National report of Norway (2017)

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1. The status of implementation

Argo Norway is the Norwegian contribution to the Euro-Argo European research infrastructure (ERIC) and to the global Argo programme. The main focus area for Argo Norway has been the Nordic Seas (Greenland, Iceland and Norwegian Sea).

Argo Norway has in total purchased and deployed 26 floats, and the floats were mainly deployed in the Norwegian Sea. All these floats have been APEX floats and the last years these had Iridium telemetry**. The lifetime time of these floats was in average 135 cycles.** At present Argo Norway have seven operative floats. In the Nordic Seas there are now about 50 operative Argo floats (Fig. 1).

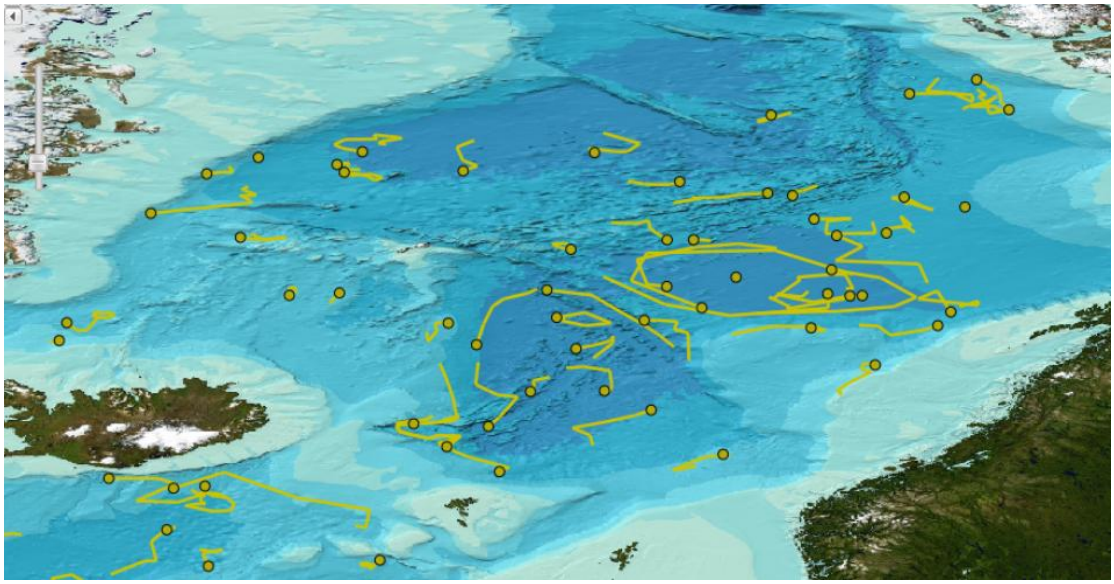

Figure 1. Operative Argo floats in the Nordic Seas (Updated 8. februar 2018).

Several countries have contributed to the deployment of Argo floats in the Nordic Seas. Figure 2 shows the number of Argo floats deployed in the Nordic Seas for the different years and countries. Numbers of profiles taken each year have been steady the last years (2014-2017), above 2000 profiles per year (Fig. 2). In total, from 2001 to 2018, about 19800 profiles have been taken.

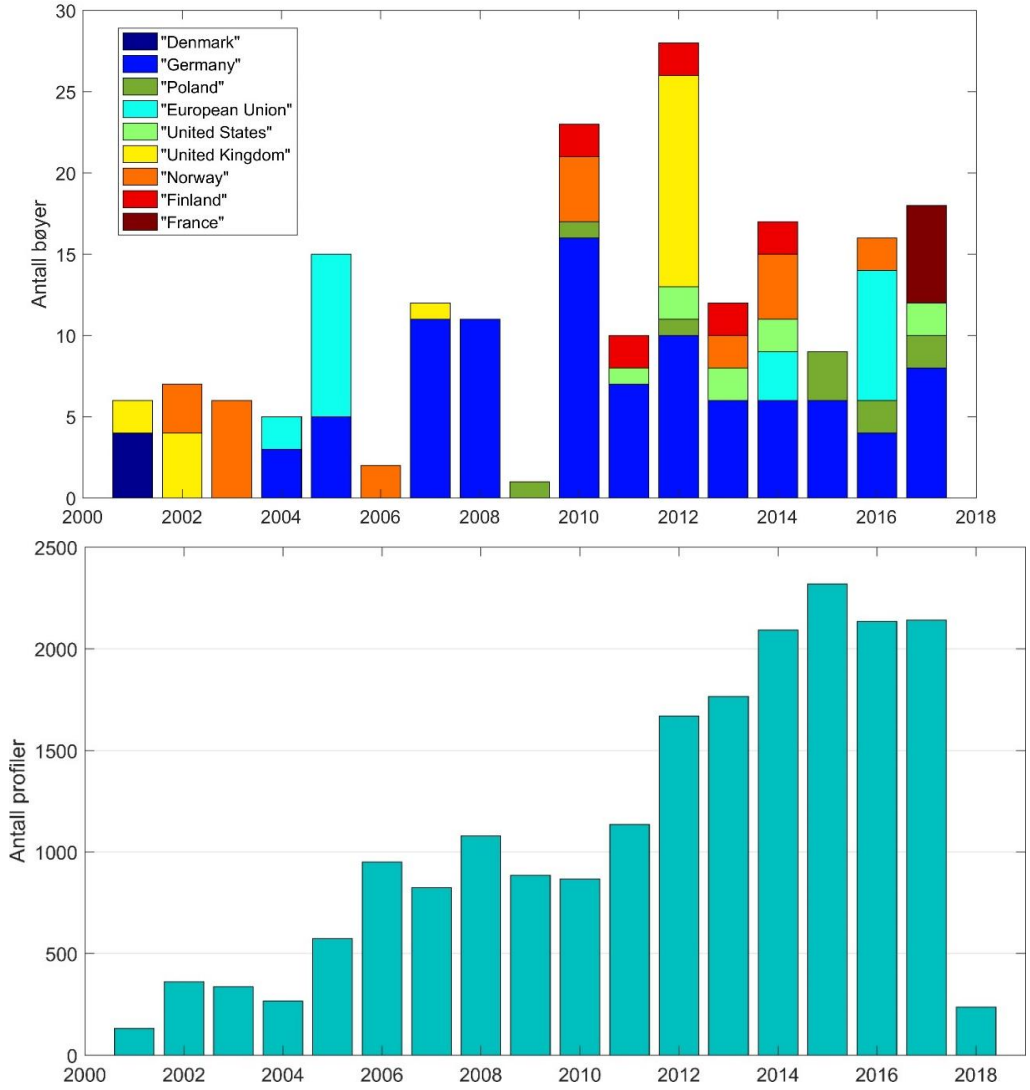

Figure 2. Top: Number of Argo floats deployed in the Nordic Seas per year and country. Bottom: Number of Argo profiles in the Nordic Seas (updated 8. February 2018).

Delayed mode quality control

Regarding the “Delayed mode” Argo Germany have done the delayed mode quality control for all floats in the Nordic Seas including our floats.

2. Present level of and future prospects for national funding

The funding has been a combination of self-financed (i.e. funded by Institute of Marine Research) and funding from the Norwegian Research Council (NRC, Ministry of Education and Research) during 2012-2015.
For 2018-2023 we have received funding from the NRC for a national Argo infrastructure project (NorArgo2). Within the project we will purchase and deploy approximately 13 floats per year which include core, bio, bgc and deep floats. The infrastructure will have approximately 36 person months per year.

3. Summary of deployment plans

In 2018 we plan to deploy 14 floats which include 6 core floats, 2 BGC-floats, 3 Deep floats, and 3 Bio floats (floats with some extra sensors). The floats will be deployed in the Nordic Seas and Arctic Ocean/Barents Sea.

In 2019 we plan to deploy 13 floats including 3 BGC floats, 2 Deep floats, and 3 bio floats. The floats will be deployed in the Nordic Seas and Arctic Ocean/Barents Sea.

For the years 2020-2022 the deployment plan will be (nearly) similar as in 2019.

4. Summary of national research and operational uses of Argo data

Argo Norway focuses on both research topics and marine climate monitoring of the Nordic Seas. There is an increasing interest in using Argo data in Norway, and two climate centres are now using the data operationally in climate models. For instance, the operational TOPAZ4 modeling system assimilates Argo data into the ocean models to provide forecast product for the Nordic Seas and Arctic Ocean under the EUs Copernicus Marine Environment Monitoring Services (CMEMS, http://marine.copernicus.eu/).

The present scientific topics are mainly within the Nordic Seas (Norwegian, Iceland and Greenland Seas) and include:

- Studies of the deep ocean circulation in the Nordic Seas. These studies have so far brought new insights in the circulation of the Nordic Seas.
- Water mass changes and also in relation with biological activities. This topic is also one of the reasons that we have included bio sensors on the Argo floats.
- Studies that involve changes in the mixed layer.

5. Issues we wish to be considered and resolved

At the moment we have no suggestion.

6. Improving the quality and quantity of CTD cruise data

All ship CTD-data are sent to the ICES and EUs CMEMS.

7. The Argo bibliography

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