

Review of the Survey's activities in 1981

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The geological field activity in 1981 covered a wide range of aspects of the Survey's work centered in West, South and East Greenland. A telegraphist's strike lasting the whole period of the field season added serious difficulties to the work; some programmes had to be completely cancelled, such as the oil geological and geophysical investigations in East Greenland, while other programmes were affected to varying degrees causing changes in logistic support. The end of the season was marked in September when GGU was host to a meeting of the directors of the Western European geological surveys held in Julianehåb and Narssaq.

The Survey published two 1:100 000 map sheets at the end of the year: Kangiata nuna, an area of Archaean gneiss in West Greenland, and Hurry Inlet, an area with Mesozoic sedimentary rocks and Caledonian crystalline gneisses and granites in East Greenland (fig. 2). Numerous results of the Survey's activities were published in both the Survey's own publication series and as articles in international journals. These included a symposium volume 'Nares Strait and the Drift of Greenland', a joint venture with the Geological Survey of Canada, which is being edited in Copenhagen and published as part of the series *Meddelelser om Grønland*. The volume will appear in 1982.

The extensive regional activity in 1981 was concentrated on the Archaean rocks in the inland areas of Isukasia and Ivisârtoq in the inner Godthåbsfjord area. Five groups from the Survey made a start on the 1:100 000 sheet Isukasia, and a team from Exeter University on contract to the Survey to map the adjacent sheet Ivisârtoq, carried out their programme. Work on the nearby Fiskefjord map sheet, which had been started the previous year, was continued with two groups from the Survey.

Frozen ground in spring is the ideal opportunity to carry out detailed geophysical work over swampy ground and lakes, and in March a party made a magnetic survey of the poorly exposed core of the carbonatite complex at Sarfartôq. During the summer three carbonatite complexes in central West Greenland, Sarfartôq, Tupertalik and Qaqarssuk were the objects of detailed field work to obtain a better understanding of their geological relations and geochemical formation as well as mineral potential.

The mineral resources mapping and evaluation programme which was started the previous year with an exploration geochemical survey, was continued in 1981 in an area south of Søndre Strømfjord. This included sampling of stream water and stream sediments and analysis of their uranium and fluorine contents.

All the activity in central West Greenland mentioned above had helicopter support operating from both the permanent field station in Søndre Strømfjord and the temporary base at Kangiussaqaq in Godthåbsfjord.

In the Svartenhuk area three groups carried out geological investigations and mapping of the Tertiary basalts, the Precambrian basement and the Quaternary deposits.

In South-East Greenland a Survey cutter supported a geological party carrying out

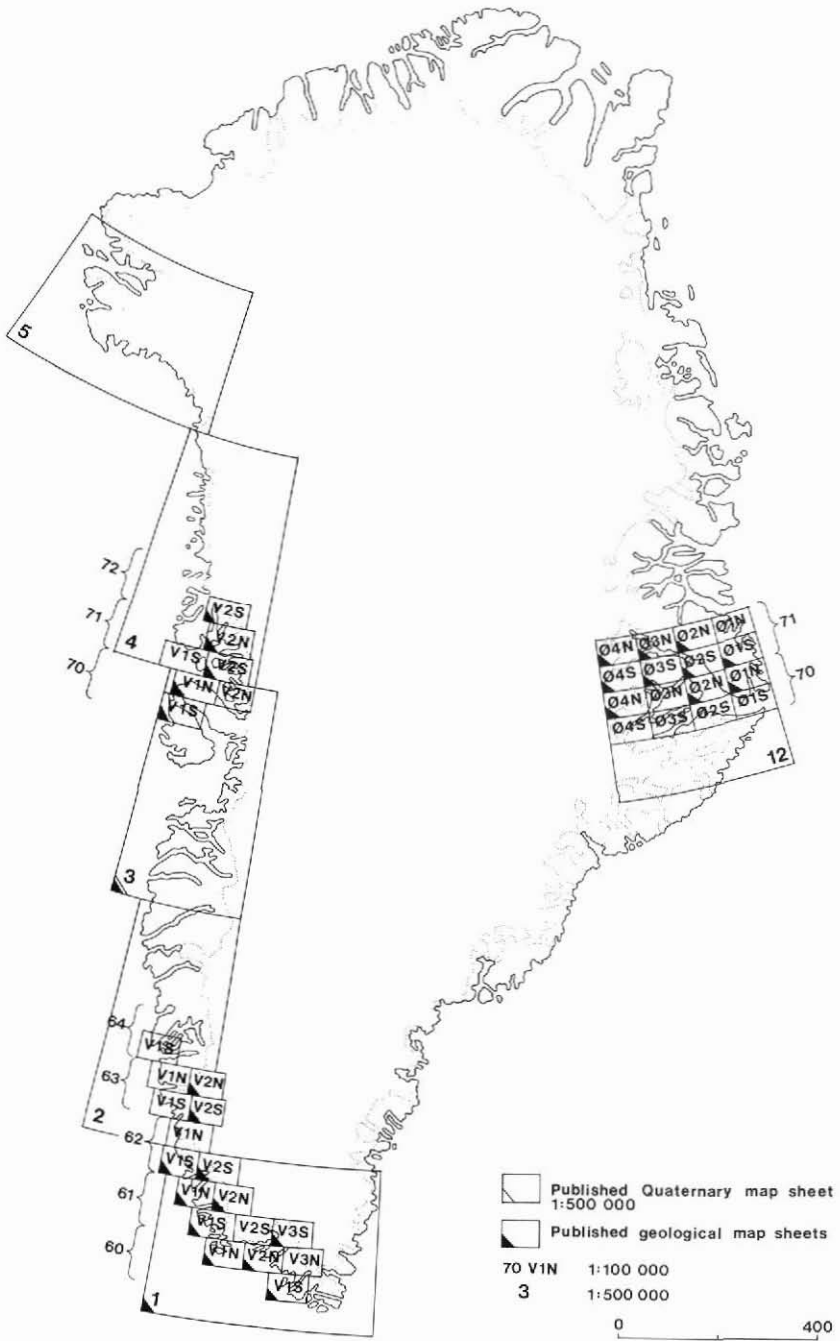


Fig. 2. Map sheets published and in preparation by the Survey (see inside rear cover).

geological investigations in the Precambrian rocks between Uivaq (63°) and Bernstorffs Isfjord (63°38'N).

Hydro-power investigations in western Greenland are being extended. Three field stations are now established near the margin of the Inland Ice and these are manned for about five months each year.

Work continued on the Greenland contribution to the 'Satellite Image Atlas of Glaciers', a work sponsored by the U.S. Geological Survey. Greenland, with its major ice cap, the Inland Ice, and numerous local ice caps and glaciers forms an important contribution to this work.

As in previous years a number of externally financed projects were carried out. This activity included the 'Coal Project' on Nûgssuaq, the uranium survey programme in South Greenland ('Syduran'), hydrological basin programmes in West Greenland, the 'Remote Sensing' programme in East Greenland, and various geophysical survey programmes covering the continental shelves of West and East Greenland ('Westmar', 'Eastmar', 'NAD'). As these projects were completed, follow-up programmes were initiated where necessary to supplement the existing information and to establish groups of experts in the various fields. However, over the past year no new geological projects for the investigation of Greenland's energy potential have been approved.

The 'Coal Project' investigating the coal potential of the sedimentary area in West Greenland had completed their field investigations the previous summer, and were concerned throughout the year with laboratory investigations, and compilation and writing of the final report. The area on Nûgssuaq between Sarqaqdaalen and Atâ is considered to have the best potential.

In South Greenland the uranium prospecting programme, 'Syduran', completed their field work the previous summer and in 1981 was concerned with the compilation of the results. The project has now indicated four areas in which detailed work should be continued, two of which would justify intensive exploration. At the same time the work has delimited areas with low potential for uranium.

The offshore geophysical study in East Greenland (Project 'NAD') begun two years ago was continued in 1981 with the second season of marine seismic magnetometric surveying from the research vessel *Nina Profiler*. Ice conditions off the east coast of Greenland were poor, and the start of the survey was therefore delayed. The main working area was the shelf and slope between latitudes 62° and 65.5° and in the Denmark Strait. The survey was largely completed in spite of poor weather and ice difficulties.

The funding of two projects ceased at the end of the year while a third, the South Greenland uranium project ('Syduran') received funds for an extra year. The 'Remote Sensing' project finished its work in East Greenland, but the Survey supports a new Remote Sensing project in South and South-East Greenland. The Coal Project was completed and the staff dispersed to other appointments.