



UK Status Report for BGC-Argo

8th Biogeochemical Argo Meeting

Violetta Paba on behalf of UK Argo

vpaba@bodc.ac.uk

Progress since ADMT-19



- ▶ Developed new APF9i and NAVIS N1/N2 capabilities to:
 - ▶ Deliver core variables in v3.1
 - ▶ Store raw BGC data
- ▶ Expanded our knowledge on BGC sensors, data management and QC procedures to share with the team
- ▶ Short work-sprint to create infrastructure-independent BGC-parameters derivation code

Agnostic BGC parameters derivation code



- ▶ BGC parameters need to be calculated from sensor outputs
- ▶ DACs usually incorporate BGC parameter derivation equations into their own processing stream
- ▶ So far, BODC hasn't had a robust system in place to deliver BGC profile data

We thus embarked in an effort to produce 'system agnostic', i.e. infrastructure-independent Matlab code to derive BGC parameters, which can be plugged in other DAC's processing streams.

Agnostic BGC parameters derivation code



Developer: Matt Cazaly (BODC)

- ▶ Phase 1 – Understand data management of BGC variables
- ▶ Phase 2 – Review current community status
- ▶ Phase 3 - Select test netCDFs for appropriate floats
- ▶ Phase 4 - build/modify code to handle BGC parameters.

Completed for: **pH***, **radiometry**, **Chlorophyll-a**, **backscatter**.

Need finishing: O₂ and nitrate.

* Integrated code from SOCCOM/MBARI

Float summary & changes since ADMT-19



Float type		BGC Parameters	Procured	Deployed	Active	Available in v3	BGC Sensors
APEX	APF9i	DO Chl-a, backscatter	4	4	0	4 +4	Aanderaa FLBB
	APF11	DO	2	2	2	0	Aanderaa
		DO pH	6	6	6	0	Aanderaa SBE Seafet
APEX Deep	APF11	DO	15 +5	4	4	0	Aanderaa
NAVIS		DO Chl-a, backscatter Irradiance	7	6 +2	2 +2	5 +5	SBE63 Wetlabs MCOMS OCR-504
		DO	8	8	8	8 +8	SBE63
		Irradiance	3	3	3	3 +3	OCR-504
		DO Chl-a, backscatter pH Nitrate	2 +2	0	0	0	SBE63 Wetlabs MCOMS SBE Seafet SUNA
NKE PROVOR *		DO Chl-a, backscatter Irradiance	13	13	8 -2	13	Aanderaa Wetlabs PUCK OCR-504
NKE ARVOR Deep		DO	2	2	0	0	Aanderaa
TOTAL			62	50	24	33	

Planned work



- ▶ Process and deliver core APF11i data
- ▶ Finish BGC params derivation code work
- ▶ Develop infrastructure agnostic RT QC toolbox
- ▶ Process and deliver BGC profile data for APF9i, N1/N2 and APF11i floats
- ▶ UK Argo SAGE workshop in early December
 - ▶ Will re-test the software on our MetBio floats (currently processed by Coriolis) and on already DM partner's floats;
 - ▶ Aim is to absorb enough scientific knowledge to be able to make appropriate decisions on O₂ and pH corrections
 - ▶ Planned output: accurate O₂ corrections for our metBlo floats.
- ▶ Translate infrastructure-agnostic BGC toolboxes to Python?

Planned work



- ▶ Process and deliver core APF11i data
- ▶ Finish BGC params derivation code work
- ▶ Translate infrastructure-agnostic BGC toolboxes to Python?
- ▶ Develop infrastructure agnostic RT QC toolbox
- ▶ Process and deliver BGC profile data for APF9i, N1/N2 and APF11i floats
- ▶ UK Argo SAGE workshop in early December
 - ▶ Will re-test the software on our MetBio floats (currently processed by Coriolis) and on already DM partner's floats;
 - ▶ Aim is to absorb enough scientific knowledge to be able to make appropriate decisions on O2 and pH corrections
 - ▶ Planned output: accurate O2 corrections for our metBlo floats.



Questions?