

royal masthead, if wishing to communicate. If the American ensign be hoisted at the signal staff the weather is favourable for coming to the buoy, but should the ensign not be hoisted by the time the vessel is close to the island, it is a sign that it is dangerous to bring up, and a vessel should be prepared to haul to the wind and carry all possible sail to hold her own against the current. The mooring master comes on board when a vessel is 2 miles from the island.

**Winds.**—The winds during the summer months are from East to S.E. and blow steadily, but from November to April they are generally from East to N.E., and are frequently interrupted by westerly winds and bad weather. Vessels do not lie at the moorings except when the trades are blowing, and as they are liable to frequent interruptions during the winter months, the company have discontinued loading vessels between the months of November and April.

The surf breaks heavily on the eastern end and south-west point, and there are heavy tide-rips to the east of the island extending some distance from the land.

#### HOWLAND ISLAND.

This island, the centre of which is in about lat.  $0^{\circ} 49' N.$ , long.  $176^{\circ} 40' W.$ , is about 2 miles long N.N.W. and S.S.E., and about half a mile wide; it is of coral formation, with the fringing reef common to all these islands, from 18 to 20 feet high, and in form and general appearance closely resembles Enderbury island.

The guano deposit is inside the encircling ridge and extends nearly the entire length of the island. Last season 8,300 tons of guano were shipped from this island, the amount remaining being estimated at about 20,000 tons, 8,000 tons being ready for shipment at the present time.\* A clump or two of brushwood near the centre of the island, and a little grass on the ridge, is all the vegetation it affords.†

**Water.**—An inferior quality of fresh water is found by digging a few feet; it is slightly brackish, but is used by the company's employés, who become accustomed to it in a short time, and suffer no inconvenience from its use.

**Tides.**—It is high water, at full and change, about 7h. 11m.; rise 8 feet; the tides are regular and of the semi-diurnal type.

From the buoy moored off the island observations were taken for longitude, and the latitude was obtained by meridian altitude of the sun. The buoy is 150 fathoms from the beach, the south point of the island bearing S.E.  $\frac{3}{4}$  S., the north point N. by W., the flag-staff E. by N.  $\frac{1}{4}$  N.

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\* Commander R. W. Meade, U.S.S. *Narragansett*, 1872.

† See Admiralty charts, Pacific Ocean, general, No. 2,683. Pacific Ocean, N.E. sheet No. 782.