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EUROARGO

EUROPEAN RESEARCH
INFRASTRUCTURE CONSORTIUM
FOR OBSERVING THE OCEANS

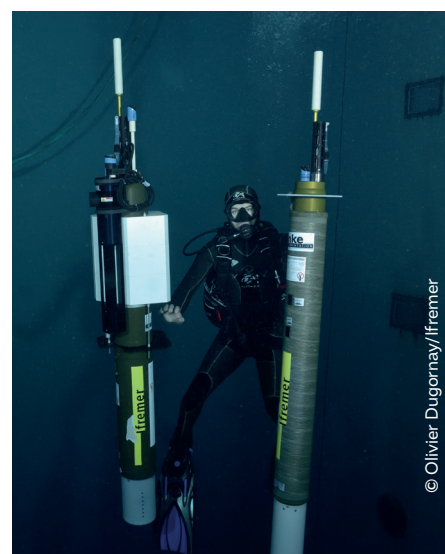


Press release

February 28th, 2020

Climate change: first review and future objectives for Euro-Argo The ocean examined from head to toe

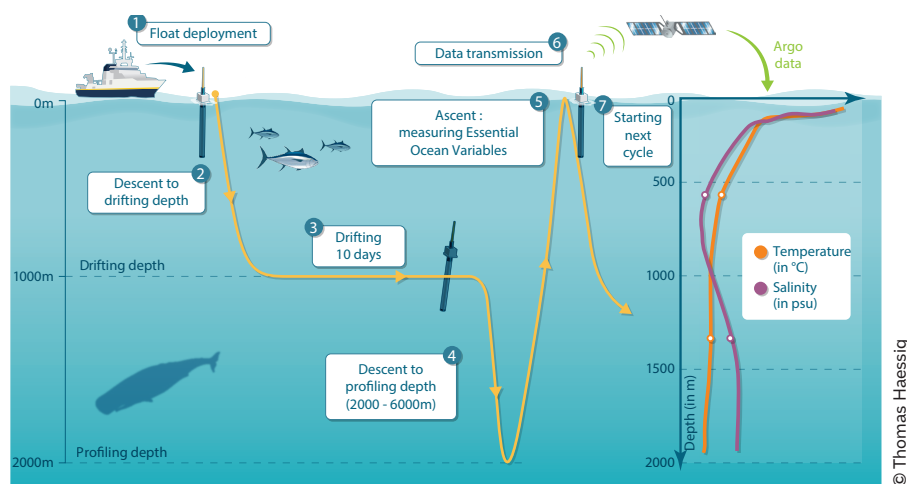
Polar regions, the abyss, marginal sea. Euro-Argo is in the starting blocks to conquer temperature and salinity in the most inaccessible areas of the global ocean. Five years after its implementation, this *European Research Infrastructure Consortium* (ERIC) took a major step. It achieved its goal of deploying 25% of the international Argo fleet network and its strategy has been approved by its Scientific and Technological Advisory Group (STAG). Thus, Euro-Argo published on January 2020 its «Activity report for its first five years» and the «Five-Year plan» with its 5 future objectives. Its new main thread? Contributing to the « global, full-depth and multidisciplinary mission » of the Argo Programme. As a matter of fact, Euro-Argo is planning to extend its survey on the ocean to track down climate change signals in greater ocean depths and in the partially ice-covered zones. Europe is also facing a new challenge: studying ocean ecosystems health. Some of the floats, called « BGC », are therefore equipped with sensors for six essential biogeochemical parameters.



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Euro-Argo floats are tested at Ifremer's facility, in Brest, France.

What is the Euro-Argo float network?



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An Argo float makes a full cycle in ten days. Once at the surface, it transmits all its measurements to data centers. These data are available within 12h afterwards. A float can cycle as long as it is operating correctly, with an average life expectancy of 4 years.

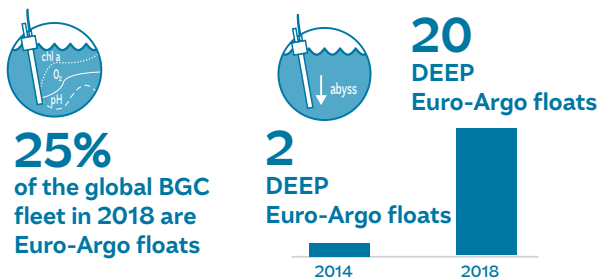
- Established in 2014, the Euro-Argo ERIC is a European Research Infrastructure Consortium, with 12 European Members, who joined their effort to optimize, sustain and maintain the European contribution to the international Argo programme.

- Argo is the first global real-time *in situ* ocean observing network. It allows to understand and predict the ocean's role on Earth climate. Argo represents a fleet of about 4000 autonomous floats, measuring temperature and salinity, all over the world ocean. They are deployed from the surface, then they dive towards 2000 to possibly 6000 m depth. They perform measurements while actively going up the water column. They provide an unprecedented free and open quality-controlled dataset to a wide range of users. For instance, these data allow scientists to estimate the heat store by the ocean. It's one of the key parameter to evaluate the amplitude of climate change and to better understand sea level rise mechanisms.

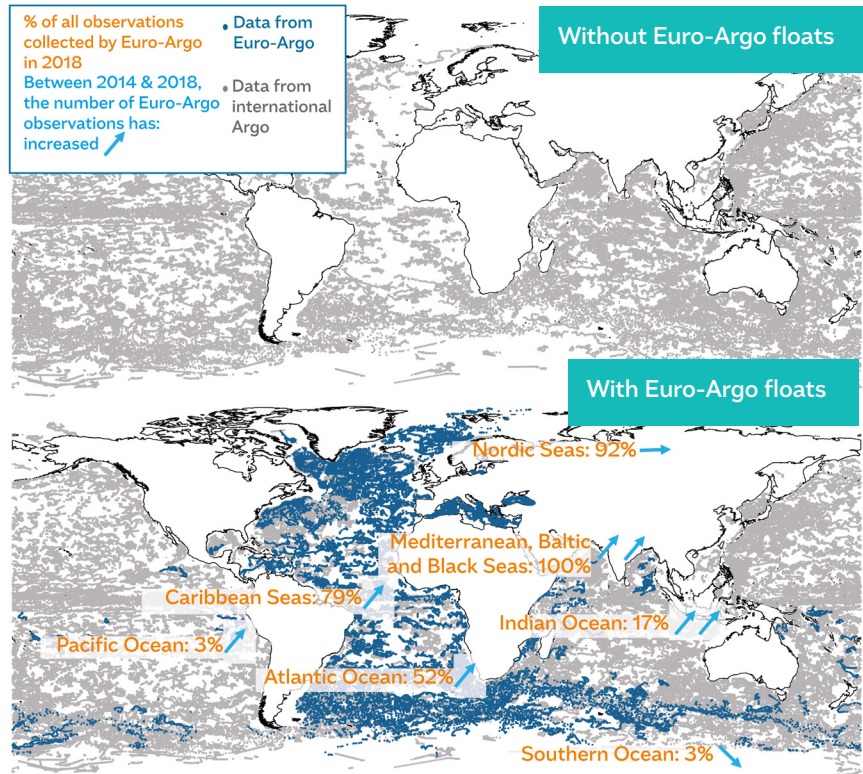
[Click here to read the brochure that summarizes Euro-Argo first results and future objectives.](#)

First European results

- Euro-Argo can be proud of increasing the number of global measures and targeting them appropriately. Thanks to the contributions of the 12 European Members, Euro-Argo covers some under-sampled regions of the global network and deploys floats in European Marginal Seas and some coastal or high latitudes areas.
- Euro-Argo also deploys new-generation floats:
 - **DEEP floats**, who dive to the abyss (possibly towards 6000 m depth);
 - **BGC floats**, who measure 6 biogeochemical parameters (oxygen, chlorophyll a, suspended particles, downwelling irradiance, nitrate and pH).



[Click here to read the Activity Report of Euro-Argo for its first five years.](#)



All the measurement profiles collected in 2018. The % in orange represents the portion of the 2018 global Argo profiles collected by Euro-Argo floats in each area.

Future scientific targets



Deployment of a BGC float, equipped with 6 biogeochemical sensors.

[Click here to read the new Five-Year plan of Euro-Argo.](#)



Technological advances will allow observations of unknown regions and properties of the ocean that play key roles in ocean ecosystems and Earth climate.

Extensions towards deep ocean will provide crucial data to better estimate heat and freshwater budgets and sea level variations in the ocean.

Extensions towards high latitudes and coastal areas will allow a better understanding of ocean variability in these key regions of the globe.

Extensions into the biogeochemical component will enable the investigation of the effects of acidification and deoxygenation on marine ecosystems, as well as monitoring various elements of ocean health.

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