

1st Argo Data Assembly Centre Workshop

Welcome



1st Session – Sunday 29th November 2020

Convenors: Claudia Schmid (AOML), Matt Donnelly (BODC, NOC)

Facilitators: Clare Bellingham & Kamila Walicka (BODC, NOC)



Original plan

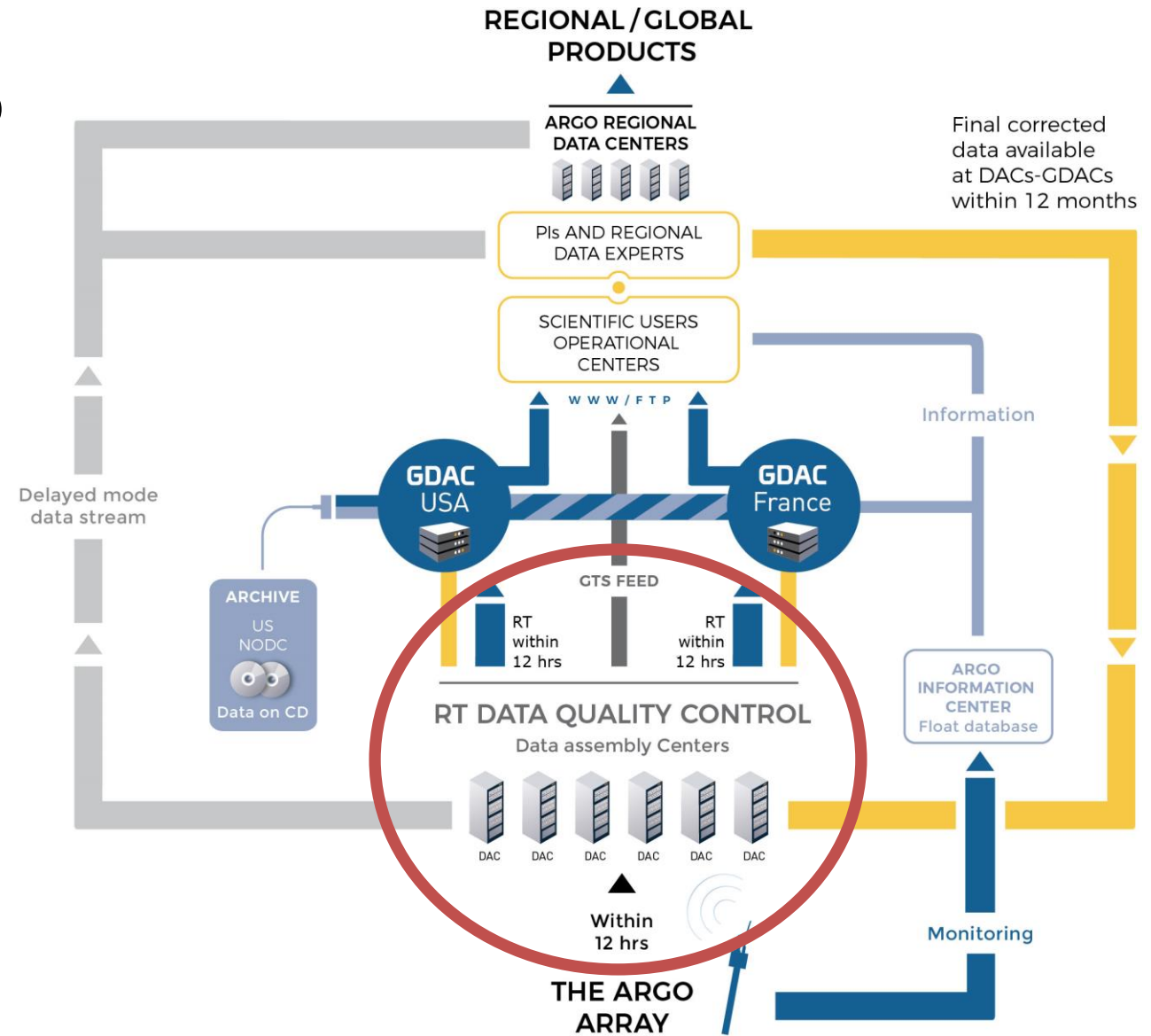
- Survey of Argo DACs:
 - Aim to improve understanding of different approaches to Argo DAC operations
 - Questions about different aspects of DAC infrastructure, functions and development
 - Survey responses summarised and anonymised in a written report
 - Report to be shared before workshop
- Full-day workshop:
 - 1st session: presentations, including report summary
 - 2nd session: workshopping – round-table and break-out discussions, etc.

New plan

- 1st session: today
 - [Google Doc](#) for notes – all welcome to add comments, convenors/facilitators will compile notes as we go
- DAC survey submissions up to end of 2020, written report compiled in early January 2021
- 2nd session: including feedback from report, to take place in early 2021, date to be confirmed

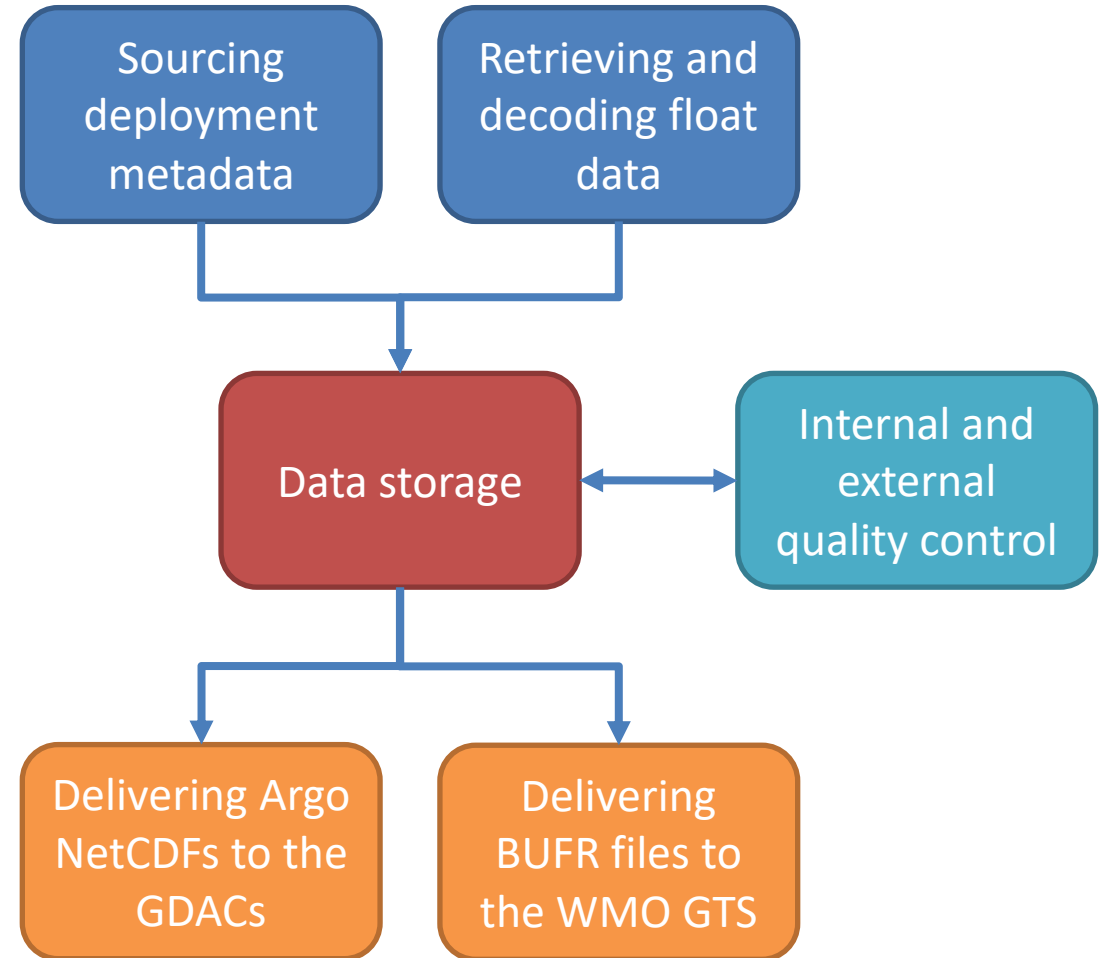
What does a DAC do?

- Collating extensive deployment metadata
- Receiving/retrieving data from floats
- Decoding of float formats
- Apply adjustments and quality control
- Delivery of BUFR format to the GTS
- Delivery of Argo NetCDFs to the GDACs
- Interaction with PIs/DMQC operators/other experts



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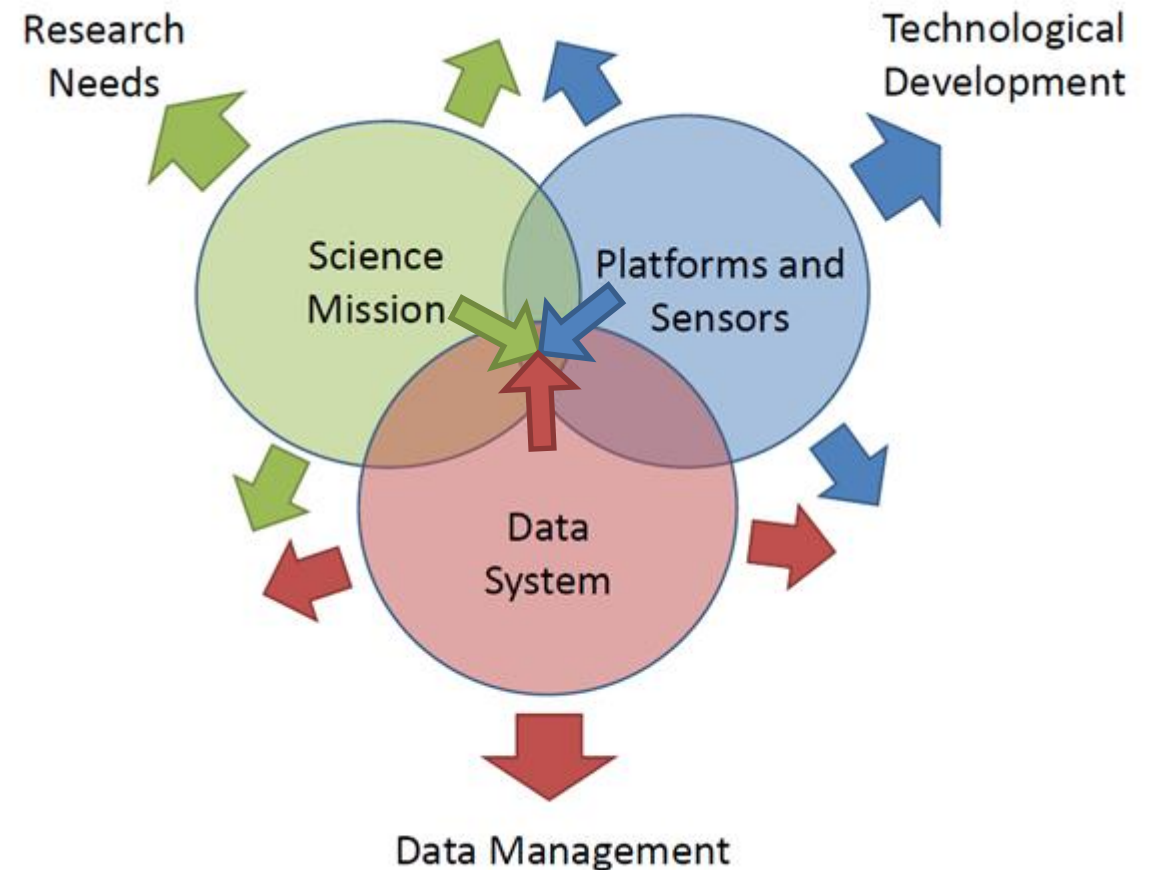
Different approaches

We know broadly there are differences in how the 11 Argo DACs operate, for example:

- Differences in operating systems and programming languages in use
- Differences in system design:
 - Adding floats, controlling how/which codes are used for each float/monitoring
- Differences in internal storage formats (database, flat files, NetCDF)
 - Benefits and drawbacks of each approach
- Deal with different types of floats: communications types, manufacturers, payloads
- Have different relationships with QC experts, e.g.:
 - DMQC operators external to DAC
 - DAC operators are also DMQC operators

Motivations

- Argo is becoming increasingly complicated and multifaceted, with a range of research, technical and data management demands
- Past few years has placed significant strain on Argo data system, particular the DACs
- No DAC is perfect, and there is significant value in exchanging ideas, and perhaps working more collaboratively



Improving collaboration?

How can we best evolve how DACs work together?

- Can we better understand each others set-up and operation?
- Can we work more closely to e.g.
 - Effectively share approaches, lessons learned, code?
 - Work collaboratively on future software development, like common decoders for types of float?
- What are the difficulties in attempting to work more closely?
 - Different priorities and approaches?
 - Different stages of development?
 - Differences in existing systems?
 - Code often not written in a portable way?

Agenda

Presenter	DAC	Subject	Time + Questions
Matt Donnelly	-	Welcome	10+5
Fumihiko Akazawa	Japanese DAC: JAMSTEC	Application to assist decoding	5+5
Zhengdong Liu	Chinese DAC: CSIO	Introduction to Chinese DAC and efficient programming skills	15+5
Matt Donnelly	UK DAC: BODC, NOC	Infrastructure agnostic toolboxes	5+5
Claudia Schmid	US DAC: AOML	US Argo DAC	10+5
Gabriela Semolini Pilo	Australian DAC: CSIRO	RT operations at CSIRO	10+5
Matt Donnelly	UK DAC: BODC, NOC	Increasing DAC rate of data delivery < 3 hours for operational use	5+5
10 minute comfort break			
Anh Tran	Canadian DAC: MEDS	Argo Canada DAC	10+5
Thierry Carval (tbc)	French DAC: Coriolis	Coriolis processing chain	10+5
Matt Donnelly	UK DAC: BODC, NOC	Simultaneously operating two systems - BODC and Coriolis processing chains	5+5
Clare Bellingham	UK DAC: BODC, NOC	Experience of two modes of DMQC operation - internal and external	5+5
Uday Bhaskar	Indian DAC: INCOIS	Indian DAC and experiences of sharing the s/w with centre like CSIRO	10+5
Claudia Schmid	-	Close	5+5