### The year's publications: a review with listing for 2000

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This review deals with just one part of the Survey's total publication production for the year 2000, namely, that covering geoscientific topics about Greenland, the surrounding oceans and neighbouring lands, i.e. Canada, Svalbard and Iceland. Publications about Denmark, the Faeroe Islands, and other regions of Scandinavia, as well as elsewhere in the world where the Survey has been active, are listed on the Survey's website (www.geus.dk).

Following a summary of the year's achievements, this review lists the publications released in 2000 in the Survey's own series, as well as the scientific and semi-popular articles written by staff and co-workers published in external outlets. International volumes on Greenland and related areas, where staff have acted as scientific editors or compilers, are also cited. Geoscientific abstracts on Greenland, of which about 50 were published during the year, as well as other forms of information transfer (e.g. international symposia, seminars, conferences, posters, etc.) are not listed but may be consulted in the annual publication catalogue that is on the Geological Survey of Denmark and Greenland (GEUS) website.

All available products are listed in the *Catalogue of Greenland publications and data* described below (Fig. 1). The present coverage of Greenland by standard geological maps at scales 1:500 000 and 1:100 000, as well as Quaternary geology and geophysical maps, is shown in the index maps of Fig. 2. The range of products now available on CD-ROM, and released in 2000, is illustrated in Fig. 3 while facsimiles of 2000 covers from four Greenland-relevant publication series are shown in Fig. 4.

#### Summary of the year's achievements

The Survey's status as a research and advisory institution under the Ministry of Environment and Energy carries a commitment to achieve specific objectives that are outlined and defined in contract periods. The year 2000 was the first year of the new contract period 2000-2003. An assessment in 1999 of the research and publications record of several departments at the Survey (specifically oil- and gas-related research) by an international evaluation panel led to a recommendation for more emphasis on the release of research results in international peer-reviewed publications. Rather than represent a fundamental change in publication strategy, the panel's report (Danmarks og Grønlands Geologiske Undersøgelse Rapport 1999/69) calls for a shift in research culture to encourage more staff to publish, or to be involved in the preparation of, high-quality external publications, thus helping to promote the Survey's international profile. In the short life of the present Survey (established in 1995 by the fusion of the former Geological Survey of Denmark and the former Geological Survey of Greenland), the number of scientific research products each year has been dominated by titles released in international outlets. Peer-review bulletins and maps in the Survey's own series have formed only a small part of the total annual publication achievement and this also applies for the year 2000.

The Survey's field operations in Greenland in 2000 and the associated activities in Copenhagen, including those of the Danish Lithosphere Centre (administratively attached to GEUS), resulted in about 50 scientific papers on Greenland and surrounding regions being released in external publication outlets. In addition, three special volumes on Greenland and neighbouring regions published by international journals were edited/compiled by Survey staff.

*Maps.* The national geological map sheet coverage of Greenland has two scales: 1:500 000 and 1:100 000. The 1:500 000 series that was initiated in the 1970s is nearing completion (see Fig. 2A); the 1:100 000 map series, the first map sheet of which was published in 1967, has a sporadic coverage with the main map-sheet blocks in West, South-West, South and East Greenland

(see Fig. 2B). One map sheet from each series was printed in 2000. The publication of the Lambert Land map sheet from North-East Greenland brought the total of 1:500 000 maps released up to 12, leaving just two sheets outstanding. The publication of the map sheet Uiffaq, from the Disko Bugt region of central West Greenland, brings the total of 1:100 000 maps printed up to 55.

The high-resolution, airborne geophysical mapping of West Greenland south of 71°N that was initiated in the early 1990s was completed with a survey in 1999 of the region between 65°40′N and 68°20′N (see Fig. 2D, for magnetic and electromagnetic coverage). In 2000, a total of 62 maps from the 1999 survey were released: two at a scale of 1:250 000 with the remainder at 1:50 000. Parameters available are total magnetic intensity and associated vertical derivatives.

Digital products. The demand for digital versions of all types of geoscientific data is increasing and the Survey is meeting this challenge by releasing soft copies of maps and data on CD-ROM (Fig. 3), as well as improving electronic access to databanks with the aim of delivering information through the internet. In 2000, nine CD-ROMs were issued; some of these comprise compilations of existing data and maps, while others contain new data and refined datasets and images. CD-ROMs designed to give exploration companies easy access to digital multi-datasets were released from onshore South Greenland (mineral potential) and offshore southern West Greenland (hydrocarbon potential).

The South Greenland CD-ROM, that focused on the mineral resource potential of the Palaeoproterozoic Ketilidian mobile belt, contains the hitherto most comprehensive digital assembly of geoscientific data available from a particular region of Greenland, with geological, geophysical, geochemical, topographical, mineral occurrences and remote sensing spatial datasets (see page 15 under CD-ROM issues). The West Greenland CD-ROM, specially prepared to highlight the geology and hydrocarbon potential of the offshore region between 63° and 68°N, contains a wide range of geoscientific data, including play types and information on licensing policy and operational conditions. In the Geology of Denmark and Greenland Map Series, seven CD-ROMs were released featuring previously published 1:100 000 geological maps bringing the total of digital versions of standard map sheets up to 15 (eight CD-ROMs with geological maps at 1:500 000 have been released previously). Of the 2000 issues, six relate to the Archaean craton of southern West Greenland, and one is from the Palaeoproterozoic Ketilidian mobile belt of South-East Greenland.

Bulletins. Four volumes of the Survey's peer-reviewed series - Geology of Greenland Survey Bulletin - were published in 2000. These included the long-awaited descriptive text to the 1:2 500 000 Geological map of Greenland (Bulletin 185); the map sheet itself was printed and released in 1995. A folded copy of the map is included with the bulletin. The map is also available as an individual sheet (96  $\times$  120 cm) supplied in a map roll; an atlas  $(20 \times 24 \text{ cm})$  presenting the map in 12 parts is in preparation. The effort to have the annual Review of Greenland activities (Bulletin 186 covering 1999 activities) to the public earlier than usual succeeded with printing in early July 2000. This publication, produced in full colour and with a wide distribution to libraries and the Survey's geological contacts, continues to be the Survey's most popular international publication. The review was followed by a multi-article volume (Bulletin 187) dealing with the sedimentary evolution of the Wandel Sea Basin in North Greenland based on new field work and palynological studies (of some relevance to the hydrocarbon potential of the immediate offshore region), and a volume (Bulletin 188) on the regional tectonic features of the late Phanerozoic rocks of Svartenhuk Halvø, central West Greenland, the origin of which is related to the opening of Baffin Bay.

Ph.D. theses and Reports. The Survey fosters close cooperation with Danish universities and research institutions, and one aspect of this cooperation is the training of students by research scientists and research professors for higher degrees. Five theses on Greenland-related subjects were submitted in 2000 by students based at the Survey as part of Ph.D. degrees at the Universities of Copenhagen and Aarhus. Two of these appeared in the Danmarks og Grønlands Geologiske Undersøgelse Rapport series (numbers 2000/64 and 2000/82). In 2000, this open file-type series released 19 reports with a Greenland geological content. Most Greenland-related reports in this series are in English but a few have Danish titles; several reports were issued with data attached in CD-ROM or diskette form.

International newsletters. The two newsletters to international industry – Ghexis Newsletter and Greenland MINEX News – continue to gain readership. They are published jointly by GEUS and the Bureau of Minerals and Petroleum (BMP), Government of Greenland, and both newsletters are now available on the websites of both institutions (www.geus.dk and www.bmp.gl; see page 23 under Availability of Survey publications). In 2000 there were three issues: numbers 17 and 18 of Ghexis Newsletter and number 18 of Greenland MINEX News.

## Catalogue of Greenland publications and data

The front cover of the catalogue is illustrated in Fig. 1.

*Edited by* B. Eriksen & P.R. Dawes, 58 pp. Copenhagen: Geological Survey of Denmark and Greenland (revised in September 2000).

The catalogue, available free of charge (see under Availability of Survey publications p. 23), contains a complete list of the geoscientific publications on Greenland issued by both the former and present Survey organisations, going back to the first bulletin released by the Geological Survey of Greenland in 1948. Information on 'how to order' with prices and payment details are included. The catalogue also reviews available maps and graphic services (in addition to the geological and geophysical map coverage shown in Fig. 2), including geochemical, topographic, bathymetric and satellite maps at varying scales. A data directory specifying the range of data and services available at the Survey is also included: it comprises various data bases; map, sample and drill-core archives; bibliographic and library facilities, including unpublished maps and reports from the Survey's own activities and those of industry.

The catalogue contains an index to selected topics such as Fiskenæsset anorthosite and minerals, Glaciology and hydropower, Kimberlites/diatremes, Mineralisation, Offshore geophysics, Onshore geophysics, Palaeontology and stratigraphy, Prospecting, Quaternary and permafrost, Sedimentary and petroleum geology, as well as an author/project index.

#### Maps

The national geological map sheet coverage at scales 1:500 000 and 1:100 000 is shown in Fig. 2A–C; regions covered by geophysical maps are shown in Fig. 2D.

#### Standard map sheets (printed in 2000)

Geological map of Greenland, 1:500 000, Lambert Land, sheet 9. Compiled by H.F. Jepsen. Copenhagen: Geological Survey of Denmark and Greenland.

Geological map of Greenland, 1:100 000, Uiffaq 69 V.1 Syd. Compiled by A.K. Pedersen, F. Ulff-Møller, L.M. Larsen, G.K. Pedersen & K.S. Dueholm. Copenhagen: Geological Survey of Denmark and Greenland.



Fig. 1. The front cover of *Catalogue of Greenland publications and data*, 58 pp. For details see the text. The catalogue can be requested free of charge.

#### Geology of Denmark and Greenland Map Series CD

This series contains previously published map sheets of the national map coverage and, where available, with accompanying descriptions. The first eight issues feature 1:500 000 map sheets; numbers 9 to 15 released in 2000 are 1:100 000 map sheets. The most recently printed 1:100 000 map sheet available on CD-ROM, Lindenow Fjord CD 15, is illustrated in Fig. 3. The dates in brackets below refer to the printed editions of the original map sheets.

**CD 9** Grædefjord, 63 V.1 Syd. (1982)

**CD 10** Sinarssuk 63 V.2 Syd. (1980)

**CD 11** Kangiata Nuna 63 V.2 Nord. (1981)

**CD 12** Fiskefjord 64 V.1 Nord. (1989)

**CD 13** Ivisârtoq 64 V.2 Nord. (1988)

**CD 14** Isukasia 65 V.2 Nord. (1987)

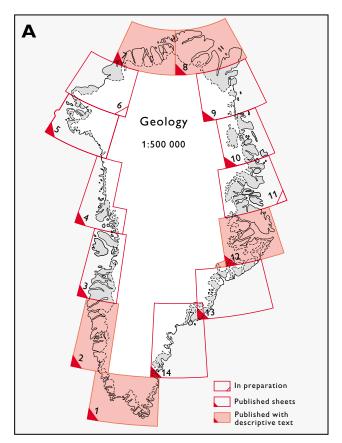
CD 15 Lindenow Fjord 60 Ø.l Nord (1998)

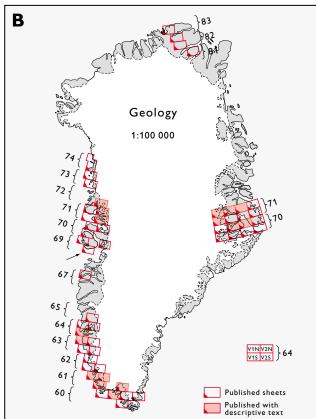
#### Airborne geophysical maps

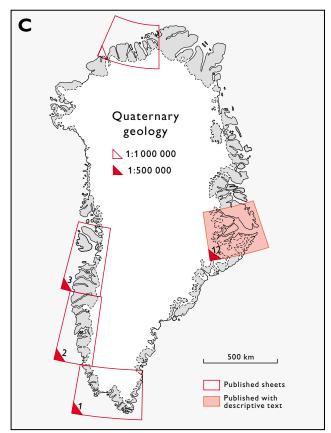
The regions covered by geophysical maps are shown in Fig. 2D.

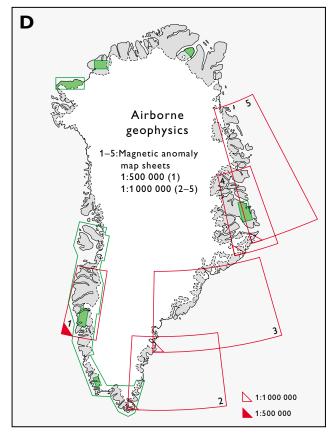
#### Southern West Greenland 65°40′-68°20′N

Sixty-two map sheets were released in 2000: two maps at scale 1:250 000 of total magnetic field intensity (colours and shadow) and first vertical derivative of magnetics, and sixty maps at 1:50 000 of total magnetic field intensity (colours and contours) and first vertical derivative of magnetics. The aeromagnetic survey leading to these









maps (*Aeromag 1999*) was flown in 1999 by Sander Geophysics Ltd., Ottawa, Canada; it was financed by the Bureau of Minerals and Petroleum, Government of Greenland and managed by the Survey.

#### **CD-ROM issues**

In addition to the two items listed here, CD-ROMs of map sheets of the national map sheet coverage are featured under *Geology of Denmark and Greenland Map Series CD* above. CD-ROMs with three types of data are illustrated in Fig. 3.

Mineral resource potential of South Greenland: the CD-ROM. *Compiled by* F. Schjøth, A.A. Garde, M.S. Jørgensen, M. Lind, E. Moberg, T.F.D. Nielsen, T.M. Rasmussen, K. Secher, A. Steenfelt, H. Stendal, L. Thorning & T. Tukiainen. The geological province in focus is the Palaeoproterozoic Ketilidian mobile belt. The CD-ROM contains geological, geochemical (stream sediments), geophysical (magnetics, electromagnetics, radiometrics, gravity), topographical, mineral occurrence, mineral exploration and remote sensing spatial datasets presented as maps or images. It is released as part of *Danmarks og Grønlands Geologiske Undersøgelse Rapport* 2000/57; the accompanying report is cited below under that series.

West Greenland 2001 Licensing Round. Nomination 2000/2001. *Compiled by* M. Sønderholm & C. Marcussen. Contains information on West Greenland geology, including prospectivity, play types and source rocks, as well as data types and operational conditions. Prepared by the Survey and available free of charge; also available from BMP (Bureau of Minerals and Petroleum, Greenland) and Nunaoil A/S (national oil and gas company of Greenland).

#### Facing page

Fig. 2. Geological and geophysical map sheets by the Survey (**red frames**) with regions covered by airborne geophysical surveys 1992–1999 outlined in **green**. Ten sheets (1–5, 7, 8, 12–14) of the 1:500 000 geological coverage are available on CD-ROM in the *Geology of Denmark and Greenland Map Series*. Of the two 1:500 000 sheets yet to be published, sheet 11 is scheduled to be released in 2001. The **arrow** in Fig. 2B marks the Uiffaq map sheet released in 2000. Magnetic maps and data reports are available for all geophysical surveys; in addition, electromagnetic maps and data are available for the six areas with **green shading**.



Fig. 3. Selected CD-ROMs from the year 2000: for details see the listing in the text. **Front** to **back**: *Danmarks og Grønlands Geologiske Undersøgelse Rapport* 2000/57, Mineral resource potential of South Greenland; *Geology of Denmark and Greenland Map Series CD* 15, Geological map of Greenland 1:100 000; West Greenland 2001 Licensing Round, Nomination 2000/2001, available free of charge.

#### **Geology of Greenland Survey Bulletin**

This is a peer-reviewed series; an exception is the annual *Review of Greenland activities* which is edited and reviewed internally. Front covers of Bulletins 185, 186 and 188 are illustrated in Fig. 4A–C.

- **185**: Greenland from Archaean to Quaternary. Descriptive text to the Geological map of Greenland, 1:2 500 000. *By* N. Henriksen, A.K. Higgins, F. Kalsbeek & T.C.R. Pulvertaft, 93 pp. + 1 map (see below for summary).
- **186**: Review of Greenland activities 1999. *Edited by* P.R. Dawes & A.K. Higgins, 105 pp. (13 articles, see below for details).
- **187**: Palynology and deposition in the Wandel Sea Basin, eastern North Greenland. *Edited by* L. Stemmerik, 101 pp. (5 articles, see below for summary).
- **188**: The structure of the Cretaceous–Palaeogene sedimentary-volcanic area of Svartenhuk Halvø, central West Greenland. *By* J.G. Larsen & T.C.R. Pulvertaft, 40 pp. + 1 plate with cross-sections (see below for summary).

Bulletin 185: Greenland from Archaean to Quaternary. Descriptive text to the Geological map of Greenland, 1:2 500 000

Greenland's geological development spans a period of 4 Ga from the earliest Archaean to the Quaternary. An



Fig. 4. Selected Survey publications on Greenland from the year 2000: for details see listing in the text. **A–C**: *Geology of Greenland Survey Bulletin* 185, 186 and 188; **D**: *Danmarks og Grønlands Geologiske Undersøgelse Rapport* 2000/9; **E**: *Ghexis Newsletter* No. 18, December 2000; **F**: *Greenland MINEX News* No. 18, February 2000.

overview of the geology was presented in 1995 on the Geological map of Greenland at a scale of 1:2 500 000.

This bulletin provides a description of the geology of Greenland. It is divided into onshore and offshore parts and there are sections on mineral deposits and petroleum potential. It includes an extensive subject index, a place names register and a special legend explanation. The main chapters comprise descriptions of the Precambrian shield with Archaean and Proterozoic crystalline complexes, Proterozoic and Palaeozoic sedimentary basins, Palaeozoic fold belts, late Palaeozoic – Mesozoic sedimentary basins, Tertiary basalts, offshore

sedimentary depocentres and the central continental ice sheet – the Inland Ice.

## Bulletin 186: Review of Greenland activities 1999

This volume contains a full-page geological map (onshore/offshore), 11 technical articles and two reviews, i.e. a directorial review – The year in focus – and a review of the publications on Greenland and surrounding regions of the North Atlantic released in 1999. The latter includes a listing of publications issued in the Survey's

own series and those scientific and semi-popular papers written by its staff and co-workers released in international outlets.

The technical articles report on the main projects carried out in 1999, in all parts of Greenland stretching from 81°N in the north to the southern tip at 60°N. The topics touched on range from geological mapping and stratigraphic studies of Archaean to Quaternary rocks, economic assessments of mineral and petroleum deposits, as well as an airborne geophysical survey in West Greenland. Three papers report on field work dealing with the impact of climatic change on the environment.

#### The articles

The year in focus, 1999. By K. Sørensen, 7–10.

Kane Basin 1999: mapping, stratigraphic studies and economic assessment of Precambrian and Lower Palaeozoic provinces in north-western Greenland. *By* P.R. Dawes, T. Frisch, A.A. Garde, T.R. Iannelli, J.R. Ineson, S.M. Jensen, F. Pirajno, M. Sønderholm, L. Stemmerik, S. Stouge, B. Thomassen & J.A.M. van Gool, 11–28.

Notes on the late Cenozoic history of the Washington Land area, western North Greenland. *By* O. Bennike, 29–34.

A new volcanic province: evidence from glacial erratics in western North Greenland. *By* P.R. Dawes, B. Thomassen & T.I.H. Andersson, 35–41.

Episodic tectono-thermal activity in the southern part of the East Greenland Caledonides. *By* A.G. Leslie & A.P. Nutman, 42–49.

Ketilidian structure and the rapakivi suite between Lindenow Fjord and Kap Farvel, South-East Greenland. *By* B. Chadwick, A.A. Garde, J. Grocott, K.J.W. McCaffrey & M.A. Hamilton, 50–59.

Lake sediment coring in South Greenland in 1999. *By* O. Bennike & S. Björck, 60–64.

Earth's oldest well-preserved mafic dyke swarms in the vicinity of the Isua greenstone belt, southern West Greenland. *By* R.V. White, J.L. Crowley & J.S. Myers, 65–72.

Aeromagnetic survey in southern West Greenland: project Aeromag 1999. *By* T.M. Rasmussen & J.A.M. van Gool, 73–77.

Subfossil insect remains (Chironomidae) and lake-water temperature inference in the Sisimiut–Kangerlussuaq region, southern West Greenland. *By* K.P. Brodersen & N.J. Anderson, 78–82.

Coring of laminated lake sediments for pigment and mineral magnetic analyses, Søndre Strømfjord, southern

West Greenland. *By* N.J. Anderson, A. Clarke, R.K. Juhler, S. McGowan & I. Renberg, 83–87.

Petroleum geological activities in West Greenland in 1999. *By* F.G. Christiansen, F. Dalhoff, J.A. Bojesen-Koefoed, J.A. Chalmers, G. Dam, C. Marcussen, H. Nøhr-Hansen, T. Nielsen, A.K. Pedersen, R. Riisager & M. Sønderholm 88–96.

Greenland publications review with listing for 1999. *By* P.R. Dawes & E.W. Glendal, 97–105.

#### Bulletin 187: Palynology and deposition in the Wandel Sea Basin, eastern North Greenland

The Wandel Sea Basin developed during the Late Palaeozoic to Palaeogene. Two main tectonic epochs of basin evolution are recognised: Late Palaeozoic to Early Triassic block faulting affected the entire basin whereas Mesozoic strike-slip movements affected only the northern part. This is reflected in different thermal histories and hydrocarbon potential.

This bulletin contains five articles based on field and palynological studies. The tectono-stratigraphic history of the south-eastern part of the basin is discussed with implications for shelf areas: a refined, upper age constraint for the compressional tectonism has been gained from detailed study of the Palaeogene microflora. The Early Carboniferous age of the oldest sediments is based on a microflora comparable to that of western Europe, whereas a Late Carboniferous algal flora shows affinities with the Sverdrup Basin flora of Arctic Canada.

#### Bulletin 188: The structure of the Cretaceous–Palaeogene sedimentaryvolcanic area of Svartenhuk Halvø, central West Greenland

Svartenhuk Halvø is a peninsula lying at the northern end of the West Greenland Palaeogene volcanic province. In the down-faulted south-western part of the peninsula upper Paleocene basalts overlie Cretaceous – lower Paleocene sediments, whereas to the northwest the basalts lie directly on Precambrian basement.

This bulletin describes the structural pattern in the basin area. This is dominated by NW–SE-trending extensional faults with downthrow to the north-east. Also trending NW–SE are faulted monoclinal flexure zones that were probably generated by reactivation of deep basement faults. Both the extensional fault arrays and the flexure zones are offset at approximately E–W-trending transfer faults. The regional extension is

believed to be related to the opening of Baffin Bay during the late Paleocene – Eocene.

#### Danmarks og Grønlands Geologiske Undersøgelse Rapport

This open file-type series comprises *unedited* reports in limited numbers covering Greenland, Danish and international topics. The series includes confidential reports, some of which are released when confidentiality expires. Only unclassified numbers dealing with Greenland geological topics are included below. The front cover of Rapport **2000/9** is illustrated in Fig. 4D.

- 2000/5: GREENMIN. Introduction and users' manual. By L. Thorning, L.A. Christensen, M. Lind, H. Stendal & T. Tukiainen, 87 pp. (GREENMIN is the abbreviation for Greenland Mineralisation Data Bank.)
- **2000/9:** Gold indications in northern Inglefield Land, North-West Greenland: a preliminary report from project Kane Basin 1999. *By* B. Thomassen, P.R. Dawes, T.R. Iannelli & F. Pirajno, 14 pp.
- **2000/13**: Indledende lokalisering af grønlandske gletschere med is/vand egnet til export. *By* C.E. Bøggild, A. Weidick & O.B. Olesen, 30 pp. (Danish version of Rapport **2000/73**.)
- **2000/26**: Sammenstilling af sedimentologiske og biostratigrafiske data fra Nuussuaq Bassinet, Vestgrønland. *By* G. Dam, 37 pp. + app.
- **2000/29**: Greenland and the Danish sector Well data and geophysical data. Prices and sales conditions. 14 pp.
- **2000/31**: Well data summary sheets. Volume 35, released wells from West Greenland. 63 pp.
- **2000/50**: Mineral resource potential of South Greenland: review of new digital data sets. *By* A. Steenfelt, T.F.D. Nielsen & H. Stendal, 47 pp.
- **2000/56**: Cretaceous–Paleocene depositional evolution of the Nuussuaq Basin, West Greenland. Field trip guide prepared for TGS-NOPEC, Nuussuaq–Disko, 19–26 July 2000. *By* G. Dam, 21 pp. + app.
- 2000/57: Mineral resource potential of South Greenland: the CD-ROM. *By* F. Schjøth, A.A. Garde, M.S. Jørgensen, M. Lind, E. Moberg, T.F.D. Nielsen, T.M. Rasmussen, K. Secher, A. Steenfelt, H. Stendal, L. Thorning & T. Tukiainen, 36 pp. + CD-ROM. (See also above under *CD-ROM issues*.)

- **2000/60**: Bjergkædedannelse i den sydlige del af det kaledoniske foldebælte i Østgrønland et studie af præorogene basementkomplekser, overliggende sedimentbassiner, synorogene deformationer og overskydninger samt synsenorogene kaledoniske granitintrusioner. *By* N. Henriksen, 148 pp.
- **2000/64**: Geochronology of the pre-Caledonian basement in East Greenland 72°–75°N. *By* K. Thrane, 196 pp. (Cited below under *Ph.D. theses.*)
- **2000/67**: Undersøgelse af bakterielle kimtal i Grønlands indlandsis. *By* C.S. Jacobsen, 10 pp.
- **2000/72**: Sen palæozoisk palæoklima og palæogeografi i det nordatlantiske område. Statusrapport. *By* L. Stemmerik, 8 pp.
- 2000/73: Preliminary localization of Greenlandic glaciers with ice/water suitable for export. By C.E.
  Bøggild, A. Weidick & O.B. Olesen, 28 pp. (English version of Rapport 2000/13.)
- **2000/77**: Amdrup Fjord, South-East Greenland: reconnaissance for noble metals. *By* B. Thomassen, 10 pp.
- **2000/82**: Inversion of airborne transient electromagnetic data. *By* L.H. Poulsen, 143 pp. (Cited below under *Ph.D. theses*.)
- **2000/83**: Qulleq-1 (6354/4-1): petroleum geochemistry. Service report prepared for Statoil a.s. *By* J.A. Bojesen-Koefoed, H.P. Nytoft & P. Rosenberg, 35 pp.
- 2000/88: Tectonic architecture of the East Greenland Caledonides 72°–74°30′N. *By* S. Elvevold, J.C. Escher, K.S. Frederiksen, J.D. Friderichsen, J.A. Gilotti, N. Henriksen, A.K. Higgins, H.F. Jepsen, K.A. Jones, F. Kalsbeek, P.D. Kinny, A.G. Leslie, S. Robertson, M.P. Smith, K. Thrane, & G.R. Watt, 34 pp.
- **2000/100**: Economic investigations in Inglefield Land, North-West Greenland: part of the project Kane Basin 1999. *By* B. Thomassen, F. Pirajno, T.R. Iannelli, P.R. Dawes & S.M. Jensen, 98 pp. + 2 maps, 1 diskette with Tables 1–6.
- **2000/101**: Biostratigraphy of well 6354/4-1 (Qulleq-1), West Greenland. *By* H. Nøhr-Hansen, S. Piasecki, J.A. Rasmussen & E. Sheldon, 81 pp.
- **2000/104**: Assessing and monitoring the environmental impact of mining activities in Europe using advanced Earth Observation techniques. *By* T. Tukiainen, 24 pp. (Includes work in East Greenland.)

#### Ph.D. theses

In 2000 Ph.D. theses were produced both as reports in the *Danmarks og Grønlands Geologiske Undersøgelse Rapport* series and as unnumbered volumes.

Frederiksen, K.S. 2000: A Neoproterozoic carbonate ramp and base-of-slope succession, the Andrée Land Group, Eleonore Bay Supergroup, North-East Greenland: sedimentary facies, stratigraphy and basin evolution, 242 pp. University of Copenhagen and Geological Survey of Denmark and Greenland, Copenhagen, Denmark. Thesis for Ph.D. degree from the University of Copenhagen.

Kragh, K. 2000: The Citronen Fjord sedimentary exhalative sulphide deposit, North Greenland. A study of primary and diagenetic textures, oxygen and carbon isotopes, and fluid inclusions, 277 pp. Geological Survey of Denmark and Greenland, Copenhagen, Denmark. Thesis for Ph.D. degree from Aarhus University.

Poulsen, L.H. 2000: Inversion of airborne transient electromagnetic data. Danmarks og Grønlands Geologiske Undersøgelse Rapport **2000/82**, 143 pp. Thesis for Ph.D. degree from Aarhus University.

Therkelsen, J. 2000: Petrographic and diagenetic studies on Triassic and Jurassic sandstones in the Traill Ø region, East Greenland, 188 pp. University of Copenhagen and Geological Survey of Denmark and Greenland, Copenhagen, Denmark. Thesis for Ph.D. degree from the University of Copenhagen.

Thrane, K. 2000: Geochronology of the pre-Caledonian basement in East Greenland 72°–75°N. Danmarks og Grønlands Geologiske Undersøgelse Rapport **2000/64**, 196 pp. Thesis for Ph.D. degree from the University of Copenhagen.

#### **Ghexis Newsletter**

Greenland hydrocarbon exploration information service. Page 1 of issue No. 18 is illustrated in Fig. 4E.

Issue No. 17, April 2000, 8 pp.

Selected titles:

The first well offshore West Greenland in the new millennium.

New seismic data acquisition in the Nuussuaq Basin during summer 2000.

East Greenland – analogues for the future.

Upper Palaeozoic carbonates in northern Greenland – an analogue to the Barents Sea sucession.

Lower Cretaceous fault-crest sandstones, Hold with Hope – an overlooked play offshore Norway?

Issue No. 18, December 2000, 8 pp.

Selected titles:

Qulleq-1 and the media: myths and facts about the Fylla exploration well.

Invitation to nominate blocks on the West Greenland continental shelf announced.

Seismic acquisition during summer 2000 – the Canadian connection.

Environmental oil spill sensitivity atlas for South-West Greenland.

#### **Greenland MINEX News**

Greenland mineral exploration newsletter. Page 1 of issue No. 18 is illustrated in Fig. 4F.

Issue No. 18, February 2000, 8 pp.

*Leading article:* Exploration commitments for 2000 reduced by 50%.

Selected titles:

Commercial exploration round-up: 2000 update.

Airborne geophysical survey in 1999: Project Aeromag 1999

High-resolution hyperspectral image data from West and East Greenland.

Palladium potential of Skærgaard: economically viable?

# Scientific publications on Greenland and adjoining regions in external outlets

Included here are authored articles as well as edited and compiled volumes by Survey staff. The articles are of four types: (1) from peer-reviewed international journals, (2) from invited special thematic volumes, (3) from conference proceedings, and (4) from other international series. Articles written by staff of the Danish Lithosphere Centre, Copenhagen (administratively attached to the Survey), as well as non-survey staff where the basic work was initiated under the Survey's auspices, are included.

#### Edited and compiled volumes

Chalmers, J.A. & Cloetingh, S. (eds) 2000: Neogene uplift and tectonics around the North Atlantic. Global and Planetary Change **24**(3–4), 164–318.

- Stemmerik, L. & Trappe, J. (eds) 2000: Pangea: the Late Carboniferous to Late Triassic interval. Palaeogeography, Palaeoclimatology, Palaeoecology **161**(1–2), 293 pp.
- Stendal, H. (compiler) 2000: Exploration in Greenland: discoveries of the 1990s. Transactions of the Institution of Mining and Metallurgy, section B, Applied earth science **109**(January–April), 66 pp.

#### Authored articles

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- Appel, P.W.U., Bliss, I.C., Coller, D.W., Grahl-Madsen, L. & Petersen, J.S. 2000: Recent gold discoveries in Archaean rocks of central West Greenland. In: Stendal, H. (compiler): Exploration in Greenland: discoveries of the 1990s. Transactions of the Institution of Mining and Metallurgy, section B, Applied earth science 109(January–April), B34–B41.
- Bennike, O. 2000: Palaeoecological studies of Holocene lake sediments from west Greenland. Palaeogeography, Palaeoclimatology, Palaeoecology **155**(3–4), 285–304.
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- Chalmers, J.A. 2000: Offshore evidence for Neogene uplift in central West Greenland. In: Chalmers, J.A. & Cloetingh, S. (eds): Neogene uplift and tectonics around the North Atlantic. Global and Planetary Change **24**(3–4), 311–318.

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#### Semi-popular articles

Articles are from the Survey's own series, as well as other outlets in Denmark and elsewhere.

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- Henriksen, N. 2000: Geologisk oversigt. In: Jakobsen, B.H. *et al.* (eds): Topografisk atlas Grønland. Atlas over Danmark Serie II **6**, 18–21. København, Danmark: Det Kongelige Danske Geografiske Selskab / Kort & Matrikelstyrelsen.
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#### **Availability of Survey publications**

Survey publications can be obtained by contacting the Survey's headquarters in Copenhagen or the Survey's book agent, Geografforlaget ApS, at the addresses given on page 2 of this volume. Of the publications listed in this review, the newsletters to the international mining and oil industries, i.e. *Ghexis Newsletter* and *Greenland MINEX News*, respectively, the *Catalogue of Greenland publications and data* described above, as well as the CD-ROM *The West Greenland 2001 Licensing Round* (see above under *CD-ROM issues*), can be requested from the Survey free of charge.

All Survey publications can be viewed at GEUS head-quarters in Copenhagen, Denmark; publications on Greenland are also available at the Bureau of Minerals and Petroleum (BMP) in Nuuk, Greenland. Information on publications and data from Greenland can be found on the Survey's website (www.geus.dk) as well as that of BMP (www.bmp.gl). Several publication series are available on the website, for example the annual *Review of Greenland activities* (this volume), as are the abstracts of volumes in the scientific series *Geology of Greenland Survey Bulletin*, as well as the two newsletters *Ghexis Newsletter* and *Greenland MINEX News*. For details of all Survey publications on Greenland, see the printed *Catalogue of Greenland publications and data* (Fig. 1).