

METEOROLOGY FOR MAY, 1866

PRIVATE OBSERVATORY, HOBART TOWN.

Day of month.	Bar. 37 feet abv. sea level. & reduced		Self-registering Thermometers.				Wind.		Rain in inches.
	Highest.	Lowest.	Highest in shade.		Highest in sun.		Direction from three daily registers.	Force in lbs. per square foot.	
			°	'	°	'			
1	30·389	30·311	68	49	98·0	48·5	N NW W	·26	
2	30·319	30·237	68	43	96·0	44·0	NW SE	·52	
3	30·219	30·071	60	45	85·0	44·5	NW SE	0·	
4	30·150	30·076	70	46	97·5	43·5	NW SE	·26	
5	30·283	30·254	69	49	100·0	51·0	NW E SE	·26	
6	30·198	30·035	65	45	94·5	45·0	NW N	·78	
7	30·112	30·092	75	44	105·0	43·0	NW SW	·78	
8	30·125	29·982	75	45	101·0	44·5	NW N	·78	
9	30·186	30·115	70	53	100·0	52·0	NW E	·26	
10	30·172	30·159	60	53	60·0	52·5	NE SE	0·	0·04
11	30·019	29·945	64	53	69·0	51·5	NW	·78	
12	30·071	30·055	64	52	76·0	50·0	NW E	0·	
13	30·007	29·825	68	48	96·5	48·0	NW	1·04	
14	29·816	29·798	63	52	84·0	51·5	SW W NW	·26	0·12
15	30·032	29·976	64	41	93·0	40·0	NW	·52	
16	30·194	30·149	65	41	93·0	39·0	NW SE	·52	
17	30·108	29·904	57	39	77·5	37·5	NW S E	·52	
18	29·588	29·443	57	50	57·0	44·0	SES SW	13·02	0·50
19	29·574	29·464	54	51	56·0	43·0	SW S	10·68	0·75
20	29·834	29·858	66	43	95·5	39·0	SW NE	·52	
21	29·928	29·890	59	44	80·0	41·5	W NW	·26	
22	29·810	29·799	65	47	97·0	41·5	NW N	·52	0·04
23	29·974	29·885	65	43	95·0	42·0	SW NW N	·26	0·01
24	29·978	29·809	58	46	66·5	45·5	NW	0·	
25	29·762	29·538	70	49	97·0	46·5	NW	2·86	0·05
26	29·427	29·354	67	52	92·0	49·0	N NW	13·02	
27	29·653	29·546	60	44	83·5	41·5	NW W	3·64	0·18
28	29·795	29·708	63	46	85·0	40·5	NW	0·	0·08
29	29·608	29·544	57	42	82·0	36·5	NW SW	·52	0·05
30	29·876	29·720	49	42	65·0	35·5	NW SW S	2·86	
31	30·129	30·064	60	40	90·0	34·0	NW SW	0·	
Monthly									
mean 29.932 54.20 86.05 44.06 Total force 55·69 1·82									

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 :—*

- 5th. First Dutch medlar ripe.
 11th. *Coronilla glanca* commencing to flower.
 18th. *Ailanthus glandulosa* leaves all shed.
 25th. *Diosma alba* commencing to flower.
 29th. *Photinia serrulata* commencing to flower.

Barometer mean, 29·932in., being 0·104in. above the average.
 Temperature mean, 54·20°, being 3·69° above the ditto.
 Solar intensity mean, 86·05°, being 5·05° above the ditto.
 Dew point mean, 48·1°, being 4·63° above the ditto.
 Humidity of air mean, 81, being 03 per cent. above the ditto.
 Elastic force of vapor mean, 342, being 033 per cent. ditto.
 Total amount of rain, 1·82in., being 0·03 below the ditto.
 Increase of rainfall on spontaneous evaporation.
 Mean amount of ozone, 6·87, being 0·38 of chromatic scale above ditto.
 Electricity feeble throughout, 0·43.
 Weather changeable. A large deposit of snow on Mount Wellington on the 30th.

FRANCIS ABBOTT.

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

Never before during the twenty-five years that exact and continuous meteorological records have been kept was there so warm a May as the present month. Atmospheric pressure, too, was very high, calms very numerous, with great predominance of winds from the quarter least favorable to health, excessive daily ranges of temperature, unusually hot sun, warm terrestrial radiations, great elastic-force of vapour, and very peculiar electrical conditions. At this season of the year all the phenomena alluded to were more or less adverse to health and life. On the other hand, an average fall of rain, a slight excess of atmospheric humidity, with ozone above the average, to some extent counteracted the inimical phenomena, so that the mortality return is not much above the mean of the previous nine years for the month of May. May and November have been always, on the average, the healthiest months in the year.

Atmospheric pressure mean was 29.932, being +.104 above the twenty years' adopted standard mean. The maximum was 31.389 on the 1st, the maximum 29.354 on the 26th, so that the extreme range in the month was 1.035 inches. The daily fluctuations were not excessive, the greatest range on any day being a fall of .480 of an inch on the 18th, and the smallest a fall of .013 of an inch on the 7th. The greatest rise was +.366 of an inch on the 20th. Altogether movements exceeding one-fifth of an inch were noted only on ten days, and the maximum almost the same.

Wind force, 55.69 lbs, was +5.12 above the May average of the previous nine years, yet the calms (43) were +3.75 above the average. Up to the 18th, the wind pressure never exceeded .52 of a lb. pressure to the square foot, and 26 calms were recorded. Strong winds from the south-west on the 18th and 19th, with equally strong north-west winds (a sort of abortive hot wind), on the 25th, 26th, and 27th, raised the average greatly beyond what the general character of the month would have made it. North-north-east and west were all below the average both in frequency and force, south was below the average in number but above it in strength, east and south-east were slightly in excess, both in frequency and force, south-west winds though only slightly more numerous than the average were +17.13 lbs. above it in force, while north-west with an excess of force of only +3.49 lbs, had no less than 51 in number out of the 93 records, being +22 more than the average. On six days in the month not a breath of wind was noted at the three hours of observation.

Temperature mean was 54.20 degrees, being +3.69 degrees above the 20 years' standard mean, and +4.25 warmer than May 1865 was. No year of the last 25 had so warm a May. The year next to it in warmth was 1856, when the mean attained was 53.03 degrees. All the Mays of the last twelve years, it is worthy of note, have much exceeded in their means, those of the previous fourteen years, the former having a mean of 51.86, the latter only 49.20 degrees. By the self-registering thermometers the mean was 55.03 degrees, the two sets of instruments approaching more nearly to the same result than usual. The highest temperature recorded was 75 degrees on the 7th and 8th, and the lowest was 39 on the 17th. The mean of all the maxima or high-day records was 63.71 degrees, being nearly one degree more than 1865 had. The mean of all the minima, or low night records, was 46.35 degrees, which is +3.83 above May, 1865. It thus appears that it was principally by warmer nights, that the mean heat of the present month, so much exceeded that of the corresponding month of 1865.

Daily range of temperature mean, 17.35 degrees, was +2.05 degrees higher than the 20 years' mean, though 2.59 less than May, 1865 had. The greatest range on any day was 31 degrees, on the 7th; and the least 3, on the 19th.

The *Solar-thermometer* gave a mean of 86.05 degrees, being +4.18 degrees above the mean of the previous 10 years, and +1.76 above May, 1865. The maximum was 105 degrees, on the 7th, being one degree higher than last year, but five more than was ever before recorded in the month of May; the minimum record was 56 degrees, on the 19th.

Terrestrial-radiation mean, 41.76 degrees, is much higher than any May of the previous 10 years, and +4.76 degrees above the mean of the whole. 1865 had a mean—5.50 degrees below that of the present month. The maximum was 52.5 degrees, on the 10th; the minimum 34 degrees, on the 31st. For 1865 the extremes were 49 and 30.5 degrees.

Rain was recorded on 10 days, being —4.11 days below the average of the previous 11 years, and 4 less than 1865 had. At the same time the amount precipitated, 1.82 inches, was only —.03 below the 20 years' average for May. It therefore fell in larger quantities in a smaller time than usual. It was very heavy indeed on the 18th and 19th, the gauge giving 1.25 inches by Mr. Abbott's observatory record, but 1.90 inches by mine. The rain-fall at my residence for the whole month exceeded the observatory amount by more than half an inch. The same showers at their edges and centre will often give very discrepant results in the amount of rain deposited. Of course, moreover, showers are often very circumscribed in their area of precipitation. In the first nine days of the month no rain whatever was recorded.

On the 30th there was a large deposit of *Snow* on Mount Wellington, which was still abundant on the following day.

Spontaneous evaporation amounted to only 1.39 inches being much less than rain-fall, and .24 of an inch less than May 1864 had.

Humidity mean was 81, being +2 more than the 20 years' average, and the same above 1865.

Elastic force of vapor had the mean of 342, being +33 higher than the 20 years' mean, and +59 more than last year. The range was from 200.7 to 406.7.

Cloud mean was 6.40 being +.70 higher than the 20 years' average, but 0.7 less than 1865. It is remarkable that with so much cloudy weather, that sunshine should have given so much higher a mean than usual, and indicates how very hot the sun was when it was shining at all.

Ozone mean was 6.87 being 1.31 less than 1865 had, though +.30 more than the average of the previous 9 years. The maximum 10, was only recorded twice, but the metre never gave less than 5 of Schonbein's chromatic scale.

The *electrometer* gave very unusual results this month. There were only 3 positive indications noted at the evening observation of the 26th, and both observations on the succeeding day. The maximum tension was only 4. In May, 1865, there were 16 positive, with maximum tension of 6.

Negative indications were 41, being the same in number as last year, but of less tension. The range being 0.5 minimum, to 4 maximum. Last year's maximum was 5.

Nilts were 17, last year had only 5. It is remarkable that for many days together no electricity was indicated; as for instance from the evening observation of the 9th to the morning observation of the 13th, both included; and again at the morning of the 16th, and both daily observations on the 17th and 18th.

The *deaths* this month were 43, which is +28.9 more than the average of the preceding nine years' Mays. Last year's had the same in number, but differed considerably as to the causes of death, and in a slighter degree also varied as to the age at death. Five years out of the nine, had a much smaller mortality than the present year, and only 1864 and 1866 had a greater amount.

May, 1866.	Ages.	Mays.										Avg. 9 yrs. Mays. 1857-1865.	
		April, 1866.	1865	1864	1863	1862	Max 61	1860	Min. 59	1858	1857		
5	Under 1	8	5	9	4	7	12	9	7	12	8	8	1.9
5	1 to 5	7	2	6	6	2	16	4	5	7	7	6	1.9
3	5 to 20	2	4	2	3	3	9	1	1	2	1	2	8.9
7	20 to 45	8	8	11	11	12	5	13	7	7	10	9	3.9
11	45 to 60	6	12	12	3	8	3	8	5	10	7	7	5.9
12	60 and above	14	12	8	8	4	5	4	4	5	5	6	1.9
43		45	43	48	35	36	50	39	29	43	38	40	1.9

"Under 1 year old" the deaths were considerably below the nine years' average, but exactly the same numerically, as in 1865. At "1 to 5" the mortality was also less than the average, though more than twice as many as last year. At "5 to 20" the average was exceeded by a fraction, though one less than in May last year. At "20" to "45" the deaths were below the nine years' average rate, and even one less than in 1865. At "45 to 60," many more than the average rate of deaths occurred, though still one less than May 1865 had. At "60 and all ages above," the deaths were nearly double the average, and exactly the same in number as in 1865. The abnormal weather of the present month, therefore, has been most fatal to persons past the meridian of life, while the deaths of children, under five years old, have been much less than the average.

May, 1866.	Classes of Disease	Mays.								Avg. of 9 yrs. Mays '57-'65.				
		April, 1866.												
		1865	1864	1863	1862	Max. '61	1860	Min. '59	1858	1857				
7	1. Zymotic	8	1	7	6	3	23	9	2	8	7	7	3	9
11	2. Constitutional	6	12	12	6	11	7	8	9	2	3	3	7	9
16	3. Local	23	21	24	16	13	14	18	13	25	21	18	3	9
6	4. Developmental	3	3	4	4	3	4	3	2	4	2	3	2	9
3	5. Violent &c.	5	6	1	3	6	2	1	3	4	5	3	4	9
43		45	43	48	35	36	50	39	29	43	38	40	1	9

In the 1st, or *Zymotic class of diseases*, the deaths were slightly below the average, though very much more numerous than in 1865. All but two were from *bowel affections*, in children under two years old. It is very rarely that this summer-disease extends its ravages to the month of *May*, but the unusual warmth of the month indicates the cause.

The 2nd, or *Constitutional class of diseases*, had many more deaths than the nine years' average. One was from *cancer*, three from diseases of a *scrofulous* character, and seven from *Consumption*, none of whom were born in Tasmania. Last year, out of the total of 8 from consumption, two were Tasmanians by birth.

In the 3rd, or *Local class of diseases*, the deaths were less than the nine years' average, and nearly one-third less than last year. The 1st order of this class, *diseases of the brain and nervous system*, had only three deaths, while May 1865 had double the number. The 2nd order, *diseases of the heart and organs of circulation*, had four deaths, being one less than last year. The 3rd order, *diseases of the lungs and organs of respiration* had but three deaths, May 1865 had one more.

The 4th order, *diseases of the stomach and organs of digestion*, had four deaths, the same in number as in 1865.

The 5th order, *diseases of the urinary organs*, had two deaths. 1865 had only one. The 7th order had a death last year, but none this.

The 4th, or *developmental class of diseases*, had six deaths (nearly double the average), all but one from old age, at ages ranging from 69 to 79. The other death was a woman aged 37, from puerperal causes. Last year this class had only half the number of deaths.

The 5th class, or *violent and accidental deaths* had three, being a little less than the average. One was injured in the chest by the *upsetting of a vehicle*, one died from *burns*, one was *drowned*. Last year had twice as many deaths in this class.

Inquests this month were 5; last year had 7. In the *Hospital* the deaths were 11, including one of the *inquest* cases; 1865 had 18. Four of the *Hospital* deaths this month were admissions from other districts. At the *Breckfields Male Invalid Asylum* only two deaths occurred, aged respectively 61

and 75. Last year had 5. Of the 43 total deaths, 25 were males, 18 females. Three died in the Glenorchy, and the same number in the Queenborough divisions of the Registration District, the rest in the city. On seven days of the month there were no deaths, though only two of the days, the 30th and 31st, were consecutive. In the first week of the month, there died 11; in the second, 7; in the third, 7; in the fourth, 14; in the last three days, 4. The greatest number of deaths on any three consecutive days was 8; from 22nd to 24th, and again from 27th to 29th. The most fatal period of the month was, from the 23rd to the 29th inclusive, when 16 deaths took place in seven days.

The *births* registered were 55, being 18 less than in May, 1865.