QUEBEC.—The Montreal Harbour Commissioners have issued tide tables for Quebec for a number of years back; and in the absence of better data, these were computed by adding a constant difference of 4 h. 36 m. to the time of the tide as given in the tide tables for London Bridge. A comparison of these tables with the observed tides at Quebec, during the month of August, 1894, shows the following error in the time of high water :—

Extreme variation between the time of H. W. as given in these tables, and the actual time as observed : 1 h. 06 m. early to 0 h. 28 m. late.

Average error in the tables during the month, 17 minutes.

Tide Tables of U. S. Coast Survey.—In the comprehensive tide tables issued by the United States Survey since 1896, the method of obtaining the time of high water at Quebee is to subtract the constant difference 10 h.05 m. from the time of the tide at Rangoon, Burma. A comparison of the time of high water as computed in this way, with the observed tide at Quebee, for the month of June, 1897, gives the following result :-

Extreme variation between the time of H. W. as found by this method, and the actual time as observed : 14 m. early to 54 m. late.

Average error during this month, 22 minutes.

It would appear from this average error, that no improvement is secured by this method, as compared with the old plan of adding a constant difference to the time of high water at London Bridge.

Tidal Survey tables.—These are based upon two years of tidal record at Quebcc. The time of high water in the tables was compared with the tide as observed during one month, from July 18 to August 18, 1898; the comparison being given as Table C. herewith. The result when summarized is as follows :—

Extreme variation between the predicted time of H. W. in the tide tables, and the actual time as observed : 26 m. early to 3 m. late.

Average error during this month,  $12\frac{1}{2}$  minutes.

This indicates the improvement already secure 1 by basing tide tables upon observations at Quebee itself, as compared with the old method of computing from London Bridge, which was in use up to 1896, when tide tables for Quebee were first issued by the Tidal Survey, and were adopted by the Montreal Harbour Commissioners. This improvement is equivalent to a decrease in error of 26 per cent. The improvement in accuracy is even greater than this, when compared with the method in the United States tide tables, which is still given in the tables for 1900. Although the comparisons are made for different months, they nevertheless show that the Tidal Survey tables are distinctly superior in accuracy to tide tables computed in either of the other ways indicated.

It may seem unsatisfactory that tide tables based upon two years of direct observation still present so appreciable an error as the above average shows; an error twice as great as at St. John or Halifax. This must be attributed to the irregularities in a tide at the head of a long estuary, which are probably due in some measure to wind disturbance. In such circumstances, more than two years of tidal record are required to eliminate the irregularities. Several additional years of tidal record have been obtained at Quebec, since the original analysis was made which forms the basis of the tide tables at present; but the comparatively small sum required for the analysis of further record, could not be afforded out of the appropriation for this Survey, during the last few years, for the improvement of the basis of the tide tables.

CHARLOTTETOWN AND PICTOU.—The region of Northumberland Strait in which these ports are situated, is now referred to the principal tidal station at St Paul Island, as explained fully in a previous report. The method used is first to deduce the time of the tide at Pictou from St. Paul Island, by means of a series of variable differences ; and the tides at other harbours in the strait are then computed from Pictou. We may thus take Pictou itself as the test port for this region, in examining the accuracy of tide tables.

In the only other publications and almanacs in which tide tables for this region appear, the method employed is to refer the tides at Pictou to some Atlantic harbour, Tide in the su method 1 indicated parison n calculated In the fol omitted. Extr actual tim Aver This United St

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