

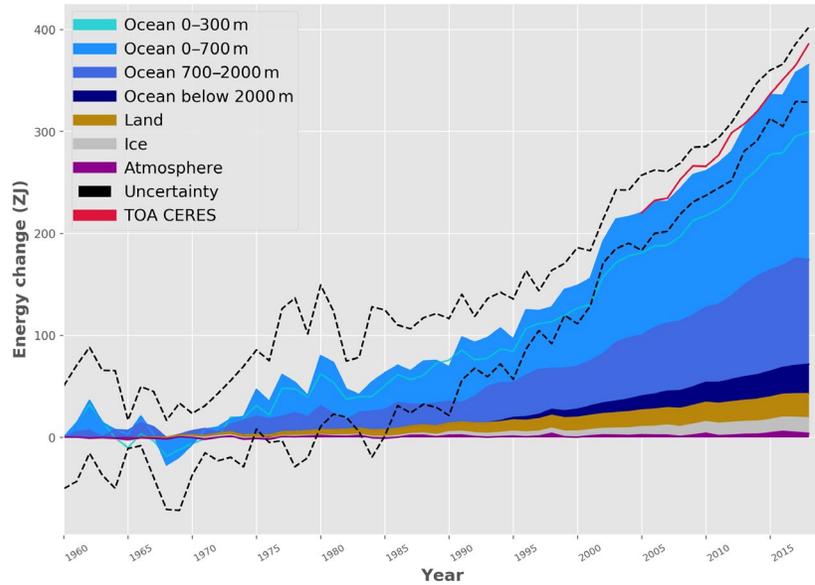


argo
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WP3 : Surveillance des couches abyssales océaniques avec des flotteurs Argo Deep-6000 équipés de capteurs d'oxygène

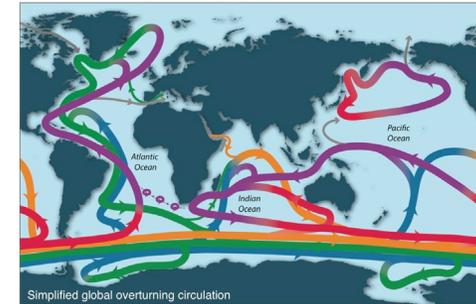
Présenté par Damien Desbruyères
Préparé avec Virginie Thierry.
Brest, le 17 janvier 2022

* The need for Deep-Argo

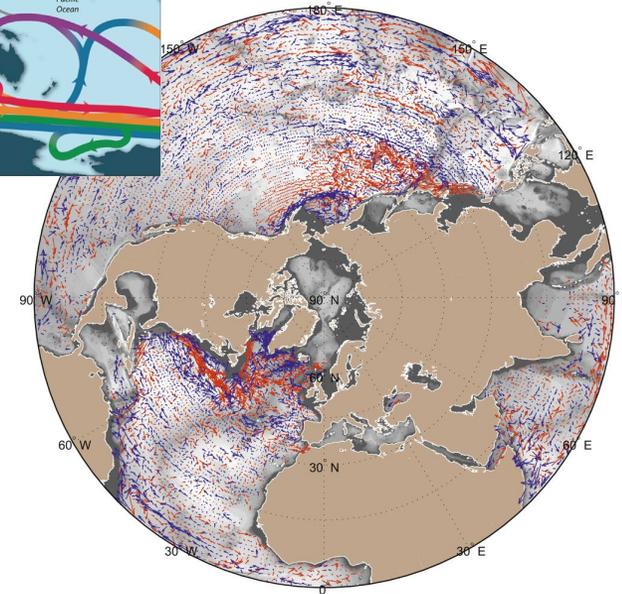


Earth Energy and sea-level budget

Von Schuckmann et al, 2021

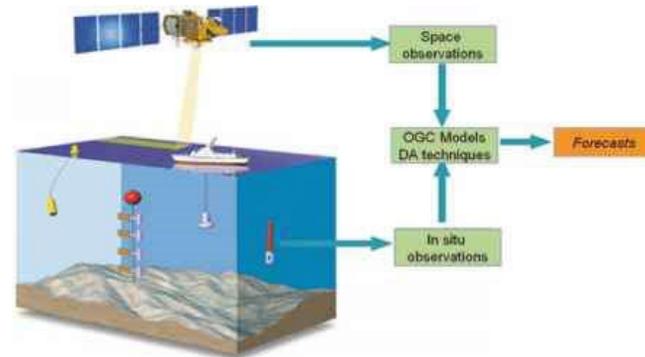


Abyssal circulation
Ollitraut and Rannou, 2013

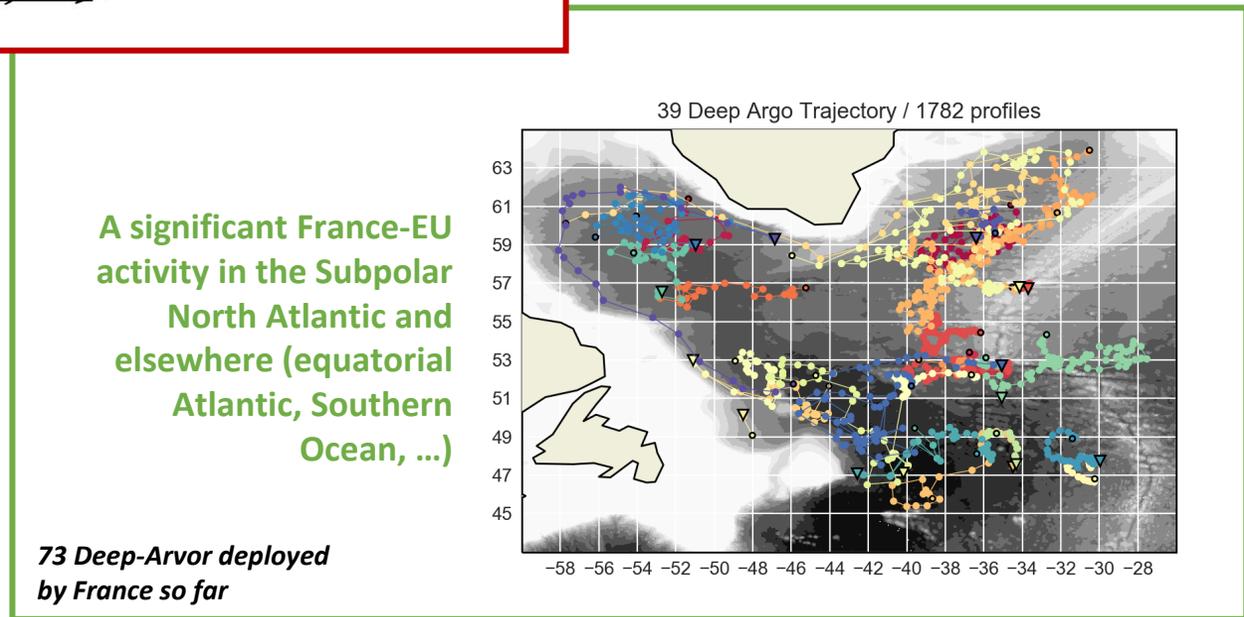
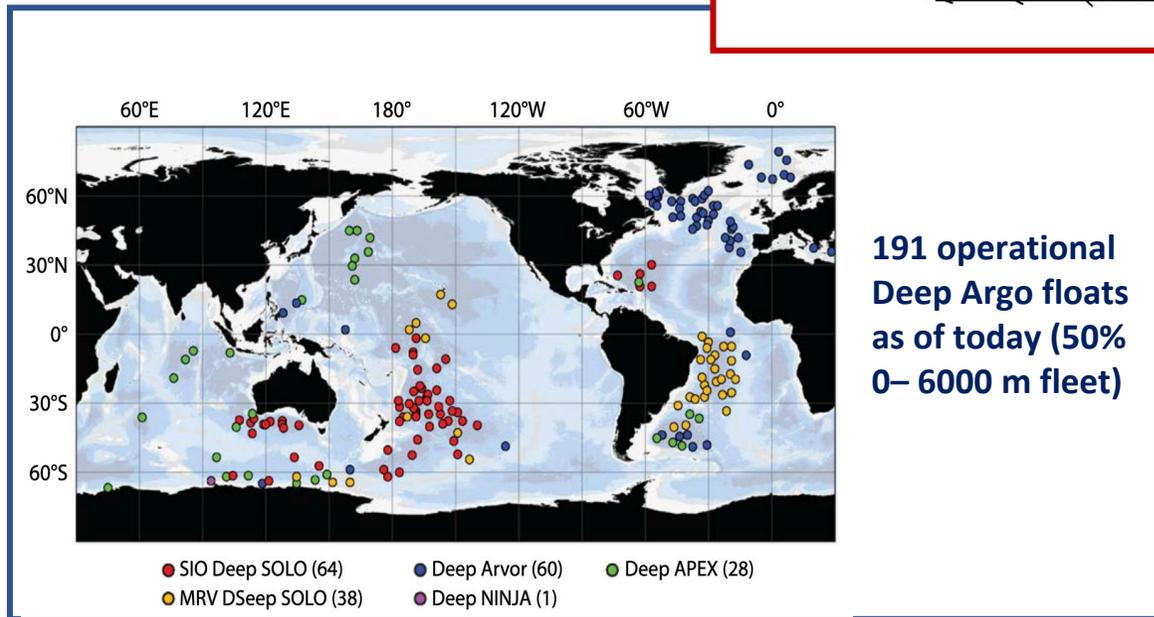
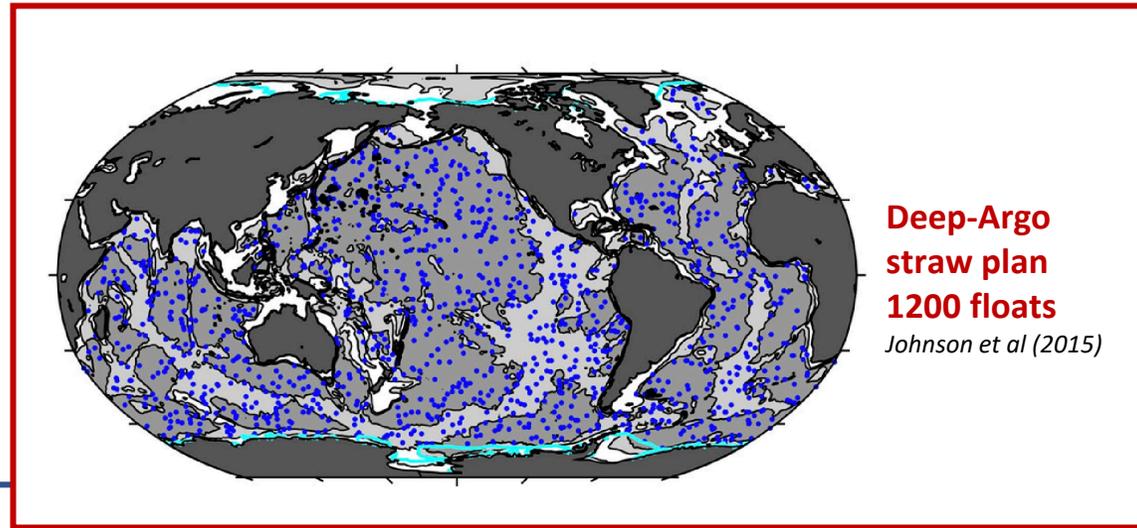


Operational oceanography

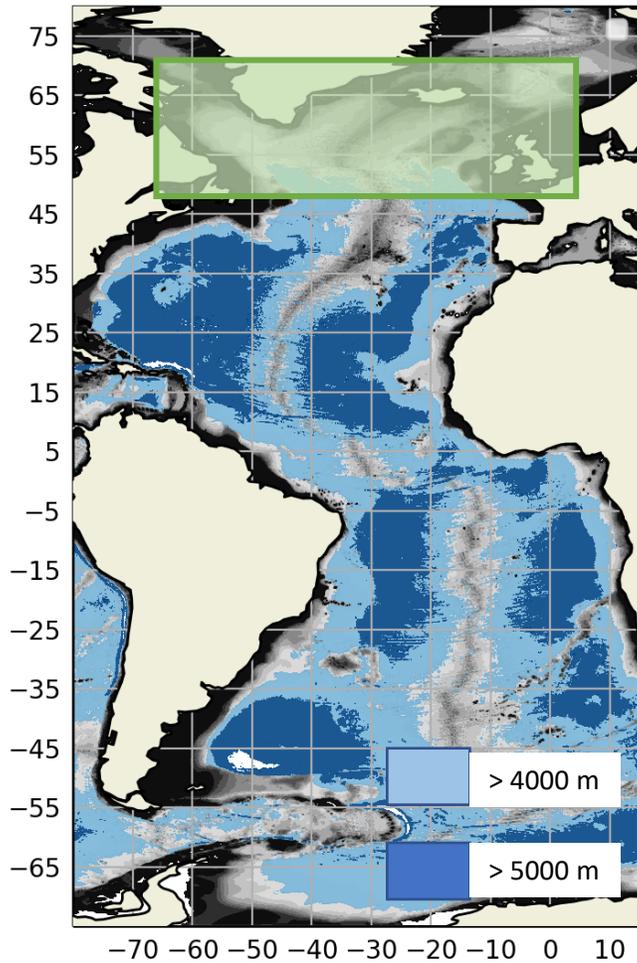
Credits. E. Dombrowsky



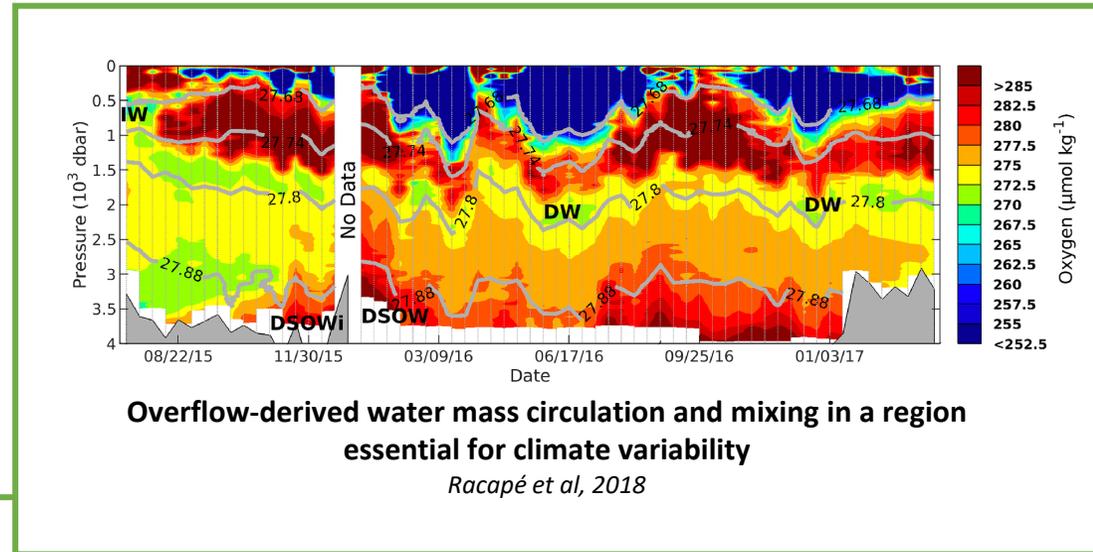
* Implementing Deep-Argo



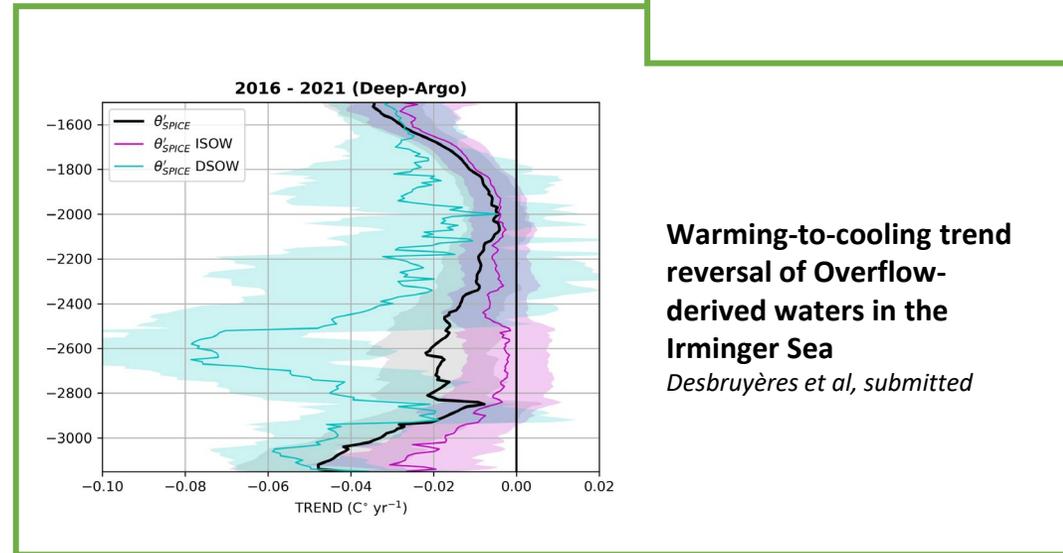
* Key findings with the Deep-Arvo 4000



Deep-Arvo 4000 array in the subpolar North Atlantic



Overflow-derived water mass circulation and mixing in a region essential for climate variability
Racapé et al, 2018

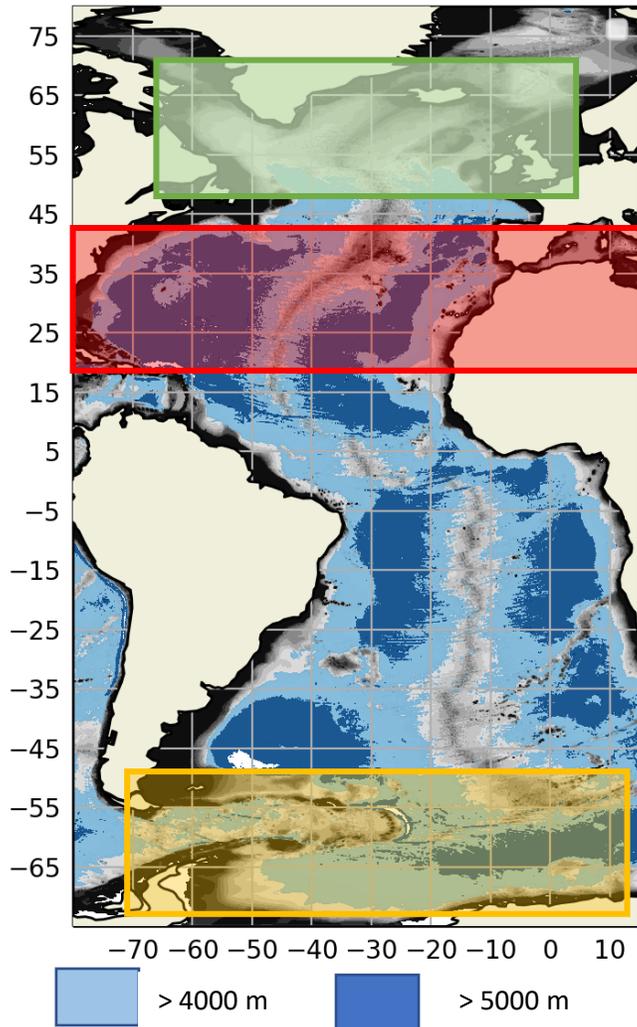


Warming-to-cooling trend reversal of Overflow-derived waters in the Irminger Sea
Desbruyères et al, submitted

The Deep-Arvo 4000 developed by Ifremer and commercialized by Nke Instrumentation



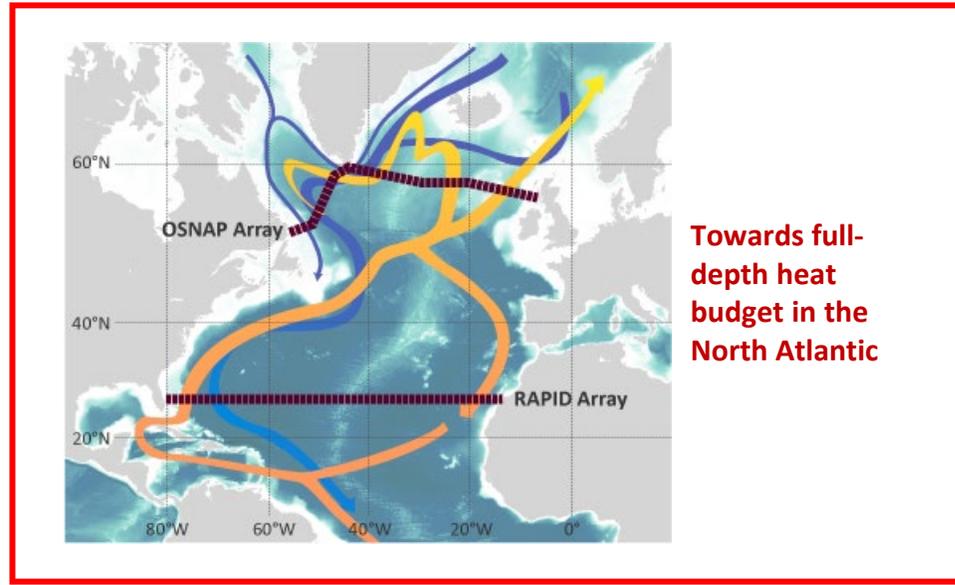
* Key targets with the **Deep-Arvor 6000**



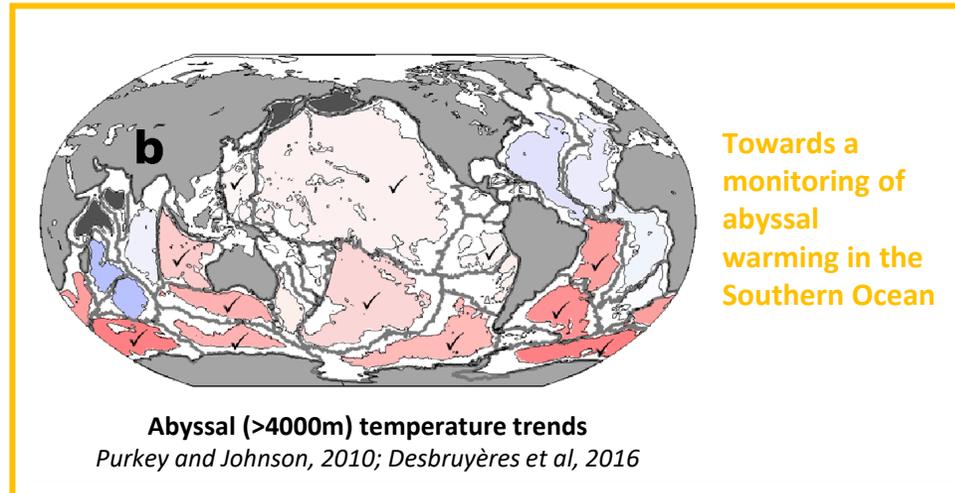
Deep-Arvor 4000 array in the subpolar North Atlantic

Deep-Arvor 6000 array in the subtropical North Atlantic

Deep-Arvor 6000 array in the subantarctic Atlantic



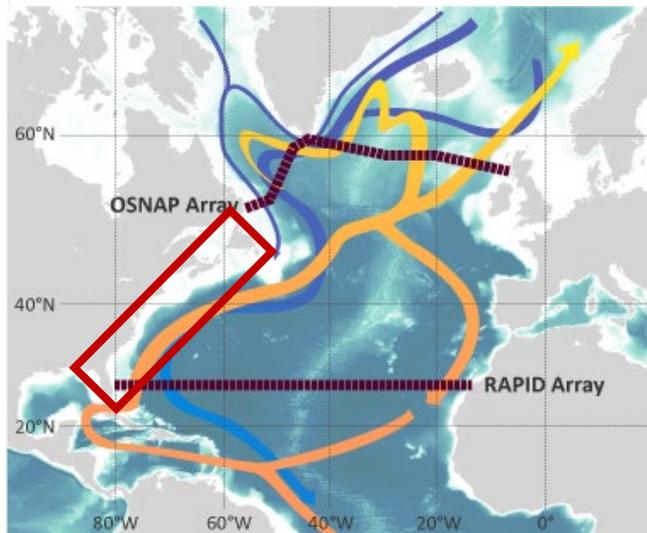
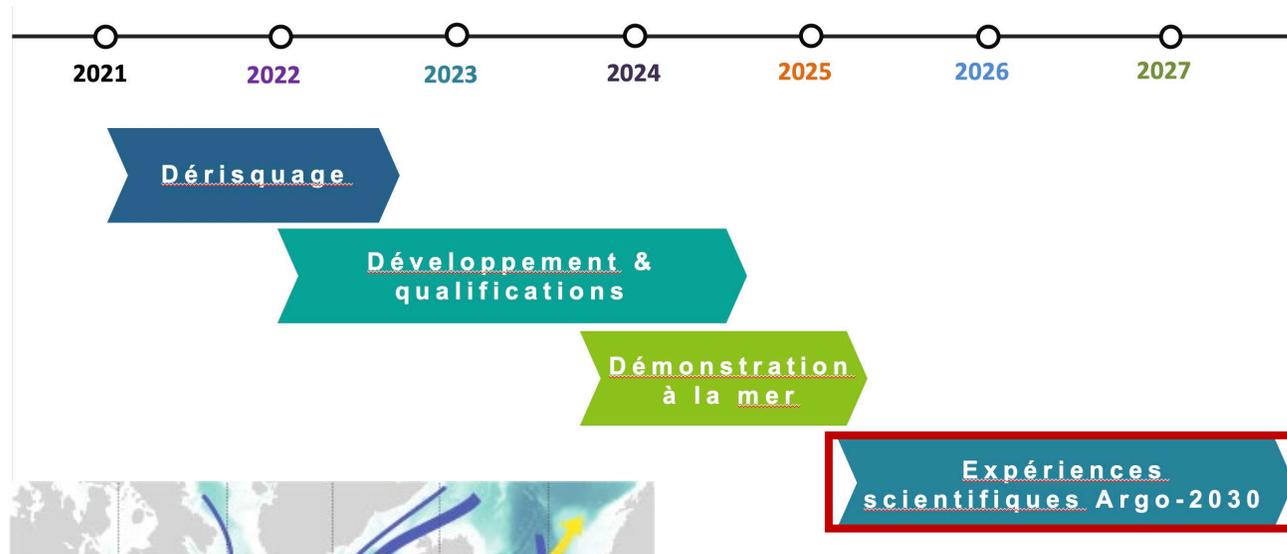
Towards full-depth heat budget in the North Atlantic



Towards a monitoring of abyssal warming in the Southern Ocean

Abyssal (>4000m) temperature trends
Purkey and Johnson, 2010; Desbruyères et al, 2016

* Calendar



WP3 objective

Acquire and deploy 22 Deep-Arvor 6000 m and develop a full contribution to the Deep-Argo program through a 4000/6000 offer.

- Interactions with **PIE PIANO WP4** (technological development of the float)
- First orders in 2024 /deployments in 2025.
- **First targeted regions:** Deep Western Boundary Current (DWBC) in the Newfoundland basin and in the western subtropical gyre.

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Merci pour votre attention.

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