

THE ANNUAL REPORTS ON THE ARCTIC SEA-ICE
ISSUED BY THE DANISH METEOROLOGICAL IN-
STITUTE

THE readers of this *Journal* will no doubt be acquainted with the fact that the coast of west Greenland is free of ice during autumn and the early winter months, apart from young ice formations at the northern settlements. In the winter the polar ice, which has been driven southwards by the East Greenland Polar Current, begins to round Cape Farewell and drift up into the Davis Strait. This ice is called the *Storis*, which is a translation of the Eskimo expression *sikorssuit* (great ice). In the month of May the *Storis* will normally reach its largest extension in the Davis Strait and may then cause considerable obstruction to ships calling at the settlements between Cape Farewell and Godthaab. In the course of the summer the *Storis* decreases in extent and normally disappears in August. Great deviations from these normal conditions may often occur, however. Therefore, in the year 1885, the Danish Meteorological Institute commenced a systematic collection of all information dealing with the occurrence of the *Storis* in the Davis Strait, and the captains of all ships sailing to the west Greenland settlements were asked to record the occurrence of the ice. People living in Greenland were also asked to keep a diary of the presence of the *Storis* at the coast.

Records of the ice conditions in the Davis Strait during the years 1890 to 1894 were published in the reports of the Institute for 1892 and 1894 respectively.

In 1895 the work was extended to include ice conditions between Greenland and Novaya Zemlya. For this purpose information was also collected from ships of foreign nationality, particularly Norwegian, British, American, Russian and Swedish. This material was then collated and published in the Institute's year-book.*

At the Seventh International Geographic Congress held in Berlin in 1899, Lieutenant V. Garde, R.D.N., submitted a statement on the Danish annual reports of the drift of the Arctic ice; the Congress found this subject to be of such interest and importance that it unanimously passed the following resolution:

Recognizing the great scientific and practical value of knowing as far as possible the annual distribution, character and quality of drift ice of polar origin, the Congress directs a strong appeal to the hydrographic and meteorological institutions of the countries from which vessels navigate in the seas where drift ice of polar origin is found, to endeavour by international co-operation to procure as exhaustive information as possible about the same, and to send this information to a central office in order that a uniform preparation of the whole material may be undertaken there. Having regard to the existing works on this subject, the Congress declares that the Danish Meteorological Institute of Copenhagen is the organization best adapted as a central office for the collection and preparation of information regarding the state of the ice in the northern seas, and the Congress therefore requests the other institutes:

- (1) to induce the captains of war-vessels and merchantmen to give accounts of the drift ice which they meet,
- (2) to supply the ships with schematic forms, which will be sent to the institutes from the Danish Meteorological Institute,

* Dansk meteorologisk Instituts nautisk-meteorologiske Aarbog.

- (3) to request the captains of the vessels to enter their reports in the forms and to send these as soon as they arrive at a port which has postal communication with the world. The reports may be sent either direct to the central office or through the respective institutes.

The work having thus been established on an international basis with the support of hydrographic and meteorological institutions and of interested parties in Canada, Germany, Great Britain, Norway, Sweden, U.S.A. and U.S.S.R., the Danish Meteorological Institute issued an annual report entitled "The State of the Ice in the Arctic Seas." The first number appeared in 1900, and successive issues were published annually until 1939. The original form of these reports has been maintained, the material being so arranged that a summary is first given of the ice conditions in the various sections of the waters navigated; this is followed by detailed information about the ice conditions in the following waters:

1. The waters round Novaya Zemlya and Spitsbergen.
2. Greenland Sea and Denmark Strait.
3. The North Atlantic.
4. Davis Strait, Baffin Bay, Hudson Bay and Strait.
5. Siberian Sea, Bering Sea and Strait, Beaufort Sea.

The text is given in English and is accompanied by multicoloured charts giving a survey of the ice conditions during the months of April, May, June, July and August, *i.e.* the months in which the most exhaustive information is available.

Garde prepared the first nine reports; he was then succeeded by C. J. H. Speerschneider, who with great energy continued the work up to 1934. The work is now entrusted to the care of the writer of this article.

While it was possible to continue the work during the First World War, this unfortunately proved impossible during the recent war, as the Institute was barred from all its usual sources of information. After the end of the war, however, the work was almost immediately resumed, and the report for 1946 is expected to be issued this year (1947).

The Institute has also made endeavours to collect information on the Arctic ice conditions prevailing during the years 1940-5, in order, if possible, to issue reports for this period on the usual model. In these endeavours the Institute has met with much support and assistance, so that it has already been able to collect a very considerable amount of material. This, however, almost exclusively covers information from the water between Greenland and Novaya Zemlya. The greater part of this material has very kindly been placed at the Institute's disposal by the British Naval Authorities through Commander C. R. Burgess, R.N.

Only sparse information is so far available from the waters west of Greenland, in Hudson Bay and Strait and north of America and Asia, but it is hoped that it will be possible to collect sufficient information from these waters so that the missing reports may be prepared.

It is hardly necessary to stress the importance of the continuation of this work. It is an absolute condition for the study of fluctuation in the occurrence of the polar ice that observations during an unbroken series of years should be available. Therefore, in ending this note, may I make an appeal for support of this work. We are particularly anxious to obtain information about the extent of the Arctic ice in the years after 1939. If any reader of this *Journal* possesses, or knows of institutions or of persons who possess, information on this point, or who contemplate voyages to Arctic waters, will he please make contact with the Danish Meteorological Office, Copenhagen?

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