Water-Data Report 2011

13154500 SNAKE RIVER AT KING HILL, ID

Upper Snake Basin
Upper Snake-Rock Subbasin

LOCATION.--Lat 43°00′08″, long 115°12′09″ referenced to North American Datum of 1983, in NW ¼ NW ¼ SW ¼ sec.7, T.5 S., R.11 E., Elmore County, ID, Hydrologic Unit 17040212, King Hill quad., on right bank, 300 ft east of railroad tracks at King Hill, 20 mi downstream from Malad River, and at mile 546.6.

DRAINAGE AREA.--35,800 mi^2, approximately. Mean elevation, 6,040 ft.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1909 to current year.

REVISED RECORDS.--WSP 1317: 1935(M). WDR ID-76-1: 1974.

GAGE.--Water-stage recorder. Datum of gage is 2,492.3 ft above NGVD of 1929 (stadia levels). Nonrecording gage May 13, 1909 to Mar. 1, 1910, on left bank at present site at datum 2.20 ft higher. Nonrecording gage Mar. 7 to Aug. 16, 1910, 0.8 mi upstream at different datum. Nonrecording gage Aug. 17, 1910 to Oct. 7, 1928, at present site and datum.

REMARKS.--Records fair. Station equipment includes satellite telemetry. Flow regulated by American Falls Reservoir, 168.4 mi upstream and irrigation diversions at Milner Dam. Diurnal fluctuation caused by hydroelectric power plant near Bliss. At times, practically entire flow is diverted at Milner during irrigation seasons; only minor diversions below Milner; flow at King Hill is then derived largely from springs and seepage entering below Milner within the Twin Falls tract. Diversions above station for irrigation of about 2,450,000 acres, of which about 675,000 acres are irrigated by withdrawals from ground water (1966 determination). Inflow from Clover Creek (station 13154400) may be significant during snowmelt runoff periods some years.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 47,200 ft^3/s June 22, 1918, gage height, 16.3 ft, from rating curve extended above 30,000 ft^3/s; minimum observed, 1,250 ft^3/s Jan. 10, 1950, when flow was cut for gage repairs, gage height, 1.75 ft; minimum daily, 4,760 ft^3/s June 7-9, Aug. 15, 16, 1910.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 29,500 ft^3/s June 2; minimum daily, 6,520 ft^3/s July 7.

13154500 SNAKE RIVER AT KING HILL, ID—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	7,370	8,310	7,100	6,950	11,000	10,400	13,000	22,400	29,200	8,230	9,750	10,500
2	7,340	7,760	7,100	6,910	9,980	10,500	13,000	22,600	29,500	7,900	10,600	10,500
3	7,440	7,450	6,950	6,850	10,700	10,600	12,200	22,000	28,500	7,150	10,500	10,600
4	7,670	7,540	6,830	6,830	10,700	10,500	12,000	e20,700	28,300	6,820	10,500	10,700
5	8,110	7,600	6,790	6,860	10,700	10,500	12,000	e19,100	28,000	6,760	10,600	10,800
6	8,160	7,580	6,950	8,460	10,600	10,600	12,200	e17,300	27,700	6,670	10,700	10,800
7	8,250	7,640	7,180	9,130	10,700	10,900	12,300	e16,300	27,000	6,520	10,600	10,800
8	8,380	7,710	6,970	10,700	10,700	10,800	12,300	e16,700	26,700	8,090	10,600	10,700
9	8,240	7,670	6,930	11,000	10,700	10,600	15,000	e17,000	27,200	9,070	10,500	10,600
10	8,170	7,610	7,050	11,100	10,600	10,800	16,200	17,000	27,100	10,700	10,500	10,700
11	8,290	7,560	7,340	10,700	10,600	10,800	15,800	19,800	27,200	13,200	10,400	10,700
12	8,270	7,460	6,970	10,600	10,500	10,800	15,900	22,500	27,100	14,800	10,300	10,900
13	8,250	7,270	7,100	10,900	10,500	10,700	16,200	24,200	27,100	14,600	10,400	11,800
14	8,330	7,240	7,180	11,100	10,700	10,900	16,000	24,100	26,900	14,400	10,400	12,200
15	8,220	7,170	7,550	11,200	10,500	11,000	19,000	23,900	23,700	14,500	10,600	12,200
16	8,120	7,250	7,090	11,300	10,600	11,900	19,600	24,100	21,200	12,900	10,500	12,400
17	7,940	7,190	6,810	13,600	10,700	12,300	19,500	24,800	17,500	12,300	10,600	12,600
18	7,760	7,220	6,760	13,800	10,600	11,200	19,600	26,300	17,900	12,400	10,500	12,700
19	7,630	7,250	6,920	12,400	10,600	11,000	18,700	26,600	18,100	12,100	10,500	13,100
20	7,630	7,260	7,090	11,600	10,600	10,800	18,800	26,200	18,200	12,000	10,600	13,300
21	7,650	7,300	7,180	11,300	10,600	11,000	18,800	26,700	17,400	12,000	10,600	13,300
22	7,700	7,300	7,140	11,200	10,600	9,080	19,400	26,700	16,500	11,500	10,600	13,400
23	7,720	7,300	7,200	11,100	10,500	7,790	20,500	26,700	16,300	10,200	10,700	13,300
24	7,850	7,290	7,170	11,000	10,600	7,460	21,400	26,500	15,400	10,000	10,300	13,400
25	8,380	7,150	7,110	11,000	10,500	7,410	21,500	25,800	15,300	10,400	10,400	13,400
26	8,550	7,070	7,020	10,900	10,500	7,450	21,200	26,900	15,400	10,200	10,400	13,500
27	9,740	7,110	7,080	10,900	10,400	7,940	20,800	27,100	14,600	9,990	10,500	13,600
28	10,000	7,190	7,070	10,800	10,500	7,980	21,200	27,500	13,200	9,910	10,300	13,500
29	9,450	7,130	7,270	10,800	---	7,620	22,400	28,000	10,800	9,710	10,500	13,600
30	8,830	7,090	7,180	10,900	---	8,540	22,200	28,000	8,480	9,680	10,500	13,700
31	8,650	---	6,980	11,000	---	11,700	---	28,000	---	9,750	10,500	---
Total	254,090	221,670	219,060	322,890	296,480	311,570	518,700	731,500	647,480	324,450	324,950	363,300
Mean	8,196	7,389	7,066	10,420	10,590	10,050	17,290	23,600	21,580	10,470	10,480	12,110
Max	10,000	8,310	7,550	13,800	11,000	12,300	22,400	28,000	29,500	14,800	10,700	13,700
Min	7,340	7,070	6,760	6,830	9,980	7,410	12,000	16,300	8,480	6,520	9,750	10,500
Ac-ft	504,000	439,700	434,500	640,500	588,100	618,000	1,029,000	1,451,000	1,284,000	643,500	644,500	720,600

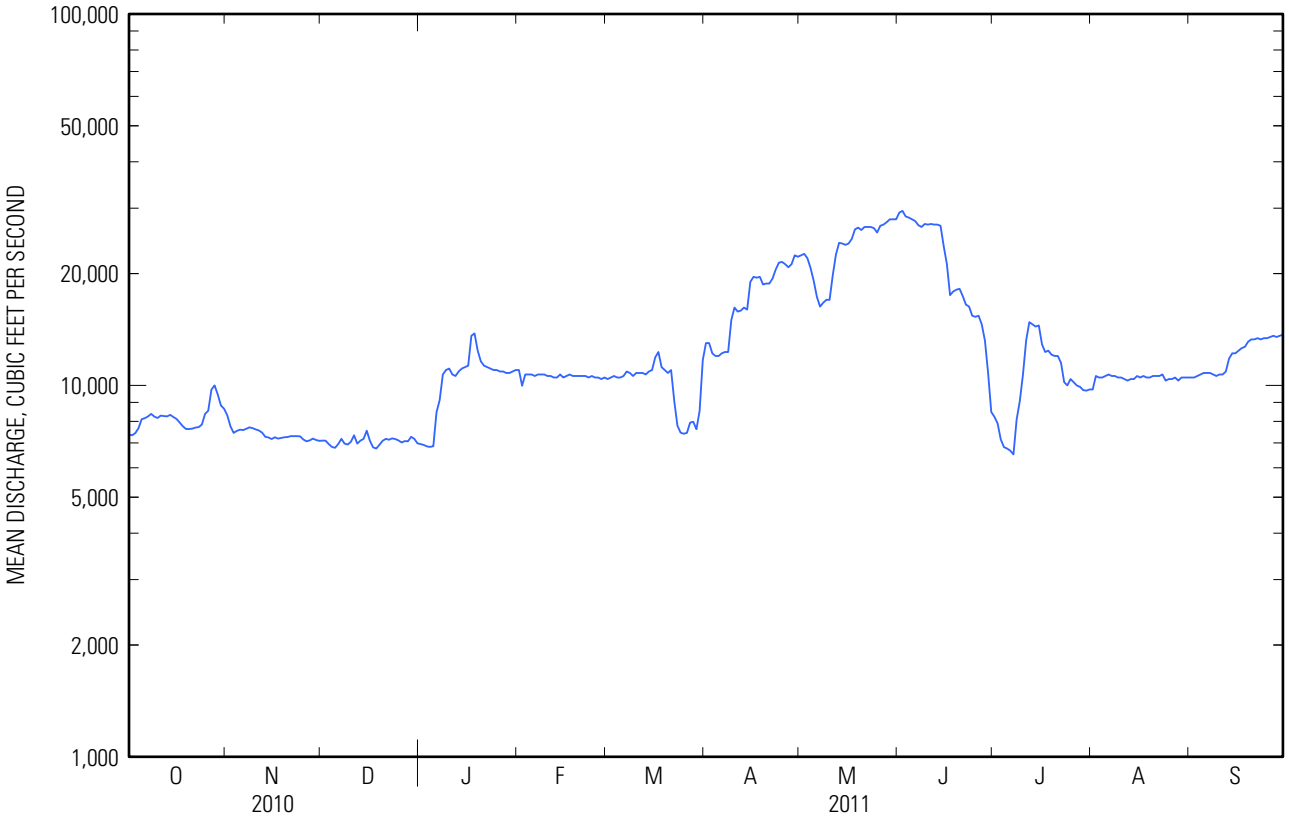
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	10,240	10,660	10,680	10,900	11,020	11,310	12,490	12,300	12,820	8,403	7,771	8,718
Max	18,630	20,920	19,750	21,980	25,290	26,830	28,100	27,590	36,970	21,730	10,920	14,740
(WY)	(1985)	(1985)	(1984)	(1984)	(1997)	(1997)	(1971)	(1984)	(1909)	(1909)	(1997)	(1912)
Min	6,859	6,783	6,786	6,613	6,473	6,466	6,400	6,205	5,666	5,396	4,969	5,869
(WY)	(1925)	(2005)	(2005)	(2004)	(2008)	(2003)	(2005)	(1924)	(2004)	(1910)	(1910)	(1910)

13154500 SNAKE RIVER AT KING HILL, ID—Continued

SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1909 - 2011	
Annual total	2,818,090		4,536,140			
Annual mean	7,721		12,430		10,560	
Highest annual mean					18,070	1984
Lowest annual mean					6,520	2004
Highest daily mean	10,800	May 24	29,500	Jun 2	47,200	Jun 22, 1918
Lowest daily mean	5,910	Jul 18	6,520	Jul 7	4,760	Jul 7, 1910
Annual seven-day minimum	6,080	Jul 18	6,940	Dec 30	4,880	Aug 10, 1910
Annual runoff (ac-ft)	5,590,000		8,997,000		7,654,000	
10 percent exceeds	9,120		22,400		16,600	
50 percent exceeds	7,550		10,600		8,930	
90 percent exceeds	6,490		7,150		6,780	



13154500 SNAKE RIVER AT KING HILL, ID—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1951 to September 1980 (discontinued).
WATER TEMPERATURE: March 1951 to September 1980, June to September 1993, June to September 1994, July to September 1995, July to September 1996, May to September 2001, June to September 2002, July 2004 to current year.

INSTRUMENTATION.--Water-quality monitor from March 1951 to September 1980. Temperature recording data logger from June to September 1993, June to September 1994, July to September 1995, July to September 1996, May to September 2001, June to September 2002, July to October 2004. Electronic thermistor connected to datalogger located in orifice pipe on right bank at gage from November 2004 to current year.

REMARKS.--Records good. Records represent water temperature at thermistor within 0.2 °C. Water temperature data is representational of a point in river and not necessarily representational of mean temperature of the river cross section at that point. National water-quality assessment station.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 595 micromho/cm June 19, 1968; minimum, 296 micromho/cm May 15, 1974.
WATER TEMPERATURE: Maximum, 23.0 °C Aug. 2, 1955; minimum, 3.0 °C Dec. 11, 16, 1972.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 22.1 °C July 6; minimum, 5.6 °C Jan. 11, 12.

13154500 SNAKE RIVER AT KING HILL, ID—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	18.0	15.7	16.6	12.9	12.0	12.4	8.4	7.1	7.8	7.4	6.5	7.0
2	18.0	15.7	16.6	13.5	12.1	12.7	9.0	8.2	8.7	7.1	6.4	6.7
3	17.8	15.9	16.6	13.6	12.2	12.8	9.5	8.9	9.2	7.5	6.7	7.0
4	17.7	16.1	16.6	13.8	12.4	13.0	9.9	9.3	9.6	7.5	6.6	7.0
5	17.2	16.1	16.4	13.8	12.6	13.1	10.8	9.7	10.2	8.2	7.0	7.5
6	16.8	15.8	16.1	13.9	12.8	13.2	10.7	10.1	10.3	8.4	7.6	8.0
7	16.9	15.5	16.0	13.4	12.9	13.2	11.0	10.1	10.4	8.7	7.9	8.3
8	16.1	15.2	15.6	13.1	11.9	12.7	10.5	10.1	10.3	8.1	7.3	7.9
9	16.1	15.0	15.4	12.2	11.4	11.8	10.8	10.1	10.4	7.3	6.1	7.0
10	16.2	14.8	15.4	11.8	10.9	11.3	10.9	10.1	10.4	6.2	5.7	5.8
11	15.8	14.4	15.1	11.8	10.9	11.2	10.5	9.8	10.2	5.9	5.6	5.8
12	15.5	14.2	14.7	11.8	10.8	11.2	11.0	10.3	10.6	5.9	5.6	5.7
13	15.0	13.8	14.3	11.5	10.7	11.0	11.4	10.5	10.9	6.2	5.7	6.0
14	15.1	13.7	14.3	11.0	10.4	10.7	11.2	10.5	10.9	6.9	6.2	6.6
15	14.8	13.6	14.1	11.4	10.3	10.8	10.7	10.2	10.5	7.4	6.8	7.1
16	14.8	13.7	14.2	11.5	10.6	10.9	10.6	9.6	10.2	7.8	7.4	7.6
17	14.8	13.7	14.1	11.4	10.7	11.0	10.0	9.3	9.6	7.6	6.6	7.1
18	15.2	13.6	14.2	11.4	10.7	11.1	9.7	9.1	9.4	7.4	6.6	7.1
19	15.1	13.5	14.2	11.5	10.7	11.1	9.5	9.1	9.3	7.4	6.9	7.1
20	15.2	13.4	14.1	11.3	10.8	11.0	9.8	9.1	9.4	7.1	6.7	6.9
21	15.0	13.3	14.0	10.8	10.5	10.7	10.1	9.2	9.5	7.2	6.7	7.0
22	14.8	13.3	13.9	11.0	10.3	10.6	10.0	9.3	9.6	7.7	7.1	7.3
23	14.4	13.4	13.7	10.3	9.1	9.8	10.2	9.6	9.8	7.8	7.3	7.5
24	13.7	13.3	13.5	9.2	7.8	8.7	10.1	9.3	9.7	7.9	7.4	7.7
25	13.5	12.8	13.1	8.3	7.4	7.8	9.6	9.0	9.3	7.8	7.6	7.7
26	12.9	12.2	12.6	7.8	7.0	7.4	10.0	9.0	9.5	8.0	7.7	7.8
27	12.5	11.8	12.1	8.2	7.3	7.8	10.1	9.3	9.6	8.1	7.7	7.9
28	11.8	11.4	11.6	8.4	7.7	8.0	10.0	9.3	9.6	8.1	7.7	7.8
29	12.0	11.4	11.7	8.5	7.5	7.9	9.9	8.9	9.5	8.1	7.7	7.9
30	12.0	11.5	11.8	7.8	7.2	7.4	9.2	8.1	8.8	8.1	7.7	7.9
31	12.7	11.8	12.2	---	---	---	8.8	7.4	8.1	7.9	7.1	7.6
Month	18.0	11.4	14.3	13.9	7.0	10.7	11.4	7.1	9.7	8.7	5.6	7.2

13154500 SNAKE RIVER AT KING HILL, ID—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	7.3	6.7	7.0	8.3	7.3	7.8	13.6	12.7	13.0	10.6	9.7	10.2
2	7.2	6.7	6.9	8.2	7.6	8.0	12.9	12.1	12.5	10.4	9.8	10.2
3	7.0	6.7	6.8	8.9	8.1	8.5	12.1	11.0	11.7	---	---	---
4	7.0	6.6	6.9	9.1	8.4	8.8	11.1	10.7	10.9	---	---	---
5	7.4	6.7	7.0	9.3	8.7	9.1	11.8	11.0	11.3	---	---	---
6	7.4	6.7	7.1	9.9	9.1	9.5	12.1	11.4	11.7	---	---	---
7	7.7	7.1	7.4	9.5	8.9	9.3	11.8	11.3	11.5	---	---	---
8	8.0	7.4	7.7	9.2	8.6	8.9	11.4	10.8	11.0	---	---	---
9	7.7	7.2	7.5	9.3	8.5	8.9	10.9	10.2	10.6	---	---	---
10	7.7	7.2	7.4	9.7	9.1	9.4	10.7	9.9	10.3	12.3	11.6	12.0
11	7.6	7.1	7.3	10.0	9.4	9.7	10.8	9.8	10.3	13.1	11.9	12.5
12	7.8	7.1	7.4	10.1	9.5	9.7	11.1	10.1	10.6	13.2	12.6	12.8
13	8.2	7.4	7.8	10.5	9.7	10.1	11.2	10.5	10.8	13.9	12.7	13.4
14	8.2	7.8	8.1	10.7	10.0	10.3	11.0	10.3	10.6	14.5	13.7	14.1
15	8.7	7.9	8.2	10.6	10.2	10.5	10.8	10.2	10.5	13.9	13.3	13.7
16	8.5	8.1	8.4	10.6	9.9	10.3	11.1	10.2	10.6	13.3	13.0	13.2
17	8.6	8.1	8.4	10.7	9.9	10.2	11.6	10.6	11.1	13.3	13.0	13.1
18	8.3	8.0	8.2	10.6	9.9	10.2	11.9	11.2	11.5	13.1	12.4	12.8
19	8.7	8.3	8.5	10.9	10.3	10.6	11.5	10.8	11.2	13.0	12.4	12.7
20	8.5	8.0	8.3	10.5	10.2	10.4	11.1	10.7	10.9	13.6	13.0	13.4
21	8.6	7.9	8.2	10.7	10.2	10.5	11.0	10.3	10.7	14.2	13.5	14.0
22	8.6	8.0	8.2	10.9	10.0	10.3	10.6	9.9	10.2	14.5	14.2	14.4
23	8.4	7.9	8.2	11.0	9.5	10.1	11.1	10.0	10.6	14.7	14.3	14.5
24	8.3	7.9	8.0	12.1	9.9	10.9	10.9	10.3	10.6	14.4	13.2	13.7
25	8.2	7.8	8.1	12.3	11.0	11.7	10.9	10.3	10.6	13.7	13.3	13.6
26	7.9	7.2	7.7	12.7	11.5	12.0	10.8	10.3	10.5	13.8	13.5	13.6
27	7.9	7.1	7.4	12.8	11.5	12.0	10.9	10.2	10.5	13.8	13.4	13.6
28	7.7	7.3	7.5	12.9	11.6	12.1	11.2	10.4	10.8	13.5	13.1	13.3
29	---	---	---	12.9	11.3	11.9	10.4	9.7	10.2	13.2	12.6	12.9
30	---	---	---	13.0	11.8	12.3	10.1	9.6	9.8	12.9	12.5	12.7
31	---	---	---	13.7	12.4	13.0	---	---	---	13.2	12.8	13.0
Month	8.7	6.6	7.7	13.7	7.3	10.2	13.6	9.6	10.9	---	---	---

13154500 SNAKE RIVER AT KING HILL, ID—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	13.4	12.8	13.1	20.4	18.4	19.3	21.2	20.2	20.6	20.1	19.0	19.8
2	13.5	13.1	13.2	20.5	18.2	19.2	20.7	20.1	20.3	19.1	18.2	18.7
3	13.5	13.0	13.3	21.1	18.3	19.5	21.2	20.2	20.6	18.9	18.1	18.4
4	13.9	13.5	13.7	21.7	18.8	20.0	20.9	20.2	20.4	19.1	18.0	18.5
5	15.1	13.9	14.5	22.0	19.0	20.4	20.8	20.0	20.3	18.8	18.3	18.5
6	15.5	15.1	15.3	22.1	19.0	20.5	20.9	19.9	20.3	19.0	18.2	18.5
7	15.7	15.4	15.6	21.9	19.1	20.3	21.2	20.1	20.6	19.0	18.1	18.4
8	15.6	14.9	15.4	20.8	19.2	19.8	21.3	20.3	20.7	19.3	18.3	18.7
9	15.0	14.8	14.9	20.3	18.8	19.5	21.3	20.3	20.7	19.3	18.5	18.8
10	15.1	14.9	15.0	20.2	18.7	19.5	21.3	20.3	20.7	19.3	18.5	18.8
11	15.4	15.0	15.2	20.8	19.6	20.2	21.0	20.1	20.6	19.3	18.6	18.9
12	15.9	15.4	15.7	21.6	20.5	21.0	20.6	19.8	20.1	19.6	18.7	19.1
13	16.2	15.8	16.1	21.9	20.8	21.3	20.4	19.8	20.1	19.4	18.9	19.1
14	16.5	16.1	16.3	21.7	20.7	21.1	20.7	19.9	20.2	19.5	18.7	19.0
15	16.8	16.3	16.6	21.3	20.3	20.8	20.4	19.7	20.1	19.5	18.8	19.1
16	16.7	15.7	16.3	21.4	20.3	20.8	20.1	19.3	19.6	19.5	18.8	19.1
17	16.8	15.6	16.2	21.4	20.4	20.8	20.2	19.2	19.7	19.1	18.4	18.8
18	16.8	16.1	16.4	21.3	20.2	20.7	20.4	19.5	19.9	18.7	18.0	18.3
19	16.4	15.8	16.1	21.1	20.1	20.5	20.5	19.5	20.0	18.6	17.9	18.2
20	17.0	15.7	16.4	20.8	20.0	20.3	20.3	19.6	19.9	18.5	17.8	18.1
21	17.7	16.6	17.1	20.8	19.7	20.2	20.7	19.7	20.1	18.4	17.5	18.0
22	18.3	17.0	17.6	20.9	20.0	20.3	21.0	19.9	20.3	18.4	17.5	17.9
23	18.5	17.5	18.0	20.6	19.8	20.1	21.1	20.2	20.5	18.4	17.5	17.9
24	18.8	17.8	18.2	20.8	19.8	20.2	21.0	20.2	20.5	18.3	17.4	17.8
25	18.8	17.7	18.2	21.0	19.9	20.5	21.2	20.2	20.6	18.3	17.5	17.8
26	18.7	17.7	18.2	21.1	20.1	20.5	21.3	20.4	20.8	18.3	17.4	17.8
27	19.1	18.0	18.5	20.8	19.9	20.3	21.2	20.6	20.9	18.2	17.2	17.7
28	19.5	18.3	18.9	20.7	19.7	20.1	21.4	20.6	20.9	18.1	17.4	17.7
29	19.6	18.7	19.1	20.8	19.8	20.2	21.3	20.5	20.8	17.9	17.1	17.5
30	20.2	18.8	19.3	21.0	19.9	20.4	21.2	20.4	20.7	18.1	17.2	17.6
31	---	---	---	20.8	20.2	20.5	20.8	20.0	20.5	---	---	---
Month	20.2	12.8	16.3	22.1	18.2	20.3	21.4	19.2	20.4	20.1	17.1	18.4