The last table brings out in the clearest light the pre-eminent advantage of St. Paul Island over the other localities in Cabot Strait, as a station to command the whole region under consideration. This advantage must depend largely upon its being situated in deep water; the 100-fathom line being within three miles of the eastern shore of the island, on which the tide gauge is situated. It emphasises also the importance of chosing strategic points as principal stations, whatever the exposure and the difficulties in maintenance may be, in preference to sheltered harbours where the tide itself is more irregular, owing to shallower water or greater local interference.

NORTHUMBERLAND STRAIT.—TIME OF THE TIDE.

In the season of 1896 a series of simultaneous observations in Northumberland Strait was obtained at the following localities, in the order of the progress of the tide: Souris, Pictou, Charlottetown, and Cape Tormentine. Some comparative observations were also obtained on the open Gulf coast on the north shore of Prince Edward Island and in Miramichi Bay. These observations when compared with the 'Establishments' for intermediate localities in Northumberland Strait, were sufficient to enable a table of 'Tidal Differences' to be prepared, to accompany the tide tables for this region. The remaining localities on the open Gulf coast were referred directly to St. Paul Island. The results are given, together with the general method used in the calculation of the tide tables for Northumberland Strait, in the Tidal Survey Report of December 15 1898, pages 7 to 10.

In the season of 1901 further observations at Pictou, Charlottetown and Summerside were obtained, to secure more extended data for the calculation of tide tables for these ports. This year was an appropriate one for the purpose in view, as the moon's declination has now its minimum range, whereas in 1896 the range was at its maximum. The tides throughout this region vary chiefly in accordance with the moon's declination; and diurnal inequality is thus a ruling feature of the tide. The observations at Pictou, the port of reference for this strait, extended from May 20th to November 15th without any interruption of consequence. These will enable a revised table to be prepared for the calculation of the tides at Pictou from the principal tidal station at St. Paul Island, for years when the moon's declination is low. The table in use up to the present time is given in the Tidal Survey Report for 1898, page 9. All the observations are taken in Atlantic standard time and the differences are thus in absolute time throughout.

Charlottetown.—The observations obtained here in 1896, were much interrupted by the chokage of the inlet to the gauge. At the ends of the wharfs which extend to the channel, the water is deep; but these are constantly occupied by shipping. At their sides, the water shallows at once, and there is great difficulty in securing low-water observations with a recording gauge. In 1901, the gauge was placed at Connolly's wharf, where sufficient depth was secured; but there is more exposure and much interference from the bridge operations now in progress. The object aimed at, is to obtain the difference of time with Pictou for the calculation of the Charlottetown tide tables; and the results secured in the two seasons are as follows:—

1896. Observations from June 20th to November 24th.

From 104 reliable differences, H. W. 51 m. later than at Pictou.
" 99 " " L. W. 58 m. " "

1901. Observations from June 1st to November 15th.

From 255 differences, High Water 31 m. later than at Pictou.
" 259 " Low Water 47 m. " "

The divergence in the values is considerable; and on so long an average, it is difficult to account for. The individual differences also show a wide range in their varia-