Water-Data Report 2008

14197900 WILLAMETTE RIVER AT NEWBERG, OR

Willamette Basin
Middle Willamette Subbasin

LOCATION.--Lat 45°17′05″, long 122°57′37″ referenced to North American Datum of 1927, in sec.68, T.3 S., R.2 W., Yamhill County, OR, Hydrologic Unit 17090007, on left bank, at Newberg and at mile 50.0.

DRAINAGE AREA.--8,350 mi^2, approximately.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2001 to current year.

GAGE.--Acoustic velocity meter (AVM) with water-stage and velocity-index recorder. Datum of gage is NGVD of 1929.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by many reservoirs upstream. Gage pool elevations possibly affected by Portland General Electric Co. powerplant operations, paper mill operations at Willamette Falls and during summer months by U.S. Army Corps of Engineers locks operations.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--7 years (water years 2002-08), 24,610 ft^3/s, 40.05 in/yr, 17,830,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 161,000 ft^3/s Jan. 13, 2006, gage height, 81.47 ft; maximum gage height, 81.50 ft Jan. 13, 2006; minimum discharge, 5,180 ft^3/s July 29, 2007.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 108,000 ft^3/s Dec. 5, gage height, 73.86 ft; maximum gage height, 74.39 ft Dec. 5; minimum discharge, 5,730 ft^3/s Aug. 10.

14197900 WILLAMETTE RIVER AT NEWBERG, OR—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	9,620	12,200	e25,900	56,500	60,200	19,100	26,700	e30,000	27,800	16,700	7,700	7,970
2	9,550	11,500	27,700	49,000	68,500	23,100	25,200	26,600	26,700	16,700	7,670	8,230
3	9,460	11,300	45,100	47,200	69,700	24,000	23,900	24,800	25,400	15,700	7,470	8,380
4	9,710	11,300	85,700	47,900	64,700	23,100	23,500	24,400	29,300	14,900	7,490	8,500
5	10,300	11,300	100,000	54,300	54,400	21,900	23,500	e25,500	35,600	14,000	7,350	8,650
6	10,300	11,300	87,900	e65,000	46,400	20,100	23,600	e28,500	35,800	13,300	7,330	8,870
7	9,810	11,300	70,700	e71,000	48,200	18,300	24,000	e31,000	35,000	12,900	7,200	8,800
8	9,600	11,000	59,100	e70,000	56,800	17,800	25,800	e33,000	34,700	12,000	7,010	8,810
9	9,460	10,700	51,000	74,300	58,100	18,900	27,300	e34,000	33,100	11,300	7,160	9,270
10	9,490	11,000	46,100	78,800	53,500	19,100	27,400	e31,500	30,500	10,800	7,160	9,420
11	9,420	11,400	41,800	83,700	48,000	18,900	27,400	e31,000	29,000	10,300	7,440	9,620
12	9,570	12,400	36,400	88,500	42,500	21,400	26,900	e32,000	29,200	9,960	7,280	9,800
13	9,430	13,200	31,400	92,900	37,300	21,900	25,700	e31,000	27,600	9,430	7,130	9,990
14	9,310	16,500	28,600	90,400	34,600	24,800	26,300	e30,000	25,600	8,960	7,090	9,930
15	9,150	17,500	26,400	83,300	31,400	35,000	27,200	e31,500	23,900	8,630	7,040	9,710
16	9,070	17,500	24,700	e73,000	28,800	42,300	24,200	e33,000	24,300	8,330	6,970	9,560
17	9,170	22,000	23,900	e64,000	26,700	42,400	21,800	35,800	23,300	8,130	6,950	9,340
18	9,770	34,800	25,500	e56,500	24,700	39,700	20,100	40,800	22,700	8,150	6,920	9,400
19	11,600	49,500	31,800	e51,000	e23,500	46,000	e19,400	43,300	22,100	8,030	7,170	9,310
20	20,900	57,200	44,400	e46,000	23,000	50,400	18,700	43,700	21,300	8,050	7,420	9,540
21	28,100	55,300	58,500	e40,000	22,700	50,000	18,500	46,000	21,500	8,140	7,890	9,630
22	27,900	48,200	57,700	e36,000	22,100	47,100	18,800	48,300	21,500	7,900	9,040	9,690
23	22,900	42,600	50,300	31,800	e21,500	41,200	19,600	45,500	21,600	7,600	9,080	9,880
24	19,200	38,100	59,500	28,200	20,700	37,800	23,800	39,900	20,800	7,840	8,290	10,000
25	17,600	33,800	78,000	26,000	19,500	36,500	26,000	35,000	18,900	7,940	8,380	10,400
26	16,500	31,100	82,600	24,600	19,000	34,500	25,000	32,300	16,600	7,900	8,200	10,200
27	15,400	29,800	78,500	26,900	20,000	36,100	23,400	31,100	15,000	8,190	8,260	10,400
28	14,500	28,700	71,500	38,100	19,600	35,200	e24,000	29,600	15,600	7,860	8,040	10,300
29	14,500	27,700	66,200	41,100	18,600	33,400	e26,000	28,600	16,500	6,870	8,280	10,400
30	14,100	e26,600	62,700	43,700	---	31,200	e29,000	29,600	16,900	7,010	8,180	10,300
31	13,300	---	61,000	51,800	---	28,500	---	29,500	---	7,430	7,830	---
Total	408,690	726,800	1,640,600	1,731,500	1,084,700	959,700	722,700	1,036,800	747,800	310,950	236,420	284,300
Mean	13,180	24,230	52,920	55,850	37,400	30,960	24,090	33,450	24,930	10,030	7,626	9,477
Max	28,100	57,200	100,000	92,900	69,700	50,400	29,000	48,300	35,800	16,700	9,080	10,400
Min	9,070	10,700	23,900	24,600	18,600	17,800	18,500	24,400	15,000	6,870	6,920	7,970
Ac-ft	810,600	1,442,000	3,254,000	3,434,000	2,152,000	1,904,000	1,433,000	2,056,000	1,483,000	616,800	468,900	563,900
Cfsm	1.58	2.90	6.34	6.69	4.48	3.71	2.89	4.01	2.99	1.20	0.91	1.13
In.	1.82	3.24	7.31	7.71	4.83	4.28	3.22	4.62	3.33	1.39	1.05	1.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	10,610	24,220	49,270	59,450	36,100	30,330	26,920	20,980	14,960	7,528	6,914	8,300
Max	15,070	55,860	68,450	124,500	50,190	48,770	38,950	33,450	24,930	10,030	7,626	9,841
(WY)	(2005)	(2007)	(2002)	(2006)	(2006)	(2003)	(2003)	(2008)	(2008)	(2008)	(2008)	(2004)
Min	7,610	11,470	27,590	17,040	11,030	14,600	20,180	16,160	10,510	6,530	6,054	6,917
(WY)	(2002)	(2004)	(2003)	(2005)	(2005)	(2005)	(2004)	(2007)	(2007)	(2007)	(2003)	(2007)

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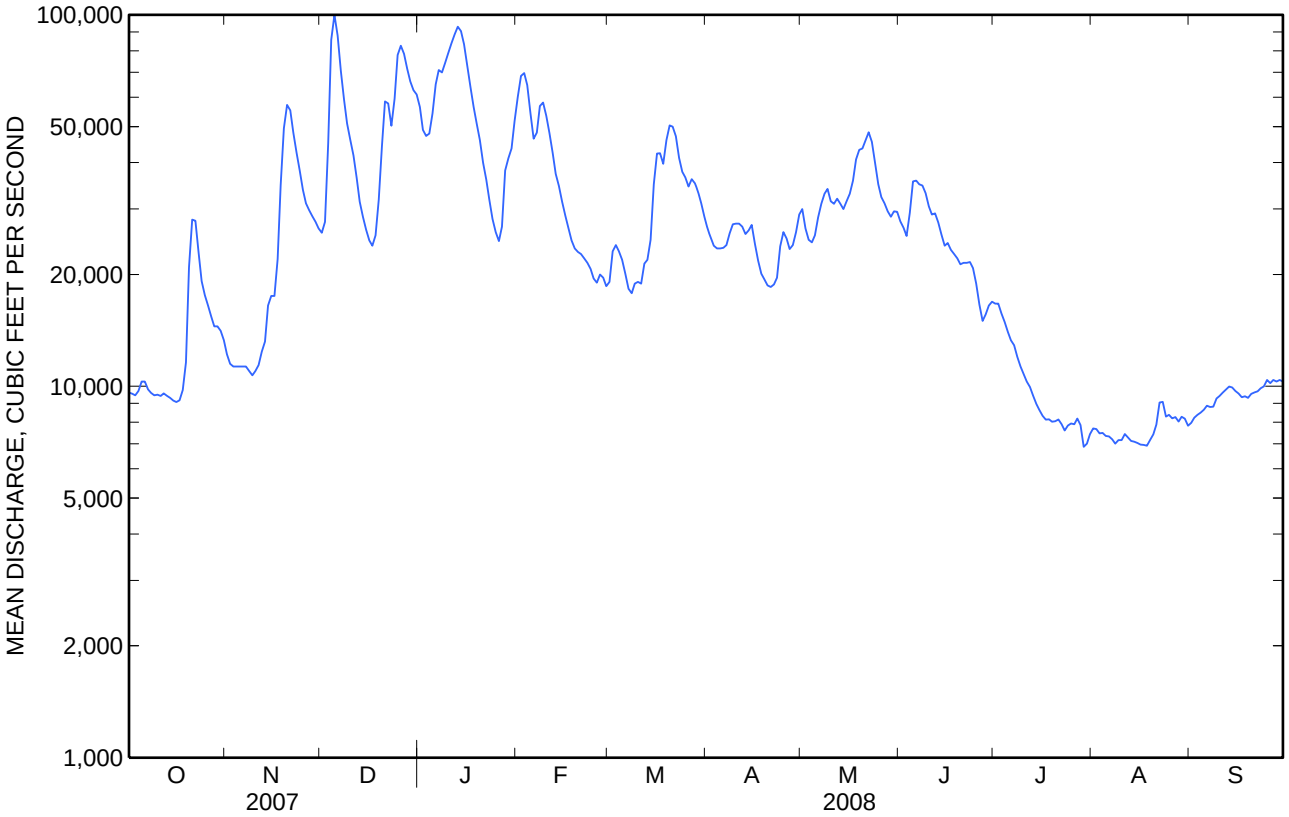
SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 2002 - 2008	
Annual total	8,377,500		9,890,960			
Annual mean	22,950		27,020		24,610	
Highest annual mean					30,680	2006
Lowest annual mean					16,300	2005
Highest daily mean	100,000	Dec 5	100,000	Dec 5	153,000	Jan 13, 2006
Lowest daily mean	5,940	Aug 3	6,870	Jul 29	5,700	Aug 23, 2003
Annual seven-day minimum	6,070	Jul 29	7,040	Aug 13	5,980	Aug 10, 2003
Annual runoff (ac-ft)	16,620,000		19,620,000		17,830,000	
Annual runoff (cfsm)	2.75		3.24		2.95	
Annual runoff (inches)	37.32		44.07		40.05	
10 percent exceeds	55,300		55,700		56,900	
50 percent exceeds	16,000		23,500		16,500	
90 percent exceeds	6,350		8,140		6,930	



14197900 WILLAMETTE RIVER AT NEWBERG, OR—Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 2001 to current year.

INSTRUMENTATION.--Water-temperature probe and data logger.

REMARKS.--
WATER TEMPERATURE: Records good.

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURE: Maximum, 25.3°C July 22, 2003; minimum, 2.5°C Dec. 18, 19, 2005.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 23.8°C Aug. 17; minimum, 3.1°C Jan. 24-26.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	14.4	14.0	14.2	10.5	10.2	10.4	---	---	---	5.7	5.4	5.5
2	14.2	14.1	14.2	10.4	9.9	10.1	6.9	6.7	6.7	5.5	5.4	5.4
3	14.2	13.8	14.0	10.2	9.8	9.9	8.5	6.9	7.5	6.0	5.5	5.7
4	14.0	13.8	13.9	10.0	9.6	9.8	9.6	8.5	9.1	6.6	6.0	6.3
5	14.0	13.6	13.7	10.0	9.6	9.8	9.6	9.4	9.5	6.7	6.6	6.7
6	13.7	13.1	13.3	10.0	9.8	9.9	9.4	9.2	9.3	6.6	5.9	6.3
7	13.2	13.0	13.1	10.1	9.8	9.9	9.2	8.8	9.0	5.9	5.4	5.6
8	13.3	13.0	13.1	10.1	10.0	10.0	8.8	8.0	8.4	5.4	5.3	5.3
9	13.3	13.1	13.2	10.3	10.0	10.1	8.0	7.0	7.5	5.7	5.4	5.5
10	13.6	13.2	13.4	10.7	10.2	10.4	7.0	6.6	6.8	6.3	5.7	5.9
11	13.6	13.4	13.5	10.8	10.5	10.6	6.6	6.2	6.4	7.0	6.3	6.7
12	13.6	13.4	13.5	10.8	10.4	10.5	6.2	5.9	6.1	7.3	7.0	7.2
13	13.5	13.2	13.3	10.4	10.0	10.1	6.3	6.1	6.2	7.3	7.2	7.3
14	13.4	13.1	13.2	10.0	9.4	9.6	6.3	6.1	6.2	7.2	6.8	7.0
15	13.2	13.0	13.1	9.6	9.2	9.4	6.6	6.3	6.4	6.8	6.2	6.5
16	13.2	13.0	13.1	10.3	9.6	9.9	6.7	6.5	6.6	6.2	5.6	---
17	13.1	12.7	12.9	10.7	10.3	10.4	6.7	6.5	6.6	5.6	5.2	5.4
18	12.8	12.4	12.5	10.7	10.1	10.4	6.9	6.7	6.8	5.2	5.1	5.2
19	12.9	12.4	12.6	10.1	9.3	9.7	7.2	6.9	7.0	5.3	5.1	5.2
20	12.4	11.8	12.1	9.3	8.9	9.1	7.2	7.0	7.1	5.6	5.3	5.4
21	11.8	11.3	11.5	8.9	8.3	8.6	7.0	6.5	6.8	5.5	4.9	---
22	11.7	11.1	11.4	8.3	7.6	8.0	6.5	6.2	6.3	4.9	4.1	---
23	12.2	11.5	11.8	7.6	7.2	7.4	6.8	6.2	6.4	4.1	3.5	3.7
24	12.2	11.9	12.0	7.2	6.9	7.0	7.2	6.8	7.0	3.5	3.1	---
25	12.1	11.5	11.7	6.9	6.7	6.8	7.1	6.5	6.8	3.4	3.1	3.3
26	11.7	10.9	11.2	6.7	6.5	6.5	6.5	6.0	6.2	3.4	3.1	3.2
27	11.0	10.2	10.5	7.2	6.5	6.8	6.0	5.7	5.8	4.0	3.4	3.7
28	10.5	10.0	10.2	7.2	7.1	7.1	5.7	5.6	5.7	4.0	3.5	3.7
29	10.4	10.1	10.3	7.3	7.0	7.1	6.2	5.7	5.9	4.0	3.5	3.7
30	10.6	10.2	10.4	---	---	---	6.4	6.2	6.3	4.1	3.9	4.0
31	10.6	10.2	10.3	---	---	---	6.3	5.7	---	4.4	4.0	---
Month	14.4	10.0	12.5	---	---	---	---	---	---	7.3	3.1	---

14197900 WILLAMETTE RIVER AT NEWBERG, OR—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	5.1	4.4	4.8	8.8	8.3	8.5	8.2	7.2	7.6	---	---	---
2	5.2	5.0	5.1	8.5	7.9	8.1	8.8	7.6	8.1	10.8	9.5	10.0
3	5.3	5.1	5.2	8.0	7.4	7.6	9.2	8.2	8.6	11.4	10.6	10.9
4	5.4	5.1	5.2	7.5	7.0	7.3	9.4	8.7	9.0	12.3	11.1	11.6
5	5.6	5.4	5.5	7.6	7.0	7.3	9.4	8.9	9.1	---	11.7	---
6	5.7	5.6	5.6	7.8	7.2	7.5	9.3	8.6	9.0	---	---	---
7	5.9	5.7	5.8	7.8	7.2	7.4	9.3	8.6	8.9	---	---	---
8	6.2	5.9	6.1	7.8	7.3	7.5	9.2	8.7	9.0	---	---	---
9	6.8	6.2	6.5	8.2	7.3	7.7	9.2	8.6	8.9	---	---	---
10	7.2	6.8	7.0	8.9	8.0	8.3	9.7	8.9	9.2	---	---	---
11	7.2	7.1	7.2	9.6	8.9	9.1	10.1	8.9	9.4	---	---	---
12	7.1	6.8	7.0	9.5	9.0	9.2	11.3	9.6	10.2	---	---	---
13	7.3	6.9	7.1	9.2	8.6	8.8	11.9	10.6	11.2	---	---	---
14	7.2	7.0	7.1	8.7	8.4	8.5	11.9	11.0	11.3	---	---	---
15	7.0	6.6	6.8	8.4	7.8	8.1	11.2	9.8	10.3	---	---	---
16	6.9	6.4	6.7	8.1	7.5	7.7	9.8	9.0	9.2	14.5	---	---
17	7.1	6.5	6.8	7.8	7.4	7.6	10.0	8.9	9.4	14.8	13.2	14.0
18	7.1	6.6	6.8	8.2	7.6	7.8	10.6	9.9	10.1	14.4	13.2	13.8
19	7.0	6.4	6.6	8.4	7.9	8.1	10.6	9.8	10.1	13.8	12.7	13.1
20	7.1	6.6	6.8	8.0	7.6	7.8	9.8	8.9	---	13.1	12.3	12.6
21	7.5	6.8	7.1	7.7	7.3	7.5	9.2	8.4	8.6	12.5	11.0	11.7
22	7.6	7.1	7.3	7.8	7.2	7.5	8.6	8.2	8.3	11.0	10.0	10.3
23	7.5	6.9	7.2	8.0	7.5	7.7	8.5	8.0	8.3	10.0	9.6	9.7
24	7.6	7.0	7.2	8.3	7.6	7.9	8.9	8.1	8.5	10.6	9.4	9.9
25	7.8	7.3	7.6	8.2	7.7	8.0	9.5	8.2	---	11.1	10.4	10.7
26	8.1	7.4	7.7	8.2	7.8	7.9	10.7	9.1	9.7	11.2	10.9	11.0
27	8.1	7.6	7.9	7.8	7.2	7.5	11.7	10.4	10.8	11.6	10.8	11.2
28	8.6	7.8	8.1	7.6	7.2	7.4	---	11.5	---	11.8	11.1	11.4
29	8.8	8.3	8.5	7.6	7.2	7.3	---	---	---	11.7	11.1	11.4
30	---	---	---	7.5	6.8	7.1	---	---	---	11.9	10.7	11.2
31	---	---	---	7.6	6.8	7.2	---	---	---	12.8	11.2	11.9
Month	8.8	4.4	6.7	9.6	6.8	7.8	---	---	---	---	---	---

14197900 WILLAMETTE RIVER AT NEWBERG, OR—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	12.8	12.0	12.2	19.3	17.7	18.4	19.9	19.5	19.7	18.2	17.6	17.9
2	12.1	11.2	11.6	18.6	17.4	18.0	19.5	19.1	19.3	17.9	17.1	17.4
3	12.5	11.3	11.8	18.7	17.3	17.9	19.5	19.0	19.2	17.6	16.9	17.2
4	12.4	11.9	12.1	18.7	18.0	18.3	20.2	19.4	19.7	17.8	17.2	17.4
5	12.1	10.9	11.2	18.4	17.8	18.1	20.9	20.2	20.7	18.3	17.7	17.9
6	10.9	10.2	10.5	18.1	17.5	17.8	21.3	20.9	21.2	18.6	18.0	18.3
7	10.6	10.1	10.4	18.8	17.5	18.0	21.5	21.1	21.4	19.0	18.3	18.6
8	11.4	10.2	10.7	19.7	18.5	18.9	21.8	21.0	21.4	19.1	18.4	18.7
9	12.3	11.2	11.6	20.8	19.5	19.9	21.3	20.7	21.1	19.0	18.5	18.8
10	12.1	11.6	11.7	20.9	20.3	20.6	20.7	20.1	20.3	19.0	17.9	18.3
11	11.6	10.9	11.1	20.9	19.9	20.4	20.7	20.1	20.3	18.2	17.5	17.9
12	11.8	10.3	10.9	20.9	20.1	20.4	21.1	20.7	20.9	18.1	17.4	17.7
13	13.7	11.4	12.3	21.4	20.5	20.8	21.6	21.1	21.4	18.0	17.3	17.6
14	14.7	12.9	13.7	21.8	21.2	21.4	22.3	21.6	22.0	18.0	17.3	17.6
15	15.1	13.7	14.3	22.3	21.5	21.8	23.0	22.3	22.8	18.1	17.5	17.8
16	15.3	13.9	14.6	22.3	21.7	21.9	23.5	23.0	23.3	18.1	17.5	17.8
17	15.2	13.9	14.5	22.0	21.4	21.6	23.8	22.9	23.5	18.2	17.6	17.8
18	14.9	13.9	14.3	21.7	20.8	21.1	22.9	21.4	22.3	17.9	16.9	17.4
19	14.9	13.6	14.2	20.9	20.2	20.5	21.4	20.5	21.0	16.9	16.3	16.5
20	15.6	14.1	14.7	21.0	20.3	20.6	20.5	18.9	19.7	16.6	15.7	16.1
21	15.8	14.8	15.3	21.1	20.8	20.9	18.9	18.2	18.4	15.7	15.3	15.4
22	15.8	14.7	15.1	21.1	19.9	20.5	18.6	17.7	18.2	15.5	15.0	15.2
23	15.3	14.0	14.5	19.9	19.3	19.6	19.1	18.5	18.7	15.4	14.8	15.1
24	15.3	13.7	14.4	19.6	19.0	19.3	19.2	18.8	19.0	15.2	14.6	14.8
25	16.3	14.4	15.2	19.9	19.4	19.6	19.5	19.0	19.1	14.8	14.6	14.7
26	16.5	15.4	15.9	20.5	19.9	20.1	19.5	18.8	19.1	14.9	14.4	14.6
27	17.6	16.2	16.6	20.7	20.5	20.6	19.5	18.9	19.1	15.2	14.5	14.8
28	18.7	17.1	17.6	21.0	20.3	20.6	19.1	18.6	18.9	15.2	14.6	14.9
29	19.4	18.0	18.5	21.1	19.9	20.6	19.5	19.0	19.2	15.6	14.9	15.1
30	19.4	18.5	18.9	19.9	19.5	19.6	19.7	18.9	19.2	15.6	15.1	15.3
31	---	---	---	19.8	19.4	19.6	18.9	18.2	18.5	---	---	---
Month	19.4	10.1	13.7	22.3	17.3	19.9	23.8	17.7	20.3	19.1	14.4	16.8