Observations at Rivas, Nicaragua, July, 1898.

OBSERVATIONS AT 7 A. M. LOCAL (8 A. M. EASTERN STANDARD) TIME.

Date.	Temperature.		Wind.		Upper clouds.			Lower clouds.			Daily rainfall.
	Air.	Dew-point.	Direction.	Force.	Kind.	Amount.	Direction from.	Kind.	Amount.	Direction from.	
	°	°									
1	78	74	se.	0				n.	10	se.	0.00
2	75	73	se.	1				n.	10	se.	1.42
3	76	74	se.	0				n.	10	se.	0.40
4	77	73	ne.	0				ks.	10	se.	0.00
5	77	73	ne.	1	cs.	2	se.				0.00
6	76	74	sw.	0				ks.	5	sw.	0.00
7	77	73	sw.	0				n.	10	sw.	1.97
8	75	74	se.	0				ks.	10	se.	0.00
9	75	74	sw.	0				ks.	5	sw.	0.78
10	75	74	sw.	0				ks.	10	sw.	0.40
11	74	71	sw.	0				ks.	10	sw.	0.00
12	76	74	s.	0				ks.	10	s.	0.00
13	75.5	72	sw.	0				ks.	10	s.	0.00
14	76	73	s.	0	ck.	5	ne.				0.00
15	78	73	se.	0				k.	9	se.	0.00
16	78	73	se.	0				k.	8	se.	0.00
17	79.5	71	se.	0				k.	10	se.	1.18
18	79	76	s.	1				k.	9	s.	0.86
19	75	72	se.	2				k.	10	se.	0.18
20	76	70	ne.	0				k.	10	ne.	0.00
21	76	70	ne.	1				n.	10	ne.	0.80
22	77	73	se.	0				ks.	10	se.	0.00
23	76	73	ne.	1				n.	10	se.	0.40
24	77	74	ne.	1				n.	10	ne.	0.00
25	79	75	ne.	2	cs.	10	ne.	ck.	10	ne,	0.20
26	78	75	ne.	1				ks.	10	ne.	0.00
27	77	70	ne.	1				ks.	10	ne.	0.40
28	77	73	e.	1				k.	9	e.	0.00
29	76	73	e.	2	ck.	10	e.				0.00
30	76	73	se.	1				n.	10	se.	*3.86
31	75	73	ne.	0				ks.	10	ne.	0.00
Means	76.6										13.65

21st, light shock of earthquake, 11:55 p.

30th, excessive rain 3.86 inches in fifteen hours;* month, 13.65 inches, mean of eighteen years, 6.455.

*[As Mr. Flint's form credits this rainfall to the twenty-four hours preceding 7 a. m. of the 30th it is doubtful whether his reports adhere to the uniform rule of accrediting rainfall to the a. m. observation at the close of each daily period.—ED.]

OBSERVATIONS AT 8 P. M. LOCAL (9 P. M. EASTERN STANDARD) TIME.

Date.	Temperature.		Wind.		Upper clouds.			Lower clouds.		
	Air.	Dew-point.	Direction.	Force.	Kind.	Amount.	Direction from.	Kind.	Amount.	Direction from.
	°	°								
1	78	75	se.	0				n.	10	se.
2	77	73	ne.	1				n.	10	ne.
3	79	72	ne.	1	ck.	0	ne.			
4	76	73	ne.	1	ck.	5	ne.			
5	78	75	ne.	1	ck.	5	ne.			
6	80	76	sw.	0	ck.	10	sw.			
7	75	74	sw.	0	ck.	10	sw.			
8	78	74	sw.	0	ck.	10	sw.			
9	77	73	sw.	0				ks.	10	sw.
10	76	73	s.	0				ks.	10	s.
11	77	73	s.	0				ks.	10	s.
12	76	73	se.	0				ks.	10	se.
13	79	73	s.	0				ks.	10	s.
14	80	76	se.	0				k.	5	s.
15	80	76	se.	1				k.	8	s.
16	80	76	se.	1				k.	10	se.
17	78	74	se.	0				ks.	10	se.
18	78	74	se.	1				ks.	10	se.
19	78	74	se.	1				ks.	10	se.
20	77	73	ne.	1				ks.	10	ne.
21	77	73	se.	0				k.	5	se.
22	77	74	ne.	0				k.	10	se.
23	80	76	ne.	0				k.	10	se.
24	80	76	ne.	0				k.	Few	ne.
25	80	76	ne.	0				ks.	5	ne.
26	76	73	ne.	1				ks.	10	ne.
27	77	72	e.	1				ks.	10	ne.
28	77	73	e.	1	ck.	7	e.			
29	79	73	se.	1	ck.	10	se.			
30	76	73	ne.	0				ks.	5	ne.
31	78	74	se.	0	ck.	10	se.			
Means	78.2									

CLIMATOLOGICAL DATA FOR JAMAICA, W. I.

Through the kindness of Mr. Maxwell Hall, of Montego Bay, Jamaica, the meteorological service of that colony communicates an abstract of the very interesting climatological records of that highly important West Indian service. The climatological summary furnished by Mr. Hall, through his assistant, Mr. Robert Johnstone, of the Meteorological Office, is reproduced in the following table. For descriptive details of the stations and instruments see Vol. XXV, pages 308 and 356.

Montego Bay, where Mr. Maxwell Hall resides, is between 4 and 5 miles west, and also the same distance north of Kempshot Observatory. The location of the latter is N. 18° 24′ 50″, W. 77° 52′ 22″. Stony Hill Reformatory is about 8 miles north of Kingston and within a mile to the west. Hope Gardens is between 3 and 4 miles to the north of Kingston, and about the same distance to the east. From these measurements the latitudes and longitudes given in the following table have been deduced:

Climatological data for Jamaica, W. I.

JUNE, 1898.

	Morant Point Lighthouse.	Negril Point Lighthouse.	Kingston.	Montego Bay.	Castleton Gardens.	Hope Gardens.	Stony Hill Reformatory.	Hill Gardens. (Chn. Planet.)
Latitude	17°56′	18° 16′	17° 58′	18° 30′	18° 12′	18° 02′	18° 06′	18°05′
Longitude	76°10′	78° 23′	76° 48′	77° 57′	76° 50°	76° 46′	76° 49′	76°39′
Elevation (feet)		8	33	50	160	580	600	1,400	4,907
Mean barometer, 7 a. m.		29.937	29.937	29.940	29.943	29.964			25.232
Mean barometer, 3 p. m		29.911	29.907	29.898	29.898	29.887			25.210
Mean temperature, 7 a. m.			78.6	77.4	75.7	71.7	74.0	73.0	62.1
Mean temperature, 3 p. m.			83.1	84.9	83.3	82.7	82.7	80.0	66.2
Mean of maxima			86.8	87.8	86.6	88.1	87.0	85.8	70.0
Mean of minima			73.2	73.1	70.7	67.0	68.0	67.5	58.5
Highest (absolute) maximum			88.8	90.6	88.4	92	90	88	74
Lowest (absolute) minimum			67.9	70.0	68.3	63	64	65	55
Mean dew-point, 7 a. m.			71.9	69.5	71.0	69.0	68.4	69.5	56.8
Mean dew-point, 3 p. m.			73.5	71.1	73.5	74.3	71.0	74.9	61.8
Mean relative humidity, 7 a. m.			80	77	86	88	81	89	81
Mean relative humidity, 3 p. m.			73	64	73	75	67	85	85
Monthly rainfall (inches)	4.05		6.07	3.39	5.57	6.52	5.07	5.07	8.73
Average daily wind movement			225.5	61.1	53.9				41.5
Average wind direction, 7 a. m.		*	†	n.	ene.				e.
Average wind direction, 3 p. m.		e.	e. by s.	se.	ene.				e.
Average hourly velocity, 7 a. m.		6.9	7.0	1.2	1.8				
Average hourly velocity, 3 p. m		8.6	12.8	5.6	5.0				
Average cloudiness (tenths):									
7 a. m. Lower clouds		3.6	1.6	1.3	0.1				
7 a. m. Middle clouds		1.8	1.2	0.8	0.2				
7 a. m. Upper clouds		0.7	4.6	3.0	4.0				
3 p. m. Lower clouds		3.9	5.9	2.2	0.0				
3 p. m. Middle clouds		1.7	2.3	1.4	6.1				
3 p. m. Upper clouds		0.8	0.9	4.3	2.2				

* e. by n. † ne. by e.

TORNADO AT HAMPTON BEACH, N. H., JULY 4, 1898.

By ARTHUR E. SWEETLAND (dated August 4, 1898).

The report in the newspapers that a destructive tornado had visited Hampton, N. H., on July 4 led Mr. A. L. Rotch and the writer to visit the scene two days after the storm.

Hampton Beach is situated on the southeastern coast of New Hampshire, 2 miles southeast of Hampton, and near the boundary line of Massachusetts. The country to the northwest and west is covered by numerous small hills varying from 100 to 300 feet in height. In the immediate vicinity of the beach, where the greatest destruction took place, there is a large marsh (Hampton Marsh) on the northwest and west side and the ocean on the east side. The beach extends in a north-northeast to south-southwest direction. The track of the storm was across the marsh from Hampton and from the northwest. The tornado, which occurred at 3:30 p. m., caused its first damage on the road one-half mile southeast of Hampton, where it overturned a large tree, the tree falling in an east-northeast direction. The next damage was in a small orchard, where two small trees were blown down, falling, like the preceding one, from east-northeast. From here