In water radiometry on autonomous profiling floats in support of satellite ocean colour validation activities

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Goals of the Breakout Workshop

To present state-of-the-art radiometry on board profiling floats and discuss the contribution of hyperspectral BGC-Argo data to satellite data validation.

Review of Existing Recommendations

Data & Datasets				
2015.10.1	There is a clear need for a centralized access (or information) point for BGC-Argo data	Community	Actioned	https://biogeochemical-argo.org/data-access.php
High Latitudes				
2017.05.3	More In-situ data from non-summer months is needed	Community	OPEN	Argo and BGC-Argo help a lot, as some saildrone deployments. However they are still limited to a few parameters. Innovative ways of collecting autonomously (or quasi autonomously) more diverse data sets have to be invented.
Protocols & Training				
2017.08.1	The current best practices for in-water measurements are not described and need to be detailed.	Community	Actioned	We worked on a protocol document that detailed the in-water measurement practices
Resolution - spectral, spatial, temporal				
2017.01.5	Continue to mature the development and curation of hyperspectral optical databases and products (e.g. PFTs) for use in algorithm development..	Community	Actioned	new cured data collections were released, e.g. Lehmann et al. Scientific Data 2023, Valente et al. ESSD 2022

New IOCS Recommendations

- [community] It is recommended to follow metrological principles for calibrations of radiometric sensor used on BGC-Argo floats, to put efforts in intercomparison with other profiling systems (e.g. HyperPro), and to characterise long-term sensor drift by recovering floats when possible for post-deployment calibrations.
- [agencies] The community recommends the use of BGC-Argo float for validation of satellite OCR products.
- [community] There is a need to promote discussions between the BGC-Argo and ocean color communities through dedicated actions (working groups, workshops).
- [community] Work is needed toward a community processor for common in-water radiometric profilers with associated uncertainties complying with FRM protocols.
- [community] The use of a shorter wavelength for bbp measurements (e.g. in the green region) should be considered.