National Oceanography Centre
British Oceanographic Data Centre BODC

BODC Argo – UK Argo DAC

Experience of two modes of DMQC operation

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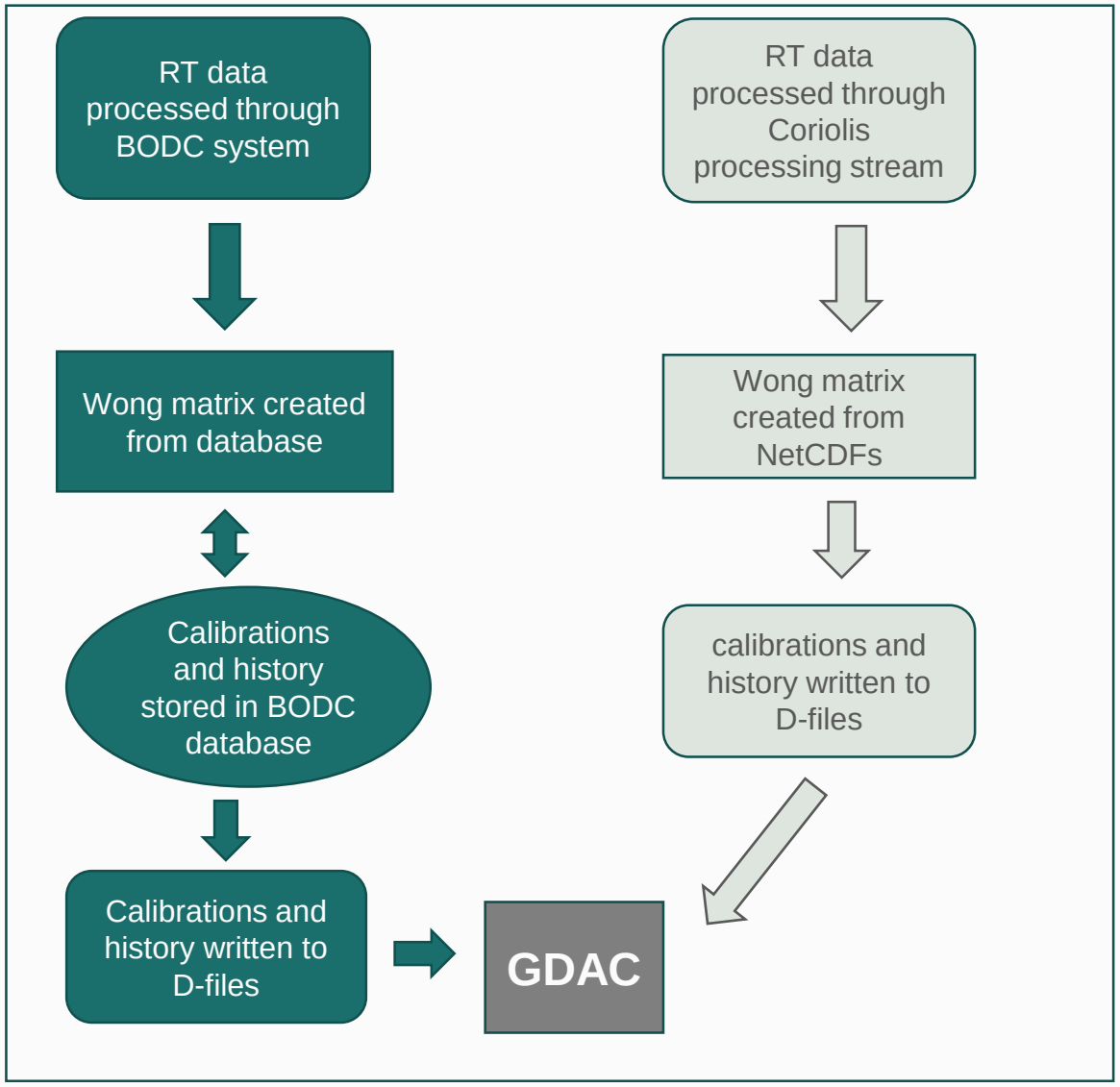
1st Argo DAC Workshop

Experience of two modes of DMQC operation



BODC DAC use 2 processing streams to deal with real time data depending on float type

This requires 2 workflows for DMQC

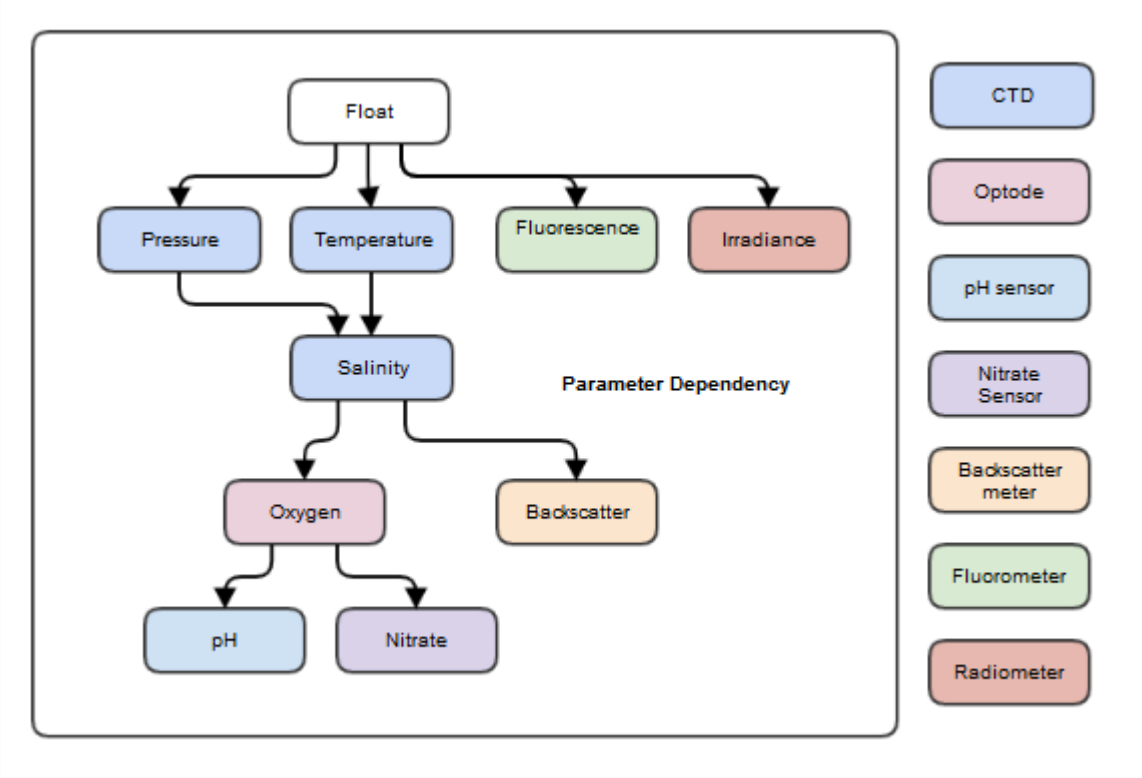
BODC DAC also submit DMQC from external operators for MOCCA floats – OGS (Italy), Coriolis (France) and BSH (Germany)

- DMQC at BODC
  - Objective analysis and altimetry QC is performed with in-house software, Edserplo and flags are stored in the database and applied when the NetCDF is written
  - Run OWC and create D-mode files
  - Calibrations and comments stored in the database at BODC, applied to D-files and submitted to the GDAC using an automated system
  - Report compiled with calibrations, OWC figures and decisions made
- External DMQC workflow
  - Objective analysis and altimetry QC is performed using the SCOOP software on the NetCDF and PROFILE_<PARAM>_QC is updated manually
  - NetCDFs are downloaded from the GDAC and used for OWC
  - Calibrations are written directly to the NetCDFs
  - BODC archive the D-files, OWC figures, details of decision and any correspondence and compile a report for BODC DMQC'd floats
  - BODC submits the D-files to the GDAC,

Experience of two modes of DMQC operation - Positive experiences

- Useful and insightful to work with new DMQC operators.
  - Promotes discussion between institutions regarding DMQC and getting to know other DMQC operators
  - First-hand experience of several DMQC operators' decision making process – useful for training
- Provides flexibility for DMQC operators in large projects
  - DMQC operators can be hand-picked for their areas of oceanographic expertise – this is becoming more relevant as numerous BGC parameters per float will go through DMQC.
- Opportunity to install and use Argo community software such as SCOOP
  - Has enabled BODC to compare with in-house software Edserplo
  - The SCOOP software can be then used for other purposes in BODC
  - BODC is able to engage with software feedback

Experience of two modes of DMQC operation - Challenges



Parameter dependency diagram

- Operating 2 separate systems adds more time to the process
- Coping with updates from external software
- Awareness of different limitations from each system
- Increased training and documentation
- SCOOP is an isolated workflow adding challenges for keeping track of QC flags
- New challenges are on the horizon – multiple dependant parameters on board floats with possible multiple DMQC operators needing a DM timeline to ensure that DM parameters are assessed from the most recent dependencies.

Are DACs prepared for DMQC on dependent parameters from multi-sensor floats?

Any questions?