ears also to be currents in the

portion of Cabot it of Bolle Isle, ge from 1:0233 a density of the :0235 to 1:0245. of 100 and 150 in density from atflowing water > North, has a n of the gulf, off was even lower y of the water, ly designed for

very interesting ne colder water the density at allenger " expeon of this deep to the Atlantic mise any result

ce, which is a resh water with ation. The diswhich is much ng any general

rectly to throw nasts that their which the cold usually a prepths of 150 to hor, is soft mud adging by such reatures, which ppear to be at ination of such alue of the Can-

nary, a careful the month of ween the Gaspé re lines extend-West Point to el to each other cely to be more ig immediately hannel north of regarding both alf.

ong the Gaspé nary sea water, and its other a made to trace the water by its lower density across the width of the gulf in the direction of Cape North. The density of the water was taken along a series of sections, and at various depths between the surface and 50 fathoms; or as far down as the depth at which the coldest water had been found. The density of the water at 10 and 20 fathoms was chiefly relied upon for comparison; because if a greater depth were selected, there are considerable areas where interruption would occur from the shallower banks; and on the other hand the disturbing influence of variable winds should be less marked at these depths than at the surface.

These section lines were run between Gaspé, Anticosti and the Orphan Bank, in the vicinity of the Magdalen Islands, and on lines extending north-eastward from Cape Breton. It was necessary to make the determinations of the density at the time, as it was a question of tracing the water, and ascertaining the limits of areas of less density, without any previous clue as to where these limits would probably be found. Also in returning towards Gaspé, additional section lines were run from the west coast of Cape Breton to the Magdalen Islands and Prince Edward Island, to ascertain more definitely from what direction the water comes which flows past Cape North to the south-eastward. Several of the section lines in the vicinity of the Magdalen Islands and Anticosti, were also run a second time to ascertain to what extent the results already found might be liable to disturbance, or whether they might be considered as permanent.

they might be considered as permanent. This work was chiefly done in the month of August; and the remainder of the time available was spent in a further examination of the currents in the Gaspé region, for comparison with their characteristics as obtained in July.

The results of the work cannot be satisfactorily given at present, immediately at the close of the working season, until there is time to prepare charts and sections to show the distribution of water of the various densities met with, and the general circulation which may be inferred from it. The relation of the currents to the wind must also be worked out; as the disturbing influence of the wind occasions considerable complication in the movement of the currents.

In the meantime it may be stated in general terms that the density of the water on the south-western side of the gulf was found to be distinctly lower than further out towards the central region. This area of water of less/density is approximately limited by a line from South-west Point, Anticosti, to St. Paul Island, C.B., and it is in the direction of this line that any slow movement or set of a general character across the gulf area must take place.

THE GASPÉ CURRENT.

It may also be of advantage to give at once some notes regarding the current along the Gaeps coast, and especially to mention some exceptional directions of the current, as to which, up to the present time, there has been no information available.

On the Admiralty chart entitled "Entrance to the River St. Lawrence," No. 1621, a current is shown to run constantly along the Gaspé coast from a northwesterly direction at about three miles off shore. In the Sailing Directions it is stated that this may be felt as far out as nine to twelve miles from land. Another line of constant current is also shown as lying along a line from the vicinity of Cape Magdalen, to South-west Point, which thus traverses the middle of the passage between the Gaspé coast and Anticosti. It is this central line of current which is alone represented on the general chart of the Gulf of St. Lawrence, No. 2516. It is explained, however, in the Sailing Directions that the current does not follow both these lines at the same time; and the change from the one direction to the other is attributed to the influence of south-west winds.

The first of these lines was found to represent fairly the usual direction of the current along the Gaspé coast. The other line is properly to be regarded as an alternate direction which the current may take; unless indeed there may be times at which the current becomes very wide-spread and weak. When the current is