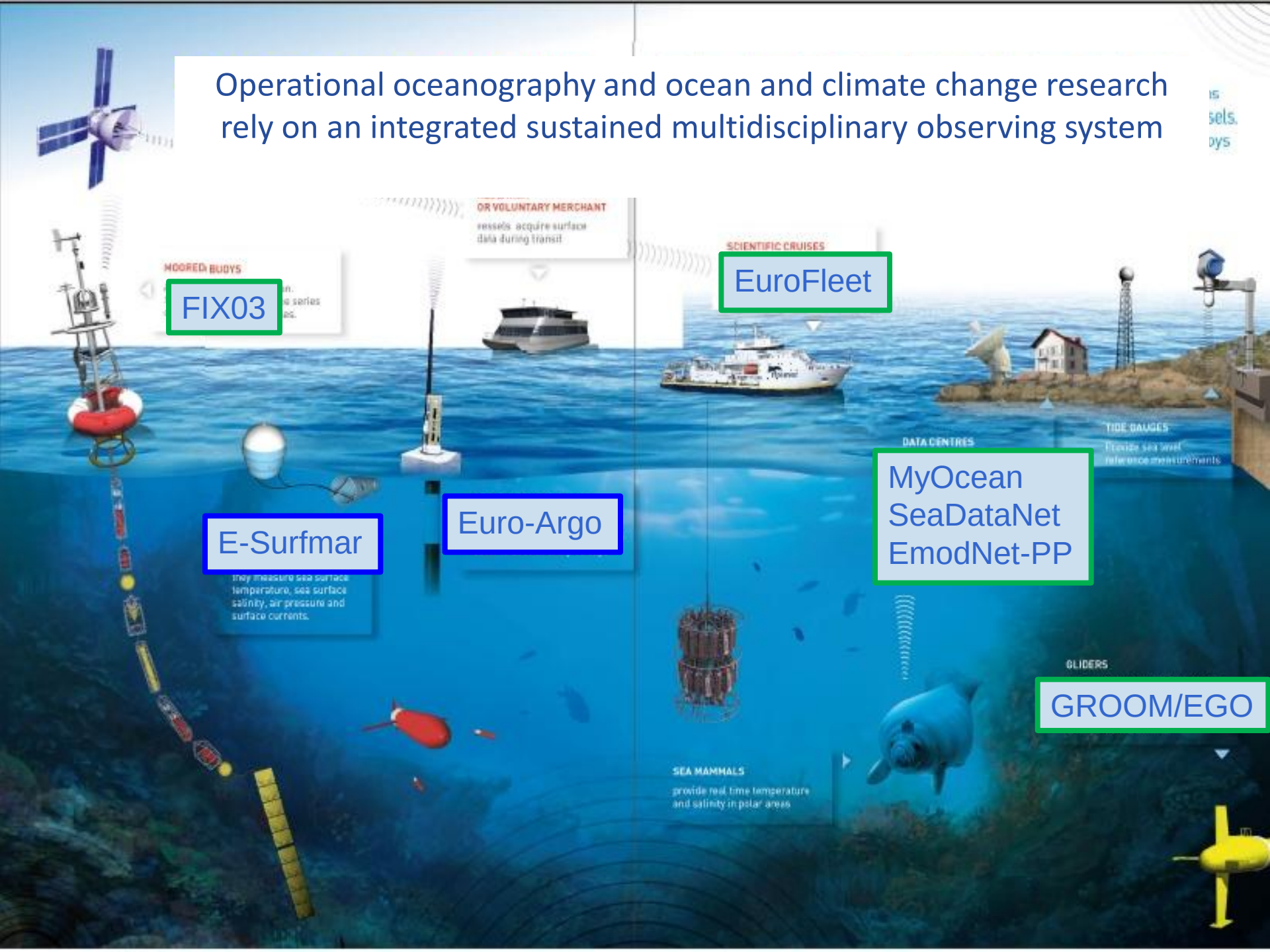
An In SITU data management system in Europe

A EuroGOOS-MyOcean-SeaDataNet-EMODnet joint effort

S Pouliquen/IFREMER

The Atlantic –Shared resource

23 rd May 2013

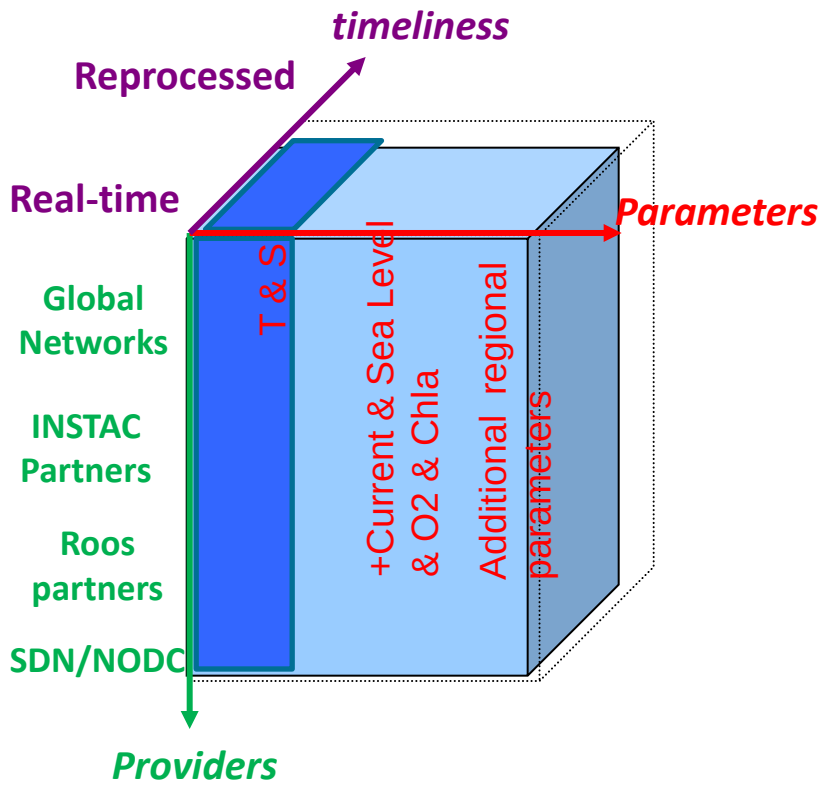

Operational oceanography and ocean and climate change research rely on an integrated sustained multidisciplinary observing system
FIX03
E-Surfmar
Euro-Argo
EuroFleet
MyOcean
SeaDataNet
EmodNet-PP
GROOM/EGO
MOORED BUOYS
OR VOLUNTARY MERCHANT
vessels acquire surface data during transit
SCIENTIFIC CRUISES
DATA CENTRES
TIDE GAUGES
SEA MAMMALS
provide real time temperature and salinity in polar areas
GLIDERS

What are the European Operational Oceanography user needs?

Marine Core Service

- Core parameters :
  - Assimilation in global/regional models : T, S
  - Validation : Sea Level, Current, Oxygen, Chlorophyll, Nutrients , Wave.
- Data accessible easily from a unique point
- Data coherent in term of :
  - Data format
  - Data Quality
  - Processing chain (clearly documented)
  - Coherent at basin scale level
- Data are available
  - in near real time (within less than 24 hours)
  - in delayed mode after calibration and /or validation with estimation of the accuracy
  - Long time series
- Data management must rely on qualified teams (data management, scientific expertise…)

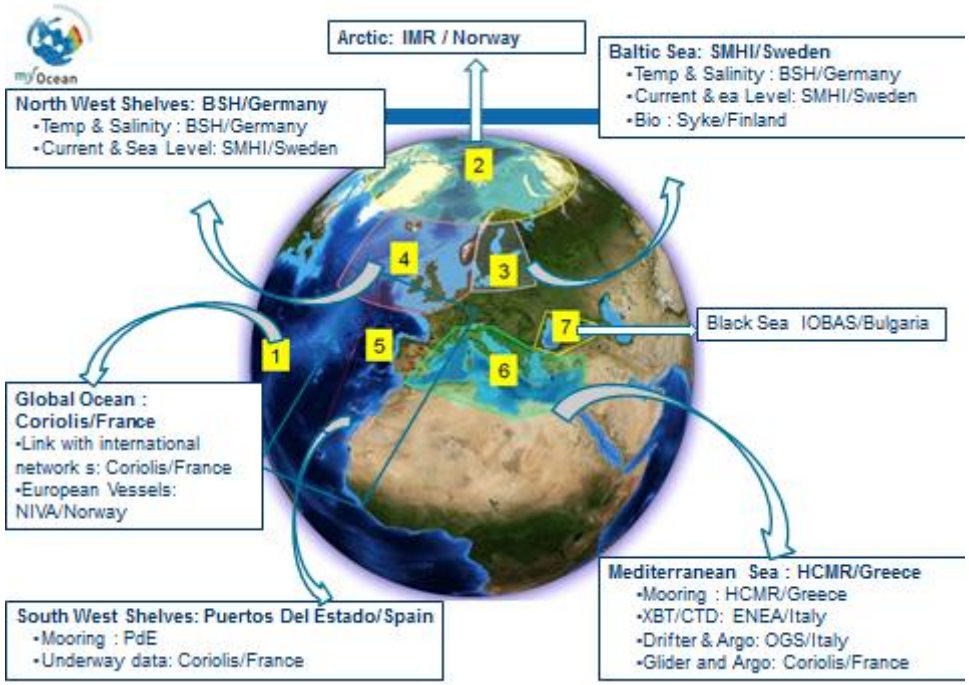
In Situ Thematic Assembly Center development process within MyOcean 1&2 in partnership with EuroGOOS

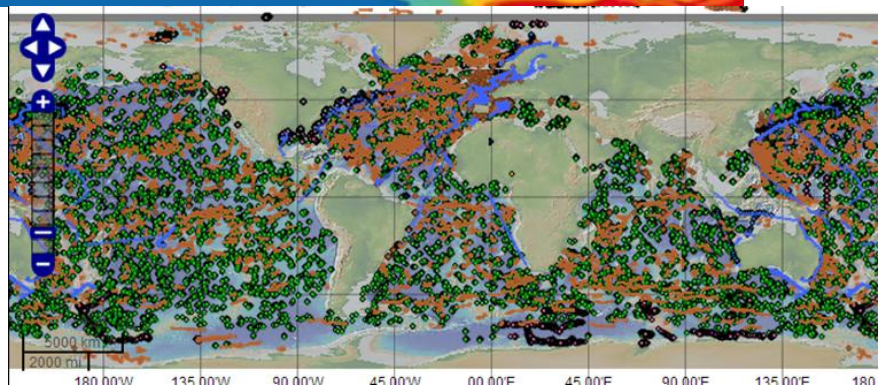


- From global to Regional products
- From Global network to EuroGOOS regional partners and SeaDataNet NODCs
- From T&S to multi-parameter service
- From Real-Time to Reprocessed product for re-analysis : focus on T&S in MyOII

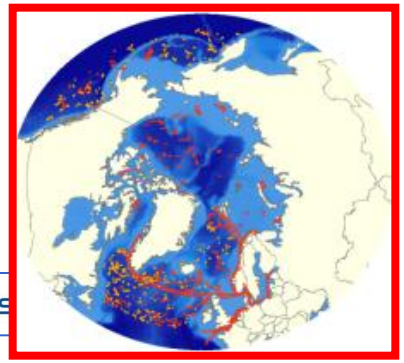
A Near Real Time System

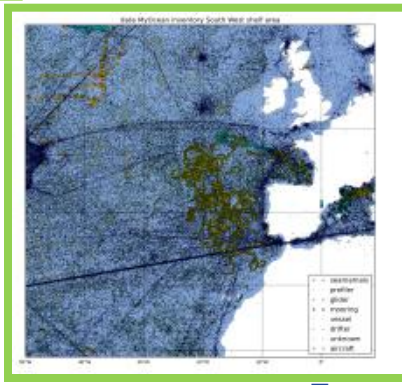
Marine Core Service



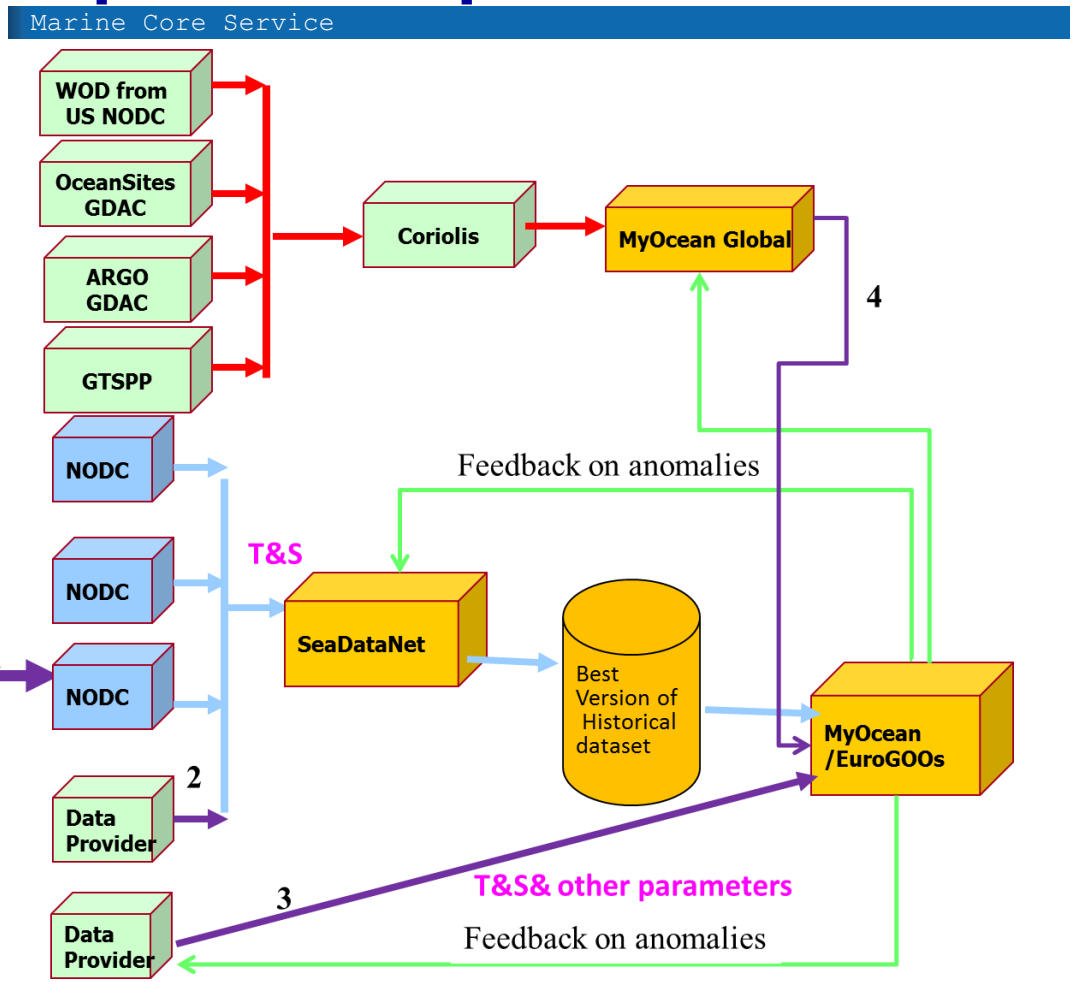


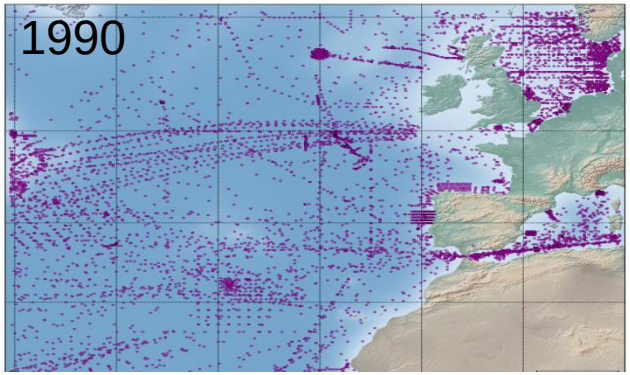
Nearly 3000 platforms per day (200 to 400 at regional level)
80% within 24h

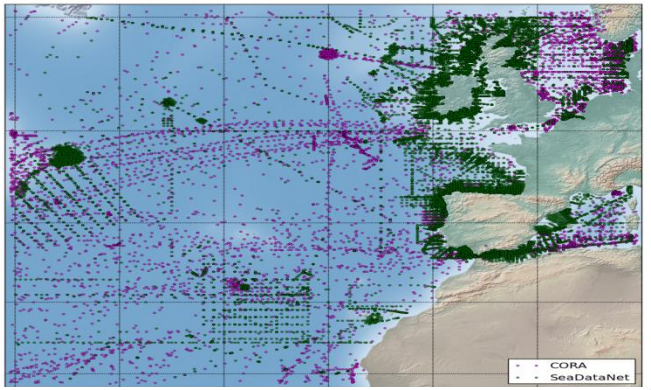


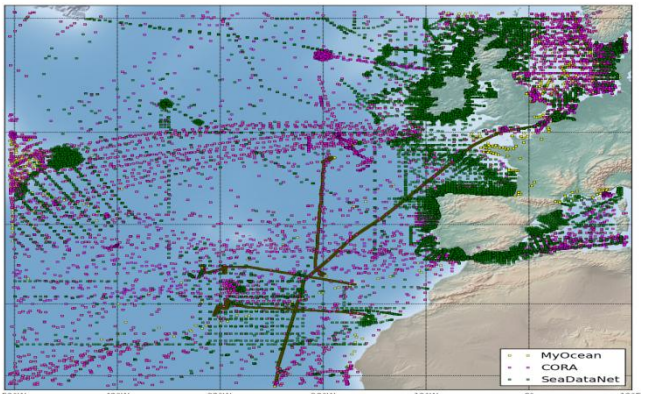


A delayed mode service that is developing in partnership with SeaDataNet and EMODnet



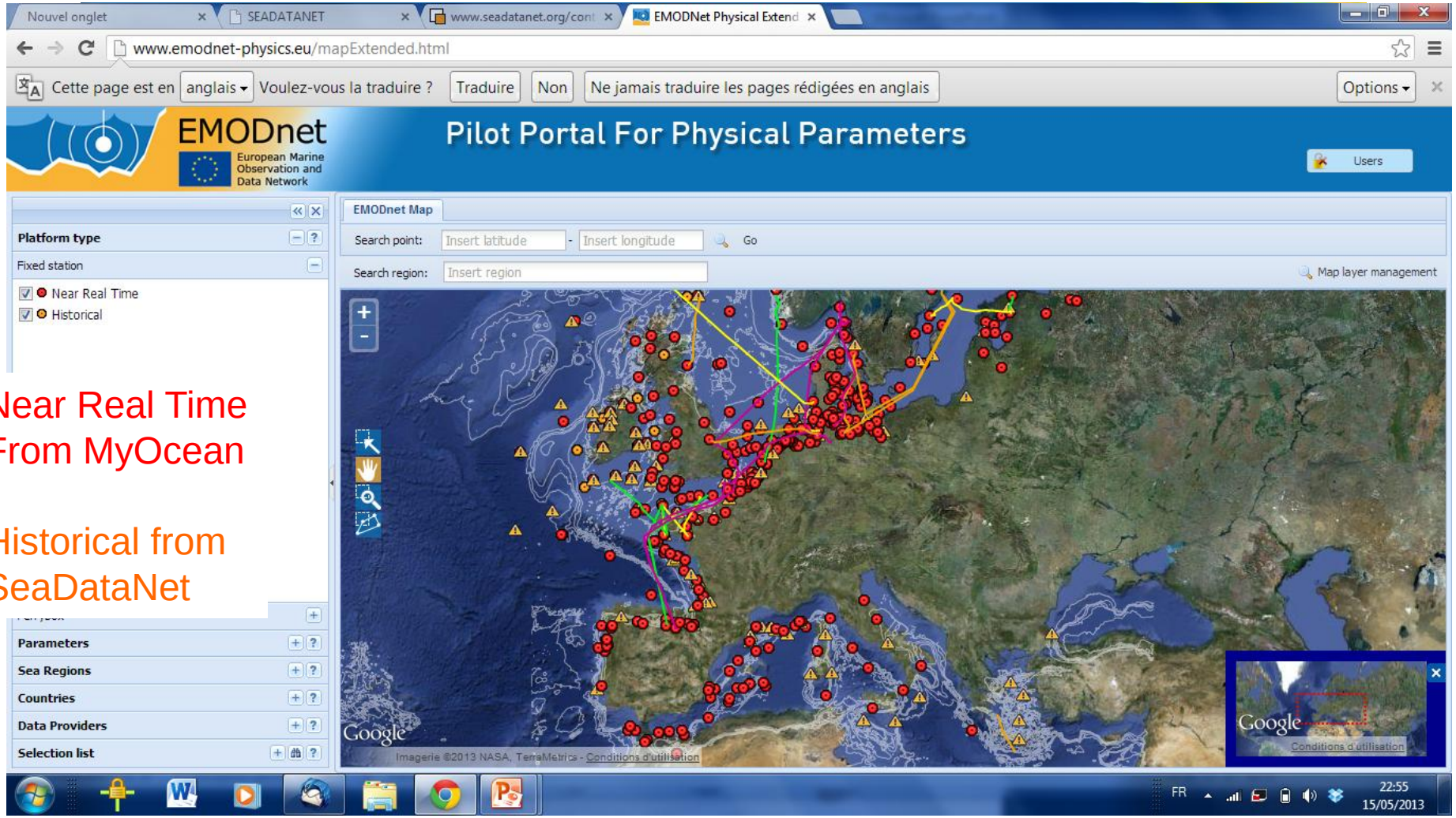






The

EMODnet Physics – Discovery, View



Near Real Time
From MyOcean

Historical from
SeaDataNet

Recommendations

Observing Systems

- Sustainability of in situ observing systems remains a major concern and a very high risk for Operation Oceanography (Copernicus) and Climate Change Research.
- Major Gaps: the oceans are under sampled and we critically lack biogeochemical observations. There is a need for an integrated *multidisciplinary observing system* : physical and bio-geochemical observations from surface to deep ocean, from global to regional including polar seas.
- Real-Time transmission of core parameters (T, S , Current, Sea Level, O2, Chl-a, Nutrients) from autonomous platforms are critical (Argo, Mooring, Gliders, Drifters).

Data processing and data exchange Systems

- Free and open data access is essential for operational oceanography needs and best use of existing observations: *acquire once use multiple*
- Efficient Data exchange system relies on common standards on metadata, format , Quality Control Procedures and product discovery/viewing/access
- Need to rely on sustained European data processing capabilities and qualified teams (including scientific expertise).
- Important for re-analysis activities to have close link/interoperability between the Real-Time and Delayed Mode data streams