

Argo National Data Management Report – Norway 2022

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Kjell Arne Mork¹, Siv Lauvset², and Jan Even Nilsen¹

¹ Institute of Marine Research (IMR), Norway

² NORCE Norwegian Research Centre, Norway

1. Real Time Status

Please report the progress made towards completing the following tasks and if not yet complete, estimate when you expect them to be complete. Please remember to include information on all Argo missions (including BGC, Deep and core) as well as pilot data from the RBR CTD.

• Data acquired from floats

Presently there are 47 operative Norwegian floats registered at OceanOPS (Figure 1):

- 6 full BGC (PROVOR) floats (all 6 bgc-variables)
- 7 BGC* (PROVOR) floats (4 bgc-variables: DO, chla, bbp, irradiance)
- 8 Core (ARVOR) + DO
- 6 Deep floats (ARVOR) with DO.
- 20 core floats (ARVOR)

*Two (CTS5+Jumbo) of these include UVP-6 and transmissometer (CROVER) sensors.

Data from all operative floats are available from the GDACs.

8 floats were deployed in 2023, all in the Nordic Seas; 2 full BGC (6 bgc-variables) with UVP6 and transmissometer (CROVER) sensors, 2 BGC with 4 bgc-variables (DO, chla, bbp, irradiance), 2 core + DO, and 2 core floats.

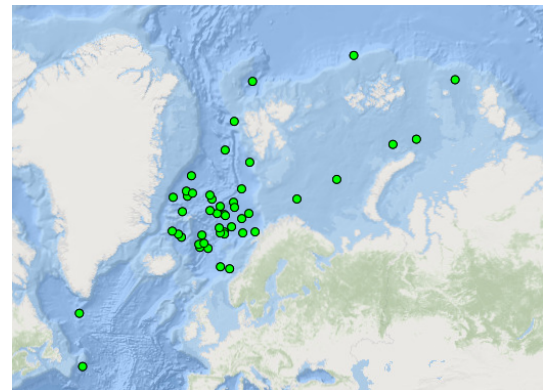


Figure 1. Last registered position of the active floats in Argo Norway. From OceanOPS.

• Data issued to GTS

All Norwegian floats are processed in real-time by Coriolis and delivered to GTS.

• Data issued to GDACs after real-time QC

All profiles from Norwegian floats are processed in real-time by Coriolis and exchanged with GDACs.

• Delayed mode data sent to GDACs

Norway do DMQC of floats deployed in 2019 and later, both core and BGC-floats. The D-files of core variables are submitted to Coriolis together with the diagnostic figures and a short summary of the DMQC decision taken. For bgc-variables drift and offset are provided with short summary. BSH (Germany) did the Quality Control of core data from Norwegian floats deployed in 2018 and earlier.

2. Delayed Mode QC status

Please report on the progress made towards providing delayed mode Argo data, difficulties encountered and, if possible, solved. Please remember to include information on all Argo missions (including BGC, Deep and core) as well as pilot data from the RBR CTD.

Norway do now DMQC of 67 floats (2019-2023). There exist 8568 profiles (2019-2023) with 6375 DM and 284 DM-pending.

BGC-variables:

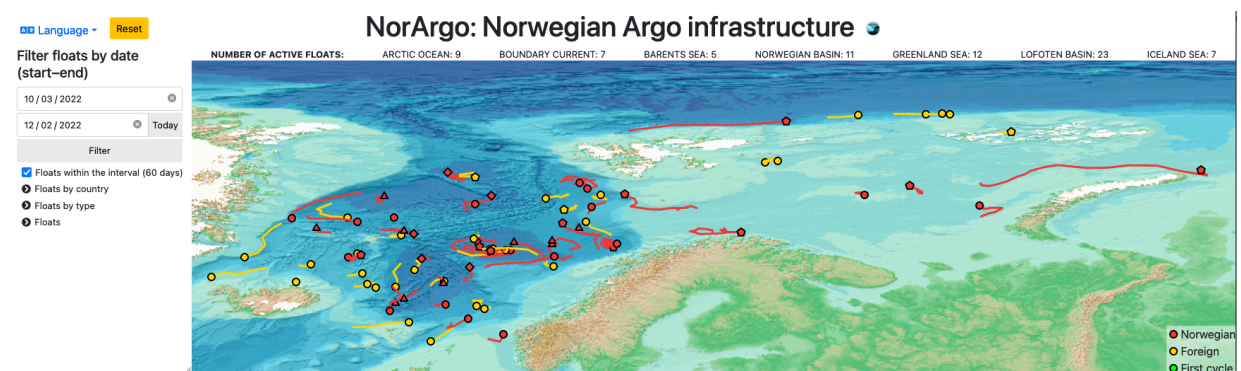
Several pH sensors have failed (provided wrong/crazy values). DMQC of nitrate needed to be redone with the new temperature correction of the sensor. We plan to do DMQC on the other BGC-variables (IMR) in near future; CHLA at the end of this year, and then BBP and Irradiance.

DMQC has been performed on the oxygen (NORCE) for 37 of 37 floats, on the pH (NORCE) for 4 of 9 floats (125 profile) and on nitrate (IMR) for 6 of 9 BGC-floats.

3. Value Added items

- List of current national Argo web pages, especially data specific ones

A web page for NorArgo (<https://norargo.hi.no>) has been developed that IMR updates. A web page for the operational Argo floats in the Nordic Seas have been developed: <https://norargo-map.hi.no/> (see below).



- Statistics of National Argo data usage
 - Norway uses the data in research, operational services and monitoring.
 - IMR uses the data as part of the monitoring program for the marine environment in Norwegian waters.
 - The NERSC routinely assimilates the data into their TOPAZ4 model and assimilation system for operational monitoring and forecast of the ocean climate.
 - MET.NO also assimilates the Argo data into their operational models.
 - The data are used in many research projects and in master and Dr. thesis.

- **Products generated from Argo data ...**

The ocean heat and fresh water contents of the Norwegian Sea are regularly updated using Argo data and used for monitoring (see figure below).

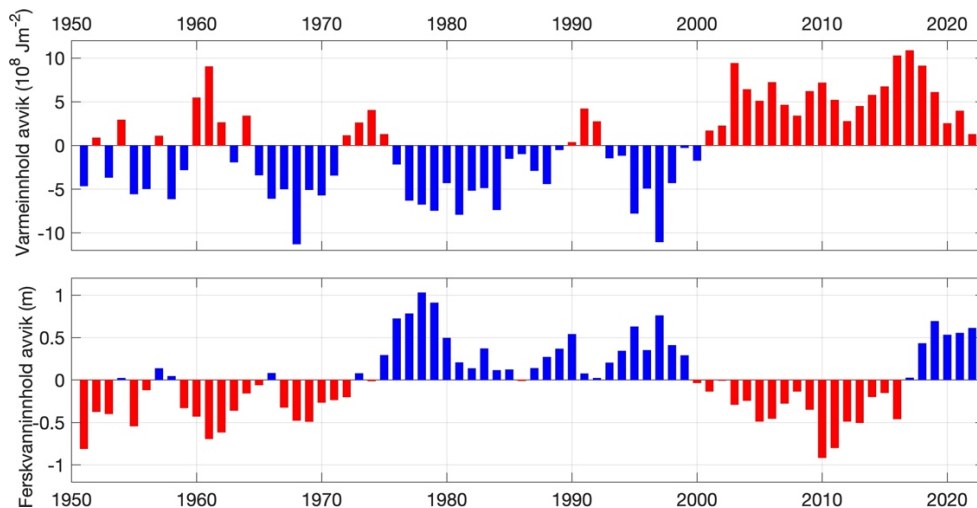


Figure 2. Yearly relative ocean heat (upper) and fresh water (lower) content in the Norwegian Sea. Updated from Mork et al., 2014, GRL.

4. GDAC Functions

5. Regional Centre Functions

6. Other Issues