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Dronning Maud Land, the southern extension of Gondwana Supercontinent: Incomplete vision

Abu-Alam, T.S.[1] and Elvevold, S.[1]

[1]Norwegian Polar Institute, Tromsø, Norway; tamer@npolar.no

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Dronning Maud Land, Antarctica represents the southern part of the Gondwana supercontinent. It is widely accepted that the East African Orogeny affected this part of Gondwana, but other scientists believe in the Kuunga Orogeny as a second orogenic phase that affected Dronning Maud Land during Gondwana evolution. Geological mapping and investigation of Dronning Maud Land has been carried out over the last 40–50 years. The existing geological maps of Dronning Maud Land are, for a large part, based on fairly old data, which makes these maps inhomogeneous. The maps are at different scales, contain different levels of detail, and the standards for classification of the rock units may also differ between the maps. This limits our ability to use these map to draw an overview tectonic model of the evolution of Dronning Maud Land. This limitation is extended to understanding the evolution of the southern parts of the Gondwana supercontinent. Moreover, the existing topographic dataset from Dronning Maud Land is based on fairly old topographic maps (1960s), and there is a discrepancy between the topographic dataset and the more recent Landsat images. As a result of the discrepancy between these datasets, some of the outcrops are not mapped at all.

For all these reasons, a new geological map of the Dronning Maud Land, for the area between 20° W and 45° E, is being compiled to the scale 1:250 000 (13 sheets) at the Norwegian Polar Institute, but in collaboration with other national and international institutes. The goal is to integrate existing maps into a new seamless, digital uniform geological GIS database. This new geological map will be a descriptive map based on the new topographic dataset of the Landsat 8. This presentation aims to present the progress in the compilation project and open it to the public discussion.