



Euro-Argo Research Infrastructure

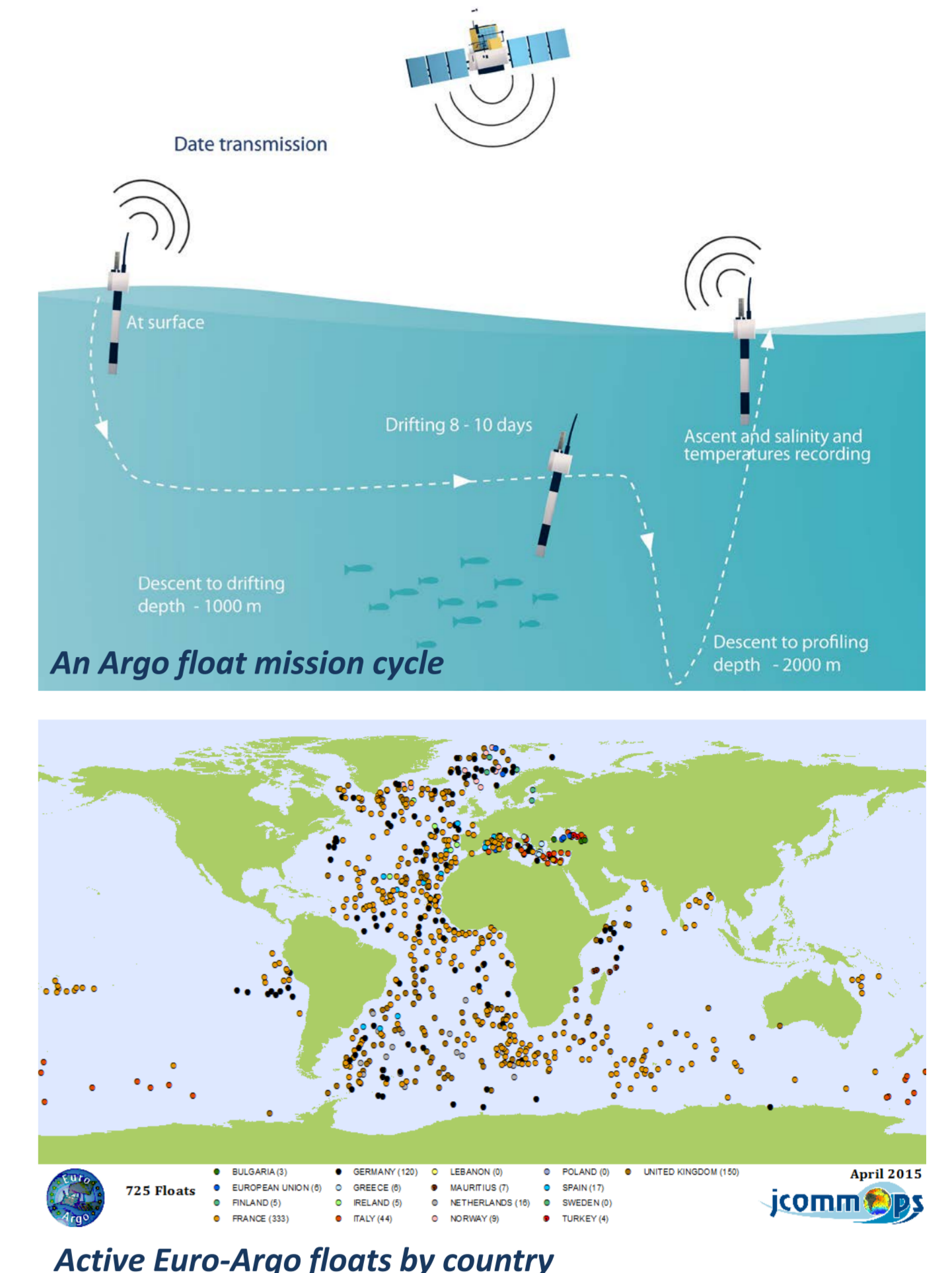
European contribution to a global ocean observatory

www.euro-argo.eu

euroargo@ifremer.fr

Climate change is one of the most pressing issues of our century. The Oceans have a fundamental influence on our climate and weather. They store, transport and exchange with the atmosphere large amounts of heat, water and gases. These exchanges affect dramatically global and regional climates on time scales ranging from days to centuries.

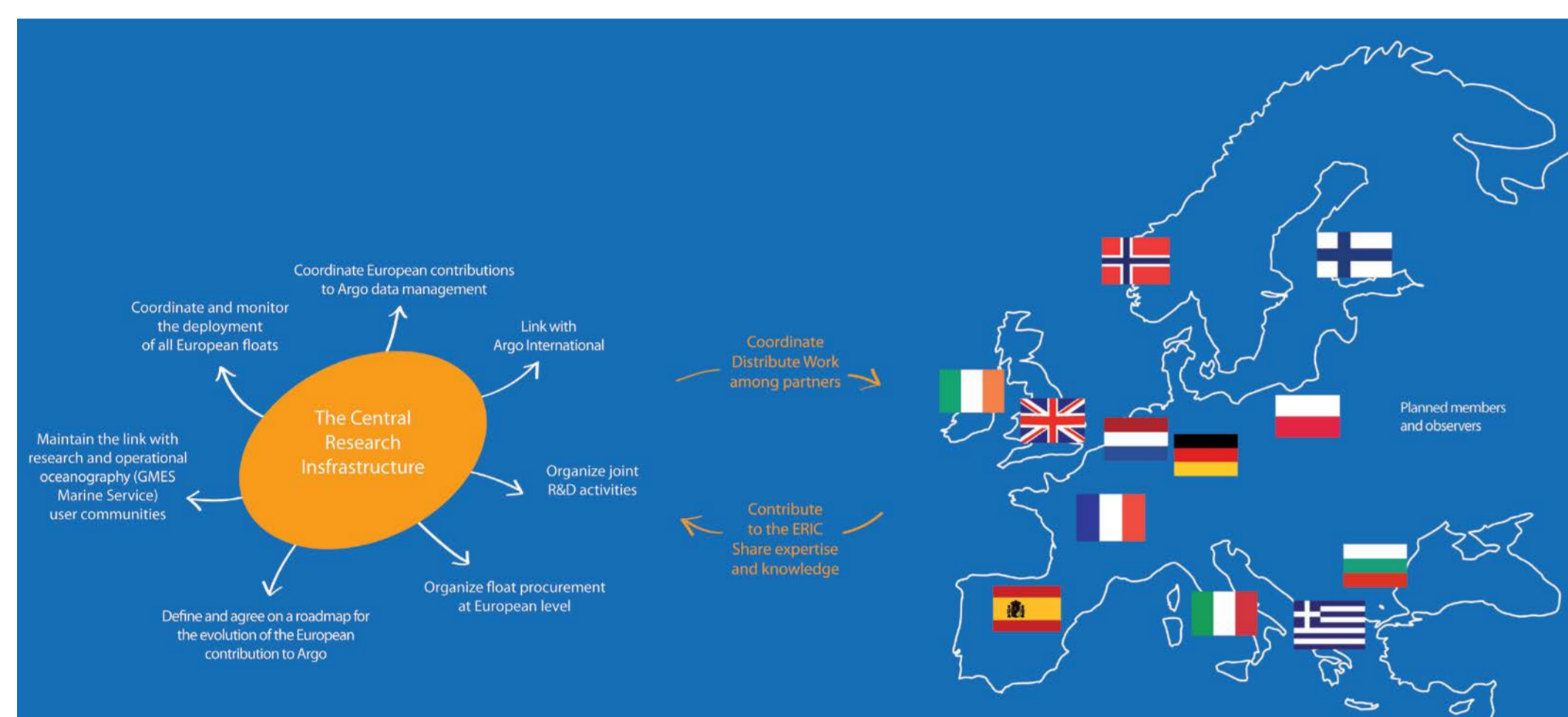
Long term high quality global ocean observations are needed to understand the role of the ocean on the earth's climate and to predict the evolution of our weather and climate.



Argo: a revolution in global ocean observation

What is Argo? It is the first International global real time in-situ ocean observing system with about 3 600 active floats worldwide measuring the temperature and salinity to a depth of 2 000 m. It delivers global data sets within a few hours from acquisition.

What is Euro-Argo? It is a new European legal structure which consolidate and improve European long term contribution to Argo. It aims maintaining a network of 800 platforms and deploy about 250 floats a year.



Ifremer (France) hosts the Euro-Argo Central Research Infrastructure for the first 5 years.

Euro-Argo: a distributed Research Infrastructure

The Euro-Argo research infrastructure strengthen European excellence and expertise in climate research and establish a high level of cooperation between partners in all implementation aspects:

- operation at sea,
- array monitoring and evolution,
- technological and scientific developments,
- improving data access for research and operational oceanography (Copernicus),
- link to the international management of the Argo programme.

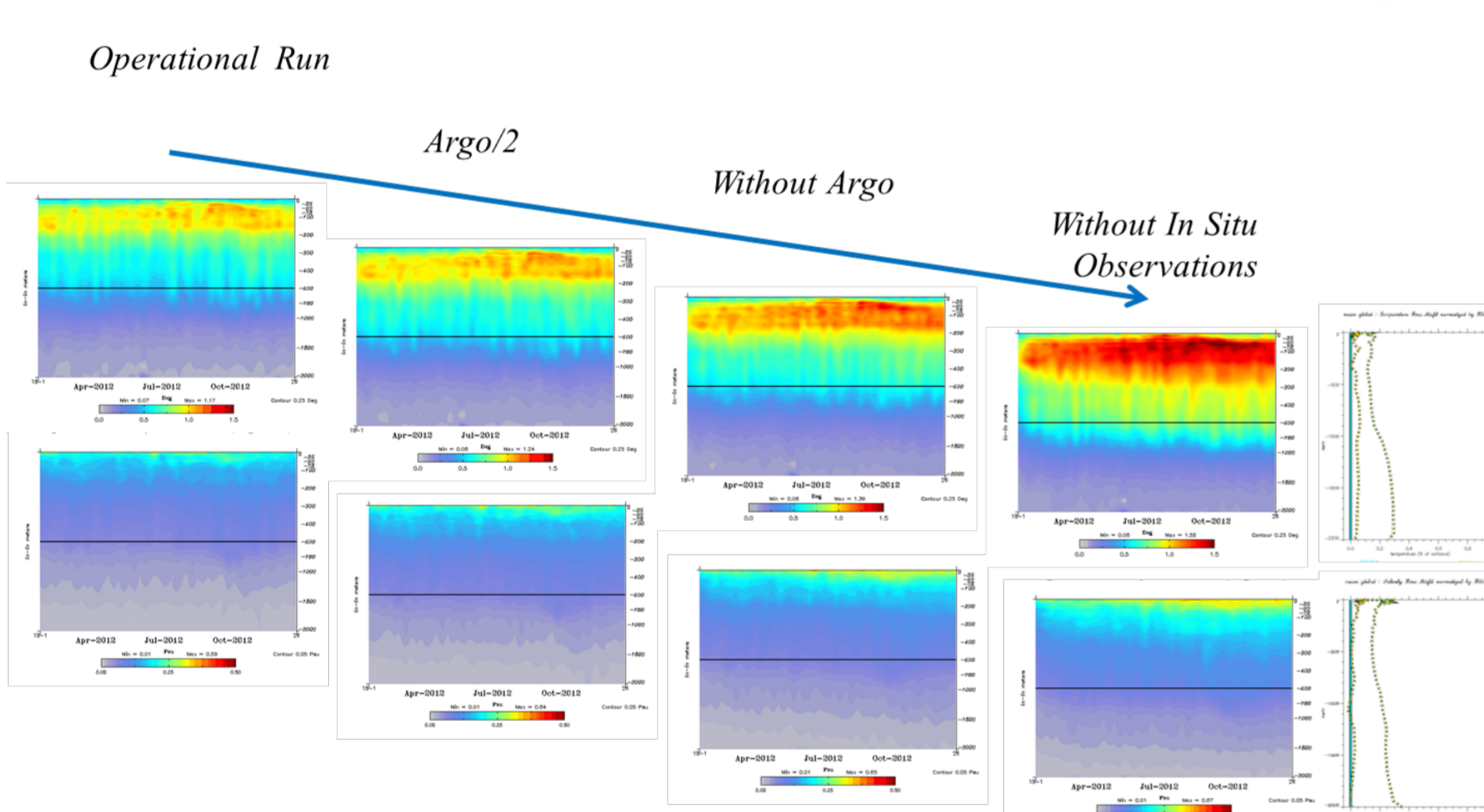
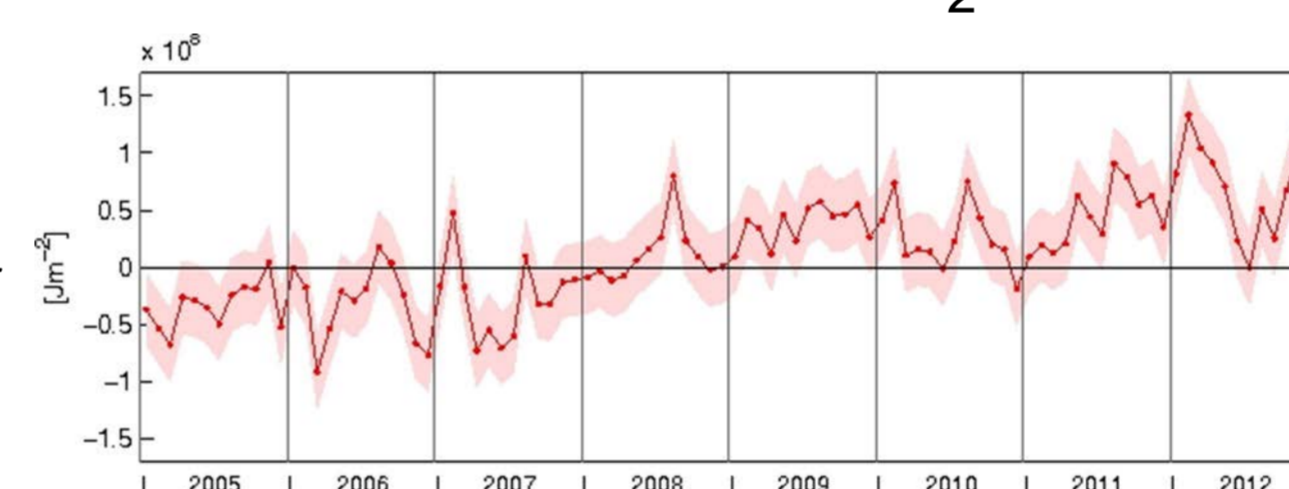
Why do we need Argo floats? Dual use: Research and Operational Oceanography

The science case: Climate change and global warming

The oceans have a fundamental influence on our climate and weather, both of which are affected by changes in the currents and heat content of the ocean. Argo is a unique system to monitor heat and salt transport and storage, ocean circulation and global overturning changes and to understand the ability of the ocean to absorb excess CO₂ from the atmosphere.



Global ocean heat content changes derived from Argo data during 2005-2012 (Von Schuckmann & al, 2014).



Difference standard deviation with in situ observations in 2012 for salinity and temperature

Operational Oceanography and the Copernicus Marine Core Service

Argo is the single most important in-situ observing system required for the Copernicus Marine Core Service (MCS). Argo and satellite data are assimilated into MCS models used to deliver regular and systematic reference information on the state of the ocean for the global ocean and the main European seas.



Euro-Argo and the evolution of Argo for the next decade

The future developments of this programme are:

- **strengthening** Europe's role in and contribution to the global ARGO Programme,
- **supporting** the implementation of the EU Marine Policy through the development and subsequent incorporation of biogeochemical sensors (O₂, Chl-a, Nitrate, Carbon) into the programme,
- **extending** spatially the observations into the European and Polar Seas, as well as into the abyssal parts of the oceans,
- **further developing** the existing data management system,
- **maximising** the relevant knowledge of the Seas and Oceans, e.g. their role in a changing climate (towards deeper measurements).

Direct funding for Euro-Argo through EU projects



- **SIDERI** : Strengthening International Dimension of Euro-Argo Research Infrastructure: 13 partners, December 2011- December 2013.
- **E-AIMS** : Euro-Argo Improvements for the Copernicus Marine Service: 16 partners, January 2013 - December 2015.

H2020



- AtlantOS: Developing an Atlantic in-situ observing system,
- ENVRI+: Cluster of RI (global research infrastructures).

EMFF: European Maritime & Fisheries Fund opportunity

- Procure and deploy 150 floats in European Regional and Marginal Seas to complement Euro-Argo RI contribution.

