



## **A 1:100 000 web-accessible geological map of southern West and South-West Greenland (61°30' – 64°N)**

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A seamless digital web-based geological map of southern West Greenland and South-West Greenland between 61°30' – 64°N has been produced on the basis of ten previously published 1:100 000 geological maps. The map is made in a joint project between the Greenland Bureau of Minerals and Petroleum (BMP) and the Geological Survey of Denmark and Greenland (GEUS). The area covers the crystalline Archaean basement of southern West Greenland and South-West Greenland, which is part of the North Atlantic Craton. The exposed rocks are mainly of middle to lower crustal origin, although supracrustal rocks outcrop locally. In the southernmost part of the area, Palaeoproterozoic rocks of the Ketilidian Border Zone (Midternæs & Grænseland) are included.

The area was first mapped in the 1950–1970s and published as a series of maps at 1:100 000 scale in the 1960–1980s by the Geological Survey of Greenland and mapping teams from the University of Exeter, UK. The original 10 geological maps were digitised using standard GIS-software. Each of the different rock units was entered in an Oracle database as polygons, where information on rock type, rock age, coordinates, visual styling, colour on the map, legend description, and a map-unit abbreviation (gm-label) are stored. The properties of linear features (e.g. faults, unconformities and dykes) and points (e.g. inclusions and strike-dip signs) were also stored in this database. The maps were adjusted to a newer and better quality topographic base for the whole area.

As a natural part of the process, a common legend was constructed for the geology of the area. With this legend, it was the aim to keep as much of the original information from the ten individual map sheets as possible, but in a manner that is consistent for the whole area. For the rock classification, we follow the recommendations of the IUGS, as far as possible.

Recent field work in the area related to the production of this digital map focused on key localities, where important geological processes could be most clearly studied. The geological data concerning geochronology, structural geology, metamorphic petrology, geochemistry, locality descriptions, detailed field maps, and photographs of localities are all available on the web in overlays to the geological map. Examples of earlier work on geophysical properties of the rocks and the geochemistry of stream sediment samples are also included.

Reference: Keulen, N., Kokfelt, T.F. & the homogenisation team\* 2011: A seamless, digital, internet-based geological map of South-West and southern West Greenland, 1:100 000, 61°30' – 64°N, <http://geuskort.geus.dk/gisfarm/svgrl.jsp>. Copenhagen: Geological Survey of Denmark and Greenland

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The 1:100 000 digital geological map of southern West and South-West Greenland, 61°30' - 64°N

Based on ten 1:100 000 maps of the Geological Survey of Denmark and Greenland

Topographic base compiled by the Geological Survey of Denmark and Greenland/Kort & Matrikelstyrelsen, Denmark. Aerial photographs and ground control points supplied by Kort & Matrikelstyrelsen, Denmark

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