



Priorities for the future of Argo

BIO-Argo





Two specificities of Bio-Argo extension

- Extend the diversity of variables (subjected to increase.....)
 - Oxygen
 - nitrate
 - pH
 - Chlorophyll a
 - Backscattering (POC proxy)
 - Radiometry : Ed(I), Lu(I), PAR
 - CDOM
- Bio-Argo extension may impact other Argo extensions:
 - Marginal Seas
 - Polar/ under ice
 - (Deep)





The “preferred” spatial domain of Euro-Bio-Argo:

- Atlantic from North to South (?)
- “Marginal Seas”
 - Mediterranean Sea
 - Black Sea
 - Baltic Sea
 - Nordic seas





Guidelines for implementation...

- ...has not to be Argo-like (i.e. targeting global or the Euro-Argo domain with a $3^\circ \times 3^\circ$ resolution)
- ...but rather has to rely on regional scale pilot projects in biogeochemical hot-spots, e.g.:
 - sub-polar gyre: bloom, carbon export sequestration (and phasing with the formation of sub-polar mode waters).
 - Eastern tropical North Atlantic OMZ (mesoscale activity, dead zones...)
 - Sub-tropical gyres: « end-member » of stratification...
- ...do not forget exploration / process studies



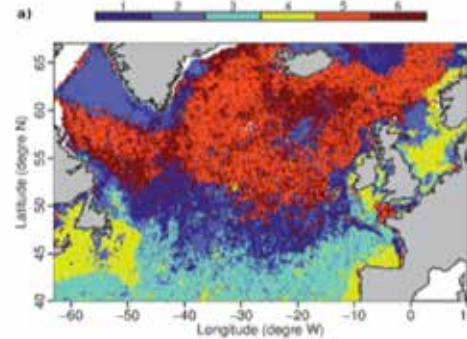
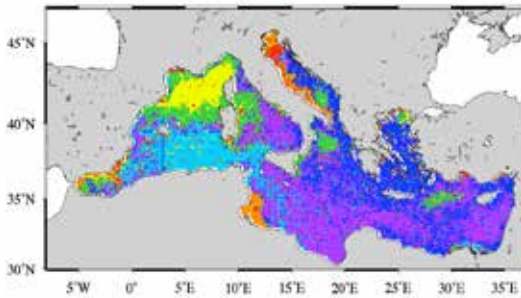


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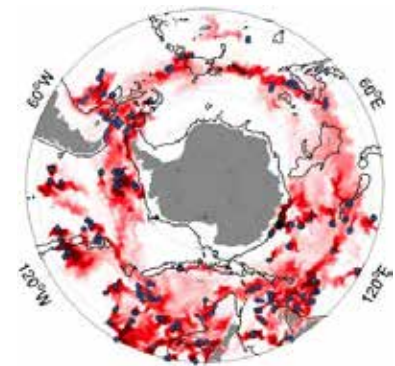
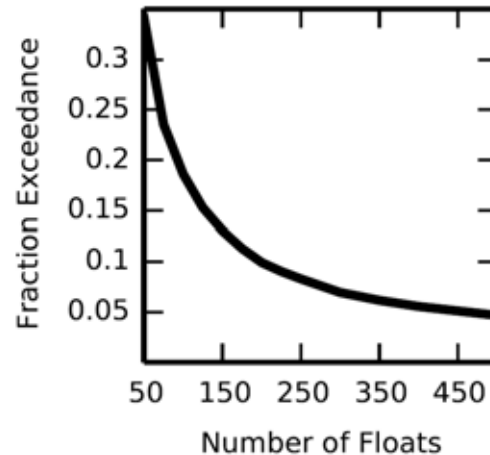


Within key areas / biogeochemical hotspots on which basis to implement ?

- The Bio-regionalisation approach (e.g. from Ocean color)



- The OSSE approach (e.g. SOCCOM)



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Bio-Argo implementation has to be linked / integrated with

- Ocean color community : satellite validation (calibration)
=> spatial agencies
 - Chlorophyll a
 - Backscattering (POC proxy)
 - Radiometry : Ed(I), Lu(I), PAR
 - CDOM
- Modeling community
 - O₂
 - NO₃
 - Chlorophyll a





The present and near-future of Bio-Argo in the context of European project

- NeXOS and SENSENET (FP7) : development of sensors for the Bio-Argo (towards pH/carbon)
 - Bio-Argo is expensive, sensor cost...
 - New sensors (e.g. acoustic.)
- BRIDGES (H2020)
 - New sensor (zooplankton, large particles)
- AtlantOS (H2020) and its future Mediterranean analogue:
 - Good place for design (OSSE) / implementation
 - Working on sustainability and long-term funding...

