

to arrive there in the months of November and January, it may tend greatly to moderate the cold of winter in countries on the west of Europe.

There is a large tract in the centre of the North Atlantic, between the parallels of 33° and 35° N. lat. which Rennell calls the "recipient of the gulf water." A great part of it is covered by the weed called sargasso (*Sargassum bacciferum*), which the current floats in abundance from the Gulf of Mexico. This mass of water is nearly stagnant, is warmer by 7° or 10° than the waters of the Atlantic, and may be compared to the fresh water of a river overflowing the heavier salt water of the sea. Rennell estimates the area of the "recipient," together with that covered by the main current, as being 2000 miles in length from E. to W., and 350 in breadth from N. to S., which, he remarks, is a larger area than that of the Mediterranean. The heat of this great body of water is kept up by the incessant and quick arrivals of fresh supplies of warm water from the south; and there can be no doubt that the general climate of parts of Europe and America is materially affected by this cause.

It is considered probable by Scoresby that the influence of the gulf stream extends even to the sea near Spitzbergen, where its waters may pass under those of melted ice; for it has been found that in the neighbourhood of Spitzbergen, the water is warmer by 6° or 7° at the depth of one hundred and two hundred fathoms than at the surface. This might arise from the known law that fresh water passes the point of greatest density when cooled down below 40°, and between that and the freezing point expands again. The water of melted ice might be lighter, both as being fresh (having lost its salt in the decomposing process of freezing), and because its temperature is nearer the freezing point than the inferior water of the gulf stream.

The great glaciers generated in the valleys of Spitzbergen, in the 79° of north latitude, are almost all cut off at the beach, being melted by the feeble remnant of heat still retained by the gulf stream. In Baffin's Bay, on the contrary, on the west coast of Old Greenland, where the temperature of the sea is not mitigated by the same cause, and where there is no warmer under-current, the glaciers stretch out from the shore, and furnish repeated crops of mountainous masses of ice which float off into the ocean*. The number and dimensions of these bergs is prodigious. Capt. Sir John Ross saw several of them together in Baffin's Bay aground in water fifteen hundred feet deep! Many of them are driven down into Hudson's Bay, and accumulating there, diffuse excessive cold over the neighbouring continent; so that Captain Franklin reports, that at the mouth of Hayes' River, which lies in the same latitude as the north of Prussia or the south of Scotland, ice is found every where in digging wells, in summer, at the depth of four feet! Other bergs have been occasionally met with, at midsummer, in a state of rapid thaw, as far south as lat. 40° and

* Scoresby's Arctic Regions, vol. i. Glaciers of Spitzbergen, &c. Edin. New p. 208.—Dr. Latta's Observations on the Phil. Journ. vol. iii. p. 97.