

Quebec, Halifax and St. John, N.B.—The tide tables for these principal harbours remain, up to 1901, without further improvement in their accuracy; being still based upon the same length of tidal record as before. These tables give the time and height of the tide, the depth of the water on dock sills, &c.; and they are accompanied by tidal differences, by which the time of the tide at a large number of other ports becomes known. The chief improvement in this set of tables, is the addition of the tidal differences for the Bay of Fundy, as above explained.

These tide tables were again supplied to the leading British and Canadian Almanacs, for 1900, as far as they were willing to publish them. Some improvements in this respect may be noted. In McMillan's Almanac, the St. John tables for 1900 are printed in full, the height of the tide as well as the time being given, which is important in a harbour where the range of the tide is over thirty feet. The newspapers have also done a little better on the whole, in making the tide tables known. The St. John papers have not published them as fully as in former years; but on the other hand, in Quebec, the *Chronicle* and the *Soleil* have published the tide tables for that harbour pretty regularly throughout the season, giving two or three days at a time; and have made acknowledgment to this Department for them. The *Quebec Telegraph* also gave occasionally the tides for the following day.

The almanacs in which the tide tables appear in whole or in part are as follows:—Canadian Almanac.—All the above, in full.—The Copp, Clark Co., Toronto.

Greenwood's Almanac.—“—Capt. W. N. Greenwood, Lancaster, Eng.
Brown's Almanac.—Halifax tide tables.—Messrs. J. Brown & Son, Glasgow and L'pool.
Belcher's Almanac.—Halifax tide tables.—The McAlpine Publishing Co., Halifax.
McMillan's Almanac.—St. John tide tables in full.—M'rs. J. & A. McMillan, St. John.
Cogswell's Almanac.—(Discontinued. Did not appear for 1900.)

Moore's Tide Tables.—Quebec; time only.—Messrs. T. J. Moore & Co., Quebec.

These tide tables were again reprinted from Greenwood's Almanac; the reprints including the tables for St. Paul island also, with tidal differences for the south-west coast of the Gulf of St. Lawrence. Of these, nearly 500 copies were widely distributed. In this way all applications for the tables have been met; forty-nine copies having been sent in reply to requests for them. The number of these reprinted copies ordered for 1901 has been increased to 600.

Charlottetown, Pictou and St. Paul Island.—These tide tables are computed by this Survey and printed by the Department. A step in advance has been made, in preparing them earlier in the year, and also in extending them to include the whole year, instead of only eight months as formerly. To do this, it was of course necessary to compute two sets of tables during the one year; and to facilitate the extra work, a tidal-difference machine was devised by me, by which variable differences in the time of the tide can be run off with the same facility as a constant difference. The series of differences used in the successive computation of this set of tables, from the principal tidal station at St. Paul island, was also revised and slightly modified. (For explanation of the method used, see Report of Tidal Survey, December, 1898, pages 8 and 9.)

The extension of these tables to include the whole year, will be of service to the winter navigation in Northumberland strait. Also, by preparing them early in the year, the almanacs were supplied with copies for 1901 in good time, and it is thus hoped that they will be induced to publish them. It would be an important improvement if they would publish the tide tables prepared by this Survey; because any other tide tables, as formerly published for Charlottetown and Pictou, have been quite incorrect; or the tidal difference given by which to compute them, has been misleading. The reasons for this, which are attributable to the character of the tides, have been explained in Reports of Tidal Survey, December 1898, page 7; and December, 1899, page 11; where examples are given in illustration. It was chiefly in the hope of replacing this inaccurate information with reliable tide tables that the effort was made to issue them in the spring, amongst the press of other preparations in leaving for the work of the summer season.

Already, during 1900, the Charlottetown *Patriot* has published the tide tables of this Survey, one month at a time, with the full explanation accompanying them. The *Examiner* has also given them correctly for the later months of the year. At Summer-

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