

M. C. 34
Part IV

CONTRIBUTIONS
TO OUR
KNOWLEDGE OF THE METEOROLOGY
OF THE
ARCTIC REGIONS.

Published by the Authority of the Meteorological Council.



PART IV.

LONDON:
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AND SOLD BY
J. D. POTTER, 31 POULTRY; AND EDWARD STANFORD, 55 CHARING CROSS.

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PREFACE TO OUR PART IV.

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Notice to Binder.

*Cancel all Title-pages, Prefaces, Tables of Contents, and Maps
issued with Parts I.—III., and substitute those here supplied.*



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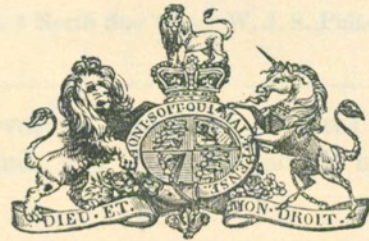
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In the preface to Part I. the general plan of these "Contributions to our Knowledge of the Meteorology of the Arctic Regions" has been briefly described. Part IV. completes the series of Expeditions sent out in search of Sir John Franklin's Expedition.

The following is the list of the Expeditions, the records of which have been employed in the present Part:—

Locality.		Ships.	Captain	Years.	No. of Months.	Observations.
Princess Royal Islands	-	H.M.S. "Investigator"	Sir R. McClure	1850-1	12	Two-hourly.
Mercy Bay	-	Do.	Do.	1851-3	20	Do.
Dealy Island	-	H.M.S. "Resolute"	Sir H. Kellett	1852-3	12	Do.
Melville Sound	-	Do.	Do.	1853-4	8	Do.
Beechey Island	-	H.M.S. "North Star"	W. J. S. Pullen	1852-4	25	Four-hourly.

The meteorological observations made at Princess Royal Islands, Mercy Bay, Dealy Island, Melville Sound, and Beechey Island have not before been fully discussed.

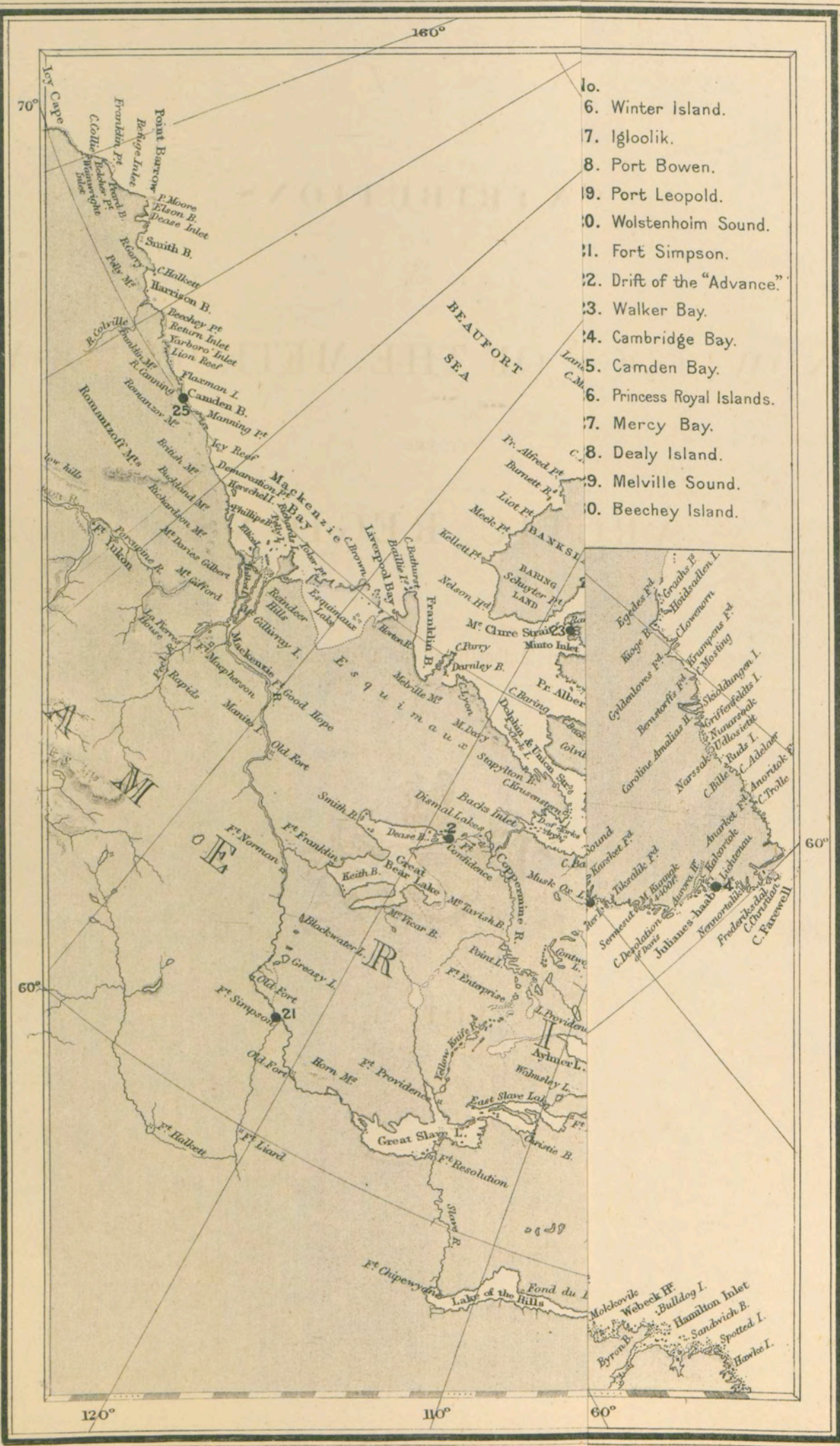
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Location	Ship	Captain	Year	No. of Months	Duration
Princess Royal Island	H.M.S. "Investigator"	Sp. R. McClure	1850-1	12	Two months
Merry Bay	Do.	Do.	1851-2	20	Do.
Doris Island	H.M.S. "Resolute"	Sp. R. Hallen	1852-3	12	Do.
Melville Sound	Do.	Do.	1853-4	8	Do.
Becher Island	H.M.S. "Zealandia"	W. J. S. Folger	1854-5	20	Four months

The meteorological observations made at Princess Royal Island, Merry Bay, Doris Island, Melville Sound, and Becher Island have not before been fully discussed.

No. 1	York Factory
No. 2	Fort Confidence
No. 3	Frederickshavn
No. 4	Julianahavn
No. 5	Berry Bay
No. 6	Repulse Bay
No. 7	Gulf of Boothia
No. 8	Gulf of the Larder
No. 9	Carleton Island
No. 10	Assistance Bay
No. 11	Northumberland Sound
No. 12	Wellington Harbour
No. 13	Port of the Fair
No. 14	Fort Kennedy
No. 15	Water Harbour
No. 16	Water Island
No. 17	Isle de la Reine
No. 18	Fort Bowen
No. 19	Fort Leopold
No. 20	Whitby Sound
No. 21	Fort Simpson
No. 22	Gulf of the Advance
No. 23	Water Bay
No. 24	Carleton Bay
No. 25	Carleton Bay
No. 26	Whitby Sound
No. 27	Merry Bay
No. 28	Deep Island
No. 29	Melville Sound
No. 30	Becher Island



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VOL. I.

LONDON:
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J. D. POTTER, 31 POULTRY; AND EDWARD STANFORD, 55 CHARING CROSS.
1885.

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PREFACE.

THE present publication has been undertaken with the view of collecting together the information as to the climate of the Polar Regions, especially of the portion in the vicinity of the American Continent, existing in the log books and journals of the various British Arctic Expeditions up to the year 1876.

In 1873 the Meteorological Office published, under the title of "Contributions to the Meteorology of the Antarctic Regions," a discussion of the observations taken on board H.M. Ships "Erebus" and "Terror" in 1839-43.

The need for a similar summary of the existing information relating to the Arctic Regions made itself felt in 1874, when an application was made to the Office to contribute materials for the Arctic Manual, then in course of preparation, and which was published by the Admiralty in 1875.

The Meteorological Council have therefore caused the records of the observations taken by British Expeditions to be discussed as far as possible in a uniform manner, so as to indicate the conditions of climate, &c. actually experienced in these rarely-visited regions.

The present volume contains the results of the discussion of the logs of vessels which were either frozen up in winter quarters or drifting with the ice, and therefore refers mainly to the winter season.

The principal part of the information has been derived from the logs of the several vessels employed in the Franklin Search Expeditions between the years 1848 (Sir J. C. Ross) and 1858 (Sir F. Leopold M'Clintock).

It will be seen from the chart that the observations discussed are confined for the most part to the region extending from the meridian of 45° W. to that of 120° W., and from the parallel of 60° to that of 80° N.

The following is the List of the Expeditions, &c. the records from which have been employed in the present Volume :—

Locality.			Ships.	Captain or Observer.	Years.	No. of Months.	Observations.
Fort York	-	-	Station - - -	John Rae, M.D.	1845-6	6	8 daily.
Fort Confidence	-	-	Do. - - -	Do.	1850-1	8	3 do.
Repulse Bay	-	-	Do. - - -	Do.	1846-7	11	3 do.
Do.	-	-	Do. - - -	Do.	1853-4	11	3 do.
Frederikshaab	-	-	Do. - - -	F. T. Barfoed -	1856-60	48	3 do.
Boothia	-	-	"Victory" - -	Sir John Ross	1829-32	27	Hourly.
Hudson's Strait	-	-	H.M.S. "Terror" -	Sir G. Back -	1836-7	12	Two-hourly.
Griffith Island	-	-	H.M.S. "Resolute" -	Sir H. Austin -	1850-1	12	Do.
Assistance Bay	-	-	"Lady Franklin" -	W. Penny -	Do.	12	Four-hourly.
Northumberland Sound	-	-	H.M.S. "Assistance" -	Sir E. Belcher	1852-3	12	Two-hourly.
Do.	do.	-	H.M.S. "Pioneer" -	Sherard Osborn	Do.	12	Do.
Wellington Channel	-	-	H.M.S. "Assistance" -	Sir E. Belcher	1853-4	12	Do.
Do.	do.	-	H.M.S. "Pioneer" -	Sherard Osborn	Do.	12	Do.
Baffin's Bay	-	-	"Fox" - - -	Sir F. M'Clin- tock.	1857-8	9	Four-hourly.
Port Kennedy	-	-	Do. - - -	Do.	1858-9	12	Do.
Winter Harbour	-	-	H.M.S. "Hecla" and "Griper."	Sir W. E. Parry	1819-20	12	Two-hourly.
Winter Island	-	-	H.M.S. "Fury" and "Hecla."	Do.	1821-2	12	Do.
Igloolik	-	-	Do. do.	Do.	1822-3	12	Do.
Port Bowen	-	-	H.M.S. "Hecla" and "Fury."	Do.	1824-5	12	Do.
Port Leopold	-	-	H.M.S. "Enterprise" and "Investigator."	Sir James C. Ross.	1848-9	12	Do.
Wolstenholm Sound	-	-	H.M.S. "North Star" -	J. Saunders -	1849-50	12	Four-hourly.
Fort Simpson	-	-	Station - - -	W. J. S. Pullen	1849-51	17	8 or 6 daily.
Drifting in the Pack	-	-	"Advance" and "Rescue"	E. J. De Haven, U.S.N.	1850-1	9	General re- sults.
Walker Bay	-	-	H.M.S. "Enterprise" -	Sir R. Collinson	1851-2	12	Four-hourly.
Cambridge Bay	-	-	Do. - - -	Do.	1852-3	12	Do.
Camden Bay	-	-	Do. - - -	Do.	1853-4	11	Do.

Locality.		Ships.	Captain.	Years.	No. of Months.	Observations.
Princess Royal Islands	-	H.M.S. "Investigator" -	Sir R. McClure	1850-1	12	Two-hourly.
Mercy Bay	-	Do. -	Do.	1851-3	20	Do.
Dealy Island	-	H.M.S. "Resolute" and "Intrepid."	Sir H. Kellett -	1852-3	12	Do.
Melville Sound	-	Do. do. -	Do.	1853-4	8	Do.
Beechey Island	-	H.M.S. "North Star" -	W. J. S. Pullen	1852-4	25	Four-hourly.

The meteorological observations made at Port Leopold, Wolstenholm Sound, Fort Simpson, Walker Bay, Cambridge Bay, Camden Bay, Princess Royal Islands, Mercy Bay, Dealy Island, Melville Sound, and Beechey Island have not before been fully discussed. The work has been entirely carried out by Mr. Richard Strachan.

July 1885.
ROBERT H. SCOTT,
Secretary to the Council.

ERRATA.

- Page 20, line 21, 0° to 9° F., should be 32° to 41° F.
- „ 29, column 5, should be headed Mean Sea.
- „ 71, in table B., the resultant direction for July should be N. 7° E.
- „ 100, table V., January range 57°·5, should be 60°·5.
- „ 130, table III., at top of Min. column, insert inches, and at top of Temp. column, insert the ° (sign).
- „ 182, line 27, *dele* hour.
- „ 215, Aug. 11, long. should be 92° 36' 45".
- „ 217, line 1, insert " with " after " made."
- „ 245, table II., yearly mean should be $\pm 1^{\circ} \cdot 7$.
- „ 379, line 18, for " day " read " bay."

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No. XXVI.

Results of Meteorological Observations made at Princess Royal Islands.

H.M. SHIP "INVESTIGATOR," Captain, afterwards Admiral, Sir Robert J. Le M. McClure passed the winter 1850-51 in Prince of Wales Strait, latitude 72° 47' N., longitude 117° 35' W., about 2½ miles northward of the Princess Royal Islands, two rocky islets. The largest of these is about 1½ mile in length and 600 feet in height, the southern and eastern sides being precipitous; the other is about a quarter of a mile long, and 100 feet high, gradually sloping to the water's edge.

A MS. log of this voyage was lent for this discussion by the Admiralty Record Office, and the Meteorological Register by the Hydrographical Office. Commencing the year with October 1850 and ending it with September 1851, the two last months were passed at sea coasting Baring Island, on the east side of which island the winter had been passed. It was thought advisable to include these two months for the sake of obtaining results for an entire year, more especially as the change of geographical position, although great, was confined to the same island.

On September 30th, 1850, the ship was in latitude 72° 50', longitude 117° 55'.

On August 4th, 1851, the latitude was 73° 6', longitude 115° 58', and the highest position attained in the Strait was latitude 73° 14', longitude 115° 32' on the 14th, as Sherard Osborn states "only 25 miles from the waters of Melville Sound." The remainder of August and the greater part of September were occupied in sailing down the Strait, and then south, west, and north of Baring Island to Mercy Bay.

No information can now be obtained regarding the accuracy of the instruments. A mercurial barometer was used. The "Investigator" was in company with the "Herald" July 31st, 1850; and, assuming that the "Herald's" barometer was correct, comparison shows the "Investigator's" to require a correction of +.1. The observations have accordingly been corrected for temperature, and the constant .1 added. No satisfactory check on the correctness of the thermometers used has been discovered.*

The force of the wind seems to have been carefully estimated; while the direction was very roughly observed, though recorded as *true*.

Table I. shows the mean atmospheric pressure, bi-hourly for each month and for the year. The mean diurnal range of pressure for the whole period was .01 inch, from a minimum at 10 p.m. to a maximum about 6 a.m. A secondary oscillation had a minimum about 1 p.m., and a maximum about 6 p.m. The highest mean monthly pressure was 30.103 for April, and the lowest 29.799 for July, and the mean for the year 29.957 inches.

Table II. gives the mean temperature of the air bi-hourly, for each month and for the year. The warmest month was July and August, 37° 5'; and the coldest, February, -37° 7'; giving a mean range of 75° 2, one just as much above zero as the other was

* Sir A. Armstrong, who had been surgeon of the "Investigator," was asked by the Committee on Scurvy, 1877 (Report, page 306):—"You have mentioned the lowness of temperature on board the 'Investigator.' Were your thermometers ever tested?—Yes; and they were tested before we started. Did you test them with the freezing of mercury?—Yes."

below it. The mean temperature of the year was $1^{\circ}5$. The diurnal range of temperature almost disappears during the winter, from November to February inclusive, and it is greatest in May.

Table III. exhibits the corrected extreme readings of the barometer with accompanying temperature, wind, and weather. In February the barometer fell to $29\cdot07$, and in the following March rose to $30\cdot77$, ranging $1\cdot7$ inches. The weather was clearer with the high than with the low extremes of the barometer.

Table IV. exhibits the extremes of temperature with accompanying pressure, wind, and weather. The highest temperature, 52° , occurred in July and August, the lowest, -51° , in February; the extreme range was therefore 103° . S.E. or S.W. winds frequently accompanied the highest temperatures, and N.E. and N.W. the lowest, and the weather, if anything, was finer with the lowest than with the highest temperatures.

Table V. contains the four-hourly sums of the wind components for each month, with their means.

Table VI. gives the wind components for the entire period, and the resultants of the winds computed therefrom. These show a maximum force of wind at noon, and a minimum at midnight; and as regards direction, a variation in azimuth from N. 49° W. at 4 a.m. to N. 62° W. at midnight, which leaves only four hours for the retrogression.

Table VII. contains the monthly resultants of the winds deduced from the mean components in Table V. The resultant winds were from North-eastward in October, November, and June, from North-westward in all other months except August and September, which had resultants from W. by S.

Table VIII. summarises the winds of each month under 16 points of the compass, and gives their mean force. The prevalent winds were from N.E. in October, November, and July, N.W. in December, January, and May, S.W. in February, S.W. and N.E. in March and June, N.W. and N.E. in April, W.S.W. in August, and N.W. and S.W. in September. Winds of force 8 and upwards were recorded in November four times, January three, March two, April two, June four, and September four.

Table IX. summarises the weather notations for four-hourly periods in each month. The clearest month was February or March, the most overcast November. Fog was only recorded during the summer. Snow fell in all months, on 50 days of the year. Rain fell only in the period June to September, on 13 days. Snowdrift was noted on 13 days in November, 13 in December, 13 in January, 7 in February, 5 in March, 9 in April, 3 in May, and 1 in September.

Table X. comprises the results of observations of the temperature of the sea water, made on 40 days in July and August, from which it appears that the sea was warmest, $33^{\circ}3$, about 2 p.m., and coolest, $31^{\circ}5$, at 6 a.m., giving a mean daily range of $1^{\circ}8$.

Thickness of Ice.—As mean results of several measurements on each occasion, the ice was found to have the following thickness on the dates mentioned:—

	Feet. Inches.			Feet. Inches.	
November 2nd	-	1 8	April 1st	-	6 5
January 4th	-	3 8	May 1st	-	6 11
February 3rd	-	4 $9\frac{1}{2}$	June 2nd	-	7 0
March 3rd	-	5 $7\frac{3}{4}$	July 1st	-	4 $9\frac{1}{2}$

On February 3rd, 1851, the sun rose again, after having been absent since November 11th, 1850, 84 days of twilight and darkness.*

The following quotations are from Sir A. Armstrong's "*Personal Narrative of the Discovery of the North-west Passage*":—

"On April 3rd, 1851, during the prevalence of a South-easterly gale, the temperature rose in the course of four and twenty hours from 30° below zero to 6° above it, but the following day was as low as before; a wonderful change in such a period. The continuance of the gale had brought up the warmer air from the southward, a circumstance which, on several occasions, occurred in subsequent years, generally at this season."

August 16th, 1851. "Could we have ensured the certainty of being drifted through in the pack, so as to get within the influence of the easterly currents setting through Barrow's Strait and Lancaster Sound, any amount of risk would have been encountered; but the occurrence of such an event at this time was far from probable, and the passage through the Strait of Prince of Wales, so it appears to me, can only be accomplished by a combination of the most favourable circumstances, such as are seldom met with in the Polar Sea. At an advanced period of the season, however, when the ice has well cleared out of Parry Sound and Barrow's Strait, to afford sufficient space for that on their southern shores, and in the Prince of Wales Strait, to be drifted to the northward under the influence of strong Southerly winds, I believe a ship may be carried through by the same agency, and once getting within the influence of the strong easterly currents, and escaping the dangers inseparable from the probability of being beset in the pack, which might not perhaps occur, she must be carried into Lancaster Sound and Baffin's Bay—and thus a North-west Passage would be made through the Strait of Prince of Wales which we abandoned."

Referring to the coast from Port Kellett to Burnett Bay, on the west of Baring Island, Sir A. Armstrong states under date September 22nd, 1851:—"There was nothing deserving the name of bay or harbour along any part of this coast, nor any protection or shelter for ships; and exposed as it is to all the fury and violence of Westerly and North-westerly winds, it stands without a parallel for the dangers of its navigation in any part of the world. The appalling evidence we were afforded of the effects of pressure caused by stormy winds acting on a trackless icy sea was such as we had not witnessed in any other part of our eventful voyage, and baffles all attempts at describing—mounds being piled together to the height of upwards of 100 feet. Our passage along this part of the coast was a truly terrible one—one which should never be again attempted—and with a vivid remembrance of the perils and dangers which hourly assailed us, I feel convinced it will never be made again."

* "*The Discovery of the North-west Passage*," by Captain Sherard Osborn, C.B.

TABLE I.
ATMOSPHERIC PRESSURE, at PRINCESS ROYAL ISLANDS, 1850 October to 1851 September,
H.M.S. "INVESTIGATOR."

Hours.	1850.			1851.									Year.
	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	
2 a.m. -	inches. 29.933	inches. 29.803	inches. 30.048	inches. 29.955	inches. 29.995	inches. 30.052	inches. 30.110	inches. 30.084	inches. 29.876	inches. 29.796	inches. 29.921	inches. 29.934	inches. 29.959
4 " -	.935	.805	.047	.949	.008	.046	.112	.087	.879	.803	.923	.940	.961
6 " -	.936	.810	.048	.947	.013	.055	.108	.085	.875	.799	.923	.940	.962
8 " -	.931	.808	.043	.937	.009	.049	.106	.086	.876	.800	.921	.939	.959
10 " -	.927	.808	.036	.934	.007	.048	.109	.084	.874	.801	.921	.940	.957
Noon -	.921	.808	.030	.930	.996	.039	.105	.084	.876	.804	.919	.949	.955
2 p.m. -	.915	.812	.037	.930	.996	.036	.098	.083	.877	.806	.917	.950	.955
4 " -	.916	.816	.041	.941	.001	.036	.098	.081	.875	.803	.911	.948	.956
6 " -	.921	.825	.040	.943	.005	.038	.101	.080	.874	.800	.904	.946	.956
8 " -	.921	.827	.041	.940	.008	.032	.100	.076	.871	.794	.903	.943	.955
10 " -	.920	.813	.033	.932	.012	.030	.096	.078	.873	.791	.903	.943	.952
Midnight -	.925	.818	.039	.928	.024	.034	.094	.079	.874	.791	.904	.949	.955
Means -	29.925	29.813	30.040	29.939	30.006	30.041	30.103	30.082	29.875	29.799	29.914	29.943	29.957

TABLE II.
MEAN TEMPERATURE OF THE AIR, at PRINCESS ROYAL ISLANDS, 1850 October to
1851 September, H.M.S. "INVESTIGATOR."

Hours.	1850.			1851.									Year.
	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	
2 a.m. -	-0.5	-9.9	-24.1	-31.9	-38.2	-31.8	-10.9	10.6	32.7	35.5	35.8	22.8	-0.8
4 " -	1.1	9.9	24.0	32.0	38.9	32.3	10.4	13.6	33.7	35.8	35.6	22.8	-0.6
6 " -	-0.9	10.0	23.7	32.9	39.4	32.2	8.2	17.3	35.0	36.3	36.2	23.5	+0.1
8 " -	+0.2	9.8	23.2	32.9	38.9	30.0	4.7	20.3	36.8	37.1	37.5	24.5	1.4
10 " -	1.3	10.5	22.5	31.7	37.4	26.4	-0.5	23.7	38.3	38.6	38.2	25.7	3.1
Noon -	1.9	10.3	23.0	32.1	35.6	24.3	+1.2	25.7	38.8	39.7	39.4	26.7	4.0
2 p.m. -	1.9	10.3	22.6	32.4	35.8	24.1	1.3	25.6	39.2	39.9	39.5	27.3	4.1
4 " -	1.6	10.3	22.6	32.2	36.8	25.2	+0.3	24.4	38.7	39.9	39.3	26.2	3.6
6 " -	+0.8	10.5	23.2	32.9	37.5	28.2	-2.1	21.1	37.0	38.5	38.9	25.4	2.3
8 " -	-0.5	10.2	23.4	33.1	38.3	30.2	6.1	18.1	35.8	37.5	37.9	24.4	1.0
10 " -	0.8	10.0	23.9	32.6	37.6	30.5	8.2	14.5	34.0	36.1	36.4	23.4	+0.1
Midnight -	-1.2	10.6	24.4	32.4	37.9	30.9	9.1	12.3	33.1	35.6	35.7	22.9	-0.6
Means -	+0.2	-10.2	-23.4	-32.4	-37.7	-28.8	-4.8	18.9	36.1	37.5	37.5	24.6	+1.5

TABLE III.
EXTREMES OF ATMOSPHERIC PRESSURE, WITH ACCOMPANYING TEMPERATURE, WIND, AND
WEATHER, at PRINCESS ROYAL ISLANDS, H.M.S. "INVESTIGATOR."

Month.	Date.	Highest.	Temp.	Wind.	Weather.	Date.	Lowest.	Temp.	Wind.	Weather.	Range.
October 1850	d. h. 4 10	inches. 30.22	-1	W.S.W. 1	c q	d. h. 29 20	inches. 29.49	-7	N.E. 6	c o s	inch. 0.73
November "	25 8	.27	1	N.E. 2	c o	5 8	.22	5	Calm	b	1.05
December "	3 6	.60	15	N.W. 4	b c m	21 20	.56	13	W. 5	c q s	1.04
January 1851	15 16	.60	33	W. 5	"	9 8	.44	28	Calm	b	1.16
February "	28 8	.66	51	N.E. 4	b c	14 12	.07	12	N.W. 2	c o	1.59
March "	22 4	.77	-22	" 1	b	13 8	.37	-15	N.E. 2	o s	1.40
April "	25 18	.68	0	W. 2	c	3 0	.49	+5	W. 7	c o c q	1.19
May "	12 20	.67	+15	S.W. 3	b c	7 12	.63	8	S.W. 5	o s	1.04
June "	0 16	.19	33	" 2	c	18 4	.52	39	" 4	o p	0.67
July "	1 8	.14	36	S. 3	b c	27 8	.50	36	N.E. 3	o c	0.64
August "	15 16	.44	31	N.E. 5	b c m	19 20	.43	50	" 3	c o c f	1.01
September "	16 16	30.34	+13	N.W. 3	c s	25 16	.49	+18	N.W. 3	b c m	0.85
Year -	March	30.77	-	-	-	Feb.	29.07	-	-	-	1.70

TABLE IV.
EXTREMES OF AIR TEMPERATURE, WITH ACCOMPANYING PRESSURE, WIND, AND WEATHER,
at PRINCESS ROYAL ISLANDS, H.M.S. "INVESTIGATOR."

Month.	Date.	Max.	Bar.	Wind.	Weather.	Date.	Min.	Bar.	Wind.	Weather.	Range.
October 1850	d. h. 14 4	+24	inches. 29.93	N.E. 1	b c	d. h. 31 12	-23	inches. 29.89	Calm	b c	0.47
November "	18 12	+7	.49	S.E. 6	"	29 20	32	30.24	W. 6	"	39
December "	6 0	-3	30.03	N.W. 2	c o c	31 0	39	.26	N.W. 3	c m	36
January 1851	6 16	16	29.57	Calm	c o c s	14 20	51	.38	Calm	b c	35
February "	13 10	9	.54	S.W. 6	c o c q	28 8	51	.66	N.E. 4	"	42
March "	25 20	-5	.65	W. 10	b c q	0 16	51	.71	S.W. 1	"	46
April "	17 0	+38	.70	S. 2	c o c u q	12 16	32	.16	N.E. 2	"	70
May "	31 0	47	30.15	N.E. 1	b c	11 14	-5	.06	E. 2	"	52
June "	7 0	48	29.65	S.E. 3	m c r	21 16	+27	29.83	N.E. 3	m	21
July "	23 0	52	.97	N.E. 1	b c	8 16	32	.75	N.W. 4	c	20
August "	19 4	52	.49	S.E. 3	c	30 16	21	.67	N.E. 1	"	31
September "	13 2	+43	.64	E.S.E. 6	c q	30 12	+1	30.20	N.W. 2	b c	42
Year -	- { July & Aug. }	+52	-	-	-	Feb.	-51	-	-	-	103

TABLE V.

SUMS OF WIND COMPONENTS, at PRINCESS ROYAL ISLANDS, H.M.S. "INVESTIGATOR,"
1850 October to 1851 September.

Hours.	October 1850.				November 1850.				December 1850.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m.	41.3	2.6	33.8	5.1	30.4	26.0	46.5	28.9	28.3	10.6	10.6	36.3
8 "	40.1	2.6	37.6	12.1	29.0	23.3	44.8	33.5	33.1	15.5	13.7	50.4
Noon	37.1	4.1	35.3	9.9	29.6	21.4	39.7	27.3	34.2	13.7	13.0	47.4
4 p.m.	25.9	18.9	27.2	13.9	28.3	18.9	41.3	19.9	31.8	18.3	16.0	46.6
8 "	22.9	11.6	25.3	12.2	25.7	20.5	41.4	20.8	30.4	16.9	14.6	39.2
Midnight	22.9	10.5	26.0	8.4	29.3	22.1	50.4	22.0	33.3	16.2	11.8	46.2
Means	31.9	8.4	30.9	10.3	28.7	22.0	44.0	25.4	31.8	15.2	13.3	44.3

(continued.)

Hours.	January 1851.				February 1851.				March 1851.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m.	34.7	8.0	7.5	54.7	18.4	17.5	6.4	40.5	18.9	14.9	11.8	41.0
8 "	38.9	9.2	9.9	52.2	18.0	17.0	8.1	34.9	15.9	17.5	10.2	43.2
Noon	36.0	9.0	15.9	52.8	26.0	19.8	10.9	41.9	23.9	25.6	17.5	43.0
4 p.m.	37.0	10.4	17.0	57.1	20.9	16.8	10.7	34.0	26.0	18.9	18.2	38.7
8 "	36.1	10.4	11.4	45.1	20.4	15.8	11.9	34.3	21.2	20.5	14.4	38.3
Midnight	33.4	11.3	18.6	37.1	20.0	15.5	4.9	33.6	22.6	21.0	14.9	38.5
Means	36.0	9.7	13.4	49.8	20.6	17.1	8.8	36.5	21.4	19.7	14.5	40.5

(continued.)

Hours.	April 1851.				May 1851.				June 1851.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m.	44.4	8.9	22.9	37.4	18.4	21.4	6.9	35.8	34.6	32.5	42.9	30.2
8 "	49.6	9.7	24.0	43.3	19.1	22.7	2.8	40.2	40.3	34.0	46.6	31.7
Noon	45.5	11.0	24.5	47.0	27.1	26.0	6.5	46.8	38.9	31.5	42.2	33.7
4 p.m.	41.8	12.8	21.5	45.1	28.6	20.1	4.1	45.3	33.0	37.4	45.1	32.3
8 "	48.4	14.0	21.6	43.8	25.4	21.0	9.3	40.8	33.0	36.0	44.1	32.9
Midnight	36.8	20.2	18.3	40.4	21.9	23.4	12.1	36.7	30.9	37.4	42.0	33.3
Means	44.4	12.8	22.1	42.8	23.4	22.4	7.0	40.9	35.1	34.8	43.8	32.4

TABLE V. (concluded).

SUMS OF WIND COMPONENTS at PRINCESS ROYAL ISLANDS, H.M.S. "INVESTIGATOR,"
1850 October to 1851 September.

Hours.	July 1851.				August 1851.				September 1851.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m.	38.5	16.8	35.2	31.1	21.4	27.1	25.7	51.2	31.0	27.4	27.4	53.1
8 "	36.3	16.2	34.7	33.9	20.8	32.1	17.2	44.7	23.5	40.1	19.9	49.3
Noon	33.3	17.9	31.0	37.3	23.8	22.2	16.9	42.6	25.5	29.9	21.5	44.2
4 p.m.	28.9	28.8	22.7	40.8	24.2	23.2	27.7	37.0	30.5	25.2	24.3	42.0
8 "	36.4	22.3	25.5	38.6	23.8	27.8	24.9	38.1	19.9	32.7	21.6	45.6
Midnight	35.6	24.5	26.2	38.6	17.1	24.8	26.3	37.7	23.5	28.6	26.7	43.0
Means	34.8	21.1	29.2	36.7	21.9	26.2	23.1	41.9	25.6	30.6	23.6	46.2

TABLE VI.

SUMS OF WIND COMPONENTS WITH RESULTANT WINDS, at
PRINCESS ROYAL ISLANDS, H.M.S. "INVESTIGATOR,"
1850 October to 1851 September.

Hours.	Components.				Resultants.	
	N.	S.	E.	W.	Direction.	Force.*
4 a.m.	360.3	213.7	277.6	445.3	N. 49 W.	221
8 "	364.6	239.9	269.5	469.4	N. 58 W.	236
Noon	380.9	232.1	274.9	473.9	N. 57 W.	237
4 p.m.	356.9	249.7	275.8	452.7	N. 59 W.	207
8 "	343.6	249.5	266.0	429.7	N. 60 W.	189
Midnight	327.3	255.5	278.2	413.5	N. 62 W.	153
Means	355.6	240.1	273.7	447.4	N. 56 W.	208

* These figures must be divided by 365 to obtain the mean force at the given hour.

TABLE VII.

MONTHLY RESULTANTS OF THE
WINDS, at PRINCESS ROYAL
ISLANDS, H.M.S. "INVESTIGATOR,"
1850 October to 1851 September.

Month.	Resultants.	
	Direction.	Force.†
October 1850	N. 41 E.	1.01
November "	N. 70 E.	0.66
December "	N. 62 W.	1.14
January 1851	N. 54 W.	1.45
February "	N. 83 W.	1.00
March "	N. 86 W.	0.84
April "	N. 33 W.	1.27
May "	N. 88 W.	1.10
June "	N. 88 E.	0.38
July "	N. 29 W.	0.51
August "	S. 77 W.	0.62
September "	S. 77 W.	0.77

† Force by Beaufort's scale.

TABLE VIII.

SUMMARY OF THE WINDS, referred to SIXTEEN POINTS, with MEAN FORCE (Scale 0-12), at PRINCESS ROYAL ISLANDS, H.M.S. "INVESTIGATOR."

Month.	No. of Observations.	N.		N.N.E.		N.E.		E.N.E.		E.		E.S.E.		S.E.		S.S.E.	
		O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.
October 1850.	186	11	2.7	—	—	67	3.0	—	—	12	3.2	2	1.0	2	1.5	—	—
November -	180	4	1.0	—	—	62	3.7	—	—	14	5.0	—	—	12	4.0	—	—
December -	186	1	1.0	—	—	31	3.1	—	—	3	1.0	3	1.0	2	2.0	—	—
January 1851.	186	3	3.0	—	—	19	3.0	2	5.0	6	4.3	—	—	—	—	2	1.5
February -	168	8	1.0	—	—	23	2.7	—	—	5	1.0	—	—	—	—	—	—
March -	186	—	—	—	—	53	2.0	—	—	2	1.0	—	—	6	1.0	—	—
April -	180	7	3.4	—	—	44	3.6	—	—	5	1.2	1	3.0	4	3.2	2	2.0
May -	186	2	1.0	—	—	20	1.5	—	—	8	1.6	—	—	6	1.7	—	—
June -	180	—	—	—	—	64	4.1	—	—	7	1.6	1	1.0	23	4.0	—	—
July -	186	1	3.0	4	5.2	62	3.0	10	3.4	1	3.0	1	2.0	—	—	—	—
August -	186	4	2.2	3	3.7	21	2.5	5	2.6	12	2.9	1	4.0	14	3.5	8	4.0
September -	180	8	2.0	10	2.5	4	2.0	9	1.5	11	2.3	12	5.6	10	3.3	—	—

(continued)

Months.	S.		S.S.W.		S.W.		W.S.W.		W.		W.N.W.		N.W.		N.N.W.		Variable.		No. of Calms.
	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	
October 1850.	10	1.4	4	3.0	10	2.7	5	2.0	9	2.5	8	2.4	2	2.0	—	—	2	1.0	42
November -	2	2.5	—	—	28	4.7	—	—	14	3.6	1	2.0	3	3.0	—	—	2	1.5	38
December -	4	1.0	—	—	34	3.3	2	1.0	20	3.1	1	2.0	52	3.2	—	—	5	2.2	28
January 1851.	1	1.0	—	—	30	2.4	2	—	30	2.9	—	—	47	4.7	1	2.0	12	1.2	33
February -	—	—	—	—	60	2.3	—	—	20	2.4	—	—	25	3.8	—	—	15	1.1	12
March -	3	1.0	—	—	55	2.7	—	—	22	3.8	—	—	21	3.1	—	—	14	2.1	10
April -	7	3.4	1	2.0	18	2.7	—	—	20	4.6	—	—	51	3.5	—	—	7	1.7	13
May -	11	2.1	—	—	41	3.3	6	4.0	4	2.0	2	2.0	67	2.4	—	—	3	1.0	16
June -	—	—	—	—	57	3.6	—	—	15	1.7	—	—	10	3.2	—	—	3	1.0	—
July -	7	2.1	3	2.3	39	2.7	18	3.7	15	2.4	1	2.0	18	3.3	—	—	5	1.4	1
August -	1	3.0	2	2.5	27	3.2	19	3.2	26	2.8	6	3.5	13	3.4	10	3.2	3	1.3	11
September -	6	2.3	3	4.3	31	4.7	4	2.2	9	4.1	11	5.3	34	3.1	1	2.0	9	1.4	8

TABLE IX.

SUMMARY OF WEATHER NOTATIONS made at PRINCESS ROYAL ISLANDS, H.M.S. "INVESTIGATOR," 1850 October to 1851 September.

H.M.S. INVESTIGATOR, 1850.																									
Hours.	October 1850.								November 1850.								December 1850.								
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	
4 a.m.	8	19	4	1	—	—	2	5	5	12	13	3	—	—	3	8	11	14	6	4	—	—	1	5	
8 "	7	16	8	3	—	—	3	3	6	8	16	4	—	—	2	9	11	9	11	3	—	—	2	10	
Noon	9	13	9	3	—	—	5	1	7	9	14	3	—	—	3	4	9	14	8	3	—	—	2	7	
4 p.m.	10	16	5	3	—	—	—	—	6	12	12	5	—	—	3	5	8	15	8	4	—	—	1	6	
8 "	9	19	3	2	—	—	1	3	7	13	10	3	—	—	2	6	10	13	8	4	—	—	1	7	
Mdn.	9	16	6	4	—	—	—	4	6	15	9	4	—	—	3	8	10	15	6	7	—	—	1.5	6.8	
Means	8.7	16.5	5.8	2.7	—	—	1.8	2.7	6.2	11.5	12.3	3.7	—	—	2.7	6.7	9.8	13.3	7.9	4.2	—	—	1.5	6.8	
Hours.	January 1851.								February 1851.								March 1851.								
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	
4 a.m.	7	13	11	4	—	—	2	10	13	13	2	3	—	—	—	4	11	17	3	8	—	—	—	8	
8 "	12	12	7	1	—	—	4	11	11	13	4	6	—	—	—	6	10	15	6	2	—	—	2	5	
Noon	8	11	12	—	—	—	1	12	11	16	1	5	—	—	1	7	11	15	5	4	—	—	3	7	
4 p.m.	8	16	7	2	—	—	1	13	9	17	2	4	—	—	1	5	11	15	5	3	—	—	3	5	
8 "	13	10	8	—	—	—	2	8	9	12	7	7	—	—	2	2	12	14	5	3	—	—	4	3	
Mdn.	11	12	8	2	—	—	4	6	10	12	6	8	—	—	1	1	11	15	5	4	—	—	1	4	
Means	9.8	12.4	8.8	1.5	—	—	2.3	10.0	10.5	13.8	3.7	5.5	—	—	0.8	4.2	11.0	15.2	4.8	4.0	—	—	2.2	5.3	
Hours.	April 1851.								May 1851.								June 1851.								
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	
4 a.m.	9	14	7	5	—	—	2	8	7	17	7	1	1	—	2	2	6	12	12	3	2	3	5	5	
8 "	9	13	8	2	—	—	3	9	6	15	10	3	2	—	7	2	7	13	10	5	2	5	1	4	
Noon	8	14	8	6	—	—	2	9	9	13	9	4	2	—	4	2	8	14	8	4	1	4	1	3	
4 p.m.	9	17	4	5	—	—	2	10	11	17	3	2	—	—	3	4	8	15	7	5	—	5	1	3	
8 "	10	13	7	6	1	—	1	11	12	17	2	1	—	—	2	3	8	16	6	3	1	3	1	3	
Mdn.	11	11	8	2	1	—	3	6	11	15	5	1	—	—	4	1	8	15	7	3	1	3	2	5	
Means	9.3	13.7	7.0	4.3	0.3	—	2.2	8.8	9.3	15.7	6.0	2.0	0.8	—	3.7	2.3	7.5	14.2	8.3	3.8	1.2	3.8	1.8	3.8	
Hours.	July 1851.								August 1851.								September 1851.								
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	
4 a.m.	7	11	13	7	2	3	4	6	6	16	9	6	2	2	2	8	4	15	11	6	1	1	7	10	
8 "	8	11	12	6	3	3	4	6	7	13	11	5	4	1	4	5	5	15	10	7	1	1	4	10	
Noon	8	14	9	7	2	1	3	3	8	10	13	4	3	1	4	4	4	14	12	7	1	2	5	12	
4 p.m.	8	14	9	5	2	4	2	2	7	13	11	4	3	2	1	5	4	16	10	8	2	2	2	6	
8 "	8	13	10	6	3	2	2	6	8	16	7	3	3	—	—	6	5	12	13	7	2	2	5	8	
Mdn.	8	12	11	5	3	2	4	5	7	16	8	1	3	—	1	6	4	12	14	7	1	2	6	11	
Means	7.8	12.5	10.7	6.0	2.5	2.5	3.2	4.7	7.2	14.0	9.8	3.8	3.0	1.0	2.0	5.7	4.3	14.0	11.7	7.0	1.3	1.7	4.8	9.5	

TABLE X.
MEAN TEMPERATURE of the SEA WATER at or near the PRINCESS ROYAL ISLANDS,
H.M.S. "INVESTIGATOR," year 1851.

Month.	2 a.m.	4 a.m.	6 a.m.	8 a.m.	10 a.m.	Noon.	2 p.m.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	Mdn.	Mean.
July 22nd to 31st	31°9	31°9	31°4	31°7	33°0	33°1	33°1	33°0	33°0	32°3	32°0	31°7	32°4
Aug. 1st to 30th	31°8	31°7	31°7	32°2	32°8	33°0	33°4	33°2	33°0	32°8	32°2	31°6	32°5

REMARKS from the LOG of H.M.S. "INVESTIGATOR."

1850.—OCTOBER.

- 5th, Midnight - Aurora to Sd.
6th, 8 p.m. - Aurora to Sd.
7th, 4 a.m. - Slight gleam of aurora.
7th, 8 p.m. - Aurora.
8th, 8 p.m. - Aurora very brilliant, extending from E. to W.
17th, Midnight - Faint aurora.
18th, Midnight - Paraselenæ on each side of the moon.
28th, 7 p.m. - Streaks of aurora to S.W.
28th, Midnight - Aurora in S.
29th, Noon - A parhelion E. and W. of sun. Killed five musk oxen.

NOVEMBER.

- 6th, Midnight - Aurora.
11th, 4 a.m. - Bright gleams of aurora in S.
11th, Midnight - Slight gleam of aurora.
19th, 8 p.m. - Faint streaks of aurora to S.W.
20th, 4 a.m. - Aurora visible to S.
21st, 4 a.m. - Halo round the sun.
22nd - Caught a fox.
22nd, 8 p.m. - Faint streaks of aurora to Sd.
23rd, 4 a.m. - Slight gleam of aurora to W.
29th, 8 p.m. - Aurora visible from S. to W.
30th, 4 a.m. - Slight gleams of aurora to S.
30th, 8 p.m. - Aurora visible in S.

DECEMBER.

- 2nd, 4 a.m. - Slight gleams of aurora to Sd.
3rd, 4 a.m. - Aurora to S.
4th, 8 p.m. - Faint streaks of aurora in N.W.
6th, 8 p.m. - Faint streaks of aurora in N.W.
7th, 8 a.m. - Faint streaks of aurora from E. to S.E.

- 8th, 4 a.m. - Faint aurora.
8th, 8 p.m. - Bright aurora in S.E.
9th, 4 a.m. - Aurora to S.
9th, 8 p.m. - Aurora in N.E.
10th, Midnight - Aurora very bright from S.E. to N.W.
11th, 4 a.m. - Gleams of aurora from S. to W.
11th, Midnight - Paraselenæ N. and S. of moon, also E. and W. of moon.
12th, 4 a.m. - Slight gleams of aurora in S.
12th, Midnight - Aurora in N.W.
14th, 4 a.m. - Aurora very brilliant at times in W.
15th, 4 a.m. - Aurora very bright in W.
19th, 4 a.m. - Aurora very faint in S.E.
20th, 8 p.m. - Aurora in E.
21st, 4 a.m. - Halo round the moon.
21st, 8 p.m. - Aurora from S. to N.W.
23rd, 4 a.m. - Halo round the moon.
23rd, 8 p.m. - Aurora very bright in S.E., faint in N.W.
26th, 4 a.m. - Aurora in N.W. and S.E.
29th, 10.40 p.m. - Aurora very brilliant from N. to S.
29th, 8 p.m. - Aurora to Sd.
30th, 4 a.m. - Aurora in S.W.
31st, 8 p.m. - Aurora faint in S.E., arched through the zenith.
Five foxes were caught during the month.

1851.—JANUARY.

- 3rd, Midnight - Aurora.
4th, 8 p.m. - Aurora to Sd.
5th, 4 a.m. - Slight aurora to Sd.
6th, 4 a.m. - Slight aurora to Ed.
9th, 8 p.m. - Aurora in W.
9th, Midnight - Aurora in S.W.
13th, 4 a.m. - Aurora to S.W.
14th, 4 a.m. - Aurora to S.
14th, 8 p.m. - Aurora to S.W.
15th, 4 a.m. - Aurora to S.E.
15th, 6 p.m. - Halo round the moon.
15th, 8 p.m. - Frozen mercury had thawed when the thermometer stood at -37° .
16th, 4 p.m. - Paraselenæ E. and W. of moon.
19th, 4 a.m. - Halo round the moon.
19th, 4 p.m. - Aurora in S.W.
20th, 4 a.m. - Aurora at times.
20th, Midnight - Aurora.
22nd, Midnight - Aurora to S.E.
25th, Midnight - Aurora.
26th, 8 a.m. - Aurora in E.
26th, Midnight - Aurora.
27th, 4 a.m. - Aurora in S.W. and E.
27th, 8 p.m. - Aurora very brilliant; arched from E. to W.
29th, Midnight - Faint aurora in S. Caught a fox.
30th, 4 a.m. - Aurora to S.

- 30th, 8 p.m. - Slight aurora in W.
 31st, 4 a.m. - Aurora in W.
 31st, 8 p.m. - Aurora in S.E. and N.W.

FEBRUARY.

- 2nd, 8 a.m. - Aurora in W.
 4th, 4 a.m. - Faint aurora to the S.
 5th, 4 a.m. - Aurora to Sd.
 6th, 8 p.m. - A circle round the moon.
 7th, 4 a.m. - Faint aurora in S.
 8th, 4 a.m. - Aurora in W.
 8th, Midnight - Faint aurora.
 10th, 4 a.m. - Gleams of aurora in W.
 12th, 4 a.m. - Paraselenæ E. and W. of moon.
 13th, 4 a.m. - Halo round the moon.
 16th, 4 a.m. - Paraselenæ on each side of moon.
 16th, Midnight - Paraselenæ.
 19th, 8 p.m. - Aurora.
 20th, 4 a.m. - Paraselenæ E. and W. of moon.
 21st, 4 a.m. - Aurora.
 22nd, 8 p.m. - Faint aurora in S.
 23rd, 4 a.m. - Aurora to Sd.
 23rd, Noon - Thermometer upon black surface, exposed to sunshine, -14° , in shade, -50° .
 23rd, Midnight - Aurora from E. and W.
 24th, Midnight - Aurora.
 25th, 8 p.m. - Aurora in S.E. and W.
 26th, 4 a.m. - Aurora in W.
 26th, 4 p.m. - Temperature in sunshine -12° , in shade -47° . Midnight, aurora to S.
 27th, Midnight - Aurora to S.W.
 28th, 4 a.m. - Aurora to S.

Two wolves and two seals were seen during the month.

MARCH.

- 1st, Midnight - Aurora in S.E.
 2nd, 4 a.m. - Aurora in N. and S.
 2nd, Noon - Thermometer in sunshine -9° , in shade -30° .
 11th, 4 a.m. - Aurora to S.
 17th, Noon - Thermometer in sunshine $+9^{\circ}$, in shade -32° .
 19th, 2 p.m. - Temperature in sunshine $+4^{\circ}$, in shade -33° .
 22nd, Noon - Temperature in sunshine $+22^{\circ}$, in shade -22° .
 24th, Midnight - Faint aurora in S.
 30th, 4 p.m. - Aurora in S.
 31st, 4 a.m. - Aurora in S.

Three foxes were caught during the month.

APRIL.

- 3rd, Midnight - Aurora to Wd.
 11th, Noon - Temperature in sunshine $+19^{\circ}$, in shade -15° .
 25th, 2 p.m. - Temperature in sunshine $+23^{\circ}$, in shade $+6^{\circ}$.

Two bears and a raven were seen during the month.

MAY.

During the month two bears were shot, three foxes and one seal caught; and one bear, two wolves, one snow owl, and a gull were seen.

JUNE.

During the month three bears, a flock of thirteen swans, a gull, and a snowy owl were seen.

JULY.

- 22nd - Several seals seen.
 26th - Several reindeer on shore.

AUGUST.

- 2nd - A musk ox and eight reindeer on shore.
 4th - Lat. $73^{\circ} 6'$, long. $115^{\circ} 58'$.
 7th - " $73^{\circ} 5'$, " $116^{\circ} 15'$.
 13th - " $73^{\circ} 14'$, " $115^{\circ} 32'$.
 16th - Off Princess Royal Islands.
 17th - South of Baring Island. Several whales and two bears seen.
 18th - Off Point Kellett. Driftwood; two swans and five geese on the beach. Several flocks of ducks seen.
 19th - Lat. $73^{\circ} 55'$, long. $123^{\circ} 52'$. Off Robilliard Island. Several flocks of swans, and three bears on the land.
 20th - Off Gore Island.
 24th - Ptarmigan and fox seen close to the ship.
 27th - Flock of ducks passed near the ship.

SEPTEMBER.

- 2nd - A snowy owl seen. A flock of ducks passed the ship.
 5th - Shot a falcon.
 9th - A bear and two cubs seen.
 10th - Lat. $74^{\circ} 25'$, long. 122° .
 11th - Off Cape Colquhoun.
 12th - A flock of ducks passed the ship.
 16th - Two bears passed near the ship.
 19th - Off Cape Wrottesley.
 20th - Off Cape Austin.
 22nd - Off Cape Crozier. A whale seen.
 23rd - Entered the Bay of Mercy.
 27th - Three ducks seen.
 28th, Midnight - Aurora to Sd.
 30th, 4 a.m. - Aurora to Sd.
 30th, 8 a.m. - Parhelion W. of sun.
 30th, 8 p.m. - Faint line of aurora from N.W. to S.

No. XXVII.

Results of Meteorological Observations made in Mercy Bay.

H.M.S. "INVESTIGATOR" arrived in Mercy Bay on September 23rd, 1851, and was abandoned there in May 1853.

The documents which have furnished the observations at Princess Royal Islands have also supplied those taken in Mercy Bay, and the remarks on the instruments and methods made on page 413 apply here.

The ship's position was latitude $74^{\circ} 6' N.$, longitude $117^{\circ} 55' W.$ Sir A. Armstrong describes the Bay as "irregularly funnel-shaped in appearance 15 miles deep, and 7 broad at its entrance; about this were numerous shoals on which the ice was grounded; those on either shore were separated from it by a channel of considerable depth. From the points that flanked the entrance we had taken up a position 9 miles distant in 4 fathoms water, and about 600 yards from its western shore—the Bay itself presented a northerly aspect. In it we found that the compass had a variation of 112° easterly. It required, therefore, a combination of the most favourable circumstances to free it from its ice." During winter the sun was absent 91 days.

Table I. contains the bi-hourly means for each month and for the completed year, of the atmospheric pressure. The greatest mean monthly pressure was 30.174 in March, the least 29.771 in July. The pressure seems to be normally high in this region. The mean for the year is 29.970 inches. The diurnal range of pressure from a year's observations exhibits a single fluctuation, having a maximum about 5 a.m. and a minimum at 10 p.m., its amplitude being $.012$ inch.

Table II. contains the bi-hourly means for each month and for the completed year, of the temperature of the air. The warmest month was July, $36^{\circ}.7$; the coldest January 1853, $-43^{\circ}.8$; so that the mean range of temperature was $80^{\circ}.5$. The mean temperature of the year was $1^{\circ}.5$; but the mean annual temperature for the entire series of observations was below zero. The second was more severe than the first winter.

Table III. gives the monthly extremes of atmospheric pressure, with the temperature, wind, and weather at the same times. The barometer attained 31 inches at the end of February and the beginning of March 1852, highest 31.07 , and fell to 29.03 in December 1852, thus ranging through 2.04 inches. With the highest extremes of the barometer the temperatures were if anything lower, and the weather finer, than with the lowest.

Table IV. exhibits the maximum and minimum temperature of the air in each month, with the atmospheric pressure, the wind, and the weather at the times when they occurred. The absolute maximum temperature during the period was 52° , which was registered in August. The absolute minimum, -65° , was registered in January 1853. Thus the extreme range was 117° . The maximum temperatures have generally a lower barometer, greater force of wind, and not such fine weather as the minimum. The monthly range of the thermometer was smallest in July, and largest in March; it appears to have a minimum amplitude in the height of summer, and a maximum amplitude during the months of March, April, and May, being from 10 to 20 degrees greater than during the winter.

Table V. contains the wind components of each month.

Table VI. contains the sums of the wind components for the year ending September 1852 and the period following ending May 1853. From these components the resultants of the wind for four-hourly periods have been calculated. These show that the resultant direction is about $N. 80^{\circ} W.$, without any decided indication of diurnal range, probably because the direction of the winds was not well observed. As regards estimated force, there seems to be a maximum about 4 p.m. and a minimum about 4 a.m.

Table VII. contains the monthly resultants of the winds calculated from the means of the components in Table V. Only one month's resultant is from S.E., October 1851, and one from N.E., April 1852, and in each the resultant force is feeble. From the S.W. there are seven, and from N.W. eleven. The flow of air during summer is from the N.W.

Table VIII. summarises the winds of each month so as to show their distribution in azimuth, with their mean force. From May to September inclusive the prevalent winds are N.W. The winds of March and April are from N. and S., of little strength, and frequent variable light airs; of October, S.E. and S.W. and variables. November, December, January, and February have prevalent winds from S.W. and N.W., and of greater force than the summer winds.

Winds of force 8 and higher grades were recorded as follows:—

Year 1851.—October none, November 1, December 21.

Year 1852.—January 19, February 7, March 1, April and May none, June 4, July 2, August 1, September 4, October none, November 11, December 10.

Year 1853.—January 22, February 2, March 7, April none, May 5.

Table IX. summarises the weather notations for four-hourly periods in each month. The clearest month was December 1851, the most overcast, June 1852. Fog was only recorded in the summer, chiefly in August. Snow fell in every month, but was more frequent in April, May, June, September, and October than in the other months.

Table X. contains the results of the observations on the temperature of the sea.

Thickness of Ice.—The mean thickness of ice from measurements in several (usually four or five) places was on—

			Feet.	Inches.				Feet.	Inches.
1851	November 3rd	-	1	6	1852	November 1st	-	1	6
1852	March 1st	-	5	5½	1853	January 1st	-	4	4
"	April 1st	-	6	4	"	February 2nd	-	5	11
"	May 1st	-	6	8	"	March 6th	-	6	8
"	June 1st	-	6	10	"	April 30th	-	7	2
"	July 1st	-	7	1					

The following quotations are from Sir A. Armstrong's Personal Narrative:—

November 3rd, 1851. "Towards midnight the officer on watch (Mr. Wynniatt) reported that he saw a flash of sheet lightning in the north-west, and two men who were on deck at the time fully corroborated the statement. I am not aware that lightning has before been seen in such a high latitude at this season, with the temperature at -10° , and consider the phenomenon worthy of being recorded. The sky was quite dark, both before and after its appearance, nor was there the slightest gleam of aurora visible."

"The morning of November 7th was clear and calm, but a South-westerly gale set in in the course of the day, the barometer having previously foretold the change, and in the short space of two hours (from 4 to 6 p.m.) the temperature rose from -18° to -1° , and in the four subsequent hours to $+8^{\circ}$, the sky at the same time cloudy and overcast. These changes succeeding each other in such a short space of time were rather remarkable, which we attributed to the influence of the warm air brought up by the wind from the southward."

"The usual winter atmospheric phenomena were present, the barometers rose to a great height on several occasions, and showed indications contrary to those generally observed under the same influence in temperate climates. On November 14th, during a calm with occasional light Northerly winds, and a temperature of -20° , the marine barometer rose to 30.79 inches—a natural consequence from the character of the wind and weather. Whereas from 27th to 30th during the prevalence of Southerly winds, with a cloudy overcast sky and snow, and with a temperature varying from -18° to -40° , they rose equally as high as on the 14th; and contrary to usual observation, the temperature fell instead of rising with the Southerly winds, which may be attributed to these winds having lost all their warmth in blowing over such a vast extent of snow-covered land to the southward."

"In January 1853 the temperature fell lower than has ever been experienced by any former expedition, to 65° below zero, and in the interval of the usual period for taking the observations it fell to 67° , and the force of the wind was likewise greater. The mean temperature of the month was $43^{\circ}8$ below zero, lower than we had known it during any former winter, and, I believe, surpassing in degree anything recorded in former Polar voyages. January 6th was the coldest day that has ever been known in these latitudes; the mean temperature for twenty-four hours was $61^{\circ}6$ below zero; and in the twenty-four subsequent hours $56^{\circ}7$, from which some idea may perhaps be formed of the intensity of the cold during this the coldest of the cold winter months."

TABLE I.
MEAN ATMOSPHERIC PRESSURE, at MERCY BAY, H.M.S. "INVESTIGATOR."

MEAN ATMOSPHERIC PRESSURE, at MERCY BAY, N.H.S.														
Hours.	1851.			1852.									Year.	
	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.		
	inches.	inches.	inches.	inches.	inches.	inches.	inches.	inches.	inches.	inches.	inches.	inches.		
2 a.m.	29.945	30.153	30.115	29.912	29.849	30.194	30.130	30.051	29.822	29.762	29.877	29.865	29.973	
4 "	.948	.158	.117	.915	.853	.193	.126	.052	.821	.764	.881	.868	.975	
6 "	.950	.162	.115	.919	.857	.192	.126	.050	.819	.766	.876	.864	.975	
8 "	.945	.161	.113	.911	.860	.187	.120	.049	.818	.769	.877	.860	.972	
10 "	.944	.164	.104	.910	.862	.181	.120	.050	.815	.771	.876	.862	.972	
Noon	.944	.161	.095	.903	.864	.170	.119	.045	.811	.773	.878	.861	.969	
2 p.m.	.940	.166	.096	.905	.872	.164	.117	.040	.813	.774	.880	.858	.969	
4 "	.940	.172	.089	.900	.878	.162	.113	.040	.817	.778	.878	.862	.969	
6 "	.934	.171	.094	.897	.880	.169	.108	.037	.814	.779	.873	.861	.968	
8 "	.934	.170	.094	.888	.887	.164	.108	.037	.814	.776	.869	.853	.966	
10 "	.937	.168	.090	.880	.891	.154	.113	.038	.811	.768	.864	.846	.963	
Midnight	.944	.169	.090	.882	.894	.159	.118	.041	.816	.770	.866	.851	.967	
Means	29.942	30.165	30.101	29.902	29.871	30.174	30.118	30.044	29.816	29.771	29.875	29.859	29.970	

Hours.	1852.			1853.				
	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	(1 to 22) May.
	inches.	inches.	inches.	inches.	inches.	inches.	inches.	inches.
2 a.m.	30.039	30.040	29.999	29.811	30.138	30.099	30.125	30.133
4 "	.042	.036	.995	.813	.140	.101	.122	.132
6 "	.045	.029	.993	.809	.138	.108	.125	.130
8 "	.046	.025	.988	.807	.133	.105	.124	.124
10 "	.045	.024	.982	.810	.131	.104	.120	.117
Noon	.043	.020	.976	.800	.131	.103	.114	.107
2 p.m.	.044	.017	.978	.796	.133	.107	.114	.102
4 "	.043	.021	.980	.797	.138	.107	.119	.100
6 "	.040	.028	.974	.792	.133	.099	.122	.098
8 "	.043	.031	.974	.796	.139	.094	.121	.098
10 "	.045	.028	.975	.792	.145	.096	.132	.099
Midnight	.050	.035	.980	.805	.152	.095	.137	.102
Means	30.044	30.028	29.983	29.802	30.138	30.101	30.123	30.112

TABLE II.
MEAN TEMPERATURE OF THE AIR, at MERCY BAY, H.M.S. "INVESTIGATOR."

Hours.	1851.			1852.									Year.
	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	
2 a.m.	2.3	-13.0	-18.5	-27.6	-25.4	-32.8	-7.8	1.3	26.2	34.1	30.9	19.2	-0.9
4 "	2.3	13.5	19.1	28.1	25.6	32.6	7.9	3.2	27.7	34.8	31.1	18.6	-0.8
6 "	2.4	14.2	19.3	28.8	26.0	32.7	4.5	7.7	30.7	35.4	31.8	18.2	+0.1
8 "	2.7	14.8	19.9	28.9	26.4	29.5	-1.1	10.6	33.0	36.7	32.5	19.2	1.2
10 "	4.5	14.8	20.0	27.4	26.7	24.8	+2.9	13.7	35.3	38.3	34.4	21.0	3.0
Noon	6.0	14.8	20.1	26.8	25.7	21.6	4.6	16.6	35.4	39.2	35.5	21.9	4.2
2 p.m.	5.7	15.4	19.7	26.4	24.6	20.5	6.5	17.9	35.3	39.5	36.0	22.4	4.7
4 "	4.0	15.6	20.5	26.5	25.9	23.3	5.4	17.7	34.8	39.1	35.2	21.7	3.8
6 "	2.9	15.1	21.1	27.4	26.9	28.5	+1.7	15.6	33.0	37.8	34.6	20.8	2.3
8 "	2.3	14.1	21.5	27.2	25.6	31.2	-3.2	11.0	30.7	36.5	33.2	19.6	+0.9
10 "	2.6	13.6	20.6	26.4	25.3	31.9	5.9	5.4	28.5	35.0	32.3	19.6	0.0
Midnight	2.1	13.6	19.8	26.4	25.4	32.0	-7.1	2.5	26.8	34.1	31.5	19.2	-0.7
Means	3.3	-14.4	-20.0	-27.3	-25.8	-28.4	-1.4	10.3	31.4	36.7	33.2	20.1	+1.5

Hours.	1852.			1853.				
	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	(1 to 22.) May.
2 a.m.	-6.8	-16.2	-25.3	-43.8	-38.8	-30.4	-13.7	6.3
4 "	6.9	16.3	25.5	43.7	38.8	30.0	13.8	8.2
6 "	6.4	16.2	26.1	43.5	39.5	29.6	8.8	12.2
8 "	5.9	15.8	26.0	43.4	39.5	26.4	-3.0	16.9
10 "	5.1	14.4	26.3	43.5	38.4	21.9	+3.5	20.9
Noon	3.0	15.1	26.0	43.5	36.7	19.0	7.6	22.9
2 p.m.	2.8	16.1	26.5	43.4	36.6	17.7	7.0	23.3
4 "	4.4	17.7	27.3	43.7	37.5	21.1	4.5	20.4
6 "	6.5	18.5	27.1	44.6	39.1	25.1	+0.8	18.6
8 "	6.7	18.1	25.4	44.5	39.0	26.8	-7.1	14.5
10 "	6.5	17.2	25.8	44.0	39.1	28.0	11.6	10.0
Midnight	6.4	17.1	25.8	43.8	38.8	28.4	-13.7	7.7
Means	-5.6	-16.6	-26.1	-43.8	-38.5	-25.4	-4.0	15.2

TABLE III.
EXTREMES OF ATMOSPHERIC PRESSURE, with accompanying TEMPERATURE, WIND, and WEATHER, at MERCY BAY, H.M.S. "INVESTIGATOR."

Month.	Date.	Highest.	Temp.	Wind.	Weather.	Date.	Lowest.	Temp.	Wind.	Weather.	Range.
1851.	d. h.	inches.	°			d. h.	inches.	°			inch.
October	24 0	30.29	-11	N.E. 1	b c m	15 20	29.36	+23	S.W. 5	c	0.93
November	28 8	.80	29	S. 4	e	8 16	.70	-2	S.W. 1	o c	1.10
December	1 18	.88	22	S.W. 3	c q	27 12	.54	24	S.W. 4	b c q	1.34
1852.											
January	15 12	30.65	35	N.W. 1	b	31 12	.32	5	N.W. 2	b m s	1.33
February	29 12	31.03	32	S.E. 3	b c m	1 0	.13	-1	N.N.E. 5	c q s	1.90
March	1 0	31.07	-22	S.S.E. 2	b e v	5 2	.46	0	S.W. 3	o	1.61
April	24 4	30.46	+10	N.N.E. 3	o c s	14 0	.57	+12	N.W. 1	b c m q	0.89
May	20 16	.31	-3	Calm	b	4 2	.65	5	N. 6	b c	0.66
June	6 12	.16	+16	"	b c	14 8	.49	28	N.N.W. 7	o c s	0.67
July	31 12	.05	32	N.W. 4	c m	18 20	.42	37	Variable 1	c r	0.63
August	2 0	.22	34	N.W. 5	c m q	16 14	.45	38	S.S.W. 6	o c r q	0.77
September	9 16	.17	+24	W. 4	e q	28 16	.14	+4	N. 1	c m s	1.03
October	29 8	.34	-6	N. 2	c m s	0 14	.49	-8	N. 1	b c	0.85
November	7 12	.73	14	N.N.W. 3	b c m	10 0	.55	10	N.N.W. 6	o c q	1.18
December	16 10	.69	29	N.N.W. 1	"	28 20	.03	4	S. 5	o c q s	1.66
1853.											
January	13 16	.17	36	S.W. 7	b e q	1 0	.23	32	S.W. 4	o c s	0.94
February	5 12	.62	45	N. 1	b c m	0 16	.47	37	N.W. 8	b e q	1.15
March	6 4	.77	-34	N.E. 4	b c	27 16	.58	-31	N. 1	o m	1.19
April	28 6	.82	+8	S.E. 2	b e v	12 12	.68	+8	S.W. 1	"	1.14
May, 1st-22nd	7 6	30.59	+14	N. 4	b v	18 16	29.51	+34	S.E. 2	c	1.08
Period	March	31.07	-	-	-	Dec.	29.03	-	-	-	2.04

TABLE IV.

EXTREMES OF TEMPERATURE, with accompanying PRESSURE, WIND, and WEATHER, at
MERCY BAY, H.M.S. "INVESTIGATOR."

Month.	Date.	Max.	Bar.	Wind.	Weather.	Date.	Min.	Bar.	Wind.	Weather.	Range.
1851.	d. h.		inches.			d. h.		inches.			
October -	15 0	+25	29.50	N.E. 1	es	18 16	-23	30.02	Calm	bc	48
November -	8 4	10	.70	S.W. 4	bcmq	27 20	39	.74	"	b	49
December -	16 20	11	.94	W. 6	os	7 20	44	.01	S. 3	"	55
1852.											
January -	10 4	+8	.70	S.E. 4	oq	3 8	51	30.11	Calm	"	59
February -	1 0	-1	.13	N.N.E. 5	eqs	13 16	47	29.65	S. 1	bc	46
March -	4 22	+5	29.51	S.W. 4	oqs	20 16	50	30.03	Calm	bm	55
April -	16 2	31	30.16	S.S.E. 2	bc	3 16	38	.28	"	bc	69
May -	18 0	37	29.72	Var'ble 1	ocm	2 16	-25	30.04	"	b	62
June -	16 4	48	.75	N.E. 1	cf	2 14	+11	29.96	N.E. 1	bc	37
July -	24 4	49	.86	S. 5	bceq	11 14	30	29.78	N. 1	bcm	19
August -	13 2	52	.72	" 2	bc	25 18	+19	30.03	N.N.W. 1	"	33
September -	5 4	38	.70	S.S.W. 5	bceq	30 8	-4	29.40	Var'ble 1	bc	42
October -	4 0	14	29.87	S.W. 4	msq	30 10	33	30.20	Calm	cm	47
November -	17 0	+9	30.06	S.E. 1	cms	26 8	43	29.96	Var'ble 1	bc	52
December -	28 20	-4	29.03	S. 5	oeqs	3 10	48	.90	" 1	"	44
1853.											
January -	29 22	16	.57	S.W. 7	cms	6 4	65	29.80	N.W. 4	bcm	49
February -	17 4	-13	29.97	N.E. 2	cm	11 8	57	30.10	S.W. 1	"	44
March -	22 0	+13	30.32	N.W. 2	ocs	13 14	58	.28	S. 1	b	71
April -	21 2	28	29.89	E. 4	cm	8 16	41	.04	" 1	"	69
May 1st to 22nd -	18 2	+47	29.60	S.E. 1	bc	1 14	-20	30.39	S.W. 1	bc	67
Period -	Aug.	+52	—	—	—	—	-65	—	—	—	117

TABLE V.
SUMS OF WIND COMPONENTS, at MERCY BAY, H.M.S. "INVESTIGATOR," 1851 October
to 1853 May.

Hours.	October 1851.				November 1851.				December 1851.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m. -	19.7	29.0	26.2	18.8	23.7	17.9	6.8	26.0	38.2	58.9	5.0	64.6
8 " -	17.8	29.2	26.4	18.6	30.1	15.7	5.6	29.4	29.7	66.5	7.3	62.7
Noon -	20.0	22.1	19.9	18.0	22.8	18.7	5.8	34.5	40.7	54.8	2.3	72.3
4 p.m. -	21.6	29.0	26.2	16.7	23.7	20.5	4.9	32.3	41.7	50.8	1.5	72.8
8 " -	13.0	25.4	22.0	14.9	22.9	21.4	4.2	29.9	35.8	48.4	3.6	58.9
Midnight -	14.2	31.0	22.7	22.0	21.1	25.0	8.4	32.2	35.2	56.7	3.1	56.9
Means -	17.7	27.6	23.9	18.2	24.0	19.9	5.9	30.7	36.9	56.0	3.8	64.7
Hours.	January 1852.				February 1852.				March 1852.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m. -	26.8	52.1	16.0	40.9	36.2	21.5	9.1	39.2	12.7	34.6	7.6	23.2
8 " -	25.3	49.0	12.5	43.7	45.4	24.7	7.9	47.0	11.9	36.2	5.0	26.0
Noon -	36.3	52.4	10.6	44.4	35.3	30.2	7.9	44.1	14.1	33.1	4.6	30.9
4 p.m. -	32.8	53.5	10.1	54.2	34.7	30.4	10.6	50.3	21.1	27.9	6.0	28.5
8 " -	21.5	45.0	7.4	41.2	32.7	27.9	10.9	40.7	15.7	24.0	8.7	24.3
Midnight -	23.8	56.5	12.5	51.8	32.3	26.9	10.5	48.9	21.5	29.6	3.5	35.1
Means -	27.7	51.4	11.5	46.0	36.1	26.9	9.5	45.0	16.2	30.9	5.9	28.0
Hours.	April 1852.				May 1852.				June 1852.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m. -	18.4	25.8	20.7	10.6	42.0	15.6	4.4	43.0	47.7	16.7	15.8	46.7
8 " -	24.9	21.0	20.1	15.2	42.7	19.5	6.1	32.8	47.6	16.3	11.1	39.8
Noon -	29.5	25.1	24.4	13.6	34.1	26.4	9.6	33.0	44.3	26.3	14.3	45.1
4 p.m. -	37.0	26.8	24.7	19.2	36.0	18.7	8.3	35.1	53.9	24.0	14.2	42.8
8 " -	40.2	27.8	24.2	18.9	37.7	14.2	9.2	38.7	55.0	19.9	12.9	41.8
Midnight -	40.4	21.7	19.6	14.5	30.4	12.9	3.6	31.6	56.0	22.7	8.0	45.8
Means -	31.7	24.7	22.3	15.3	37.1	17.9	6.9	35.7	50.7	21.0	12.7	43.7
Hours.	July 1852.				August 1852.				September 1852.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m. -	46.6	12.5	1.5	40.2	39.1	16.3	4.1	38.1	41.5	18.2	4.7	59.4
8 " -	57.0	22.3	4.2	39.3	36.3	16.4	9.7	35.2	44.0	17.3	5.0	56.9
Noon -	57.2	18.6	4.2	38.8	46.8	18.7	11.3	39.2	47.5	23.0	2.6	60.9
4 p.m. -	60.2	17.3	0.5	48.4	49.8	12.7	10.5	43.4	58.1	31.1	3.1	60.7
8 " -	66.2	13.3	8.6	53.3	60.7	11.3	6.0	37.5	58.4	31.6	1.7	49.3
Midnight -	47.9	9.1	3.8	37.0	42.7	18.0	5.9	40.8	39.9	29.7	6.7	45.9
Means -	55.8	15.5	3.8	42.8	45.9	15.6	7.9	39.0	48.2	25.1	4.0	55.5

TABLE V.—*continued.*SUMS of WIND COMPONENTS at MERCY BAY, H.M.S. "INVESTIGATOR," 1851 October to 1853 May—*continued.*

Hours.	October 1852.				November 1852.				December 1852.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m.	25.5	32.6	6.0	25.8	37.5	23.9	25.1	16.7	74.0	34.5	12.3	19.9
8 "	29.1	24.1	4.9	32.2	42.5	35.2	30.6	27.9	61.1	41.1	9.9	54.1
Noon	28.2	27.3	7.6	22.9	52.1	23.8	25.5	29.1	50.1	38.7	5.3	37.0
4 p.m.	21.1	30.4	15.1	23.9	57.8	18.7	21.4	28.7	38.9	45.4	3.7	35.6
8 "	22.1	31.3	10.7	22.9	46.4	16.6	12.5	23.0	52.1	46.5	6.4	23.1
Midnight	28.3	37.3	13.0	28.7	51.0	17.9	16.5	21.0	55.8	54.0	10.7	33.2
Means	25.7	30.5	9.5	26.1	47.9	22.7	21.9	24.4	55.3	43.4	8.0	33.8

Hours.	January 1853.				February 1853.				March 1853.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m.	26.5	71.8	8.4	78.9	37.6	26.4	10.1	30.4	18.4	34.5	2.1	39.3
8 "	21.7	70.4	7.7	77.5	36.6	25.7	9.4	30.4	25.8	39.5	4.9	47.4
Noon	15.8	79.2	14.8	73.4	44.3	22.6	16.4	33.8	27.7	38.2	4.2	46.7
4 p.m.	23.0	79.6	13.5	75.4	46.0	20.5	16.4	32.1	27.7	30.2	8.4	32.5
8 "	24.7	77.2	14.3	73.6	41.3	15.9	13.6	24.2	26.9	25.0	3.9	30.4
Midnight	33.8	76.2	9.6	84.2	32.6	16.9	12.2	20.2	24.5	29.6	4.6	33.9
Means	24.2	75.7	11.4	77.2	39.7	21.3	13.0	28.5	25.2	32.8	4.7	38.4

Hours.	April 1853.				May 1853.			
	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m.	12.1	40.8	14.1	23.8	62.8	14.3	13.6	52.7
8 "	10.5	42.7	12.7	21.7	62.2	16.4	15.0	48.6
Noon	17.2	44.8	16.7	21.3	68.7	21.4	16.5	55.8
4 p.m.	22.2	45.6	10.9	26.7	76.7	20.3	16.1	61.1
8 "	27.2	53.1	14.8	30.3	75.7	22.2	20.1	57.0
Midnight	31.2	42.4	12.7	24.7	72.2	17.6	17.7	48.8
Means	20.1	44.9	13.6	24.7	69.7	18.7	16.5	54.0

TABLE VI.

SUMS of WIND COMPONENTS, with RESULTANT WINDS, at MERCY BAY, H.M.S. "INVESTIGATOR."

For the year ending 1852 September:—

Hours.	Components.				Resultants.	
	N.	S.	E.	W.	Direction.	Force.*
4 a.m.	392.6	319.1	121.9	450.7	N. 77 W.	336
8 "	412.7	334.1	120.9	446.6	N. 76 W.	336
Noon	427.6	349.4	117.5	474.8	N. 78 W.	366
4 p.m.	470.6	342.7	120.6	504.4	N. 71 W.	406
8 "	459.8	310.2	119.4	449.4	N. 66 W.	362
Midnight	405.4	339.8	108.3	462.5	N. 79 W.	360
Means	428.1	332.5	118.1	464.7	N. 75 W.	360

* These figures must be divided by 365 to get the mean force at the given hour.

For the period ending 1853 May:—

Hours.	Components.				Resultants.	
	N.	S.	E.	W.	Direction.	Force.*
4 a.m.	294.4	278.8	91.7	287.5	N. 85 W.	196
8 "	289.5	295.1	95.1	339.8	S. 89 W.	245
Noon	304.1	296.0	107.0	320.0	N. 88 W.	213
4 p.m.	313.4	290.7	105.5	316.0	N. 84 W.	212
8 "	316.4	287.8	96.3	284.5	N. 81 W.	190
Midnight	329.4	291.9	96.0	294.7	N. 79 W.	202
Means	307.8	290.1	98.6	307.1	N. 85 W.	209

* These figures must be divided by 244 to get the mean force at the given time.

TABLE VII.

MONTHLY RESULTANTS OF THE WIND, at MERCY BAY, H.M.S. "INVESTIGATOR," 1851 October to 1853 May.

Months.	Resultants.	
	Direction.	Force.*
October 1851	S. 30 E.	0.37
November "	N. 80 W.	0.84
December "	S. 72 W.	2.05
January 1852	S. 56 W.	1.35
February "	N. 75 W.	1.28
March "	S. 56 W.	0.84
April "	N. 45 E.	0.33
May "	N. 56 W.	1.12
June "	N. 46 W.	1.43
July "	N. 44 W.	1.81
August "	N. 46 W.	1.40
September "	N. 66 W.	1.88
October "	S. 74 W.	0.56
November "	N. 6 W.	0.84
December "	N. 65 W.	0.92
January 1853	S. 52 W.	2.69
February "	N. 39 W.	0.84
March "	S. 77 W.	1.11
April "	S. 24 W.	0.90
May "	N. 36 W.	2.05

* In grades of Beaufort's scale.

TABLE VIII.

SUMMARY OF WINDS, referred to SIXTEEN POINTS, with MEAN FORCE (Scale 0 to 12), at MERCY BAY, H.M.S. "INVESTIGATOR," 1851 October to 1853 May.

Month.	No. of Observations.	N.		N.N.E.		N.E.		E.		E.S.E.		S.E.		S.S.E.		S.		S.S.W.		W.S.W.		W.		W.N.W.		N.W.		N.N.W.		Variable.		Calms.
		O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.			
1851.																																
October	186	11	1.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
November	180	8	2.6	1	1.0	11	2.5	1	3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19	
December	186	1	2.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	38	
1852.																																
January	186	7	2.1	2	1.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	
February	174	17	2.7	3	4.7	4	3.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22	
March	186	11	1.1	2	2.0	3	3.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16	
April	180	28	1.6	13	4.8	15	3.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21	
May	186	28	2.4	5	2.4	6	2.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18	
June	180	18	3.3	1	4.0	24	2.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10	
July	186	18	2.8	3	3.3	2	2.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	
August	186	39	2.7	8	2.5	5	2.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	
September	180	35	2.9	3	4.0	2	1.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	
October	186	32	1.8	1	5.0	6	4.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	
November	180	17	3.0	8	2.0	7	2.9	6	5.3	4	4.5	1	7.0	19	3.4	2	3.0	11	3.4	6	13.8	10	2.0	1	1.0	4	2.0	3	4.7	10	4.4	28
December	186	41	3.4	4	3.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17	
1853.																																
January	186	19	1.7	—	—	7	5.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	
February	168	26	1.8	—	—	30	3.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
March	186	34	1.3	2	2.0	12	1.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	
April	180	48	2.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
May	186	34	3.5	—	—	18	4.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

TABLE IX.

WEATHER NOTATIONS, at MERCY BAY, H.M.S. "INVESTIGATOR," 1851 October to 1853 May.

Hours.	October 1851.								November 1851.								December 1851.							
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.
4 a.m.	12	15	4	9	—	—	2	7	7	15	8	8	—	—	3	5	13	12	6	3	—	—	2	12
8 "	12	14	5	7	—	—	4	7	9	15	6	10	—	—	3	5	16	10	5	4	—	—	3	12
Noon	10	16	5	8	1	—	3	6	8	15	7	9	—	—	5	6	14	13	4	5	—	—	3	14
4 p.m.	8	19	4	10	—	—	4	4	6	20	4	9	—	—	2	5	13	12	6	4	—	—	4	14
8 "	9	17	5	5	—	—	4	2	9	16	5	5	—	—	8	4	12	12	7	—	—	5	11	
Mdn.	9	16	6	10	—	—	3	5	6	14	10	8	—	—	6	7	13	10	8	4	—	—	4	12
Means	10.0	16.2	4.8	8.2	0.2	—	3.3	5.2	7.5	15.8	6.7	8.2	—	—	4.5	5.3	13.5	11.5	6.0	3.3	—	—	3.5	12.5
Hours.	January 1852.								February 1852.								March 1852.							
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.
4 a.m.	15	13	3	6	—	—	2	10	8	14	7	11	—	—	2	10	12	19	—	10	—	—	—	5
8 "	15	12	4	6	—	—	2	10	10	16	3	9	—	—	2	13	12	14	5	11	—	—	5	4
Noon	12	12	7	3	—	—	3	8	7	14	8	13	—	—	5	9	10	15	6	14	—	—	5	5
4 p.m.	12	10	9	3	—	—	4	8	8	15	6	11	—	—	4	9	10	16	5	8	—	—	3	6
8 "	11	13	7	—	—	—	7	5	6	18	5	12	—	—	2	7	10	18	3	10	—	—	2	3
Mdn.	12	13	6	6	—	—	6	8	6	17	6	14	—	—	2	9	9	19	3	13	—	—	2	5
Means	12.8	12.2	6.0	4.0	—	—	4.0	8.2	7.5	15.7	5.8	11.7	—	—	2.8	9.5	10.5	16.8	3.7	11.0	—	—	2.8	4.7
Hours.	April 1852.								May 1852.								June 1852.							
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.
4 a.m.	11	11	8	6	—	—	5	4	10	15	6	9	—	—	5	5	1	12	17	8	1	1	11	6
8 "	12	8	10	3	—	—	9	2	11	10	10	9	—	—	9	2	3	11	16	10	—	1	12	8
Noon	11	11	8	7	—	—	7	4	12	13	6	9	—	—	5	2	5	13	12	5	1	2	6	7
4 p.m.	11	12	7	8	—	—	5	4	11	11	9	6	—	—	7	2	5	13	12	5	1	1	6	6
8 "	9	11	10	4	—	—	8	4	11	13	7	7	—	—	6	2	4	12	14	12	1	1	8	6
Mdn.	8	10	12	4	—	—	10	5	10	13	8	7	—	—	6	3	3	7	20	8	2	1	13	6
Means	10.3	10.5	9.2	5.3	—	—	7.3	3.8	10.8	12.5	7.7	7.8	—	—	6.3	2.7	3.5	11.3	15.2	8.0	1.0	1.2	9.3	6.5
Hours.	July 1852.								August 1852.								September 1852.							
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.
4 a.m.	1	18	12	18	—	—	2	2	4	2	16	13	14	4	2	4	9	3	16	11	11	—	—	8
8 "	4	16	11	18	—	—	3	2	4	2	16	13	17	3	2	6	5	4	19	7	16	1	—	6
Noon	5	16	10	11	1	—	3	2	4	4	15	12	14	4	—	4	6	3	17	10	16	1	—	8
4 p.m.	6	16	9	9	—	—	1	2	3	5	15	11	13	3	2	5	5	3	17	10	13	1	—	9
8 "	5	15	11	17	1	—	7	1	1	2	13	16	12	4	3	6	5	2	16	12	11	—	—	12
Mdn.	3	15	13	17	1	—	8	4	2	3	11	17	12	5	3	4	7	2	12	16	12	—	—	12
Means	4.0	16.0	11.0	15.0	0.5	—	4.0	2.2	3.0	3.0	14.3	13.7	13.7	3.8	2.0	4.8	6.2	2.8	16.2	11.0	13.2	0.5	—	9.2

TABLE IX.—*continued.*

WEATHER NOTATIONS, at MERCY BAY, H.M.S. "INVESTIGATOR," 1851 October to 1853 May.

Hours.	October 1852.								November 1852.								December 1852.							
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.
4 a.m.	8	13	10	8	1	—	6	4	8	12	10	8	—	—	6	10	10	19	2	13	—	—	2	13
8 "	8	15	8	11	2	—	5	3	9	12	9	10	—	—	5	12	13	12	6	9	—	—	2	15
Noon	4	17	10	19	2	—	5	4	10	9	11	9	—	—	5	11	12	13	6	8	—	—	—	12
4 p.m.	3	15	13	20	1	—	10	2	8	15	7	10	—	—	5	11	11	17	3	8	—	—	—	11
8 "	5	15	11	18	—	—	9	3	9	14	7	8	—	—	6	6	9	18	4	12	—	—	1	9
Mdn.	6	11	14	13	1	—	10	6	7	15	8	8	—	—	7	7	6	23	2	17	—	—	2	12
Means	5.7	14.3	11.0	14.8	1.2	—	7.5	3.7	8.5	12.8	8.7	8.8	—	—	5.7	9.5	10.2	17.0	3.8	11.2	—	—	1.2	12.0
Hours.	January 1853.								February 1853.								March 1853.							
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.
4 a.m.	13	13	5	5	—	—	2	8	11	15	2	15	—	—	2	4	12	12	7	4	—	—	5	4
8 "	13	13	5	11	—	—	2	12	9	18	1	16	—	—	1	4	11	17	3	6	—	—	2	3
Noon	10	16	5	13	—	—	1	14	10	15	3	13	—	—	2	5	11	16	4	8	—	—	4	4
4 p.m.	10	18	3	17	—	—	2	11	8	18	2	17	—	—	2	6	11	17	3	7	—	—	3	5
8 "	13	16	2	8	—	—	1	11	9	18	1	12	—	—	1	5	11	16	4	8	—	—	4	4
Mdn.	8	20	3	13	—	—	2	19	8	17	3	16	—	—	3	8	10	16	5	10	—	—	5	4
Means	11.2	16.0	3.8	11.2	—	—	1.7	12.5	9.2	16.8	2.0	14.8	—	—	1.8	5.3	11.0	15.7	4.3	7.2	—	—	3.8	4.0
Hours.	April 1853.								May 1853.															
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.								
4 a.m.	15	9	6	5	—	—	5	2	6	17	8	9	—	—	7	4								
8 "	13	11	6	6	—	—	4	—	8	14	9	7	—	—	6	9								
Noon	12	11	7	5	—	—	6	2	8	13	10	8	—	—	7	11								
4 p.m.	11	13	6	3	—	—	5	5	7	12	12	9	—	1	8	11								
8 "	12	13	5	7	—	—	3	7	8	12	11	10	—	1	6	12								
Mdn.	11	15	4	7	—	—	2	7	8	13	10	10	—	—	8	13								
Means	12.3	12.0	5.7	5.5	—	—	4.2	3.8	7.5	13.5	10.0	8.8	—	0.3	7.0	10.0								

TABLE X.

MEAN TEMPERATURE of SEA WATER at MERCY BAY, H.M.S. "INVESTIGATOR," 1852.

	2 a.m.	4 a.m.	6 a.m.	8 a.m.	10 a.m.	Noon.	2 p.m.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	Mdn.	Mean.
August 6th to 31st	29.7	29.3	29.8	30.4	31.1	31.6	31.5	31.5	31.3	31.2	30.8	30.2	30.7
September	29.2	29.0	29.1	29.7	30.3	30.6	30.2	30.2	29.8	29.9	29.3	29.2	29.7

REMARKS from the LOG of H.M.S. "INVESTIGATOR."

1851.—OCTOBER.

- 4th, Midnight - Faint gleams of aurora to N.W.
 26th, 8 p.m. - Aurora in S.W.
 28th, Midnight - Aurora very brilliant from S.E. to W.
 Several wolves were seen during the month.

NOVEMBER.

- 3rd, 8 p.m. - A flash resembling sheet lightning in S.W.
 14th, 8 p.m. - Gleams of aurora in S.
 15th, 8 p.m. - A paraselene.
 23rd, 8 p.m. - Aurora in Sd.
 24th, Midnight - Aurora in N.W.
 25th, 4 a.m. - Aurora in S.W.
 26th, 8 p.m. - Aurora to Sd.
 A bear, four deer, and several wolves were seen during the month.

DECEMBER.

- 7th, 4 a.m. - Aurora in S.W.
 8th, 4 a.m. - Faint aurora in zenith.
 8th, 8 p.m. - A paraselene.
 10th, 8 p.m. - Halo round the moon.
 11th, 4 p.m. - Paraselene each side of moon.
 13th, 8 p.m. - Aurora in zenith.
 14th, 8 p.m. - Faint gleams of aurora in N.W.
 18th, 4 a.m. - Aurora.
 19th, Midnight - Brilliant aurora in S.W.
 20th, Midnight - Aurora forming bright arch in S.
 22nd, 8 p.m. - Aurora in S.W.
 23rd, 4 a.m. - Bright aurora in W.
 23rd, 8 p.m. - Aurora in Sd.
 26th, 4 a.m. - Aurora.
 27th, 4 a.m. - Aurora in W.
 28th, 4 a.m. - Aurora in zenith, forming brilliant arch.
 29th, 4 a.m. - Aurora in Nd.
 30th, 4 a.m. - Aurora in S.
 Several wolves were seen and one fox caught during the month.

1852.—JANUARY.

- 1st, 8 p.m. - Aurora in S.
 2nd, 4 a.m. - Aurora in W.
 4th, 4 p.m. - A halo round the moon.
 15th, 8 p.m. - Aurora in S.E.
 20th, 8 p.m. - Aurora.
 24th, 4 a.m. - Aurora in S.W.
 24th, 8 p.m. - Aurora very brilliant S.W.
 25th, 4 a.m. - Aurora in zenith.
 25th, 8 p.m. - Aurora in S.
 26th, 4 a.m. - Aurora from E. to S.
 27th, 4 a.m. - Aurora in S.W.
 29th, 4 a.m. - Aurora in S.
 Several wolves and deer were seen during the month.

FEBRUARY.

- 14th, 8 p.m. - Aurora in the zenith.
 17th, 8 p.m. - Aurora very brilliant.
 25th, 8 p.m. - Aurora in W.
 28th, 8 p.m. - Aurora in S.
 29th, 8 p.m. - Aurora in W.

Several deer were seen and three were shot during the month.

MARCH.

- 12th, 8 p.m. - Aurora in S. and W.
 13th, 8 p.m. - Aurora in S.
 16th, 8 p.m. - Aurora in S.
 21st, 8 p.m. - Aurora in S.
 26th, 8 p.m. - Aurora in S.W.

A deer and a hare were shot, and six wolves and several deer seen during the month.

APRIL.

- 2nd, 8 p.m. - A halo round the moon.
 5th, Noon - Thermometer in sunshine 22°, in shade -8°.
 9th, Noon - Thermometer in sunshine 25°, in shade -5°.

Two hares were shot, several wolves and a deer were seen during the month.

MAY.

Thirty-two ptarmigan and one deer shot during the month.

JUNE.

During the month 2 deer, 9 hares, 16 geese, 22 ducks, 2 cranes, and 8 ptarmigan were shot; 2 bears, 2 wolves, 14 swans, flocks of geese, and 1 gull were seen.

JULY.

During the month 2 musk oxen, 3 deer, 11 hares, 1 hawk, 8 geese, about 130 ducks, 9 divers, and 8 ptarmigan were shot.

AUGUST.

27th - A herd of 30 deer seen.

During the month 4 geese, 50 ducks, 11 ptarmigan, and one diver were shot.

SEPTEMBER.

18th - Aurora visible in N.W.

19th - Aurora in S.

During the month two ptarmigan were shot; a wolf, a seal, and a raven were seen.

OCTOBER.

3rd, 4 p.m. - Aurora to Sd.

16th, 4 a.m. and 8 p.m. - Aurora in S.

During the month 1 deer, 4 hares, and 4 ptarmigan were shot; 1 bear and many deer were seen.

NOVEMBER.

3rd, 8 p.m. - Aurora in S.

7th, 4 a.m. - Aurora in S.W.

10th, 8 p.m. - Aurora in S.W.

11th, 4 a.m. - Aurora arched through the zenith from E. to W.

12th, 8 p.m. - Aurora in S.W.

13th, 8 p.m. - A most vivid flash of lightning in S.E., wind W. 2, weather c s, but at 4 p.m. the wind and weather had been S.E. 6, b c q.

27th, 8 p.m. - Gleams of the aurora.

During the month 1 deer, 1 hare, and 7 ptarmigan were shot; 8 wolves and several deer were seen.

DECEMBER.

- 7th, Noon - Aurora in the zenith.
 7th, 8 p.m. - Aurora to S., and describing irregular arches from S.E. to N.W.
 10th, 8 p.m. - Aurora in zenith.
 13th, 8 p.m. - Aurora very brilliant in S.
 14th, 8 p.m. - Aurora in S.
 16th, 4 a.m. - Faint aurora in S.E.

During the month 1 deer and 3 ptarmigan were shot; several wolves, deer, and ptarmigan were seen.

1853.—JANUARY.

6th, 4 a.m. - Aurora faintly visible.

During the month 5 deer, 1 hare, and 8 ptarmigan were shot; several wolves and deer were seen.

FEBRUARY.

20th, 8 p.m. - Aurora visible in the zenith.

During the month a hare and a ptarmigan were shot, and several deer were seen.

MARCH.

During the month 3 deer and 2 hares were shot; 3 seals and several wolves were seen.

APRIL.

16th, 4 p.m.	-	Thermometer in sunshine	45°,	in shade	16°.
18th, Noon	-	"	38°,	"	11°.
19th, 4 p.m.	-	"	46°,	"	19°.
20th, Noon	-	"	30°,	"	14°.
21st, Noon	-	"	33°,	"	25°.
21st, 2 p.m.	-	"	48°,	"	25°.
22nd, Noon	-	"	32°,	"	24°.
23rd, Noon	-	"	29°,	"	11°.
24th, Noon	-	"	31°,	"	10°.
25th, Noon	-	"	27°,	"	4°.
26th, Noon	-	"	40°,	"	8°.
27th, 4 p.m.	-	"	30°,	"	9°.
28th, 4 p.m.	-	"	36°,	"	16°.
29th, Noon	-	"	49°,	"	24°.
30th, Noon	-	"	24°,	"	14°.

During the month several wolves and deer were seen.

MAY.

1st, Noon	-	Thermometer in sunshine	34°,	in shade	20°.
3rd, 4 p.m.	-	"	26°,	"	10°.
4th, 8 p.m.	-	"	33°,	"	3°.
5th, 8 p.m.	-	"	21°,	"	11°.
7th, Noon	-	"	42°,	"	16°.
8th, 4 p.m.	-	"	32°,	"	13°.
13th, 2 p.m.	-	"	64°,	"	22°.
17th, 4 p.m.	-	"	46°,	"	32°.
18th, 8 p.m.	-	"	72°,	"	32°.
19th, Noon	-	"	50°,	"	41°.
22nd, 4 p.m.	-	"	50°,	"	26°.

During the month 4 wolves, 2 mollymawks, and 2 ptarmigan were seen.

No. XXVIII.

Results of Meteorological Observations made at Dealy Island.

H.M.S. "RESOLUTE," Captain, afterwards Admiral, Sir Henry Kellett, K.C.B., and her tender the steamer "Intrepid," Lieutenant McClintock, entered Bridport Inlet, Melville Island, 1852, September 12th, and drifted out with the floe, 1853 August 18th. On September 1st, 1852, the ships were to the south of Byam Martin Island. On August 31st, 1853, they were off Point Griffith, south-east of Melville Island. The positions were thus not too distant from winter quarters to prevent the observations being discussed as for a complete year. The ships were secured close to Dealy Island at the entrance to the inlet, in latitude $74^{\circ} 56' 25''$ N., longitude $108^{\circ} 48' 33''$ W., where the variation of the compass was $142^{\circ} 46'$ E., and the dip $88^{\circ} 25'$. High water at full and change of the moon occurred at 1h. 39m., and the rise of ordinary spring tides was 2 feet 4 inches. This inlet extends a considerable distance northward. The land to the westward of it is higher than that to the eastward.

The data for this discussion have been obtained from the ship's logs of the "Resolute," No. 4552-3, and "Intrepid," 4549-50, kindly lent for the purpose by the Public Record Office. Reference has also been made for checking doubtful observations to Captain Kellett's Journal, lent by the Admiralty Record Office.

The true direction of the wind was recorded.

No particulars can now be obtained regarding the instruments used. G. F. McDougall, master of the "Resolute," and author of "The Eventful Voyage of H.M. Discovery Ship 'Resolute' to the Arctic Regions," says in his book that the thermometers "were kept in a box secured to a table," on the floe; and he states that "Adie's thermometer, supplied from Kew Observatory, may be considered the standard for and below the freezing point of mercury, but the colourless fluid and faint graduations are highly objectionable, particularly in such a climate as is experienced within the Arctic circle; the difficulty of reading off is much increased, and in many cases the registration was worse than useless; for by the time the observer had succeeded in detecting the whereabouts of the fluid, and the corresponding degree, the radiation of heat from the lamp, which was necessarily held close, had affected the temperature of the immediate atmosphere, which has been proved to be as much as 2° in half a minute. I should therefore suggest that thermometers containing coloured (red) fluid, with the graduations marked in a legible manner, should be supplied to vessels wintering in these regions."

Table I. gives the monthly means of atmospheric pressure as deduced from aneroid observations. The "Resolute's" aneroid was registered at 3 and 9 a.m. and p.m.; the "Intrepid's" at 8 a.m., Noon, and 8 p.m. The errors of the instruments being unknown, these values can only be regarded as approximations. From April to August these aneroid readings show the diurnal range of pressure seemingly as well as a mercurial barometer would have done, because the mean daily range of the attached thermometers was very small; but during the winter the attached thermometers had a wide mean daily range, and then the aneroids showed the effect of temperature instead of the diurnal range of pressure.

The observations found in the log books for September, October, May, and June were insufficient for discussion; the values given for these months in the case of the "Resolute" have been deduced from the abstracts in McDougall's narrative. The greatest monthly pressure was in February, the least in July.

Table II. contains the results of the observations on the temperature of the air made on board the "Resolute." They have been used as recorded, without any correction. They give $0^{\circ} \cdot 8$ for the mean temperature of the year.

Table III. contains the results of observations on the temperature of the air made on board the "Intrepid." Interpolation has been made at midnight in order to deduce the monthly means for April, May, June, and July.

The mean temperature of the coldest month, January, may be taken as $-38^{\circ} \cdot 8$; that of the warmest, July, $+35^{\circ} \cdot 9$. For information respecting the correctness of thermometers, see remarks for January 2nd, page 455.

Table IV. deals with the extreme readings of the "Resolute's" aneroid in each month, and states the temperature of the air, the wind, and the weather at the same time. Neither high or low pressure seems to affect the temperature or the winds, but high pressure is attended with clearer weather than low. The greatest monthly range of pressure, 1.4 inches, was in February, which was a boisterous month. The aneroid read highest, $30 \cdot 77$, in February, lowest, $29 \cdot 06$, in August, so that its entire range was 1.71 inch during the year.

Table V. brings together the highest and lowest temperatures of the air in each month observed on board the "Resolute," together with the reading of the aneroid, the wind, and weather at the same time. The highest temperature of the year was 46° in June, the lowest, -61° , in January, so that the absolute range was 107° . The greatest monthly range was 55° in March, the least, 15° , in July.

McDougall remarks that during January "the mean of the temperature was $-36^{\circ} \cdot 1$ by Adie, and $-40^{\circ} \cdot 7$ by Pastorelli, the lowest yet registered within the limits of the Arctic circle. Parry in Winter Harbour, in 1818-19, registered $-32^{\circ} \cdot 2$, Griffith's Island, 1850-51, being -33° . The weather during the month, and indeed I may almost say the winter, has been far more unpleasant and severe than that experienced at Griffith's Island in 1850-51, and what may be regarded in the light

of phenomena are the unaccountable falls of snow during periods of extreme cold."

Table VI., the sums of the wind components for each month show at a glance the great preponderance of the north component in every month except July.

Table VII. contains the two-hourly components of the wind for the year, with their resultants, from which it appears that the azimuth of the wind has a maximum west of north about 1 and 8 p.m., and a minimum about 7 a.m. and 4 p.m., while the range of force has a single maximum at 6 a.m. and a single minimum at 6 p.m., the minimum at noon being probably due to some defect in the observations. The annual resultant of the wind is N. 3° W., 1.77 of Beaufort's scale.

Table VIII. contains the monthly resultants of the winds deduced from the means of the components in Table VI. These resultants oscillate in azimuth from N. 25° W. in August to N. 21° E. in November, then after a small excursion to N. 5° W. in January, the wind comes back to N. 21° E. in March, whence it goes over to N. 20° W. in June, and after a small excursion to N. 7° W. in July, comes back to N. 25° W. in August. The force was greatest in February and least in July.

Table IX. shows the distribution of the winds under sixteen directions with the mean force in each month. Calms were most frequent in July. The most frequent and strongest wind blew off the land from N. in all months except May, June, and July, when the direction was from N.N.W. The most frequent wind from seaward was S.E., but its strength was not so great as that of the land wind. It occurred chiefly in March, May, June, and September. Wind of force 8 and upwards occurred in September 21 times, October 3, November 30, December 39, January 23, February 52, March 18, April 31, May 22, June 0, July 5, August 31.

Under date December 25th, McDougall remarks: "The experience of the past months has enabled us to ascertain beyond a doubt that the prevailing winds in our immediate neighbourhood come from the northward, and that strong winds, accompanied by violent gusts, occur oftener than light, or even moderate breezes. Another fact equally strange is the continued gloomy state of the weather, clear and cloudless days having been few and far between.

"Parry in Winter Harbour, in 1819-20, experienced similar winds, but enjoyed much finer weather than we have had; so also did the expedition under the command of Captain Austin, near Griffith Island, during the winter of 1850-51. The cause of the sudden squalls puzzled us not a little, for although within half a mile of Dealy Island, with the ship's head between it and the main land, we could not attribute the squalls to the proximity of the island to the main, as both were comparatively low, inclining with a gentle slope to the beach.

"We at length came to the conclusion that the sudden variations in its force were occasioned by the wind rushing through the deep gorges to the northward of the inlet, where the land was high and precipitous, intersected by deep ravines, through which in all probability the melted snows in summer find a passage to the sea."

Table X. contains bi-hourly summaries of the weather notations of each month, and their means. The clearest month was January, though February had the least mist. The most overcast weather occurred in July, and August had the most mist. Fog was only noted in the summer. Squally weather was rather frequent in the winter, but at that season less snow fell than in the summer. The total duration of rain was about 7.8 days, and of snow 32.1 days; but if the days on which precipitation was noted are counted, rain fell on 20 days and snow on 47. Drifting of snow, which takes place whenever the wind becomes fresh, was noted on 6 days in November, 13 in December, 7 in January, 12 in February, 3 in March, 10 in April, and 6 in May.

The following statement, which as regards the number of rainy days is somewhat at variance with the results in Table X., is given by McDougall on page 496 of his book:—

Rain first fell at ship, June 11th.			
Ditto, last observed, August 29th.			
Hours of moderate rain	-	-	100
Ditto heavy ditto	-	-	15
Ditto drizzling ditto	-	-	63
Total	-	-	178
8 days.			
Rain in June	-	-	11 "
Ditto July	-	-	6 "
Ditto August	-	-	

Snow first observed to melt March 20th.
Mean Temperature, October 1852.—In the Parliamentary "Papers relating to the Recent Arctic Expeditions," dated 1854, at page 95, will be found a table of temperatures, which gives the following results for October 1852, mean of 31 days:—

Hours.	Temperature.	Hours.	Temperature.
1 a.m.	-0°·3	1 p.m.	+1°·0
3 "	-0°·5	3 "	+0°·7
5 "	-0°·8	5 "	+0°·3
7 "	-0°·7	7 "	0°·0
9 "	+0°·1	9 "	-0°·5
11 "	+0°·8	11 "	-1°·2

TABLE I.
MEANS OF ANEROID READINGS, at DEALY ISLAND, 1852 September to 1853 August.

Ship.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Year.
"Resolute"	inches. 29'84	inches. 29'97	inches. 30'07	inches. 29'96	inches. 29'76	inches. 30'14	inches. 30'13	inches. 30'13	inches. 30'08	inches. 29'83	inches. 29'64	inches. 29'72	inches. 29'94
"Intrepid"	—	—	30'09	29'92	29'74	30'10	30'07	30'09	30'05	29'82	29'62	29'69	—

TABLE II.
MEAN TEMPERATURE OF THE AIR, at DEALY ISLAND, H.M.S. "RESOLUTE," 1852 September to 1853 August.

Hours.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Year.
3 a.m.	—	—	5'4	23'6	41'1	33'3	24'6	5'8	10'8	30'2	33'7	31'5	—
9 "	—	—	5'5	24'2	40'1	33'1	21'4	1'0	16'0	33'6	36'9	33'5	—
3 p.m.	—	—	6'0	24'1	40'5	31'9	19'0	1'7	19'2	36'1	38'0	34'5	—
9 "	—	—	6'5	24'3	40'7	33'3	22'2	3'7	16'0	32'7	35'7	33'0	—
Means	19'2	0'4	5'9	24'0	40'6	32'9	21'8	2'2	15'5	33'1	36'1	33'1	0'8

TABLE III.
MEAN TEMPERATURE OF THE AIR, at DEALY ISLAND, H.M.S. "INTREPID," 1852 September to 1853 August.

Hours.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	1st-18th Aug.	Year.
2 a.m.	—	—	9'7	25'8	37'4	31'9	22'7	8'7	—	—	—	—	—
4 "	—	—	9'9	25'8	37'5	32'1	22'7	7'8	9'1	29'8	33'4	32'7	—
6 "	—	—	10'2	26'2	37'4	32'0	22'3	—	—	—	—	—	—
8 "	—	—	9'7	26'1	36'9	31'6	20'8	4'8	14'1	33'9	35'9	35'2	—
10 "	—	—	9'5	26'2	36'7	31'1	18'8	—	—	—	—	—	—
Noon	—	—	9'4	26'5	36'6	30'6	17'6	0'9	18'3	36'8	38'3	37'4	—
2 p.m.	—	—	9'8	26'3	36'8	30'6	17'2	—	—	—	—	—	—
4 "	—	—	10'7	26'0	36'8	30'6	18'3	1'7	18'9	36'3	37'5	36'8	—
6 "	—	—	10'9	25'7	37'0	31'3	19'6	—	—	—	—	—	—
8 "	—	—	11'1	25'4	37'2	32'0	21'2	3'8	16'0	32'8	35'5	34'3	—
10 "	—	—	10'9	25'7	37'3	32'1	21'6	—	—	—	—	—	—
Midnight	—	—	10'8	26'0	37'4	32'1	21'9	—	—	—	—	32'7	—
Means	—	—	10'2	26'0	37'1	31'5	20'4	4'3*	14'8*	33'4*	35'7*	34'8	—

* Values have been interpolated at midnight in deducing these means.

TABLE IV.
EXTREMES OF ANEROID, WITH ACCOMPANYING TEMPERATURE, WIND, AND WEATHER, at
DEALY ISLAND, H.M.S. "RESOLUTE," 1852-3.

Month.	Date.	Highest.	Temp.	Wind.	Weather.	Date.	Lowest.	Temp.	Wind.	Weather.	Range.
	d. h.	inches.				d. h.	inches.				inch.
September 1852	9 0	30'19	+19	N. 3	b c v	29 0	29'12	+17	E. by N. 5	c	1'07
October "	12 0	41	+7	S.E. 1	o s	19 0	61	-5	N. 1	o c m	0'80
November "	7 3	49	-11	N.N.W. 9	c m p	9 21	29	9	N. 4	o m	1'20
December "	16 15	54	24	N. 6	o q	31 3	17	22	Var. 1	c s	1'37
January 1853	14 15	25	41	N.E. 1	b c	1 3	18	29	S.E. 1	o m s	1'07
February "	5 15	77	32	N. 3	"	0 15	36	30	E.N.E. 1	b c	1'41
March "	22 9	61	-5	E.S.E. 1	"	27 21	66	1	N.E. 2	o s	0'95
April "	27 15	74	+4	N.W. 2	"	5 9	70	-11	N.N.W. 6	b c	1'04
May "	5 3	52	13	E. 2	m s	19 9	64	+25	S.E. 5	o c	0'88
June "	26 3	30'26	36	N.N.E. 3	o m	17 20	50	33	N.N.W. 2	b c	0'76
July "	2 21	29'91	37	S.W. 2	c	29 15	24	34	N.N.W. 8	m s q	0'67
August "	22 9	30'04	+30	N.N.W. 3	b c	17 21	06	+33	N. 10	o m s	0'98
Year	Feb.	30'77	—	—	—	Aug.	29'06	—	—	—	1'71

TABLE V.
EXTREMES OF AIR TEMPERATURE, WITH ACCOMPANYING PRESSURE, WIND, AND WEATHER,
at DEALY ISLAND, H.M.S. "RESOLUTE."

Month.	Date.	Highest.	Aneroid.	Wind.	Weather.	Date.	Lowest.	Aneroid.	Wind.	Weather.	Range.
	d. h.		inches.			d. h.		inches.			
September 1852	4 0	+27'5	29'90	E. 1	c	24 6	+4	29'80	N.W. 10	b c	23'5
October "	2 0	18	62	S. 1	b m	15 12	-21	30'16	N. 5	b	39
November "	20 12	+14	29'67	E. b. N. 3	o s	6 6	25	30'48	" 3	o c q	39
December "	15 22	-15	30'37	N.N.W. 5	o m	30 16	33'5	29'39	E. 1	b	18'5
January 1853	29 21	13	29'37	W.N.W. 4	o q	8 21	61	30'02	Calm	"	48
February "	13 15	-15	30'38	N. 9	"	28 9	47	30'00	N.N.E. 1	b c	32
March "	17 21	+9	29'67	N.E. 3	m	0 15	46	30'00	N. 1	b	55
April "	30 8	16	30'46	N. 2	b	15 14	-25	29'82	" 10	o	41
May "	20 3	31	29'70	S.E. 1	b c m	1 15	+2	30'47	S.E. 2	o s	29
June "	22 3	46	87	S.E. 1	c m	0 15	21	29'57	N.N.W. 5	o m s	25
July "	22 3	45	72	N. by W. 1	b c	10 15	30	50	N. 3	b c m	15
August "	16 3	+42	29'87	N.N.E. 1	"	29 15	+24	29'81	N.N.W. 2	b c	18
Year	June	+46	—	—	—	Jan.	-61	—	—	—	107

OBSERVATIONS AT DEALY ISLAND.

TABLE VI. (continued).

SUMS OF WIND COMPONENTS, at DEALY ISLAND, 1852 September to 1853 August—continued.

Hours.	March 1853.				April 1853.				May 1853.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
2 a.m.	67.9	14.0	32.7	6.4	92.7	0.7	13.0	23.1	73.4	11.8	16.8	26.7
4 "	74.3	13.6	29.2	6.8	91.2	0.7	14.9	23.6	74.4	11.8	17.7	26.2
6 "	67.0	8.7	28.8	9.2	89.3	1.5	17.0	14.2	71.6	16.0	13.4	26.3
8 "	60.9	12.1	22.6	6.7	89.3	1.5	18.4	16.3	70.6	16.8	14.2	26.3
10 "	54.1	13.5	22.8	6.3	91.2	3.3	19.7	17.1	71.6	15.7	13.7	26.8
Noon	52.2	12.3	23.0	4.3	82.2	5.8	19.4	15.2	67.6	18.0	13.0	26.2
2 p.m.	55.0	9.9	11.8	6.1	76.7	9.6	20.9	13.5	68.2	17.9	12.7	26.4
4 "	50.4	14.6	24.6	11.2	79.1	8.1	18.5	15.0	71.2	18.6	13.4	29.6
6 "	48.0	14.0	25.7	16.4	78.3	7.7	13.8	14.9	72.2	15.2	13.7	30.4
8 "	42.7	13.0	26.1	19.4	90.7	8.1	16.9	14.7	72.1	18.7	13.5	31.5
10 "	48.5	13.5	29.2	9.3	90.0	7.4	15.9	18.9	76.4	13.8	12.4	31.9
Midnight	47.8	12.3	27.1	5.1	91.1	3.5	15.1	18.6	74.5	12.5	10.3	31.4
Means	55.7	12.6	25.3	8.9	86.8	4.8	17.0	17.1	72.0	15.6	13.7	28.3

(continued.)

Hours.	June 1853.				July 1853.				August 1853.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
2 a.m.	58.2	3.8	5.9	26.9	30.8	17.9	14.7	17.7	55.3	10.3	14.7	25.7
4 "	58.2	3.8	5.9	26.9	30.7	16.5	13.6	16.0	53.6	7.2	15.9	28.8
6 "	58.6	5.3	5.9	24.5	27.2	17.6	14.1	18.0	58.9	4.7	8.4	27.3
8 "	66.2	5.6	8.5	26.4	25.9	15.9	13.7	15.8	54.9	7.1	13.2	26.4
10 "	66.2	4.6	8.5	27.4	23.9	16.0	13.9	16.2	51.8	9.7	15.7	24.7
Noon	66.3	4.3	8.5	26.1	27.6	18.6	11.5	18.9	39.0	11.6	14.7	36.5
2 p.m.	68.6	4.3	10.3	26.1	38.6	14.4	12.7	18.3	45.5	11.3	13.2	37.1
4 "	65.4	5.0	10.3	26.6	32.3	15.0	18.7	21.6	48.5	10.6	13.2	38.8
6 "	61.7	5.3	8.7	35.2	30.9	18.2	19.7	24.3	52.0	9.7	11.6	35.5
8 "	62.2	4.6	7.3	36.2	31.3	20.9	22.9	22.0	52.9	11.3	10.5	32.7
10 "	61.3	4.6	6.9	36.2	24.2	23.4	25.5	15.8	47.8	10.9	6.1	35.1
Midnight	57.8	2.7	6.9	28.1	22.8	28.4	23.5	15.4	52.4	9.3	13.2	31.0
Means	62.6	4.5	7.8	28.9	28.8	18.6	17.0	18.3	51.0	9.5	12.5	31.6

METEOROLOGY OF THE ARCTIC REGIONS.

TABLE VI.

SUMS OF WIND COMPONENTS, at DEALY ISLAND, 1852 September to 1853 August, H.M.S. "RESOLUTE."

Hours.	September 1852.				October 1852.				November 1852.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
2 a.m.	52.3	22.3	16.7	33.1	64.7	9.7	6.6	17.9	55.9	4.6	29.9	6.2
4 "	53.7	23.4	17.7	37.6	63.7	10.6	7.5	21.2	67.3	6.8	34.6	4.3
6 "	61.6	21.7	21.8	28.6	69.2	8.7	7.1	20.2	69.8	7.3	35.1	7.8
8 "	69.3	19.3	22.9	26.2	73.7	6.7	9.3	14.8	64.1	6.9	29.9	12.8
10 "	76.1	23.1	20.1	27.5	55.4	11.4	11.6	17.9	50.0	8.2	26.4	11.3
Noon	64.0	23.6	15.2	32.3	56.3	10.2	9.3	21.7	54.1	6.3	24.8	10.6
2 p.m.	61.2	21.6	18.5	33.1	56.3	10.2	10.5	22.1	58.3	15.2	32.1	14.2
4 "	62.2	17.3	22.5	28.0	55.4	9.2	10.6	21.1	58.2	15.3	33.2	13.2
6 "	53.3	21.4	26.2	32.4	54.2	11.9	9.4	25.1	59.7	14.8	31.7	18.2
8 "	51.7	21.9	24.1	33.5	53.4	11.1	11.3	24.1	69.6	13.0	31.4	14.6
10 "	53.4	16.8	21.7	32.6	56.3	9.3	9.8	24.2	62.1	8.5	31.8	11.4
Midnight	58.8	17.1	22.1	36.3	56.2	6.9	7.1	20.6	63.3	6.9	31.7	7.3
Means	59.8	20.8	20.8	31.8	59.6	9.7	9.2	20.9	61.0	9.5	31.0	11.0

(continued.)

Hours.	December 1852.				January 1853.				February 1853.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
2 a.m.	97.1	6.3	12.8	6.7	51.0	1.3	14.3	14.8	92.7	3.4	17.6	11.6
4 "	103.5	8.4	15.9	6.1	50.3	4.6	15.9	23.3	98.6	6.7	16.9	11.6
6 "	111.0	9.2	14.9	6.3	44.4	5.3	15.4	19.5	98.8	6.9	15.1	8.3
8 "	87.8	11.9	14.7	18.0	49.5	4.9	15.1	18.0	100.8	4.8	17.2	5.0
10 "	73.1	9.3	18.0	14.5	48.0	9.1	14.5	24.5	92.0	3.5	11.8	4.4
Noon	84.4	6.3	18.3	11.4	44.9	11.6	18.0	29.1	88.6	5.0	15.4	9.4
2 p.m.	89.1	8.1	16.2	5.5	50.6	5.3	21.5	34.3	81.6	5.6	13.1	13.5
4 "	86.1	10.0	14.2	4.9	51.2	3.9	22.5	22.0	79.1	8.6	17.6	8.6
6 "	84.0	7.2	19.5	2.7	44.1	1.6	23.4	19.9	81.8	5.2	21.8	13.0
8 "	89.6	6.8	14.6	17.1	44.9	3.1	18.1	16.6	79.2	3.9	21.2	7.1
10 "	91.5	6.7	11.8	13.3	48.8	1.2	16.0	17.6	84.3	3.0	23.8	8.2
Midnight	95.8	7.8	15.4	15.1	51.2	1.9	15.2	19.6	94.3	2.1	18.7	12.1
Means	91.1	8.2	15.5	10.1	48.2	4.5	17.5	21.6	89.3	4.9	17.5	9.4

TABLE VII.

SUMS OF WIND COMPONENTS, with RESULTANT WINDS, at DEALY ISLAND, for the Year, 1852 September to 1853 August, H.M.S. "RESOLUTE."

Hour.	Components.				Resultants.	
	N.	S.	E.	W.	Direction.	Force.*
2 a.m. -	792.0	106.1	195.7	216.8	N. 2° W.	686
4 " -	819.5	114.1	205.7	232.4	N. 2 W.	706
6 " -	827.4	112.9	197.0	210.2	N. 1 W.	715
8 " -	813.0	113.5	199.7	212.7	N. 1 W.	700
10 " -	753.4	127.4	196.7	218.6	N. 2 W.	626
Noon -	727.2	133.6	191.1	241.7	N. 5 W.	596
2 p.m. -	749.7	133.4	193.5	250.2	N. 5 W.	620
4 " -	739.1	136.2	219.3	240.6	N. 2 W.	603
6 " -	720.2	132.2	225.2	268.0	N. 4 W.	590
8 " -	740.3	136.4	217.9	269.5	N. 5 W.	605
10 " -	744.6	119.1	210.9	254.5	N. 4 W.	632
Midnight -	766.0	111.4	206.3	240.6	N. 3 W.	655
Mean -	766.0	123.0	204.9	238.0	N. 3 W.	646

* These figures must be divided by 365 to get the mean force at the given hour.

TABLE VIII.

MONTHLY RESULTANTS OF THE WIND, at DEALY ISLAND, 1852 September to 1853 August, H.M.S. "RESOLUTE."

Month.	Resultants.	
	Direction.	Force.*
September 1852 -	N. 16 W.	1.35
October " -	N. 13 W.	1.65
November " -	N. 21 E.	1.84
December " -	N. 4 E.	2.68
January 1853 -	N. 5 W.	1.42
February " -	N. 6 E.	3.03
March " -	N. 21 E.	1.49
April " -	N.	2.73
May " -	N. 15 W.	1.87
June " -	N. 20 W.	2.06
July " -	N. 7 W.	0.34
August " -	N. 25 W.	1.48

* In grades of Beaufort's scale.

TABLE IX.

SUMMARY OF THE WINDS, referred to SIXTEEN POINTS, with MEAN FORCE (Scale 0 to 12), at DEALY ISLAND, September 1852 to August 1853, H.M.S. "RESOLUTE."

SUMMARY OF THE WINDS
at DEALY ISLAND, September 1852 to August 1853,

Months.	Total Observa- tions.	N.		N.N.E.		N.E.		E.N.E.		E.		E.S.E.		S.E.		S.S.E.	
		O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.
September 1852.	360	84	4.7	8	5.4	3	3.7	6	5.3	27	3.0	2	4.0	38	3.8	5	3.0
October	372	114	3.7	37	3.1	12	1.8	2	3.0	13	1.2	—	—	15	1.2	22	2.1
November	360	83	4.9	39	2.2	52	1.7	35	2.9	41	2.5	16	1.6	22	2.6	11	3.0
December	372	166	4.7	25	3.5	9	1.0	4	1.2	16	1.8	18	3.7	22	2.6	13	1.7
January 1853.	372	105	4.0	13	1.8	15	1.3	21	2.9	42	2.8	8	1.1	5	1.2	—	—
February	336	135	5.6	16	3.9	9	2.9	10	2.4	38	1.9	18	3.9	6	2.3	7	1.1
March	372	86	4.7	22	1.5	12	1.3	12	1.5	20	2.2	74	2.5	37	2.3	1	4.0
April	360	97	5.3	35	4.0	10	1.4	8	1.6	27	2.7	6	3.2	25	1.8	5	2.6
May	372	62	3.8	9	1.0	2	1.0	3	2.0	3	2.0	6	2.3	74	2.4	3	3.0
June	360	47	2.4	29	4.4	18	2.8	—	—	—	—	—	—	12	1.0	—	—
July	372	45	3.4	9	3.8	6	2.8	3	3.3	28	1.9	7	2.3	41	3.3	—	—
August	372	74	3.1	17	2.9	11	1.8	7	7.9	14	3.1	—	—	15	2.3	7	3.7

(continued.)

Months.	S.	S.S.W.		S.W.		W.S.W.		W.		W.N.W.		N.W.		N.N.W.		Variable.		Calms.	
		O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.		
September 1852.	32	3.2	—	—	9	2.1	17	2.6	37	3.8	12	1.2	28	5.6	34	4.5	4	1.0	14
October	15	1.1	—	—	5	2.8	25	3.6	10	3.9	13	3.1	14	3.7	39	3.1	—	—	36
November	8	1.5	2	2.0	—	—	7	5.7	2	4.5	4	5.7	4	6.0	26	4.8	1	1.0	7
December	6	1.0	2	2.0	3	1.0	1	1.0	1	1.0	11	1.7	5	3.0	50	4.6	1	1.0	19
January 1853.	5	1.0	—	—	16	2.7	5	4.0	25	3.1	22	4.0	26	1.9	23	1.6	2	1.0	39
February	4	1.0	3	1.7	11	1.2	—	—	1	1.0	1	1.0	4	3.5	48	4.8	3	1.0	22
March	9	1.7	1	1.0	5	1.8	—	—	1	1.0	8	2.4	1	1.0	47	4.3	—	—	36
April	—	—	2	2.0	3	1.7	—	—	—	—	1	1.0	30	3.2	64	5.3	—	—	47
May	30	1.7	3	1.0	1	1.0	2	1.0	12	3.3	10	2.0	13	4.5	119	5.2	—	—	20
June	17	1.0	—	—	13	1.6	15	2.4	14	1.3	9	4.0	39	3.3	130	3.1	—	—	17
July	30	1.5	2	1.0	42	2.1	11	1.5	30	2.2	1	6.0	13	1.3	50	2.8	—	—	54
August	6	2.7	3	1.7	24	1.4	32	1.8	28	1.6	23	6.2	10	4.8	55	4.2	2	1.0	44

TABLE X.

SUMMARY OF WEATHER NOTATIONS, at DEALY ISLAND, 1852 September to 1853 August,
H.M.S. "RESOLUTE."

Hours.	September 1852.								October 1852.								November 1852.							
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.
2 a.m.	6	11	13	5	1	1	4	7	5	15	11	11	—	—	1	1	6	14	10	14	—	2	2	5
4 "	7	9	14	6	—	1	3	8	6	14	11	12	—	—	1	1	5	15	10	13	—	2	2	6
6 "	7	9	14	6	—	1	1	8	6	14	11	13	1	—	1	2	6	13	11	10	—	3	1	8
8 "	7	8	15	3	—	1	5	5	5	15	11	14	1	—	2	3	6	14	10	10	—	2	1	7
10 "	7	8	15	4	—	1	5	6	6	15	10	10	3	1	3	3	6	12	12	10	—	2	2	6
Noon	7	8	5	5	—	1	5	7	7	13	11	8	2	1	3	1	6	13	11	11	—	1	2	6
2 p.m.	8	10	12	4	—	1	4	7	7	14	10	10	1	1	3	1	7	15	8	8	—	—	2	5
4 "	8	11	11	4	—	—	3	5	7	15	9	9	—	2	2	1	7	14	9	9	—	—	2	5
6 "	7	13	10	5	1	—	5	5	8	13	10	7	—	2	2	2	6	14	10	10	—	—	2	6
8 "	6	12	12	5	1	—	5	4	8	12	11	10	—	—	—	1	6	16	8	11	—	—	2	6
10 "	7	14	9	4	1	—	3	4	8	12	11	10	—	—	—	1	8	13	9	9	—	—	3	4
Mdn.	7	14	9	5	1	—	3	4	8	12	11	10	—	—	—	1	7	12	11	11	—	—	2	4
Means	7.0	11.4	11.6	4.7	0.4	0.6	3.8	5.8	6.7	13.7	10.6	10.3	0.7	0.6	1.5	1.5	6.3	13.8	9.9	10.5	—	1.0	1.9	5.7

(continued.)

Hours.	December 1852.								January 1853.								February 1853.							
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.
2 a.m.	9	13	9	4	—	—	2	12	16	11	4	6	—	—	—	6	9	16	3	2	—	—	—	11
4 "	10	13	8	3	—	—	1	13	15	12	4	7	—	—	—	7	11	12	5	1	—	—	—	13
6 "	8	14	9	4	—	—	1	12	15	10	6	5	—	—	—	8	9	13	6	2	—	—	—	13
8 "	9	12	10	5	—	—	1	11	16	9	6	5	—	—	—	7	8	13	7	4	—	—	—	12
10 "	9	11	11	9	—	—	4	11	15	8	8	5	—	—	1	7	8	11	9	4	—	—	—	12
Noon	8	13	10	10	—	—	4	10	13	10	8	8	—	—	1	8	9	11	8	4	—	—	1	13
2 p.m.	8	15	8	10	—	—	3	10	11	11	9	9	—	—	4	8	9	10	9	2	—	—	3	11
4 "	8	15	8	10	—	—	4	10	11	11	9	9	—	—	4	6	9	9	10	3	—	—	2	11
6 "	10	13	8	8	—	—	2	9	13	10	8	8	—	—	3	4	8	10	10	4	—	—	3	11
8 "	10	13	8	5	—	—	2	10	13	12	6	9	—	—	1	5	9	11	8	4	—	—	2	10
10 "	11	12	8	5	—	—	2	10	14	12	5	9	—	—	1	4	10	11	7	1	—	—	1	11
Mdn.	11	11	9	3	—	—	4	11	14	14	3	9	—	—	—	6	10	11	7	1	—	—	—	11
Means	9.2	13.0	8.8	6.3	—	—	2.5	10.8	13.8	10.9	6.3	7.4	—	—	1.2	6.3	9.1	11.5	7.4	2.7	—	—	1.0	11.6

TABLE X. (continued).
SUMMARY OF WEATHER NOTATIONS, at DEALY ISLAND, 1852 September to 1853 August—
continued.

Hours.	March 1853.								April 1853.								May 1853.							
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.
2 a.m.	11	11	9	7	—	—	2	5	7	13	10	10	—	—	3	7	7	16	8	12	—	—	4	7
4 "	10	10	11	8	—	—	3	4	7	13	10	10	—	—	3	7	7	15	9	12	—	—	4	7
6 "	10	10	11	8	1	—	3	6	7	13	10	10	—	—	3	8	7	15	9	11	—	—	5	7
8 "	10	12	9	8	1	—	2	6	6	12	12	11	—	—	3	9	7	14	10	10	—	—	5	7
10 "	9	12	10	8	2	—	2	6	6	11	13	11	—	—	4	10	7	17	7	11	—	—	3	7
Noon	9	10	12	5	2	—	2	5	9	12	9	9	—	—	3	8	7	16	8	12	—	—	3	7
2 p.m.	7	10	14	11	2	—	2	5	9	13	8	9	—	—	3	7	7	16	8	12	—	—	3	7
4 "	8	11	12	11	1	—	1	5	9	13	8	9	—	—	3	6	7	17	7	13	—	—	2	7
6 "	9	12	10	9	1	—	2	6	9	12	9	9	—	—	4	7	8	17	6	11	—	—	1	7
8 "	10	10	11	8	1	—	3	6	8	12	10	11	—	—	5	8	8	17	6	10	—	—	1	7
10 "	8	10	13	10	1	—	3	7	8	13	9	10	—	—	6	8	8	18	5	11	—	—	1	7
Mdn.	9	11	11	8	1	—	3	6	9	12	9	8	—	—	6	8	8	18	5	11	—	—	1	7
Means	9.2	10.7	11.1	8.4	1.1	—	2.5	5.6	7.7	12.3	10.0	9.8	—	—	3.6	7.9	7.2	16.1	7.7	11.2	—	—	3.1	7.0

(continued.)

(continued.)									July 1853.									August 1853.								
Hours.	June 1853.																									
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.		
2 a.m.	6	14	10	11	—	2	4	—	2	9	20	14	5	7	2	3	4	11	16	15	3	—	4	3		
4 "	6	13	11	11	—	2	4	—	2	9	20	14	5	6	2	3	4	10	17	14	3	—	5	4		
6 "	7	12	11	10	—	2	4	—	2	9	20	13	6	5	2	2	4	9	18	13	4	1	5	3		
8 "	7	11	12	11	—	2	4	1	3	9	19	9	6	4	3	1	4	9	18	14	4	—	7	3		
10 "	6	11	13	11	—	2	5	2	4	8	19	9	6	4	3	1	4	11	16	15	2	—	8	2		
Noon	8	11	11	10	—	—	3	2	5	9	17	11	4	1	4	1	4	9	18	14	3	4	6	3		
2 p.m.	7	12	11	12	—	—	4	1	5	8	18	11	4	1	4	1	4	10	17	14	4	6	3	3		
4 "	7	13	10	12	—	—	3	1	5	7	19	11	4	2	4	1	4	10	17	14	4	6	3	3		
6 "	6	13	11	13	—	—	4	2	6	9	16	11	2	1	3	1	4	11	16	14	4	5	2	3		
8 "	6	15	9	12	—	—	2	2	6	7	18	13	3	2	3	1	5	10	16	16	2	1	3	4		
10 "	6	15	9	12	—	—	2	2	5	7	19	12	4	3	3	2	5	13	13	16	3	—	2	5		
Mdn.	6	15	9	12	—	—	2	2	5	7	19	12	4	3	3	2	4	12	15	16	4	—	3	5		
Means	6.5	12.9	10.6	11.4	—	0.8	3.4	1.2	4.2	8.1	18.7	11.7	4.4	3.3	3.0	1.6	4.1	10.4	16.5	14.9	3.3	1.5	4.6	3.3		

REMARKS from the LOGS of H.M. SHIPS "RESOLUTE" and "INTREPID."

1852.—SEPTEMBER.

- 1st - Off Cape Gillman. Very heavy grounded ice.
 2nd - Five miles off Skene Bay. A heavy range of hummocks some miles off the land, to which they were connected by fast ice.
 3rd - Secured to land floe, 6' W. of Point Palmer.
 6th, Noon - Cast off.
 9th - Fast to land ice about $1\frac{1}{2}$ E. of Dealy Island.
 10th, 10 a.m. and 2 p.m. Distant objects much refracted.
 12th - Winter quarters, Dealy Island.
 21st, 7.30 a.m. - Wind suddenly shifted to N. 3 from S. 3.

During the month 29 musk-oxen were killed, two foxes were seen, and a pack of wolves was seen on 21st

OCTOBER.

- 3rd, 7 a.m. - Parhelion to left of sun.
 A bear was seen on 6th, a deer on 9th, and two foxes were caught.

NOVEMBER.

- 2nd, 2 a.m. - Remarkable halo round the moon.
 3rd, 1 a.m. - Paraselene on each side of the moon.
 4th, 5.30 p.m. - Flashes of faint aurora W.S.W.
 11th - The ice in the offing making a loud grinding noise.
 12th, 12 to 2 a.m. Aurora to S.Wd.
 22nd, 9 p.m. - Fine paraselene.
 28th, 3 a.m. - Splendid paraselene.
 30th, 9 to 10 p.m. Splendid aurora to S.Wd.

During the month 12 foxes were caught.

"Intrepid's" temperatures for the month, max. $+14^{\circ}$, min. -25° , allowing for difference on floe and on taffrail.

DECEMBER.

- 2nd, 2 a.m. - Faint streaks of aurora, N.E. At 2 p.m. halo round the moon, and a paraselene at each extremity of its horizontal diameter.
 3rd, 2 a.m. - Faint streaks of aurora to S.W.
 6th, 2 to 2.30 a.m. Pale aurora S.Wd. At 9 a.m., aurora shooting towards the zenith, Wd.
 7th, 9 p.m. - Arched aurora to S.W., centre of arch about 10° above horizon.
 9th, 4 a.m. - Aurora to S.Wd.
 12th, 3 a.m. - Aurora to S.Wd.
 13th, 11 p.m. - Aurora to S.W.
 14th, 3 a.m. - Aurora to W.S.W. and S.E., of a white colour.
 17th - Thickness of ice in canal 3 feet 1 inch, covered with a layer of hard snow, 9 inches thick.
 19th, 4 a.m. - Slight aurora N.Wd.
 21st, 5 p.m. - Bright meteor seen shooting from N.W. to N.E., making about 45° at its greatest altitude.
 23rd, 7 p.m. - Halo and circle round moon, the latter about 11° radius.
 27th, 10 a.m. - Paraselene on each side of and above the moon; diameter of halo 45° .
 31st, 6 to 8 p.m. Remarkably well-defined luminous arch extending from S. to N.W.

During the month three foxes were caught. A herd of 14 musk-oxen and a brace of ptarmigan were seen on 6th.

OBSERVATIONS AT DEALY ISLAND.

	Max.	Min.	Mean.
"Intrepid's" temperatures for month	$-14^{\circ}0$	$-35^{\circ}0$	$-26^{\circ}0$
Allowance for difference on floe and on taffrail	$-2^{\circ}5$	$-2^{\circ}5$	$-2^{\circ}5$
	$-16^{\circ}5$	$-37^{\circ}5$	$-28^{\circ}5$

1853.—JANUARY.

- 2nd, 2 a.m. - Paraselene directly over the moon. At 1.30 p.m., clean mercury froze in an open wooden trough on taffrail of "Intrepid." A thermometer placed alongside it showed -38° . At 2 p.m. the mercury placed in trough froze, thermometer alongside showing -39° ; mercury in a vial still liquid. At 6 p.m., mercury in vial was frozen; changed mercury in trough twice. From 7 to 10 p.m. mercury liquid twice and twice frozen. 3rd, 4 a.m., mercury thawed.
 3rd, 9 p.m. - Aurora (white), extending from N. to S.S.W.
 4th, 2 a.m. - Aurora from S.E. to W. At 6 a.m., mercury exposed to air frozen. At 11.30 a.m., mercury in a test tube frozen; thermometer $-39^{\circ}5$.
 5th, 6 a.m. - Faint aurora S.Ed.
 6th, 8 p.m. - Brilliant aurora from S.S.W. to W. and N.W., extending nearly to zenith, almost stationary. Temperature on the floe, 2 p.m., in "Intrepid's," -51° ; "Resolute's," -53° .
 7th - Between 6 and 8 a.m. an arch of aurora passing through the zenith from E. to W. from which a few faint coruscations were at times visible. At 9 p.m., faint aurora Sd.
 8th, 6 a.m. - Aurora Sd. and Wd., white, not varying.
 9th, 4 a.m. - Aurora S.Wd. At 6 p.m., faint aurora S. to S.W. Temperature on the floe, noon, by Adie, -49° .
 10th, 9 p.m. - Faint aurora S.Wd.
 14th, 4 a.m. - Bright aurora from S.E. to W. and N.W., of a pale colour. At 11.15 p.m., aurora extending from W. to S.S.E.
 15th, 1 a.m. - Aurora extending from S. to W. At 2 a.m., remarkably broad well-defined luminous arch extending from N.W. to S.; centre of arch 14° above the horizon.
 16th, 6 p.m. - Faint halo round moon.
 17th, 4 a.m. - Faint aurora. Ice breaking with loud reports to the N.Ed.
 19th, 11 p.m. - Halo round moon.
 22nd, 4 a.m. - Large halo round moon.
 25th, 10 p.m. - Halo round moon.

During the month seven foxes were caught, one ptarmigan, and one hare shot. A bear was seen on 23rd.

FEBRUARY.

- 2nd, 4 p.m. - Aurora from N.W. to S. 8 p.m., faint aurora to S.Wd.
 3rd, 5 a.m. - Aurora to Wd. At 9 p.m., aurora extending from E. to W., and passing through the zenith.
 5th, 3 a.m. - Pale aurora S. At 11.30 a.m. the sun's upper limb reappeared above the horizon, after an absence of 93 days.
 5th, Noon - Observed \odot $0^{\circ} 23' 30''$ by sextant.
 By calculation \ominus $20 \ 26$ cor. for Semidiameter and dip.
 Refraction \ominus $3 \ 4$ above horizon.
 \ominus $41 \ 42$ below "

Barometer, 30.70; Thermometer, 35° minus.
 —"Resolute's log."
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- 5th - - At 11.40 a.m., sun observed for first time this year. Noon, altitude of sun $29\frac{1}{2}$, giving refraction, $51\frac{1}{2}$.—"Intrepid's" log.
- 6th, 3 a.m. - Faint aurora S.Wd.
- 7th, 10.15 p.m. - Pale aurora from N. to S.E. At 11 p.m., it shifted to S.Wd.
- 8th, 12.45 to 1 a.m. - Well-defined broad luminous arch extending from S. by W. to N.W.; altitude of centre about 20° , of a brilliant white. From 1.30 to 4 a.m., pale aurora—"Intrepid's" log. At 1 a.m., bright arch of aurora extending from W.N.W. to S.S.E., altitude of arch 8° ; occasional coruscations shooting towards the zenith—"Resolute's" log.
- 12th, 9 p.m. - Aurora extending from N.N.W. to S.S.E., directly through the zenith.
- 20th, 3 a.m. - Fine halo round moon.
- 21st, 9 p.m. - Paraselenæ under moon.
- 25th, 8 p.m. - Mercury became solid.
- 28th - - A crack about a foot wide, had formed during the night between old and new floes. Water was observed in the crack—"Resolute's" log. Found a considerable crack in the ice, running E. and W., 120 yards astern—"Intrepid's" log.

A large bear was seen on the 11th. A fox was caught on the 20th. A hare was shot on 26th, and a ptarmigan on 27th.

MARCH.

- 3rd, 2 a.m. - Splendid aurora of a bright colour from N.W. to S., moving very fast to Ed. At 3 a.m., brilliant aurora suffusing the whole heavens.
- 4th, 1 a.m. - Aurora to the S.W. Mercury frozen.
- 5th, 2 to 2.30 a.m. - Pale aurora S.S.W. and N.N.W.
- 9th, 2 a.m. - Aurora showing in most directions.
- 11th, 2 a.m. - Faint aurora S.W.
- 18th - - The temperature this day rose to $+12^\circ$, being the first time since November 24th that the thermometer has been registered above zero.
- 20th - - Between 1 and 2 p.m. a remarkable tint of orange and yellow on the horizon about 45° left of sun. Snow was dissolved on the ship's side by warmth of the sun.
- 21st, 9 p.m. - Halo round moon.
- 24th, 9 to 10 p.m. - Halo round moon.

During the month several musk-oxen were seen, but only one ox was killed. Seven hares were shot.

APRIL.

- 23rd - - A wolf seen.
- 28th - - A herd of deer and a herd of musk-oxen seen.
- 30th - - Three ptarmigan seen; two shot.

MAY.

- 16th - - Floe alongside ship, 6 feet 9 inches thick.

During the month several musk-oxen were seen; three killed. Some ptarmigan and four deer were killed.

JUNE.

- 4th - - Several brent-geese were seen in flocks of 20 to 30, flying N.Ed. and Ed.
- 6th - - Several pools of water on the land.
- 7th - - Flocks of brent geese flying Wd.
- 8th - - A few small pools on the floe.
- 23rd - - Water on floe making rapidly.

During the month 6 musk-oxen, 15 deer, 3 hares, 13 geese, 29 ducks, 47 ptarmigan, 7 plovers, and some birds were shot. A bear was seen on two days.

JULY.

- 21st - - Cracks to Sd. from 20 to 30 feet wide in some parts.
- 22nd, 8 p.m. - Objects much refracted Ed.
- During the month 10 musk-oxen, 11 deer, 13 hares, 17 geese, 28 ducks, and 31 ptarmigan were shot.

AUGUST.

- 11th - - A crack $\frac{1}{2}$ Sd., running E.S.E. and W.N.W., open to about 30 yards in some places.
- 14th - - A crack 80 yards Sd., open about 10 yards in some places.
- 18th, 3 a.m. - Floe to which ships were attached began drifting to Sd.
- 19th - - Lat. $75^\circ 11' 34''$. Working up Byam Martin Channel to the N.Wd. Short sea from the Nd.
- 20th - - Lat. $75^\circ 13'$, long. $105^\circ 25'$. Fixed or pack-ice S.Ed. to N.Ed., with edge running N. and S., leaving a channel of 10' or 12' Ed. of Melville Island.
- 21st - - Lat. $75^\circ 22'$, long. $105^\circ 40'$. Fast to pack and drifting with it.
- 22nd - - Lat. $75^\circ 20'$, long. $105^\circ 40'$. Beset in pack.
- 23rd - - Lat. $75^\circ 16' 23''$, long. $105^\circ 59'$. Fast to a floe.
- 24th - - Lat. $75^\circ 4' 45''$, long. $105^\circ 42'$.
- 25th - - Secured to land floe off Cape Griffith.
- 27th - - Lat. $75^\circ 6' 57''$, long. $106^\circ 5' 15''$. Var. 153° E. Twelve musk-oxen seen. A flock of plovers flew past.
- 28th - - Secured to land ice about 3' N. of Point Griffith. A lane of water about 1' broad, extending 4' off the E. side of Melville Island. Several seals seen.
- 29th - - Two flocks of brent-geese seen; 3 musk-oxen and 4 hares killed.
- 30th - - Thickness of young ice from 2 to 3 inches. A herd of musk-oxen seen.
- 31st - - Fast to fixed ice, 6' N.N.E. of Point Griffith. Several lanes of water in the pack to the Ed. Shot 10 musk-oxen. Four hares seen.

No. XXIX.

Results of Meteorological Observations made in Melville Sound.

H.M. SHIPS "RESOLUTE" AND "INTREPID," which drifted out of Bridport Inlet with the floe August 18th, 1853, were in latitude $75^{\circ} 6' 57''$ N., longitude $106^{\circ} 5' 15''$ W. on September 1st, and by the 10th they had only changed position to latitude $74^{\circ} 59'$, longitude $105^{\circ} 38'$. Both ships then became beset, and their drift in the pack as determined from their respective log-books is set forth in the tabulation at page 467. On November 5th, after a total drift of S. 75° E., 69 miles in 56 days, both ships became fixed for the winter.

The winter position is given in McDougall's narrative as latitude $74^{\circ} 41' 34''$, longitude, $101^{\circ} 22' 6''$. The vessels were abandoned here in the ice on May 15th, 1854, and the crews travelled over the ice to H.M.S. "North Star," in Erebus Bay, which was reached on 28th.

The comments upon instruments used and observations made at Dealy Island apply to this discussion. McDougall remarks:—"On the 7th December 1853, the thermometer was registered at -42° , but the mercury in a small test tube remained unaffected; the following day, however, the mercury became solid, though the temperature had risen to -37° ; the fact of its not freezing I attribute to the slow withdrawal of the heat contained in the quicksilver itself, but cannot account for the absence of liquefaction when the temperature rose."

Table I. gives the means of the aneroid readings on board the respective ships.

Table II. contains the results of the observations on the temperature of the air made on board the "Resolute"; and

Table III. similar results for the "Intrepid." They show that February was the coldest month, and that the diurnal range was scarcely appreciable during the four months November to February.

Table IV. exhibits the extreme readings of the aneroid on board the "Resolute" in each month, with the accompanying temperature of the air, the wind, and weather. The aneroid read as high as 30.61 in March and as low as 29.08 in October, ranging through 1.53 inch. The weather was always fine and the wind light, with the maximum pressures; on the contrary, the weather was obscure, misty and squally, and the wind occasionally stormy with the minimum pressures.

Table V. exhibits the extremes of the air temperature as observed on board the "Resolute" in each month, with the reading of the aneroid, the wind, and weather at the time. The maximum of the year does not fall within the period; the minimum, -53° , occurred in February. The minimum temperatures were all accompanied by

clear sky and light airs; with the maximum temperatures the wind was fresh to strong, the weather overcast, misty, and squally.

Table VI., the sums of wind components in each month, shows at a glance the predominance of Northerly and Westerly components in each month. A more favourable position for observing the winds in winter could not be desired, as the ship was far from land.

Table VII. sums the wind components for the entire period of 270 days, and gives the bi-hourly resultants. These show a double oscillation in azimuth, from N.W. at 8 a.m. to N. 40° W. at noon, back to N.W. at 6 p.m., veering to N. 39° W. at 2 a.m.; but the force has only a single oscillation, the maximum being about 7 a.m. and the minimum about 7 p.m.

Table VIII. shows the monthly resultants of the winds deduced from the mean components in Table VI. They were North-westerly in all months, except April, which had a S.S.W. resultant.

Table IX. summarises the winds of each month under sixteen azimuths, and gives the average grades of force. The prevalent winds were evidently North-westerly, except in April, when they were South-easterly, these winds having been frequent also in March.

Force 8 and upwards was recorded 9 times in September, October 12, November 5, December 4, January 6, February 12, March 8, April *nil*, May 4.

Table X. summarises the weather notations of each month. The clearest month was March, though in this aspect December was little inferior. The most overcast month was September, though mist is at a minimum in this month, and goes up to a maximum in January. The total duration of snowfall was 20.9 days, rainfall 0.2 day. If, however, the days of fall are counted in the usual way, snow fell on 33 days, and rain on 1 day. Squalls were most frequent in November. Drifting of snow, due to the strength of the wind, occurred in November on 4 days, December 3, January 5, February 5, March 3, April 3, May 1.

Table XI. contains the observations on the thickness of the ice in Melville Sound, which is shown to increase from September 10th to March 15th from 3 inches to 7 feet.

Table XII. details the changes in position from day to day during the drift in the pack of both the "Resolute" and "Intrepid." The resultant of the prevalent winds during the drift is N. 40° W., force 1.6, and the drift made good was S. 75° E., 69 miles in 56 days, at the rate of 1.2 mile per day. The drift apparently was mainly the effect of the wind.

TABLE I.

MEANS OF ANEROID READINGS, in MELVILLE SOUND, 1853 September to 1854 April.

Ship.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.
"Resolute" -	inches. 29.84	inches. 29.82	inches. 29.81	inches. 29.85	inches. 29.70	inches. 29.79	inches. 29.91	inches. 30.01
"Intrepid" -	29.80	29.80	29.82	29.83	29.66	29.72	29.86	30.01

TABLE II.

MEAN TEMPERATURE OF THE AIR, in MELVILLE SOUND, H.M.S. "RESOLUTE," 1853 September to 1854 April.

Hours.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.
3 a.m. -	16.8	6.2	-20.9	-30.6	-34.8	-39.4	-32.0	-9.3
9 " -	17.5	5.9	20.4	30.6	34.4	38.7	29.5	-2.6
3 p.m. -	19.0	6.5	20.1	30.7	34.7	37.2	26.0	+1.2
9 " -	17.6	4.5	-21.2	-30.6	-34.3	-38.7	-30.5	-4.4
Means -	17.7	5.8	-20.6	-30.6	-34.5	-38.5	-29.5	-3.8

TABLE III.

MEAN TEMPERATURE OF THE AIR, in MELVILLE SOUND, H.M.S. "INTREPID," 1853 September to 1854 April.

Hours.	Sept.*	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.
2 a.m. -	—	5.0	-22.4	-32.2	-37.0	-41.7	-34.0	-11.2
4 " -	13.8	4.8	22.7	32.3	37.2	42.0	34.3	10.8
6 " -	—	3.9	22.4	32.1	37.1	41.8	34.2	9.4
8 " -	15.6	3.7	22.2	32.0	36.8	41.9	32.9	7.8
10 " -	—	4.7	21.7	31.4	36.6	40.6	31.2	5.6
Noon -	18.4	5.2	21.3	31.7	36.4	39.8	29.5	3.6
2 p.m. -	—	5.1	21.6	31.3	36.4	39.9	28.5	2.5
4 " -	18.1	4.8	21.9	31.5	36.6	40.4	29.0	2.6
6 " -	—	3.8	22.1	31.8	36.7	40.9	30.7	3.8
8 " -	15.9	3.1	22.3	32.2	36.7	41.2	32.0	6.0
10 " -	—	3.3	22.4	32.3	36.7	41.5	33.2	8.2
Midnight -	13.5	3.6	-22.9	-32.4	-37.0	-41.7	-33.6	-9.9
Means -	15.9	4.2	-22.2	-31.9	-36.8	-41.1	-31.9	-6.8

* September 1st to 4th inclusive the thermometer was not recorded.

TABLE IV.

EXTREMES OF ANEROID, with accompanying TEMPERATURE, WIND, and WEATHER, in MELVILLE SOUND, H.M.S. "RESOLUTE."

Month.	Date.	Highest.	Temp.	Wind.	Weather.	Date.	Lowest.	Temp.	Wind.	Weather.	Range.
1853.	d. h.	inches.	°			d. h.	inches.	°			inch.
September	18 9	30.20	+9	N.N.W. 3	b m	10 3	29.26	+18	N.W. 5	o m p s	0.94
October	22 9	30.51	+4	W.N.W. 2	b c	11 3	30.08	+20	S.S.E. 10	o q	1.43
November	15 3	30.34	-26	N. 1	"	29 9	30.36	-13	Calm	b	0.98
December	28 21	30.45	41	E. 1	b	31 9	30.34	14	N.W. 7	m q	1.11
1854.											
January	9 3	30.06	41	S. by E. 1	b c	1 3	30.14	20	N.N.W. 7	o q	0.90
February	24 9	30.45	35	N.W. 4	"	18 21	30.18	40	N.W. 4	b c m	1.27
March	25 15	30.61	25	W. b. N. 4	b m	29 3	30.24	15	W.N.W. 2	"	1.37
April	10 9	30.44	-16	W. 2	b c	0 15	29.50	-30	N.E. 1	b v	0.94

TABLE V.

EXTREMES OF AIR TEMPERATURE, with accompanying PRESSURE, WIND, and WEATHER, in MELVILLE SOUND, H.M.S. "RESOLUTE."

Month.	Date.	Highest.	Aneroid.	Wind.	Weather.	Date.	Lowest.	Aneroid.	Wind.	Weather.	Range.
1853.	d. h.	°	inches.			d. h.	°	inches.			°
September	2 3	+38	29.76	S.W. 3	b c	25 12	+1	29.89	S. 3	b c	37
October	12 2	+30	30.41	S.E. 8	o q r	31 6	-22	30.70	N.W. b. N. 1	b	52
November	3 15	-8	30.72	N.N.W. 4	b c m q	24 21	37	30.96	N.W. 1	"	29
December	31 3	6	30.48	N.N.W. 6	m q	23 3	44	30.65	S.S.E. 1	b c	38
1854.											
January	1 15	15	29.22	N.W. 5	o q	28 3	52	29.52	Calm	b	37
February	27 9	21	30.11	N.W. 6	b c m q	10 9	53	30.01	S. 1	b m	32
March	1 3	-12	29.67	W. 1	o m s	11 15	44	29.70	N. 1	b	32
April	28 3	+28	29.88	S.E. 1	"	1 15	-32	29.70	N.E. 1	"	60

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TABLE VI.
SUMS OF WIND COMPONENTS, in MELVILLE SOUND, 1853 September to 1854 May,
H.M.S. "RESOLUTE."

Hours.	September 1853.				October 1853.				November 1853.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
2 a.m.	44.7	12.2	6.9	45.3	28.6	17.0	19.6	32.7	59.9	3.1	4.2	31.8
4 "	47.0	14.7	6.8	45.7	29.9	19.1	15.8	36.6	60.8	3.1	5.7	33.8
6 "	49.0	16.1	7.3	56.5	26.3	15.1	18.9	40.5	58.7	2.8	2.7	36.7
8 "	50.1	19.7	7.6	59.9	29.6	14.7	16.9	42.5	46.1	3.1	3.9	38.1
10 "	48.8	17.6	7.9	57.3	26.9	14.6	20.5	37.1	50.1	1.5	2.9	35.5
Noon	48.3	19.3	6.9	57.1	27.0	12.7	16.8	33.4	49.8	4.2	2.8	35.5
2 p.m.	46.4	14.9	8.5	54.3	30.4	16.4	20.2	27.3	47.0	4.2	5.4	37.8
4 "	48.2	12.7	9.8	51.6	24.0	22.4	11.3	33.6	49.3	3.8	5.8	38.2
6 "	39.6	11.4	10.3	47.1	22.1	21.2	8.5	34.1	44.3	4.7	4.3	33.5
8 "	41.4	10.0	10.8	43.8	21.0	15.7	9.0	36.4	41.9	5.0	2.5	33.0
10 "	46.6	13.5	10.6	44.9	24.3	14.7	10.1	39.9	41.5	5.7	2.8	28.2
Midnight	52.0	12.4	9.8	45.4	25.0	13.3	11.1	37.9	45.5	5.7	2.1	29.4
Means	46.8	14.5	8.6	50.7	26.3	16.4	14.9	36.0	49.6	3.9	3.8	34.3

(continued.)

Hours.	December 1853.				January 1854.				February 1854.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
2 a.m.	35.1	14.8	12.1	18.7	40.5	11.6	4.0	32.5	44.8	13.9	2.3	29.6
4 "	37.7	13.4	10.7	21.3	42.9	11.4	3.0	38.4	44.7	15.2	1.3	31.7
6 "	38.3	14.9	13.0	20.5	41.0	11.2	4.6	33.5	48.3	17.6	3.5	36.8
8 "	39.5	13.4	12.1	20.2	45.2	9.4	7.0	39.5	49.2	17.2	2.8	37.5
10 "	45.0	11.7	11.7	26.4	42.3	11.9	8.6	36.0	46.8	15.5	3.1	39.6
Noon	44.7	13.1	11.6	20.1	41.8	11.3	9.3	37.9	41.4	14.3	5.8	34.2
2 p.m.	39.7	12.7	8.0	21.5	43.3	7.5	5.2	36.3	41.6	15.3	6.8	37.6
4 "	38.9	10.2	8.0	20.8	41.8	9.5	3.1	37.6	42.1	15.3	6.5	37.9
6 "	34.2	10.7	8.6	21.7	42.0	10.2	2.8	40.4	37.8	12.4	2.9	34.6
8 "	34.3	13.8	7.5	19.3	42.5	7.0	3.3	39.2	44.6	11.7	2.2	38.7
10 "	33.2	11.5	6.8	20.0	43.6	7.0	3.3	35.9	43.6	12.0	—	37.1
Midnight	35.5	10.1	6.8	21.3	42.4	7.0	3.3	34.7	47.5	11.7	2.4	39.3
Means	38.0	12.5	9.7	21.0	42.4	9.6	4.8	36.8	44.4	14.3	3.3	36.2

TABLE VI.—(concluded.)
SUMS OF WIND COMPONENTS, in MELVILLE SOUND, 1853 September to 1854 May,
H.M.S. "RESOLUTE"—continued.

Hours.	March 1854.				April 1854.				May 1st to 28th.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
2 a.m.	42.7	7.1	10.7	31.9	13.3	23.1	12.5	21.8	48.2	2.4	7.5	41.0
4 "	41.7	6.8	11.4	34.0	12.4	23.4	11.4	21.0	51.7	2.4	7.5	44.5
6 "	43.1	6.4	11.6	35.8	10.1	24.9	14.6	22.0	51.7	1.0	8.1	43.5
8 "	45.1	6.7	9.7	28.0	9.3	32.2	18.8	24.6	53.1	1.9	8.1	45.3
10 "	45.8	10.3	9.3	28.9	12.8	28.3	17.7	21.9	56.5	1.9	8.2	44.9
Noon	47.3	8.4	11.6	21.6	11.8	31.4	19.8	18.8	55.1	1.9	8.2	46.8
2 p.m.	42.1	7.0	15.9	26.2	14.5	33.3	18.9	24.5	56.9	1.9	10.2	49.8
4 "	38.7	10.2	18.9	27.7	14.5	28.5	20.5	23.3	53.8	0.9	13.2	50.8
6 "	35.0	7.4	15.5	21.2	14.6	29.3	19.5	21.0	54.5	0.9	11.2	47.5
8 "	35.7	9.0	14.6	20.7	10.3	28.5	18.0	21.6	53.5	1.0	11.2	44.1
10 "	41.4	11.0	10.4	24.4	7.6	22.4	17.3	20.8	53.2	2.0	9.2	41.3
Midnight	41.9	11.2	15.0	24.0	8.3	23.4	15.5	22.7	52.6	0.7	9.9	40.1
Means	41.7	8.5	13.2	27.0	11.6	27.4	17.0	22.0	53.4	1.6	9.4	45.0

TABLE VII.

SUMS OF WIND COMPONENTS WITH RESULTANT WINDS, in
MELVILLE SOUND, for the Period 1853 September
to 1854 May 28th, H.M.S. "RESOLUTE."

Hours.	Components.				Resultants.	
	N.	S.	E.	W.	Direction.	Force.*
2 a.m.	357.8	105.2	79.8	285.3	N. 39° W.	328
4 "	368.8	109.5	73.6	307.0	N. 42° W.	350
6 "	366.5	110.0	84.3	325.8	N. 43° W.	350
8 "	367.2	118.3	86.9	335.6	N. 45° W.	350
10 "	375.0	113.3	89.9	327.6	N. 42° W.	350
Noon	367.2	116.6	92.8	304.4	N. 40° W.	330
2 p.m.	361.9	113.2	99.1	315.3	N. 41° W.	330
4 "	351.3	113.5	97.1	321.5	N. 44° W.	330
6 "	324.1	108.2	83.6	301.1	N. 45° W.	310
8 "	325.2	101.7	79.1	296.8	N. 44° W.	310
10 "	335.0	99.8	74.5	292.5	N. 43° W.	320
Midnight	350.7	95.5	75.9	294.8	N. 40° W.	335
Means	354.2	108.7	84.7	309.0	N. 43° W.	335

* These figures must be divided by 270, to get the mean force at the given hour.

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TABLE VIII.

MONTHLY RESULTANTS OF THE WINDS,
in MELVILLE SOUND, 1853
September to 1854 May,
H.M.S. "RESOLUTE."

Month.	Resultants.	
	Direction.	Force*.
September 1853	N. 53° W.	1.77
October "	N. 65° W.	0.75
November "	N. 34° W.	1.83
December "	N. 24° W.	0.90
January 1854	N. 44° W.	1.48
February "	N. 46° W.	1.64
March "	N. 23° W.	1.13
April "	S. 18° W.	0.55
May "	N. 35° W.	2.23

* In grades of Beaufort's scale.

TABLE X.

TABLE X.
SUMMARY OF WEATHER NOTATIONS, in MELVILLE SOUND, 1853 September to 1854 May 28th,
H.M.S. "RESOLUTE."

SUMMARY OF WEATHER NOTATIONS, IN																H.M.S. "RESOLUTE."								
																November 1853.								
September 1853.																October 1853.								
Hours.																								
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.
2 a.m.	7	9	14	7	1	—	6	7	5	9	17	15	1	—	4	5	10	16	4	15	—	—	1	8
4 "	6	12	12	8	1	—	6	7	7	8	16	12	1	—	4	6	12	14	4	13	—	—	1	8
6 "	5	9	16	7	1	—	7	6	8	9	14	10	1	—	3	4	10	15	5	14	—	—	1	8
8 "	4	9	17	8	1	—	7	7	8	10	13	11	—	—	4	6	8	15	7	15	—	—	1	7
10 "	5	10	15	9	—	—	6	8	7	12	12	10	—	—	5	5	9	14	7	16	—	—	1	8
Noon	5	8	17	7	—	—	7	7	7	13	11	13	—	—	2	5	9	15	6	14	—	—	1	8
2 p.m.	6	11	13	7	1	—	7	4	6	13	12	16	—	1	2	6	8	15	7	13	—	—	1	9
4 "	7	11	12	7	1	—	7	5	6	12	13	16	—	1	2	4	8	15	7	13	—	—	1	6
6 "	8	10	12	8	1	—	8	4	6	12	13	15	—	—	3	4	10	13	7	13	—	—	1	6
8 "	7	10	13	8	1	—	7	4	7	11	13	14	—	—	3	2	12	13	5	13	—	—	—	6
10 "	9	10	11	5	—	—	4	7	7	12	12	16	—	—	3	2	13	14	3	12	—	—	—	6
Mdn.	9	10	11	3	—	—	5	7	7	13	11	15	—	—	1	4	11	15	4	13	—	—	1	6
Means	6.5	9.9	13.6	7.0	0.7	—	6.4	6.1	6.7	11.2	13.1	13.6	0.2	0.2	3.0	4.4	10.0	14.5	5.5	13.7	—	—	0.9	7.0
																February 1854.								

January 1854.

December 1853.										January 1854.										February 1854.									
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
2 a.m.	14	11	6	14	—	—	—	4	11	13	7	17	—	—	2	6	12	13	3	13	—	—	—	—	—	—	1	5	
4 "	15	10	6	13	—	—	—	4	11	13	7	17	—	—	1	5	11	14	3	14	—	—	—	—	—	—	1	5	
6 "	15	10	6	11	—	—	—	4	11	13	7	17	—	—	2	3	10	15	3	16	—	—	—	—	—	—	1	7	
8 "	14	12	5	15	—	—	—	3	9	14	8	19	—	—	2	3	9	17	2	18	—	—	—	—	—	—	1	5	
10 "	14	11	6	15	—	—	—	4	9	15	7	16	—	—	2	4	9	17	2	15	—	—	—	—	—	—	1	7	
Noon	13	13	5	15	—	—	—	3	9	14	8	16	—	—	—	6	10	16	2	16	—	—	—	—	—	—	2	7	
2 p.m.	14	11	6	12	—	—	—	5	8	16	7	18	—	—	—	6	10	15	3	16	—	—	—	—	—	—	2	7	
4 "	14	10	7	14	—	—	—	6	8	15	8	18	—	—	—	6	10	15	3	16	—	—	—	—	—	—	2	8	
6 "	14	12	5	14	—	—	—	5	9	13	9	17	—	—	—	1	7	11	14	3	14	—	—	—	—	—	2	8	
8 "	13	12	6	18	—	—	—	1	4	10	14	7	17	—	—	—	8	12	13	3	13	—	—	—	—	—	2	7	
10 "	15	9	7	15	—	—	—	3	4	11	14	6	15	—	—	1	6	13	12	3	13	—	—	—	—	—	2	7	
Mdn.	15	10	6	14	—	—	—	3	4	11	15	5	17	—	—	1	6	13	11	4	13	—	—	—	—	—	2	7	
Means	14.2	10.9	5.9	14.2	—	—	—	0.6	4.2	9.7	14.1	7.2	17.0	—	—	1.2	5.4	10.7	14.6	2.7	14.8	—	—	—	—	—	1.4	6.5	

TABLE X.—(concluded.)

SUMMARY OF *WEATHER NOTATIONS, in MELVILLE SOUND, 1853 September to 1854 May,
H.M.S. "RESOLUTE"—continued.

Hours.	March 1854.								April 1854.								May 1st to 28th.							
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.
2 a.m.	16	12	3	14	—	—	2	3	16	11	3	8	1	—	1	—	7	18	3	13	—	—	1	—
4 "	17	11	3	14	—	—	2	3	15	9	6	8	1	—	2	—	6	18	4	13	—	—	1	—
6 "	17	11	3	14	—	—	2	4	15	9	6	8	1	—	2	—	6	18	4	13	—	—	1	—
8 "	18	9	4	12	—	—	5	5	13	9	8	12	1	—	3	—	6	18	4	13	—	—	1	—
10 "	16	8	7	12	—	—	5	4	12	9	9	13	1	—	3	—	6	17	5	14	—	—	1	—
Noon	15	9	7	12	—	—	6	4	10	10	10	15	1	—	3	—	6	17	5	14	—	—	1	—
2 p.m.	13	11	7	16	—	—	6	3	10	9	11	15	1	—	4	—	5	17	6	12	—	—	—	—
4 "	13	10	8	15	—	—	6	3	10	9	11	14	1	—	3	—	4	16	8	13	—	—	—	—
6 "	15	10	6	13	—	—	2	1	11	9	10	14	1	—	3	—	4	16	8	13	—	—	1	—
8 "	17	9	5	12	—	—	1	1	12	9	9	12	1	—	3	—	3	16	9	13	—	—	2	—
10 "	17	9	5	11	—	—	2	2	12	8	10	12	1	—	3	—	4	15	9	13	—	—	2	—
Mdn.	16	10	5	13	—	—	2	3	12	9	9	12	0	—	4	—	5	15	8	13	—	—	2	—
Means	15.8	9.9	5.3	13.2	—	—	3.4	3.0	12.3	9.2	8.5	11.9	0.9	—	2.8	—	5.1	16.6	6.3	13.1	—	—	1.2	—

TABLE XI.

THICKNESS OF ICE, in MELVILLE SOUND, H.M.S. "RESOLUTE."

		Feet. Inches.
1853, September 10th	0	3
" November 15th	2	2
" December 16th	2	9
1854, January 3rd	4	6
" " 21st	5	2
" February 2nd	5	6
" " 15th	6	2
" March 15th	7	0

TABLE XII.

DRIFT of H.M. SHIPS "RESOLUTE" and "INTREPID" in the PACK, 1883 September 10th
to November 5th, when both Ships became fixed for the Winter.

to November 25, when									
Date.	H.M.S. "Resolute."			H.M.S. "Intrepid."			Wind and Force.	* From McDougall's Voyage of H.M.S. "Resolute," page 360.	
	Position.		Drift per Day.*	Position.		Drift per Day.		REMARKS.	
	Lat. N.	Long. W.		Lat. N.	Long. W.				
Sept. 10†	74° 59'	105° 38'	—	74° 59'	105° 38'	—	N.W. 5	† Position at 8 p.m. when beset.	
" 11	74 50	—	S. 12 W. 9.5	74 50	105 42	—	N.N.W. 9	Surrounded by young ice 3 to 5 ins. thick.	
" 12	74 41	105 53	S. 12 W. 14	74 41	106 10	S. 12 W. 9	N.W. 5		
" 13	74 47	105 0	N. 67 E. 15.7	74 49	105 0	N. 67 E. 17	W.N.W. 3		
" 14	74 47	104 51	S. 70 E. 1	74 46	105 7	—	W.S.W. 1		
" 15	—	—	S. 34 E. 1.5	74 46	105 0	S.E. 1	S.S.E. 1		
" 16	74 44	104 49	S. 34 E. 1.5	74 43	105 0	S.E. 1	N. 2		
" 17	74 42	104 31	S. 68 E. 5.2	—	—	S. 64 E. 6	W. 4		
" 18	74 39	104 24	S. 30 E. 3.5	74 38	104 19	S. 64 E. 6	N. 4		
" 19	74 38	104 32	S. 47 W. 2.5	74 38	104 30	S. 80 W. 3.5	N.N.W. 4		
" 20	—	—	S. 52 E. 4	74 38	104 30	S. 23 E. 3.8	" 4		
" 21	74 33	104 8	S. 52 E. 4	74 31	104 22	S. 23 E. 3.8	" 5		
" 22	74 30	104 5	S. 16 E. 3	74 31	104 8	E. 0.7	" 3		
" 23	74 33	103 35	N. 71 E. 8.2	74 31	104 3	E. 0.7	W. 2	A lane of water about 1/4' ahead of the ship, also a few small pools to S.W.	
" 24	74 35	102 41	N. 24 E. 1	—	—	N. 68 E. 4.5	S.W. 3		
" 25	74 34	103 34	N. 24 E. 1	74 34	103 31	N. 68 E. 4.5	W.S.W. 2		
" 26	74 35	103 23	N. 74 E. 2.5	74 35	—	N. 67 E. 2.0	S. 3		
" 28	74 38	103 21	N. 17 1/2 E. 3	74 37	103 30	N. 67 E. 4.2	S.E. 1	In two days.	
Oct. 1	74 39	103 2	N. 74 E. 5	74 39	102 48	N. 67 E. 6.3	E. 2	In three days. Cracks in the ice extending W.N.W. to S.E. (by North) as far as could be seen from the masthead, 4 to 12 yards broad.	
" 2								Pools of water Sd. about 350 yards distant.	
" 5	74 29	102 30	S. 48 E. 13.2	74 28	102 15	S. 47 E. 16	N.W. 4	In four days. Floe much cracked, and pools of water in several places. Thickness of ice 16 ins.	
" 6	74 29	102 10	N. 85 E. 5.2	74 29	102 6	N. 68 E. 2.7	N.W. 4	Var. 179° 40' W.	
" 12								Cracks in ice, and holes of water as far as can be seen from the masthead.	
" 13	75 4	102 33	N. 11 W. 3.5	75 4	102 20	N. 8 W. 3.5	Various -	In seven days.	

TABLE XII.—(continued.)

DRIFT of H.M. SHIPS "RESOLUTE" and "INTREPID" in the PACK, 1853 September 10th to November 5th, when both Ships became fixed for the Winter—continued.

Oct. 1853, when both Ships became fixed for the Winter—continued.									
Date.	H.M.S. "Resolute."			H.M.S. "Intrepid."			Wind and Force.	* From McDougall's Voyage of H.M.S. "Resolute," page 360.	REMARKS.
	Position.		Drift per Day.*	Position.		Drift per Day.			
	Lat. N.	Long. W.		Lat. N.	Long. W.				
Oct. 14	—	—	S. 42 E. 1' 2	—	—	S. 67 E. 1' 6	W.N.W. 1		A large body of water, with young ice over it, 5' distant from the ship, extending from N.N.W. to E.S.E., 1' broad. Cracks in every direction. Heavy hummocks N.E. by E., 6' or 8' distant. A range of hummocks E.N.E., with a large pool of water S. of them, also a quantity of pressed-up ice about 1' N.E. The hummocks N.E., pools, lanes, and cracks to N.E. and E.
" 15	—	—	S. 42 E. 1' 2	—	—	S. 1' 6	S.W. 1		
" 16	75 2	102 25	S. 42 E. 1' 1	—	—	S. 1' 7	N.N.W. 1		
" 17	—	—	S. 27 E. 1' 4	—	—	S.E. 2' 0	N.N.E. 1		
" 18	—	—	S. 27 E. 1' 3	75 2	101 49	S. 22 E. 2' 4	Variable 1		
" 21	74 56	102 13	S. 27 E. 4' 1	74 57	102 8	S.W. 7	N. 1	In three days.	
" 22	74 49	102 11	S. 7' 5	—	—	S. 11 W. 4' 5	N.W. 4		
" 23	—	—	S. 89 E. 4' 2	74 48	102 15	S. 11 W. 4' 5	W.N.W. 3		
" 24	74 45	—	S. 89 E. 4' 2	—	—	E. 7' 4	W. 4		
" 25	74 48	101 24	S. 89 E. 4' 1	74 48	101 18	E. 7' 4	S.W. 4		
" 27	74 45	101 11	S. 40 E. 5	74 45	101 11	S. 31 E. 3' 5	S.E. 1	In two days.	
" 30	74 46	101 11	—	74 46	101 9	—	N. 1		
Nov. 5	74 41	101 17	S. 25 W. 4	74 41	101 8	S. 5	N.N.W. 4	In six days. Total drift S. 75 E., 69 miles in 56 days.	

REMARKS from the Logs of H.M. SHIPS "RESOLUTE" and "INTREPID."
1853.—SEPTEMBER.

- 1st - A light swell from the Ed. Secured to land ice 3' N. of Point Griffith. Lat. 75° 6' 57", long. 106° 5' 15". Var. 153° E.
2nd - A lane of water 3' or 4' wide between the pack and land to the Nd. Shot two musk-oxen.
4th - A fox (dead) and three young ones caught.
5th - Lat. 75° 4', long. 105° 52'. A space of water about 2' wide between pack and land ice, extending Sd. and Wd.
7th - Shot a seal.
8th - Lat. 74° 57' 40", long. 105° 52'. Fast to land ice 6' N. of Point Griffith.
8th - Lat. 75° 6' 20", long. 106°.

- 9th - Lat. 75° 6' 30", long. 106°. Thirty-five musk-oxen seen; shot eleven.
13th - An owl seen.
15th - Two owls seen; one shot.
18th, 9.10 p.m. - Halo round the moon. 10.30 p.m., aurora visible to Sd.
20th - An owl shot.
25th - Two snow owls seen, one shot. 10 p.m., faint pencillings and flashes of aurora.
26th - Two owls seen.

OCTOBER.

- 1st - Three owls seen; one shot.
2nd, 4 p.m. - Parhelion.
4th - An owl shot.
6th, 9 a.m. - Parhelion on each side of the sun.
11th, 9 to 10 p.m. - Arch of aurora passing through the zenith from N. to S.
21st, 9.30 a.m. - Parhelion visible. An owl seen.
27th, 7 p.m. - Faint aurora N.Wd.
30th, 6 p.m. - Slight flashes of aurora in the S.Ed. 7 p.m., faint aurora N.Wd.
31st, 5 a.m. - Flashes of aurora to the Wd.

NOVEMBER.

- 6th - A small portion of the sun visible; last time seen.
8th, 2.30 a.m. - Broad luminous arch extending from S. to W. 3 a.m., brilliant aurora formed from above (white). 4 a.m., disappeared. 6 p.m., faint streaks of aurora N. and S. 7.45 p.m., a remarkably bright falling star, about 12° above the horizon in the S.E. quarter. 8 p.m., bright aurora in every direction.
An owl seen, plumage very white.
11th, 9.30 p.m. - Flashes of aurora to the Sd.
12th - Thermometer, Pastorelli 483, in use. Lat. 74° 41' 53", long. 101° 22' 6'.
15th, 3 a.m. - Very bright paraselene to the left of the moon.
16th, 2 a.m. - Circle round the moon about 30° diameter.
17th, 6 p.m. - Halo round the moon about 30° diameter.
19th, 9 p.m. - Circle 45° diameter, and halo round the moon.
20th, 2 a.m. - Paraselene visible.
21st, 2 a.m. - Paraselene on each side of the moon, with an elliptical halo; maximum diameter 52°, minimum diameter 44°. The upper quarter bright like an aurora.
22nd, 7 a.m. - Slight aurora to the Sd., and a halo round the moon. 11.30 p.m. to midnight, brilliant halo round moon.
24th, 6 p.m. - Faint flashes of aurora, W. to S.W.
25th, 5 to 7 a.m. - Faint streak of aurora from E. to W., passing through the zenith. 7 p.m., faint flashes of aurora. 8 p.m., faint aurora S.Wd.
26th, 5 p.m. - Double arch of aurora, one arch passing through the zenith from E. to W., the other about 5° S. of and parallel to it.
28th, 10 p.m. - Aurora extending from W.N.W. to S., about 10° altitude; underneath it a dark bank of clouds.
29th, 5 a.m. - Faint aurora S.Wd.
30th, 11.30 p.m. - Faint aurora S.W.

DECEMBER.

- 2nd, 0 to 3 a.m. - Flashes of aurora to the S.W.
3rd, 7 p.m. - Very faint arch of aurora from S.S.E. to W., altitude about 25°. 3 q
4th - Position of winter quarters, lat. 74° 41' 34" N., long. 101° 22' 6" W. A fox seen.

- 4th, 8 p.m. - Faint aurora S.Wd.
 5th, 7 a.m. - Faint aurora.
 6th, 1 to 1.30 a.m. Faint arch of aurora from S.W. to W.
 6th, 5 p.m. - Faint aurora in the N.W.
 6th, 9 p.m. - Aurora extending from N. to S.W., resembling a bank of dense white clouds.
 7th, 6 a.m. - Very faint aurora from N.W. to S.
 7th, 8.20 a.m. - Pale luminous arch extending from S. to W.
 7th, 9 a.m. - Temperature -41° ; a portion of quicksilver in a small bottle not frozen.
 7th, 11 p.m. - Faint flashes to the S.W. 11.30 p.m, bright aurora to the Sd.
 8th, 0 to 4 a.m. Faint aurora.
 8th, 5 a.m. - Mercury frozen, thermometer showing -35° .
 8th, 8 a.m. - Faint narrow arch of aurora passing through the zenith from N.W. to S.E. 10 p.m., flashes of aurora to Wd.
 9th, 7 a.m. - Flashes of aurora to the S.W.
 10th, 1 a.m. - Mercury frozen.
 10th, 7 p.m. - Slight flashes of aurora to the Wd.
 10th, 9 p.m. - Mercury liquid.
 11th, 5 a.m. - Mercury partially frozen.
 12th, 5 a.m. - Mercury liquid.
 12th, 6 p.m. - Circle round the moon, about 45° diameter.
 12th, 9 p.m. - Halo round the moon.
 15th, 5 a.m. - Halo round the moon.
 17th, 7 p.m. - Very bright circle of prismatic colours round the moon, diameter 3° . 8 p.m., halo round the moon.
 20th, 9 p.m. - Faint halo round the moon.
 21st, 3 a.m. - Bright paraselene, diameter about 40° .
 21st, 11 a.m. - Arc of aurora from N.W. through the zenith, of a dull brown colour.
 21st, 7 p.m. - Aurora to S.W.
 22nd, 9 p.m. - Aurora S.S.W. 11 p.m., aurora S.S.E.
 22nd, 11 p.m. - Temperature -41° ; mercury not frozen.
 23rd, 3 a.m. - Halo round moon.
 23rd, 3 a.m. - Mercury frozen.
 23rd, 9 p.m. - Flashes of aurora from S.E. to S.W.
 24th, 2 a.m. - Arch of aurora from W. to S.
 24th, 5 p.m. - Mercury liquid.
 25th, 5.30 a.m. - Brilliant paraselene.
 26th, 5 p.m. - Faint aurora.
 26th, 9 p.m. - Mercury frozen.
 27th, 3 a.m. - Faint aurora S.Wd.
 27th, 9 a.m. - Mercury frozen.
 27th, 7 p.m. - Faint flashes of aurora from W. to S.
 29th - Bright aurora forming a low arch about 15° , extending from S. to W.S.W., and coruscating faintly towards the zenith.
 30th, 4 a.m. - Faint aurora S.E.

1854.—JANUARY.

- 2nd, 2.30 a.m. - Brilliant aurora of a white colour in all quarters.
 3rd, 6 a.m. - Slight aurora to Wd.
 3rd, 11 p.m. - Patches of aurora to Wd.

- 4th, 2 a.m. - Faint aurora from W. to S. 3 a.m., remarkable, but pale, aurora Ed. 6 a.m., bright flashes of aurora to Wd. for half an hour, but faint during the remainder of the watch.
 7th, 7 p.m. - Mercury frozen.
 7th, 9 p.m. - Circle 47° round the moon.
 8th, 6 a.m. - Faint aurora from Wd. to zenith.
 10th, 5 and 9 p.m. Mercury solid.
 11th, 5 p.m. - Mercury liquid.
 12th, 1 a.m. - Mercury frozen.
 12th, 9 a.m. - Mercury liquid.
 14th, 6 p.m. - Halo round moon.
 17th, 5 p.m. - Mercury frozen.
 18th, 1 a.m. - Mercury frozen.
 19th, 5 a.m. - Paraselene visible.
 20th, 11 p.m. - Brilliant aurora S.Ed., forming a broad luminous arch, with five coruscations to the zenith of a white colour, continuous for 30 minutes.
 21st, 1 a.m. - Aurora to Sd. 3 a.m., faint aurora S.Wd. 5 to 7 a.m., faint aurora in various parts of the heavens.
 22nd, 7 p.m. - Mercury partly frozen.
 23rd, 2 a.m. - Faint aurora S.Wd.
 24th, 6.30 a.m. - Faint aurora W.S.W.
 24th, 6 p.m. - Mercury frozen.
 25th, 6 p.m. - Mercury frozen.
 26th, 2 a.m. - Slight aurora to Sd.
 26th, Noon - Temperature on floe -53° .
 26th, 7 p.m. - Aurora to S.E.
 27th, 3 a.m. - Faint aurora S.Wd.
 27th, Noon - Temperature on floe -54° .
 27th, 6 p.m. - Pale aurora passing through the zenith N.W. and S.E. to the horizon each side.
 28th, Noon - Temperature on floe -54° .
 29th, 4 a.m. - Bright aurora S.Wd.
 29th, 8 p.m. - Pale aurora in all directions.
 29th, 9 to 10 p.m. Pencillings of aurora suffusing the whole heavens, brightest to Sd.
 30th, 3 a.m. - Brilliant patches of aurora from N.N.W. to S.S.W., coruscating towards the zenith.—“Resolute’s” log.
 „ 3 a.m. - Splendid aurora in every part of the heavens, changing its form momentarily, of a pale yellow colour.—“Intrepid’s” log.
 30th, 7 a.m. - Arch of aurora passing through zenith from N. to S.
 30th, 8 p.m. - Faint aurora S.Ed.

FEBRUARY.

- 1st, 2.30 a.m. - Broad luminous arch formed S.Wd.
 1st, 3 a.m. - Coruscations of aurora from ditto.
 3rd, Noon - Sun’s semi-diameter above the horizon.
 5th, 6 p.m. - Large halo round moon.
 6th, 3 a.m. - Large halo round moon.
 6th, 4 p.m. - Mercury frozen.
 8th, 9 p.m. - Halo round moon.
 9th, 9 p.m. - Faint coruscations of aurora from S. to S.E.
 9th, 11 p.m. - Small, but peculiar aurora S., varying its shape continually.
 13th, 4 a.m. - Halo round Moon.

- 16th, 1 a.m. - Two concentric luminous arches extending from W. to S., the outer one pale, the inner dark yellow.
 20th, 7 p.m. - Mercury solid.
 23rd, 3 a.m. - Faint aurora S.E. to S.W.
 24th, 2 p.m. - Strong refraction.
 25th, 4 a.m. - Faint aurora S.W.
 27th, 10 p.m. - Bright aurora in S.W.
 28th, 8 p.m. - Pale aurora Sd.

MARCH.

- 3rd, 12 to 3.30 a.m. Aurora Sd., occasionally very brilliant.
 3rd, 11 a.m. - Hummocks distorted by refraction.
 4th, 3 a.m. - Faint aurora N.Wd.
 5th, 2 a.m. - Pale aurora S.Wd.
 5th, 10.30 p.m. Aurora stretching across the heavens S.E. and N.W.
 6th, 11 p.m. - Faint aurora S.Wd.
 7th, 3 p.m. - Most remarkable rise in barometer from 29.65 at 1 p.m. to 29.80.
 9th, 9 p.m. - Faint paraselene.
 13th, 4.20 p.m. - Faint halo round the sun, with a bright parhelion at each extremity, of horizontal diameter.
 14th, 11 p.m. - Halo round the moon.
 17th, 1.30 to 2 a.m. Paraselene.
 24th, 11 p.m. - Faint flashes of aurora.
 26th - - A fox seen.
 31st, 1 p.m. - Thermometer in sunshine showed +21°.

APRIL.

- 4th, 7 a.m. - Faint parhelion.
 4th, 10 to 11.30 p.m. Halo round the moon.
 12th, 5 p.m. - Thermometer at zero for the first time since October 28th.
 26th - - A snow bunting shot.

MAY.

- 5th - - Saw two ptarmigan.
 10th - - A ptarmigan seen.
 15th - - Ships abandoned.

No. XXX.

Results of Meteorological Observations made at Beechey Island.

H.M.S. "NORTH STAR," Commander, now Vice-Admiral, J. W. S. Pullen, was stationed at Beechey Island from 1852 August to 1854 September. The position was in latitude 74° 43' N., longitude 91° 54' W., about a quarter of a mile from the east shore of Beechey Island. The high land, rising above 600 feet, would afford shelter from all winds between S. and W. High tide occurs at full and change of the moon at Oh. 6m.; the springs rise 7 feet 10 inches, and the neaps 1 foot 5 inches. The ship's log book was regularly kept. It is preserved in the Public Record Office, numbered 4,534-7, whence it was obtained on loan for the purpose of this discussion. The entries are for the most part bi-hourly, but data have been extracted for every four hours. From this ship two barometers, Bate 60 and 77, were returned into store at Sheerness in 1854 October. Each of these was mounted in a wooden frame. Nothing is known regarding their accuracy, and no information can now be obtained respecting the thermometers used.

The log states: "Winds entered from this date (1852 August 23rd) are true, not magnetic."

Table I. contains the four-hourly means of barometrical pressure at 32° F., in each month. It will be seen that during the first year the pressure was considerably higher than it was during the second year, and the means for the six months, February to July, are suspiciously high. On the whole the diurnal range of the barometer exhibits maxima about 4 a.m. and 4 p.m., and minima about 8 a.m. and 8 p.m.

Table II. shows the monthly mean temperatures for four-hourly periods and the mean day. The year ending August 1853 had a mean temperature of 5°.4, that ending August 1854 only 2°.1. In 1853 the warmest month was July, 39°.3; the coldest, January, -35°.3, so that the range of mean temperature was 74°.6. In 1854 the warmest was July, 38°.7, the coldest, February, -31°.6; range 70°.3. Diurnal range of temperature almost disappeared in December, and was greatest in May.

Table III. contains results of the observations on the temperature of the air taken upon the floe at a distance from the ship. They show a lower temperature than the observations taken on board, but not exceeding 2°. However, since the errors of the thermometers are unknown, it cannot with certainty be said to what this difference is due.

Table IV. shows the highest and lowest barometrical pressure in each month, with the accompanying temperature of the air, wind, and weather. The absolute highest was 30.75 inches in November, the absolute lowest 29.27 in September, so that the

extreme range of the barometer was 1.48. It can be seen by a glance at this table that clearer, finer weather, and less wind occurs with the high than with the low barometers. It would seem that some of the minima readings are too high, owing to some unknown defect in the barometer.

Table V. gives the maximum and minimum temperature of the air in each month, with the accompanying pressure, wind, and weather. The absolute maximum, 54°, occurred in July, the absolute minimum, -53°, in January, so that the extreme range of temperature in the shade was 107°. The greatest range in any month was 71° in January 1854; the least, 16°, in August 1853, also July 1854. On the whole the weather was clearer with the low than the high temperatures. Precipitation, snow or rain, occurred nine times with the maximum temperatures, and only twice with the minimum.

Table VI. contains the sums of the wind components for each month.

Table VII. contains the yearly sums of the wind components with their resultants. For the year ending August 1853 the general resultant of the winds is N.E.; but the range is very great, being for direction from N. 65° E. at 8 a.m. to N. 53° W. at 4 p.m.; while the force is greatest about midnight, and least about 4 p.m.

For the year ending August 1854 the general resultant of the winds is N. by W.; and the range of direction is small, being between N. 7° W. at 8 a.m. and N. 18° W. at midnight, while the force is greatest about 4 a.m. and least about noon. Thus the results for the two years differ considerably for direction and force, and for the epochs of maxima and minima.

Table VIII. exhibits the general resultants of the winds for each month, computed from the means in Table VI. Comparing the two years, the results for December, May, and July agree closely; those for November and March have nearly opposite directions, while the forces are much the same. All the resultants were Northerly for the second year, but for November, March, July, and August of the first year they were Southerly.

Table IX. contains the results of the observations made on the temperature of the surface of the sea. The errors of the thermometer used are not known. It is interesting to notice how the small range decreases from August to October.

Table X. contains monthly summaries of the winds referred to sixteen points with their mean force. They show that the prevalent wind was from about N.W., and the next most favoured quarter was the S.E. Only in the months of November 1852, February and March 1853, and July 1854, did the winds from the S.E. exceed in frequency those from the N.W. Calms were frequent, especially in December 1852, January, April, May, and December 1853, March, April, and July 1854. These conditions of the air currents confirm the impression that the effects of the land upon the winds in Erebus Bay are important.

Force 8 and upwards occurred in 1852, August 4 times, September 6, October 1, November 8, December 1; in 1853, January 8, February 4, March 13, April nil, May

2, June 2, July 3, August 10, September 3, October 17, November 8, December 5; in 1854, January 13, February 6, March 17, April nil, May 2, June 3, July nil, August nil.

Vice-Admiral Pullen has kindly permitted the following account of the stranding of the "North Star" being made from a manuscript written by him at the time, but never published.

"Early on the morning of September 28th, 1852, the wind veered to S.E., blew fresh occasionally, and the ice was increasing, not only in quantity but in weight, driving fast into the bay, and lining the whole northern shores as well as the eastern coast of Beechey Island. At 3 a.m., however, the wind fell and the ice was still, but out to seaward were complete masses of heavy old floe pieces, heaped together in chaotic confusion. Quiet reigned till 6 p.m., when on the wind breezing up from S.E. by E. the ice was again in motion and piling up around the ship in large heaps. In this way the wind continued until 9 p.m., when it fell, and I was in hopes that no more movements would take place, particularly as the barometer showed no indication of change in the weather, and it had been gradually rising since midnight of the 27th; the sky, too, was beautifully clear with not a cloud in the heavens. At 10 p.m. the ice was pretty thick in the bay, all heavy floe pieces, when at 10.30 a gale came on from S.E., up to 8 in a moment, driving the ice rapidly, and it was impossible to avoid collision, the ship, however, rode well, and there appeared no very great strain on the cable.

"At 10.45 there came on such a quick succession of heavy squalls that I really began to feel apprehensive for our safety, for with the weight of ice now pressing on the ship, together with the wind, the cable stretched out like an iron bar, the lighter ice running up on it and parting, whilst the heavier masses closed in about the bows and increased greatly the strain, so that I fully expected snapping entirely. . . . At 11 p.m. the ship began to drive, when from 7 fathoms, the depth in which she had been lying, soon shoaled to 4½ fathoms (we could only drop the lead over the stern). Still heavy pressure, yet I thought the ice not moving so rapidly, but about 11.20 she took the ground astern, when, as if in a moment, giving us but short time to hold on, her head was forced round to the N.E. as if on a pivot under her keel, and nearly on to her beam ends, with the horrible crunching noise of what we could not tell, till after, was the rudder, which was chocked, shivered into splinters at the sheave hole.

"Thus on her broadside the ship lay, wind now abeam, ice still running, and so pressing that I fully expected to hear it crushing through the bottom or piling up outside and burying us. . . .

"The gale was now between 9 and 10 in strength, snowing hard, with a dark and stormy looking sky, so rapidly had it changed from what it was about an hour ago. Yet the barometer was steady."

After arduous and prolonged labour, the crew succeeded in nearly righting the ship by the end of October; but she remained aground completely embedded in masses of ice down to the keel throughout the winter, and was only floated after great exertions on June 30th, when she was found not to have sustained any considerable damage.

The same manuscript states: "Winds from quarters between W. and S. are rare, and all I think are influenced by the high lands about the bay."

Table XI. summarises the weather notations of each month for four-hourly intervals. During the year ending August 1853 snow fell in every month except December, on 65 days in all, and rain fell on 16 days, or precipitation on 81 days. Taking mist into account, the clearest month was December, the most overcast July.

During the year ending August 1854 snow fell in every month except February, on 58 days in all, and rain fell on 5 days, or precipitation on 63 days. The clearest weather was in January, the most overcast in July.

TABLE I.

MEAN BAROMETRICAL PRESSURE at BEECHEY ISLAND, 1852 August 9th to 1854 August 27th.

Hours.	1852.					1853.								Year.
	Aug. (23 days).	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	
4 a.m. -	inches. 29.739	inches. 29.846	inches. 29.979	inches. 30.113	inches. 29.945	inches. 29.930	inches. 30.209	inches. 30.358	inches. 30.352	inches. 30.363	inches. 30.164	inches. 30.002	inches. 29.879	inches. 30.095
8 " -	.738	.823	.954	.079	.901	.900	.184	.345	.337	.343	.156	29.997	.881	30.075
Noon -	.739	.821	.964	.092	.903	.888	.188	.340	.324	.347	.162	.995	.885	30.076
4 p.m. -	.739	.826	.964	.098	.917	.897	.195	.325	.332	.321	.163	.989	.883	30.076
8 " -	.746	.833	.952	.069	.920	.897	.193	.317	.322	.331	.159	29.997	.880	30.073
Midnight	.744	.837	.979	.106	.925	.907	.200	.358	.343	.339	.171	30.001	.886	30.088
Means -	29.741	29.831	29.965	30.093	29.918	29.903	30.195	30.341	30.335	30.341	30.163	29.997	29.882	30.080

Hours.	1853.							1854.						
	Jan.	Feb.	March.	April.	May.	June.	July.	Jan.	Feb.	March.	April.	May.	June.	July.
4 a.m. -	29.889	29.925	29.840	29.915	29.774	29.847	29.943	30.093	30.066	29.864	29.747	29.797	29.892	
8 " -	.887	.907	.814	.894	.752	.848	.925	.084	.059	.862	.743	.803	.882	
Noon -	.883	.907	.814	.885	.754	.843	.921	.090	.059	.854	.738	.804	.879	
4 p.m. -	.883	.906	.823	.899	.758	.850	.921	.094	.054	.851	.743	.804	.882	
8 " -	.881	.902	.815	.894	.756	.843	.921	.089	.055	.850	.747	.797	.879	
Midnight	.886	.917	.829	.910	.767	.858	.927	.106	.049	.852	.746	.799	.887	
Means -	29.885	29.911	29.822	29.900	29.760	29.848	29.926	30.094	30.057	29.855	29.744	29.801	29.884	

TABLE II.

MEAN TEMPERATURE OF THE AIR, at BEECHEY ISLAND, 1852 August 9th to 1854 August 27th.

Hours.	1852					1853.								Year.
	Aug. (23 days).	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	
4 a.m. -	32.8	21.2	4.6	-4.4	-24.0	-35.8	-19.2	-15.8	-1.1	14.1	32.8	37.5	33.1	3.6
8 " -	33.5	22.0	4.9	3.5	23.7	35.0	18.1	14.2	+2.3	20.9	37.4	39.3	34.5	5.6
Noon -	34.7	22.7	6.3	2.3	24.3	34.9	17.7	10.0	6.0	24.7	40.0	42.1	35.5	7.3
4 p.m. -	35.0	22.6	5.5	2.4	24.3	34.5	17.6	11.7	5.8	22.6	38.9	41.7	36.4	6.9
8 " -	32.5	22.6	4.7	2.0	24.2	35.3	18.2	13.5	+1.2	19.3	36.0	38.8	34.0	5.3
Midnight	32.0	21.9	4.5	-3.1	-24.2	-35.8	-19.1	-13.9	-1.5	15.1	33.3	36.6	32.4	3.8
Means -	33.4	22.2	5.1	-3.0	-24.1	-35.4	-18.3	-13.2	+2.1	19.5	36.4	39.3	34.3	5.4

Hours.	1853.					1854.								Year.
	Jan.	Feb.	March.	April.	May.	June.	July.	Jan.	Feb.	March.	April.	May.	June.	
4 a.m. -	16.5	6.6	-15.9	-24.4	-30.8	-34.6	-24.8	-3.4	13.5	29.2	35.7	34.7	0.2	
8 " -	19.0	7.5	15.3	24.1	30.8	33.8	23.8	+0.1	18.0	34.1	39.0	37.9	2.3	
Noon -	21.1	8.9	15.0	24.4	31.8	32.5	20.0	4.9	21.6	38.2	41.6	41.1	4.3	
4 p.m. -	20.6	8.0	15.8	24.3	31.8	33.4	21.7	3.7	20.2	36.0	42.0	40.2	3.6	
8 " -	17.6	6.9	15.5	23.6	32.3	32.0	23.8	+0.2	15.5	32.0	38.4	37.9	1.8	
Midnight	15.9	6.0	-16.0	-23.1	-32.1	-33.0	-24.4	-2.7	12.8	29.2	35.7	35.3	0.3	
Means -	18.5	7.3	-15.6	-24.0	-31.6	-33.2	-23.1	+0.5	16.9	33.1	38.7	37.9	2.1	

TABLE III.

MEAN TEMPERATURE OF THE AIR ON THE FLOE, at BEECHEY ISLAND.

Hour.	1853.					1854.	
	Jan.	Feb.	March.	April.	June.	June.	July.
4 a.m. -	-	-	-	-	-	28.0	34.3
8 " -	-	-36.3	-19.3	-13.6	+1.3	37.4	32.3
Noon -	-	35.7	19.2	10.7	5.8	40.1	35.9
4 p.m. -	-	-35.9	-19.9	-12.7	+4.2	38.4	33.8
8 " -	-	-	-	-	-	31.3	36.5
Midnight	-	-	-	-	-	28.2	34.2
Means -	-	-	-	-	-	31.6	36.8

TABLE IV.

EXTREMES OF BAROMETRICAL PRESSURE, with accompanying TEMPERATURE OF AIR, WIND, and WEATHER, at BEECHEY ISLAND.

Month.	Date.	Highest.	Temp.	Wind.	Weather.	Date.	Lowest.	Temp.	Wind.	Weather.	Range.
1852.	d. h.	inches.	°			d. h.	inches.	°			inch.
August	- 10 0	29.96	+36	S.W.b.W. 1	b c	19 0	29.35	+34	E.b.S. 3	f s	0.61
September	- 11 16	30.28	19	S.S.W. 2	"	27 8	29.27	30	E.S.E. 3	c m g	1.01
October	- 11 4	30.48	+ 1	Calm	c	2 16	29.56	+22	N. 5	s q	0.92
November	- 12 4	30.75	- 5	S.E. 2	"	28 20	29.34	- 5	N.N.W. 4	c q	1.41
December	- 16 4	30.42	-32	S.S.E. 1	"	24 20	29.55	28	Calm	b c	0.87
1853.											
January	- 15 4	30.39	-41	" 2	b c	2 0	29.45	22	S.E. 4	c q m	0.94
February	- 4 12	30.56	-25	E.S.E. 2	"	0 20	29.93	26.5	E.S.E. 6	q m	0.63
March	- 21 8	30.67	+15	S.E. 2	"	12 20	30.10	29	N.N.W. 2	b c	0.57
April	- 30 8	30.51	+20	Calm	b	18 0	30.19	- 2	W.N.W. 6	b q	0.32
May	- 3 16	30.64	- 4	N.W. 7	q m	30 0	30.19	+27	N.W. 2	q	0.45
June	- 26 4	30.41	+48	Calm	b c	30 0	30.08	42	N.E. 3	m o	0.32
July	- 4 4	30.16	44	S.E. 3	"	30 0	29.90	34	N.W. 1	b c	0.26
August	- 20 8	30.03	33	Calm	"	26 16	29.68	32	E.S.E. 6	c q	0.35
September	- 26 8	30.15	+13	S.E. 1	o	11 4	29.67	24	Calm	g o	0.48
October	- 9 8	30.32	- 7	Calm	b	2 0	29.60	+22	N.N.E. 8	m s	0.72
November	- 15 0	30.25	-22	N.W. 2	b c	27 16	29.58	-18	N.W. 4	b	0.67
December	- 28 16	30.53	-42	N.E. 1	b	27 0	29.56	22	N.N.W. 9	q m	0.97
1854.											
January	- 8 12	30.08	-37	E. 1	"	24 0	29.55	24	N.W. 6	c q	0.53
February	- 24 16	30.38	-35	Calm	"	19 16	29.52	41	Calm	b	0.86
March	- 25 4	30.53	-28	W.N.W. 8	b c q	29 4	29.56	16	E. 1	g	0.97
April	- 10 4	30.44	- 6	Calm	b	3 4	29.62	-22	N.W.b.W. 2	b c q	0.82
May	- 20 0	30.37	+29	"	b c	4 8	29.66	+ 8	N.W. 6	b q	0.71
June	- 3 8	30.22	28	N.N.W. 7	b c q	29 20	29.65	41	S.E. 1	s r m	0.57
July	- 19 16	29.96	35	S.S.W. 1	f	16 20	29.61	39	S.S.W. 1	r	0.35
August	- 16 8	29.98	+34	N.W. 6	c q	2 20	29.62	+37	E. b. S. 6	m q	0.36
Period	- Nov.	30.75	—	—	—	Sept.	29.27	—	—	—	1.48

TABLE V.

EXTREMES OF THE TEMPERATURE OF THE AIR, with accompanying PRESSURE, WIND, and WEATHER, at BEECHEY ISLAND.

Month.	Date.	Max.	Pressure.	Wind.	Weather.	Date.	Min.	Pressure.	Wind.	Weather.	Range.
1852.	d. h.	°	inches.			d. h.	°	inches.			°
August	- 16 0	+49	29.65	E.by S. 1	b c	25 12	+22	29.73	E.N.E. 2	b c	27
September	- 1 4	31	29.61	S.W. 3	c s	25 16	+12	29.60	N. 2	c m	19
October	- 2 8	29	29.80	N.W.b.N. 3	s	19 8	- 9	29.81	E. by S. 5	o g	38
November	- 20 20	16	29.81	S.W. 6	s q	30 4	21	29.67	N. by W. 2	c	37
December	- 7 16	+ 8	29.74	N.E. 6	q o	16 8	35	30.44	Calm	"	43
1853.											
January	- 20 4	-10	29.76	E.N.E. 3	b q	10 8	53	30.02	"	c m	43
February	- 13 0	+10	30.17	S. by E. 1	c m	27 16	36	30.19	S.S.E. 1	b c	46
March	- 17 8	20	29.99	E.S.E. 6	g q	7 12	46.5	30.22	Calm	m	66.5
April	- 30 0	30.5	30.47	S.E. 1	b c	20 12	12	30.31	N.W. 2	c m	42.5
May	- 21 0	45	30.25	Calm	"	3 12	- 4	30.60	" 6	q	49
June	- 26 0	49	30.23	S.E. 1	"	4 12	+25	30.18	S.E. 4	m	24
July	- 13 20	54	30.00	" 2	c m	10 16	31	29.96	N.W.b.W. 3	s	23
August	- 3 0	42	29.88	" 1	m r	30 16	26	29.91	N.W. 8	b c	16
September	- 4 0	34	29.84	N. by E. 2	b c	29 4	+ 6	29.96	E.N.E. 2	"	28
October	- 13 0	25	29.71	S.E.b.E. 5	q m	9 20	-11	30.32	Calm	"	36
November	- 2 0	8	29.68	E.S.E. 6	g o	24 0	37	29.97	N.N.E. 2	"	45
December	- 31 12	19	29.55	E.N.E. 6	g s	28 16	42	30.53	N.E. 1	b	61
1854.											
January	- 0 20	+24	29.59	" 6	"	26 12	47	29.72	N.N.W. 4	"	71
February	- 17 12	-13	29.64	W.N.W. 3	g	10 0	48	30.09	Calm	"	35
March	- 30 0	- 8	29.58	S.E. 6	g s	26 16	37	30.14	N.N.W. 7	b q	29
April	- 28 4	+26	30.01	E. by S. 3	b	3 16	30	29.75	Calm	b	56
May	- 30 0	43	30.30	Calm	b c	6 12	- 2	30.04	S.W. 1	"	45
June	- 28 0	48	29.73	S. 1	s	13 12	+20	29.88	N.N.W. 5	q c	28
July	- 11 0	48	29.71	S.E.b.E. 7	m r s	11 16	32	29.70	E.S.R. 6	m r g	16
August	- 11 0	+49	29.90	N. 1	b c	25 12	+30	29.83	N.W. 4	m	19
Period	- July	54	—	—	—	Jan.	-53	—	—	—	107

TABLE VI.

SUMS OF WIND COMPONENTS, at BEECHEY ISLAND.

Hours.	August (23 days) 1852.				September 1852.				October 1852.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m.	28.7	19.0	24.9	22.5	40.0	32.1	31.5	30.5	28.1	25.0	15.2	7.9
8 "	33.8	20.0	18.9	33.4	36.3	36.9	41.2	27.2	27.0	13.9	22.0	9.8
Noon	36.0	14.2	26.2	36.2	40.0	36.1	33.9	21.2	27.7	18.3	20.3	17.3
4 p.m.	40.3	21.2	10.7	36.5	29.7	30.0	30.0	27.0	21.8	13.4	20.1	17.4
8 "	32.7	19.7	28.0	25.3	37.1	28.2	35.4	28.5	22.9	17.8	17.1	19.4
Midnight	32.8	14.2	26.1	30.6	38.9	32.2	35.0	27.8	28.6	17.5	18.8	10.0
Means	34.1	18.1	22.5	30.8	37.0	32.6	34.5	27.0	26.0	17.6	18.9	13.6
Hours.	November 1852.				December 1852.				January 1853.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m.	15.2	51.1	28.8	12.8	47.8	14.5	21.0	27.3	32.2	28.0	43.1	15.5
8 "	17.5	47.9	30.6	14.8	35.6	13.9	17.2	28.1	36.3	22.8	32.4	20.7
Noon	18.2	43.4	30.5	12.0	29.7	20.2	13.6	24.8	24.1	21.0	29.5	18.9
4 p.m.	20.3	49.3	31.3	9.4	20.0	14.0	18.8	18.8	33.7	15.1	29.9	23.1
8 "	17.0	52.5	30.5	9.9	28.6	11.8	21.8	18.5	25.7	10.8	26.6	19.9
Midnight	20.1	54.1	30.8	6.9	40.1	10.9	31.4	20.8	33.4	19.6	32.2	20.0
Means	18.0	49.7	30.4	11.0	33.6	14.2	20.6	23.0	30.9	19.5	32.3	19.7
Hours.	February 1853.				March 1853.				April 1853.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m.	27.7	26.4	41.5	15.3	25.0	45.0	56.4	28.2	27.5	9.2	10.9	41.7
8 "	15.4	24.4	40.3	13.7	11.9	41.7	49.6	19.1	35.1	7.3	7.5	40.5
Noon	19.0	19.3	37.1	19.1	11.5	31.8	42.5	19.3	35.7	9.5	8.6	38.3
4 p.m.	26.6	28.7	21.5	24.3	16.9	26.3	34.6	27.9	30.6	6.7	11.4	38.7
8 "	22.5	22.3	37.6	5.5	16.1	34.1	51.4	31.0	33.3	7.2	5.0	39.0
Midnight	32.4	23.1	42.6	8.0	15.2	40.8	55.9	23.5	26.8	3.9	14.1	27.2
Means	23.9	24.0	36.8	14.3	16.1	36.6	48.4	24.8	31.5	7.3	9.6	37.6

TABLE VI.—continued.

SUMS OF WIND COMPONENTS, at BEECHEY ISLAND—continued.

Hours.	May 1853.				June 1853.				July 1853.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m.	42.2	13.2	9.5	34.1	16.9	11.8	18.3	19.9	26.5	28.6	37.2	17.8
8 "	33.9	8.2	7.3	25.4	15.1	12.5	20.9	26.0	26.9	31.9	46.2	15.0
Noon	37.3	11.0	13.3	37.8	22.6	11.4	22.6	28.0	27.7	29.3	46.5	21.5
4 p.m.	33.3	13.1	6.9	35.0	23.9	11.3	14.6	31.0	20.6	39.8	45.5	19.6
8 "	41.4	9.2	10.8	34.4	13.9	10.8	14.4	19.8	16.7	38.6	47.2	19.2
Midnight	43.8	12.5	11.9	35.0	24.9	6.5	10.0	28.0	14.8	20.5	43.2	22.0
Means	38.6	11.2	9.9	33.6	19.6	10.7	16.8	25.5	22.2	31.4	44.3	19.2
Hours.	August 1853.				September 1853.				October 1853.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m.	26.6	30.8	38.2	46.3	45.9	6.3	21.0	47.1	52.0	29.5	34.1	28.7
8 "	28.9	29.1	34.2	46.4	51.7	16.5	21.5	35.8	41.0	27.9	33.8	28.5
Noon	25.0	28.8	35.2	40.6	64.4	11.0	12.2	36.3	47.9	27.6	34.7	25.1
4 p.m.	23.5	33.6	27.1	45.8	58.8	7.8	13.7	44.7	40.6	28.9	27.4	40.1
8 "	24.8	28.8	24.8	40.7	49.3	11.8	15.6	32.0	38.8	20.3	30.3	33.4
Midnight	35.0	31.1	36.6	39.3	34.3	6.8	5.9	37.4	42.4	15.5	22.0	43.7
Means	27.3	30.4	32.7	43.2	50.7	10.0	15.0	38.9	43.8	25.0	30.4	33.2
Hours.	November 1853.				December 1853.				January 1854.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m.	58.2	21.6	25.9	39.1	31.0	10.6	30.1	23.7	83.9	4.7	14.4	50.7
8 "	58.9	17.1	28.0	28.7	40.7	15.4	32.2	14.4	91.3	4.3	12.7	45.6
Noon	54.9	22.3	28.8	23.8	39.2	16.9	25.5	14.4	82.0	4.8	12.3	40.4
4 p.m.	59.7	24.1	26.4	25.1	46.1	14.3	30.4	15.5	81.9	3.9	9.5	47.6
8 "	61.3	17.7	28.0	27.9	46.7	9.2	22.5	16.7	92.3	10.3	11.8	48.3
Midnight	63.4	20.8	27.8	32.8	30.0	12.8	23.8	22.5	92.0	4.1	8.9	55.8
Means	59.4	20.6	27.5	29.6	39.0	13.2	27.4	17.9	87.2	5.4	11.6	48.1

TABLE VI.—concluded.

SUMS of WIND COMPONENTS, at BEECHEY ISLAND—continued.

Hours.	February 1854.				March 1854.				April 1854.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m.	54.8	14.7	12.3	34.3	58.4	12.5	17.4	34.9	23.1	19.6	28.5	8.9
8 "	56.8	15.2	13.9	30.2	46.6	6.6	17.0	38.7	23.5	15.0	26.3	9.2
Noon	58.1	8.3	7.1	29.0	50.6	10.5	18.8	36.6	15.8	17.7	21.0	10.1
4 p.m.	54.3	15.5	8.0	31.6	53.9	11.8	23.7	49.2	19.0	13.4	26.4	21.8
8 "	47.7	15.5	16.3	23.2	55.6	8.9	24.0	51.1	17.5	19.2	25.4	17.3
Midnight	48.7	19.9	14.0	33.5	54.0	9.3	22.7	50.2	14.1	20.2	29.9	10.7
Means	53.4	14.9	11.9	30.3	53.2	9.9	20.6	43.5	18.8	17.5	26.2	13.0

Hours.	May 1854.				June 1854.				July 1854.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
4 a.m.	59.9	10.3	12.5	37.1	51.4	7.3	24.0	32.5	14.7	7.3	34.0	9.6
8 "	52.2	6.7	12.4	40.0	45.5	14.7	26.9	19.0	17.1	10.2	30.0	11.7
Noon	48.7	13.6	11.8	32.1	47.0	17.2	19.2	22.5	13.3	18.3	39.3	12.8
4 p.m.	58.0	18.6	20.3	27.0	47.7	12.2	21.5	19.0	15.9	18.5	42.4	10.0
"	50.7	16.8	16.9	32.1	53.9	13.6	18.2	22.1	23.2	19.1	35.1	9.9
Midnight	61.1	18.9	21.0	26.0	62.0	14.2	25.0	29.5	13.7	8.8	26.8	10.2
Means	55.1	14.1	15.8	32.4	51.2	13.2	22.5	24.1	16.3	13.7	34.6	10.7

Hours.	August 1854 (27 days).			
	N.	S.	E.	W.
4 a.m.	26.1	13.4	21.0	26.0
8 "	26.9	11.3	17.5	21.0
Noon	28.6	13.4	17.0	24.0
4 p.m.	27.2	23.6	21.8	30.8
8 "	26.0	22.2	21.1	31.4
Midnight	26.3	14.7	28.8	28.2
Means	26.8	16.4	21.2	26.9

TABLE VII.

SUMS OF WIND COMPONENTS, with RESULTANT WINDS, at BEECHEY ISLAND.

Hours.	1852 September to 1853 August.						1853 September to 1854 August 27th.					
	Components.				Resultants.		Components.				Resultants.	
	N.	S.	E.	W.	Direction.	Force.*	N.	S.	E.	W.	Direction.	Force.†
4 a.m.	355.7	315.7	351.6	297.3	N. 54 E.	67	559.4	157.8	275.2	372.6	N. 13 W.	420
8 "	319.9	290.5	349.4	286.7	N. 65 E.	69	552.2	160.9	272.2	322.8	N. 7 W.	400
Noon	318.5	280.1	333.6	298.8	N. 42 E.	52	550.5	181.6	247.7	307.1	N. 9 W.	370
4 p.m.	300.9	281.3	291.7	318.0	N. 53 W.	33	563.1	192.6	271.5	362.4	N. 14 W.	380
8 "	299.0	272.1	322.6	285.8	N. 54 E.	45.5	563.0	184.6	265.2	345.4	N. 12 W.	390
Midnight	354.0	272.7	362.5	268.5	N. 49 E.	124	542.0	166.0	256.6	380.5	N. 18 W.	395
Means	324.7	285.2	335.2	292.5	N. 47 E.	58	554.9	173.9	264.7	348.6	N. 12 W.	395

* Must be divided by 365, to get the mean force at the given hour.
† Must be divided by 361, to get the mean force at the given hour.

TABLE VIII.

MONTHLY RESULTANTS OF THE WIND, at BEECHEY ISLAND.

Month.	1852-3.		1853-4.	
	Resultants.		Resultants.	
	Direction.	Force.*	Direction.	Force.*
September	N. 59 E.	0.29	N. 30 W.	1.57
October	N. 32 E.	0.33	N. 9 W.	0.61
November	S. 32 E.	1.23	N. 3 W.	1.30
December	North	0.62	N. 20 E.	0.90
January	N. 48 E.	0.55	N. 24 W.	2.87
February	East	0.75	N. 26 W.	1.54
March	S. 49 E.	1.01	N. 28 W.	1.58
April	N. 49 W.	1.23	N. 84 E.	0.44
May	N. 41 W.	1.16	N. 21 W.	1.32
June	N. 45 W.	0.42	North	1.29
July	S. 70 E.	0.87	N. 84 E.	0.77
August	S. 73 W.	0.35	N. 29 W.	0.44

* In grades of Beaufort's scale.

TABLE IX.

MEAN TEMPERATURE of the SEA, at BEECHEY ISLAND.

Hours.	1852.		
	Aug.	Sept.	Oct.
	(14 days.)		(9 days.)
4 a.m.	31.1	28.6	28.4
8 "	30.9	28.8	28.5
Noon	31.5	28.8	28.6
4 p.m.	31.3	29.0	28.8
8 "	30.8	28.9	28.3
Midnight	30.5	28.5	28.5
Means	31.0	28.6	28.5

TABLE X.

SUMMARY OF THE WINDS, referred to SIXTEEN POINTS, with MEAN FORCE (Scale 0 to 12),
at BEECHEY ISLAND.

Months.	Total Observations.	N.		N.N.E.		N.E.		E.N.E.		E.		E.S.E.		S.E.		S.S.E.	
		O. F.		O. F.		O. F.		O. F.		O. F.		O. F.		O. F.		O. F.	
		O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.
August 1852.	138	7	3.1	11	4.9	7	4.3	7	3.1	4	4.0	8	3.8	12	2.9	5	4.2
September -	180	10	3.0	13	3.5	13	3.8	14	3.6	4	3.0	10	2.9	12	4.7	15	5.5
October -	186	17	2.3	15	1.4	8	2.8	1	4.0	6	2.7	11	3.5	7	4.0	15	2.6
November -	180	8	2.8	4	2.0	4	3.2	1	3.0	1	4.0	4	2.2	36	3.5	36	4.7
December -	186	6	3.3	1	2.0	7	4.1	1	4.0	6	3.7	8	4.8	17	2.8	12	1.8
January 1853.	186	8	4.4	1	1.0	3	1.7	6	6.0	7	3.0	16	5.6	15	3.1	12	2.9
February -	168	5	2.8	3	3.0	9	5.7	3	5.0	4	3.2	22	4.4	22	3.5	16	1.8
March -	186	—	—	—	—	1	6.0	2	3.5	14	3.9	29	4.5	25	3.7	25	3.6
April -	180	4	2.0	4	3.0	6	2.3	1	5.0	1	1.0	5	3.2	12	2.3	11	1.3
May -	186	3	6.3	3	3.0	2	1.0	—	—	1	4.0	5	2.6	16	2.6	11	2.2
June -	180	4	1.5	5	3.0	11	2.5	3	1.3	3	1.7	7	4.6	18	2.8	3	1.3
July -	186	3	2.7	7	4.1	2	3.0	3	4.7	11	4.7	28	4.1	24	3.1	20	3.6
August -	186	3	4.0	3	4.0	2	2.0	3	3.3	14	3.4	12	3.8	27	4.2	7	4.1

(continued.)

Months.	S.		S.S.W.		S.W.		W.S.W.		W.		W.N.W.		N.W.		N.N.W.		Variable.		Calms.		
	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.			
August 1852.	-	-	7	4'0	4	3'0	3	2'7	5	2'6	8	3'8	16	4'4	19	4'0	7	3'4	—	—	7
September	-	-	7	4'9	7	3'3	5	2'8	5	2'4	7	2'3	27	3'1	17	3'1	7	3'0	—	—	7
October	-	-	8	2'8	5	2'0	2	1'0	2	2'0	5	2'6	10	1'6	17	2'0	25	2'2	—	—	32
November	-	-	11	2'3	8	1'6	5	3'2	—	—	2	2'0	2	2'0	16	2'1	12	3'9	—	—	30
December	-	-	5	2'0	2	1'5	—	—	1	6'0	1	1'0	6	2'0	37	3'7	14	4'0	—	—	62
January 1853.	-	-	6	1'5	2	1'5	6	1'0	1	3'0	2	2'5	8	3'1	25	3'4	19	3'5	—	—	49
February	-	-	9	2'3	1	5'0	2	1'0	1	2'0	2	2'0	7	3'6	19	3'1	10	2'8	—	—	33
March	-	-	6	2'7	—	—	—	—	2	2'0	7	3'0	16	3'9	25	3'7	1	2'0	—	—	33
April	-	-	1	1'0	—	—	—	—	3	3'7	9	2'9	29	3'7	38	3'0	13	3'2	—	—	43
May	-	-	5	1'8	—	—	1	2'0	—	—	3	1'7	22	2'0	49	3'8	14	4'1	—	—	51
June	-	-	9	1'2	1	1'0	4	1'7	1	1'0	19	1'4	33	2'9	17	3'0	6	2'7	—	—	36
July	-	-	8	2'4	3	2'3	1	1'0	—	—	7	2'0	11	2'7	29	3'0	8	2'5	—	—	21
August	-	-	9	2'8	5	3'4	4	3'0	7	3'1	10	2'7	30	4'0	29	4'1	1	4'0	—	—	20

TABLE X.—(continued).

SUMMARY OF THE WINDS, referred to SIXTEEN POINTS, (Scale 0 to 12), at BEECHEY ISLAND.

Months.	Total Observations.	N.		N.N.E.		N.E.		E.N.E.		E.		E.S.E.		S.E.		S.S.E.	
		O. F.		O. F.		O. F.		O. F.		O. F.		O. F.		O. F.		O. F.	
		O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.
September 1853.	180	8	3.9	3	3.3	4	3.2	5	2.6	8	2.0	15	2.5	11	1.8	1	1.0
October -	186	14	3.8	10	3.6	11	2.5	3	3.0	4	2.5	8	4.1	20	6.5	3	6.0
November -	180	12	3.5	7	3.7	11	6.5	8	1.2	5	1.8	8	3.9	15	3.7	9	5.8
December -	186	10	2.8	3	2.3	6	1.8	5	3.4	12	3.4	10	4.1	21	3.9	2	2.0
January 1854.	186	14	4.8	2	6.0	2	1.5	2	6.0	4	2.5	7	3.6	7	4.0	—	—
February -	168	10	4.0	—	—	1	1.0	—	—	3	1.7	5	1.8	21	2.9	9	3.9
March -	186	4	3.5	2	4.5	1	3.0	4	2.0	17	2.6	15	2.5	20	2.3	—	—
April -	180	6	2.3	2	1.0	1	1.0	4	2.0	13	3.0	26	2.7	20	2.4	10	2.4
May -	186	10	3.7	7	4.1	2	3.5	2	1.5	10	1.6	9	2.3	9	3.7	10	3.9
June -	180	8	4.0	2	3.0	8	3.2	5	2.6	10	2.0	12	4.2	10	3.1	18	1.9
July -	186	3	2.0	4	3.7	11	3.2	7	2.6	17	2.8	21	3.5	12	3.3	8	1.9
August -	162	5	2.6	2	1.0	4	1.2	2	4.5	10	3.4	11	3.6	14	3.4	7	2.7

(continued.)

(continued.)																				
Months.		S.		S.S.W.		S.W.		W.S.W.		W.		W.N.W.		N.W.		N.N.W.		Variable.		Calms.
		O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	O.	F.	
September	1853.	6	2'0	3	3'0	4	3'0	1	6'0	2	5'0	11	3'0	32	4'9	31	4'6	—	—	35
October	-	4	2'0	1	4'0	4	3'0	5	4'0	7	3'1	11	5'3	27	4'4	13	4'7	—	—	41
November	-	3	2'0	4	2'7	2	3'0	2	2'5	—	—	2	5'0	30	4'6	32	4'5	—	—	35
December	-	1	1'0	—	—	1	3'0	—	—	2	9'0	1	5'0	7	2'7	42	4'3	—	—	63
January	1854.	—	—	1	2'0	1	2'0	—	—	5	3'6	4	4'0	40	4'9	64	4'9	—	—	33
February	-	6	1'3	—	—	1	3'0	—	—	3	4'3	2	4'5	25	4'2	45	4'8	—	—	37
March	-	3	2'3	2	3'0	—	—	—	—	1	4'0	7	5'9	44	5'5	20	5'5	—	—	46
April	-	6	1'7	4	2'0	2	2'5	1	3'0	1	3'0	4	3'0	19	2'5	18	3'2	—	—	43
May	-	6	2'0	1	3'0	3	1'3	2	3'0	2	1'5	5	3'4	40	3'7	45	3'6	—	—	23
June	-	5	1'0	1	1'0	—	—	—	—	2	5'0	4	2'5	17	3'5	51	4'2	—	—	27
July	-	7	1'4	4	1'0	2	1'0	—	—	3	1'3	14	2'1	16	2'4	4	2'0	6	1'2	47
August	-	9	1'7	3	2'0	4	1'2	4	2'5	6	2'0	10	3'0	37	3'4	10	4'1	8	1'1	16

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TABLE XI.

SUMMARY OF WEATHER NOTATIONS, at BEECHEY ISLAND.

Hours.	August (23 days) 1852.								September 1852.								October 1852.							
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.
4 a.m.	3	10	10	6	2	—	6	5	4	12	14	4	1	1	5	4	1	19	11	1	—	—	8	4
8 "	3	8	12	3	3	—	9	5	3	11	16	2	1	—	6	3	3	15	13	4	—	—	11	2
Noon	4	8	11	4	3	—	6	4	3	7	20	6	2	—	5	2	5	14	12	3	—	—	12	3
4 p.m.	4	11	8	5	3	—	6	5	4	8	18	4	—	—	10	2	2	19	10	2	—	—	6	1
8 "	5	9	9	3	3	—	6	3	5	7	18	3	—	—	12	4	2	21	8	2	—	—	6	4
Midn.	5	8	10	5	2	—	8	2	3	12	15	3	—	—	10	6	2	18	11	6	—	—	7	4
Means	4.0	9.0	10.0	4.3	2.7	—	6.8	4.0	3.7	9.5	16.8	3.7	0.7	0.2	8.3	3.5	2.5	17.7	10.8	3.0	—	—	8.3	3.0
—	November 1852.								December 1852.								January 1853.							
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.
4 a.m.	3	17	10	—	—	—	7	9	8	21	2	—	—	—	—	8	8	19	4	8	—	—	1	10
8 "	3	19	8	2	—	—	4	9	9	22	—	—	—	—	—	7	6	20	5	7	—	—	—	12
Noon	3	16	11	2	—	—	6	6	9	22	—	—	—	—	—	5	7	19	5	13	—	—	—	8
4 p.m.	3	18	9	—	—	—	4	9	8	22	1	1	—	—	—	6	9	20	2	6	—	—	—	7
8 "	3	19	8	1	—	—	4	11	8	23	—	—	—	—	—	7	8	22	1	6	—	—	—	6
Mdn.	3	18	9	1	—	—	6	9	7	24	—	—	—	—	—	8	7	22	2	9	—	—	—	5
Means	3.0	17.8	9.2	1.0	—	—	5.2	8.8	8.2	22.3	0.5	0.2	—	—	—	6.9	7.5	20.3	3.2	8.2	—	—	0.2	8.0
—	February 1853.								March 1853.								April 1853.							
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.
4 a.m.	6	12	10	7	—	—	3	7	6	10	15	14	—	—	2	14	9	10	11	9	—	—	3	9
8 "	6	9	13	12	—	—	2	10	6	12	13	14	—	—	4	7	10	11	9	5	—	—	4	6
Noon	7	11	10	9	—	—	1	8	8	11	12	12	—	—	5	8	12	14	4	6	—	—	1	6
4 p.m.	7	11	10	10	—	—	1	8	7	8	16	13	1	—	5	8	13	14	3	4	—	—	2	5
8 "	6	14	8	8	—	—	1	12	5	8	18	11	1	—	7	13	13	13	4	4	—	—	2	7
Mdn.	6	15	7	7	—	—	2	10	4	8	19	15	1	—	3	12	11	14	5	8	—	—	2	5
Means	6.3	12.0	9.7	8.8	—	—	1.7	9.2	6.0	9.5	15.5	13.2	0.5	—	4.3	10.3	11.3	12.7	6.0	6.0	—	—	2.3	6.3

TABLE XI.—(continued.)

SUMMARY OF WEATHER NOTATIONS, at BEECHEY ISLAND—continued.

Hours.	May 1853.								June 1853.								July 1853.								
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	
4 a.m.	5	11	15	17	—	—	7	3	2	15	13	14	—	1	4	2	4	9	18	12	—	9	2	5	
8 "	7	12	12	14	—	—	5	3	2	11	17	19	—	2	2	3	5	8	18	18	—	6	1	3	
Noon	7	10	14	14	—	1	8	3	5	13	12	14	—	—	2	2	6	8	17	17	—	6	—	4	
4 p.m.	6	12	13	11	—	—	5	2	4	16	10	11	—	1	3	1	7	8	16	13	—	4	—	7	
8 "	7	7	17	14	—	—	8	5	4	15	11	15	—	1	3	1	5	11	15	11	—	8	1	6	
Midnt.	7	7	17	12	—	—	8	6	3	13	14	16	—	1	4	—	4	13	14	14	—	7	1	6	
Means	6.5	9.8	14.7	13.7	—	0.2	6.8	3.7	3.3	13.8	12.9	14.8	—	1.0	3.0	1.5	5.2	9.5	16.3	14.2	—	6.7	0.8	5.2	
August 1853.								September 1853.								October 1853.									
4 a.m.	6	11	14	14	—	3	4	5	4	11	15	6	2	—	6	7	5	11	15	8	—	—	7	6	
8 "	5	8	18	14	1	3	5	10	7	12	11	5	1	—	7	6	6	12	13	7	—	—	5	6	
Noon	5	14	12	15	—	2	2	8	7	12	11	8	—	—	7	7	6	13	12	11	—	—	6	4	
4 p.m.	5	11	15	17	—	3	—	6	8	9	13	2	3	—	8	4	4	5	22	9	1	—	—	6	9
8 "	5	14	12	15	—	1	1	4	3	7	20	7	2	1	7	6	6	10	15	8	1	—	—	4	8
Midnt.	4	14	13	13	—	2	2	9	2	8	20	13	2	1	9	8	6	11	14	8	1	—	—	5	8
Means	5.0	12.0	14.0	14.7	0.2	2.3	2.3	7.0	5.2	9.8	15.0	6.8	1.7	0.3	7.3	6.3	5.5	10.3	15.2	8.5	0.5	—	—	5.5	6.8
November 1853.								December 1853.								January 1854.									
4 a.m.	11	4	15	12	—	—	3	4	20	5	6	4	—	—	2	5	23	2	6	—	—	—	2	7	
8 "	9	9	12	11	—	—	3	2	22	5	4	4	—	—	1	5	21	6	4	2	—	—	1	9	
Noon	8	11	11	13	—	—	2	3	16	9	6	6	—	—	3	19	9	3	—	—	—	—	1	6	
4 p.m.	10	5	15	6	—	—	2	3	19	8	4	2	1	—	3	5	21	9	1	1	—	—	—	6	
8 "	14	6	10	7	—	—	1	3	22	4	5	3	1	—	2	4	22	6	3	1	—	—	—	7	
Midnt.	14	5	11	13	—	—	2	3	21	5	5	6	—	—	3	5	22	5	4	—	—	—	1	10	
Means	11.0	6.7	12.3	10.3	—	—	2	3.0	20.0	6.0	5.0	4.2	0.3	—	1.8	4.5	21.3	6.2	3.5	0.7	—	—	0.8	7.5	

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TABLE XI.—concluded.

SUMMARY OF WEATHER NOTATIONS, at BEECHY ISLAND—continued.

Hours.	February 1854.								March 1854.								April 1854.							
	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.	b.	c.	o.	m.	f.	r.	s.	q.
4 a.m.	18	4	6	2	—	—	—	7	14	6	11	3	—	—	2	10	13	2	15	6	1	—	6	2
8 "	17	6	5	3	—	—	—	7	13	8	10	6	—	—	4	8	13	5	12	7	—	—	8	2
Noon	17	6	5	5	—	—	—	7	13	8	10	5	—	—	5	9	12	8	10	6	—	—	5	3
4 p.m.	16	4	8	1	—	—	—	7	13	7	11	5	—	—	4	8	12	8	10	2	—	—	5	3
"	18	4	6	—	—	—	—	6	12	5	14	2	—	—	4	9	10	9	11	4	—	—	5	2
Mdn.	17	3	8	1	—	—	—	8	15	5	11	6	—	—	1	10	11	7	12	5	—	—	7	2
Means	17.2	4.5	6.3	2.0	—	—	—	7.0	13.3	6.5	11.2	6.5	—	—	3.3	9.0	11.8	6.5	11.7	5.0	0.2	—	6.0	2.3
—	May 1854.								June 1854.								July 1854.							
4 a.m.	10	13	8	—	1	—	1	2	7	11	12	9	—	1	8	2	3	14	14	13	—	6	2	2
8 "	11	11	9	4	1	—	3	3	8	10	12	6	—	1	6	2	3	14	14	16	1	5	2	—
Noon	13	10	8	3	—	—	3	5	9	12	9	7	—	1	6	2	3	12	16	13	1	6	1	1
4 p.m.	12	13	6	1	—	—	3	1	8	11	11	4	—	1	7	—	5	18	8	10	—	4	3	2
8 "	14	11	6	4	—	—	2	2	7	11	12	7	—	2	5	3	3	15	13	12	—	4	2	2
Mdn.	12	13	6	4	—	—	4	2	6	8	16	7	—	1	9	2	2	15	14	13	1	6	3	2
Means	12.0	11.8	7.2	2.7	0.3	—	2.7	2.5	7.5	10.5	12.0	6.7	—	1.2	6.8	1.8	3.2	14.7	13.1	12.8	0.5	5.2	2.2	1.5
—	August 1854.																							
4 a.m.	6	12	9	8	—	—	2	3																
8 "	7	16	4	5	1	—	—	3																
Noon	8	15	4	10	—	1	1	4																
4 p.m.	8	17	2	8	—	1	—	4																
8 "	8	15	4	7	1	—	—	3																
Mdn.	5	14	8	11	1	—	—	5																
Means	7.0	14.8	5.2	8.2	0.5	0.3	0.5	3.7																

REMARKS FROM THE LOG OF H.M.S. "NORTH STAR."

1852.—AUGUST.

- 9th - - Made fast to land ice in Erebus Bay.
 15th - - Several white whales seen.
 20th - - Two bears seen.
 28th - - A quantity of ice driving down the bay.

SEPTEMBER.

- 9th - - A quantity of loose ice in the bay.
 21st - - Young ice extending over the whole of the bay.
 26th - - Young ice covering the surface of the bay.
 27th - - Young ice breaking up and drifting out of the bay; heavy detached pieces.
 28th - - Heavy ice, pieces from 7 to 8 feet thick.
 30th - - Bay full of heavy pack ice.

OCTOBER.

- 6th, 10 a.m. - Two parhelia; wind N.N.W. 2; weather b c.
 7th, 10 p.m. - Paraselene to the right and left of the moon; Nly. 2, c.
 8th, 10 a.m. - Parhelion to the right and left of sun; N.N.W. 3, b c.
 10th, 10.45 a.m. - Parhelion to the left of the sun; S.S.E. 1, b c.
 12th - - A white fox seen.
 13th, 3.15 a.m. - Aurora.
 14th - - Ice in most places 5 to 7 feet thick.
 19th, 10 a.m. - Parhelion 20° on either side of the sun; bright prismatic colours, red, orange, yellow, next the sun; E.S.E. 2, c s.
 24th, 9 a.m. - Two parhelia and a halo round the sun; N.W. 2, c m.
 30th - - Young ice formed to the thickness of 2½ inches during the night.

1852.—NOVEMBER.

- 2nd - - Thickness of ice at fire-hole 4 inches.
 3rd, 8 p.m. - A red circle round the moon; calm, b c.
 6th, 4 p.m. - Small vertical ray of aurora, light red in N.W.
 6th, 9.30 p.m. - Small ray of aurora to Wd.
 10th - - Heavy snow drift; S.S.E. 10 to 8.
 12th, 7 p.m. - Aurora from N.W. to S.E. 10 p.m., aurora very bright from N.W. to S.E.
 22nd, 1.30 a.m. - A small horizontal ray of aurora to N.W., light red.

DECEMBER.

- 2nd, 9 p.m. - Aurora extending from N.N.W. to S.S.E.
 6th, 6 a.m. - Aurora visible from N.W. to S.E. 9.30 a.m., aurora visible from N.W. to S.W. 7 p.m., aurora visible in N.W., light red, vertical. 11 p.m., aurora visible extending from N. to S.
 10th, 7 a.m. - Aurora visible to Wd.
 10th, 10 p.m. - Aurora very bright to S.W.
 12th, 5 a.m. - Aurora visible from N.W. to S.W.
 13th, 12.30 a.m. - Aurora visible from E. to W. 2 a.m., aurora visible from W. to N.W.

- 14th, 1 a.m. - Bright irregular streams of aurora in S.E., flashing towards the zenith.
 19th, Midnight - Halo round moon; N.E. 4, c.
 22nd, 4 & 10 p.m. Halo round moon; N.W. 3 to 6, b c.
 24th, 6 a.m. - Halo round moon; N.W. 5, b q.
 25th, 9 a.m. - Halo round moon; calm, b c.
 27th, 6 & 10 p.m. Halo round moon; N.W. 1, b c.
 28th, 10 p.m. - Halo round moon; Ely. 4, b c.
 29th, 4 a.m. & 8 p.m. Halo round moon; S.E. 6, c q; E. 5, b c q. 4 p.m., aurora, N. by E. to S. by W.
 30th, 2 a.m. - Halo round moon; S.E. 3, b c.

1853.—JANUARY.

- 2nd, 4 a.m. - Halo round moon; E.S.E. 8, c q.
 4th, 4 a.m. - Aurora from W.S.W. to E.N.E.
 4th, 6 a.m. - Halo round moon; calm, c.
 9th, 2 a.m. - Aurora from S.W. to N.W.
 10th, 2 a.m. - Aurora from N.N.W. to W.
 11th, 2 a.m. - Aurora bright to N.W., a light blue colour.
 12th, 2 a.m. - Aurora bright from N.N.W. to S.S.E.
 14th, 6 a.m. - Aurora E.S.E.
 15th, 6 p.m. - Halo round moon; S.E. 3, b c.
 18th, 10 p.m. - Halo round moon; Ely. 1, b c.
 19th, 8 p.m. - Halo round moon; E.N.E. 7, c.
 20th, 6 p.m. - Halo round moon; calm, b c.
 21st, 2 a.m. - Halo round moon; N.W. 3, c.
 21st, 10 p.m. - Halo round moon; N.N.W. 5, q b.
 22nd, 10 a.m. - Halo round moon; N.W. 4, q b.
 25th, 6 p.m. - Halo round moon; N. by W. 1, b c.
 27th, 2 a.m. - Halo round moon; N.W. 5, q c.
 27th, 6 a.m. - Halo round moon; N.N.W. 4, q c.
 27th, Midnight - Halo round moon; N.N.W. 2, b c.
 28th, 3 a.m. - Aurora N.N.E. to W.S.W.
 28th, 4 a.m. - Halo round moon; N.W. by W. 1, c.
 29th, 2 a.m. - Halo round moon; N.W. 7, q c.

FEBRUARY.

- 2nd, 7 p.m. - Aurora from N.W. by W. to S.E. by E.
 4th, Midnight - Faint aurora S.S.E.
 9th, 10.30 p.m. Horizontal ray of aurora in N.W.; colour, light red.
 12th, 10.30 p.m. Aurora from N.E. to S.W.
 15th, 8 p.m. - Halo round moon; N.E. 6, q.
 22nd, 4 a.m. - Halo round moon; N. 3, o.

MARCH.

- 4th, 10 p.m. - Aurora from N.W. to S.E.; light red.
 7th, Midnight - Ray of aurora from N.W. to S.E.

MAY.

- 4th, 3 a.m. - Parhelion on each side of sun; N.W. 7, q m.
 5th - Two bears shot.
 22nd - Flock of wild ducks.

JUNE.

- 7th - A wolf seen.
 21st - A flock of ducks seen.

JULY.

- 31st - Numerous pools of open water in sight from top of Beechey Island.

AUGUST.

- 1st - Ice right across Barrow Strait, in motion and drifting rapidly to S.E.
 4th - State of the ice as seen from top of Beechey Island: many lanes of open water extending across the channel from the island, and to the S.E., with a water sky to the W.S.W. Numerous pools of open water in Wellington Channel.
 6th - A wide lead extending from Cape Spencer across to the opposite shore, but the ice above in Wellington Channel is apparently fast.
 8th - Loose sailing ice in Barrow Strait. In Wellington Channel ice apparently fast above Point Innes.
 9th - Barrow Strait well open, with loose streams of ice driving down from Wellington Channel.
 10th - From Beechey Island to opposite shore of Barrow Strait, a small quantity of loose ice visible. Wellington Channel above Port Innes all fast.
 7th - Ice driving rapidly down the Strait. Observed the ice in Union Bay had cleared out.
 19th - The ice in the bay all adrift. In Barrow Strait ice close packed and much thrown up.
 22nd - No ice on the east side of Wellington Channel. Channel clearing out very fast and the ice drifting to S.E.
 27th - Ice close packed in Wellington Channel and Barrow Strait.
 29th - Several lanes of open water in Barrow Strait.
 31st - State of the ice from top of Beechey Island: in Wellington Channel, the eastern shore clear of ice as far as can be seen, but close packed on the opposite shore, and Cape De Haven and Cape Hotham, Barrow Strait clear on this side of channel.

SEPTEMBER.

- 1st - Ice in Wellington Channel open on the eastern shore as far as Cape Bowden. Close packed on the western shore and by Cape Hotham.
 4th - Wellington Channel close packed with ice. Barrow Strait filled with loose sailing ice.
 5th - Ice in the strait off the entrance of the bay of enormous thickness, some floe-pieces apparently from 20 to 30 feet thick, slowly driving down the Strait. This heavy ice is supposed to have come down from Wellington Channel.
 19th - From the top of the island a large quantity of open water seen in Wellington Channel to N.W., and several lanes of water to the westward.
 24th - From the top of the island, so far as could be seen, the ice close in on the land.

OCTOBER.

- 1st - From top of island, Wellington Channel and Barrow Strait close packed with ice.
 15th - Quantity of open water in the direction of Cape Hotham, and a few pools in Wellington Channel.

NOVEMBER.

- 4th - Outside Cape Riley and as far to the southward all hummocky ice before seen, apparently filling the strait, was driven away by the late gale, and replaced by a coating of thin ice, only interspersed here and there by small hummocky pieces.

DECEMBER.

- 12th, 5 p.m. - Halo round moon ; N.N.W. 2, b c.
- 14th, 6 p.m. - Halo round moon ; N.N.W. 4, b c.
- 15th, 9 p.m. - Two paraselenæ visible right and left of moon ; N.W. 3, m.
- 16th, 2 a.m. - Halo round moon ; N.N.W. 6, q m.
- 16th, 8 a.m. - Paraselene to westward of moon ; N.N.W. 4, b.
- 19th, 9 p.m. - Halo round moon ; N. 4, bq.
- 20th, 9 a.m. - Paraselene right and left of moon visible ; N.N.W. 2, b.
- 22nd, 7 a.m. - Aurora visible.
- 25th, Mdn. - Aurora visible to southward.
- 26th, 6 a.m. - Aurora visible to southward.
- 29th, 6 p.m. - Aurora visible to S.E. and N.E.

1854.—JANUARY.

- 6th, 4.30 p.m. - Paraselene visible ; E. by S. 2, b.
- 8th, 6.30 a.m. - Aurora visible to southward.
- 8th, 7 a.m. - Aurora visible to W.S.W.
- 11th, 10 p.m. - Aurora visible.
- 14th, 4 a.m. - Halo round moon ; calm, b. 2.30 p.m., paraselene on either side of the moon ; calm, b c.
- 15th, Mdn. - Halo round moon ; calm, c.
- 17th, 10 p.m. - Paraselene visible ; N.W. 6, b q. Mdn., aurora visible from E.S.E. to S.S.W.
- 19th, 9 p.m. - Aurora visible to S.E.
- 20th, 6 a.m. - Aurora visible from S.E. to W. Mdn., aurora visible.
- 21st, 7 a.m. - Paraselene visible ; N. b. W. 5, b c.
- 27th, 4 a.m. - Aurora visible, extending from E. to N.W.
- 27th, 5.30 p.m. - Aurora visible to S.E.
- 28th, 7 p.m. - Aurora visible from N.W. to E.
- 29th, 1 a.m. - Aurora visible to southward.
- 29th, 10 p.m. - Aurora visible to S.W.
- 30th, 4 a.m. - Aurora visible to S.E.

FEBRUARY.

- 1st, 4 a.m. - Aurora visible to S.E.
- 2nd, 7 p.m. - Halo round moon ; N.W. 4, b q.
- 3rd, 6 p.m. - Halo round moon ; N.W. 7, b q.
- 4th, 3 a.m. - Bright aurora.
- 5th, 10 p.m. - Halo visible ; N.W. 2, bc.
- 6th, Noon - Sun visible from floe above the horizon.
- 7th, 2 a.m. - Paraselene visible ; E. by S., 2, b c.
- 8th, 4 a.m. - Halo round moon ; S.E. 2, g.
- 8th, 4 p.m. - Halo round moon ; N. 1, b.
- 10th, 2 a.m. - Halo round moon ; calm, b. 4 p.m., aurora from S.E. to N.W.
- 11th, 2 a.m. - Aurora visible. 6 a.m., paraselene visible right and left of moon ; calm, b.
- 13th, 10 p.m. - Halo visible ; calm, b c.
- 15th, 2 a.m. - Halo visible ; calm, g.
- 20th - The ice hummocky across the channel, interspersed at intervals with leads of level floe.
- 22nd, 8 p.m. - Aurora visible.

- 23rd, 10 p.m. - Aurora visible.
- 26th, 2 a.m. - Aurora visible from S.W.
- 26th, 10 p.m. - Aurora visible from S.E. to W.
- 27th, 2 a.m. - Aurora visible.

MARCH.

- 2nd, 10 p.m. - Aurora visible to S.W.
- 3rd, 2 a.m. - Aurora visible.
- 4th, 4 a.m. - Aurora visible to S.W.
- 5th, 10 p.m. - Aurora visible.
- 6th, 9.30 p.m. - Aurora visible to S.E.
- 6th, Mdn. - Aurora visible extending from E. to S.W.
- 9th, 10 p.m. - Halo round the moon ; E. by N. 1, b c.
- 10th, 4 a.m. - Halo visible ; E.S.E. 2, b.
- 12th, 10 p.m. - Halo round moon ; N.N.W. 4, g.
- 13th, 4 a.m. - Halo round moon ; N.W. 5, b c q.
- 14th, 4 a.m. - Halo round moon ; calm, b c.
- 14th, 1 p.m. - Parhelion right and left of the sun ; calm, b c. 8 p.m., paraselene visible left of the moon ; E.S.E. 3, g s.
- 16th, 4 p.m. - Halo round moon : S.E. 1, b c.

APRIL.

- 4th, Noon - Parhelia right and left of the sun ; calm, b.
- 11th, 8 a.m. - Parhelia visible ; N.N.W. 5, g m.

MAY.

- 4th, 4 a.m. - Parhelia visible ; N.W. 9, g q.
- 10th, 6 p.m. - Parhelia visible ; N.N.W. 5, b q m.
- 12th - A snow-bunting seen.
- 27th - A glaucus gull flew on the ship.

JUNE.

- 4th - A flock of wild ducks passed over the ship.
- 11th - A bear killed.
- 13th, 11.30 p.m. - Parhelion visible ; N.N.W. 5, q c.
- 29th - Water making rapidly on the ice all over the bay.

JULY.

- 12th - A young seal caught.
- 13th - Two bears shot.
- 14th - Several large pools on the floe.
- 27th - A seal shot.
- 28th - The crack between Cape Spenser and Beechey Island had opened out to about 30 yards. Ice broken up outside. A new crack open 7 feet wide from Cape Riley joining the one off Beechey Island. In several places ice pressed up 4 feet high.
- 29th - The cracks closed again.

AUGUST.

- 9th - A lane of water visible from the deck extending from Beechey Island to Cape Riley. Ice closing in a lead open right across Barrow Strait below Cape Riley visible from the summit of Beechey Island.

- 10th - - Ice in Barrow Strait driving up and down with the wind and tide.
- 11th - - The main pack in Barrow Strait broken up and slowly driving down the strait.
- 12th - - The ice broken up and drifting down Barrow Strait as far up the Wellington Channel as Point Innes.
- 14th - - Ice drifting slowly to eastward.
- 15th - - The ice in Wellington Channel and Barrow Strait drifting to eastward.
- 16th - - The ice driving slowly down the channel to E. and S.E.
- 17th - - The ice driving to eastward rapidly. The ice in Wellington Channel streaming off from the main flow. Barrow Strait rapidly clearing of ice.
- 18th - - A quantity of ice visible to W., but all the east shore of Wellington Channel as high as Point Innes clear.
- 19th - - Ice still fast above Point Innes, small floe-pieces streaming off and driving to eastward.
- 20th - - Barrow Strait well clear of ice and Wellington Channel as high as Cape Bowden.
- 22nd - - A small quantity of ice streaming off the main body in Wellington Channel; Barrow Strait clear.
- 24th - - Ice clearing out of Union Bay. Ice in Wellington Channel above Point Innes apparently all fast.
- 25th - - A heavy swell setting in on the floe edge, and breaking up the ice. 6.30 p.m., slipped from the floe edge and made sail.
- 26th, 5.35 a.m. - Made fast to the floe edge, Erebus Bay. 12.10 p.m., cast off from the floe and made sail. 4 p.m., made fast to the floe edge, Erebus Bay.
- 27th, 1.30 p.m. - Proceeded to sea. 10 p.m. Cape Hurd, N. 3 or 4 miles.

Commander Pullen's Journal in the Parliamentary Paper 1854 supplies the following information:—

1852.—SEPTEMBER.

N.W. winds the greatest number of days, but the strongest S.E. and S.S.E. Winds from quarter between W. and S. we get but rarely; however, what we do get are, I think, influenced by the high land about us.

OCTOBER.

N.W. winds for the greatest number of days, strength never exceeding 3. The S.S.E. wind was again the strongest, but not of long duration; 8 was the force, and lasted only half a day. The breeze commenced at S.E. However, it was not a windy month.

NOVEMBER.

The prevailing winds were from S. to S.E.; from N.W. a day and a half only, and but light.

DECEMBER.

From S. round by E. to W. the winds have been pretty fairly distributed.

The first fox was caught October 26th; altogether up to the end of the year 23 have been taken in traps. They were all white, except one blue. Only 8 ptarmigan have been shot. A solitary raven has been seen occasionally.

1853.—JANUARY.

This month altogether has been rather windy, the heaviest, as usual, from between E. and S. During one gale's continuance it was never steady at one point for one quarter of the 48 hours it lasted. It commenced S.E. by E. 4, soon up to 6, then S.E. 7, E.S.E. 8 to 9, E. by N. 9, E.S.E. 9, S.E. by S. 9, S.E. by E. 9 to 10, S.S.E. 8, S. by E. 5, S.S.E., and calm. The greatest strength of the N.W. wind has been 7. The thermometer during the gale was ranging between 14 and 39 (minus); marine barometer 30.57 and 29.93 inches. Snow we have had none, in fact cannot look for it at such a low temperature. The drift has been very heavy in the gales.

FEBRUARY

Came in with a wind which I think we may fairly say has been the heaviest since we have been here. It commenced S.E. 4 to S.S.E. 6, but did not last long.

The sun reappeared on 2nd, after an absence of 82 days.

The weather was fine considering the time of year, and the temperature at times very mild. On several occasions the thermometer has been as high as $+10^{\circ}$; and from 13th 8 a.m. until 16th noon never below it. Winds during the time from every quarter, but between W. and S.; much snow fell at these times. The strongest wind during the month has been from N.E., but between E. and S. the prevailing; between N. and W. a pretty fair share, 6 the greatest strength, but only for a short time. Winds between W. and S. more frequently this month than in any preceding one.

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