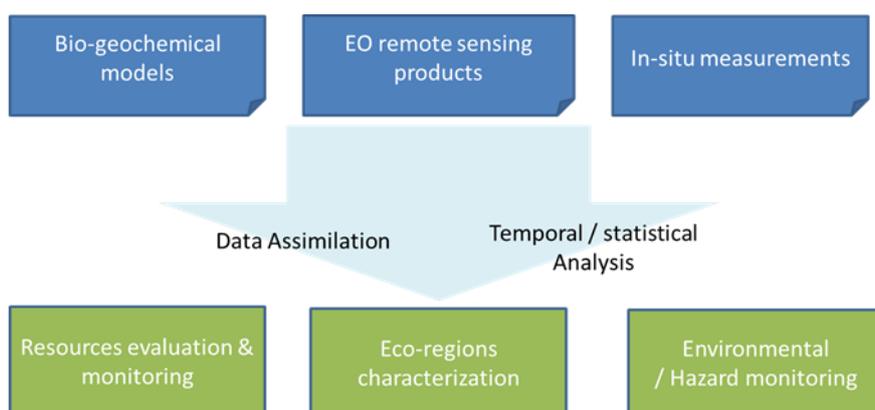
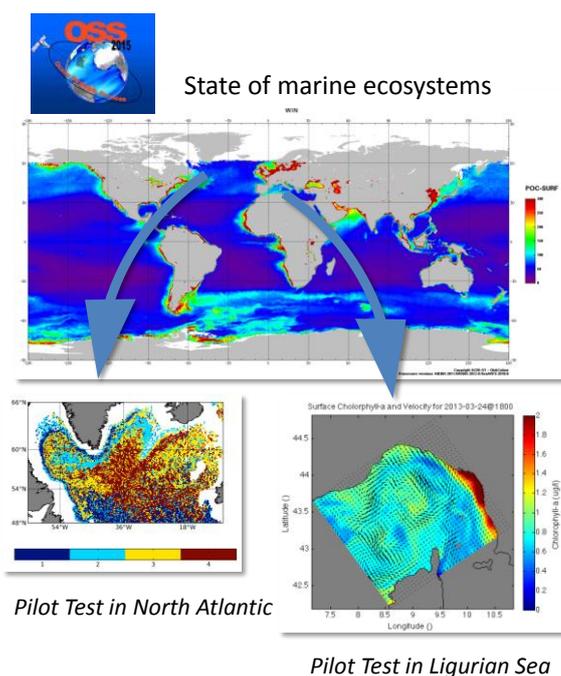


## Ocean Strategic Services beyond 2015 – OSS 2015

The OSS2015 project, within the frame of “environmental services”, was set up to help specify and design the “Marine Biology” component of the COPERNICUS Marine Core Service (MCS), further to the MyOcean progress within the FP7 framework and in advance of a new era of global multispectral observations of the ocean (through COPERNICUS). It supports the endeavour of the scientific community dealing with ecology and climatology, and public action through policy makers & enforcers in charge of socio-economic challenges, in particular the European blue growth strategy.

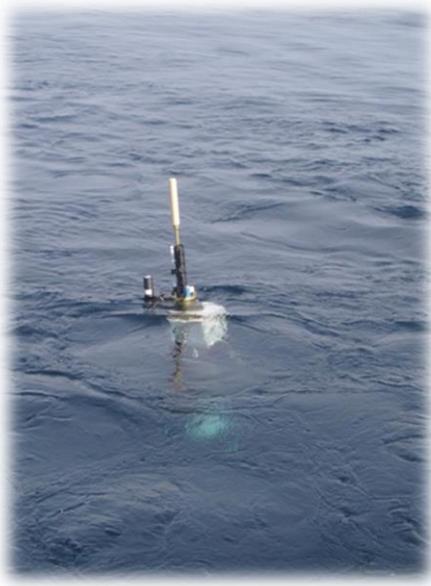


Due to its vastness, to its dynamics variability, to its interactions with land and atmosphere at turbulent boundary layers, to its ecology complexity, to its geomorphology specificities and its strains under anthropogenic stresses, the Ocean deserves a complete, efficient and comprehensive observation & monitoring system built upon in situ measurements’ networks and remote sensing from satellites, using equations and laws to interpolate between measurements that are always too sparse to resolve all processes and to extrapolate all parameters. OSS2015 research was dedicated to a better understanding of the upper ocean biology, the production of relevant and reliable information and the organisation of data dissemination.



The success of the project is assessed by the delivery of accurate values of bio-geochemical parameters which are relevant for the study of the marine ecosystems and of the carbon cycle, and the prototyping of a Collaborative Platform for scientific exploitation of Earth Observation (EO) data (i.e. to facilitate the data handling by scientists and to spur algorithm development). Some of the information has been evaluated and provided for the first time, reason why specific dissemination methods and exploitation methods have been implemented to promote its use.

*In-situ data and EO assimilation in ocean models*

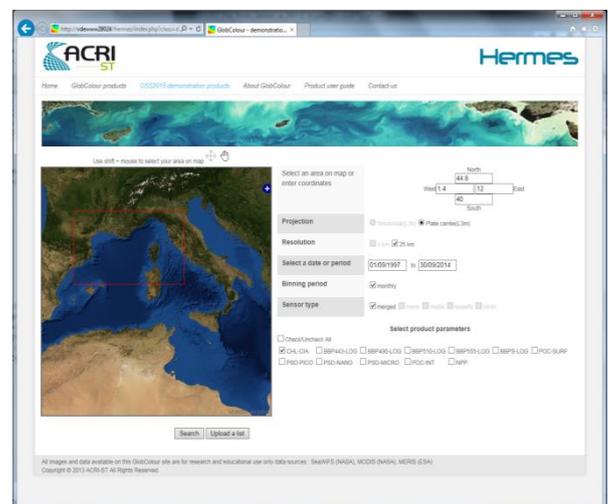


*A drifting ocean profiler*

The key results of OSS2015 are:

1. A methodology to optimally deploy observation floats at sea to complement EO;
2. Identification of Key factors driving marine eco-systems and quantification, i.e. provision of the values of biochemical parameters that help understand & accurately predict the marine ecosystems response to anthropogenic changes –of use for the implementation of European policies (e.g. the Marine Strategy Framework Directive) related to climate change (monitoring and adaptation to), and the marine environment protection & exploitation (marine resources management) ;

*The data distribution portal*



3. information on the state of marine ecosystems for the global ocean, including climate monitoring, i.e. delivery of unique time series of biogeochemical information on 15 years : this OSS2015 production supports the increasing marine biology knowledge, thanks to an easy access open to any interested user.

4. design, development and implementation of a *Collaborative Research Platform* , the germ of new virtual research centres which allow scientists working together, reviewing their results, standardising the data processes, etc.

OSS2015 results led to recommendations on a COPERNICUS “green” offshore marine service to be taken into account for the next building step of the Copernicus Marine service. After this prototyping phase, the OSS2015 service might be set-up in the framework of a Public-Private Partnership (in support not only of climatology, adaptation and mitigation of climate change, but also of sustainable and responsible development of marine resources, by optimal deployment of observation means).

In the course of the project, and aside to Science, OSS2015 consortium members have opened several additional perspectives:

- of industrial consolidation, by the gathering of SMEs interested in further developments of the OSS2015 demonstrator and its commercialisation to feed EO downstream services like algal blooms’ forecast or optimisation of aquaculture;
- of socio-economic benefits by the expansion of OSS2015 to coastal areas, using High Resolution and Very High Resolution satellite-borne sensors such as Sentinel 2/MSI or intelligence gathering satellites such as PLEIADES);
- in the digital/knowledge-based economy of Big Data analytics for the “green” ocean monitoring