

Palaeomagnetic results from Greenland:
Plate Tectonic and Palaeogeographic relations

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Greenland is a big island, almost a subcontinent, placed between latitudes 60° and 83½° N, with an area of some 2,175 km², 84% of which is hidden by the present day inland-ice. Even the ice-free areas of 342,000 km² are to a major extent only accessible for geological work during the short arctic summers.

Until now a total of about 50 palaeomagnetic papers have been published, which are reporting palaeomagnetic results from Greenland. The geological evolution of Greenland covers more than 3.2 Ga, and a majority of the published papers are related to the fairly young formations of the Early Palaeogene volcanics of the Thulean Province. Hence, it is not possible yet to reconstruct far back in time and in details the apparent polar wander path (APWP) based upon palaeomagnetic data from Greenland alone.

Considering, however, Greenland as a (former) part of the Laurentian plate (the two lithospheric plates of North America and Greenland being separated during the Palaeogene opening of Baffin Bay), the lithospheric plate movements of Greenland may be reconstructed well back in Precambrian time by combining the APWP data from Greenland with available and much more extensive data from the North American Craton.

A review of the Greenland palaeomagnetic data will be given, together with some palaeogeographic reconstructions involving Greenland, Laurentia and Baltica.