

dom, if ever, had it above  $30^{\circ}$ , even in the sun at mid-day, and I do not think that three times it was found above  $35^{\circ}$ .

Gales come on very suddenly, and are always attended with snow, sleet, and thick fogs, rendering it extremely hazardous; for one must be found, when they do come, more or less surrounded with ice-islands. They sometimes last for thirty-six hours. After they set in, you may calculate that they will blow strong for at least half that time. The nearer you are to the land, the more violent they are, though not of such long duration. Fine weather usually precedes them, and we found them to happen, and the weather to be more changeable, near the full and change, although I am no believer in the lunar influences upon the weather.

**CURRENTS.**—During the whole of our stay along the icy coast, we found no perceptible current by the reckoning and current log. During a gale of wind I was induced to believe that some existed, from the short sea that was formed, thinking there was more than was to be expected. *Tides* on such an extent of coast there undoubtedly must be, but of little strength, or we should have perceived them.

In many of the icy bays we were stationary for a sufficient time to perceive them if they had been of any magnitude, and where the current was repeatedly tried.

The winds have their effect upon the loose drift-ice, or that which is detached from the icy barrier. Owing to a change of wind from south-east to north, with a fresh breeze, the Peacock became embayed, and the ice forced in upon her, which brought about the accident. The northerly winds are always accompanied with a heavy swell, and her escape is attributable to a rare exercise of good seamanship and perseverance. If Captain Hindson's ship had been as strong as adamant itself, he is of opinion she would have been ground to atoms by a longer exposure; her stem was abraded to within an inch and a half of the wood-ends.

There are places in which the barrier is within the floe-ice several miles. I enclose you the mean temperature during the summer months.

You will see there is but little chance of the ice melting or disappearing, as from accounts frequently takes place in the Arctic Ocean. Your time, being unlimited, will allow you to wait some days in a situation to make experiments.

I frequently found myself so closely beset that I thought it next to impossible to escape, and if the wind had not been extremely constant in its direction, I should have been shut up or much injured; as it was, I escaped with scarcely a scratch, although we took some heavy thumps.

The charts will show you the tracks and state of the ice. It was constructed as I went on, and the ice-islands laid down by carefully-kept diagrams by the officer of the deck during his watch. This I found gave me more confidence in proceeding, and facilities in case of having to return.

**MAGNETIC POLE.**—I consider we have approached very near to the pole. Our dip was  $87^{\circ} 30'$  S., and the compasses on the ice very sluggish; this was in longitude  $147^{\circ} 30'$  E., and latitude  $67^{\circ} 4'$  S. Our variation, as accurately as it could be observed on the ice, we made  $12^{\circ} 30'$  E. It

was difficult to get a good observation, on account of the sluggishness of our compasses. About one hundred miles to the westward, we crossed the magnetic meridian.

The pole, without giving you accurate deductions, I think my observations will place in about latitude  $70^{\circ}$  S., and longitude  $140^{\circ}$  E.

On the meridian of  $140^{\circ}$  E., you will find a small bay, partly formed by ice-islands and rocks, which I have named *Piner's Bay*, and I think among the rocks you may find a snug little harbour. I was driven out of the bay by a gale of wind; sounding about one and a half mile from the shore in thirty fathoms. The icebergs being aground, form good shelters; but I was too much exposed to venture to remain, and my object was to trace the land and the icy barrier, which I have done, as you will see it laid down on my chart.

We had delightful and clear weather ten days or a fortnight along the coast, with the wind at from south-east to south-south-west; the two latter points particularly. The drift-ice is in large pieces, so large as to give a ship an awkward thump; but when I found it tolerably open I have run through it to get to clear water, and in hopes of making the land, but our progress was soon stopped by the firm barrier, impenetrable, through which there is no passing.

I am of opinion that there is little movement of the ice during the season. Strong gales may change its position a trifle, but I think not materially.

The only prospect of nearing the land is through a sea well studded with large icebergs, nearly thirty or forty miles in width; and I generally found that we got nearer to the shore in those places than elsewhere. One thing I must tell you, as respects filling your water: you will sometimes find a pond of delicious water on the top of an old iceberg, frozen over, but on cutting through it you will see a supply sufficient for a navy. It will save you fuel, and discomfort and cold to you, your vessels, and their crews.

I was very fortunate in the weather the latter part of the time; and indeed altogether I was scarcely a day without some observation, (except during the gales, of which we had three, occupying about eight days,) and generally half a dozen.

My time for six weeks was passed on deck, and having all daylight, I of course had constant employment, and with the many assistants, I could make rapid progress; and you will find that no opportunity ought to be lost in this navigation, if one is to do any thing. One's ship is in constant danger, and the *Vincennes*, a first-class sloop of seven hundred and eighty tons, it requires all the foresight and activity one is possessed of to look-out for her.

I consider that I have had a most providential escape; and if this ship had not been enabled to "do every thing but talk," I should not have been where I now am; but she had inspired me with so much confidence, among the coral reefs last summer, that I could put full faith in her doing her duty. I must refer you to the chart, on which I have noted remarks, variations, &c.

I should have mentioned, that in 1838 and 1839, I went south in the brig *Porpoise*, in order to trace