



European Plate Observing System – Norway (EPOS-N): A National Consortium for the Norwegian Implementation of EPOS

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The European Plate Observing System (EPOS) aims to create a pan-European infrastructure for solid Earth science to support a safe and sustainable society. The main vision of the European Plate Observing System (EPOS) is to address the three basic challenges in Earth Science: (i) unravelling the Earth's deformational processes which are part of the Earth system evolution in time, (ii) understanding geo-hazards and their implications to society, and (iii) contributing to the safe and sustainable use of geo-resources. The mission of EPOS-Norway is therefore in line with the European vision of EPOS, i.e. monitor and understand the dynamic and complex Earth system by relying on new e-science opportunities and integrating diverse and advanced Research Infrastructures for solid Earth science.

The EPOS-Norway project started in January 2016 with a national consortium consisting of six institutions. These are: University of Bergen (Coordinator), NORSAR, National Mapping Authority, Geological Survey of Norway, Christian Michelsen Research and University of Oslo. EPOS-N will during the next five years focus on the implementation of three main components. These are: (i) Developing a Norwegian e-Infrastructure to integrate the Norwegian Solid Earth data from the seismological and geodetic networks, as well as the data from the geological and geophysical data repositories, (ii) Improving the monitoring capacity in the Arctic, including Northern Norway and the Arctic islands, and (iii) Establishing a national Solid Earth Science Forum providing a constant feedback mechanism for improved integration of multidisciplinary data, as well as training of young scientists for future utilization of all available solid Earth observational data through a single e-infrastructure. Currently, a list of data, data products, software and services (DDSS) is being prepared. These elements will be integrated in the EPOS-N data/web-portal, which will allow users to browse, select and download relevant data for solid Earth science research. In addition to the standard data and data products such as seismological, geodetic, geomagnetic and geological data, there are a number of non-standard data and data products that will be integrated. In parallel, advanced visualization technologies are being implemented, which will provide a platform for a possible future ICS-D (distributed components of the Integrated Core Services) for EPOS.

In order to enhance the monitoring capacity in the Arctic, planning and site selection process for the new instrument installations are well underway, as well as the procurement of the required equipment. In total, 17 new seismological and geodetic stations will be co-located in selected sites in Northern Norway, Jan Mayen and Svalbard. In addition, a seismic array with 9 nodes will be installed on Bear Island. A planned aeromagnetic survey along the Knipovich Ridge is being conducted this year, which will give new insights to the tectonic development of the mid-ocean ridge systems in the North Atlantic.