GENERAL REVIEW OF THE SURVEY'S ACTIVITIES IN 1967

The Geological Survey of Greenland continued in 1967 to carry out its three main tasks - the geological mapping of Greenland, the investigation of mineral deposits of economic interest and the publication of results. In addition the Survey has acted as geological adviser to the Ministry for Greenland in matters concerning the granting of mineral exploration concessions.

Geological mapping

Three categories of geological maps are being prepared at present by the Survey:

1) Regional maps at scales 1:500 000, 1:2 500 000 and 1:5 000 000
2) Survey map sheets at scale 1:100 000
3) Detailed maps of selected areas

Regional maps

A five-year programme for the preparation of regional geological maps of West Greenland at scale 1:500 000 was begun in 1964. Field work on the four sheets covering the land area between Kap Farvel and Melville Bugt will be finished in 1968. In 1967 mapping on sheet IV (see fig. 1) was completed, and part of sheet II was also mapped. Mapping of sheet III was completed in 1966, and only very small parts of sheets I and II remain to be investigated before draughting of these sheets can also begin.

Compilation of maps at 1:500 000 and 1:500 000 is largely for the convenience of the organizations responsible for the preparation of the Geological Map of North America (1:10 000 000) and the Tectonic Map of Europe (1:2 500 000). The sheets covering Greenland in the new tectonic map of Europe were delivered to the editor in September, 1967. The Survey is also collaborating in the production of a metallogenic map of North America which will include Greenland, and the map of the metamorphic belts of the world.

Survey sheets at 1:100 000

Map sheets at 1:100 000 are the main repository for the results of field mapping in Greenland. The map sheet Ivigtut was delivered for printing in 1967, and the sheets Mârmorilik, Nûgâtsiaq, Pangnertôq and Julianehåb are completed in manuscript form. The sheets Agatdal, Qutdligssat, Midternæs, Neria, Narssarssuaq and Nanortalik are being draughted. Field work on the sheets north of Neria is still in progress and should be finished in 1968.

To support future systematic mapping for 1:100 000 sheets the site for a new main base has been chosen near Fiskenæsset. It is planned to move the Survey's field headquarters from Mellembygden near Frederikshåb to the new site in 1969, and from the new base to map the entire area between Frederikshåbs Isblink and Godthåb.

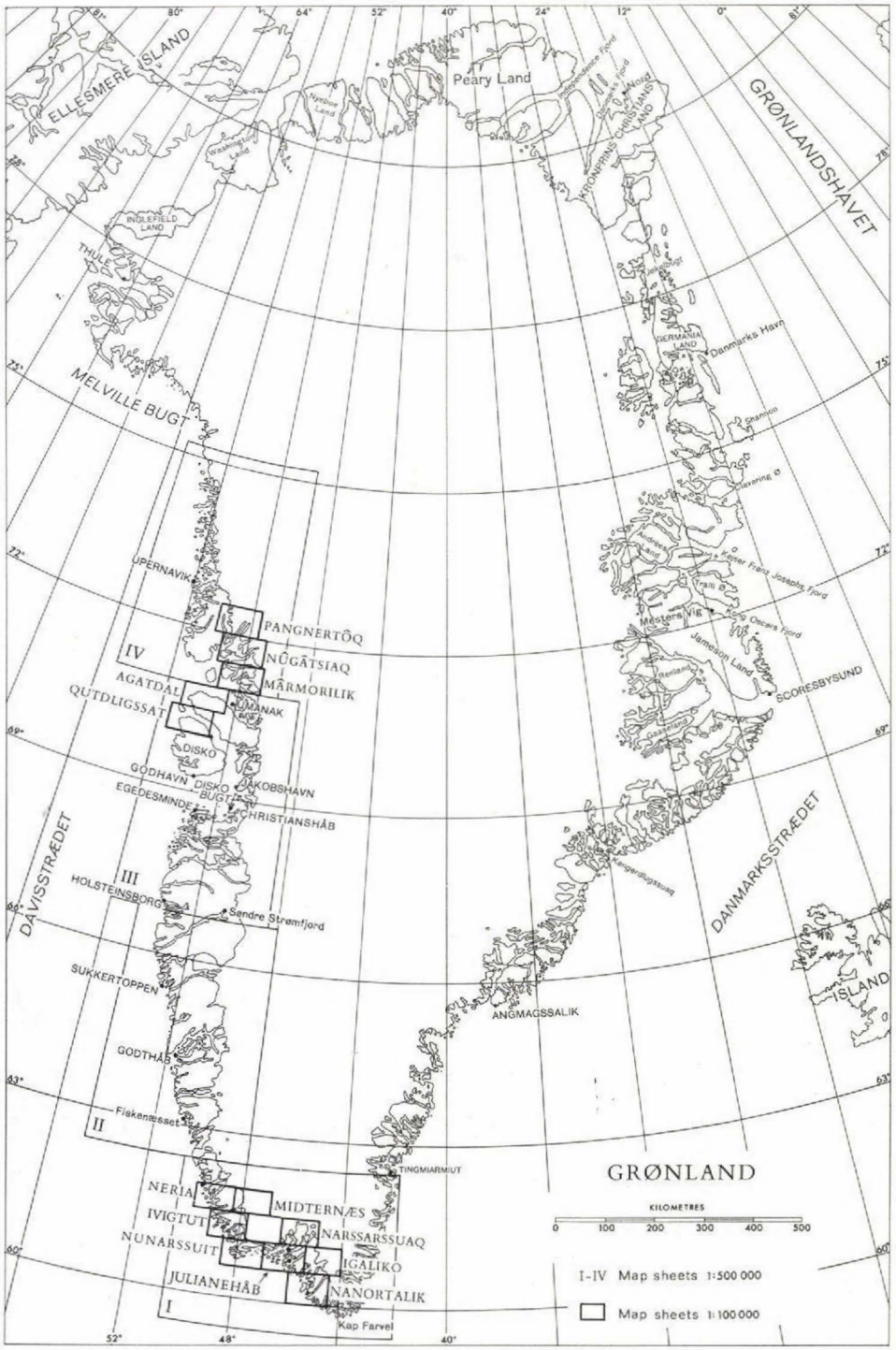
Economic-geological investigations

Economic-geological investigations have been continued on the beryllium, niobium and uranium occurrences in the Ilímaussaq intrusion near Narssaq. The instruments used this year are modifications of those used in previous years. These instruments have been developed by scientists at the Atomic Energy Commission's establishment at Risø.

Apart from these special studies records of mineralizations have been kept in the course of the regional field mapping.

In addition to carrying out economic-geological investigations on behalf of the state, the Survey has assisted several private companies which have exploration concessions in Greenland. The companies have been provided with maps and information from the areas in which they are working. The Survey has also been in correspondence with a number of foreign companies concerning economic possibilities in Greenland.

Fig. 1 ⟶


ELLESMERE ISLAND
Peary Land
GRØNLANDSHAVET
INGLEFIELD LAND
THULE
MELVILLE BUGT
UPERNAVIK
PANGNERTÔQ
NÛGÂTSIAQ
MÂRMORILIK
UMANAK
AGATDAL
QUTDLIGSSAT
DISKO
GODHAVN
DISKO BUGT
JAKOBSHAVN
EGEDESMINDE
CHRISTIANSHÅB
DAVISSTRÆDET
HOLSTEINSBORG
Sondre Strømfjord
SUKKERTOPPEN
GODTHÅB
Fiskenæsset
TINGMIARMIUT
NERIA
MIDTERNÆS
IVIGTUT
NARSSARSSUAQ
NUNARSSUIT
IGALIKO
JULIANEHÅB
NANORTALIK
Kap Farvel
I
II
III
IV
ANGMAGSSALIK
DANMARKSSTRÆDET
ISLAND
Danmarks Havn
Jameson Land
SCORESBYSUND
GRØNLAND
KILOMETRES
0 100 200 300 400 500
I-IV Map sheets 1:500 000
Map sheets 1:100 000

Quaternary geology

In conjunction with basement mapping, investigations in Quaternary deposits and glacial deposits have been carried out. These have been primarily concerned with establishing the earlier positions of the Inland Ice margin and the related rise and subsidence of the land mass. In addition certain aspects of the extent and nature of permafrost have been studied; as part of this work stations for ground temperature measurement have been set up at Søndre Strømfjord and Holsteinsborg.

East Greenland

Since the Geological Survey of Greenland came into existence in 1946 the geological field work has been concentrated in West Greenland. Very extensive areas of East Greenland in the meantime lie unmapped. However plans have now been made for sending a series of expeditions to central East Greenland over the coming five years. Activity will be concentrated in the Scoresbysund area where ca. 60 000 km^2 lie unmapped. It is planned to have a mobile base on a ship and from this to operate with two helicopters, the object being to give the geologists the best possible transport facilities so as to utilise to the full the very short (6-7 week) summer field season.

As an introduction to this project a small group was sent to the Scoresbysund fjord complex in 1967 to undertake a reconnaissance of both the geology and the climatic and practical conditions in the area.

The Precambrian of southern East Greenland between Kangerdlugssuaq and Kap Farvel is comparatively unknown and L. R. Wager's generalized geological map of the coast north of Angmagssalik is the only available map of this region. Therefore the Survey decided to make a start also in this part of East Greenland in 1967 by sending a two-man group to map the area west and southwest of Angmagssalik. Continued activity in this region is planned for the coming years.

Collaboration with other institutes

The Survey has continued to maintain a close contact with a large number of other institutions, both Danish and foreign, in order to benefit from the sharing of resources and the exchange of ideas. In keeping with this policy the Survey has in the past year collaborated with the Mineralogical-Geological Institutes and Mineralogical Museum of the University of Copenhagen, the Danish Atomic Energy Commission and the Geological Institute of the University of Aarhus. Furthermore the Survey field team was joined in 1967 by geologists from the universities of London (Imperial College), Liverpool, Exeter, and Portsmouth College of Technology in Great Britain, and from the University of Lausanne, the University of Modena and the University of Uppsala. A joint expedition was sent to Kap Stosch in East Greenland, in collaboration with Harvard University, the University of Kansas and Eidg. Technische Höchschule, Zurich.

Much of the work in Greenland forms not only part of the Survey mapping programme but also a contribution to various international reseach projects. Work has continued on projects forming part of the Danish programme for the International Upper Mantle Project (see the International Union of Geological Sciences circular no. 12, p. 58) and UNESCO's International Hydrological Decade.

Several foreign expeditions have visited Greenland during the summer, and the Survey has in many cases been in communication with the geologists in those parties.

Organization and personnel

The permanent scientific staff of the Survey in 1967 consisted of 18 geologists and 1 chemist. During the field season this team was supplemented by 18 geologists from other institutions (see above) and 16 senior students. The permanent supporting staff in Copenhagen numbers 22; this figure is relatively low due to the sharing of many facilities with the Mineralogical-Geological Institutes and Mineralogical Museum. The total number of participants

(geologists and supporting staff) in the summer expedition was 94 together with 26 Greenlanders.

A small number of full-time geologists, seen in relation to the Survey's very extensive field programme in Greenland, has for a long time characterized the Survey which in Copenhagen works in very restricted conditions regarding space. On account of these conditions it has not been possible for the Survey to fulfil all the functions normally carried out by a state geological survey. Throughout the year plans for expansion have been constantly under consideration.

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