



Water-Data Report 2009

14166000 WILLAMETTE RIVER AT HARRISBURG, OR

Willamette Basin
Upper Willamette Subbasin

LOCATION.--Lat 44°16'14", long 123°10'21" referenced to North American Datum of 1927, in NW ¼ NE ¼ sec.16, T.15 S., R.4 W., Linn County, OR, Hydrologic Unit 17090003, on right bank, 75 ft north of intersection of First Street and Kesling Street in Harrisburg and at mile 161.0.

DRAINAGE AREA.--3,420 mi², approximately.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1944 to current year. Gage-height records collected at same site in 1927-28, 1931, 1934, are contained in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 288.39 ft above NGVD of 1929. Oct. 1 to Nov. 14, 1944, nonrecording gage at bridge 1,110 ft upstream at different datum. Nov. 15, 1944 to Aug. 15, 1973, at site 1,100 ft upstream at datum 2.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by 8 reservoirs upstream from station. Many small diversions for irrigation upstream from station.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--24 years (water years 1945-68), 12,320 ft³/s, 8,927,000 acre-ft/yr. 65 years (water years 1945-2009), 11,630 ft³/s, 8,423,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 210,000 ft³/s Dec. 29, 1945, gage height, 19.69 ft, from rating curve extended above 115,000 ft³/s; minimum discharge, 1,990 ft³/s Oct. 30, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood stage of 20.5 ft was reached in December 1861 and 20.1 ft in February 1890 (information from U.S. Army Corps of Engineers). Flood of Jan. 1, 1943, reached a stage of 19.1 ft (information from National Weather Service).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 59,000 ft³/s Dec. 30, gage height, 12.99 ft; minimum discharge, 3,960 ft³/s Dec. 12.

14166000 WILLAMETTE RIVER AT HARRISBURG, OR—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	5,740	8,690	5,710	40,200	9,970	10,300	11,000	7,980	9,260	4,730	5,190	5,910
2	6,240	8,810	5,610	42,000	9,620	10,000	11,400	8,380	9,340	4,720	5,240	6,260
3	7,170	8,470	6,310	41,000	9,430	9,910	13,700	8,770	9,870	4,960	5,250	6,210
4	8,290	9,610	6,270	46,400	8,500	9,210	12,900	9,010	10,400	4,890	5,290	6,220
5	9,080	11,700	5,560	46,500	7,330	8,790	12,200	14,000	10,400	4,840	5,250	6,450
6	8,510	14,000	4,670	49,400	6,610	9,600	12,200	18,600	9,330	4,850	5,270	6,870
7	8,870	15,800	4,240	42,000	6,020	9,220	12,000	19,600	8,350	4,900	5,410	6,900
8	9,250	15,500	4,200	40,600	5,660	8,700	11,600	18,500	7,960	4,540	5,580	6,840
9	9,080	16,100	4,150	44,600	5,560	8,330	11,600	16,300	8,170	4,650	5,480	6,520
10	8,700	16,200	4,110	47,900	5,460	7,660	12,200	14,500	8,570	4,800	5,460	6,280
11	7,190	15,300	4,050	45,000	5,510	7,010	11,900	13,100	8,590	4,570	5,450	6,460
12	5,860	21,100	4,050	39,500	5,400	6,780	11,300	13,500	8,620	4,660	5,400	6,370
13	5,630	24,500	4,570	35,700	5,310	6,560	11,600	14,700	7,960	4,730	5,440	6,740
14	6,240	22,500	4,800	32,500	5,370	6,520	11,800	15,400	7,070	4,700	5,210	6,540
15	7,640	18,000	5,160	30,400	5,340	7,950	10,800	15,400	6,330	4,640	5,170	6,720
16	8,660	16,000	5,470	27,700	5,230	18,800	9,940	14,100	6,120	4,590	5,260	6,620
17	9,550	14,600	5,480	23,300	5,300	17,200	9,750	13,400	5,940	4,560	5,320	6,190
18	9,550	13,200	5,610	20,100	5,280	14,900	10,200	14,100	5,850	4,570	5,230	5,840
19	8,970	12,100	5,770	18,900	5,170	13,300	10,400	14,900	5,720	4,560	5,100	5,550
20	9,280	11,400	5,070	17,900	5,080	12,300	10,200	14,900	5,710	4,550	5,150	5,270
21	9,660	11,500	6,410	16,600	4,980	11,700	10,500	13,500	5,740	4,490	5,220	5,340
22	9,400	11,600	11,300	15,700	5,000	12,500	10,700	12,600	5,820	4,480	5,200	5,650
23	8,820	11,700	11,200	14,000	5,710	12,500	10,500	11,700	5,680	4,590	5,220	5,470
24	8,130	11,300	9,710	13,200	7,800	11,900	10,100	11,400	5,750	4,650	5,240	5,440
25	8,020	10,700	10,700	12,900	11,100	12,100	9,750	11,200	5,890	4,680	5,710	5,440
26	8,310	9,490	10,100	12,800	18,200	13,600	9,390	11,000	5,620	4,680	6,280	5,560
27	8,110	8,210	9,710	12,100	14,100	13,000	9,130	10,600	5,360	4,630	6,000	5,520
28	7,490	7,110	27,600	11,800	11,100	12,800	8,950	9,730	5,300	4,690	5,940	5,580
29	7,380	6,220	49,800	11,500	---	13,800	8,930	8,850	5,230	4,790	5,910	5,970
30	7,680	5,870	50,500	11,000	---	13,800	8,380	8,910	5,140	4,800	5,910	6,760
31	8,450	---	41,200	10,400	---	12,400	---	9,250	---	4,940	6,010	---
Total	250,950	387,280	339,090	873,600	205,140	343,140	325,020	397,880	215,090	145,430	168,790	183,490
Mean	8,095	12,910	10,940	28,180	7,326	11,070	10,830	12,830	7,170	4,691	5,445	6,116
Max	9,660	24,500	50,500	49,400	18,200	18,800	13,700	19,600	10,400	4,960	6,280	6,900
Min	5,630	5,870	4,050	10,400	4,980	6,520	8,380	7,980	5,140	4,480	5,100	5,270
Ac-ft	497,800	768,200	672,600	1,733,000	406,900	680,600	644,700	789,200	426,600	288,500	334,800	364,000

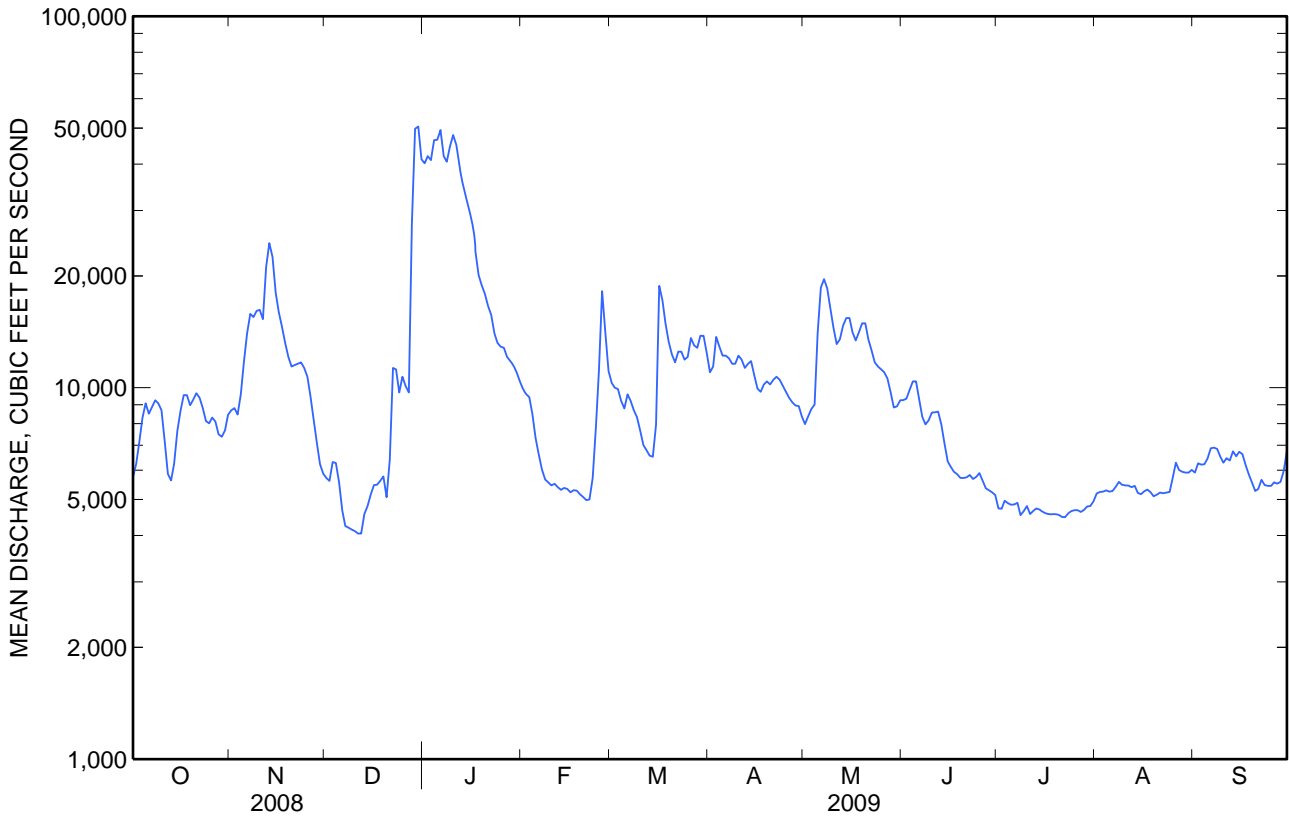
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	7,101	13,880	20,740	21,440	16,440	13,940	12,000	11,080	7,894	4,790	4,806	5,596
Max	15,210	30,850	52,330	47,000	36,950	37,230	22,520	20,520	16,150	6,283	7,117	8,986
(WY)	(1951)	(1985)	(1965)	(2006)	(1961)	(1957)	(1955)	(1949)	(1984)	(1969)	(1971)	(1972)
Min	2,315	2,657	3,848	3,695	2,859	5,156	4,823	4,009	3,658	3,267	2,506	2,779
(WY)	(1945)	(1953)	(1977)	(1977)	(1977)	(2001)	(1977)	(1987)	(1987)	(2001)	(1945)	(1945)

14166000 WILLAMETTE RIVER AT HARRISBURG, OR—Continued

SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1945 - 2009	
Annual total	4,183,530		3,834,900			
Annual mean	11,430		10,510		11,630	
Highest annual mean					18,480	1956
Lowest annual mean					5,233	1977
Highest daily mean	50,500	Dec 30	50,500	Dec 30	173,000	Dec 29, 1945
Lowest daily mean	4,050	Dec 11	4,050	Dec 11	2,020	Oct 28, 1944
Annual seven-day minimum	4,200	Dec 7	4,200	Dec 7	2,070	Oct 24, 1944
Annual runoff (ac-ft)	8,298,000		7,607,000		8,423,000	
10 percent exceeds	19,800		16,200		24,500	
50 percent exceeds	9,740		8,380		7,950	
90 percent exceeds	4,920		4,870		4,250	



14166000 WILLAMETTE RIVER AT HARRISBURG, OR—Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June 1961 to September 1987, October 2000 to current year.

INSTRUMENTATION.--Temperature probe and data logger.

REMARKS.--

WATER TEMPERATURE: Records good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 24.0°C Aug. 12, 1973; minimum, 0.0°C Jan. 8, 9, 1973.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 21.4°C July 28, 29; minimum, 2.6°C Dec. 17.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	14.7	14.0	14.3	13.4	12.9	13.2	9.4	8.9	9.2	7.2	6.6	6.8
2	14.6	14.1	14.4	13.3	12.6	12.9	9.5	9.0	9.2	7.4	6.7	7.2
3	14.6	14.0	14.2	12.6	11.9	12.1	9.2	9.0	9.1	6.7	6.0	6.3
4	14.5	13.8	14.1	11.9	11.2	11.5	9.0	8.1	8.7	6.0	5.5	5.7
5	14.1	13.4	13.8	11.2	10.7	10.9	8.1	7.2	7.5	6.4	5.6	6.1
6	14.9	13.8	14.4	11.6	10.8	11.2	7.2	6.6	6.9	6.9	6.4	6.7
7	15.0	14.2	14.7	12.0	11.3	11.7	6.9	6.7	6.8	7.5	6.9	7.2
8	14.5	12.9	13.7	12.1	11.6	11.9	7.4	6.7	7.0	7.4	7.0	7.3
9	13.7	12.5	13.0	11.8	11.5	11.6	7.1	6.8	7.0	7.1	6.4	6.6
10	12.8	12.0	12.4	11.6	11.3	11.4	6.9	6.5	6.7	6.4	5.9	6.2
11	12.5	11.4	12.1	11.3	10.9	11.2	7.0	6.7	6.8	6.7	6.2	6.5
12	12.2	11.3	11.8	11.9	11.0	11.4	7.1	6.6	6.9	7.0	6.5	6.7
13	13.2	11.7	12.4	11.8	11.0	11.6	6.7	5.9	6.2	6.9	6.5	6.6
14	13.6	12.7	13.2	11.0	10.4	10.6	5.9	5.2	5.6	6.6	6.1	6.2
15	13.3	12.2	12.8	10.4	10.0	10.1	5.2	4.0	4.4	6.1	5.7	5.8
16	14.1	13.0	13.6	10.3	9.7	10.0	4.0	2.8	3.3	5.8	5.5	5.6
17	14.0	13.1	13.6	10.7	9.7	10.3	3.4	2.6	2.8	5.6	5.2	5.4
18	13.6	12.9	13.3	10.7	10.0	10.4	4.4	3.4	4.0	5.6	5.0	5.3
19	13.0	12.1	12.6	10.8	10.3	10.5	4.4	3.7	4.1	5.4	4.8	5.2
20	13.4	12.6	13.0	10.7	9.9	10.3	4.6	4.2	4.4	5.3	4.7	5.0
21	13.1	12.2	12.6	9.9	9.1	9.5	5.2	4.6	4.9	5.1	4.6	4.9
22	12.8	11.8	12.3	9.9	9.4	9.7	5.0	4.7	4.9	5.5	4.9	5.2
23	12.5	11.5	12.1	9.7	8.8	9.0	5.0	4.6	4.8	5.7	5.1	5.4
24	12.5	11.4	12.1	8.9	8.5	8.7	5.2	4.8	5.0	5.7	5.4	5.6
25	12.9	11.5	12.3	8.7	8.3	8.6	5.1	4.6	4.8	5.7	5.4	5.6
26	13.3	11.9	12.7	8.8	8.6	8.7	5.2	4.6	4.8	5.4	4.7	5.1
27	13.1	12.1	12.8	8.9	8.5	8.7	6.1	5.1	5.6	4.8	4.2	4.4
28	13.0	12.2	12.5	9.3	8.7	9.0	6.7	6.1	6.4	5.2	4.5	4.8
29	13.1	12.2	12.6	9.8	9.3	9.5	7.0	6.7	6.9	5.1	4.8	5.0
30	13.0	12.2	12.5	9.6	9.3	9.4	6.9	6.4	6.6	5.6	4.9	5.2
31	13.3	12.5	12.8	---	---	---	6.8	6.6	6.7	5.6	4.9	5.3
Month	15.0	11.3	13.1	13.4	8.3	10.5	9.5	2.6	6.1	7.5	4.2	5.8

14166000 WILLAMETTE RIVER AT HARRISBURG, OR—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	5.3	4.5	4.9	7.2	6.6	6.9	7.2	6.8	7.0	11.8	10.2	11.0
2	5.4	4.4	5.0	8.5	7.0	7.7	8.0	6.8	7.3	12.1	10.9	11.5
3	5.7	4.5	5.2	8.3	7.6	7.9	7.7	7.1	7.4	11.7	10.5	11.2
4	5.7	4.9	5.3	7.6	6.6	7.0	8.6	6.6	7.5	11.2	10.0	10.4
5	6.2	5.4	5.8	7.2	6.7	6.9	9.6	7.6	8.6	10.3	9.6	10
6	6.9	6.2	6.5	7.5	6.4	6.9	10.2	8.3	9.2	10.1	9.4	9.7
7	6.9	6.5	6.6	7.1	6.4	6.7	9.8	8.9	9.4	10.3	9.2	9.8
8	6.8	6.0	6.6	6.9	6.0	6.4	9.2	8.6	8.9	10.7	9.0	9.8
9	6.0	5.2	5.6	6.5	5.5	6.0	9.1	8.3	8.7	11.3	9.6	10.4
10	5.5	5.0	5.2	6.2	5.6	5.9	9.5	8.3	8.8	11.3	10.0	10.7
11	5.8	4.9	5.3	6.8	5.1	6.0	9.4	8.5	9.0	12.2	10.6	11.3
12	5.8	5.1	5.4	7.2	5.5	6.4	9.3	8.7	9.1	11.5	10.3	10.8
13	5.9	5.3	5.6	7.9	6.1	7.0	9.2	8.1	8.6	10.3	9.1	9.4
14	6.1	5.6	5.8	7.7	7.1	7.3	8.5	7.6	8.1	11.5	9.3	10.3
15	6.7	5.5	6.1	7.2	6.7	7.0	8.8	7.4	8.1	11.9	9.8	10.9
16	6.6	6.0	6.3	7.3	6.5	6.9	9.7	7.2	8.4	12.7	10.4	11.6
17	7.6	6.5	7.0	7.8	6.7	7.2	10.1	9.1	9.5	13.3	11.0	12.3
18	7.6	6.7	7.2	8.9	7.4	8.1	10.7	8.4	9.5	13.6	11.3	12.6
19	7.3	6.3	6.6	8.5	7.8	8.2	11.9	9.3	10.6	13.0	11.2	11.8
20	6.9	5.6	6.3	9.2	8.1	8.6	12.7	10.2	11.5	12.0	9.8	11.0
21	6.8	6.2	6.6	8.9	8.2	8.5	13.0	10.8	11.9	12.6	10.3	11.5
22	7.0	6.6	6.8	8.3	7.7	8.0	12.5	10.8	11.7	12.9	10.9	11.9
23	7.4	7.0	7.2	7.7	6.7	7.0	11.6	9.9	10.8	13.4	11.2	12.3
24	8.0	7.2	7.6	7.9	6.8	7.3	10.8	8.9	9.9	13.3	11.0	12.2
25	8.0	7.6	7.8	8.1	7.6	7.8	10.3	8.8	9.3	13.7	11.3	12.6
26	7.6	6.8	7.1	8.5	7.4	7.9	10.0	8.3	9.1	13.9	11.4	12.7
27	6.8	6.2	6.4	8.9	7.7	8.3	10.0	8.9	9.5	14.2	11.8	13.1
28	6.6	5.9	6.3	8.8	8.1	8.7	9.6	8.6	9.0	15.2	12.3	13.7
29	---	---	---	8.1	7.4	7.7	9.8	8.6	9.2	16.3	13.5	14.8
30	---	---	---	8.1	6.6	7.3	11.1	8.7	9.8	16.4	14.2	15.3
31	---	---	---	7.9	7.0	7.5	---	---	---	16.1	13.8	15.0
Month	8.0	4.4	6.2	9.2	5.1	7.3	13.0	6.6	9.2	16.4	9.0	11.7

14166000 WILLAMETTE RIVER AT HARRISBURG, OR—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	15.4	14.0	14.7	18.3	16.0	17.2	20.6	19.1	20.0	18.5	17.5	18.1
2	14.9	13.2	14.1	19.2	16.9	18.0	20.4	19.4	19.8	18.4	16.8	17.6
3	15.2	13.4	14.3	19.3	17.5	18.4	20.3	18.4	19.4	18.4	17.1	17.9
4	14.8	13.1	13.9	19.4	17.6	18.6	19.9	18.5	19.2	18.0	16.9	17.4
5	13.4	12.2	12.6	19.1	17.7	18.5	19.0	17.6	18.3	17.4	16.4	16.8
6	13.0	11.8	12.4	18.4	17.1	17.8	18.3	16.2	17.2	16.7	15.8	16.3
7	13.5	12.2	12.8	17.7	16.6	17.1	16.2	15.0	15.6	17.2	15.3	16.3
8	15.1	12.5	13.7	17.4	16.5	16.9	17.2	14.7	15.8	17.0	15.5	16.5
9	14.8	13.3	14.0	18.1	16.5	17.2	18.3	16.8	17.5	17.2	15.8	16.7
10	13.9	13.0	13.5	18.6	16.6	17.6	18.9	17.1	18.0	17.7	16.2	17.0
11	14.4	13.1	13.7	18.4	17.3	17.8	19.0	17.7	18.4	18.3	16.7	17.6
12	15.0	12.6	13.7	17.3	15.5	16.4	18.9	18.1	18.6	18.5	17.1	17.9
13	14.9	13.7	14.4	16.7	15.3	15.8	18.7	16.8	17.7	18.5	17.2	17.8
14	16.4	14.2	15.1	18.0	15.6	16.8	17.6	16.0	16.8	18.0	16.7	17.4
15	17.4	14.8	16.0	19.1	17.0	18.0	17.5	15.9	16.7	17.8	16.3	17.2
16	17.0	15.5	16.1	19.7	17.7	18.7	17.7	16.2	17.0	17.7	16.1	16.6
17	16.1	14.5	15.5	20.0	18.3	19.2	18.3	16.7	17.5	16.6	15.6	16.3
18	16.9	15.0	15.9	19.7	18.2	19.0	19.0	17.5	18.2	16.6	15.5	16.2
19	16.7	15.5	16.1	19.6	17.7	18.8	19.5	17.9	18.7	16.3	14.9	15.5
20	16.1	14.6	15.1	19.8	17.8	18.8	19.4	18.2	18.8	15.2	13.8	14.6
21	14.6	13.6	14.1	20.3	18.3	19.3	18.7	17.6	18.1	15.5	14.1	14.9
22	15.6	12.8	14.2	19.9	18.3	19.1	18.6	17.0	17.8	15.8	14.7	15.3
23	16.7	14.3	15.5	19.2	17.8	18.5	18.2	17.0	17.6	16.1	14.8	15.5
24	17.5	15.4	16.5	19.3	17.4	18.4	18.0	16.6	17.4	16.2	15.2	15.7
25	17.2	15.7	16.3	20.1	18.3	19.2	17.5	16.6	17.2	15.9	14.9	15.4
26	17.3	15.1	16.3	20.5	18.8	19.7	18.1	16.1	17.2	15.9	14.5	15.3
27	17.5	15.3	16.5	21.2	19.4	20.3	18.5	16.9	17.8	15.7	14.7	15.3
28	17.8	16.1	17.0	21.4	19.9	20.7	18.3	16.5	17.2	15.4	14.7	15.0
29	17.6	16.0	16.9	21.4	19.9	20.6	18.1	16.2	17.0	14.8	14.2	14.5
30	17.5	15.9	16.8	20.9	19.8	20.4	17.9	16.5	17.4	14.6	13.6	14.1
31	---	---	---	20.5	18.9	19.8	18.7	17.3	18.1	---	---	---
Month	17.8	11.8	14.9	21.4	15.3	18.5	20.6	14.7	17.8	18.5	13.6	16.3

	Max	Min	Mean
Year	21.4	2.6	11.5