

Argo Canada National Data Management Report

ADMT11

Oct 20 – 22, 2010

1. Status

Data acquired from floats: We are currently tracking 144 floats. Of these 10 may be in trouble or may have failed to report within 6 months. In 2010, we deployed 8 floats with APF9A controller and Aanderaa optode sensors.

Data issued to GTS: All of data is issued to the GTS in TESAC and BUFR format. On average, 80% of data issued on the GTS within 24 hours in TESAC and BUFR between September 2009 to September 2010.

Data issued to GDACs after real-time QC: All of the profile, technical, trajectory and meta files are transmitted to GDACs in NetCDF format on an operational basis with some delay compared to the data sent on the GTS, because the two processes run on two different servers and the conversion process to NetCDF takes a long time. After some program modifications and optimization, now the time delay is reduced to 2 hours between the GTS data and the data sent to GDACs.

Data issued for delayed QC: Data are available for delayed mode QC as soon as they are sent to the GDACs but only considered valid for DMQC after 6 months.

Delayed data sent to GDACs: A total of about 5492 eligible files from 56 floats were quality-controlled for salinity (DMQC following WJO software) and pressure (delayed mode method according to the manual) and sent to the GDAC since June 2010.

Web pages:

http://www.meds-sdmm.dfo-po.gc.ca/meds/Prog_Int/Argo/ArgoHome_e.html

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

We also show some information about the global programme including the position of floats over the previous months, the success rate of meeting the 24 hours target for getting data to the GTS at various GTS insertion points, the number of messages transmitted, reports of floats which distributed more than one TESAC within 18 hours and Canadian float performance statistics.

Statistics of Argo data usage: We currently have three PIs. 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.pac.dfo-mpo.gc.ca/sci/osap/projects/argo/Gak_e.htm

Real-time Argo data (GTS) is also ingested, along with other data streams (PIRATA and TAO arrays, XBTs, various TESACs from CTD profiles, animal borne sensors), in an optimally interpolated product generated at ISDM using ISAS-v4.1 analysis tool (developed at IFREMER). The fields are then used to identify, in real-time, profiles that either show suspicious deviation from climatology and/or neighbours. Those profiles are re-QCed. Several defective Argo profiles are identified this way and flagged accordingly (~30 per month, from ~15 floats, on average). An update is sent to US NODC whenever a profile is re-flagged.

2. Delayed Mode QC

As of September 2010, 20% of all eligible floats, active and inactive, had their profiles QCed visually and adjusted for pressure and salinity according to latest delayed-mode procedures. The salinity component of DMQC had been performed on 65% of eligible cycles. The following challenges or actions prevented the processing of more cycles and floats: memory limitations on server preventing the loading in memory of certain cells from the OW reference database, modifying the procedure to feedback RAW QC flags changed during pre-DMQC visual QC, implementing new delayed mode correction methods on pressure (namely the various TNP cases), restructuring the process sequence to account for successive corrections, visually inspecting every cycle from inactive floats whose reviewed RAW flags had not been saved.

3. GDAC functions

Canada forwards TESAC data to the GDAC in Brest and NODC three times a week.

4. Region Centre Functions

Canada has no regional centre function.