

Argo Canada National Data Management Report

ADMT20

Villefranche-sur-mer, France, Oct 13-18, 2019

1. Status

- *Data acquired from floats:*

We are currently tracking 110 floats of which 13 floats might have failed to report within the last two months. Since December 2018, we deployed a total of 32 Argo-core, and 2 Argo-Core equipped with dissolved oxygen sensors. Thirty-two of the new floats were ARVOR-I floats acquired from NKE and two were NOVA floats acquired from MetOcean. In addition, NAOS-Canada deployed one biogeochemical Argo floats acquired from NKE. All reported on the Iridium satellite system.

Furthermore, there has been increasing interest from the university community in participating in BGC-Argo through research projects(e.g. C-PROOF at University of Victoria). This is placing additional pressure on the DAC in terms of planning for data management.

- *Data issued to GTS*

All data are issued to the GTS in BUFR formats. Since December 2018, on average, 82% of data were issued on the GTS within 24 hours in BUFR formats. In March 2019, one of the servers was downed due to hardware failures, and the percentage of data issued on the GTS within 24 hours was less than 50%.

- *Data issued to GDACs after real-time QC*

The profile, technical, trajectory and meta files are transmitted to the GDACs in NetCDF format version 3.1 on an operational basis with some additional delay compared to the data sent on the GTS, because the two processes run on different servers. There are still a number of trajectory NetCDF files of dead floats that are not in format version 3.1 at the GDACs.

- *Data issued for delayed QC*

Data are available for delayed mode QC as soon as they are sent to the GDACs, but only for floats deployed for at least 6 months.

- *Delayed data sent to GDACs*

The DMQC eligible files from 38 floats (~2781 cycles) were quality-controlled or re-quality controlled for salinity or pressure since October 1, 2018.

- *Web pages*

<http://www.meds-sdmm.dfo-mpo.gc.ca/isdm-gdsi/argo/index-eng.html>

We maintain web pages that show float tracks and all data collected by Canadian floats. Links to both real-time and delayed mode data are also available for download directly from GDAC. The pages are updated daily.

- *Statistics of Argo data usage (operational models, scientific applications, number of National Pis...)*

- a. Argo data have been used to generate monthly maps and anomaly maps of temperature and salinity along line P in the Gulf of Alaska. Line P has been sampled for 50 years and has a reliable monthly climatology. For more information on the Line-P products and other uses of Argo to monitor the N.E. Pacific go to: <http://www.meds-sdmm.dfo-mpo.gc.ca/isdm-gdsi/argo/canadian-products/index-eng.html>.
- b. The Canadian Meteorological Centre (Dorval, Québec) of Environment Canada is assimilating real-time Argo data in operational mode.

2. Delayed Mode QC

As of October 2, 2019, 50% of all eligible floats, active and inactive, had their profiles QCed visually and adjusted for pressure according to the latest delayed-mode procedures at least once. The salinity component of DMQC had been performed at least once on 68% of eligible cycles. 38% of eligible B-files had been visually QC'd, and 12% were fully DMQC'd. In addition to DMQC of new profiles, 17 previously-processed floats received either updates to the visual QC or new adjustments in response to feedbacks (e.g., reports of density inversions).

Currently, Canada is looking into implementation of SAGEO2-Argo software developed by Monterey Bay Aquarium Research Institute to evaluate Oxygen collected by NOVA floats which didn't collect any in-air oxygen measurements.

For oxygen data collected by floats which performed in-air measurements, we are planning to use the method described in "Oxygen Optode Sensors: Principle, Characterization, Calibration, and application in the Ocean" by Henry Bittig et al. (2018), ORCID 0000-0002-8621-3095

3. GDAC Functions

Canada forwards TESAC data to the GDACs in Ifremer (France) and USGODAE (USA) three times a week. Canada also monitors the timeliness of Argo data on the GTS in BUFR format.

4. Regional Centre Functions

Canada has no regional centre function.