Water-Data Report 2012

15285000 WASILLA CREEK NEAR PALMER, AK

Susitna River Basin
Lower Susitna River Subbasin

LOCATION.--Lat 61°38′37″, long 149°11′46″ referenced to North American Datum of 1927, in SE ¼ SW ¼ sec.13, T.18 N., R.1 E., Matanuska-Susitna Borough, AK, Hydrologic Unit 19020505, (Anchorage C-6 quad), on Palmer-Fishhook Road, and 4.1 mi northeast of Palmer.

DRAINAGE AREA.--16.8 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Annual Maximums 1971, 1976 to 2007. June 2008 to current year

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 500 ft. above sea level, from topographic map. Aug. 12, 1976 to May 23, 1989 nonrecording gage at same site and datum. May 23, 1989 to Sep. 30, 2007 nonrecording gage at site 20 ft. below culverts at same datum.

REMARKS.--Records fair except for estimated daily discharge values, which are poor. Goes satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Maximum peak discharge: 471 ft^3/s on 9/2½012 at 10.92 ft. stage.

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DISCHARGE, CUBIC FEET PER SECOND
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	7.7	4.7	e4.0	e4.0	e4.0	e4.0	5.9	103	27	20	9.7	33
2	7.8	e4.0	e4.0	e4.0	e4.0	e4.0	5.8	82	26	19	12	42
3	7.8	e4.0	e4.0	e4.0	e4.0	e4.0	5.8	70	25	17	18	38
4	7.5	e4.0	e4.0	e4.0	e4.0	e4.0	5.7	61	29	17	15	36
5	7.4	e4.0	e4.0	e4.0	e4.0	e4.0	5.9	59	27	16	13	36
6	7.4	e4.0	e4.0	e4.0	e4.0	e4.0	6.0	61	27	16	13	36
7	7.2	e4.0	e4.0	e4.0	e4.0	e4.0	6.1	69	28	15	13	31
8	7.1	e4.0	e4.0	e4.0	e4.0	e4.0	6.0	67	27	15	12	28
9	6.9	e4.0	e4.0	e4.0	e4.0	e4.0	6.1	67	27	14	12	26
10	6.8	e4.0	e4.0	e4.0	e4.0	e4.0	6.2	64	26	14	11	24
11	6.0	e4.0	e4.0	e4.0	e4.0	e4.0	6.4	54	25	14	11	22
12	5.4	e4.0	e4.0	e4.0	e4.0	e4.0	6.7	49	28	14	11	21
13	5.8	e4.0	e4.0	e4.0	e4.0	e4.0	7.0	44	31	14	11	20
14	6.8	e4.0	e4.0	e4.0	e4.0	e4.0	7.4	40	30	14	11	20
15	7.2	e4.0	e4.0	e4.0	e4.0	e4.0	7.8	37	26	15	11	21
16	7.8	e4.0	e4.0	e4.0	e4.0	e4.0	8.4	35	24	14	11	30
17	10	e4.0	e4.0	e4.0	e4.0	e4.1	8.8	33	24	14	11	37
18	9.8	e4.0	e4.0	e4.0	e4.0	e4.1	10	33	27	14	10	32
19	8.2	e4.0	e4.0	e4.0	e4.0	e4.2	15	33	30	13	11	41
20	7.0	e4.0	e4.0	e4.0	e4.0	e4.2	27	32	29	13	13	141
21	7.1	e4.0	e4.0	e4.0	e4.0	e4.3	62	31	28	16	14	383
22	7.2	e4.0	e4.0	e4.0	e4.0	e4.4	76	32	30	22	12	222
23	6.9	e4.0	e4.0	e4.0	e4.0	e4.5	75	32	30	16	12	159
24	7.2	e4.0	e4.0	e4.0	e4.0	e4.7	83	33	29	12	12	125
25	7.9	e4.0	e4.0	e4.0	e4.0	e4.8	94	43	e29	12	17	103
26	8.9	e4.0	e4.0	e4.0	e4.0	e5.0	110	38	e28	12	14	87
27	6.7	e4.0	e4.0	e4.0	e4.0	e5.2	116	35	e28	11	97	76
28	5.9	e4.0	e4.0	e4.0	e4.0	e5.4	115	36	26	11	89	70
29	5.2	e4.0	e4.0	e4.0	e4.0	e5.6	110	32	23	10	52	74
30	5.4	e4.0	e4.0	e4.0	---	5.7	111	30	21	10	40	64
31	4.8	---	e4.0	e4.0	---	5.8	---	28	---	9.9	35	---
Total	220.8	120.7	124.0	124.0	116.0	136.0	1,116.0	1,463	815	443.9	633.7	2,078
Mean	7.12	4.02	4.00	4.00	4.00	4.39	37.2	47.2	27.2	14.3	20.4	69.3
Max	10	4.7	4.0	4.0	4.0	5.8	116	103	31	22	97	383
Min	4.8	4.0	4.0	4.0	4.0	4.0	5.7	28	21	9.9	9.7	20
Ac-ft	438	239	246	246	230	270	2,210	2,900	1,620	880	1,260	4,120
Cfsm	0.42	0.24	0.24	0.24	0.24	0.26	2.21	2.81	1.62	0.85	1.22	4.12
In.	0.49	0.27	0.27	0.27	0.26	0.30	2.47	3.24	1.80	0.98	1.40	4.60

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2008 - 2012, BY WATER YEAR (WY) #

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	9.42	5.26	4.36	3.26	3.37	3.31	20.8	33.7	16.9	12.0	17.6	24.2
Max	12.7	6.90	5.78	4.00	4.24	4.39	37.2	47.2	27.2	14.5	25.3	69.3
(WY)	(2009)	(2009)	(2009)	(2012)	(2009)	(2012)	(2012)	(2012)	(2012)	(2008)	(2011)	(2012)
Min	6.96	3.75	2.17	1.95	1.99	1.80	10.4	20.9	7.44	9.22	9.95	8.54
(WY)	(2011)	(2011)	(2011)	(2011)	(2011)	(2011)	(2011)	(2010)	(2010)	(2009)	(2009)	(2009)

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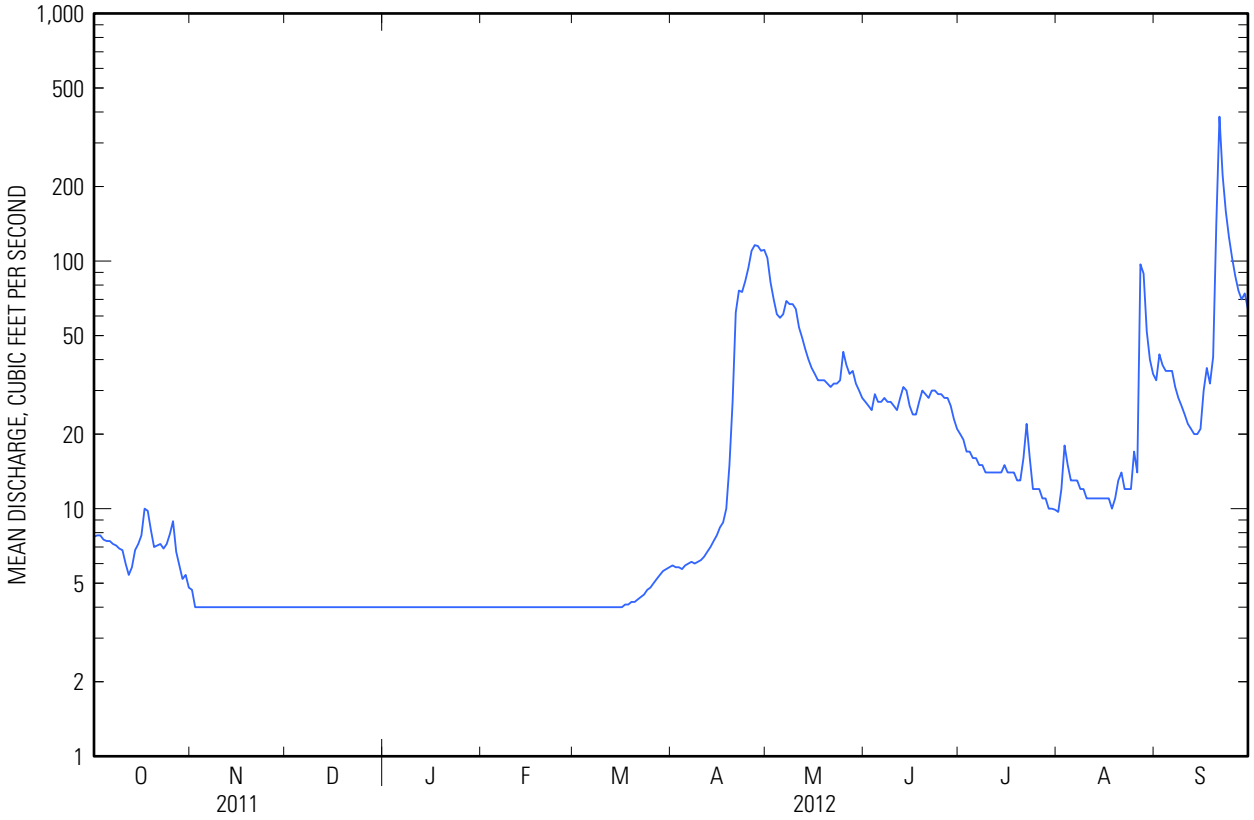
SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 2008 - 2012#	
Annual total	3,479.95		7,391.1			
Annual mean	9.53		20.2		12.9	
Highest annual mean					20.2	2012
Lowest annual mean					9.34	2011
Highest daily mean	75	Aug 18	383	Sep 21	383	Sep 21, 2012
Lowest daily mean	0.96	Jan 19	[e]4.0	Nov 2	0.00	Jan 10, 2009
Annual seven-day minimum	1.2	Jan 16	4.0	Nov 2	0.21	Jan 8, 2009
Maximum peak flow			471	Sep 21	700	Aug 10, 1971
Maximum peak stage			10.92	Sep 21	17.74	Aug 10, 1971
Annual runoff (ac-ft)	6,900		14,660		9,360	
Annual runoff (cfsm)	0.568		1.20		0.769	
Annual runoff (inches)	7.71		16.37		10.45	
10 percent exceeds	21		46		28	
50 percent exceeds	7.0		7.2		7.2	
90 percent exceeds	1.8		4.0		3.0	

[#] See Period of Record; partial year was used in monthly statistics.
[e] Estimated



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1949, 1951-52, 1981-83, and 2010 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 2009 to current year.

INSTRUMENTATION.--Electronic water-temperature recorder set for 15 minute recording interval.

REMARKS.--Records represent water temperature at the sensor within 0.2°C. Temperature at the sensor was compared with the stream average by cross section on August 13. No variations were found within the cross section. The variation found between the mean stream temperature and sensor temperature was 0.4°C. Record is rated fair.

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURE: Maximum, 14.0°C, May 30, July 12, 2010, June 24, 2011, July 6 and 22, 2011; Minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 13.5°C, July 19; Minimum, 0.0°C on many days during winter period.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
[ft, feet; ft³/s, cubic feet per second; °C, degrees Celsius]

Sample start time	Stream width, ft (00004)	Location in cross section, distance from left bank looking down-stream, ft (00009)	Gage height, ft (00065)	Discharge, instanta-neous, ft³/s (00061)	Sampling method (82398)	Tempera-ture, water, °C (00010)	Tempera-ture, air, °C (00020)
1824	14.5	3.00	8.12	11	EWI	11.7	19.7
1825	14.5	4.50	8.12	11	EWI	11.7	19.7
1826	14.5	6.00	8.12	11	EWI	11.7	19.7
1827	14.5	7.50	8.12	11	EWI	11.7	19.7
1828	14.5	9.00	8.12	11	EWI	11.7	19.7
1829	14.5	10.5	8.12	11	EWI	11.7	19.7
1830	14.5	12.0	8.12	11	EWI	11.7	19.7
1831	14.5	13.5	8.12	11	EWI	11.7	19.7
1832	14.5	15.0	8.12	11	EWI	11.7	19.7
1833	14.5	16.5	8.12	11	EWI	11.7	19.7

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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
		October			November			December			January	
1	5.0	3.0	4.0	0.0	0.0	0.0	1.0	0.5	1.0	0.0	0.0	0.0
2	5.5	3.5	4.5	0.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
3	6.0	3.0	4.5	0.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
4	4.5	2.5	3.5	0.0	0.0	0.0	1.5	0.5	1.0	0.0	0.0	0.0
5	4.0	1.5	3.0	0.0	0.0	0.0	1.5	1.0	1.0	0.0	0.0	0.0
6	4.5	2.5	3.5	0.0	0.0	0.0	1.0	0.5	1.0	0.0	0.0	0.0
7	4.5	2.5	3.5	0.0	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.0
8	4.5	2.5	3.5	0.0	0.0	0.0	1.0	0.5	1.0	0.0	0.0	0.0
9	3.5	0.5	2.0	0.0	0.0	0.0	1.5	1.0	1.0	0.0	0.0	0.0
10	2.0	0.5	1.5	0.0	0.0	0.0	1.5	0.5	0.5	0.0	0.0	0.0
11	1.5	0.0	0.5	0.0	0.0	0.0	1.0	0.0	0.5	0.0	0.0	0.0
12	0.5	0.0	0.0	0.0	0.0	0.0	1.0	0.5	1.0	0.0	0.0	0.0
13	2.0	0.0	1.0	0.0	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.0
14	2.5	1.5	2.0	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.0	0.0
15	3.0	1.5	2.0	0.0	0.0	0.0	1.0	0.5	0.5	0.0	0.0	0.0
16	3.0	2.0	3.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
17	2.5	1.5	2.0	0.0	0.0	0.0	1.0	0.5	1.0	0.0	0.0	0.0
18	2.5	1.0	1.5	0.0	0.0	0.0	---	---	---	0.0	0.0	0.0
19	2.0	1.0	1.5	0.0	0.0	0.0	---	---	---	0.0	0.0	0.0
20	1.5	0.0	1.0	0.0	0.0	0.0	---	---	---	0.0	0.0	0.0
21	1.5	0.5	1.0	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.0	0.0
22	2.5	1.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	2.0	0.5	1.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
24	2.5	1.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	3.0	2.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	3.0	1.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	1.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.5	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
30	1.0	0.0	0.5	1.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0
Month	6.0	0.0	1.9	1.0	0.0	0.0	---	---	---	0.0	0.0	0.0

15285000 WASILLA CREEK NEAR PALMER, AK—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
		February			March			April			May	
1	0.0	0.0	0.0	0.0	0.0	0.0	2.5	1.5	2.0	4.0	1.0	2.5
2	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.5	1.5	4.0	0.0	2.0
3	0.0	0.0	0.0	1.0	0.0	0.5	2.5	0.5	1.5	3.5	0.5	2.5
4	0.0	0.0	0.0	1.0	0.0	0.5	3.0	0.0	1.5	5.0	1.0	3.0
5	0.0	0.0	0.0	0.0	0.0	0.0	2.5	1.5	2.0	4.5	1.5	3.0
6	0.5	0.0	0.5	0.0	0.0	0.0	3.0	1.5	2.0	6.0	2.0	4.0
7	0.5	0.5	0.5	0.0	0.0	0.0	2.5	1.0	1.5	5.5	2.0	4.0
8	0.5	0.0	0.0	0.0	0.0	0.0	3.5	0.5	1.5	7.0	2.0	4.5
9	0.5	0.5	0.5	0.0	0.0	0.0	3.5	0.0	2.0	7.0	3.5	5.0
10	1.0	0.5	1.0	0.0	0.0	0.0	4.0	0.0	2.0	6.0	3.5	4.0
11	1.0	0.5	1.0	0.0	0.0	0.0	4.0	0.5	2.5	5.0	3.0	4.0
12	1.0	1.0	1.0	0.0	0.0	0.0	4.0	0.5	2.5	5.0	2.5	3.5
13	1.0	1.0	1.0	0.0	0.0	0.0	4.5	1.0	2.5	5.0	2.5	4.0
14	1.0	0.5	0.5	0.0	0.0	0.0	4.0	1.0	2.5	7.0	2.5	4.5
15	1.0	0.5	0.5	0.0	0.0	0.0	3.0	1.5	2.5	7.0	2.5	4.5
16	1.0	0.5	1.0	0.5	0.0	0.0	4.5	1.5	2.5	8.5	3.0	5.5
17	1.0	0.5	1.0	1.0	0.0	0.5	4.5	1.5	2.5	9.0	3.5	6.0
18	1.0	0.0	0.5	1.0	0.0	0.0	4.5	1.5	2.5	9.0	3.5	6.5
19	0.5	0.0	0.0	1.0	0.5	0.5	2.5	0.5	1.5	8.5	5.0	6.5
20	0.5	0.0	0.0	1.0	0.0	0.5	3.0	0.5	1.0	7.5	5.0	6.5
21	1.0	0.5	0.5	---	---	---	1.5	0.5	0.5	9.5	4.5	7.0
22	1.5	0.5	1.0	---	---	---	1.5	0.0	0.5	8.5	6.5	7.5
23	1.0	0.5	1.0	---	---	---	1.5	0.0	0.5	11.0	6.5	8.5
24	1.0	0.0	0.5	1.5	0.5	1.0	1.5	0.0	0.5	9.5	6.5	7.0
25	0.5	0.0	0.0	1.5	0.0	1.0	2.0	0.0	0.5	9.5	5.5	7.5
26	1.0	0.0	0.0	1.5	0.0	0.5	3.5	0.5	1.5	9.0	6.0	7.5
27	1.5	1.0	1.0	1.5	0.5	1.0	4.0	0.5	2.0	7.5	6.0	6.5
28	1.5	0.5	1.0	2.0	1.0	1.5	4.0	1.0	2.0	9.5	4.5	7.0
29	0.5	0.0	0.0	2.5	1.0	1.5	4.5	0.5	2.5	9.0	5.5	7.5
30	---	---	---	2.5	1.0	2.0	4.0	0.5	2.5	8.0	5.5	6.5
31	---	---	---	2.5	1.5	2.0	---	---	---	8.5	5.0	6.5
Month	1.5	0.0	0.5	---	---	---	4.5	0.0	1.8	11.0	0.0	5.3

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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
		June			July			August			September	
1	10.0	5.5	7.5	10.0	8.0	8.5	10.5	8.0	9.0	8.0	7.0	7.5
2	9.0	5.5	7.5	9.5	7.0	8.5	8.5	7.5	8.0	8.5	7.0	7.5
3	8.5	6.5	7.0	10.0	7.5	8.5	10.0	7.5	8.5	8.0	7.0	7.5
4	8.0	6.0	7.0	9.5	7.0	8.5	9.0	8.0	8.5	7.5	7.0	7.5
5	11.0	6.0	8.0	10.5	7.0	8.5	10.0	7.5	8.5	7.5	6.5	7.0
6	10.0	6.5	7.5	10.5	7.0	9.0	10.5	7.0	9.0	7.0	6.5	6.5
7	9.0	6.0	7.5	9.5	8.0	8.5	11.5	7.5	9.5	7.5	6.0	7.0
8	8.5	7.0	7.5	11.5	7.0	9.0	10.5	7.5	9.0	7.0	4.5	5.5
9	8.5	6.0	7.5	10.5	7.0	8.5	12.0	7.0	9.5	6.0	4.0	5.0
10	8.5	6.0	7.5	9.0	7.5	8.0	11.0	8.5	10.0	5.5	3.5	4.5
11	8.0	6.5	7.5	9.5	6.0	7.5	12.0	9.0	10.5	5.5	3.5	4.5
12	7.0	6.0	6.5	8.5	7.0	7.5	12.0	9.0	10.5	6.0	5.0	5.5
13	7.5	6.0	6.5	9.5	6.5	8.0	11.5	9.0	10.0	7.0	4.5	5.5
14	9.5	6.0	7.5	11.0	7.5	9.0	11.5	8.0	10.0	6.5	5.5	6.0
15	8.5	6.5	8.0	9.5	8.0	8.5	11.0	7.5	9.0	6.5	5.5	6.0
16	10.5	5.5	8.0	10.5	7.5	9.0	10.5	8.5	9.5	6.5	6.0	6.0
17	10.0	6.5	8.5	13.0	8.0	10.0	11.0	8.0	9.0	6.5	6.0	6.0
18	12.5	7.5	9.5	13.0	8.0	10.5	9.5	6.5	8.0	6.0	5.5	5.5
19	13.0	7.5	10.0	13.5	8.5	11.0	9.0	7.5	8.0	6.5	5.5	6.0
20	11.5	8.5	9.5	12.0	8.5	10.5	8.5	7.5	8.0	7.5	6.5	7.0
21	12.0	7.5	9.5	10.5	9.0	9.5	9.5	7.5	8.5	7.5	7.0	7.5
22	13.0	8.0	10.5	11.0	8.5	9.5	10.5	7.5	9.0	8.5	7.5	8.0
23	13.0	8.0	10.5	10.0	8.5	9.0	9.5	7.5	8.5	7.5	7.0	7.0
24	11.5	8.0	9.0	11.0	8.0	9.0	9.0	7.0	8.0	7.0	6.5	6.5
25	10.0	7.5	8.5	12.5	8.5	10.0	10.0	7.5	8.5	6.5	6.0	6.0
26	10.0	6.5	8.0	13.0	8.0	10.5	9.0	7.0	7.5	6.0	5.0	5.5
27	9.0	7.5	8.5	13.0	8.0	10.5	10.5	8.0	9.0	5.5	5.0	5.0
28	9.5	7.0	8.0	11.5	8.5	10.0	9.5	8.0	9.0	5.5	5.0	5.0
29	10.5	7.0	8.5	11.5	8.5	10.0	9.0	6.5	7.5	5.5	4.0	4.5
30	10.5	6.5	8.5	10.0	8.5	9.5	8.5	8.0	8.0	4.5	2.5	3.5
31	---	---	---	12.0	7.5	9.5	8.0	7.0	7.5	---	---	---
Month	13.0	5.5	8.2	13.5	6.0	9.2	12.0	6.5	8.8	8.5	2.5	6.1