EuroGOOS
European Global Ocean Observing System

EuroGOOS strategy with special focus on European Ocean Observing System (EOOS)

Erik Buch and Glenn Nolan

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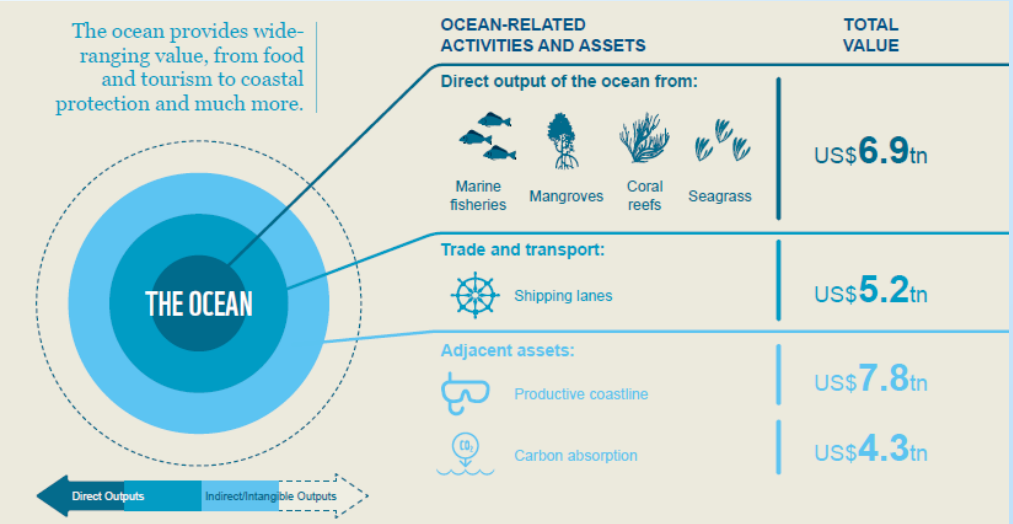
Ocean Economy



- Ocean Economy worth 24 Trillion USD – seventh largest economy in the world
  - Food
  - Energy
  - Raw materials
  - Transport
  - Commerce
  - Tourism

http://wwfintcampaigns.s3.amazonaws.com/ocean/media/RevivingOceanEconomy-REPORT-lowres.pdf

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Call to Action

Ocean health is declining due to local stresses such as habitat destruction, overfishing and pollution as well as rapid and unprecedented changes in ocean temperature and acidity

The message is clear:

The ocean is a major contributor to the global economy, but we are running down our ocean assets and will push the ocean economy into the red if we do not respond to this crisis with bold and decisive actions as an international community. We must do more, much more, to protect our ocean asset base. A prudent treasurer or CEO would not wait until the next financial report to correct course. They would act now

It calls for global leadership

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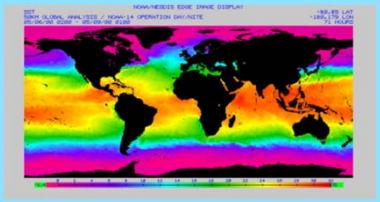
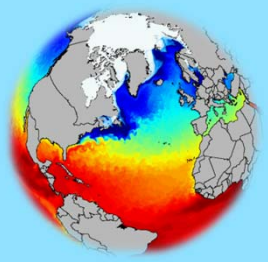
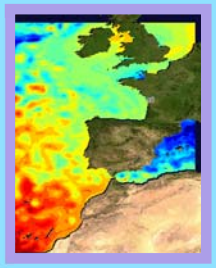
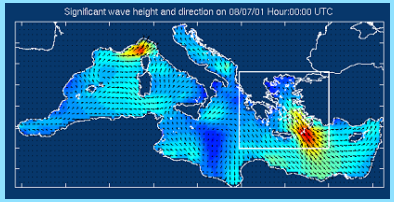
Operational Oceanography

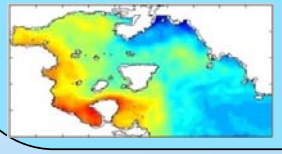
Observations



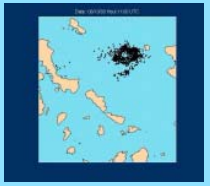



Processing & Modeling



Services







End Users

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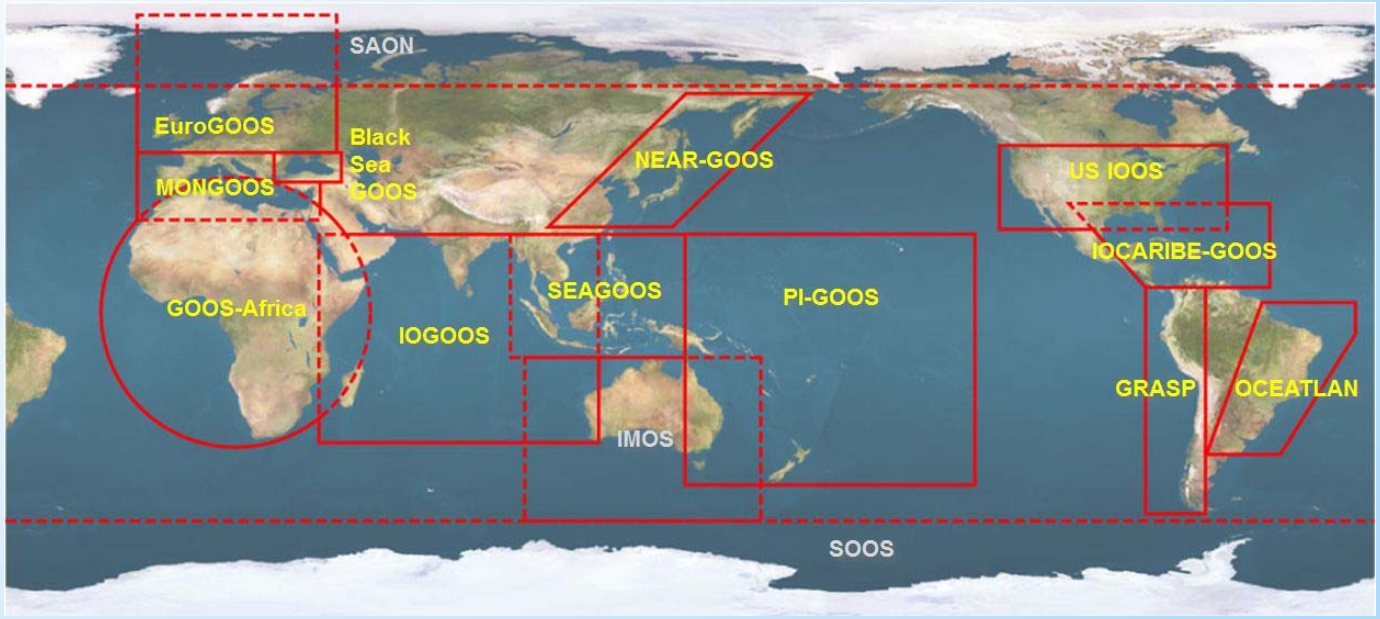
Global Ocean Observing System GOOS



13 GOOS Regional Alliances (GRA)

GOOS establishes a permanent global system for observations, modelling and analysis of marine and ocean variables to support operational ocean services worldwide

GOOS is a platform for:

- International cooperation for sustained observations of the oceans
- Generation of oceanographic products and services
- Interaction between research, operational, and user communities

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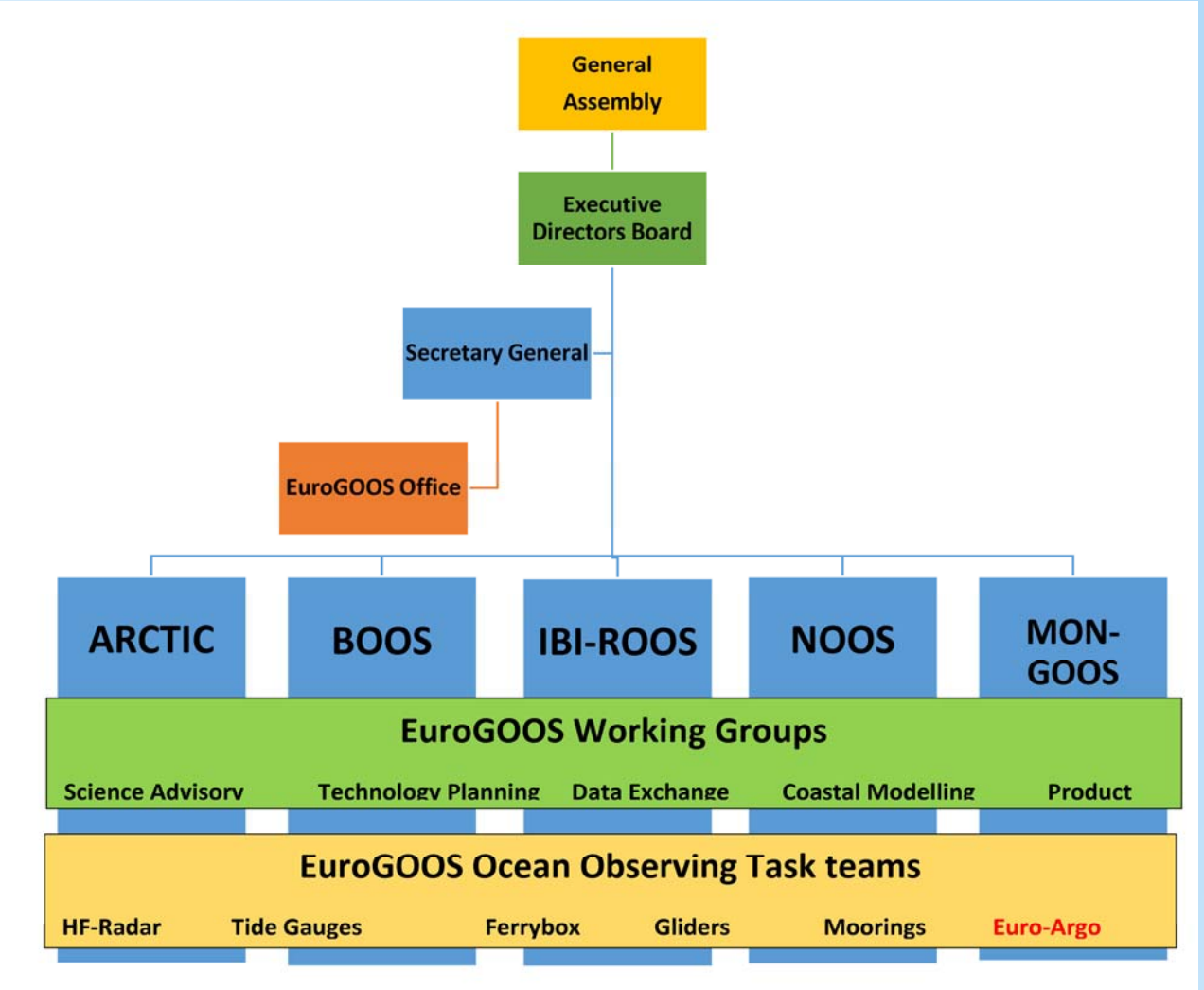
Structure

- ✓ EuroGOOS was based (1994-2012) on an interagency MoU but in 2013 it was transformed to a legal entity: an International Non Profit Association under the Belgian law (AISBL)
- ✓ Strategies and actions are decided by an General Assemby and the Executive Directors
- ✓ Actions are carried out by the EuroGOOS Office, the Board, the Chair and the members/partners.
- ✓ Development of O.O. systems is carried out by the Regional Systems
- ✓ Working groups produce strategies, priorities and standards for O.O.



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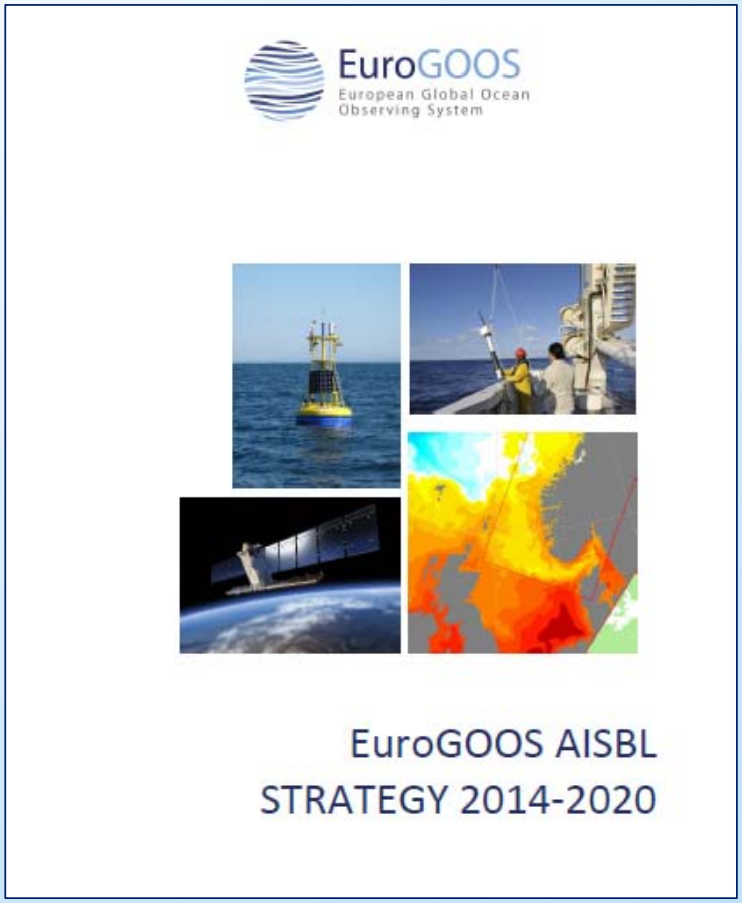
Strategy



- **A EuroGOOS Strategy 2014-2020 was launched autumn 2014**

http://eurogoos.eu/download/reference_documents_/EuroGOOS%20Strategy%202014-2020.pdf

- **Implementation Plan**
- **http://eurogoos.eu/download/reference_documents_/EG14.92%20Implementation%20plan.pdf**

- **Annual work plans**

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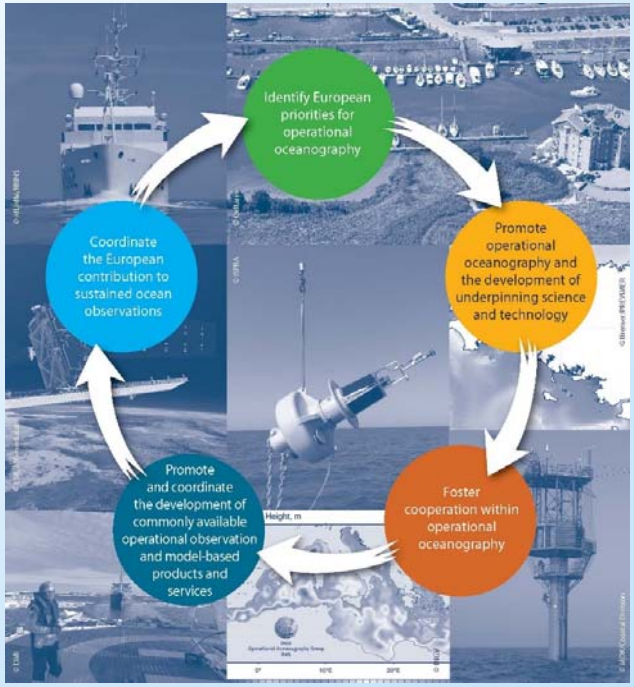
EuroGOOS Objectives and key elements in strategy



- Operational oceanography – strategies and priorities for Europe
- Promotion
- Cooperation
- Co-production
- Sustained ocean observations

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Cross-cutting activities

- Links with research
- Links with Industry
- Links with users
- EU-Policies
- Membership

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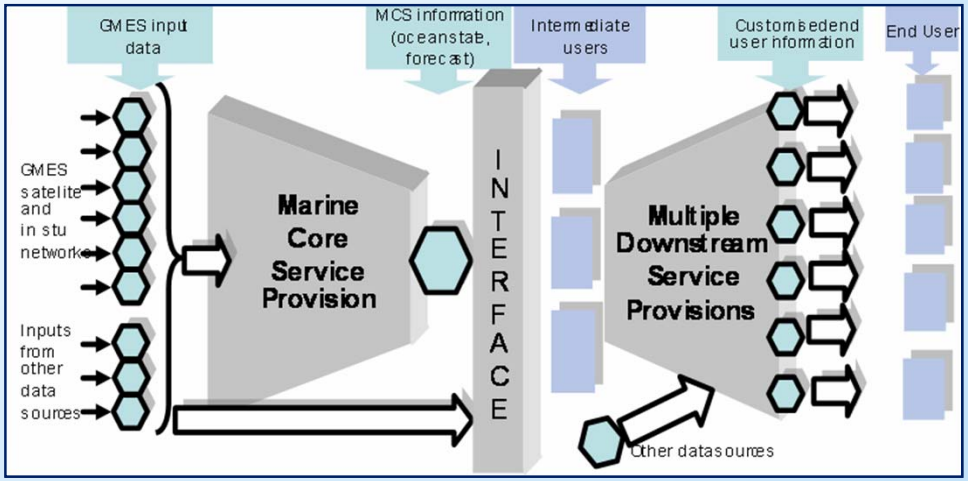
Strategies



- RTD priorities
  - WG and TT input
- Key European initiatives
  - Copernicus
  - EMODnet
  - Marine Research Infrastructures

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Promotion

- Publications
- Networking
  - EU-DG's, EMB, EEA, ICES, EMSA, EUMETSAT,ESA, etc
- EuroGOOS Conferences
- Communication
  - Web
  - Social media
  - Internal communication – monthly news
  - Communication strategy

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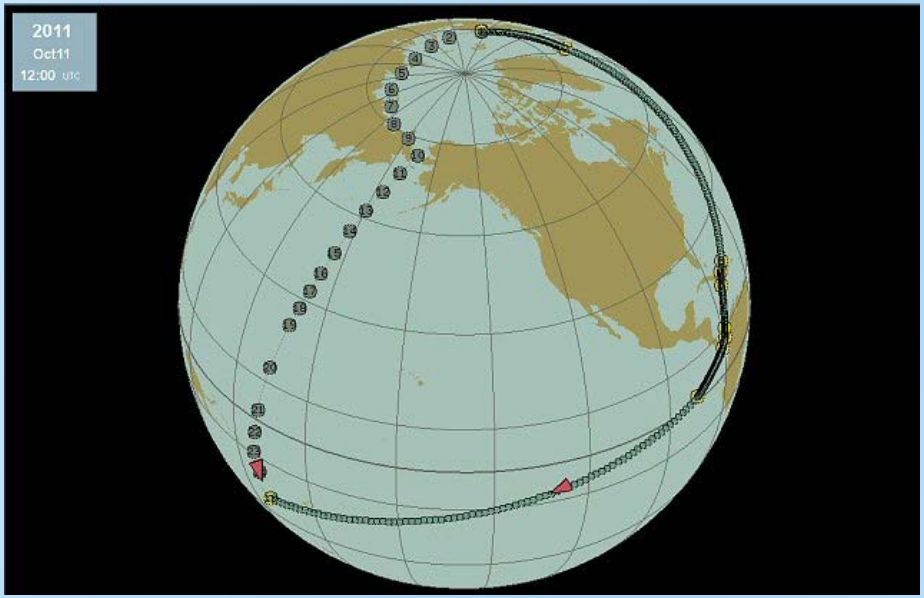
Cooperation

- **Global**
  - IOC-GOOS
    - GOOS Regional allinces
    - Arctic GOOS
  - JCOMM
- **European**
  - National institutes
  - European networks (Argo float, Ferrybox, Sea level,HF-Radars, fixed platforms) -> EuroGOOS task teams
- **Regional**
  - ROOS's



'Polarcus Alima' saved 2600 nm = 9 days

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Sustained Ocean observations

EOOS

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European dimension

The need for such an integrated ocean observing system is particularly important in Europe because of the complexity and density of human activity in European seas and oceans.

This results in a high demand for marine knowledge in the form of data, products and services to support marine and maritime activities.

There is also a critical need for basic and applied marine science to inform society, ocean governance and decision-making, supporting a knowledge-based maritime economy that is sustainable into the future

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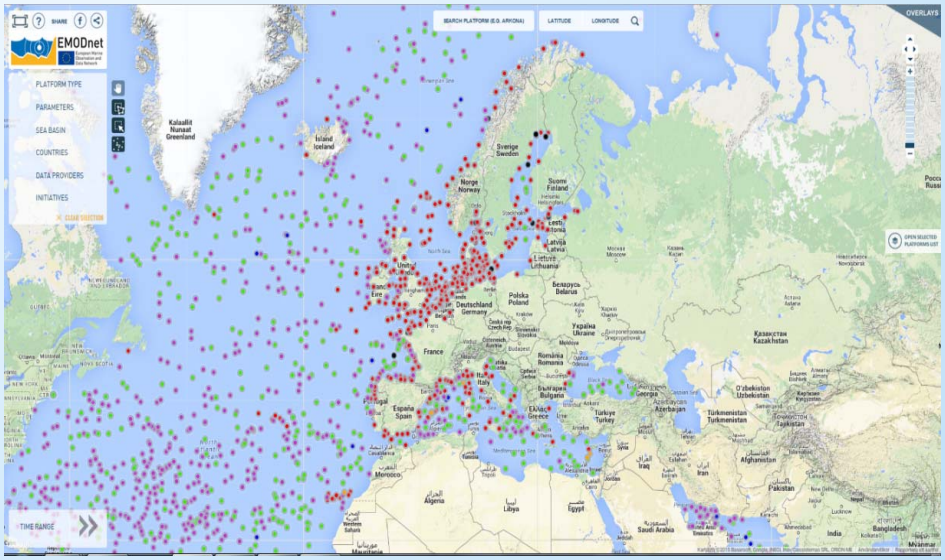
Framework Concepts



- Take lessons learned from successes of existing observing efforts – best practices
- Guide observing community as a whole to sustain and expand the capabilities of the ocean observing system
- Deliver an observing system that is fit-for-purpose
- Promote collaborative alignment of independent groups, communities and networks, building on existing structures as much as possible
- Think and plan on European scale, invest and implement locally/regionally.

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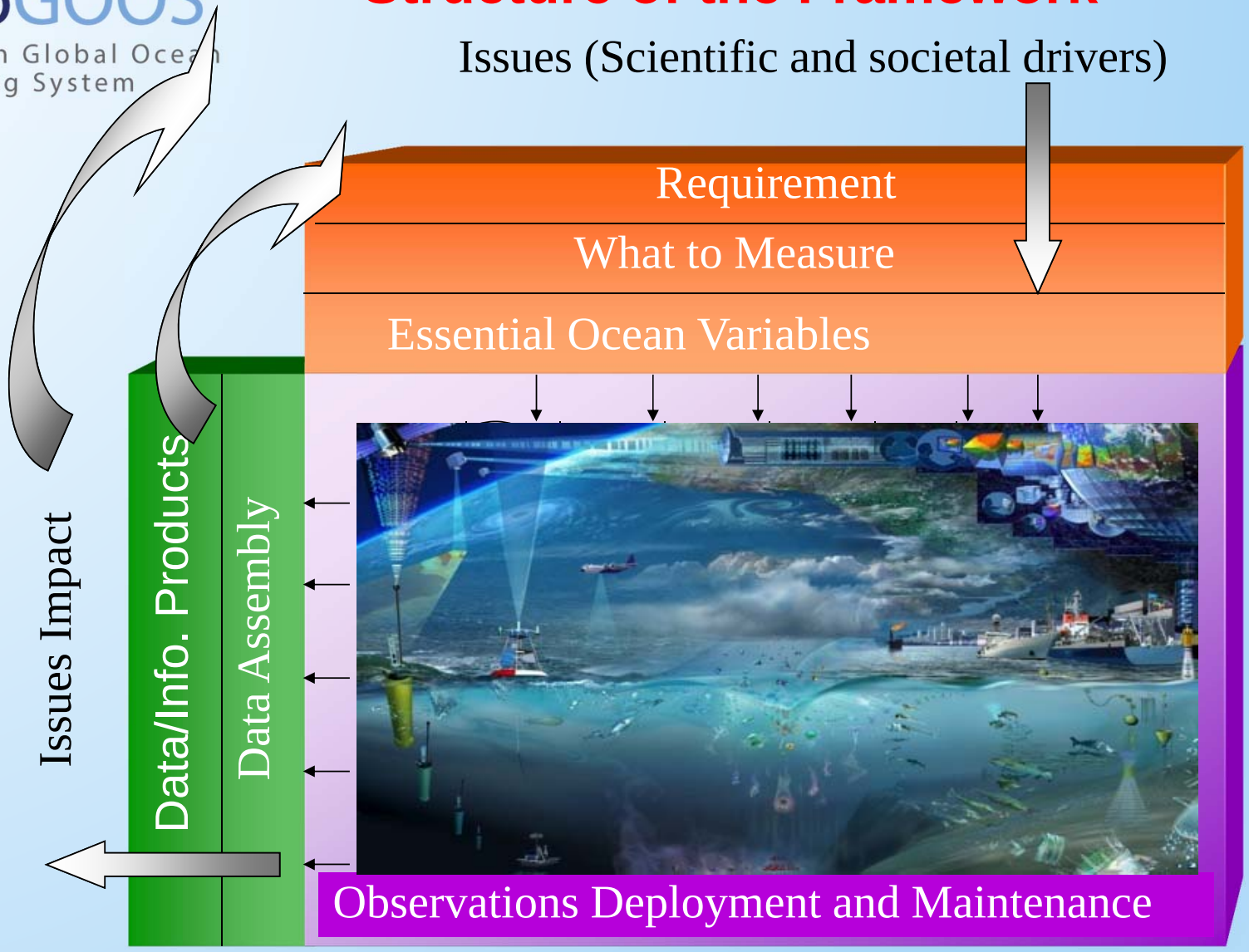
Structure of the Framework



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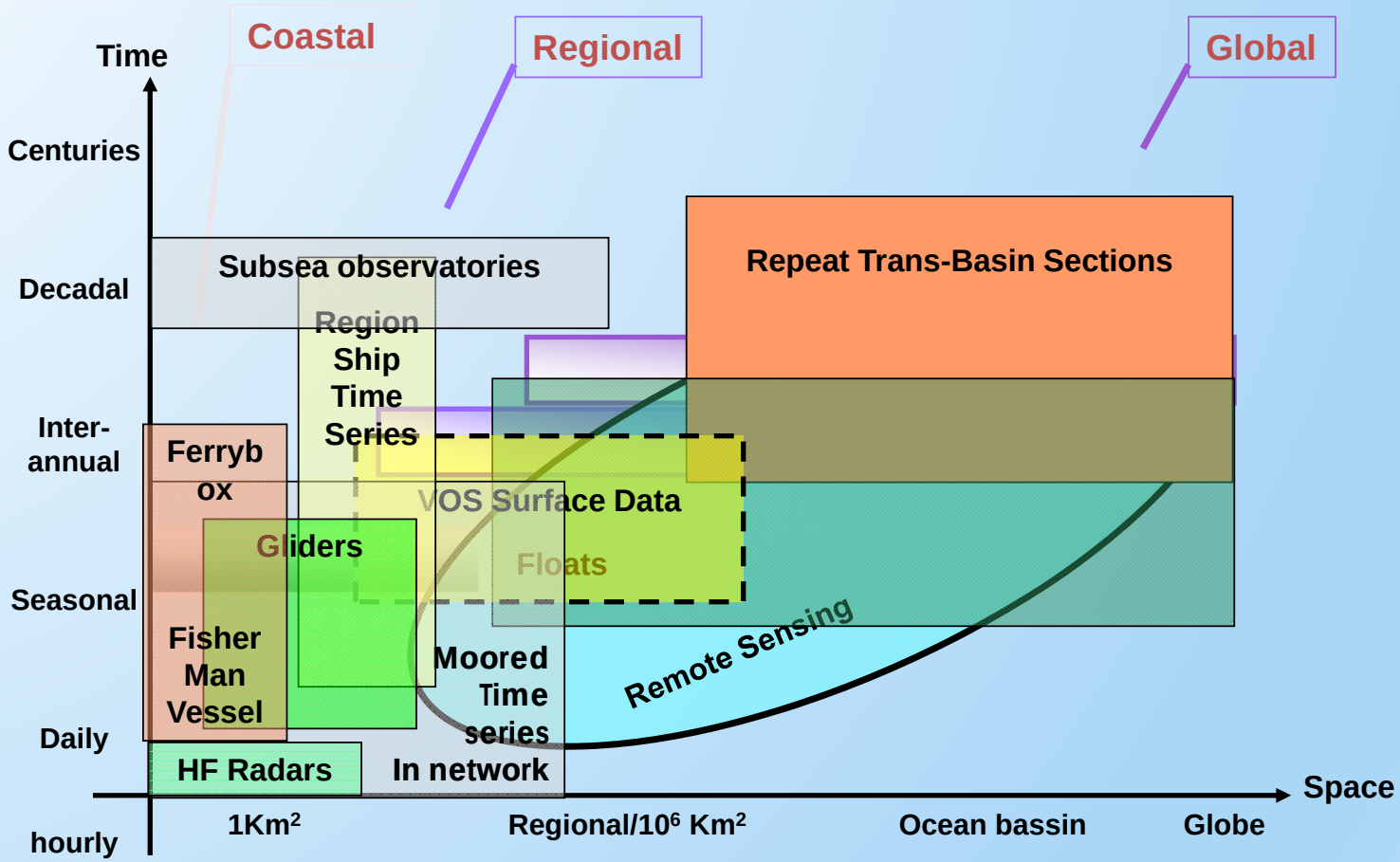
Global to Regional to Coastal



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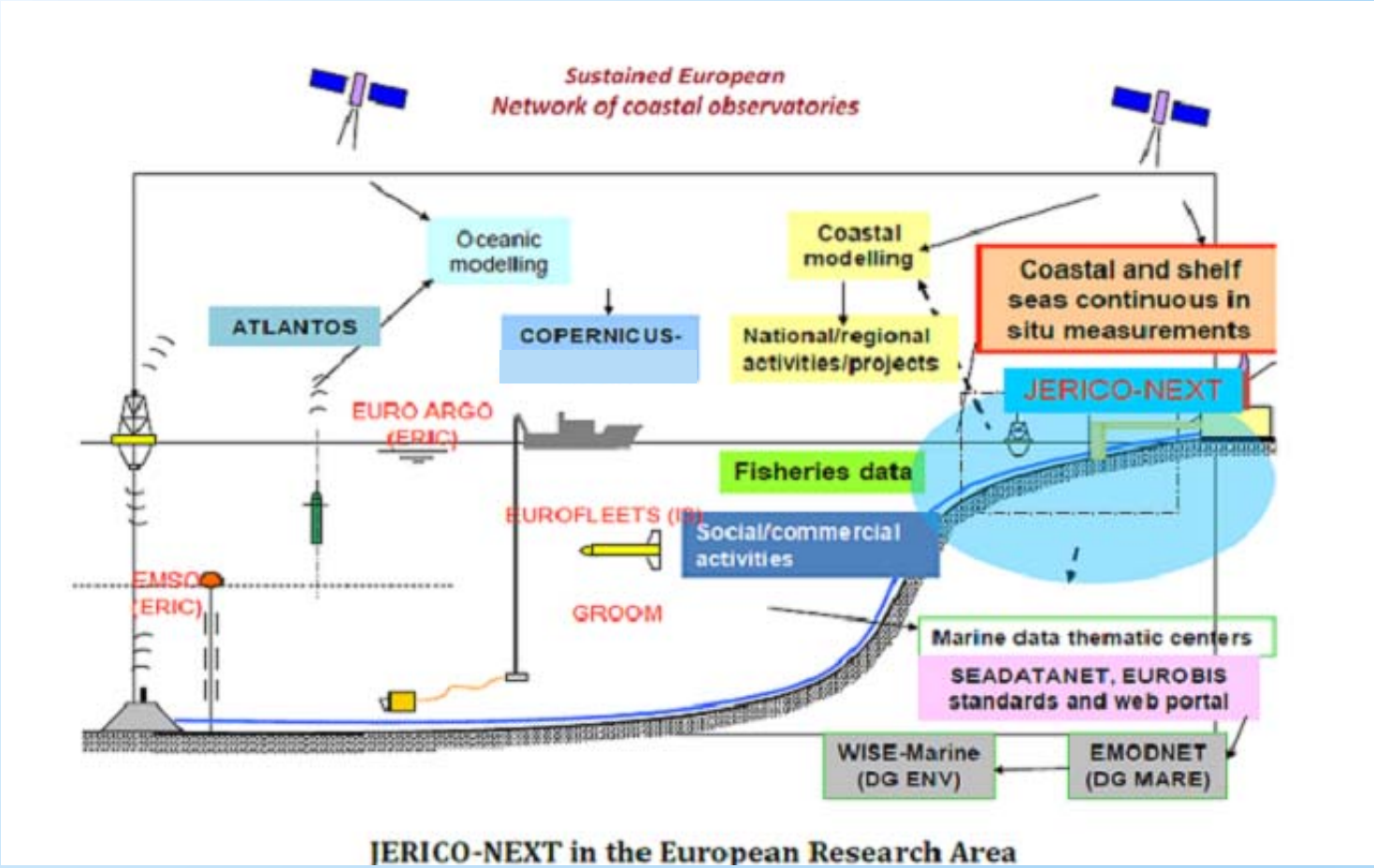

JERICO-NEXT in the European Research Area

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One System
Several purposes

- Improve the safety & efficiency of marine operations
- Improve security in Europe
- Mitigate effects of natural hazards more effectively
- Improve predictions of climate change & their effects
- Minimize public health risks
- Protect & restore healthy coastal marine ecosystems more effectively
- Sustain living marine resources

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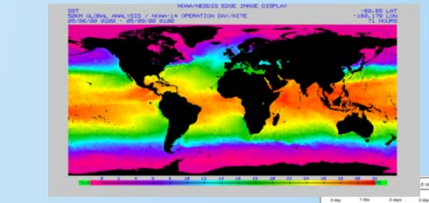
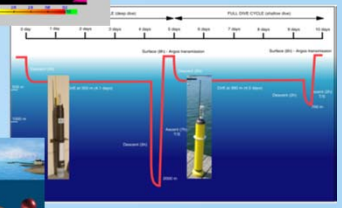
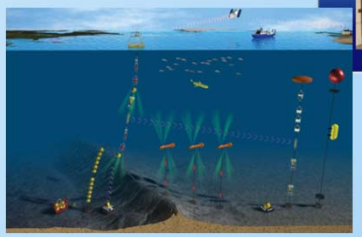
Observing systems are now available (*technology push*)

- ✓Remote sensing
- ✓Drifting-profiling floats
- ✓Fixed observatories (time-series stations)
- ✓Ships of opportunity
- ✓Gliders
- ✓Research vessels
- ✓Coastal networks (tide gauge..)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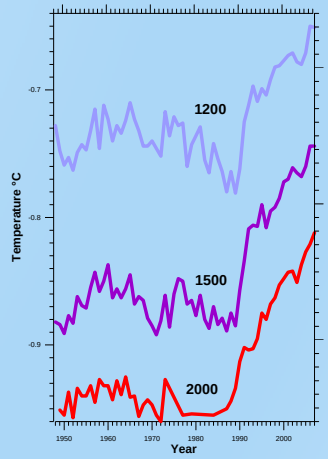
What is missing ? (gaps)

- **Spatial gaps**
  - horizontal – SE European seas;
  - vertical – deep sea is under-sampled;
- **Temporal gaps**
  - few complete time series;



- **Parameter gaps**
  - biochemical; sensors are now available;
- **Long term commitments**
  - more than 70% based on research funding;
- **Integrated monitoring strategy at European level**
  - Reduce overlaps; maximize synergies and benefits

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Design and challenges

- Fit for purpose
  - Societal needs –not national or personal priorities
- Full system – instruments to data services
- Ocean System Simulations experiment (OSSE)
- Economy
  - New investments
  - Re-design of existing network
- Governance
- Avoid duplications

EOOS Brainstorming Workshop

- EMB and EuroGOOS cooperation
- 20 observing experts
- Focus on:
  - Drivers
  - Definition
  - Purpose
  - Roadmap for the coming 2-3 years
- Report soon