

# Scientific publications on Greenland by the Survey, 2001

Compiled by Peter R. Dawes

## Geology of Denmark and Greenland Map Series

This peer-reviewed series comprises map sheets of the national map sheet coverages of Denmark and Greenland including off-shore areas planned to be issued with short explanatory notes.

Geological map of Greenland, 1:500 000, Kong Oscar Fjord, sheet 11. *Compiled by* J.C. Escher. Copenhagen: Geological Survey of Denmark and Greenland.

Geological map of Greenland, 1:100 000, Pingu 69 V.2 Nord. *Compiled by* A.K. Pedersen, L.M. Larsen, F. Ulf-Møller, G.K. Pedersen & K.S. Dueholm. Copenhagen: Geological Survey of Denmark and Greenland.

## Satellite image map

This mosaic map is compiled from standard ETM (Enhanced Thematic Mapper) scenes acquired by the Landsat 7 satellite.

Iita-Savissivik, North-West Greenland, 1:300 000. *Compiled by* T. Tukiainen & B. Thomassen. Copenhagen: Geological Survey of Denmark and Greenland.

## Geology of Greenland Survey Bulletin

This is a peer-reviewed series; an exception is the annual *Review of Greenland activities* which is refereed internally.

**189:** Review of Greenland activities 2000. *Edited by* A.K. Higgins & K. Secher, 131 pp. (17 articles). See <http://www.geus.dk/publications/review-greenland-00/gb189-uk.htm> for contents and download of articles.

**190:** The Ilimaussaq alkaline complex, South Greenland: status of mineralogical research with new results. *Edited by* H. Sørensen, 167 pp. (18 articles). See <http://www.geus.dk/publications/bull-gl/gree-190-uk.htm> for contents.

## Danmarks og Grønlands Geologiske Undersøgelse Rapport

This open file-type series comprises *unedited* reports in limited numbers. It includes confidential reports, some of which are released when confidentiality expires. Only *unclassified* numbers dealing with Greenland geoscientific topics are listed. Manuscripts submitted for M.Sc. and Ph.D. degrees are released in this series.

**2001/4:** Qulleq-1 (6354/4-1): sidewall core description. Service report prepared for Statoil a.s. *By* T. Preuss, G. Dam & F. Dalhoff, 32 pp. (Released 1 April 2001.)

**2001/18:** Seismic data acquisition in the offshore part of the Nuussuaq Basin during summer 2000 – Cruise report. EFP-Project NuussuaqSeis 2000. Structure and hydrocarbon potential of the Nuussuaq Basin: acquisition and interpretation of high-resolution multichannel seismic data. *By* C. Marcussen, H.L. Andersen, J.A. Chalmers, P. Trinhammer, R. Rasmussen & E. Hansen, 66 pp.

**2001/23:** The palladium potential of the Skaergaard Intrusion, South-East Greenland. *By* T.F.D. Nielsen, 39 pp.

**2001/27:** 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. *By* K.S. Frederiksen, 248 pp. (Ph.D. thesis, University of Copenhagen, Denmark.)

**2001/33:** Qulleq-1 (6354/4-1): petrography of selected sidewall cores. Service report prepared for Statoil a.s. *By* T. Preuss & F. Dalhoff, 14 pp. (Released 1 April 2001.)

**2001/42:** Sen palæozoisk udvikling af den nordatlantiske rand af superkontinentet Pangæa. Dansk resumé. *By* L. Stemmerik, 7 pp.

**2001/46:** Geochemical atlas of Greenland – West and South Greenland. *By* A. Steenfelt, 43 pp. + CD-ROM.

- 2001/47:** Calibration of stream sediment data from West and South Greenland. *By* A. Steenfelt, 43 pp.
- 2001/58:** AEM Greenland 1994–1998 – summary report. *By* T.M. Rasmussen, L. Thorning, R.W. Stemp, M.S. Jørgensen & F. Schjøth, 46 pp. + CD-ROM.
- 2001/90:** Seismic data processing of data from the NuusuaqSeis 2000 survey. EFP-Project NuusuaqSeis 2000: structure and hydrocarbon potential of the Nuusuaq Basin: acquisition and interpretation of high-resolution multi-channel seismic data. *By* R. Rasmussen & T.D. Jensen, 30 pp.
- 2001/94:** Sen palæozoisk palæoklima og palæogeografi i det nordatlantiske område. *By* L. Stemmerik, 11 pp.
- 2001/95:** Sprækkeundersøgelse og beskrivelse af fjeldbeskaffenhed ved Nuuk. En forundersøgelse af to tunneler, henholdsvis til Qinngorput og Ulaajuk, udført for Nuuk Kommune af GEUS og ASIAQ. *By* P.R. Jakobsen & H.G. Karlsen, 26 pp.
- 2001/99:** Fjeldskred ved Paatuut. Undersøgelse af fjeldskred som var årsag til flodbølge den 21. november 2000 ved sydkysten af Nuusuaq, Vestgrønland. *By* S.A.S. Pedersen, T. Dahl-Jensen, H.[F.] Jepsen, L.M. Larsen, G.K. Pedersen, T. Nielsen, A.K. Pedersen & W. Weng, 47 pp.
- 2001/101:** Feltrapport for Qaanaaq 2001 projektet. September 2001. *By* B. Thomassen, 9 pp.
- 2001/102:** Inventory of the literature on the Ilímaussaq alkaline complex, South Greenland. *By* J. Rose-Hansen, H. Sørensen & W.S. Watt, 42 pp. + CD-ROM.
- 2001/103:** Stratigraphy, seismic sequences and depositional evolution of the Paleocene–Eocene succession, offshore southern West Greenland. *Edited by* J.A. Chalmers, U. Gregersen, F. Dalhoff, H. Nøhr-Hansen, J.A. Rasmussen & E. Sheldon, 286 pp.
- 2001/115:** Blyklippen lead-zinc mine, Mestersvig. Existing knowledge. Mineo site report. *By* P. Aastrup, M. Tamsdorf & T. Tukiainen, 39 pp.
- 2001/116:** En vurdering af de geokemiske forhold i de grønlandske byers vandressourceoplade i relation til indflydelsen på kvaliteten af råvandet. *By* A. Steenfelt, 78 pp.
- 2001/117:** Offshore volcanic rocks in Baffin Bay. A seismic interpretation of the structures and development of the Palaeogene offshore volcanic rocks in central West Greenland and on the Baffin Island margin eastern Canada. *By* N. Skaarup, 153 pp. (Ph.D. thesis, University of Copenhagen, Denmark.)
- 2001/123:** The Pd + Pt dispersion in noritic and undifferentiated mafic rocks of the Archaean craton east of Maniitsoq, southern West Greenland. *By* K. Secher, 22 pp.
- 2001/131:** Isua workshop, Berlin 17 to 20 January 2002. Harnack Haus, Berlin, Programme and abstracts. *By* P.W.U. Appel & S. Moorbath, 75 pp. (31 abstracts).
- 2001/132:** GEUSGREEN. GimmeX database relateret til GEUS' nummersystem for geologiske prøver fra Grønland. *By* T. Tukiainen & L. Christensen, 27 pp.
- 2001/133:** Palaeogene gold- and silver-bearing epithermal veins at Amdrup Fjord, southern East Greenland. *By* B. Thomassen & J.D. Krebs, 83 pp.

## GHEXIS

Greenland **H**ydrocarbon **E**xploration **I**nformation **S**ervice is a newsletter bringing geological and regulatory information on Greenland to the international petroleum industry.

In 2001 there was a single issue (no. 19). See GHEXIS Online on <http://www.geus.dk/gbexis/> for this, back issues and other information pertaining to petroleum exploration in Greenland.

## MINEX

This newsletter (Greenland **M**ineral **E**xploration Newsletter; formerly *Greenland MINEX News*) brings geological and regulatory information on Greenland to the international mining industry.

In 2001 there were three issues (nos 19–21). See MINEX Online on <http://www.geus.dk/minex/> for these, back issues and other information relevant to mineral exploration in Greenland.

## Scientific publications in external outlets

The articles listed are international publications in English on Greenland and the surrounding seas. Articles by staff of the Danish Lithosphere Centre, Copenhagen (administratively attached to the Survey), as well as non-survey staff where the work was initiated under the Survey's auspices or expeditions, are included.

- Aastrup, P., Tamstorf, M.P. & Tukiainen, T. 2001: MINEO. Use of hyperspectral data for monitoring pollution from the lead-zinc mine, Mestersvig, in Northeast Greenland. In: Olsen, H.K., Lorentzen, L. & Rendal, O. (eds): Mining in the Arctic, 25–28. Lisse, The Netherlands: A.A. Balkema Publishers. (Proceedings of the Sixth International Symposium on Mining in the Arctic, Nuuk, Greenland, 28–31 May 2001.)
- Albani, R., Bagnoli, G., Maletz, J. & Stouge, S. 2001: Integrated chitinozoan, conodont, and graptolite biostratigraphy from the upper part of the Cape Cormorant Formation (Middle Ordovician), western Newfoundland. *Canadian Journal of Earth Sciences* **38**(3), 387–409.
- Anderson, N.J., Harriman, R., Ryves, D.B. & Patrick, S.T. 2001: Dominant factors controlling variability in the ionic composition of West Greenland lakes. *Arctic, Antarctic, and Alpine Research* **33**(4), 418–425.
- Appel, P.W.U., Rollinson, H.R. & Touret, J.L.R. 2001: Remnants of an Early Archaean (> 3.75 Ga) seafloor, hydrothermal system in the Isua Greenstone Belt. *Precambrian Research* **112**(1–2), 27–49.
- Bäckström, D.L., Kuijpers, A. & Heinemeier, J. 2001: Late Quaternary North Atlantic paleoceanographic records and stable isotopic variability in four planktonic foraminiferal species. *Journal of Foraminiferal Research* **31**(1), 25–32.
- Bennike, O. & Weidick, A. 2001: Late Quaternary history around Nioghalvfjærdsfjorden and Jøkelbugten, North-East Greenland. *Boreas* **30**(3), 205–227.
- Bernstein, S., Brooks, C.K. & Stecher, O. 2001: Enriched component of the proto-Icelandic mantle plume revealed in alkaline Tertiary lavas from East Greenland. *Geology* **29**(9), 859–862.
- Bojesen-Koefoed, J.A., Dam, G., Nytoft, H.P., Pedersen, G.K. & Petersen, H.I. 2001: Drowning of a nearshore peat-forming environment, Atâne Formation (Cretaceous) at Asuk, West Greenland: sedimentology, organic petrography and geochemistry. *Organic Geochemistry* **32**(8), 967–980.
- Chadwick, B., Claeys, P. & Simonson, B. 2001: New evidence for a large Palaeoproterozoic impact: spherules in a dolomite layer in the Ketilidian orogen, South Greenland. *Journal of the Geological Society (London)* **158**(2), 331–340.
- Chalmers, J.A. & Pulvertaft, T.C.R. 2001: Development of the continental margins of the Labrador Sea: a review. In: Wilson, R.C.L. *et al.* (eds): Non-volcanic rifting of continental margins: a comparison of evidence from land and sea. Geological Society Special Publication (London) **187**, 77–105.
- Chalmers, J.A., Christiansen, F.G., Sønderholm, M., Olsen, J.C., Myklebust, R. & Schönwandt, H.K. 2001: Geological information base growing on North Atlantic rift basins. *Offshore* **61**(11), 87–89 + p. 100.
- Chalmers, J.A., Pulvertaft, T.C.R., Marcussen, C. & Pedersen, A.K. 2001: Reply to Dr L. Geoffroy *et al.* 2001: The structure of volcanic margins: some problematics from the North-Atlantic Labrador-Baffin system. *Marine and Petroleum Geology* **18**(8), 953–957.
- Dam, G. & Nøhr-Hansen, H. 2001: Mantle plumes and sequence stratigraphy; Late Maastrichtian – Early Paleocene of West Greenland. *Bulletin of the Geological Society of Denmark* **48**(2), 189–208.
- Davydov, V.I., Nilsson, I. & Stemmerik, L. 2001: Fusulinid zonation of the Upper Carboniferous Kap Jungersen and Foldedal Formations, southern Amdrup Land, eastern North Greenland. *Bulletin of the Geological Society of Denmark* **48**(1), 31–77.
- Fedo, C.M., Myers, J.S. & Appel, P.W.U. 2001: Depositional setting and paleogeographic implications of earth's oldest supracrustal rocks, the > 3.7 Ga Isua greenstone belt, West Greenland. In: Eriksson, P.G. *et al.* (eds): The influence of magmatism, tectonics, sea level change and palaeoclimate on Precambrian basin evolution: change over time. *Sedimentary Geology* **141/142**(1–4), 61–77.
- Fitton, G. & Larsen, L.M. 2001: The geological history of the North Atlantic Ocean. In: Fellows-Jensen, G. (ed.): Denmark and Scotland: the cultural and environmental resources of small nations. Det Kongelige Danske Videnskabernes Selskab, Historisk-filosofiske Meddelelser **82**, 9–27. København: C.A. Reitzel.
- Funder, S., Bennike, O., Böcher, J., Israelson, C., Petersen, K.S. & Simonarson, L.A. 2001: Late Pliocene Greenland – The Kap København Formation in North Greenland. *Bulletin of the Geological Society of Denmark* **48**(2), 117–134.
- Håkansson, E. & Pedersen, S.A.S. 2001: The Wandel Hav strike-slip mobile belt – a Mesozoic plate boundary in North Greenland. *Bulletin of the Geological Society of Denmark* **48**(2), 149–158.

- Hanghøj, K., Kelemen, P., Bernstein, S., Blusztajn, J. & Frei, R. 2001: Osmium isotopes in the Wiedemann Fjord mantle xenoliths: a unique record of cratonic mantle formation by melt depletion in the Archaean. *Geochemistry, Geophysics, Geosystems (G<sup>3</sup>)* **2**, Paper no. 2000GC000085.
- Higgins, A.K., Leslie, A.G. & Smith, M.P. 2001: Neoproterozoic – Lower Palaeozoic stratigraphical relationships in the marginal thin-skinned thrust belt of the East Greenland Caledonides: comparisons with the foreland in Scotland. *Geological Magazine* **138**(2), 143–160.
- Higgins, A.K., Smith, M.P., Soper, N.J., Leslie, A.G., Rasmussen, J.A. & Sønderholm, M. 2001: The Neoproterozoic Hekla Sund Basin, eastern North Greenland: a pre-Iapetan extensional sequence thrust across its rift shoulders during the Caledonian orogeny. *Journal of the Geological Society (London)* **158**(3), 487–499.
- Jamtveit, B., Brooker, R., Brooks, [C.]K., Larsen, L.M. & Pedersen, T. 2001: The water content of olivines from the North Atlantic Volcanic Province. *Earth and Planetary Science Letters* **186**(3–4), 401–415.
- Jensen, S.M. & Thorning, L. 2001: Challenges to exploration in Greenland's High Arctic plains and plateaus. In: Olsen, H.K., Lorentzen, L. & Rendal, O. (eds): *Mining in the Arctic*, 65–70. Risse, The Netherlands: A.A. Balkema Publishers. (Proceedings of the Sixth International Symposium on Mining in the Arctic, Nuuk, Greenland, 28–31 May 2001.)
- Kalsbeek, F. 2001: Geochemical comparison between Archaean and Proterozoic orthogneisses from the Nagssugtoqidian orogen, West Greenland. In: Brewer, T.S. & Windley, B.F. (eds): *Aspects of Precambrian crustal evolution with special reference to the North Atlantic regions*. *Precambrian Research* **105**(2–4), 165–181.
- Kalsbeek, F., Jepsen, H.F. & Jones, K.A. 2001: Geochemistry and petrogenesis of S-type granites in the East Greenland Caledonides. *Lithos* **57**(2–3), 91–109.
- Kalsbeek, F., Jepsen, H.F. & Nutman, A.P. 2001: From source migmatites to plutons: tracking the origin of ca. 435 Ma S-type granites in the East Greenland Caledonian orogen. *Lithos* **57**(1), 1–21.
- Kontak, D.J., Jensen, S.M., Dostal, J., Archibald, D.A. & Kyser, T.K. 2001: Cretaceous mafic dyke swarm, Peary Land, northernmost Greenland: geochronology and petrology. *The Canadian Mineralogist* **39**(4), 997–1020.
- Kreiner-Møller, M. & Stemmerik, L. 2001: Upper Permian lowstand fans of the Bredehorn Member, Schuchert Dal Formation, East Greenland. In: Martinsen, O.J. & Dreyer, T. (eds): *Sedimentary environments offshore Norway – Palaeozoic to Recent*. Norwegian Petroleum Society (NPF) Special Publication **10**, 51–65. (Proceedings of the Norwegian Petroleum Society conference, Bergen, Norway, 3–5 May 1999.)
- Landvik, J.Y., Weidick, A. & Hansen, A. 2001: The glacial history of the Hans Tausen Iskappe and the last glaciation of Peary Land, North Greenland. In: Hammer, C.U. (ed.): *The Hans Tausen Ice Cap. Glaciology and glacial geology*. *Meddelelser om Grønland Geoscience* **39**, 27–44.
- Lang, H.M. & Gilotti, J.A. 2001: Plagioclase replacement textures in partially eclogitised gabbros from the Sanddal mafic-ultramafic complex, Greenland Caledonides. *Journal of Metamorphic Geology* **19**(5), 495–515.
- Larsen, M., Nedkvitne, T. & Olaussen, S. 2001: Lower Cretaceous (Barremian–Albian) deltaic and shallow marine sandstones in North-East Greenland – sedimentology, sequence stratigraphy and regional implications. In: Martinsen, O.J. & Dreyer, T. (eds): *Sedimentary environments offshore Norway – Palaeozoic to Recent*. Norwegian Petroleum Society (NPF) Special Publication **10**, 259–278. (Proceedings of the Norwegian Petroleum Society conference, Bergen, Norway, 3–5 May 1999.)
- Moorbath, S.M. 2001: Geological and geochronological constraints for the age of the oldest putative biomarkers in the Early Archaean rocks of West Greenland. In: Chela-Flores, J., Owen, T. & Raulin, F. (eds): *First steps in the origin of Life in the Universe*, 217–222. Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Myers, J.S. 2001: Protoliths of the 3.8–3.7 Ga Isua greenstone belt, West Greenland. In: Brewer, T.S. & Windley, B.F. (eds): *Aspects of Precambrian crustal evolution with special reference to the North Atlantic regions*. *Precambrian Research* **105**(2–4), 129–141.
- Nøhr-Hansen, H. & Heilmann-Clausen, C. 2001: *Cerodinium kangiliense* n. sp. and *Senegalinium iterlaaense* n. sp. – two new stratigraphically important Paleocene species from West Greenland and Denmark. *Neues Jahrbuch für Geologie und Paläontologie Abhandlungen* **219**(1–2), 153–170.
- Rasmussen, J.A. & Smith, M.P. 2001: Conodont geothermometry and tectonic overburden in the northernmost East Greenland Caledonides. *Geological Magazine* **138**(6), 687–698.

- Piasecki, S. 2001: Three new Middle Jurassic dinoflagellate cysts from East Greenland. *Neues Jahrbuch für Geologie und Paläontologie Abhandlungen* **219**(1–2), 15–31.
- Pirajno, F., Thomassen, B. & Dawes, P.R. 2001: Copper-gold mineralisation in the Palaeoproterozoic Inglefield mobile belt, Northwest Greenland. *AIG News* **66**, 1–10. Perth: Australian Institute of Geoscientists.
- Reeh, N., Olesen, O.B., Thomsen, H.H., Starzer, W. & Bøggild, C.E. 2001: Mass balance parameterisation for Hans Tausen Iskappe, Peary Land, North Greenland. In: Hammer, C.U. (ed.): *The Hans Tausen Ice Cap. Glaciology and glacial geology. Meddelelser om Grønland Geoscience* **39**, 57–69.
- Reeh, N., Thomsen, H.H., Higgins, A.K. & Weidick, A. 2001: Sea ice and the stability of north and north-east Greenland floating glaciers. *Annals of Glaciology* **33**, 474–480. (International symposium on sea ice and its interactions with the ocean, atmosphere and biosphere, Fairbanks, Alaska, USA, 19–23 June 2000.)
- Starzer, W. & Reeh, N. 2001: Digital elevation models of the Hans Tausen ice cap. In: Hammer, C.U. (ed.): *The Hans Tausen Ice Cap. Glaciology and glacial geology. Meddelelser om Grønland Geoscience* **39**, 45–56.
- Stemmerik, L. 2001: Sequence stratigraphy of a low productivity carbonate platform succession: the Upper Permian Wegener Halvø Formation, Karstryggen area, East Greenland. *Sedimentology* **48**(1), 79–97.
- Stemmerik, L., Bendix-Almgreen, S.E. & Piasecki, S. 2001: The Permian–Triassic boundary in central East Greenland: past and present views. *Bulletin of the Geological Society of Denmark* **48**(2), 159–167.
- Stendal, H., Frei, R., Hamilton, M.A. & Mueller, W.U. 2001: The Palaeoproterozoic Kangerluluk gold-copper mineralization (southeast Greenland): Pb and Nd isotopic constraints on its timing and genesis. *Mineralium Deposita* **36**(2), 177–188.
- Stoker, M.S., Andersen, M.S., Larsen, M., Gillespie, E.J. & Schjøth, F. 2001: Stratigraphical-range chart for Upper Mesozoic and Cenozoic rocks from the conjugate margins of Rockall–Faroes–NW Britain–Ireland and SE Greenland, and proposal for a digital ArcView version. *British Geological Survey Commissioned Report CR/01/105*, 16 pp. + 2 maps.
- Strachan, R.A., Martin, M.W. & Friderichsen, J.D. 2001: Evidence for contemporaneous yet contrasting styles of granite magmatism during extensional collapse of the northeast Greenland Caledonides. *Tectonics* **20**(4), 458–473.
- Watt, G.R. & Thrane, K. 2001: Early Neoproterozoic events in East Greenland. In: Powell, C.McA. & Meeret, J.G. (eds): *Assembly and breakup of Rodinia. Precambrian Research* **110**(1–4), 165–184.
- Weidick, A. 2001: Neoglacial glaciations around Hans Tausen Iskappe, Peary Land, North Greenland. In: Hammer, C.U. (ed.): *The Hans Tausen Ice Cap. Glaciology and glacial geology. Meddelelser om Grønland Geoscience* **39**, 5–26.
- Whitehouse, M.J., Kamber, B.S. & Moor bath, S. 2001: Age significance of U-Th-Pb zircon data from early Archaean rocks of West Greenland – a reassessment based on combined ion-microprobe and imaging studies. Reply. *Chemical Geology* **175**(3–4), 201–208.
- Willigers, B.J.A., Krogstad, E.J. & Wijbrans, J.R. 2001: Comparison of thermochronometers in a slowly cooled granulite terrain: Nagssugtoqidian orogen, West Greenland. *Journal of Petrology* **42**(9), 1729–1749.