

JUNE, 1871.

PRIVATE OBSERVATORY, HOBART TOWN.

Day of Month.	Bar. 37 feet abv. sea level corrected & reduced.		Self-Registering Thermometers.				Wind.		Rain in inches.
	Highest.	Lowest.	Highest in shade.		Lowest on grass.		Direction from three daily re- gisters.	Force in lbs. per square foot.	
			°	°	°	°			
1	30.172	30.121	68	35	90.5	32.5	SW NW	1.30	
2	30.132	30.110	71	51	95.0	50.0	NW	.78	
3	29.887	29.821	62	51	72.0	47.5	NW	1.56	
4	30.129	30.066	66	40	90.0	35.5	NW E SE	.78	
5	30.264	30.220	56	37	72.5	34.0	NW W	.26	0.02
6	30.363	30.299	61	40	88.0	35.5	NW E SW	0	0.22
7	30.172	30.048	52	36	73.5	34.0	NW N SE	0	
8	29.930	29.872	58	33	80.5	32.0	NW	.78	
9	29.916	29.872	61	38	89.0	39.5	NW SE SW	1.04	
10	29.697	29.606	54	35	75.0	32.0	NW	1.30	0.01
11	29.950	29.887	62	40	85.5	37.5	NW	1.30	
12	30.006	29.956	64	42	91.0	39.5	NW	.26	
13	29.894	29.737	58	40	81.0	36.5	NW	.52	0.02
14	29.790	29.608	57	46	65.0	44.0	NW	.52	
15	29.948	29.924	62	44	89.8	44.0	NW	1.04	0.13
16	30.069	30.029	65	37	85.5	34.0	NW SW	1.04	
17	29.972	29.914	60	37	94.0	34.0	NW SE	.52	
18	30.097	29.961	56	37	70.0	32.0	NW E SE	0	0.02
19	30.198	30.184	54	46	63.0	40.5	SE	1.04	0.03
20	30.269	30.250	53	45	60.5	42.5	SE	.26	0.07
21	30.305	30.297	51	42	55.0	39.0	NW SE	0	0.01
22	30.274	30.248	52	35	75.0	32.0	NW	.26	
23	30.142	29.992	59	36	81.5	32.0	NW	1.56	
24	29.664	29.332	61	38	84.0	35.5	NW	3.38	0.02
25	29.637	29.560	64	36	87.0	33.0	SW NE SW	.78	
26	29.719	29.613	62	35	76.5	32.0	NW	.78	0.05
27	29.428	29.311	61	46	81.0	45.0	NW	1.30	0.15
28	29.784	29.711	58	41	80.0	41.5	SE NW	1.30	
29	29.806	29.536	63	43	81.0	39.0	NW	.52	0.03
30	29.593	29.446	63	47	83.0	44.0	NW SW	1.56	0.07
Mean monthly 29-925			50.41		80.28	37.67	Total Force	.. 25.48	0.55

The mean in all cases is taken from the sums of the three daily registers, and not from the maximum and minimum.

The direction of the wind is registered from currents moving at a height of 192 feet and the force according to Lind's Wind Gauge. The supposition, however, of a uniform velocity during the month is a very arbitrary one, and the results can be considered only approximately correct.

The relations of the quantities of rain which fell under the different winds are registered each evening at sundown.

The 25 years' standard tables are used for obtaining the difference from the average.

Leafing, Flowering, and Fruiting of a few Standard Plants in the Royal Society's Gardens during the month of April, 1871.

16th.—*Maclaura aurantiaca* leaves all shed.

17th.—Common privet ditto.

28th.—Black mulberry ditto.

Note.—The early narcissus, snow-flake, and *pyrus japonica*, which were in flower last year, on the 15th, 20th, and 24th respectively, have not yet flowered this year, being retarded, probably, by the unusually dry state of the ground.

Barometer mean, 29.925in., being 0.044in., above the average.

Temperature mean, 50.41°, being 3.66° above the ditto.

Solar intensity mean, 80.28°, being 5.34° above the ditto.

Dew point mean, 41.8°, being 0.56° above the ditto.

Humidity of air mean, 77, being 7 per cent. below the ditto.

Elastic force of vapour mean, .279, being .010 per cent. above the ditto.

Total amount of rain, 0.55in., being 1.2sin. below the ditto.

Increase of spontaneous evaporation on rainfall, 0.56in.

Mean amount of ozone, 6.13, being 3.37 of chromatic scale below ditto.

Electricity feeble all through the month.

The apex of Mount Wellington covered with snow on the 10th and 28th.

Strong Aurora Australis on 11th.

FRANCIS ABBOTT.

NOTES ON THE METEOROLOGY AND MORTALITY OF THE MONTH OF JUNE, 1871.

BY DR. E. SWARBRECK HALL.

This month has been more than usually fatal to persons above 15 years old, and the mortality very small indeed to all under that age. The weather was altogether abnormal, though very pleasant. This is the first month in 1871 in which the death-rate has exceeded the average of the previous 14 years.

Atmospheric-pressure mean, 29·925 was +·44 above the 25 years' average. The extremes were, maximum, 30·363, on the 6th; minimum, 29·311, on the 27th, being an extreme range for the whole month of 1·052 inches. This was considerably exceeded in June, 1870, though the average height of the barometer was less. On ten days the range exceeded one-fifth of an inch, the 24th having a fall of more than half an inch, *i.e.*—·580.

Wind-force total, 25·48 lbs., was only +·98 above the average, but *north-west* winds, the least favorable to health, had 64 out of the 90 observations, with 20·54 lbs. of the strength. All the winds from the other seven points of the compass were much below their average both in frequency and force. The strongest wind, a north-west on the 24th, had only a pressure of 2·60 lbs. to the square foot.

Temperature mean, 50·41 degrees, was + 3·66 above the 25 years' average, and nearly two degrees warmer than June 1870 was. Only two Junes in the previous 30 years had a higher mean, *i.e.* : 1861 being 50·92, and 1867 51·64. The extremes were 71 on the 2nd about noon, and 33 in the night of the 8th. The maximum was twice exceeded in the previous 30 years, the minimum was less in thirteen out of the 30 years. The *wet-bulb thermometer* mean was 46·53 degrees, being + 2·08 above the 20 years' average.

The *daily range of temperature* was the most abnormal meteorological phenomenon of this month, the mean being 19·83 degrees, which is + 4·79 above the 25 years' average. Only four out of the previous 30 years' Junes had a higher mean. Last year's daily range mean was nearly six degrees less. The greatest range in any twenty-four hours was 33 degrees on the 1st, but on 14 other days the range exceeded 20 degrees between the extreme heat of the day by the self-registering shade maximum thermometer, and the self-registering minimum thermometer in the night. To these extreme variations of temperature was no doubt owing the excessive death-rate in feeble, diseased, and aged persons, and the great prevalence of diseases of the respiratory organs, catarrh, bronchitis, and pneumonia. No doubt, however, the dry state of the air, and the great elastic force of vapour, tended also to the same result. External warmth by fires and good bedding (not from over crowding) is essential at such times to preserve life in aged, diseased, and feeble people, together with warm nutriment in the long and trying interval between the evening and morning meals. The Registrar-General of England emphatically notices in his reports the greatly augmented death-rate in old and ailing persons that accompanies a sudden and extensive fall of temperature.

Solar Intensity mean, 80·28 degrees, was + 5·34 above the average, and more than four degrees higher than in June 1870. Only June 1856 exceeded the present month. The maximum was 98 degrees on the 15th, being the highest in our records. This extreme warmth of sunshine is the more remarkable, because the cloudy days were above the average.

Terrestrial-radiation mean, 37·67 degrees, was only + 1·04 above the average. The minimum, 32 degrees (freezing point), was noted for the nights of the 2nd, 8th, 10th, 18th, 23rd, 26th. To be exposed, as many persons are, to the extremes of the sun's heat by day, and this cold by night, a variation of 66 degrees, must be trying to the strongest constitutions, and lethal to weak ones.

Elastic force of vapour mean, 279, was + 10 above the average. It ranged from minimum 175 on the morning of the 8th, to maximum 456 at noon on the 29th.

Humidity mean, 77, was — 7 below the June average.

Rain fell on 14 days, which is + 2·36 above the average, but the quantity was too trifling on any day but the 27th to make the channels run. The

total was only '55 of an inch, being — 1'28 inches below the average. The three Junes, 1852-3-4, were the only ones in the previous 30 years with less rain-fall than the present month. But every month now for the last seven months has had less than the average rain-fall; altogether for the first half of this year the deficit of rain amounts to 4'14 inches. *Snow* remained on Mount Wellington on the 1st of the month, and received a slight addition on the 11th, and a copious addition on the 28th.

Spontaneous Evaporation amounted to 1'11 inches.

Cloud mean, 6'10, was + '59 above the average.

Ozone mean, 6'13, was — '37 below the average. Saturation (10) was recorded twice.

Electricity was feeble, only 3 positive with tension from 3'5 to 5. Negative 50 tension 1 to 5. "Nils" 7.

The Deaths were 51, being + 5 2-14ths above the average of the previous 14 years. Only four out of the fourteen had a greater number of deaths, the highest being 1861 with 59. 36 were males, only 15 females. Under one year there were 4 deaths; from 1 to 5 there was only one death; from 5 to 10 no deaths; from 10 to 15 one death; from 15 to 20 there were 4. Ten deaths only under 20 years old out of 51 at all ages, is a very small proportion indeed. From 20 to 60 there were 20 deaths; and at 60 and all ages above, the oldest being 94, there were 21 deaths. The *Zymotic* class of diseases had only 3 deaths, two from *Diarrhæa*, one "*English Cholera*." There were 4 deaths from *Pneumonia*, being an unusually large number. *Consumption* caused 6 deaths, four of them Tasmanians by birth, one Englishman, and the 6th a native of New South Wales on a visit for change of climate. The deaths in *Hospital*, including inquest cases, were unusually large, 17. At the *Brickfields* Male Invalid Asylum, there were 2 deaths, aged 68 and 94; at the Cascades there were 4 deaths, three males, one female, respectively aged 58, 68, 70, 73. The *Inquests* were 5, four of them in connection with the gaol for males, one having died there, and three in *Hospital* shortly after being removed from the gaol.