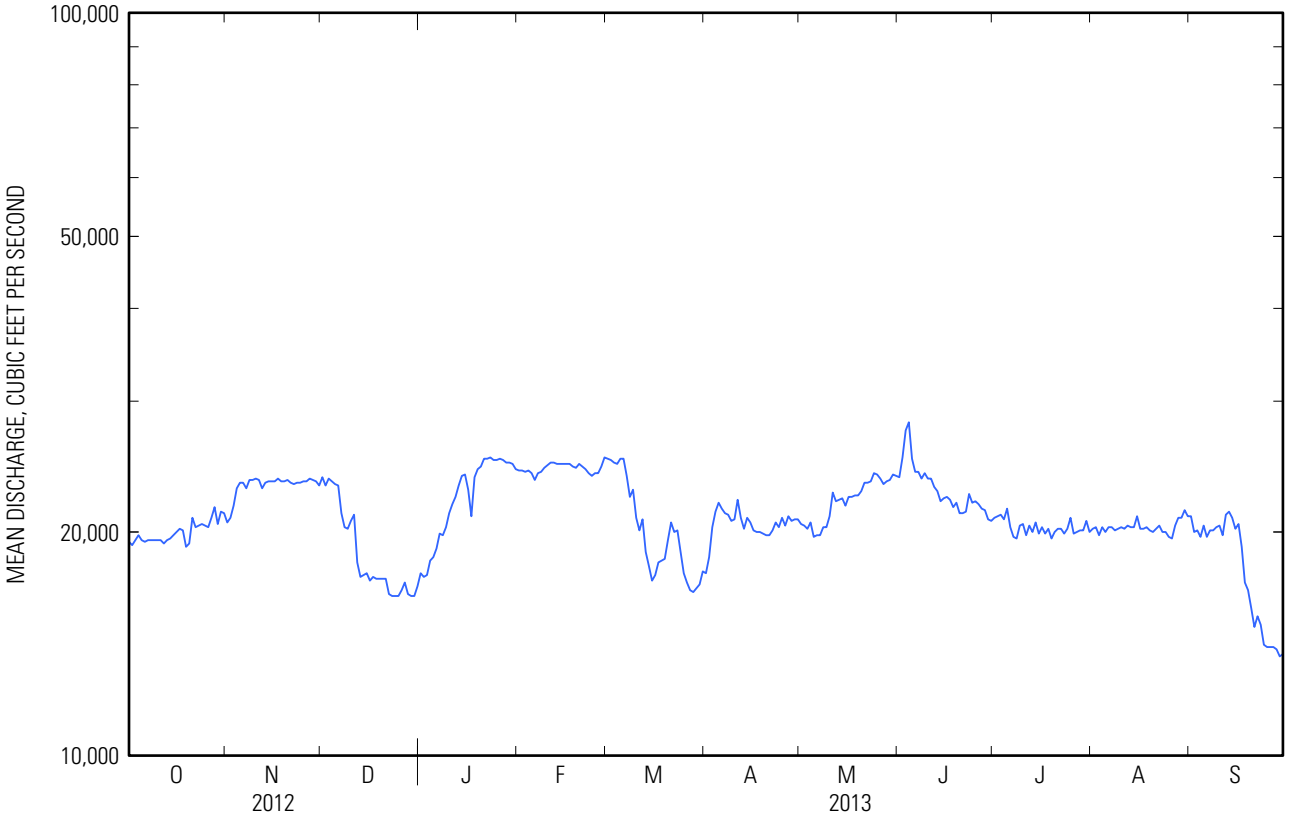
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	20,330	20,510	20,040	22,100	23,960	21,570	20,620	22,340	25,400	25,950	25,180	21,870
Max	48,180	43,240	31,690	32,350	34,840	34,370	40,370	51,060	137,600	131,400	92,610	46,000
(WY)	(1998)	(1998)	(1970)	(1969)	(1969)	(1972)	(1972)	(2011)	(2011)	(2011)	(2011)	(2011)
Min	8,399	8,155	7,890	6,519	5,883	6,317	10,420	9,234	8,445	10,840	9,271	8,121
(WY)	(1963)	(1963)	(1955)	(1955)	(1956)	(1955)	(1993)	(1963)	(1960)	(1960)	(1962)	(1962)

06342500 MISSOURI RIVER AT BISMARCK, ND—Continued

SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		Water Years 1954 - 2013	
Annual total	8,638,300		7,680,200			
Annual mean	23,600		21,040		[a]22,480	
Highest annual mean					[a]53,210	2011
Lowest annual mean					[a]13,730	2008
Highest daily mean	30,100	Apr 16	28,100	Jun 4	[a]154,000	Jun 25, 2011
Lowest daily mean	16,400	Dec 23	13,600	Sep 29	[a]4,000	Mar 25, 1955
Annual seven-day minimum	16,600	Dec 23	13,900	Sep 24	[a]4,860	Mar 21, 1955
Maximum peak flow			[b]28,800	Jun 4	[a,c]155,000	Jun 25, 2011
Maximum peak stage			[d]10.22	Jan 19	[a]19.25	Jul 1, 2011
Annual runoff (ac-ft)	17,130,000		15,230,000		[a]16,290,000	
10 percent exceeds	27,800		24,300		[a]33,100	
50 percent exceeds	23,900		20,700		[a]21,200	
90 percent exceeds	19,400		17,400		[a]12,000	

[a] Since completion of Garrison Dam in 1953.
[b] Gage height, 6.45 ft.
[c] Gage height, 19.05 ft.
[d] Backwater from ice.

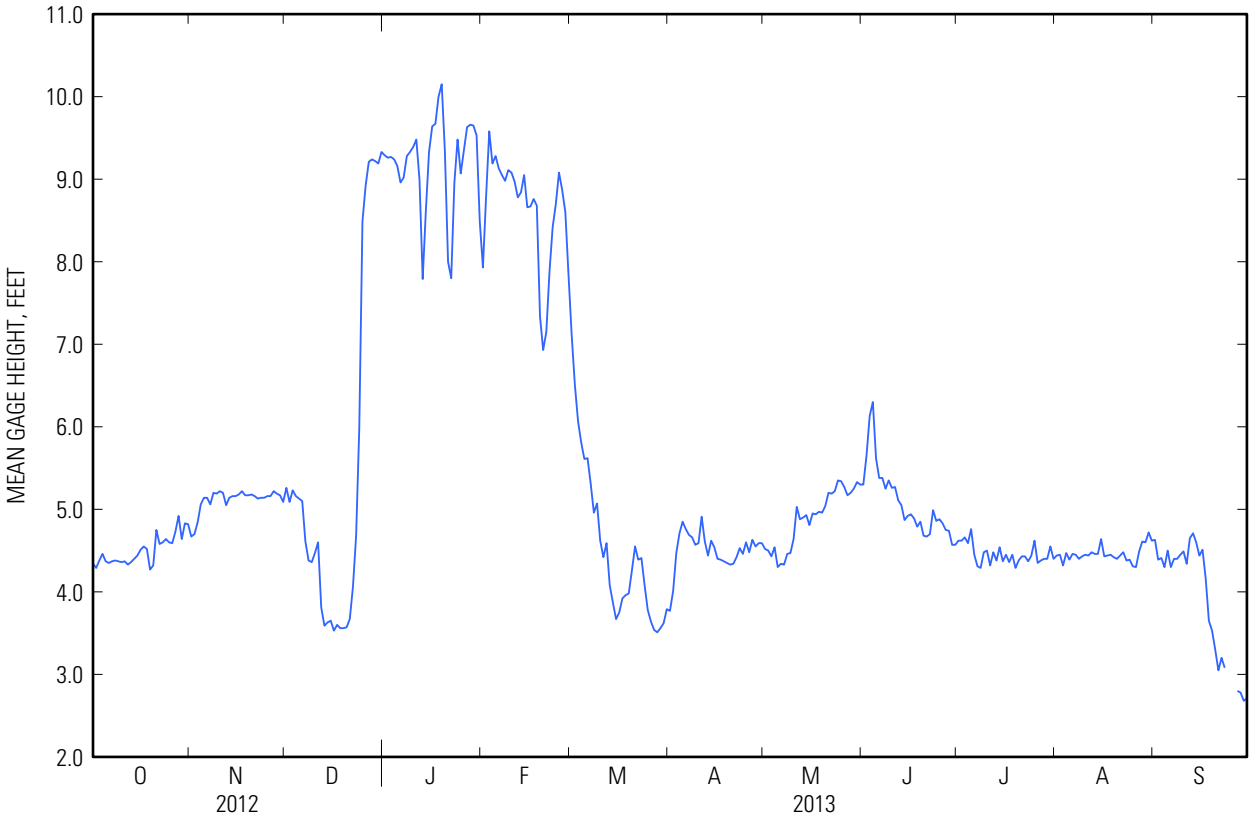


06342500 MISSOURI RIVER AT BISMARCK, ND—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	4.34	4.67	5.26	9.29	7.93	7.11	3.77	4.52	5.30	4.62	4.44	4.63
2	4.29	4.70	5.09	9.26	8.79	6.51	4.01	4.50	5.65	4.62	4.45	4.39
3	4.38	4.84	5.23	9.27	9.58	6.07	4.47	4.43	6.13	4.66	4.32	4.41
4	4.46	5.06	5.16	9.24	9.19	5.81	4.71	4.54	6.30	4.59	4.47	4.30
5	4.37	5.14	5.13	9.16	9.28	5.61	4.85	4.30	5.62	4.76	4.39	4.50
6	4.35	5.14	5.10	8.96	9.13	5.62	4.76	4.34	5.38	4.45	4.46	4.30
7	4.37	5.06	4.61	9.02	9.05	5.31	4.69	4.33	5.38	4.31	4.45	4.40
8	4.38	5.20	4.38	9.28	8.98	4.96	4.66	4.46	5.25	4.29	4.40	4.40
9	4.37	5.19	4.36	9.33	9.11	5.07	4.57	4.47	5.35	4.48	4.43	4.45
10	4.36	5.22	4.47	9.39	9.08	4.62	4.59	4.64	5.26	4.50	4.45	4.49
11	4.37	5.20	4.60	9.48	8.97	4.42	4.91	5.03	5.27	4.32	4.44	4.34
12	4.33	5.05	3.81	8.99	8.78	4.59	4.61	4.88	5.11	4.48	4.48	4.65
13	4.36	5.14	3.59	7.79	8.84	4.08	4.44	4.90	5.05	4.38	4.46	4.71
14	4.40	5.16	3.63	8.62	9.05	3.87	4.62	4.93	4.87	4.54	4.46	4.60
15	4.44	5.16	3.65	9.33	8.66	3.67	4.54	4.81	4.92	4.37	4.64	4.44
16	4.51	5.18	3.53	9.64	8.67	3.75	4.40	4.95	4.94	4.45	4.43	4.51
17	4.55	5.22	3.60	9.67	8.76	3.92	4.39	4.94	4.89	4.36	4.44	4.16
18	4.52	5.17	3.56	10.00	8.68	3.96	4.37	4.97	4.79	4.45	4.45	3.65
19	4.27	5.17	3.56	10.15	7.34	3.98	4.35	4.96	4.85	4.29	4.42	3.53
20	4.32	5.18	3.57	9.34	6.93	4.26	4.33	5.04	4.68	4.38	4.40	3.30
21	4.75	5.16	3.67	8.00	7.15	4.55	4.34	5.20	4.67	4.43	4.44	3.05
22	4.58	5.13	4.06	7.80	7.88	4.39	4.42	5.19	4.70	4.43	4.48	3.20
23	4.60	5.14	4.68	8.96	8.42	4.41	4.53	5.22	4.99	4.37	4.38	3.08
24	4.64	5.14	5.99	9.48	8.70	4.08	4.46	5.35	4.86	4.44	4.39	---
25	4.60	5.16	8.49	9.07	9.08	3.78	4.60	5.34	4.88	4.62	4.31	---
26	4.59	5.16	8.92	9.35	8.87	3.64	4.48	5.27	4.83	4.35	4.30	---
27	4.73	5.22	9.21	9.63	8.60	3.54	4.63	5.17	4.75	4.38	4.49	2.80
28	4.92	5.19	9.24	9.66	7.84	3.51	4.55	5.20	4.74	4.40	4.61	2.78
29	4.64	5.17	9.22	9.65	---	3.56	4.59	5.25	4.57	4.40	4.60	2.68
30	4.83	5.09	9.19	9.53	---	3.62	4.59	5.33	4.57	4.55	4.72	2.71
31	4.82	---	9.33	8.49	---	3.79	---	5.30	---	4.40	4.62	---
Mean	4.50	5.11	5.42	9.19	8.62	4.52	4.51	4.90	5.08	4.45	4.46	---
Max	4.92	5.22	9.33	10.15	9.58	7.11	4.91	5.35	6.30	4.76	4.72	---
Min	4.27	4.67	3.53	7.79	6.93	3.51	3.77	4.30	4.57	4.29	4.30	---

06342500 MISSOURI RIVER AT BISMARCK, ND—Continued



06342500 MISSOURI RIVER AT BISMARCK, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1969 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1966 to April 1975, October 2008 to current year.

SPECIFIC CONDUCTIVITY: February 1972 to August 1975.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 21.4 °C, June 30 and July 1, 2010; minimum recorded, 0.0 °C, many days in most winter months.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 18.6 °C, July 18; minimum recorded, 0.0 °C, many days in December, January and February.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 1 of 9

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Barometric pressure, mm Hg (00025)	Temperature, air, °C (00020)	Discharge, instantaneous, ft^3/s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)	pH, water, unfiltered, laboratory, standard units (00403)	Specific conductance, water, unfiltered, laboratory, µS/cm at 25°C (90095)	Specific conductance, water, unfiltered, µS/cm at 25°C (00095)
10-16-2012	**1300**	--	--	20,100	--	--	--	--	--	--
10-16-2012	**1300**	--	--	20,100	--	--	--	--	--	--
10-16-2012	**1301**	--	--	20,100	--	--	--	--	--	--
10-30-2012	**1300**	--	--	21,300	--	--	--	--	--	--
10-30-2012	**1300**	--	--	21,300	--	--	--	--	--	--
10-30-2012	**1301**	--	--	21,300	--	--	--	--	--	--
10-30-2012	**1410**	720	--	21,300	10.7	99	7.6	8.3	794	765
11-06-2012	**1300**	--	--	23,500	--	--	--	--	--	--
11-06-2012	**1300**	--	--	23,500	--	--	--	--	--	--
11-06-2012	**1301**	--	--	23,500	--	--	--	--	--	--
04-22-2013	**1050**	718	--	19,900	12.5	99	7.5	8.2	800	758
06-10-2013	**1038**	723	21.7	23,400	10.4	101	7.8	8.2	844	831
06-28-2013	**1045**	715	--	21,300	9.9	105	7.8	8.2	812	800
08-29-2013	**1108**	716	--	20,000	9.0	96	7.8	8.2	784	791

06342500 MISSOURI RIVER AT BISMARCK, ND—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 2 of 9

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Temperature, water, °C (00010)	Dissolved solids, water, filtered, sum of constituents, mg/L (70301)	Dissolved solids, water, tons per day (70302)	Hardness, water, mg/L as $CaCO_3$ (00900)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium adsorption ratio, water, number (00931)	Sodium fraction of cations, water, percent in equivalents of major cations (00932)
10-16-2012	1300	13.6	--	--	--	--	--	--	--	--
10-16-2012	1300	13.6	--	--	--	--	--	--	--	--
10-16-2012	1301	13.6	--	--	--	--	--	--	--	--
10-30-2012	1300	9.3	--	--	--	--	--	--	--	--
10-30-2012	1300	9.3	--	--	--	--	--	--	--	--
10-30-2012	1301	9.3	--	--	--	--	--	--	--	--
10-30-2012	1410	9.3	--	--	--	--	--	--	--	--
11-06-2012	1300	8.0	--	--	--	--	--	--	--	--
11-06-2012	1300	8.0	--	--	--	--	--	--	--	--
11-06-2012	1301	8.0	--	--	--	--	--	--	--	--
04-22-2013	1050	3.1	< 514	< 27,600	267	61.2	27.6	4.44	2.10	39
06-10-2013	1038	11.8	< 541	< 34,200	280	62.8	30.0	< 10.0	2.13	--
06-28-2013	1045	15.2	532	30,600	266	60.5	27.9	4.05	2.12	39
08-29-2013	1108	15.2	486	26,200	255	57.8	26.8	3.69	1.94	37

06342500 MISSOURI RIVER AT BISMARCK, ND—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 3 of 9

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Sodium, water, filtered, mg/L (00930)	ANC, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, mg/L as $CaCO_3$ (90410)	Chloride, water, filtered, mg/L (00940)	Silica, water, filtered, mg/L as SiO_2 (00955)	Sulfate, water, filtered, mg/L (00945)	Ammonia, water, filtered, mg/L as N (00608)	Ammonia, water, unfiltered, mg/L as N (00610)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrate plus nitrite, water, unfiltered, mg/L as N (00630)
10-16-2012	1300	--	--	--	--	--	--	--	--	--
10-16-2012	1300	--	--	--	--	--	--	--	--	--
10-16-2012	1301	--	--	--	--	--	--	--	--	--
10-30-2012	1300	--	--	--	--	--	--	--	--	--
10-30-2012	1300	--	--	--	--	--	--	--	--	--
10-30-2012	1301	--	--	--	--	--	--	--	--	--
10-30-2012	1410	--	170	< 15.0	--	220	< .030	< .03	.034	.040
11-06-2012	1300	--	--	--	--	--	--	--	--	--
11-06-2012	1300	--	--	--	--	--	--	--	--	--
11-06-2012	1301	--	--	--	--	--	--	--	--	--
04-22-2013	1050	78.9	175	< 15.0	4.66	217	< .030	< .03	.065	.060
06-10-2013	1038	81.9	177	9.78	< 20.0	240	< .030	< .03	.069	.060
06-28-2013	1045	79.4	175	16.0	3.42	235	< .030	< .03	< .030	< .030
08-29-2013	1108	71.3	170	9.59	3.80	210	< .030	< .03	.117	.120

06342500 MISSOURI RIVER AT BISMARCK, ND—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 4 of 9

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Organic nitrogen, water, filtered, mg/L (00607)	Organic nitrogen, water, unfiltered, mg/L (00605)	Phos-phorus, water, filtered, mg/L as P (00666)	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, filtered, analytically determined, mg/L (62854)	Total nitrogen, water, unfiltered, analytically determined, mg/L (62855)	Aluminum, water, filtered, µg/L (01106)	Barium, water, filtered, µg/L (01005)
10-16-2012	1300	--	--	--	--	--	--	--	--
10-16-2012	1300	--	--	--	--	--	--	--	--
10-16-2012	1301	--	--	--	--	--	--	--	--
10-30-2012	1300	--	--	--	--	--	--	--	--
10-30-2012	1300	--	--	--	--	--	--	--	--
10-30-2012	1301	--	--	--	--	--	--	--	--
10-30-2012	1410	< .18	< .20	.006	.014	.22	.24	< 50	52.9
11-06-2012	1300	--	--	--	--	--	--	--	--
11-06-2012	1300	--	--	--	--	--	--	--	--
11-06-2012	1301	--	--	--	--	--	--	--	--
04-22-2013	1050	< .24	< .25	< .004	.030	.31	.31	< 50	55.3
06-10-2013	1038	< .27	< .27	.006	.028	.34	.33	< 50	58.9
06-28-2013	1045	< .29	< .26	< .020	.041	.29	.26	< 50	55.4
08-29-2013	1108	< .26	< .25	< .020	< .020	.37	.37	< 50	55.9

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 5 of 9

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Beryllium, water, filtered, µg/L (01010)	Cadmium, water, filtered, µg/L (01025)	Chromium, water, filtered, µg/L (01030)	Copper, water, filtered, µg/L (01040)	Iron, water, filtered, µg/L (01046)	Lead, water, filtered, µg/L (01049)	Manga-nese, water, filtered, µg/L (01056)	Nickel, water, filtered, µg/L (01065)	Silver, water, filtered, µg/L (01075)
10-16-2012	1300	--	--	--	--	--	--	--	--	--
10-16-2012	1300	--	--	--	--	--	--	--	--	--
10-16-2012	1301	--	--	--	--	--	--	--	--	--
10-30-2012	1300	--	--	--	--	--	--	--	--	--
10-30-2012	1300	--	--	--	--	--	--	--	--	--
10-30-2012	1301	--	--	--	--	--	--	--	--	--
10-30-2012	1410	< 5.00	< 5.00	< 5.0	< 5.0	124	< 5.00	< 10.0	< 5.0	< 5.00
11-06-2012	1300	--	--	--	--	--	--	--	--	--
11-06-2012	1300	--	--	--	--	--	--	--	--	--
11-06-2012	1301	--	--	--	--	--	--	--	--	--
04-22-2013	1050	< 5.00	< 5.00	< 5.0	< 5.0	< 50.0	< 5.00	< 10.0	< 5.0	< 5.00
06-10-2013	1038	< 5.00	< 5.00	< 5.0	< 5.0	< 500	< 5.00	< 100	< 5.0	< 5.00
06-28-2013	1045	< 5.00	< 5.00	< 5.0	< 5.0	< 50.0	< 5.00	< 10.0	< 5.0	< 5.00
08-29-2013	1108	< 5.00	< 5.00	< 5.0	< 5.0	< 50.0	< 5.00	< 10.0	< 5.0	< 5.00

06342500 MISSOURI RIVER AT BISMARCK, ND—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 6 of 9

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Thallium, water, filtered, µg/L (01057)	Zinc, water, filtered, µg/L (01090)	Antimony, water, filtered, µg/L (01095)	Arsenic, water, filtered, µg/L (01000)	Boron, water, filtered, µg/L (01020)	Selenium, water, filtered, µg/L (01145)	Bed sediment, dry sieved, sieve diameter, percent smaller than 0.0625 mm (80164)	Bed sediment, dry sieved, sieve diameter, percent smaller than 0.125 mm (80165)	Bed sediment, dry sieved, sieve diameter, percent smaller than 0.25 mm (80166)
10-16-2012	1300	--	--	--	--	--	--	--	--	--
10-16-2012	1300	--	--	--	--	--	--	.0	2	65
10-16-2012	1301	--	--	--	--	--	--	--	--	--
10-30-2012	1300	--	--	--	--	--	--	--	--	--
10-30-2012	1300	--	--	--	--	--	--	.0	2	75
10-30-2012	1301	--	--	--	--	--	--	--	--	--
10-30-2012	1410	< 5.00	< 5.0	< 5.00	< 5.0	< 50	< 5.0	--	--	--
11-06-2012	1300	--	--	--	--	--	--	--	--	--
11-06-2012	1300	--	--	--	--	--	--	--	1	70
11-06-2012	1301	--	--	--	--	--	--	--	--	--
04-22-2013	1050	< 5.00	< 5.0	< 5.00	< 5.0	181	< 5.0	--	--	--
06-10-2013	1038	< 5.00	< 5.0	< 5.00	< 5.0	277	< 5.0	--	--	--
06-28-2013	1045	< 5.00	< 5.0	< 5.00	< 5.0	188	< 5.0	--	--	--
08-29-2013	1108	< 5.00	< 5.0	< 5.00	< 5.0	158	< 5.0	--	--	--

06342500 MISSOURI RIVER AT BISMARCK, ND—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 7 of 9

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Bed sediment, dry sieved, sieve diameter, percent smaller than 0.5 mm (80167)	Bed sediment, dry sieved, sieve diameter, percent smaller than 1 mm (80168)	Bed sediment, dry sieved, sieve diameter, percent smaller than 16 mm (80172)	Bed sediment, dry sieved, sieve diameter, percent smaller than 2 mm (80169)	Bed sediment, dry sieved, sieve diameter, percent smaller than 4 mm (80170)	Bed sediment, dry sieved, sieve diameter, percent smaller than 8 mm (80171)	Bedload sediment, sieve diameter, percent smaller than 0.0625 mm (80226)	Bedload sediment, sieve diameter, percent smaller than 0.125 mm (80227)	Bedload sediment, sieve diameter, percent smaller than 0.25 mm (80228)
10-16-2012	1300	--	--	--	--	--	--	--	--	--
10-16-2012	1300	79	81	100	83	86	94	--	--	--
10-16-2012	1301	--	--	--	--	--	--	.0	.0	18
10-30-2012	1300	--	--	--	--	--	--	--	--	--
10-30-2012	1300	86	87	100	89	91	96	--	--	--
10-30-2012	1301	--	--	--	--	--	--	.0	.0	30
10-30-2012	1410	--	--	--	--	--	--	--	--	--
11-06-2012	1300	--	--	--	--	--	--	--	--	--
11-06-2012	1300	88	91	100	93	95	99	--	--	--
11-06-2012	1301	--	--	--	--	--	--	.0	.0	5
04-22-2013	1050	--	--	--	--	--	--	--	--	--
06-10-2013	1038	--	--	--	--	--	--	--	--	--
06-28-2013	1045	--	--	--	--	--	--	--	--	--
08-29-2013	1108	--	--	--	--	--	--	--	--	--

06342500 MISSOURI RIVER AT BISMARCK, ND—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 8 of 9

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Bedload sediment, sieve diameter, percent smaller than 0.5 mm (80229)	Bedload sediment, sieve diameter, percent smaller than 1 mm (80230)	Bedload sediment, sieve diameter, percent smaller than 2 mm (80231)	Bedload sediment, sieve diameter, percent smaller than 4 mm (80232)	Suspended sediment, fall diameter (deionized water), percent smaller than 0.0625 mm (70342)	Suspended sediment, fall diameter (deionized water), percent smaller than 0.125 mm (70343)	Suspended sediment, fall diameter (deionized water), percent smaller than 0.25 mm (70344)	Suspended sediment, fall diameter (deionized water), percent smaller than 0.5 mm (70345)	Suspended sediment concen-tration, mg/L (80154)
10-16-2012	**1300**	--	--	--	--	53	75	100	--	34
10-16-2012	**1300**	--	--	--	--	--	--	--	--	--
10-16-2012	**1301**	84	94	98	100	--	--	--	--	--
10-30-2012	**1300**	--	--	--	--	29	43	89	100	42
10-30-2012	**1300**	--	--	--	--	--	--	--	--	--
10-30-2012	**1301**	86	94	98	100	--	--	--	--	--
10-30-2012	**1410**	--	--	--	--	--	--	--	--	--
11-06-2012	**1300**	--	--	--	--	24	39	90	100	64
11-06-2012	**1300**	--	--	--	--	--	--	--	--	--
11-06-2012	**1301**	86	94	98	100	--	--	--	--	--
04-22-2013	**1050**	--	--	--	--	--	--	--	--	--
06-10-2013	**1038**	--	--	--	--	--	--	--	--	--
06-28-2013	**1045**	--	--	--	--	--	--	--	--	--
08-29-2013	**1108**	--	--	--	--	--	--	--	--	--

06342500 MISSOURI RIVER AT BISMARCK, ND—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 9 of 9

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Suspended sediment discharge, tons per day (80155)
10-16-2012	**1300**	1,850
10-16-2012	**1300**	--
10-16-2012	**1301**	--
10-30-2012	**1300**	2,420
10-30-2012	**1300**	--
10-30-2012	**1301**	--
10-30-2012	**1410**	--
11-06-2012	**1300**	4,070
11-06-2012	**1300**	--
11-06-2012	**1301**	--
04-22-2013	**1050**	--
06-10-2013	**1038**	--
06-28-2013	**1045**	--
08-29-2013	**1108**	--

06342500 MISSOURI RIVER AT BISMARCK, ND—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	15.9	14.8	15.3	9.6	8.8	9.3	3.6	2.6	3.1	0.0	0.0	0.0
2	15.6	14.2	14.7	8.8	7.8	8.2	4.3	3.6	4.0	0.0	0.0	0.0
3	14.8	12.6	14.0	7.8	7.6	7.7	4.8	4.3	4.6	0.0	0.0	0.0
4	12.6	10.5	11.4	7.9	7.8	7.8	4.5	3.3	4.0	0.0	0.0	0.0
5	10.9	10.1	10.4	8.0	7.9	7.9	3.3	2.7	2.9	0.0	0.0	0.0
6	11.8	10.2	10.9	8.1	7.8	8.0	3.2	2.7	3.0	0.0	0.0	0.0
7	12.3	11.0	11.6	8.0	7.8	7.9	3.3	2.6	3.0	0.0	0.0	0.0
8	12.7	11.9	12.4	8.1	7.9	8.0	2.6	1.8	2.4	0.0	0.0	0.0
9	11.9	10.7	11.3	7.9	6.8	7.4	1.8	0.7	0.9	0.0	0.0	0.0
10	11.3	10.3	10.7	6.8	5.2	6.1	0.8	0.6	0.7	0.0	0.0	0.0
11	11.3	10.7	10.9	5.2	4.0	4.6	0.8	0.6	0.7	0.0	0.0	0.0
12	11.0	10.3	10.7	4.0	3.2	3.5	1.3	0.8	1.1	0.0	0.0	0.0
13	12.1	10.5	11.2	4.7	3.5	4.0	1.2	1.1	1.2	0.0	0.0	0.0
14	13.0	11.6	12.2	5.7	4.7	5.4	1.2	0.9	1.0	0.0	0.0	0.0
15	13.6	12.5	13.0	6.0	5.6	5.8	1.3	0.8	1.0	0.0	0.0	0.0
16	14.1	13.2	13.5	5.8	5.4	5.5	1.5	1.3	1.4	0.0	0.0	0.0
17	13.6	11.0	12.3	6.0	5.4	5.7	1.4	1.0	1.2	0.0	0.0	0.0
18	11.0	9.4	10.1	6.3	6.0	6.1	1.2	0.8	1.0	0.0	0.0	0.0
19	9.6	9.1	9.4	6.3	6.0	6.2	1.0	0.6	0.8	0.0	0.0	0.0
20	10.5	9.6	10	6.2	6.0	6.1	0.6	0.5	0.6	0.0	0.0	0.0
21	11.2	10.5	11.0	6.3	6.0	6.1	0.6	0.5	0.5	0.0	0.0	0.0
22	11.3	11.1	11.3	6.2	4.7	5.8	0.5	0.3	0.4	0.0	0.0	0.0
23	11.1	10.7	10.9	4.7	3.4	3.9	0.3	0.0	0.2	0.0	0.0	0.0
24	10.7	10.1	10.4	3.5	3.2	3.3	0.0	0.0	0.0	0.0	0.0	0.0
25	10.1	8.4	9.3	3.9	3.5	3.7	0.0	0.0	0.0	0.0	0.0	0.0
26	8.4	7.6	8.0	3.5	2.9	3.1	0.0	0.0	0.0	0.0	0.0	0.0
27	7.8	7.5	7.6	3.4	2.9	3.1	0.0	0.0	0.0	0.0	0.0	0.0
28	8.1	7.8	8.0	3.8	3.4	3.7	0.0	0.0	0.0	0.0	0.0	0.0
29	8.4	7.9	8.1	3.8	3.1	3.5	0.0	0.0	0.0	0.0	0.0	0.0
30	9.5	8.4	8.9	3.1	2.6	2.8	0.0	0.0	0.0	0.0	0.0	0.0
31	9.8	9.5	9.6	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0
Month	15.9	7.5	10.9	9.6	2.6	5.7	4.8	0.0	1.3	0.0	0.0	0.0

06342500 MISSOURI RIVER AT BISMARCK, ND—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	0.0	0.0	0.0	---	---	---	---	---	---	5.4	4.0	4.7
2	0.0	0.0	0.0	---	---	---	---	---	---	6.0	4.3	5.1
3	0.0	0.0	0.0	---	---	---	---	---	---	7.0	5.3	6.0
4	0.0	0.0	0.0	---	---	---	---	---	---	7.7	6.0	6.6
5	0.0	0.0	0.0	---	---	---	---	---	---	8.2	6.3	7.1
6	0.0	0.0	0.0	---	---	---	---	---	---	8.6	6.9	7.7
7	0.0	0.0	0.0	---	---	---	---	---	---	9.3	7.6	8.3
8	0.0	0.0	0.0	---	---	---	---	---	---	9.7	8.0	8.8
9	0.0	0.0	0.0	---	---	---	---	---	---	9.3	8.0	8.7
10	0.0	0.0	0.0	---	---	---	---	---	---	8.7	7.4	8.0
11	0.0	0.0	0.0	---	---	---	---	---	---	8.0	7.0	7.5
12	0.0	0.0	0.0	---	---	---	---	---	---	8.4	6.8	7.5
13	0.0	0.0	0.0	---	---	---	---	---	---	9.9	7.7	8.7
14	0.0	0.0	0.0	---	---	---	---	---	---	11.2	9.3	10.2
15	0.0	0.0	0.0	---	---	---	---	---	---	11.2	9.8	10.3
16	0.0	0.0	0.0	---	---	---	---	---	---	9.9	8.3	9.2
17	0.1	0.0	0.0	---	---	---	---	---	---	9.0	7.7	8.3
18	0.1	0.0	0.0	---	---	---	---	---	---	9.9	8.3	9.0
19	---	---	---	---	---	---	4.9	3.3	4.1	9.6	8.9	9.3
20	---	---	---	---	---	---	4.4	3.6	4.1	9.1	8.4	8.9
21	---	---	---	---	---	---	4.3	3.4	3.7	8.4	7.5	8.2
22	---	---	---	---	---	---	4.2	3.2	3.5	9.6	7.2	8.3
23	---	---	---	---	---	---	4.6	2.9	3.7	11.3	9.0	10.0
24	---	---	---	---	---	---	5.1	4.2	4.5	10.6	9.7	10.1
25	---	---	---	---	---	---	5.2	3.8	4.5	10.4	9.3	9.7
26	---	---	---	---	---	---	7.0	4.6	5.7	11.4	9.7	10.4
27	---	---	---	---	---	---	8.0	6.3	7.0	10.6	9.9	10.3
28	---	---	---	---	---	---	8.6	7.4	7.8	11.2	9.7	10.3
29	---	---	---	---	---	---	7.4	6.3	6.8	---	---	---
30	---	---	---	---	---	---	6.3	4.7	5.7	---	---	---
31	---	---	---	---	---	---	---	---	---	11.9	10.5	11.5
Month	---	---	---	---	---	---	---	---	---	---	---	---

06342500 MISSOURI RIVER AT BISMARCK, ND—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	11.6	10.1	10.7	16.3	15.2	15.6	16.1	13.9	14.8	16.4	14.9	15.6
2	12.2	10.3	11.2	16.2	14.7	15.4	15.5	14.5	14.9	15.8	14.2	14.9
3	11.5	9.8	10.8	16.4	14.7	15.5	16.1	14.0	14.9	15.9	14.5	15.0
4	9.8	9.2	9.5	16.8	15.4	16.0	15.3	14.2	14.7	16.3	14.8	15.4
5	10.0	9.2	9.5	16.6	15.5	16.0	15.7	14.1	14.8	16.3	14.8	15.5
6	11.2	9.1	10.0	17.1	15.6	16.3	16.2	14.2	15.1	16.6	15.4	15.8
7	12.4	10.5	11.4	16.2	15.0	15.8	15.9	14.6	15.1	15.9	14.6	15.5
8	12.0	11.1	11.7	16.5	14.7	15.5	16.3	14.3	15.2	15.1	14.3	14.6
9	12.4	10.6	11.4	16.9	15.2	15.9	16.0	14.4	15.1	15.3	14.2	14.6
10	13.6	11.6	12.5	16.3	14.6	15.4	15.6	14.1	14.8	15.4	14.1	14.7
11	14.2	12.8	13.4	17.8	15.2	16.3	16.2	14.3	15.1	15.3	14.4	14.8
12	13.7	12.7	13.4	17.2	16.0	16.8	16.1	14.6	15.3	15.6	14.3	14.9
13	13.6	12.1	12.9	16.8	15.1	15.9	16.2	14.6	15.2	15.8	14.4	15.0
14	14.9	12.9	13.7	16.2	15.4	15.7	15.2	14.4	14.8	14.8	13.8	14.4
15	14.5	13.4	13.9	15.7	14.8	15.3	15.1	14.0	14.5	14.4	13.0	13.6
16	14.5	12.9	13.7	16.9	14.6	15.7	16.3	14.3	15.2	14.3	12.8	13.5
17	14.8	13.3	13.8	18.0	16.0	16.9	17.0	15.1	15.9	15.2	13.3	14.1
18	14.3	13.0	13.6	18.6	16.8	17.6	17.0	16.1	16.5	15.6	14.8	15.0
19	15.8	13.4	14.6	18.0	16.5	17.2	17.0	15.2	16.0	15.0	13.1	14.1
20	16.9	15.1	15.9	16.5	15.2	16.0	17.2	15.2	16.1	13.3	11.9	12.7
21	15.9	14.1	15.2	16.6	14.6	15.4	16.9	15.5	16.1	13.7	11.6	12.6
22	14.7	13.0	13.8	16.6	15.1	15.7	16.5	15.1	15.7	14.8	13.2	13.9
23	15.0	13.1	13.9	15.9	14.8	15.3	17.0	15.2	16.0	15.0	14.2	14.6
24	16.0	13.9	14.8	16.1	14.3	15.2	17.7	16.0	16.7	15.0	13.4	14.2
25	16.4	14.8	15.5	16.0	14.8	15.3	17.4	16.2	16.8	14.9	13.3	14.1
26	17.2	15.6	16.2	15.6	14.5	15.0	16.2	14.6	15.4	15.5	14.4	14.9
27	16.6	14.8	15.7	15.2	13.6	14.4	15.6	13.8	14.7	14.4	13.1	13.8
28	16.6	15.0	15.8	15.0	13.7	14.3	15.9	14.8	15.2	13.8	12.5	13.0
29	16.8	15.3	16.0	14.5	13.7	14.1	17.0	14.7	15.9	13.9	12.2	13.0
30	16.4	15.2	15.7	13.8	13.0	13.4	17.6	15.8	16.6	14.6	13.1	13.8
31	---	---	---	15.3	13.0	14.0	16.9	15.8	16.3	---	---	---
Month	17.2	9.1	13.3	18.6	13.0	15.6	17.7	13.8	15.5	16.6	11.6	14.4