

METEOROLOGY FOR SEPTEMBER, 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.		Lowest on grass.		Direction from three daily re- gisters.	Force in lbs. per square foot.					
			°	°	°	°							
1 30	539	30'448	62	34	91	0	32	0					
2 30	419	30'226	59	41	77	0	35	0					
3 30	048	29'910	65	47	91	0	44	5	0'01				
4 30	199	30'060	66	48	102	0	43	5					
5 30	336	30'313	66	39	94	0	38	0					
6 30	197	29'964	67	52	79	0	46	0					
7 29	924	29'847	65	56	75	0	52	5	0'17				
8 29	533	29'236	61	53	62	0	51	0	1'75				
9 29	443	29'298	55	47	60	5	42	0	0'17				
10 29	782	29'706	58	45	95	5	40	0					
11 29	844	29'837	57	43	95	0	37	5					
12 29	869	29'801	64	45	103	0	40	5					
13 30	087	30'014	58	40	90	0	33	5	0'01				
14 30	186	30'079	61	38	85	5	34	0					
15 30	061	29'863	67	40	98	0	35	5					
16 29	829	29'747	59	51	77	0	47	5	0'25				
17 30	095	30'071	56	43	92	0	38	0	0'09				
18 30	039	29'976	63	39	98	0	32	5					
19 30	011	29'865	68	40	98	5	36	5					
20 30	126	30'022	59	43	94	5	41	0					
21 30	172	29'865	69	35	100	0	32	0					
22 29	500	29'491	59	50	83	0	47	0	0'53				
23 29	970	29'864	53	39	81	5	35	0	0'05				
24 29	966	29'812	59	39	96	0	34	5	0'03				
25 29	724	29'5	65	37	99	5	35	0					
26 29	503	29'446	70	47	100	0	40	5	0'08				
27 29	476	29'451	59	43	68	5	39	0	0'08				
28 29	621	29'524	65	43	105	0	40	5					
29 29	784	29'768	58	47	75	5	41	5					
30 29	650	29'472	66	49	102	0	39	9					
Monthly mean			52	69	88	97	39	50	Total force	63	73	3	17
			29	871									

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.

- 12th.—Ash commencing to break into leaf.
- 18th.—Grape vine ditto.
- 21st.—Oak ditto.
- 22nd.—Moutan peony commencing to flower.
- 27th.—Horsechestnut ditto.
- 30th.—Robinia pseudo acacia commencing to leaf.

Barometer mean, 29 871 in., being 0'110in., above the average.
 Temperature mean, 52'69°, being 1'93° above the ditto.
 Solar intensity mean, 88'97°, being 0'93° above the ditto.
 Humidity of air mean, '72, being '04 per cent. below the ditto.
 Dew point mean, 41'9°, being 0'27° below the ditto.
 Elastic force of vapour mean, 234, being '005 per cent. above the ditto.
 Total amount of rain, 3'17in., being 1'09lin. above the ditto.
 Increase of rain fall on spontaneous evaporation, 0'66in.
 Mean amount of ozone, 6'97, being 0'99 of chromatic scale below ditto.
 Electricity active on the 1st, 4th, 5th, 10th, 11th, 12th, 13th, 15th, 20th, 21st, 23rd, 25th, 26th, 28th, 29th, and 30th.
 Aurora Australis on the 21st, 23rd, 24th, and 27th.
 Snow never absent from Mount Wellington, with frequent fresh deposits.

FRANCIS ABBOTT.

NOTES ON THE METEOROLOGY AND MORTALITY OF THE MONTH OF SEPTEMBER, 1870,

BY E. SWARBRECK HALL.

In many respects the weather this month deviated from the September average. The barometer was considerably above the mean, and very fluctuating. The wind was in more constant motion than usual, but below the average strength. Temperature was above the average. Rainfall was considerably above the mean, though it fell on fewer days. Ozone was much below the average. Nevertheless, though the mortality was but little short of double the number that occurred in September, 1869 (which, however, was the smallest for any month in the year for the 13 years recorded), yet it was above twelve per cent. less than the average of the previous 13 years' Septembers.

Atmospheric pressure mean, 29·871, was +·110 above the 25 years' standard average. It ranged from the maximum 30·539 on the 1st, to minimum 29·230 on the 8th. The greatest movement in any twenty-four hours was a fall of —·494 of an inch between 1 p.m. of the 21st and 22nd. There were movements on ten other days exceeding one-fifth of an inch.

Wind force amounted to 63·73lbs. which is—8·80lbs. below the September average. *North-west* winds had 49 records out of the 90, with 35·91lbs. of the strength. *South-west* had 13 records with 16·12 of the strength. *South-east* had 18 records, with only 8·06 of the total force. *Calms*, nevertheless, were only 17 in number, being — 15·45 less than the average. The strongest wind, 10·42lbs., was noted on the last day of the month, and was from the *north-west*.

Temperature mean, 52·69 degrees, was + 1·93 above the average. The maximum was 70 on the 26th, the minimum 34 on the 1st. The *wet-bulb thermometer* mean was 47·86, being + 1·29 above the average.

Daily range of temperature mean, 18·20, was only +·56 of a degree above the average. The greatest range on any day was 34 degrees on the 21st.

Solar intensity mean, was 88·97, only \times ·43 above the average. The maximum record was 105 degrees on the 28th.

Terrestrial radiation mean, 39·50 degrees, was +1·11 above the average. Twice in the month, on the 1st and 21st, the thermometer fell to freezing point (32.)

Elastic force of vapour mean was 284 + 5 above the average. It ranged from 164 on the 1st to 453 on the 7th.

Humidity mean, 72, was + 4 below the average notwithstanding the excessive rainfall.

Rain fell to the amount of 3·17 inches, being + 1·09 above the average. On five of the days, three of which were continuous, 2·87 inches fell, yet without causing any flood in Hobarton. *Snow* was never absent from Mount Wellington during the month, and received frequent and copious additions.

Spontaneous evaporation, 2·51 inches, was considerably below the rainfall, an unusual event for the equinoctial month.

Cloud mean, 6·09, was +·25 above the average.

Ozone mean, 6·97, was 99 below the average. Only on one day, the 9th, was saturation (10) attained; this was the last of the three continuously wet days.

The *Electrometer* records were :—Twenty *positive* with tension from 4 to 6; negative, 36, with tension 1 to 7; and 4 “nils.” On fine nights in the last eight days of the month, there were brilliant displays of the Aurora Australis.

The *deaths* in the month were 37, being 5 less than the September average of the previous 13 years, though + 15 more than September 1869 had. Four (4) were under one year old, one from 1 to 5, three from 5 to 10, none from 10 to 20, thirteen (13) from 20 to 60, and sixteen (16) at 60 and all ages above, the oldest being a spinster aged 85 years. Altogether there were eight deaths at and above 70 years old. No epidemic disease prevailed, and only 7 of the total deaths from all causes were from diseases of an acute character. *Consumption* caused three deaths, two of them natives of Tasmania, the third a Swedish sailor. No deaths occurred at the *Brickfields Invalid Station*, but four invalids died at the *Cascades Station*. The death-rates at these two

establishments differ widely. During the nine past months of this year, the Cascades has had 33 deaths of adults, ranging from 39 to 90 years old, while at the Brickfields there have been only 19, ranging from 62 to 93 years old, or, including one sent to hospital, 20. Possibly the daily average strength of the invalid paupers of the Cascades, may have been twenty to thirty more than at the Brickfields, but then the average age of the latter is so much greater. The average ages of the deaths were respectively :—For the Brickfields, a little above 76 years : at the Cascades only a trifle above 68. No doubt the reluctance of invalids to be sent to the Cascades, and the difficulty of retaining them there, may, to some extent, be explained by the comparatively excessive mortality there. On sanitary grounds, this old misplaced prison is an unfit place for invalids and children, and now that the Military Barracks are likely to become available for colonial use, they would afford cheerful, healthy, and very eligible quarters for both the afore-named classes.