

DECEMBER, 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 in shade.	Direction from three daily re- gisters.	Force in lbs. per square foot.	
	In.	In.	°	°			
1	30.174	30.075	71.52	110.0	50.0	NE SE	.52
2	29.984	29.947	76.55	111.0	51.0	NW SE	1.30
3	29.994	29.909	78.54	115.0	50.5	NE SE	1.04
4	29.939	29.592	98.65	132.0	52.0	NW	7.80
5	29.937	29.778	88.56	118.5	50.0	E SE	1.30
6	29.924	29.843	79.51	112.0	45.0	NW SE	3.12
7	29.968	29.930	75.53	109.0	49.0	NW SE	1.30
8	29.843	29.586	75.54	102.0	52.0	NW SENW	.73
9	29.762	29.677	79.53	112.0	56.5	NE NW W	1.30
10	29.884	29.862	74.49	95.0	41.5	NW SE SW	1.04
11	29.580	29.354	68.49	89.0	45.0	NW W	1.04
12	29.484	29.262	66.48	88.0	44.5	SW NW	2.64
13	29.698	29.618	70.42	81.5	38.5	NW W	7.80
14	29.874	29.860	68.54	75.0	45.0	NW	3.36
15	29.874	29.836	73.54	115.0	52.0	NW SE	3.12
16	29.675	29.422	82.53	96.0	45.0	NW	2.86
17	29.593	29.362	80.56	110.0	54.5	NW W NW	10.94
18	29.941	29.827	80.55	110.0	52.0	NW	1.56
19	29.939	29.951	70.52	107.0	44.0	NW SE	.52
20	30.069	30.043	76.53	110.0	55.0	SE	1.30
21	29.910	29.659	87.53	128.0	53.5	NW SE	.73
22	29.642	29.328	87.65	107.0	64.0	NW W	7.80
23	29.838	29.828	75.55	115.5	52.0	NWNE	1.04
24	29.686	29.599	71.57	114.0	47.5	NW SW	3.72
25	29.797	29.686	70.45	109.0	41.0	NE NW	1.56
26	29.877	29.729	67.51	95.0	49.0	NW W	1.04
27	29.995	29.939	73.42	112.0	36.5	NW SE	1.04
28	30.061	29.924	73.50	110.0	44.0	NE E SE	1.30
29	30.124	29.953	82.52	115.0	44.0	NW SE	1.30
30	29.659	29.528	91.50	125.0	51.0	NW SE	1.04
31	29.620	29.553	72.54	112.5	46.0	NW SW W	18.23
Monthly Mean 29.790			65.95	107.71	43.41	Total Force	96.51
							0.53

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.

- 8th. First bunch red currants ripe.
- 10th. Common privet commencing to flower.
- 12th. First bunch black currants ripe.
- 20th. Doyenne d'Ete pear ripe.
- 21st. Melia Azederach commencing to flower.
- 24th. Juneating apple commencing to ripen.

Barometer mean, 29.790 in., being 0.045 in. below the average.

Temperature mean, 65.95°, being 4.83° above the average.

Solar intensity mean, 107.71°, being 3.77° above the average.

Dew point mean, 49.7°, being 0.68° above the average.

Humidity of air mean, .59, being .09 per cent. below the average.

Elastic force of vapour mean, .380, being .023 per cent. above the average.

Total amount of rain, 0.53 in., being 1.20 in. below the average.

Increase of spontaneous evaporation on rain fall, 3.46 in.

Mean amount of ozone, 7.22, being 0.03 of chromatic scale above ditto.

Electricity active on the 5th, 6th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 22nd, 23rd, 24th, and 25th.

Hot wind on the 4th; thunder, lightning, and rain on the 7th; fresh snow on Mount Wellington on the 10th.

FRANCIS ABBOTT.

NOTES ON THE METEOROLOGY AND MORTALITY OF THE HOBART TOWN REGISTRATION DISTRICT DURING THE MONTH OF DECEMBER, 1871.

By DR. E. SWARBRECK HALL.

The hot and very dry character of this month, together with the excessive daily variations of temperature, might have been expected to cause a death-rate largely above the December average, but the excess was only trifling, three-fourths of the deaths being above 15 years old, children's deaths under the age forming an unusually small proportion of the total deaths, while those above 60 years old were more than one-third of the whole.

Atmospheric pressure mean, 29·790, was only +·45 above the average. The maximum was 30·174 on the 1st, the minimum, 29·262, on the 12th; the extreme range of the month therefore being ·912 of an inch. The greatest movement of the barometer in any twenty-four hours was a fall of ·513 on the 30th. There were, however, 12 other days on which the variations exceeded one-fifth of an inch.

Wind-force total, 96·51 lbs., was + 9·09 above the average. Winds from the north west greatly exceeded those from any other point of the compass both in frequency and force. Many of them, however, were no doubt deflected west winds. Two of them were hot winds. West winds were the next in point of strength, but south-east in regard to number. The strongest wind of the month was on the 31st, when a gale from the west was recorded as having a pressure of 10·42 lbs. to the square foot. There were only 7 calms being —5·89 below the average.

Temperature Mean was 65·95 degrees, being + 4·83 above the average. Only one December in the previous 30 years was hotter, i.e. 1855, when the mean was 67. The extremes were 98 degrees on the 4th, and 42 degrees in the nights of the 13th and 27th. The *wet-bulb thermometer* had the mean of 57·35, being + 2·37 above the average.

Daily range of temperature, 23·13 degrees, was + 3·22 above the average, and was only exceeded in the previous 30 years by December 1857, when 25·50 was recorded. The greatest range of any twenty-four hours was 41 degrees on the 30th.

Solar Intensity mean, 107·74 deg., was + 3·77 above the average, and only once exceeded. The hottest record was 132 deg. on the 4th. In December 1859 one deg. higher was registered. The highest ever recorded here for any month was in February 1857, when it was 143 deg.

Terrestrial Radiation mean, 48·44 deg., was only + ·20 above the average. The minimum was 36·5 in the night of the 27th. It is one of the pleasant peculiarities of the weather in Tasmania, that cool nights generally prevail even when the days are unusually hot.

Elastic-force of vapour mean, 380, was + 28 above the mean, and higher than any December since 1860 when it was 392. It ranged from maximum 589 on the evening observation of the 8th, to minimum 165 on the morning of the 25th. This range was unusually great.

Humidity mean, 59, was—9 below the average—only in the first year (1841) of the 30 years' series of meteorological records was humidity less, i.e. 56.

Rainfall, ·53 of an inch, was—1·20 below the average. In five Decembers out of the preceding 30 there have been less rainfalls than in this, and in one the same. On only one day, the 8th, was there rain enough to flush the drains, &c.—a thunderstorm. The rain fell on 5 days being —7 below the average. No snow on Mount Wellington during the month.

Spontaneous Evaporation was 3·99 inches.

Cloud mean, 5·82, was + ·21 above the average.

Ozone mean, 7·22, was + ·03 above the average showing, in the absence of the usual fall of rain, that many of the winds recorded north west were really ozone-bearing winds from the sea, and so maintaining a purity of the atmosphere counteracting other atmospheric phenomena adverse to health and life.

Electricity had 20 positive indications, with tension ranging from 3 to 8;

negatives 40, with tension from 2·5 to 8, and 1 nil. There was a smart *thunderstorm*, with *lightning* and heavy rain, on the 8th.

The *deaths* during the month were 46, being + $1\frac{13}{14}$ only above the average. December 1870 had 10 less. Under 1 year old there were 7 deaths, being the same in number as 1870; from 1 to 5 years old there were 4 deaths, exactly the same as in 1870. At 5 to 10 there were no deaths; from 10 to 15 none, while December 1870 had 2; at 15 to 20 there was 1 death, 1870 had 2. It thus appears that in this month there were 12 deaths only under 20 years old, while in 1870 there were 15. From 20 to 60 years there were 17 deaths, being 5 more than in 1870. At 60 years old, and all ages above, there were 17 deaths, the oldest being 85; while 1870 had only 9, the oldest being 79. In the *zymotic* class of diseases there were 6 deaths, all cases of infantile diarrhoea. In the *constitutional* class there were 4 deaths from *Consumption*, one a native of Tasmania. One death from *Cancer* of the mouth. In the *Diseases of the Brain and Nervous System* there were 7 deaths, 1 recorded as idiopathic tetanus, 3 apoplexy, 1 hydrocephalus, 1 convulsions, 1 diseased brain. In December, 1870, there were 5 deaths in this class, one being from tetanus. In Diseases of the Heart &c., there were 2 deaths; in Diseases of the Lungs, &c., 9, all being of a chronic character except 2. There were 4 *inquests*, one of them a death in Hospital. In Hospital there were 11 others. At the Cascades a child aged 15 months died in the gaol, registered bronchitis. Three men died in the Invalid Asylum aged 67, 81, 85. At the Brickfields Invalid Asylum there were 2 deaths aged 63 and 76.

In all 1871 there died in the Hobart Town registration district 507 individuals, being only 7 more than in the previous year, but 53 less than the average of the previous 14 years. In the first quarter the deaths were 140; in the second quarter 113; in the third 123; in the fourth 131; as usual the autumn and winter quarters having the smallest mortality.

The *Births* registered in all Tasmania during 1871 were 3,053, being one less than in the previous year. The *Deaths* registered were 1,350, being 54 less than in 1870, and about $13\frac{3}{4}$ per 1,000 of population, being somewhat less than the death rate in the healthiest of the English registration districts, notwithstanding a greater proportion relatively of very young and very old in the population of Tasmania when compared with that of England and Wales.