Storing BIO-ARGO Variables

We have had a one week email debate on how to store the bio observations and we believe that everyone who wanted to express themselves have done so. Through this note we want to summarize the conclusion of the discussion. Floats are already operating and it is urgent for some DACs to process them and make the data available.

Three solutions were proposed:

- 1. Core and Bio all in the same file
- 2. Core and Bio completely separated with measured Pressure common to the two files
- 3. Core with bio final variables in one file bio raw measurements in another file

We have heard two types of comments.

The first type came from delayed mode operators who work with the physical data and from the DACs that are mainly processing core mission floats. They expressed their preference for the option 2. They rejected the option 3 because, as core Argo mission DACs, they were concerned about the impact of the Bio activity on core activities. Reprocessing of the bio final variables will probably be more frequent in this starting up period. DMQC will be done by different teams working on the different data streams and this will require a high level of coordination if they share the same file.

The second type came from the bio-Argo scientists, data managers and DMQC operators who process both T&S and Bio variables and from DACs that already have bio floats to process. Mainly European DACs expressed their preference for option 3 because they want to provide similar service to both bio and core users. Biological final variables will always be used with T&S information. As in these countries bio and core actors are already working closely together they thought that the synchronization issues between bio and core data processing were manageable because they were relying on a common DAC to perform these tasks.

We think that we can't ignore the concern of either community. Therefore to address the concerns expressed by the core mission DACs, the solution chosen is option 2 at DAC level. The DACs will therefore provide one file for the T&S floats (like now) and 2 files for the bio Floats (R or D file for CTD and BR or BD -file for bio-argo) to the GDACs. To accommodate the needs of the bio-argo community, the GDACs will then merge the CTD (i.e.core) Argo file (R-file or D-file) and the b-file (BR-file or BD-file) for bio floats, creating a merged profile file that will contain the latest version of all the ocean state variables (MR-file or MD-File). Therefore data from bio floats will be available at the GDACs via 3 files: a CTD aka core file, a bio-file, and a merged file We will need to inform the users of the presence of this additional merged file for the bio-argo floats. The naming convention described herein is designed to be transparent to the users. The merging tool will be developed by Ifremer and provided to US-GDAC.

This solution has no impact for the DACs that process only T&S profiles. For the DACs that process oxygen floats, they will have to modify their chain to create distinct CTD aka core files and bio-files. A similar strategy will be applied to trajectory files.

Thierry will now work with Justin and Catherine to update the user manual. The French and UK DAC will update their bio-argo processing chain and start providing these files within the coming weeks and act as a test bed for the other DACS who don't have yet such floats to process.

We hope that this consensual solution will have the agreement of the entire group, including both core and bio PIs and DACs. This solution is the baseline for the coming years and will be presented at the AST meeting next march in 2014 and may be improved if needed at ADMT in November 2014 after the first delivery of bio-argo data to GDACs.

Best regards

Sylvie & Ann