

Report of the Joint Meetings of the Norwegian and Icelandic Scientists Working on Board G.O. Sars and Ægir During the First Half of June in 1961

by

Jakob Jakobsson

and

Ole Johan Östvedt

Both research vessels started their investigations during the first week in June and they were finished on June 16th, the meetings being held on June 17th and 18th.

This year the investigations were concentrated off the North coast of Iceland but investigations were also carried out off the West and East coasts.

The main results obtained can be summed up by the following points:

1) Ice conditions were similar to the average of the last 10 years but as compared with 1960, the ice border off the western North coast of Iceland was now nearer the coast.

2) Temperature. The temperature in 20 m proved somewhat above the average off the West and North coasts of Iceland, but off the East coast it proved to be about normal as compared with the average of the 10 previous years. Off the West coast the high temperature in 20 m seemed to be due to strong inflow of Atlantic water which is e.g. illustrated by the fact that there the temperature in 100 m is also above normal. Off the North coast, on the other hand, the temperature in 100 m is about normal so the high temperature in 20 m in this area is probably mainly due to an unusually early beginning of the formation of a thermocline. The border areas of the warm Atlantic and the cold waters of the East Icelandic Current, although about normal, lie considerably closer to the North coast now than in 1960.

3) Plankton. High densities of phytoplankton were encountered in many parts of the investigation areas. The density of zooplankton off the West and North coasts of Iceland was considerably higher than in previous years, but the conditions off the East coast seemed to be about normal. In the maximal areas off the middle and eastern North coast, the zooplankton consisted exclusively of *Calanus finmarchius* copepodite stages III, IV, and V but off the western North coast and off the East coast copepodite stages I and II predominated.

4) Herring concentrations. Herring concentrations were recorded in three areas, that is a) at the edge of the shelf off the North-west coast of Iceland where considerable quantity was recorded, b) off the eastern part of the North coast between 11° and 17° W and 67° and 68° N, where considerable number of both small and large shoals were found. Nearly all the shoals were recorded above 50 m depth. Repeated observations in the whole area of both ships, clearly showed that these concentrations moved west at a considerable speed, c) scattered shoals were recorded North of the Faroes, between 64° and 65° N and 7° and 9° W. Compared with the previous year, 1960, it is clear that off the North coast the herring concentrations have now a more easterly distribution. Marked change in shoaling behaviour of these herring concentrations was observed in these areas of cold water, since large shoals were frequently met with in temperature below 3°, where they were rarely encountered in 1960.

During the previous years the investigations have shown that the summer herring fishery off the North coast of Iceland is based on feeding migrations of both Icelandic herring, mainly entering the fishing grounds from the west, and the Norwegian herring, approaching from the east. This migration pattern is shown more clearly now than in any previous year of the joint investigations. Large concentrations of *Calanus finm.* on the fishing grounds off the middle North coast make it probable that the herring will, during the coming weeks, migrate to these areas. The relatively large quantity of young copepodite stages of *Calanus* off the western North coast should secure continuous good feeding conditions.

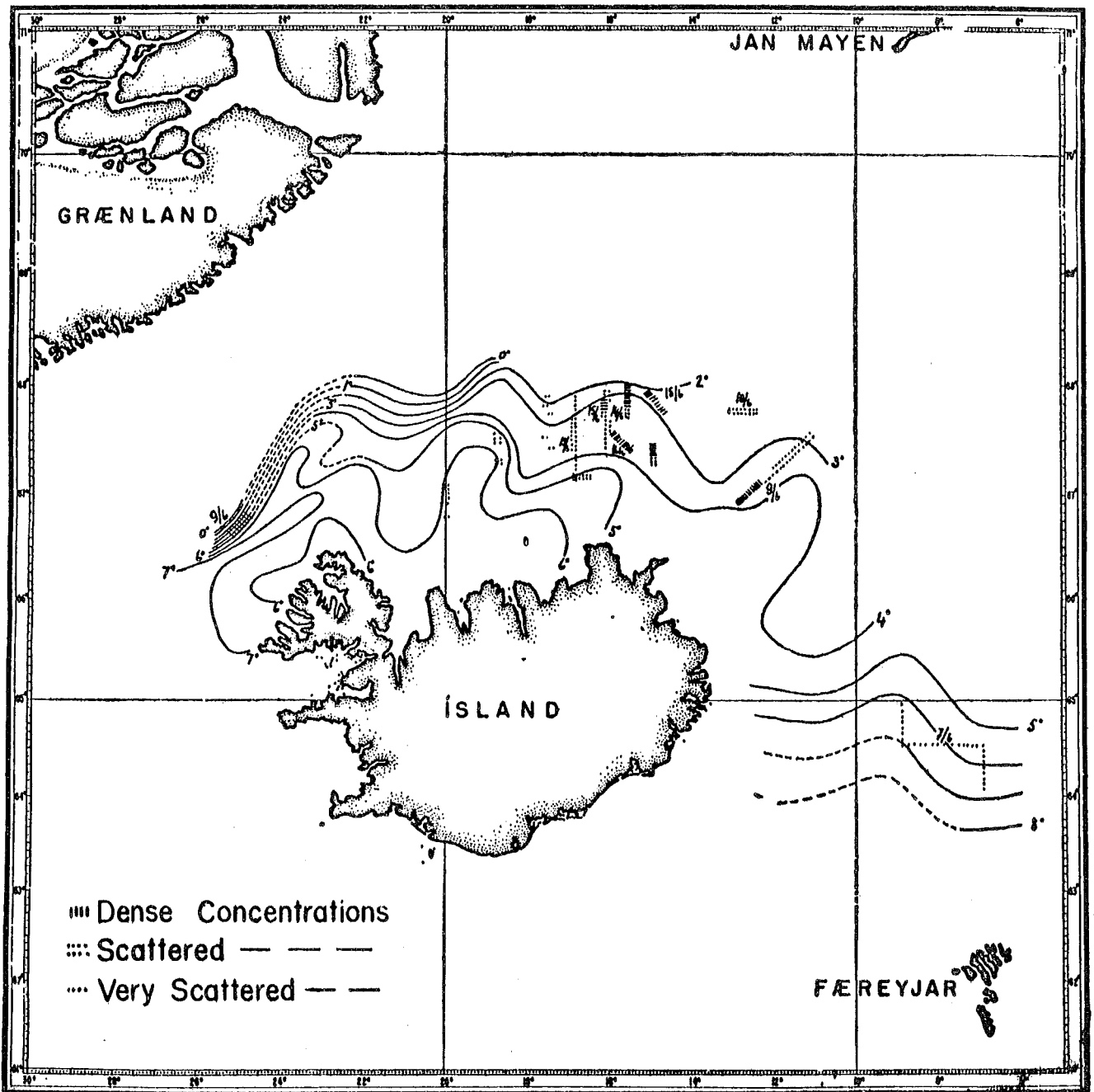


Fig. 1. Herring concentrations and temperature in 20 m in June 1961.