

METEOROLOGY FOR JULY, 1870.

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.		Direction from three daily re- gisters.	Force in lbs. per square foot.		
			Highest in shade.	Lowest in shade.				
	In.	In.	"	"	"	"		
1	29.646	29.568	55.46	84.5	40.0	W S S	.52	0.17
2	29.772	29.648	52.41	70.0	34.0	NW NE	8.33	0.03
3	29.792	29.734	56.42	80.0	36.0	NW SE W	.26	
4	29.980	29.958	57.34	78.0	30.5	NW	.26	
5	29.937	29.863	57.37	87.0	33.0	W NW N	.52	
6	29.766	29.573	67.41	91.0	39.0	NW	.78	0.02
7	29.787	29.728	57.42	72.5	39.0	W NW	.78	
8	29.957	29.930	58.44	84.0	42.5	NW	1.04	
9	30.103	30.087	64.44	88.0	40.5	NW	.78	
10	30.169	40.141	62.48	81.0	44.5	NW	.78	
11	30.341	30.183	58.44	03.0	41.0	SE E	.26	
12	30.591	30.560	50.41	00.0	38.0	NW E	0.	
13	30.610	30.558	61.45	85.5	37.0	NW NE NW	.26	0.08
14	30.534	30.464	55.36	78.0	34.0	NW	1.30	
15	30.432	30.321	57.34	80.5	32.5	W NW	1.04	
16	30.339	30.134	58.40	76.0	35.5	NW NE	.52	
17	30.219	30.102	54.38	62.0	34.5	NW	0.	
18	30.050	29.865	53.46	55.0	43.0	SE NE NW	0.	0.68
19	29.834	29.813	56.46	85.0	40.5	NW SW S	.78	0.50
20	29.930	29.922	53.46	02.0	42.0	SW S SE	.26	0.50
21	29.864	29.815	50.41	09.0	37.5	NW S	.52	0.03
22	29.858	29.848	50.42	66.5	38.0	SE S SW	1.04	0.05
23	29.902	29.906	55.40	86.0	38.0	S SE	.52	
24	30.185	30.152	59.34	84.0	30.0	SW NW	.78	
25	30.177	30.100	50.36	09.5	30.5	NW NE	5.90	
26	29.924	29.655	58.39	81.0	32.0	NW N NW	2.60	0.13
27	29.756	29.506	55.42	61.0	40.5	NW SW SE	.52	
28	30.061	30.000	58.36	88.0	32.0	NW SW	.52	
29	30.102	30.100	52.36	70.5	30.0	NW W NW	.52	
30	30.100	30.071	48.36	52.0	33.0	NW S	0.	0.26
31	30.036	30.030	48.46	50.0	40.5	SE E SE	.26	0.16
Monthly mean	48.23	74.34	36.74	Total Force	..	31.74	2.61	
30.008								

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.

- 7th.—*Arbutus unedo* commencing to flower.
 14th.—*Garrya elliptica* ditto ditto.
 15th.—*Morus alba* commencing to break into leaf.
 20th.—Common Almond in full flower.
 25th.—Yellow Crocus ditto ditto.

Barometer mean, 30.08 in., being 0.164 above the average.
 Temperature mean, 48.23, being 2.51 above the ditto.
 Solar intensity mean, 74.34°, being 1.17° below the ditto.
 Dew point mean, 39.06°, being 1.00° below the ditto.
 Humidity of air mean, .78, being .05 per cent. below the ditto.
 Elastic force of vapour mean, .262, being .005 per cent. above the ditto.
 Total amount of rain, 2.61 in., being 0.55 in. above the ditto.
 Increase of rain fall on spontaneous evaporation, 0.54 in.
 Mean amount of ozone, 6.31, being 0.78 of chromatic scale below ditto.
 Electricity active on the 3rd, 7th, 10th, 13th, and 25th.

A copious amount of snow on Mount Wellington all through the month, with frequent fresh deposits.

FRANCIS ABBOTT.

NOTES ON METEOROLOGY AND MORTALITY OF JULY, 1870.
BY DR. E. SWARBRECK HALL.

Though the character of the month, climatically considered, was abnormal, the deaths were much below the average, and never before were the deaths under 20 years of age so few.

Atmospheric pressure mean, 30·008, was + ·164 above the 25 years' adopted standard. Only four out of the 25 years had a mean above 30 inches, *i.e.*, 1841, 30·005; 1848, 30·003; 1850, 30·113; 1860, 30·193. In the latter year epidemic influenza prevailed, and the deaths of the month were enormous—114—the 13 years' average for July being only 56. The daily perturbations were not nearly so great as in June, neither was the month's range, 1·104, so extensive. The maximum of the barometer, 30·610, occurred on the 13th, and the minimum, 29·506, on the 27th. Only twice in the last 29 years has the maximum been higher, that is—30·643, 1844; 30·812, 1846; the last being the highest record of the barometer for any month during all these years. Old people and invalids succumbed in great numbers to the great atmospheric pressure of this month, but it had no lethal influence on children, or young and healthy adults.

Wind force had a total of 31·74 lbs., being — 7·81 lbs. below the July average; 50 out of the 93 records were winds from the north-west, with two-thirds of the total force, therefore least favorable to health. The highest pressure to the square foot, 5·21 lbs., occurred with a north-west wind at the evening record of the 26th inst.

Temperature, by the observed thermometers, had a mean of 48·23 degrees, which is + 2·51 above the July average. By the self-registering maximum and minimum thermometers the mean was 48·16 degrees; so near a correspondence between these two sets of instruments is of rare occurrence. The maximum was 67 on the 6th; the minimum 34 on the 4th, 15th, 24th. Five times only in the 25 years was a higher maximum recorded, and the same minimum, but none higher, was only recorded five times.

The *wet-bulb* thermometer had a mean of 44·76, which is + 1·64 above the average.

Daily range of temperature mean was, 14·81, degrees being — ·30 below the average. The greatest range was 26 degrees on the 6th, the smallest 2 degrees on the 31st.

Solar Intensity mean, 74·34 degrees, was — 1·17 below the average, which is to be accounted for by the cloudy and wet character of the month. The maximum, 91 degrees, was noted on the 6th.

Terrestrial Radiation mean, 36·74 degrees, was + 1·19 above the average. On the nights of the 24th and 29th this thermometer fell to as low as 30 degrees. In June there was a record one degree colder.

Elastic Force of Vapour mean, 262, was + 5 above the average; the range in the month was from 165 to 377.

Humidity had a mean of only 78, which is — 5 less than the average, notwithstanding the excessive rainfall.

Rain occurred on 12 days which is — 1·73 less than the average, but the amount was 2·61 inches, which is + ·55 above the mean. On the three days 18th, 19th, 20th, the rain fell in large quantities, but so gently as not to cause any approach to a flood. *Snow* was never absent from Mount Wellington during the month, and received frequent copious additions.

Spontaneous Evaporation amounted to 2·07 inches only.

Cloud Mean was 7·34 being, + 1·94 above the average.

Ozone Mean 6·31, was — ·78 below the average, which is to be accounted for by the prevalence of north-west winds. Saturation was attained on two of the rainy days with southerly winds.

Electricity was 43 times out of the 62 records registered as negative, 15 times "Nil," and only 4 times positive.

The *Deaths* amounted to 39, being — 17 less than the July average of the previous 13 years, and 9 less than July 1869 had. There was only one death under 14 years of age, a child aged 6 months, from a very unusual cause—Intussusception of the bowels. From 14 to 20 there were only 2 deaths—so small a mortality under 20 years of age is without precedent in the records of Hobart Town. At all times the deaths on the average, at this period of life, are much below those of England, and the Colonies on the continent

of Australia. From 20 to 60 the deaths were 19; and from 60 to 90, there were 17. In July, 1869, the deaths under 20, were 14, and over 20, 33. Up to the 13th day of the month, there were only 9 deaths, on that day and the 19th the maximum of 3 each occurred. Before, and on the 20th, there were 7 days on which no deaths took place. After the 20th, not a day without one or two deaths, three having one and the rest two. *Consumption* caused 5 deaths, one a sailor, a native of the Sandwich Islands, the other four all Tasmanian born. Never before have there been so many deaths of Tasmanians from this disease in any single month. A death in hospital took place from *tetanus* in a man brought up from the Huon, where he had suffered a compound fracture of the bones of the leg; he survived upwards of a week in hospital; the limb was not amputated. Only one *inquest* was held during the month. In the *Zymotic* class of diseases there was not a single death, which, hitherto, is unprecedented.