

tables of the year 1873, we come, then, to the broad conclusion that the density of the upper layers of the North Atlantic is considerably higher than that of any other part of the ocean, and the specific-gravity tables for the spring months of 1876 give the same result. I need scarcely say that this is exactly what must have been anticipated, if my view be correct, that the movement of deep water in the Atlantic is mainly due to excess of evaporation over precipitation in its northern portion.

An element of great uncertainty is undoubtedly introduced into the determination of the specific gravity of surface-water by the weather. These determinations were made, as usual, daily for the section between Stations CCCXXIII. and CCCXXV., from Montevideo to Tristan d'Acunha, in the beginning of March, 1876; and the mean of these, the temperature reduced to $15^{\circ}56$ C., was 1.02620. Of the eighteen days occupied in running the section, nine were dry and fine, and on nine rain fell either continuously or in showers. The mean for the nine dry days was 1.02639, and for the nine wet days 1.02591. The maximum surface specific gravity for the section (1.02680) was at Station CCCXXIII. at the point where probably the Brazil Current has most effect on the surface; and the minimum (1.02494) was at Station CCCXXVI. after a heavy fall of rain. The mean specific gravity of the surface-water at the temperature at which it was procured was 1.02502.

The specific gravity of the bottom-water was determined at ten stations on the section. Reduced to a temperature of $15^{\circ}56$ C., the mean was 1.02601; the maximum, 1.02650, was at Station CCCXXIII. at a depth of 1900 fathoms; and the minimum, 1.02580, was at Station CCCXXVI. at 2775 fathoms. The mean specific gravity of the bottom-water at the depth at which it was procured was 1.02811, showing a difference between the two means of 0.00210, due to difference of temperature alone.

It seems from these observations that the differences of sur-