HAWAIIAN CLIMATOLOGICAL DATA FOR JUNE, 1901.

By CURTIS J. LYONS, Territorial Meteorologist.

Rainfall data for the Hawaiian Service.

Stations.	June, 1901.	Stations.	June, 1901.
HAWAII.		MAUI—*Continued.*	*Inches.*
HILO, e. and ne.	*Inches.*	Nahiku, ne	5.00
Waiakea	3.45	Haiku, n	2.28
Hilo (town)	2.30	Kula (Erehwon), n	.....
Kaumana	3.76	Puuomalei, n	1.35
Pepeekeo	2.85	Paia, n	.....
Hakalau	2.99	Haleakala Ranch, n	.....
Honohina	2.78	LANAI.	
Laupahoehoe	.....	Keomuku, e	0.00
Ookala	0.57	OAHU.	
HAMAKUA, ne		Punahou (Weather Bureau), sw.	1.42
Kukaiau	0.53	Kulaokahua, sw	0.98
Paauilo	0.25	Kewalo (King street), sw	1.34
Paauhau (Moore, Gibb)	0.10	United States Naval Station, sw.	0.72
Paauhau (Greig)	.....	Kapiolani Park, sw	.....
Honokaa (Muir)	0.41	Makiki Reservoir	1.49
Honokaa (Rickard)	.....	Manoa (Woodlawn Dairy), c	3.41
Kukuihaele	0.66	School Street (Bishop), sw	1.79
KOHALA, n.		Insane Asylum, sw	1.57
Awini Ranch	.....	Nuuanu (W. W. Hall), sw	1.74
Niulii	0.65	Nuuanu (Wyllie Street), sw	.....
Kohala (Mission)	1.03	Nuuanu (Elec. Station), sw	4.81
Kohala (Sugar Co.)	1.04	Nuuanu (Luakaha) c	8.59
Waimea	0.51	Waimanalo, ne	1.57
Hawi	1.15	Maunawili, ne	2.59
KONA, W.		Kaneohe, ne	2.48
Kailua	8.49	Ahuimanu, ne	4.95
Kealakekua	6.10	Kahuku, n	1.40
KAU, se.		Waialua, n	0.82
Naalehu	1.21	Ewa Plantation, s	0.29
Honuapo	0.49	Waipahu, s	0.42
Hilea	0.30	Pacific Heights, sw	3.57
Pahala	1.01	Wahiawa, c	2.97
Moaula	1.79	Moanalua, sw	0.95
PUNA, e.		Kalihi-uka	4.19
Volcano House	1.70	KAUAI.	
Kapoho	3.59	Lihue (Grove Farm), e	3.19
Kalapana, se	.....	Lihue (Molokoa), e	2.45
MAUI.		Lihue (Kukaua), e	6.03
Olowalu	.....	Kealia, e	2.15
Waiopae Ranch, s	.....	Kilauea, ne	4.23
Kaupo (Mokulau), s	5.12	Hanalei, n	4.85
Kipahulu, s	4.09	Waiawa, sw	0.45
Hamoa Plantation, se	2.81	Eleele, s	4.20
Nahiku, ne	6.23	Waiawa, Mountain, s	15.65

Records not hitherto published, May, 1901.

Kailua	6.81	Moaula	8.18
Kaumana	5.21	Kohala Sugar Co.	0.19
Awini Ranch	0.02	Hawi	0.92
Nuuanu (W. W. Hall)	2.95	Makiki Reservoir	4.43
Electric Light Station	5.51	Kalihi-uka	4.33

NOTE.—The letters n. nw. e. sw. se. ne. and s. attached to each name indicate the exposure or direction toward which localities face the sea; "c," central locality.

GENERAL SUMMARY FOR JUNE, 1901.

Approximated percentages of district rainfall as compared with normal: Hilo, 35 per cent; Hamakua, 10; Kohala, 22; Waimea, 27; Kona, 130; Kau, 150; Puna, 80; Maui, uncertain on account of frequent changes in stations, probably 125 on southeast exposures, and 80 on north exposures; Oahu, 100 per cent; Kauai, 100, excepting Hanalei, 75. Northerly exposures suffered, as in May, the sugar crop on the northern portion of the island of Hawaii being particularly affected. At Waimea, Hawaii, the main stream is lower than ever known before, owing to the denudation of Kohala mountain forest destroying the natural reservoirs.

The artesian well level on the 15th of June stood at 32.85 feet above the mean sea level. This is as low as the lowest on record.

Mean temperatures: Pepeekeo, Hilo district, 100 feet elevation, average maximum, 78.6; average minimum, 68.9; Waimea, Hawaii, 2,730 elevation, 77.2 and 65.2; Kohala, 521 elevation, 81.4 and 70.6; Ewa Mill, Oahu, 50 elevation, 86.7 and 69.1; Kulaokahua (W. R. Castle's), 60 feet elevation, highest, 87; lowest, 67; mean, 77.4. The average fall in temperature is 1° F., for each 300 feet of ascent.

The absolute humidity was the highest on record for June, showing the unusual southerly origin of the atmospheric supply.

Earthquake reported from Kona and Kau on the 8th; not from Hilo. Snow is still visible on summit of Mauna Kea. Kilauea exhibits heat symptoms. Heavy swell 4th and 24th; very smooth sea 6th to 15th. No thunder or lightning.

Meteorological Observations at Honolulu, June, 1901.

The station is at 21° 18′ N., 157° 50′ W.

Hawaiian standard time is 10^h 30^m slow of Greenwich time. Honolulu local mean time is 10^h 31^m slow of Greenwich.

Pressure is corrected for temperature and reduced to sea level, and the gravity correction, —0.06, has been applied.

The average direction and force of the wind and the average cloudiness for the whole day are given unless they have varied more than usual, in which case the extremes are given. The scale of wind force is 0 to 12, or Beaufort scale. Two directions of wind, or values of wind force, or amounts of cloudiness, connected by a dash, indicate change from one to the other.

The rainfall for twenty-four hours is measured at 9 a. m. local, or 7.31 p. m., Greenwich time, on the respective dates.

The rain gage, 8 inches in diameter, is 1 foot above ground. Thermometer, 9 feet above ground. Ground is 43 feet, and the barometer 50 feet above sea level.

Date.	Pressure at sea level.	Temperature.		During twenty-four hours preceding 1 p. m. Greenwich time, or 2:30 a. m. Honolulu time.									Total rainfall at 9 a. m., local time.
				Temperature.		Moisture.		Wind.		Average cloudiness.	Sea-level pressures.		
		Dry bulb.	Wet bulb.	Maximum.	Minimum.	Dew-point.	Relative humidity.	Prevailing direction.	Force.		Maximum.	Minimum.	
	*	†	†			‡	‡		§				
1	29.95	75	68.5	83	68	67.5	78	se.	1-0	3	30.00	29.93	0.00
2	29.98	75	68.5	83	70	66.5	71	ne.	1	5	30.05	29.96	0.06
3	29.99	76	67.5	83	72	65.5	67	ne.	3	4-2	30.03	29.96	0.00
4	[29.98]	76	67.5	83	73	64.3	63	ne.	4	3	30.03	29.97	0.00
5	29.92	71	67	83	72	63.7	64	ne.	3	2	30.02	29.92	0.00
6	29.92	71	69	83	67	66.0	70	ne.	3	1-4	29.96	29.89	0.00
7	29.94	73	71.7	83	68	69.0	83	se.	1	5	29.99	29.93	0.04
8	29.96	69	68.3	82	72	70.7	83	s-e-n.	1-0	5-10	30.02	29.95	0.09
9	29.89	76	61	82	68	70.7	84	s-n.	1-0	5-10	29.99	29.91	0.00
10	29.88	72	71.3	84	70	70.3	76	s.	1-0	8	29.94	29.87	0.10
11	29.86	73	71.7	83	71	71.0	83	s-n.	1-0	5-1	29.92	29.85	0.01
12	29.92	75	73	83	72	71.3	80	s.	2-0	7	29.97	29.89	0.01
13	29.96	69	67	83	73	71.0	82	s-n.	1-0	6-2	30.02	29.91	0.00
14	30.01	74	68	84	69	68.3	76	s-nne.	1-2	4	30.07	29.92	0.00
15	30.00	75	68	86	70	66.3	66	ne.	3-1	2	30.04	29.99	0.00
16	30.01	76	68.5	85	74	66.7	67	ne.	3-1	2	30.04	29.96	0.04
17	30.05	77	69	84	73	65.5	64	ne.	3-4	4-1	30.07	30.00	0.01
18	30.06	77	68.5	84	75	65.7	65	ne.	3	4	30.11	30.04	0.00
19	30.01	76	70	84	74	65.7	64	ne.	3-5	3	30.09	30.01	0.04
20	29.94	76	69	84	75	67.5	73	ne.	4	6-3	30.02	29.96	0.08
21	29.93	76	71.5	82	74	67.3	72	ne.	4	6	29.96	29.91	0.15
22	30.01	77	71	84	74	68.5	71	ne.	4	3	30.04	29.98	0.00
23	30.06	74	69	85	76	67.7	68	ne.	4-5	4	30.09	30.01	0.41
24	30.00	76	69	83	72	66.3	69	ne.	3	7-3	30.09	30.01	0.04
25	29.95	75	68	84	73	66.7	71	ne.	3	5-2	30.04	29.95	0.08
26	29.95	74	68	85	72	65.3	66	ne.	3	2	30.00	29.92	0.00
27	29.97	73	70	84	69	66.7	71	ne.	2-3	3-8	30.01	29.94	0.12
28	29.98	77	68.5	84	70	68.3	72	ene.	3	6	30.04	29.96	0.02
29	29.92	75	68.5	85	75	66.3	68	ne.	4-2	6-3	29.99	29.91	0.08
30	29.89	76	69	84	70	66.3	69	ne.	4	3	29.94	29.86	0.04
Sums	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.42
Means	29.963	74.5	68.8	83.7	71.9	67.4	71.5	.....	2.4	4.2	30.019	29.941	.....
Departure	—.036	+2.0	.....	.....	.....	+2.1	+1.0	.....	.....	+0.2	.....	.....	—0.10

Mean temperature for June, 1901 $(6+2+9) \div 3 = 77.4$; normal is 75.9. Mean pressure for June, 1901 $(9+3) \div 2 = 29.976$; normal is 30.012.

*This pressure is as recorded at 1 p. m., Greenwich time. †These temperatures are observed at 6 a. m., local, or 4:31 p. m., Greenwich time. ‡These values are the means of $(6+9+2+9) \div 4$. §Beaufort scale.

CLIMATOLOGY OF ST. KITTS. COMPARISON OF BAROMETERS.

By W. H. ALEXANDER, Weather Bureau.

In order to determine as far as possible the real or comparative value of the barometric means given in articles on the Climatology of St. Kitts, and published in the MONTHLY WEATHER REVIEW, Annual Summary for 1899, and in the MONTHLY WEATHER REVIEW for August, 1900, the barometers used in obtaining the original records were secured and exposed in the local office of the United States Weather Bureau beside the station barometer, the cisterns of all three being practically on a level—about 29 feet above sea level. On March 1 a series of readings was commenced and continued through the entire month, each barometer being read seven times per day: at 8 a. m., 9 a. m., 10 a. m., 12 noon, 2 p. m.,