

The influence of the Gulf Stream in raising the temperature upon the Western coast of Europe, when compared with the influence of the Arctic current in lowering the temperature upon the Eastern coast of North America, is seen to occasion effects on both land and marine climates of the most diverse character. Professor Mohn estimates the thermic anomaly for January, arising from the influence of the Atlantic ocean to be as follows:—

	Farenheit.
In the interior of Norway	10°.8
In the interior of Scotland.....	25°.4
In the northwest of Iceland	32°.4
In the Lofoten.....	41°.4

The effect of the Arctic current on the other hand is to lower the temperature of seas and of the interior of British America, and to occasion the formation of an immense quantity of salt-water ice, which forms when the surface of the sea has attained a temperature of 28 degrees, or four degrees below the freezing point of fresh water.

The habits of animals vary with the climatal conditions to which they are subjected. If susceptible of considerable power of acclimatization the change is very great, as is shown by the extraordinary variations in the spawning seasons of the Cod and Herring on the North American coast. Hence it becomes important to know at the outset the nature of the differences which obtain in those North American and European seas, which are the seat of the Great Fisheries, in order to understand the apparent anomalies which exist.

TEMPERATURE OF THE SEA ON THE COASTS OF SCOTLAND.

The results of numerous observations carried on for six years on the coast of Scotland ⁽¹⁾ show that the mean minimum temperature of the sea six feet below the surface on the west coast, was 39 degrees Fahrenheit. The mean minimum on the east coast was 35.5 degrees. The mean temperature at the depth of six feet at several stations for the months December, January, February and March is shown in the sub-joined table.

West Coast.	Dec.	Jan.	Feb.	Mar.	East Coast.	Dec.	Jan.	Feb.	Mar.
	Deg.	Deg.	Deg.	Deg.		Deg.	Deg.	Deg.	Deg.
Sandwick ..	46.8	45.0	43.7	43.2	Westhaven ..	43.2	41.2	40.5	42.3
Stornoway ..	46.0	44.6	44.1	44.1	N. Berwick ..	43.2	41.4	40.5	41.2
Harris....	46.4	44.6	43.5	43.5	Dunbar....	43.9	41.4	40.3	41.0
Oban....	47.1	45.0	43.7	43.0					

The mean winter temperatures of the SURFACE of the sea at the same stations are as follows:—

WEST COAST.

Sandwick	46.0 °
Stornoway	44.8 °
Harris.....	44.8 °
Oban	44.6 °

EAST COAST.

Westhaven	42.1 °
North Berwick.....	41.5 °
Dunbar	41.2 °

1. "On the Temperature of the Sea on the Coast of Scotland," by Alexander Buchan, Esq., Secretary of the Scottish Meteorological Society.