

## Arctic ROOS report for 2015

1. *Brief status of organization and membership: evolution of organization (e.g. changes in founding documents, vision or strategy, legal status etc.) and ROOS members; EuroGOOS membership within ROOSes.*

Defence Centre for Operational Oceanography, Denmark (contact person is Niels Holt) has become full member of EuroGGOS as well as member of Arctic ROOS: Two other institutions are accepted to become members of Arctic ROOS: UNIS, Norway (contact person is Frank Nilsen) and British Antarctic Survey (contact person is Jeremy Wilkinson).

2. *Status of in-situ observing system. Each ROOS should define a target for the regional observing system [e.g. number of active FerryBoxes, fixed stations (surface and water column), wave stations, tide gauges, Argo float, gliders, HF radars, etc] and should report on the evolution with respect to this target. One standardized figure on the active platforms for a given year in the ROOS and a table on the number of different platform and percentage with respect to target (akin to what is done for Jcommops for GOOS). A similar table of the real time data transmission (percentage of data available in real time). (EuroGOOS together with ROOS could set up a standard tool to monitor the regional observing systems and associated data streams based on EMODNET and MyOcean).*

The in-situ observing system providing near realtime data is mainly based on the In Situ TAC under MyOcean and coordinated with the EMODnet Physics dissemination system. In the Arctic-ROOS area, these data includes CTD data from vessels, Argo floats, gliders, and ice-tethered profilers. Current meter moorings providing offline data are operated in several areas: Fram Strait, around Svalbard, in the Barents Sea and Norwegian Sea. Ice drift data together with meteorological data are provided by the Arctic Ocean Buoy Programme. In situ sea ice data and oceanographical data in delay-mode are provided from ship expeditions, primarily by IOPAS and AWI.

3. *Status of regional and coastal ocean analysis and forecasting oceanography systems including interfaces with Copernicus Marine Service.*

Arctic Marine Forecasting System under MyOcean is based on the TOPAZ ice-ocean modeling and data assimilation system. It is develop by NERSC and run operationally by met.no, who also runs the Norwegian Ocean Weather Prediction (NOWP) system. DMI runs an ice-ocean forecasting for the Greenland waters. From 2015 the Arctic Marine Forecasting System will be transferred into the Copernicus Marine Services coordinated by Mercator Ocean.

4. *Applications and services (observations and models): status and new downstream services.*

Barents and Kara Sea regional forecasting system nested to the TOPAZ system is operated as a regional system. It has been run for selected periods on demand form users. Sea ice products from satellite data using scatterometer, SAR, passive microwave (including SMOS) have been develop and are produced operationally by several partners. The products are available from <http://arctic-roos.org>. Some of these products will be part of the Ocean and Sea Ice Thematic Assembly Centre (OSI TAC) under Copernicus, following up the same services as was developed under MyOcean. Other products are provided as preoperational services such as daily maps of thickness of thin sea ice from SMOS (Soil Moisture and Ocean Salinity) satellite, provided by

University of Bremen. The SMOS ice thickness maps are available from <http://www.iup.uni-bremen.de:8084/smos/>.

5. R&D activities from members (focus on collaborative actions). This should be a short report on new developments that are of wide interest for EuroGOOS: development/test of new in-situ sensors, results from new satellite missions, modeling (incl. coupling) and data assimilation R&D.

FMI is coordinating the new EU project SPICES, which will start in June 2015 and develop new space-borne observations for detecting and forecasting ice cover extremes. The project was established in cooperation between 7 members of Arctic ROOS. The project will in particular develop sea ice products from the Sentinel-1 and Sentinel-3 satellites.

6. Contribution to EuroGOOS WGs.

No contribution yet

7. ROOS visibility and dissemination (e.g. activities/meetings for users, feedback, web site, newsletters etc).

The main activity has been to establish a new website based on the same software and layout as the EuroGOOS website. The contents has been updated with a link to in situ data from the OSI TAC and EMODnet system, giving access to near realtime oceanographical data from ships, floats, etc. in the area north of 60N.

8. Plans for the following year.

Startup of the Arctic component of Copernicus Marine Services  
Add more data to the new web portal  
Plan new sea ice products based on Sentinel data  
Initiate cooperation with institutions in US, Canada and Russia  
Initiate a process with IOC on a Arctic GOOS