

METEOROLOGY FOR MARCH, 1866.

PRIVATE OBSERVATORY, HOBART TOWN.

Day of month.	Bar. 37 feet abv. sea level, cor. & reduced		Self - register- Thermo- meters.				Wind.		Rain in inches.
	Highest.	Lowest.	Highest in shade.		Lowest on grass.		Direction from three daily registers.	Force in lbs. per square foot.	
			°	°	°	°			
1	30·084	30·045	64	45	101·0	43·0	W SWS	1·30	0·01
2	30·130	29·818	65	39	77·0	38·0	NW N	1·04	
3	29·430	29·196	77	51	101·0	47·5	NW W NW	·52	
4	29·452	29·367	72	48	88·0	46·5	NW W	8·33	0·03
5	29·821	29·616	66	46	100·0	42·0	SW NE	6·25	0·15
6	29·933	29·899	71	52	105·0	51·0	NW W	1·30	
7	29·898	29·562	69	57	95·0	55·0	NW	·52	0·05
8	29·932	29·646	64	46	97·0	44·0	W NW	3·64	1·14
9	30·140	30·084	73	52	110·0	49·5	NW SE	·78	
10	30·190	30·140	70	47	100·5	44·0	NW SE	·78	
11	30·169	30·163	67	53	83·0	51·5	SW SE SW	·52	
12	30·154	29·878	85	60	121·5	51·5	NW N	·78	
13	29·781	29·508	88	60	120·0	57·0	NW SW	5·47	
14	30·217	30·057	79	49	105·5	47·0	SE W SW	·78	
15	30·431	30·396	73	43	106·5	41·0	NW E SE	·52	
16	30·445	30·340	75	45	112·0	43·5	NW SE	·78	
17	30·257	29·989	80	48	116·5	47·5	NW	·78	
18	29·838	29·787	74	58	86·0	54·5	NE N SE	1·04	0·34
19	30·065	29·990	70	47	96·0	46·0	SW NW	·78	0·05
20	30·191	30·167	78	47	113·5	45·0	NW E	·52	
21	30·381	30·312	75	50	118·0	49·0	NW SE	1·04	
22	30·448	30·346	69	50	80·0	54·0	NW SE	·26	
23	30·258	30·033	69	50	94·0	50·0	NW N NW	·78	0·30
24	30·005	29·939	75	60	104·0	57·0	NW S	·52	0·06
25	29·556	29·853	81	54	112·0	52·5	NW W NW	·78	
26	29·813	29·676	78	58	98·0	58·5	NW W NW	5·20	0·22
27	30·143	29·932	69	53	108·0	49·5	NWSWNW	2·86	
28	30·206	30·107	72	42	107·0	40·5	NWSE NW	·52	
29	30·147	30·076	74	41	102·5	49·0	SW NE S	·78	
30	30·364	30·344	69	54	80·5	53·0	SE E	·0	0·03
31	30·341	30·243	74	47	110·0	46·0	NW SE S	·26	
Total force 49·43									2·38

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 an 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 twenty 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 :—*

- 13th. Tips of hornbeam commencing to turn.
 - 14th. Coe's golden drop plum ripe.
 - 16th. Seckle pear ripe.
 - 18th. Tips of elm turning yellow.
 - 20th. Horse chestnut leaves turning brown.
 - 28th. Ash leaves commence falling.
 - Oak leaves commence falling.
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Barometer mean, 30·017in., being 0·160in., above the average.
 Temperature mean, 60·25°, being 0·27° above the ditto.
 Solar intensity mean, 101·60°, being 3·40° below the ditto.
 Dew point mean, 48·7°, being 0·87° below the ditto.
 Humidity of air mean, '72, being 1·5 per cent. above the ditto.
 Elastic force of vapor mean, '371, being '016 per cent. above the ditto.
 Total amount of rain, 2·38in., being 0·36in. above the ditto.
 Increase of spontaneous evaporation on rainfall 2·07 inches.
 Mean amount of ozone, 6,92, being 0·19 of chromatic scale above the ditto.
 Electricity active on the 4th, 5th, 6th 8th, 14th, 15th, and nil on the 18th, 23rd, 24th, and 30th.
 Mount Wellington covered with snow on the 8th.
 Hot wind on the 13th. Thunder and lightning on the 25th.

FRANCIS ABBOTT.

ANALYSIS OF THE OBSERVATORY RECORDS FOR MARCH, 1866, IN CONJUNCTION WITH THOSE OF BIRTHS, DEATHS, &c. BY E. SWARBRECK HALL.

In the mortality-rate for the twelve months of the year—on the average of the previous nine years—March stands the third on the list, February and July both having a higher mean of deaths. The mean is 56 3·9, the present month had 57 deaths, and six out of the previous nine, had each between 50 and 60. The extremes were 73 in 1864, and 48 in 1859. After the short but violent storm of wind and rain on the morning of the 8th the deaths diminished largely, one third of all the deaths of the month having occurred during the first week, and principally from the bowel-complaints which had originated in the previous month.

Atmospheric pressure mean, 30·017, was unusually high, being + ·160 above the 20 years' adopted standard mean for March. Only two years out of the previous 25 had a higher mean, *i.e.* :—1864, 30·109; the most fatal March on record, and 1858, 30·021,—when the second heaviest death-rate took place; the present month occupying the third place in both respects. The range of pressure, moreover, during the present month, exceeded both those years, or indeed any March since 1857, being 1·252 inches. The minimum, 29·196, was registered at sunset on the 3rd; the maximum, 30·448, at 7 a.m. on the 22nd. In 1864 the latter rose higher, but the former was much less. In 1858 the maximum differed but little from that of the present month, but the minimum did not fall nearly so low. The greatest movement of the barometer on any day, was a fall of ·628 of an inch on the 3rd, and on the 14th there was a rise of almost as great an amount. Altogether there were 16 days on which the pressure varied above one-fifth of an inch. Last year's March had only 9. Atmospheric pressure, therefore, was more inimical to health and life this month than usual.

The *Winds*, too, this month, were not on the whole favorable to health and life. The total force was only 49·13 lbs., being —5·53 lbs. less than the four years' table, and nearly as much less than the mean of the last nine years. From every point of the compass except north-west and south-west, the winds were below the average in frequency, and only west and north-west had more than the average force. North-west winds were greatly in excess, and they are always least propitious to health and life, having the least ozone. There was a strong *hot wind* on the 13th, and a feeble one on the 25th. The strongest winds recorded had only a pressure of 5·21 lbs. to the square foot, and were registered three times, on the 4th, 5th, and 13th. Had the wind been gauged between 3 and 6 a.m. of the 8th, I am sure, from personal experience of it, a strength of more than double the above would have been noted. At the usual hour of observation, 7 a.m., it had sunk to 2·60.

Temperature mean, by the observed thermometers, was 60·25 degrees, being so near the 20 years' average for March, that it only exceeded it by + 00·27 of a degree. 1865 had a mean nearly $1\frac{1}{4}$ degrees colder. By the self-registering maxima and minima thermometers, the mean was 61·56 degrees. The extremes were 88 with the hot wind on the 13th, and 39 in the cold night of the 2nd. No year since 1856 has had so low a minimum, and no year since 1861 so high a maximum. The extreme range of the month, 49 degrees, was eight degrees beyond that of last year, and considerably greater than any other March since 1861, when the range was 54 degrees. The mean of all the maxima was 73·03, while last year's was nearly two degrees less. The mean of all the minima was 50·03, being more than half an inch lower than last year; so that the present month had on the whole warmer days and colder nights than March 1865 had.

Daily range of temperature had a mean, which has only been exceeded in the last 25 years, by March, 1857, and 1856, being exactly 23·00 degrees, while the two exceptional years were about half and three quarters of a degree more. The 20 years' mean for March is only 20·04 degrees. The greatest range of temperature in any twenty-four hours was 33 degrees on the 29th; last year's was the same, and many years have had more. The smallest range on any day was 12 degrees; last year's was 6. There have therefore been constant but moderate daily-ranges. The diseases popularly ascribed to variations of

temperature prevailed but little this month, and the influence on the mortality returns is scarcely appreciable. No deaths occurred from inflammation of the lungs, &c.

The *solar-thermometer* gave a mean of 101.60 degrees, which is —1.68 below the average of the previous 10 years, and +00.73 more than 1865 had. The maximum was, 121.5 on the 12th, and the minimum 77.0 on the 2nd.

Terrestrial-radiation mean, 48.51 degrees, is + 00.36 above the mean of the previous ten years, and +1.58 more than 1865 had. The extremes were, maximum, 58.5 on the 26th, minimum, 38 on the 2nd. Notwithstanding the colder nights than usual, the earth's temperature was above the average. 1865 had the same maximum, but a minimum $2\frac{1}{2}$ degrees higher.

The total *rain-fall* of the month was 2.38 inches, being +.86 of an inch, above the 20 years' average, and +.45 of an inch more than 1865 had. There were eleven days on which rain fell, being two more than the average of the previous eleven years, and two more than 1865 had. On the 4th, enough of rain fell to make channels, with a good fall, run, but on the morning of the 8th it fell so quickly and copiously, that in about three hours at Mr. Abbott's observatory, 1.14 inches were gauged, while my pluviometer gave 1.69 inches. The surface-drains and sewers of the city were thoroughly cleansed, and from this date the deaths from bowel-complaints lessened considerably. On the 18th the surface gutters again got thoroughly flushed. *Snow* appeared in considerable quantities on Mount Wellington on the 5th, but was all gone next day. On the 8th, Mount Wellington was again well mantled with snow, but none remained on the 9th.

Spontaneous-evaporation amounted to 4.45 inches, being +1.85 inches more than in 1865. None of the nine years' recorded had so much as this.

Elastic force of vapor had the mean of 371, being +16 above the 20 years' average, though 7 less than 1865 had. The range was from 244 to 551.

Humidity mean, 72, was $1\frac{1}{2}$ above the 20 yrs' mean, though 4 less than in 1865.

Cloud mean was 5.51, being +.15 above the 20 years' mean, but—.98 below 1865.

Ozone had a mean of 6.92, ranging from 5 to 9. It was .73 less than 1865 had, and slightly below the March average of the previous 8 years. With so little ærial movement, and few ocean-winds, this result was to be expected. The rain-fall, however, kept the mean much above what it otherwise would have been.

Electricity this month was much more favorable than in March, 1865, there being 17 positive indications with maximum tension of 6.5, while last year had only 6, with maximum tension of 5, and minimum of 2.5. *Negative* was registered 39 times, with maximum tension of 6.5, but a minimum as low as .05. In 1865 there were 49 negative, with maximum tension of 5.5. Nils were 6, last year had 7.

Thunder and lightning occurred just before midnight on the 25th. Some of the citizens imagined at first that it was H.M.S.S. Curaçoa firing, having been accustomed to hear a gun report from her every evening at nine o'clock and every morning at day-break while in port. A brilliant *Aurora* was seen on the evening of the 19th.

The 57 *deaths* this month, is only one more than March, 1865, had, and only a fraction above the average of the previous 9 years.

Mar., 1866.	Ages.	Feb., 1866.	Marches.									Avg. 9 yrs. Marches 1857-1865.
			1865	Max. 1864	1863	1862	1861	1860	Min '59	1858	1857	
15	Under 1	16 12	25	16	12	19	16	15	26	14	17	2.9
11	1 to 5	7 6	13	11	8	6	9	9	17	6	9	4.9
3	5 to 20	2 2	2	1	3	4	2	4	3	2	2	5.9
7	20 to 45	6 9	11	9	10	6	11	8	7	16	9	6.9
8	45 to 60	8 9	13	5	9	9	8	8	5	11	8	5.9
13	60 and above	15 18	9	11	10	7	7	4	8	6	8	8.9
57		54 56	73	53	52	51	53	48	66	55	56	3.9

"Under one year old" the deaths were less than the average, though three more than in 1865. Nine of the 15, were feeble children under 4 months old, and the other 6 were all from 8 to 11 months old, or at the age when teething and bad-dieting render children so susceptible of the bowel-complaints usually prevalent in the summer months.

At "1 to 5" years old the mortality was above the average. Of the 11 deaths, all were under two years old but two, and the exceptions had not attained the age of three years—one being from a burn. All the rest died from the prevailing bowel-complaints, "At 5 to 20" the deaths were a fraction above the average.

"At 20 to 45" the deaths were about 25 per cent. less than the nine years' mean, and but one year of the nine had fewer. At "45 to 60" the average mortality was not attained.

At "60 and all ages above" the average was largely exceeded, though the number, 13, was 5 less than in 1865. The oldest was an invalid at the Brickfields Asylum, aged 85.

March, 1866.	Classes of Disease	Feb., 1866	Marches.									Avg. of 9 yrs. '57-'65.
			1865	Max.'64	1863	1862	1861	1860	Min.'59	1858	1857	
18	1. Zymotic	24	10	35	21	15	15	15	16	25	9	17 8-9
7	2. Constitutional	7	9	8	8	10	11	8	5	10	6	8 3-9
18	3. Local	13	29	19	13	19	21	24	17	14	29	20 5-9
10	4. Developmental	7	5	8	9	5	2	5	6	11	7	6 4-9
4	5. Violent &c.	3	3	3	2	3	2	1	4	6	4	3 1-9
57		54	56	73	53	52	51	53	48	66	55	56 3-9

In the 1st, or *Zymotic class of diseases*, the deaths were a fraction above the average, and nearly double last year's number. A boy five years old died from *croup*, being the only death from any acute form of diseases of the organs of respiration, notwithstanding the extremely wide daily range of temperature. A girl of 17 died from *typhoid fever*, no doubt owing to the usual local causes, which engender this preventable disease. The other 16 deaths were all from *bowel complaints*, only three of them being above 3 years old, i.e., 45, 50, 66, respectively.

The 2nd, or *constitutional class of diseases*, had less than the average deaths. One from *senile gangrene*, two from *concerous affections of the stomach*, one from *water in the head*, three from *consumption*, of whom one man, aged 25, was born in Tasmania. Last year this disease caused five deaths, and one of the number, a male of nearly the same age, was born in Tasmania.

The 3rd, or *local class of diseases*, had less than the nine years' average of deaths, and eleven less than 1865 had. The first order of this class, *Diseases of the Brain and Nervous System*, had only seven deaths, a child of eleven months from *Inflammation of the membranes of the Brain*, and the old man of 85 from *Serous Apoplexy*, and five young children from *Convulsions*. In March, 1865, this order had 11 deaths. In the 2nd order, *Diseases of the Heart and Organs of Circulation*, there were 3 deaths; last year had 5. In the 3rd order, *Diseases of the Lungs and Respiratory Organs*, 3 deaths took place, all of a chronic character, and of long standing; 1865 had 7. In the 4th order, *Diseases of the Stomach and Organs of Digestion*, 4 died, being the same in number as last year. In the 5th order, *Diseases of the Urinary Organs*, one death occurred; 1865 had 2.

The 4th, or *developmental class of diseases*, had an excessive number of deaths, 5 of them being under 10 months old, and the other 5 from 71 to 79 years old. Last year had only half the number, only one of them being a babe.

The 5th, or *violent and accidental class of diseases*, had somewhat more than the average number of deaths. One was run over by an Albert car, another

fell into a clay-hole, a child died from *burns*, and the fourth died from *Tetanus* (lock-jaw) in Hospital. He had some days before admission trodden on a rusty knife, and neglected himself for many days. *Inquests* were held on four deaths occurring within the month in the Hobart Town Registration District; last year had double the number. The deaths in *Hospital* were 16, including one of the *Inquest* cases, 6 of them from country districts; 1865 had exactly the same number. At the *Male Invalid Asylum* 3 died; last year had only 2. At the *Cascades Female Prison* 2 children died from *bowel complaints*. Of the 57 deaths, 33 were males, 24 females. The Glenorchy and Queenborough divisions of the district had each one death, all the rest died in the city.

On four days of the month no deaths occurred. In the first week there died 19; in the second, 7; in the third, 14; in the fourth, 11; in the last three days 6. The most fatal period was the six days, 2nd to 7th inclusive, when 19 died.

There were only 49 *births* registered, being 21 less than in March, 1865. The last two days of the month the Registry Office being closed, will perhaps account for the discrepancy.