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International Commission
for the
Northwest Atlantic Fisheries



1970

RESTRICTED

Serial No. 2386
(D.a.69)

ICNAF Res.Doc.70/11
(Part 2)

ANNUAL MEETING - JUNE 1970

Research Report, Denmark

Hydrographic conditions off West Greenland during 1969
by Frede Hermann

From the R/C *Adolf Jensen* section I off Frederikshaab was worked in February and September, section II off Fylla Bank was worked in February, March April, May, June and August, section III off Lille Hellefiske Bank was worked in April, June and August and section IV off Store Hellefiske Bank was worked in June and August (Fig.7).

Characteristic for the situation in 1969 was the great amounts of polar ice, which was transported by the East Greenland Polar Current around Cape Farewell and northward along the West Coast of Greenland.

By May the ice reached as far north as Godthaab (64°N) and during its maximum extension it reached to about 66°N . Comparison with ice maps from earlier years shows that 1969 was one of the most severe ice years in this century.

The temperature sections are shown in Fig.1-6. The sections from February and March show that the winter cooling has caused low temperatures over the shallow part of Fylla Bank, but the cold water layer was relatively thin and mainly found in the upper 50 to 75 m. Below 100 m the temperatures were about 1° higher than those found in 1968.

During the following months the water layer above 100 m remained unusually cold, even in August water with below zero temperature was found over the western slope of Fylla Bank and Lille Hellefiske Bank which is quite unusual. The reason is probably that the melting and the reflection of heat radiation of the great amounts of sea ice counteracted the usual summer heating of the surface water.

In the water layers below 200 m the temperatures were about normal and considerably higher than in 1968.

The influence of the cold water masses was less pronounced over Store Hellefiske Bank in June and August than over the more southerly banks. Apparently the greatest part of the cold component of the West Greenland Current had bent westward off Lille Hellefiske Bank.

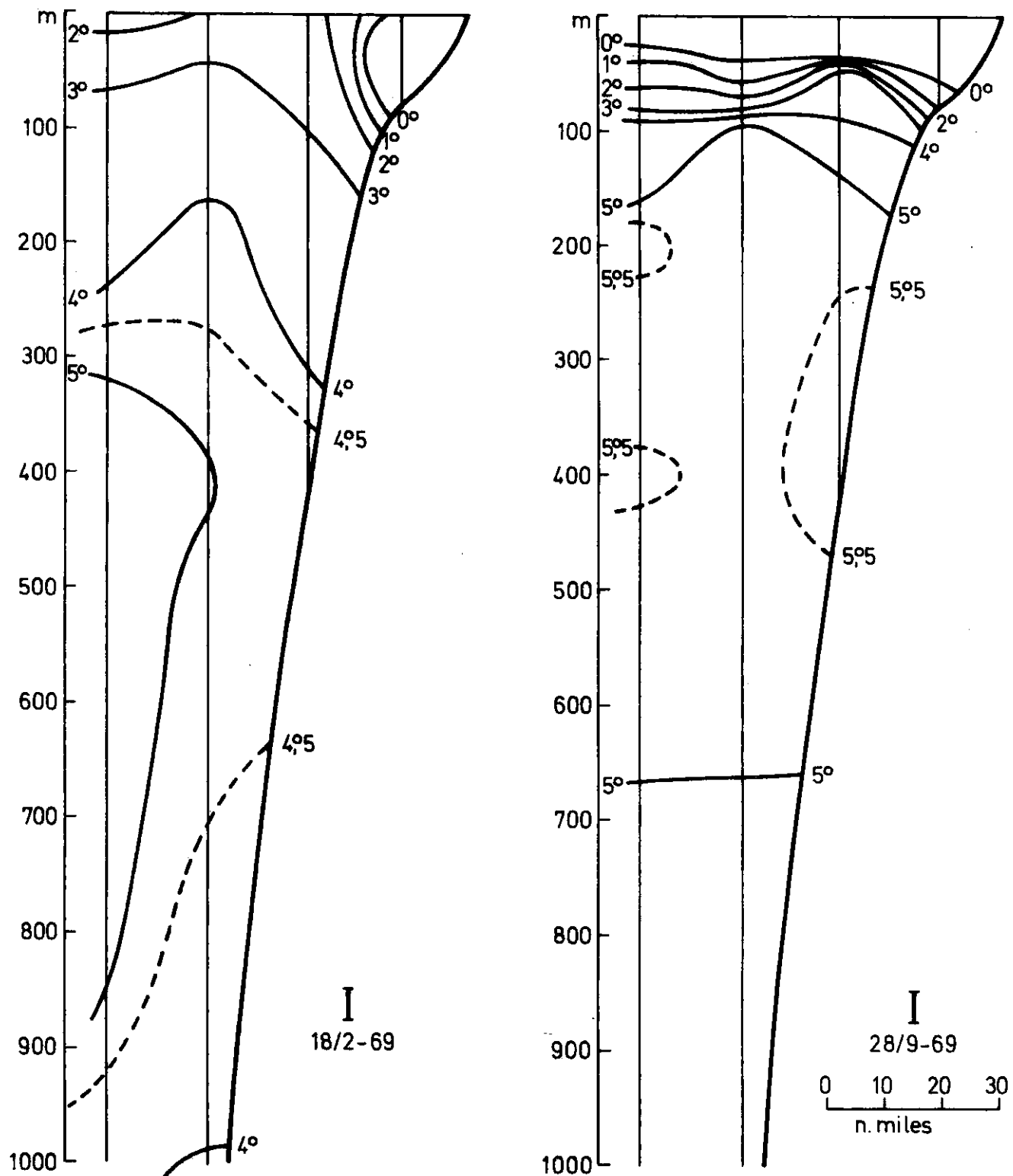


Fig. 1. Section off Frederikshaab in February and September 1969.

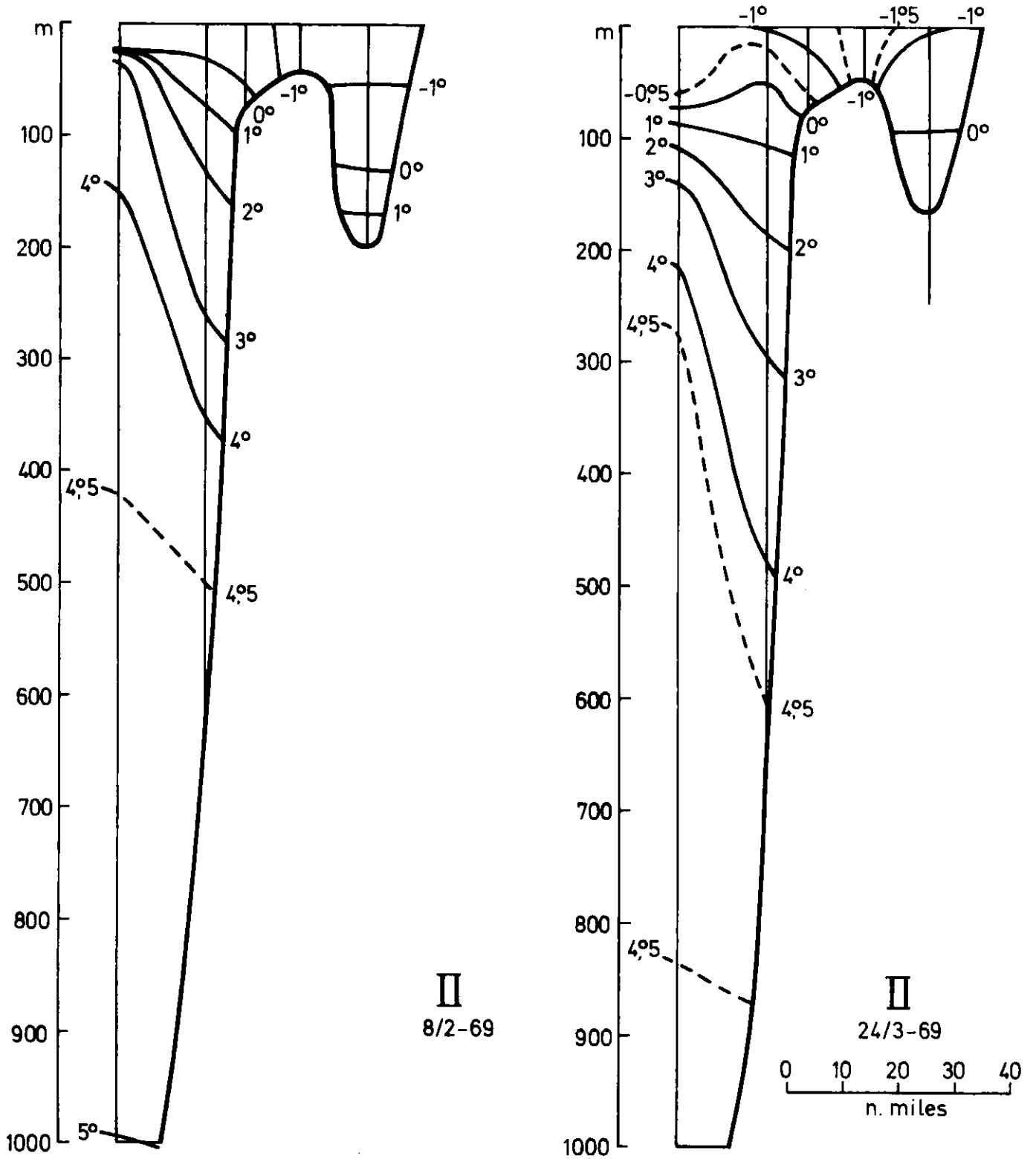


Fig. 2. Sections off Fylla Bank in February and March 1969

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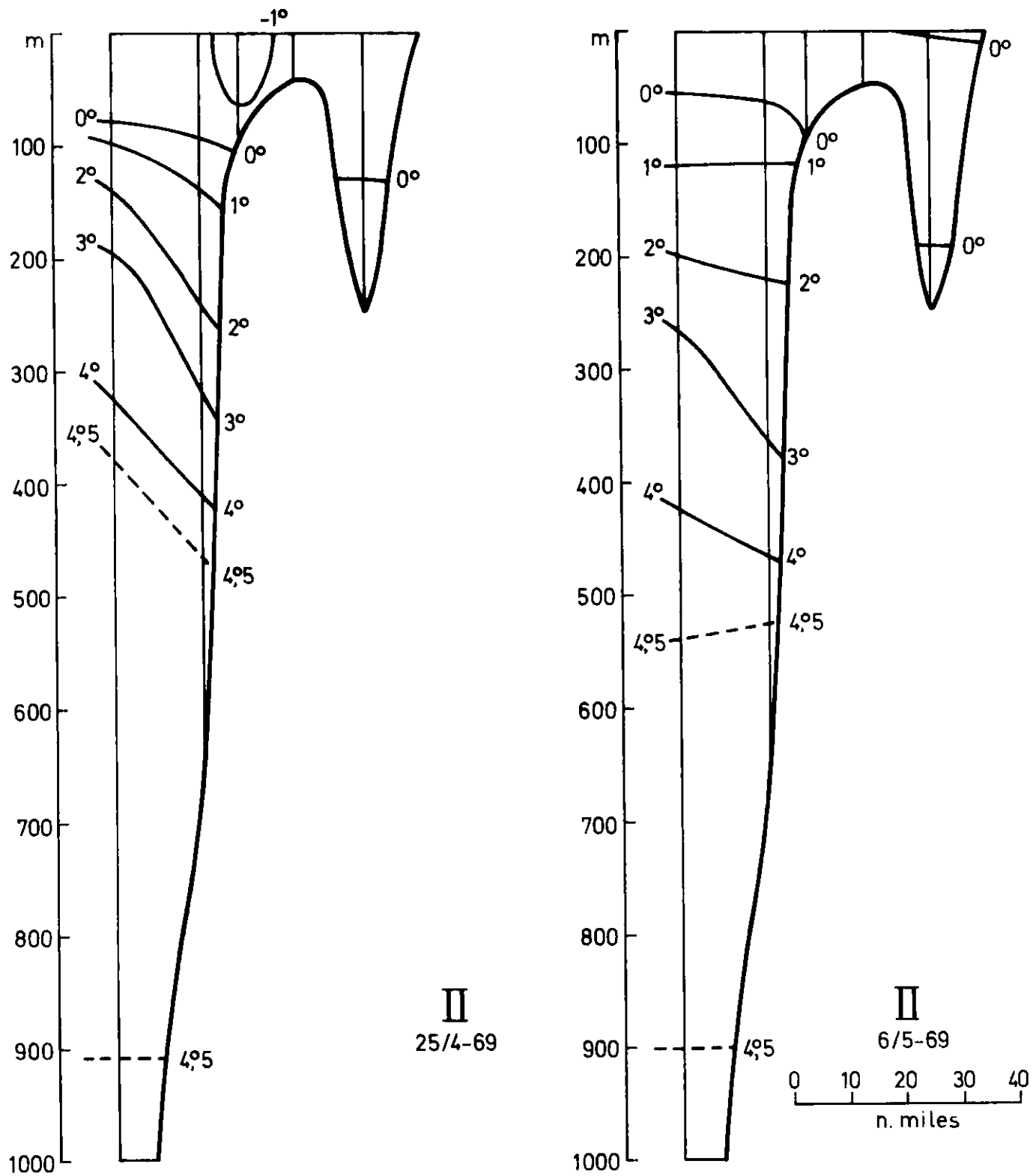


Fig. 3. Section off Fylla Bank in April and May, 1969

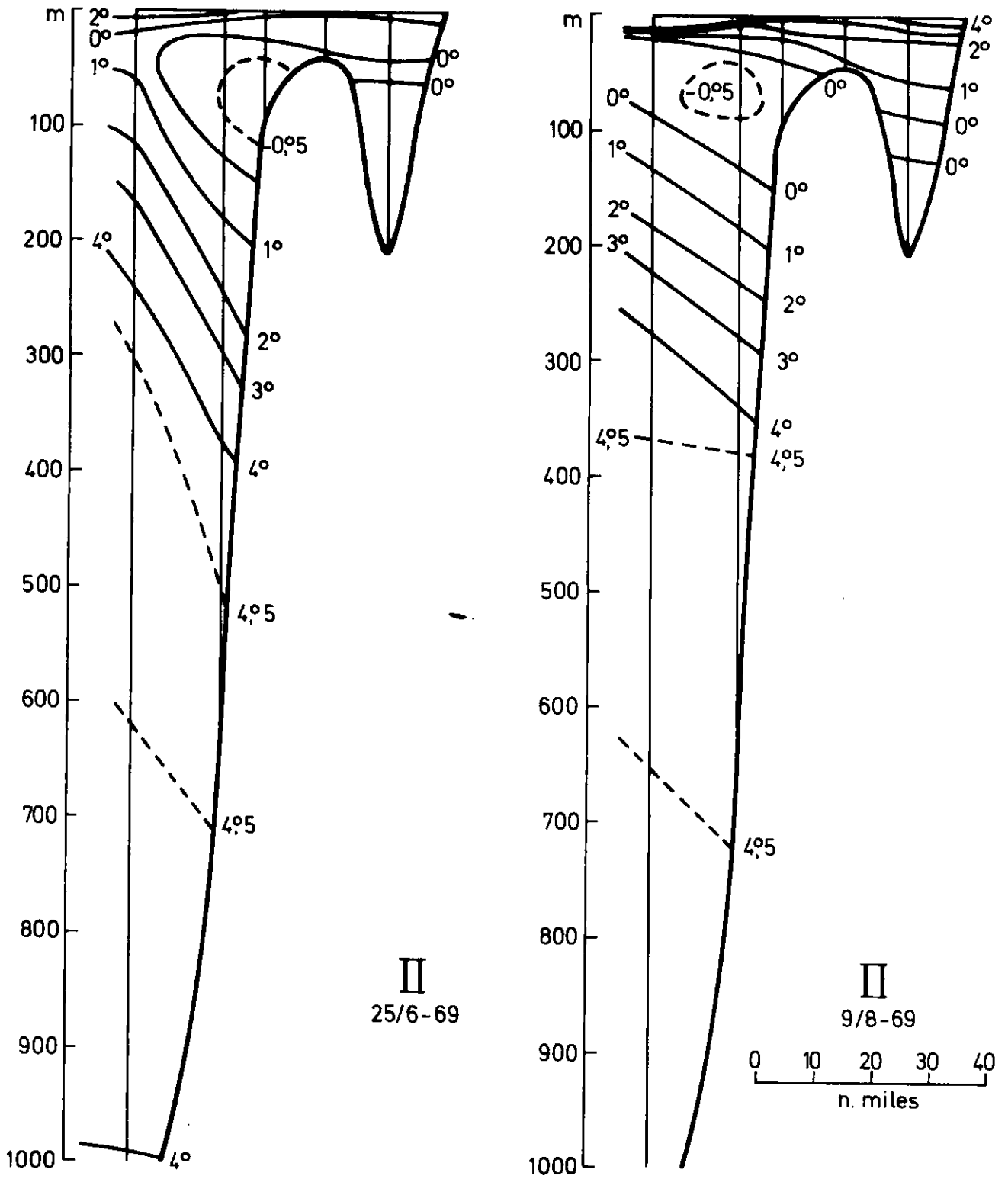


Fig. 4. Section off Fylla Bank in June and August, 1969

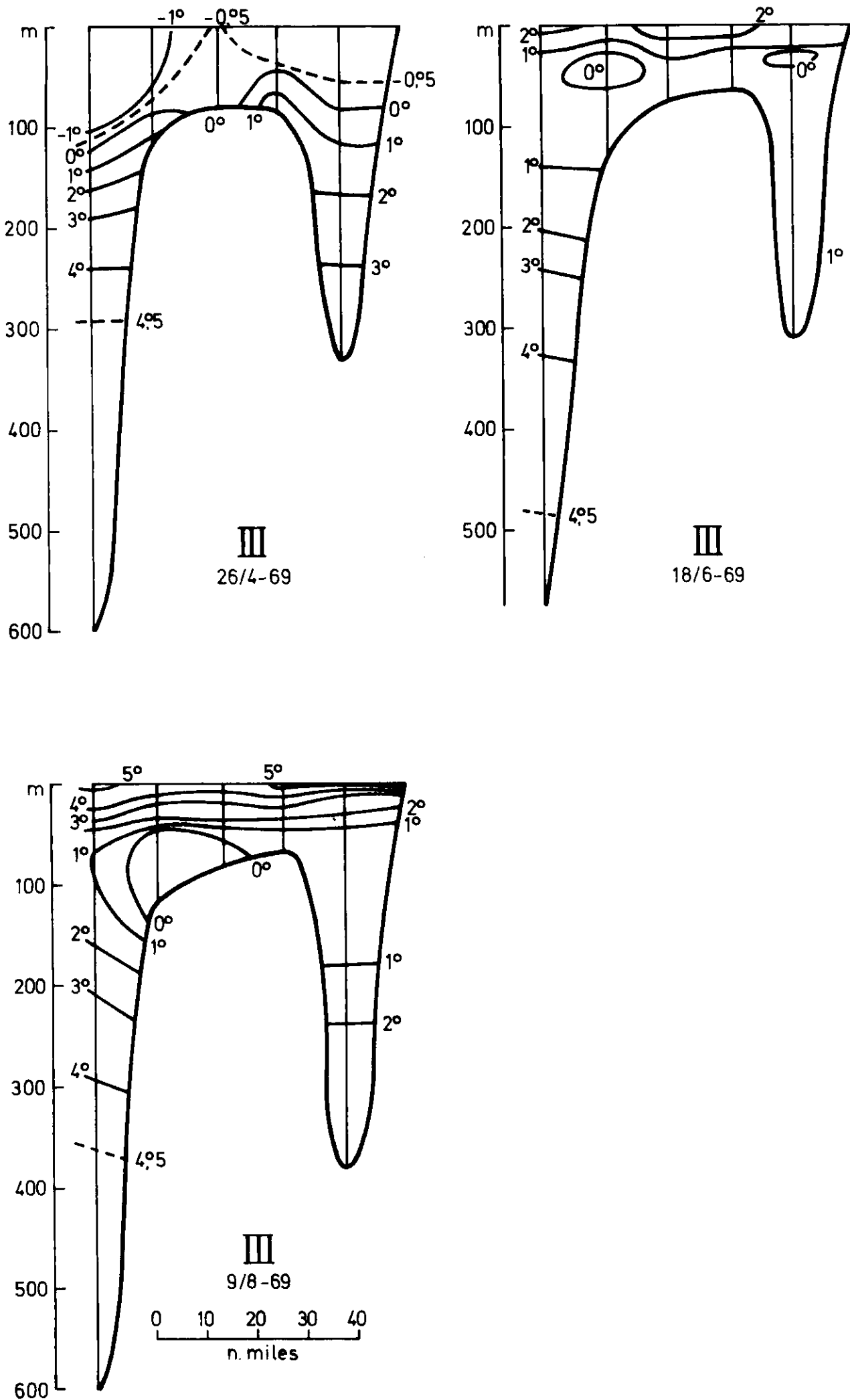


Fig. 5. Section off Lille Hellefiske Bank in April, June and August, 1969.

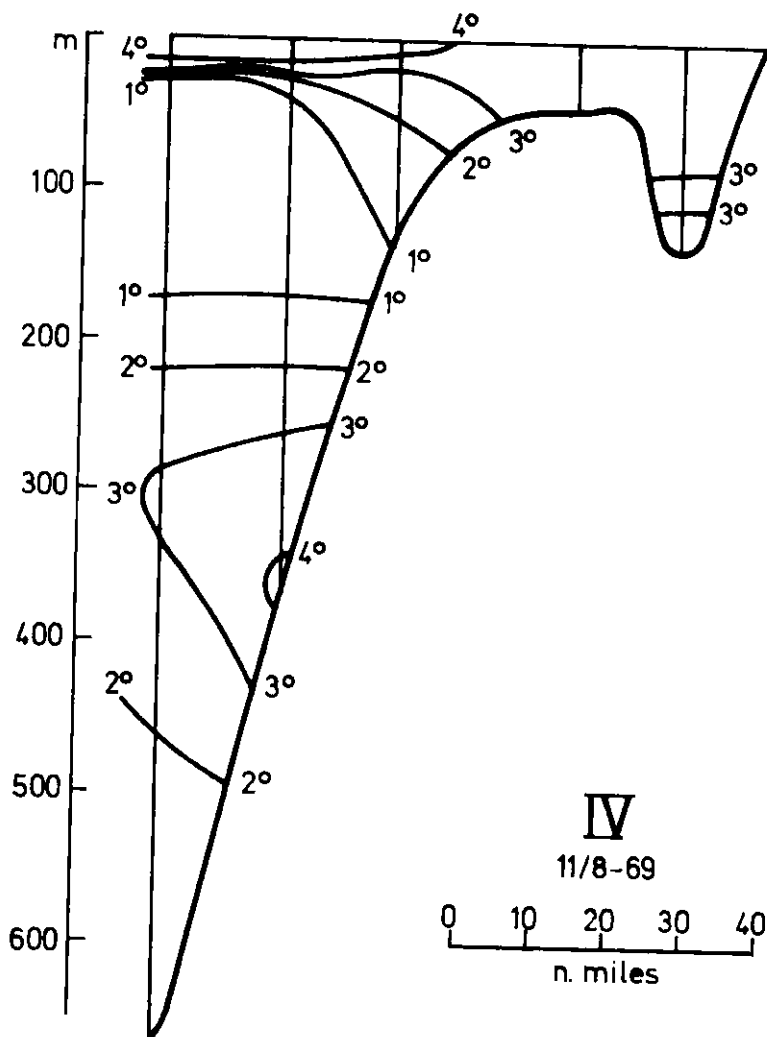
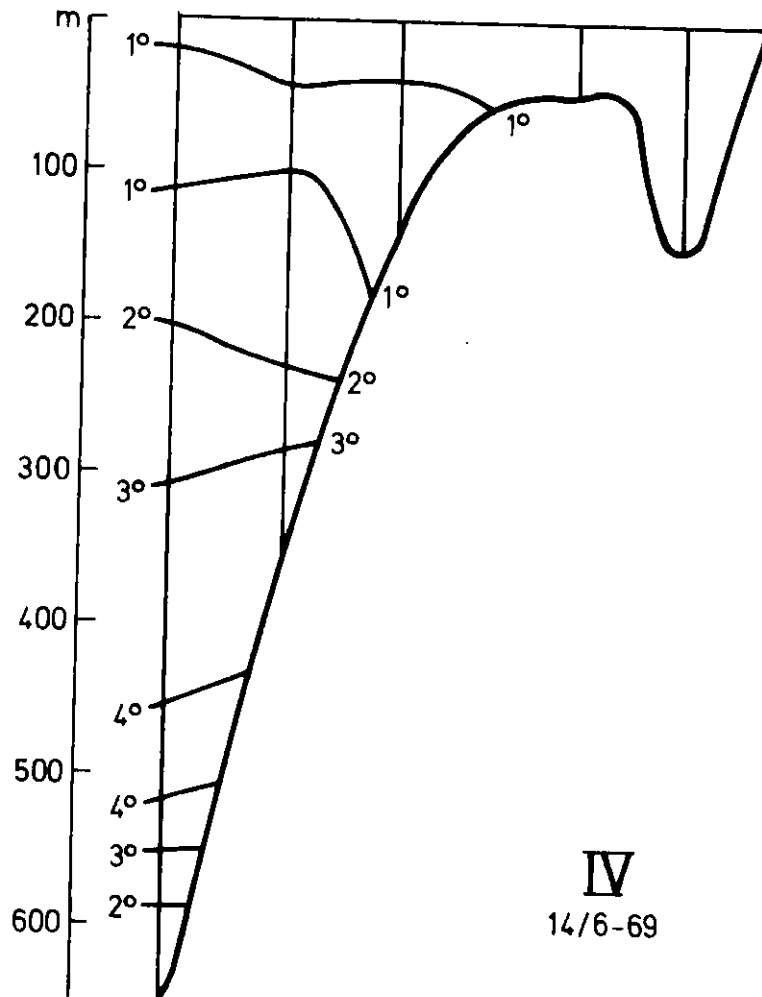


Fig.6. Sections off Holsteinsborg in June and August, 1969.

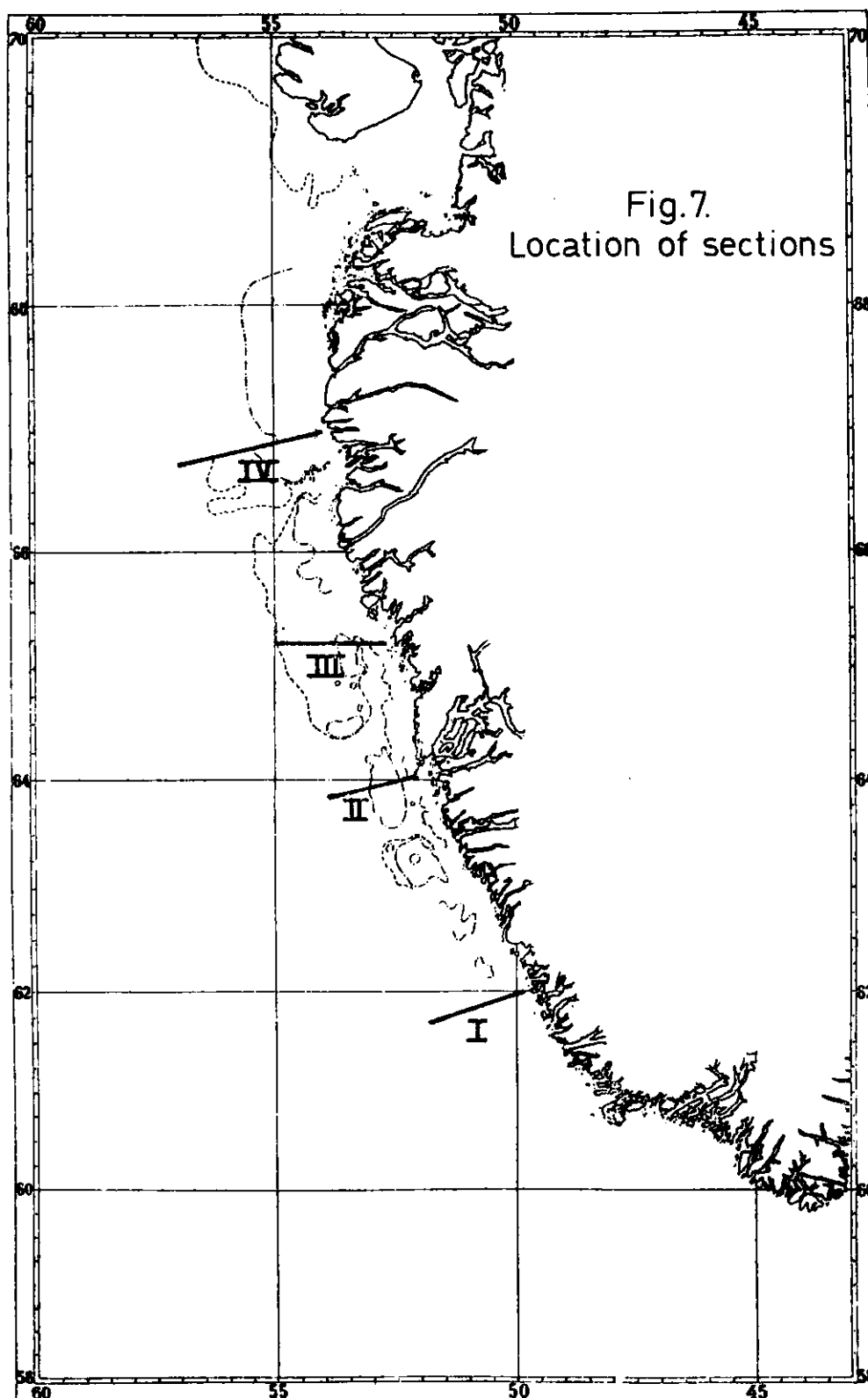


Fig. 7. Location of hydrographic sections off West Greenland.