CLIMATOLOGY OF COSTA RICA.

Communicated by H. PITTIER, Director, Physical Geographic Institute.

TABLE 1.—Hourly observations at the Observatory, San Jose de Costa Rica, during March, 1902.

Hours.	Pressure.		Temperature.		Relative humidity.		Rainfall.		
	Observed, 1902.	Normal, 1889-1900.	Observed, 1902.	Normal, 1889-1900.	Observed, 1902.	Normal, 1889-1900.	Observed, 1902.	Normal, 1889-1900.	Duration, 1902.
	660+ Mm.	660+ Mm.	° C.	° C.	%	%	Mm.	Mm.	Hrs.
1 a. m.	4.17	4.12	16.60	16.32	80	84	0.0	0.1	0.00
2 a. m.	3.74	3.65	16.42	16.56	80	84	0.0	0.1	0.00
3 a. m.	3.51	3.31	15.85	16.37	82	85	0.0	0.0	0.00
4 a. m.	3.42	3.15	15.46	16.20	84	85	0.0	0.0	0.00
5 a. m.	3.51	3.25	15.37	16.05	84	84	0.0	0.0	0.00
6 a. m.	3.71	3.55	15.28	15.97	84	84	0.0	0.0	0.00
7 a. m.	4.04	4.01	15.62	16.20	82	83	0.0	0.0	0.00
8 a. m.	4.34	4.43	17.25	17.78	72	77	0.0	0.0	0.00
9 a. m.	4.61	4.74	20.02	19.98	63	68	0.0	0.0	0.00
10 a. m.	4.79	4.76	22.56	22.62	58	62	1.6	0.0	0.25
11 a. m.	4.65	4.56	24.18	24.40	58	55	2.7	0.0	0.92
12 m.	4.36	4.22	25.44	25.41	49	53	8.3	0.0	0.58
1 p. m.	3.85	3.74	25.94	26.39	50	51	1.1	0.1	1.00
2 p. m.	3.33	3.11	25.86	26.37	47	52	4.4	1.1	1.09
3 p. m.	2.85	2.74	25.79	25.30	49	54	0.4	1.2	0.41
4 p. m.	2.70	2.41	24.30	24.10	56	59	0.2	2.3	0.25
5 p. m.	2.65	2.48	22.24	21.25	62	64	2.3	1.8	0.67
6 p. m.	2.91	2.77	20.74	20.13	70	71	1.1	1.3	1.00
7 p. m.	3.34	3.23	19.35	19.27	78	77	1.2	3.1	1.00
8 p. m.	3.72	3.73	18.55	18.57	78	80	0.0	0.8	0.00
9 p. m.	4.17	4.15	18.03	18.15	79	81	0.0	0.6	0.00
10 p. m.	4.44	4.44	17.65	17.90	79	83	0.8	0.9	0.92
11 p. m.	4.59	4.58	17.30	17.31	78	83	0.8	0.3	1.00
Midnight	4.55	4.52	16.80	17.10	79	83	0.2	0.5	1.00
Mean	663.83	668.60	19.69	19.82	70	73			
Minimum	661.50	659.93	12.8	9.9	20				
Maximum	666.80	667.22	29.7	32.6	97		8.3		
Total							25.0	14.2	10.09

REMARKS.—At San Jose the barometer is 1,169 meters above sea level. Readings are corrected for gravity, temperature, and instrumental error. The hourly readings for pressure, and wet and dry bulb thermometers, are obtained by means of Richard registering instruments, checked by direct observations every three hours from 7 a. m. to 10 p. m. The thermometers are 1.5 meters above ground and are corrected for instrumental errors. The hourly rainfall is as given by Hottinger's self-register, checked once a day. Under maximum, the greatest hourly rainfall for the month is given. The standard rain gage is 1.5 meters above ground. Since January 1, 1902, observations at San Jose have been made on seventy-fifth meridian time, which is 0 hours, 36 minutes, 13.3 seconds in advance of San Jose local time. The normals for pressure, temperature, and relative humidity have been adjusted to this time; the normal for rainfall in Table 1 and the sunshine observations and normal in Table 2 refer to local time. At Port Limon the hours of direct observation are 8 a. m., 2 and 8 p. m., San Jose local time; the barometer is 3.4 meters above sea level. The means for temperature and relative humidity in Table 4 are obtained from two-hourly readings given by a Richard self-registering thermometer.

TABLE 2.

Time.	Sunshine.		Cloudiness.		Temperature of the soil at depth of—				
	Observed, 1902.	Normal, 1889-1900.	Observed, 1902.	Normal, 1889-1900.	0.15 m.	0.30 m.	0.60 m.	1.20 m.	3.00 m.
	Hours.	Hours.	%	%	° C.	° C.	° C.	° C.	° C.
7 a. m.	19.81	12.94	30	35	21.12	21.56	21.91	20.93	20.59
8 a. m.	23.38	23.80							
9 a. m.	25.60	23.77							
10 a. m.	25.73	22.72	42	42	21.35	21.55	21.90	20.91	
11 a. m.	24.33	22.25							
12 m.	22.91	21.78							
1 p. m.	22.28	22.07	49	49	22.04	21.81	21.95	20.94	
2 p. m.	24.66	22.64							
3 p. m.	26.91	20.74							
4 p. m.	24.46	17.64	53	60	22.37	21.97	21.61	20.93	
5 p. m.	19.55	12.90							
6 p. m.	12.11	4.73							
7 p. m.			58	58	22.27	21.98	21.94	20.93	
8 p. m.									
9 p. m.									
10 p. m.			43	44	21.99	21.94	21.93	20.94	
11 p. m.									
Midnight									
Mean			45	48	21.87	21.81	21.92	20.93	20.59
Total	276.73	227.98							

TABLE 3.—Rainfall at stations in Costa Rica, March, 1902.

Stations.	Height above sea level.	Observed, 1902.		Normals.	
		Amount.	Number of days.	Number of years.	Amount.
	Meters.	Mm.			Mm.
Sipurio (Talamanca)	60	94	10	1	149
Boca Banano	3	168	14	6	199
Limon	3	171	14	7	198
Swamp Mouth	3	264	13	4	290
Zent	20	300	13	1	
Siquirres	60	160	8	3	190
Guapiles	800	187	12	1	60
Cariblanco (Sarapiquí)	835	143	12	4	153
San Carlos	161	50	9	3	74
Las Lomas	266	47	8	1	181
Peralta	332	115	8	4	151
Turrialba	620	25	8	7	80
Juan Vinas	1,040	25	2	6	75
Santiago	1,100	99	4	1	
Paraiso	1,336	33	4	9 mo.	
Cachi	1,020	62	8	4 mo.	
Orosi	1,068				
Las Concevas		30	9	9 mo.	
Cartago	1,450	11	3	3	30
Turris Rios	1,300	20	4	13	12
San Francisco Guad	1,187	26	4	6	18
San Jose	1,160	25	4	13	17
La Verbenas	1,140	12	4	6	14
Nuestro Amo		4	3	6	74
Alajuela	950	68	7	1	2
San Isidro Alajuela	1,346	124	9	1	

TABLE 4.—Observations taken at Port Limon and Zent, March, 1902.

Stations.	Pressure.			Temperature.			Relative humidity.
	Minimum.	Maximum.	Mean.	Minimum.	Maximum.	Mean.	
	Inches.	Inches.	Inches.	°	°	°	%
Port Limon	762.7	768.9	765.07	20.1	35.2	25.39	81
Zent				15.4	36.0	25.08	75

Stations.	Cloudiness.	Sunshine.	Rainfall.		Temperature of soil at depth of—		
			Amount.	Number of days.	0.15 m.	0.30 m.	0.60 m.
	%	Hours.	Mm.		°	°	°
Port Limon	61		171	14			
Zent	55	187.55	300	13	27.68	27.43	27.82

MEXICAN CLIMATOLOGICAL DATA.

By Señor MANUEL E. PASTRANA, Director of the Central Meteorologic-Magnetic Observatory.

March, 1902.

Stations.	Altitude.	Mean barometer.	Temperature.			Relative humidity.	Precipitation.	Prevailing direction.	
			Max.	Min.	Mean.			Wind.	Cloud.
	Feet.	Inch.	° F.	° F.	° F.	%	Inch.	w.	
Chihuahua	4,669	25.16	78.8	33.8	57.2	32			
Guadalajara (Obs. del Est.)	5,186	24.87	84.2	48.0	65.8	42		nw.	
Guajuato	6,640	23.57	87.8	41.4	64.6	44		w.	
Leon (Guajuato)	5,906	24.22	85.1	41.4	64.0	47	0.03	nw.	
Mazatlan	25	29.90	81.7	56.8	66.6	47		nw.	
Merida	50								
Mexico (Obs. Cent.) ..	7,472	22.91	82.4	40.1	62.1	39	T.	s.	sw.
Monterrey (Sem.)	1,626								
Morelia (Seminario) ..	6,401	23.90	80.6	44.6	62.8	46	T.	sw.	sw.
Puebla (Col. Nat.)	7,125	23.28	79.3	41.4	58.3	52	0.02	ne.	
Puebla (Col. d Est.) ..	7,118	23.29	80.1	38.6	59.9	52	0.04	ene.	
Querefaro	6,070								
Saltito (Col. S. Juan) ..	5,399	24.68	81.9	36.1	60.4	49		nne.	
S. Isidro (Hac. de Gto.)			74.3	51.8				w.	
Toluca	8,812	21.90	76.1	32.9	55.0	42	0.06	w.	
Zapotlan	5,078	25.02	84.2	44.6	65.8	50		wse.	