01421000 EAST BRANCH DELAWARE RIVER AT FISHS EDDY, NY

Upper Delaware Basin
East Branch Delaware Subbasin

LOCATION.--Lat 41°58′23″, long 75°10′28″ referenced to North American Datum of 1927, Delaware County, NY, Hydrologic Unit 02040102, on right bank 3,000 ft upstream from bridge on County Highway 28 at Fishs Eddy, 0.6 mi upstream from Fish Creek, 4.2 mi downstream from Beaver Kill, and 11 mi upstream from the confluence of East and West Branches near Hancock. Water-quality sampling site at discharge station.

DRAINAGE AREA.--784 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1912 to current year. October 2001 through September 2004 published as East Branch Delaware River above Read Creek at Fishs Eddy (01420980). Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 955.96 ft above sea level. Prior to Sept. 27, 1928, nonrecording gage and Sept. 26, 1928 to Nov. 1, 1967, water-stage recorder at site 3,000 ft downstream at datum 5.0 ft lower, Nov. 2, 1967 to Sept. 30, 2001, at site on left bank at same datum, and Oct. 1, 2001 to Sept. 30, 2004, at site 0.30 mi upstream at same datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Subsequent to September 1954, entire flow from 371 mi^2 of drainage area controlled by Pepacton Reservoir (see Reservoirs in Delaware River Basin). Part of flow diverted for New York City municipal supply. Remainder of flow (except for conservation releases and spill) impounded for release during periods of low flow in the lower Delaware River basin, as directed by the Delaware River Master. Satellite and telephone gage-height and temperature telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge prior to construction of Pepacton Reservoir, 53,300 ft^3/s, Aug. 24, 1933, gage height, 20.60 ft, site and datum then in use, from rating curve extended above 22,000 ft^3/s; maximum discharge since construction of Pepacton Reservoir, 77,400 ft^3/s, June 28, 2006, gage height, 21.43 ft, from rating curve extended above 29,000 ft^3/s; minimum daily discharge prior to construction of Pepacton Reservoir, 68 ft^3/s, Aug. 28, 1949, minimum instantaneous discharge not determined; minimum discharge since construction of Pepacton Reservoir, 52 ft^3/s, July 23, 1964, gage height, 1.16 ft, site and datum then in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 9, 1903, reached a stage of 23.6 ft, at site 3,000 ft downstream at datum 5.0 ft lower, from description obtained in April 1939, from local residents who had experienced the flood (discharge, about 70,000 ft^3/s, from rating curve extended above 22,000 ft^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 27,600 ft^3/s, Mar. 9, gage height, 12.96 ft; minimum discharge, 216 ft^3/s, Sept. 6, gage height, 3.29 ft.

01421000 EAST BRANCH DELAWARE RIVER AT FISHS EDDY, NY—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	310	1,330	1,520	1,980	1,290	e1,450	4,430	665	541	360	972	304
2	254	1,150	1,350	1,920	1,670	e1,430	6,600	695	491	321	862	248
3	247	1,010	1,550	e1,650	1,480	1,430	4,910	697	446	311	1,000	237
4	240	920	1,470	e1,580	1,420	1,520	4,800	908	454	330	822	234
5	233	835	1,270	e1,550	1,660	12,900	5,780	851	443	312	704	226
6	232	1,170	e1,100	e1,600	4,340	14,400	5,070	762	423	298	801	250
7	270	1,170	e999	1,670	7,150	8,390	4,490	724	436	290	730	525
8	279	968	e940	2,130	4,300	13,800	4,000	735	444	283	615	375
9	280	884	908	4,170	3,140	20,900	3,660	751	458	276	572	460
10	505	876	905	4,440	2,610	10,600	3,380	842	412	272	568	615
11	666	833	895	5,080	e2,000	6,480	3,160	733	403	263	668	402
12	886	777	1,250	4,970	e1,840	4,690	3,220	672	379	260	673	343
13	708	1,100	1,400	3,580	2,830	3,820	3,010	629	352	346	569	381
14	603	1,180	1,280	2,950	4,210	3,280	2,660	593	395	1,410	511	464
15	524	4,770	1,160	2,540	3,580	3,130	2,250	583	427	655	584	472
16	466	4,520	e1,080	2,200	3,130	2,900	1,960	636	399	477	574	378
17	432	2,790	e990	1,960	2,700	2,560	1,790	996	473	427	538	330
18	401	2,080	e930	1,910	6,100	2,340	1,350	878	420	387	475	306
19	390	1,730	e880	1,760	7,670	2,710	1,200	789	393	364	481	288
20	1,290	1,740	e840	e1,560	5,430	9,410	1,110	718	377	374	441	278
21	978	1,790	e810	e1,420	e4,020	6,700	1,040	687	368	530	410	273
22	756	1,620	e780	e1,350	e3,490	4,860	961	744	351	453	391	266
23	676	1,460	1,160	e1,300	e3,050	3,970	906	723	415	5,680	371	258
24	972	1,330	5,400	e1,280	e2,480	3,530	849	655	454	10,900	357	249
25	1,010	1,230	3,040	e1,260	2,190	2,870	793	601	379	4,210	357	242
26	915	1,520	2,240	e1,250	2,030	2,510	760	583	353	2,390	345	304
27	4,000	3,440	1,890	e1,250	1,950	2,320	748	550	344	2,500	330	419
28	4,570	2,580	1,680	e1,230	e1,620	2,910	732	514	334	2,450	320	473
29	2,570	2,090	1,940	1,230	e1,460	2,960	1,000	473	328	1,730	329	618
30	1,900	1,770	1,930	1,350	---	2,560	789	447	381	1,400	334	491
31	1,550	---	1,770	1,280	---	2,790	---	465	---	1,160	322	---
Total	29,113	50,663	45,357	65,400	90,840	166,120	77,408	21,299	12,273	41,419	17,026	10,709
Mean	939	1,689	1,463	2,110	3,132	5,359	2,580	687	409	1,336	549	357
Max	4,570	4,770	5,400	5,080	7,670	20,900	6,600	996	541	10,900	1,000	618
Min	232	777	780	1,230	1,290	1,430	732	447	328	260	320	226

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	878	1,187	1,248	1,077	1,027	1,710	2,580	1,455	931	558	509	641
Max	3,261	3,382	5,017	3,507	3,297	5,359	5,957	3,465	5,619	1,750	2,310	3,949
(WY)	(2004)	(2004)	(1997)	(2006)	(1976)	(2008)	(1993)	(1984)	(2006)	(1996)	(2004)	(2004)
Min	163	311	404	277	213	530	808	432	229	157	136	139
(WY)	(1974)	(1999)	(1961)	(1981)	(1980)	(2006)	(1985)	(1987)	(1977)	(1966)	(1965)	(1972)

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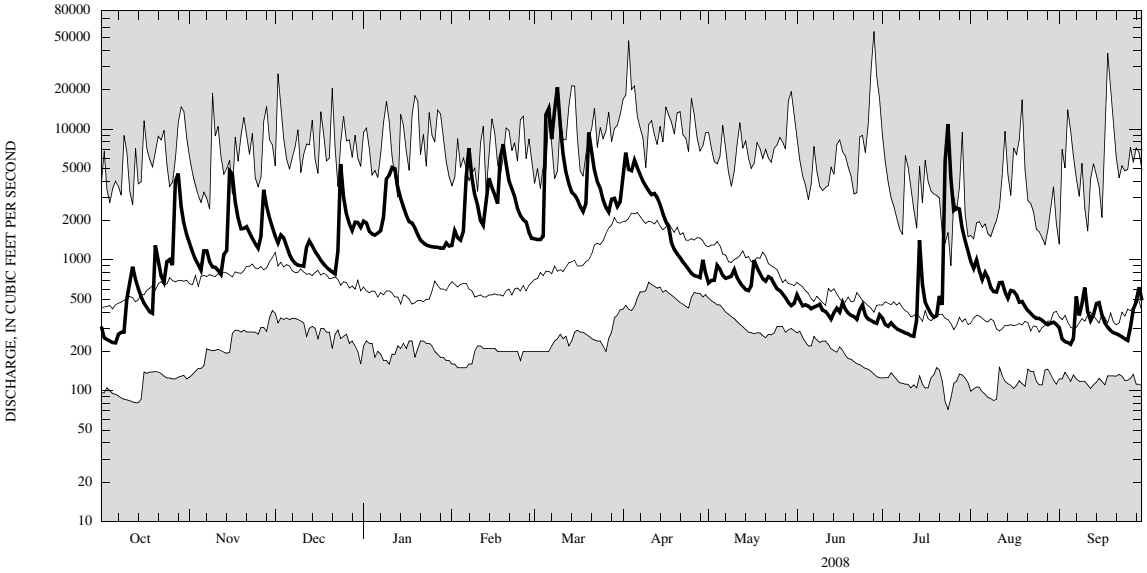
SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1955 - 2008	
Annual total	508,464		627,627			
Annual mean	1,393		1,715		1,149	
Highest annual mean					2,017	2004
Lowest annual mean					604	1965
Highest daily mean	14,800	Apr 16	20,900	Mar 9	55,700	Jun 28, 2006
Lowest daily mean	232	Oct 6	226	Sep 5	72	Jul 24, 1964
Annual seven-day minimum	251	Oct 2	251	Oct 2	84	Oct 9, 1954
10 percent exceeds	3,150		4,060		2,550	
50 percent exceeds	787		935		660	
90 percent exceeds	345		326		240	



CURRENT WATER YEAR DAILY MEAN DISCHARGE (BOLD) WITH DAILY MEDIAN FOR PERIOD OF RECORD.
SHADED AREAS SHOW HIGHEST AND LOWEST DAILY MEAN FOR PERIOD OF RECORD THROUGH PREVIOUS WATER YEAR.

01421000 EAST BRANCH DELAWARE RIVER AT FISHS EDDY, NY—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958-59, 1968 to current year.
CHEMICAL DATA: 1958-59 (d), 1970 (b), 1971-74 (d), 1975 (c).
MINOR ELEMENTS DATA: 1971-74 (a).
ORGANIC DATA: OC--1974 (a), 1975 (c).
NUTRIENT DATA: 1971-75 (d).
BIOLOGICAL DATA: Bacteria--1971 (c), 1973-75 (c).

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: November 1967 to current year. From October 2001 to September 2004, published as East Branch Delaware River above Read Creek at Fishs Eddy (01420980).

INSTRUMENTATION.--Water-temperature satellite and telephone telemeter provides 15-minute-interval readings. Prior to June 1993, water-temperature recorder since October 1975, provided one-hour-interval readings. Prior to October 1975, water-temperature recorder provided continuous recordings.

REMARKS.--Temperature readings prior to Oct. 1, 2007, rounded to the nearest 0.5°C. Water temperature is affected by release of water from upstream reservoir. Interruption of record was due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Prior to Oct. 1, 2007--Maximum (water years 1968-75, 1978, 1980-82, 1984, 1986-95, 1999-2003, 2005-07), 31.5°C, Aug. 2, 1975; minimum (water years 1968-76, 1978-79, 1981-2007), 0.0°C on many days during winter periods, except 1978.
WATER TEMPERATURE: After Oct. 1, 2007--Maximum, 26.6°C, June 10, 2008; minimum, 0.0°C, Jan. 20, Feb. 12, 29, 2008.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 26.6°C, June 10; minimum, 0.0°C, Jan 20, Feb. 12, 29.

01421000 EAST BRANCH DELAWARE RIVER AT FISHS EDDY, NY—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
		October			November			December			January	
1	15.5	13.5	14.4	9.6	8.3	9.0	3.3	0.8	2.0	2.1	0.8	1.6
2	16.3	13.9	15.0	9.1	7.2	8.1	0.8	0.1	0.4	2.1	0.1	1.4
3	17.7	14.8	16.2	7.7	6.5	7.1	2.5	0.7	1.8	---	0.1	---
4	19.3	16.2	17.8	7.5	6.1	6.8	1.6	0.6	0.9	0.4	0.1	---
5	20.1	17.0	18.5	8.2	6.2	7.2	1.0	0.3	0.6	1.5	0.4	0.9
6	20.3	17.4	18.9	8.5	7.1	7.8	0.6	0.1	0.2	2.6	1.4	2.2
7	20.4	18.5	19.3	7.1	5.1	6.2	0.4	0.1	0.2	3.5	2.6	3.0
8	20.1	17.3	18.8	5.5	4.1	4.8	1.5	0.4	0.9	3.9	3.0	3.5
9	20.2	17.8	19.0	5.5	4.2	4.9	1.7	0.8	1.3	4.8	3.6	4.2
10	19.1	16.8	17.6	5.9	4.5	5.2	3.0	1.7	2.4	4.0	3.1	3.5
11	16.8	14.6	15.5	5.3	3.5	4.3	2.6	1.7	2.1	4.3	3.7	4.0
12	14.6	11.4	13.2	4.9	3.8	4.2	3.1	2.3	2.8	4.3	3.7	4.1
13	12.1	10.3	11.2	7.1	4.9	5.9	2.3	0.2	1.2	3.8	3.0	3.5
14	10.8	9.9	10.4	6.8	5.5	6.2	1.8	0.4	1.1	3.8	3.5	3.6
15	11.7	10.5	11.0	7.2	6.5	7.0	1.5	0.6	1.1	3.5	2.6	3.1
16	13.0	10.3	11.6	6.5	4.9	5.9	0.6	0.1	0.2	2.6	1.7	2.2
17	13.2	10.9	12.0	5.1	4.2	4.7	0.5	0.1	0.2	1.7	0.9	1.4
18	14.5	12.2	13.4	5.4	4.5	4.9	0.9	0.1	0.3	3.3	1.5	2.3
19	15.9	14.2	15.1	5.3	4.6	5.0	1.0	0.1	0.5	2.2	1.1	1.6
20	15.4	13.2	14.6	5.4	4.8	5.1	1.5	0.8	1.2	1.6	0.0	0.5
21	14.5	12.0	13.2	6.9	5.4	6.1	1.9	0.9	1.4	0.3	0.1	0.1
22	14.2	11.4	12.8	8.5	6.8	7.5	2.5	1.6	2.0	0.9	0.1	0.5
23	14.2	12.9	13.6	6.8	3.1	5.0	4.6	2.4	3.4	1.5	0.7	1.0
24	13.8	12.4	13.0	3.1	1.9	2.6	3.7	2.3	2.7	1.2	0.7	0.9
25	13.6	11.3	12.4	3.4	1.9	2.6	3.0	2.7	2.9	1.2	0.2	0.6
26	11.3	10.1	10.8	4.7	2.5	3.5	3.1	2.3	2.8	1.5	0.5	0.9
27	12.3	10.9	11.6	5.9	4.7	5.4	3.4	2.9	3.2	2.3	1.2	1.5
28	12.0	9.1	10.6	5.0	4.1	4.4	4.2	3.3	3.7	2.2	1.2	1.5
29	9.3	8.0	8.6	4.8	3.9	4.2	4.6	3.8	4.1	1.8	1.2	1.4
30	9.3	7.3	8.3	3.9	3.0	3.5	3.8	2.4	3.2	2.4	0.9	1.9
31	10.0	7.9	8.8	---	---	---	2.5	1.7	2.1	1.6	0.3	0.9
Month	20.4	7.3	13.8	9.6	1.9	5.5	4.6	0.1	1.7	---	0.0	---

01421000 EAST BRANCH DELAWARE RIVER AT FISHS EDDY, NY—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	1.4	0.5	1.1	1.6	0.3	0.9	5.9	3.1	4.6	10.8	6.8	9.0
2	1.5	1.2	1.4	2.9	0.6	1.5	5.3	3.3	4.3	10.8	9.4	10.1
3	2.5	1.2	1.8	3.3	1.1	2.0	5.0	2.0	3.6	10.5	9.7	10.1
4	1.8	1.4	1.5	2.3	1.9	2.1	4.1	3.2	3.7	12.2	9.4	10.6
5	2.4	1.6	2.0	2.0	1.3	1.6	4.6	3.9	4.2	14.7	9.4	12.1
6	2.5	2.0	2.2	3.3	1.5	2.3	6.5	3.5	4.9	15.3	10.9	13.1
7	2.6	2.2	2.4	3.3	1.8	2.6	6.8	4.3	5.5	16.3	11.8	14.2
8	2.6	1.7	2.2	3.2	2.4	2.8	7.7	4.5	6.1	16.8	14.0	15.1
9	2.5	2.1	2.3	2.7	1.4	2.0	8.0	5.1	6.7	14.2	11.1	12.5
10	2.5	0.1	1.7	2.7	1.2	1.9	8.9	5.9	7.4	13.0	10.3	11.5
11	0.2	0.1	0.1	3.8	1.7	2.6	7.6	6.1	6.6	14.1	9.9	12.1
12	0.2	0.0	0.1	3.2	2.4	2.7	9.9	6.5	8.0	12.4	10.4	11.3
13	0.7	0.1	0.3	3.8	1.7	2.7	8.2	6.0	7.0	15.0	9.1	12.0
14	1.4	0.2	0.8	3.5	2.1	2.8	7.1	4.5	5.8	16.0	11.4	13.9
15	1.8	0.8	1.2	4.0	3.0	3.5	8.4	4.2	6.3	15.8	13.8	14.6
16	2.0	0.5	1.2	3.9	2.7	3.4	9.4	5.2	7.4	13.8	11.0	12.4
17	1.6	0.2	0.8	4.2	1.2	2.8	10.8	6.4	8.7	13.8	10.0	12.0
18	2.4	1.6	2.1	3.6	2.2	3.0	13.5	8.3	10.9	12.5	10.7	11.7
19	2.4	1.4	2.0	3.4	2.7	3.0	15.1	10.3	12.7	11.5	9.2	10.3
20	1.8	0.7	1.2	3.4	2.5	3.0	14.2	11.7	12.9	10.7	8.5	9.7
21	1.7	0.2	0.9	3.5	1.6	2.4	15.2	10.8	13.0	11.9	9.2	10.7
22	1.1	0.1	0.5	3.9	1.4	2.6	15.4	11.0	13.3	12.1	9.7	10.9
23	1.7	0.3	1.1	4.1	1.4	2.7	16.2	11.8	14.1	12.9	10.2	11.5
24	2.5	0.2	1.2	4.3	1.5	2.9	16.3	12.6	14.5	14.3	10.8	12.5
25	2.8	0.3	1.5	4.7	1.5	3.2	15.3	11.5	13.6	17.0	11.1	14.1
26	1.9	0.7	1.2	4.9	3.0	3.9	16.7	12.6	14.6	18.1	13.3	16.0
27	2.0	0.9	1.4	4.0	2.6	3.4	16.0	13.0	14.5	20.1	16.2	17.9
28	1.0	0.1	0.4	3.7	2.8	3.3	14.3	11.0	12.1	18.4	14.2	16.2
29	1.2	0.0	0.4	4.7	1.8	3.2	11.1	9.4	10.2	18.1	13.2	15.6
30	---	---	---	5.0	1.3	3.2	10.2	7.8	8.9	18.6	13.6	16.2
31	---	---	---	3.9	2.5	3.0	---	---	---	18.8	16.0	17.2
Month	2.8	0.0	1.3	5.0	0.3	2.7	16.7	2.0	8.9	20.1	6.8	12.8

01421000 EAST BRANCH DELAWARE RIVER AT FISHS EDDY, NY—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	19.0	16.2	17.5	23.3	20.2	21.4	22.0	19.0	20.5	20.9	16.4	18.5
2	20.2	15.7	17.9	23.8	19.2	21.4	20.4	18.5	19.4	22.5	17.3	19.8
3	19.2	16.2	17.8	21.4	19.3	20.3	19.4	17.3	18.4	23.9	19.4	21.6
4	17.9	16.7	17.3	21.3	18.4	19.8	19.8	17.0	18.3	24.4	20.4	22.4
5	18.5	16.0	17.2	22.5	18.1	20.2	22.0	17.5	19.8	24.1	20.7	22.5
6	20.0	16.7	18.2	23.9	19.0	21.5	22.4	19.4	20.8	22.6	20.2	21.4
7	23.4	18.2	20.8	25.4	20.6	22.9	21.9	18.8	20.3	21.9	18.9	20.3
8	23.5	20.7	22.1	25.9	21.8	23.9	20.7	18.5	19.4	21.7	18.4	20.0
9	25.6	20.5	23.0	24.0	21.8	22.9	20.9	17.7	19.2	19.9	16.9	18.4
10	26.6	22.0	24.2	23.9	20.1	21.8	19.2	16.5	17.9	18.9	15.7	17.1
11	25.9	22.0	23.7	22.6	19.3	21.1	18.3	15.7	16.9	18.2	15.2	16.9
12	25.0	20.6	22.7	24.8	19.7	22.3	18.7	15.8	17.1	17.4	16.5	16.8
13	24.5	19.3	21.9	23.1	20.6	21.8	19.5	16.0	17.7	17.7	16.2	17.0
14	23.9	20.7	22.0	21.3	19.1	20.2	21.6	17.2	19.2	21.3	17.2	19.2
15	24.3	19.9	21.9	23.2	18.6	20.8	21.3	17.4	19.4	21.2	18.9	20.1
16	22.8	19.3	20.9	24.4	19.3	21.9	20.8	17.7	19.2	19.4	17.0	18.2
17	20.1	17.9	18.9	24.2	20.6	22.4	21.5	17.5	19.4	19.4	15.7	17.4
18	17.9	16.0	16.9	25.3	20.9	23.0	21.8	18.3	20.1	19.2	16.0	17.3
19	18.2	15.1	16.6	25.6	21.4	23.4	21.8	18.7	20.1	18.0	14.5	16.2
20	19.1	15.8	17.3	25.0	21.8	23.1	20.8	16.6	18.6	17.4	14.0	15.7
21	21.1	16.1	18.6	24.0	21.1	22.3	21.5	16.8	19.0	17.2	14.5	16.0
22	21.2	17.6	19.2	23.0	20.7	21.8	22.5	17.7	20.0	19.2	15.6	17.2
23	22.5	18.3	20.3	21.1	17.1	19.1	22.4	18.4	20.4	18.6	15.1	16.8
24	21.4	18.7	20.0	18.1	16.6	17.2	23.0	18.7	20.6	18.3	14.7	16.5
25	22.1	17.6	19.8	18.6	15.8	17.3	21.6	18.8	20.1	18.0	15.6	16.7
26	20.0	18.5	19.0	19.0	16.1	17.7	21.0	16.6	18.7	16.2	14.9	15.4
27	20.7	17.7	19.2	19.5	17.6	18.3	20.6	16.3	18.4	16.8	14.9	15.8
28	22.4	18.3	20.4	19.0	16.2	17.6	20.3	16.6	18.4	16.6	15.6	16.1
29	22.1	19.8	20.8	20.1	16.9	18.5	18.6	16.8	17.6	15.6	14.4	15.2
30	23.5	19.3	21.4	20.4	17.4	19.0	18.1	16.2	16.9	16.0	13.7	14.8
31	---	---	---	21.7	18.2	20.0	20.0	15.4	17.6	---	---	---
Month	26.6	15.1	19.9	25.9	15.8	20.8	23.0	15.4	19.0	24.4	13.7	17.9