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A digital Circum-Arctic geological repository from the NORRAM project

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Most of the Arctic region is contained within the territory of Norway, Russia, USA, Canada and Denmark/Greenland, yet the natural boundaries and processes do not conform to these political borders. This remote region requires special logistics, equipment and substantial financial support. The last decade has seen an increase in knowledge about the northern polar region for economic and political reasons, such as the extended continental shelf claims under UNCLOS and Arctic Council activities.

It is crucial that scientific research, activities and their outcome are visible to the broader scientific community and communicated to the wider public. In recent years considerable effort has been invested by several groups and institutions to make various data and results available online and to use it for education and outreach. Examples include: the Arctic Observing Viewer which is a web mapping application in support of U.S. SEARCH, AON, SIOS, and other Arctic Observing networks (<https://arcticobservingviewer.org/>); Arctic Research Mapping Application (<https://armap.org/>) and the NSF Arctic Data Center (<https://arctic.data.io>) for locating projects and data supported by US funding agencies; Svalbox (www.svalbox.no), a database for digital outcrop models from Svalbard, the comprehensive PANGAEA database (<https://www.pangaea.de>), a data publisher for Earth and Environmental sciences; and GeoMapApp (<http://www.geomapapp.org/>), a map-based application for browsing, visualizing and analyzing a diverse suite of curated global and regional geoscience data sets.

While a wealth of data can be located and viewed in these databases and data repositories, the

scientific community and geoscience educators may benefit from a collection of geological and geophysical data that can be easily visualized, analyzed and used for a quick assessment of present-day geodynamic setting and further for paleogeographic reconstructions in the circum-Arctic region.

Consequently, a group of scientists from four Arctic countries and their collaborators are aiming to consolidate and further develop the Arctic-related common scientific basis and educational programmes under the auspices of the Norwegian Research Council programme INTPART (International Partnerships for Excellent Education, Research and Innovation).

The project NOR-R-AM (<https://norramarctic.wordpress.com/>), established in 2017, focused on assessing the openly available information accumulated at participating institutes. During the first phase of this project, we have gathered and interpreted data in various sub-regions, especially in Svalbard and in Russia. The second phase of the NOR-R-AM project aims to complete and launch the digital Circum-Arctic geodynamics platform. This web-based platform will incorporate geological and geophysical data and models, tomographic and kinematic models and paleogeography and paleoclimate indicators. The digital Circum-Arctic geological repository, to be hosted by our project webpage <https://norramarctic.wordpress.com/>, assembles the data in openly accessible formats that are compatible with GPlates, GeomapApp and Google Earth. These data are consistently formatted to simplify exchange and completely open to the scientific community.