#AtlantOS

AtlantOS

Optimizing and Enhancing the Integrated Atlantic Ocean Observing System

Prof. Dr. Martin Visbeck
GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany

GEOMAR
Helmholtz-Zentrum für Ozeanforschung Kiel

AtlantOS

Optimizing and Enhancing the Integrated Atlantic Ocean Observing System

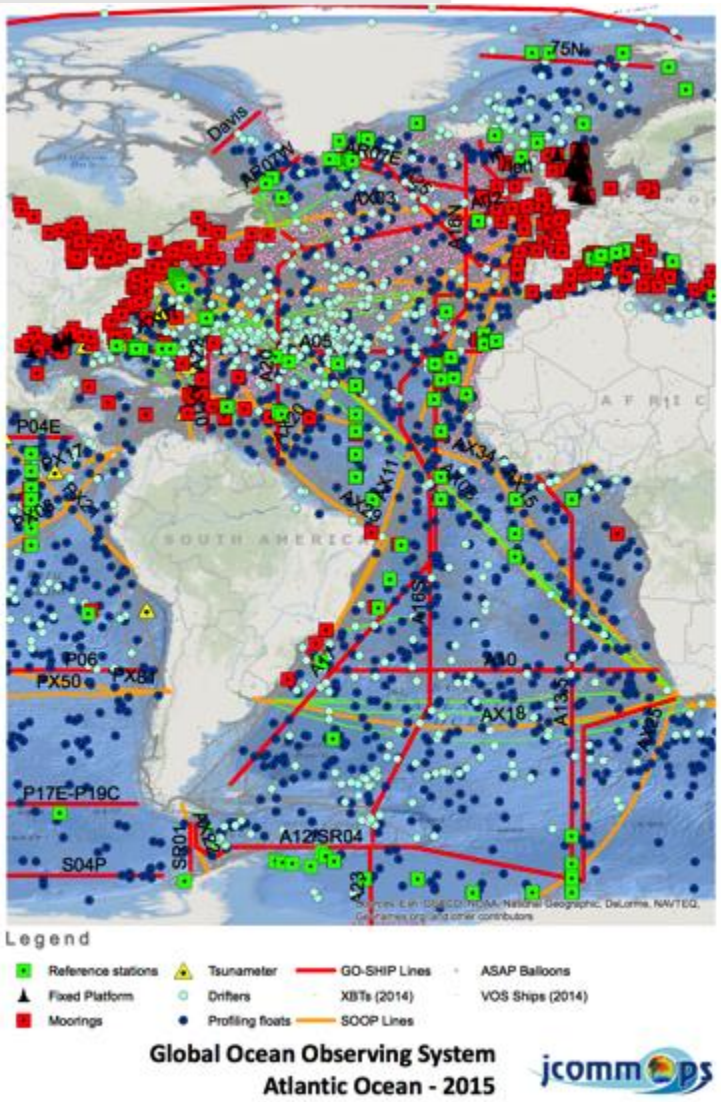
Budget: **21 Mio. Euros in 4 years**
Coordinator: **GEOMAR***; Partner:* **62**

Horizon 2020 call BG-8-2014: *Developing in-situ Atlantic Ocean Observations for a better management and sustainable exploitation of the maritime resources.*

The project: **AtlantOS is a research and innovation project that proposes the integration of ocean observing activates across all disciplines for the Atlantic, considering European as well as non-European partners.**

Goal: **Integration of the so far loosely-coordinated set of existing ocean observing activities to a more sustainable, more efficient, and fit-for-purpose Integrated Atlantic Ocean Observing System.**

www.atlantos-h2020.eu



Optimizing and Enhancing the Integrated Atlantic Ocean Observing System

Challenge:

Integration and Sustainability

Scope:

- **North and South Atlantic**
- **Identify and fill observational gaps**
- **Reduce costs of in-situ ocean observation by innovation, collaboration and integration**
- **Interoperable exchange of data**
- **International partners from both sides of the Atlantic**

EU Marine Research Institutes

Universities

Universität Bremen*

UPMC SORBONNE UNIVERSITÉS

UAlg UNIVERSIDADE DO ALGARVE

UNIVERSITAS BERGENSIS

DTU Danmarks Tekniske Universitet

UNIVERSITY OF EXETER

ALMA MATER STUDIORUM A.D. 1088

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DIPARTIMENTO DI SCIENZE DELL'INFORMAZIONE

SICUT AURORA SCIENTIA LUCET UNIVERSIDADE DOS AÇORES

The UNIVERSITY of PLYMOUTH

Marine Service Provider

Met Office

ECMWF

CLS
COLLECTE LOCALISATION SATELLITES

Mercator Ocean
Ocean Forecasters

Multiinstitutional Organisations

ICES CIEM

KDM
Konsortium Deutsche Meeresforschung

European MARINE BOARD
Advancing Seas & Oceans Science

Intergovernmental Oceanographic Commission

EuroGOOS
European Global Ocean Observing System

Euro Argo

EMODnet
European Marine Observation and Data Network

EUMETNET

International Partners

DALHOUSIE UNIVERSITY
Inspiring Minds

Woods Hole Oceanographic INSTITUTION

NOAA

CSIR
our future through science

MEOPAR

MCTI Ministério da Ciência, Tecnologia e Inovação

Private Sector

bruncin

Information Technology

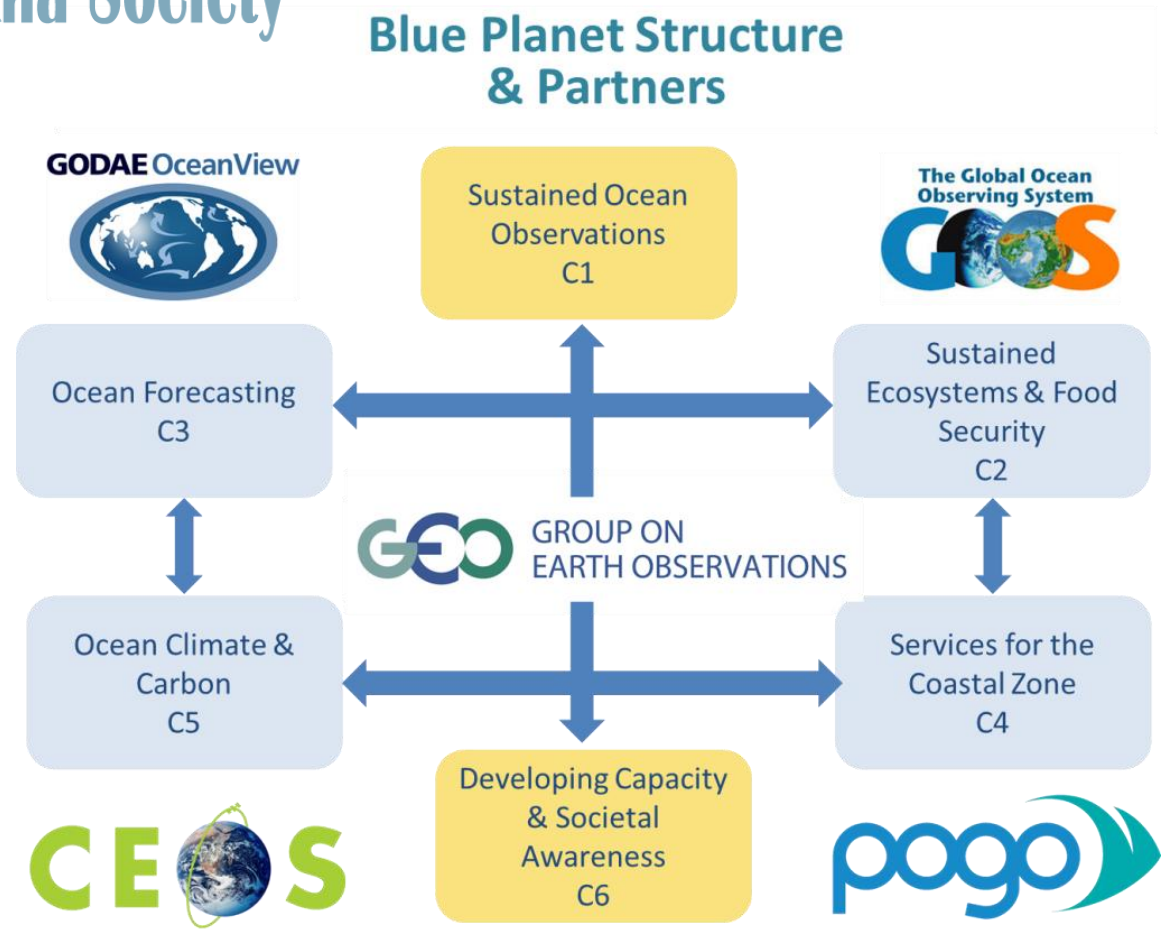
Consulting Development Education

info@bruncin.org

AtlantOS Supporters

Contribution to GEO

BLUE PLANET
Oceans and Society



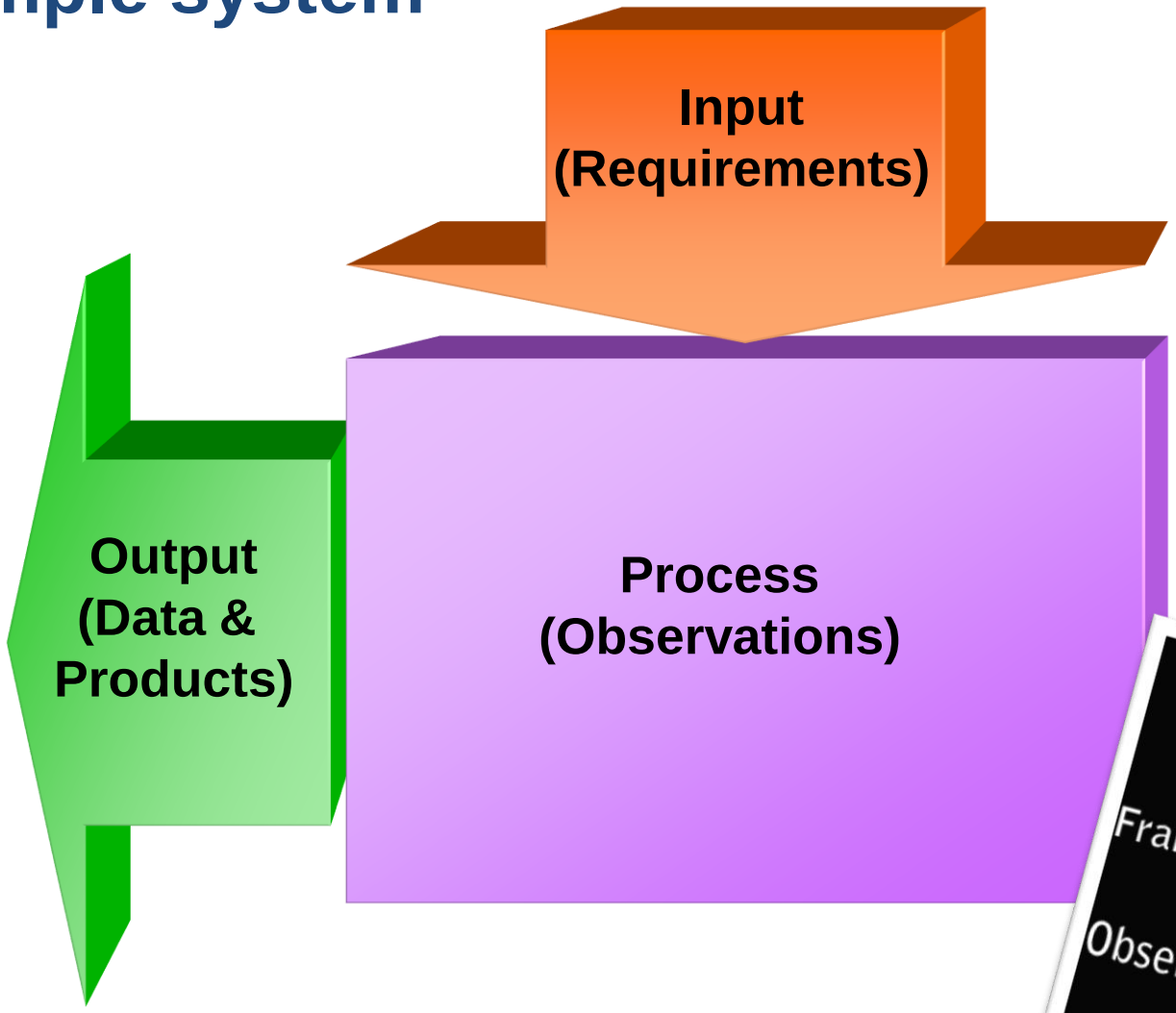
Galway Statement on Atlantic Ocean Cooperation

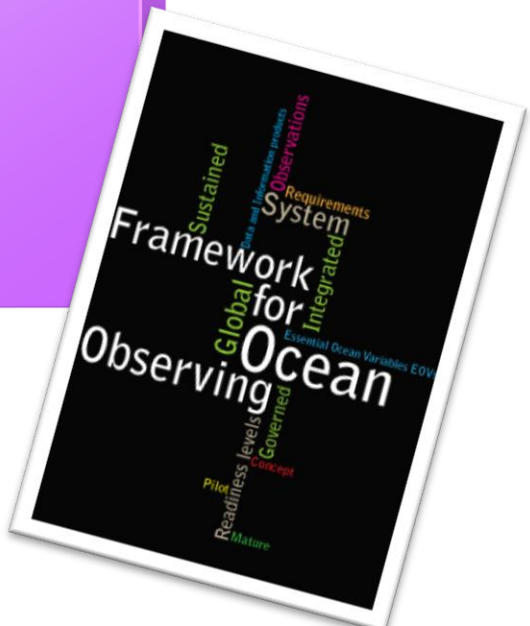
The European Union, the United States and Canada agreed to join forces on Atlantic Ocean research. The agreement focuses on aligning the ocean observation efforts of the three partners.

The goals are to better understand the Atlantic Ocean and to promote the sustainable management of its resources. The work will also study the interplay of the Atlantic Ocean with the Arctic Ocean, particularly with regards to climate change.

Framework for Ocean Observing

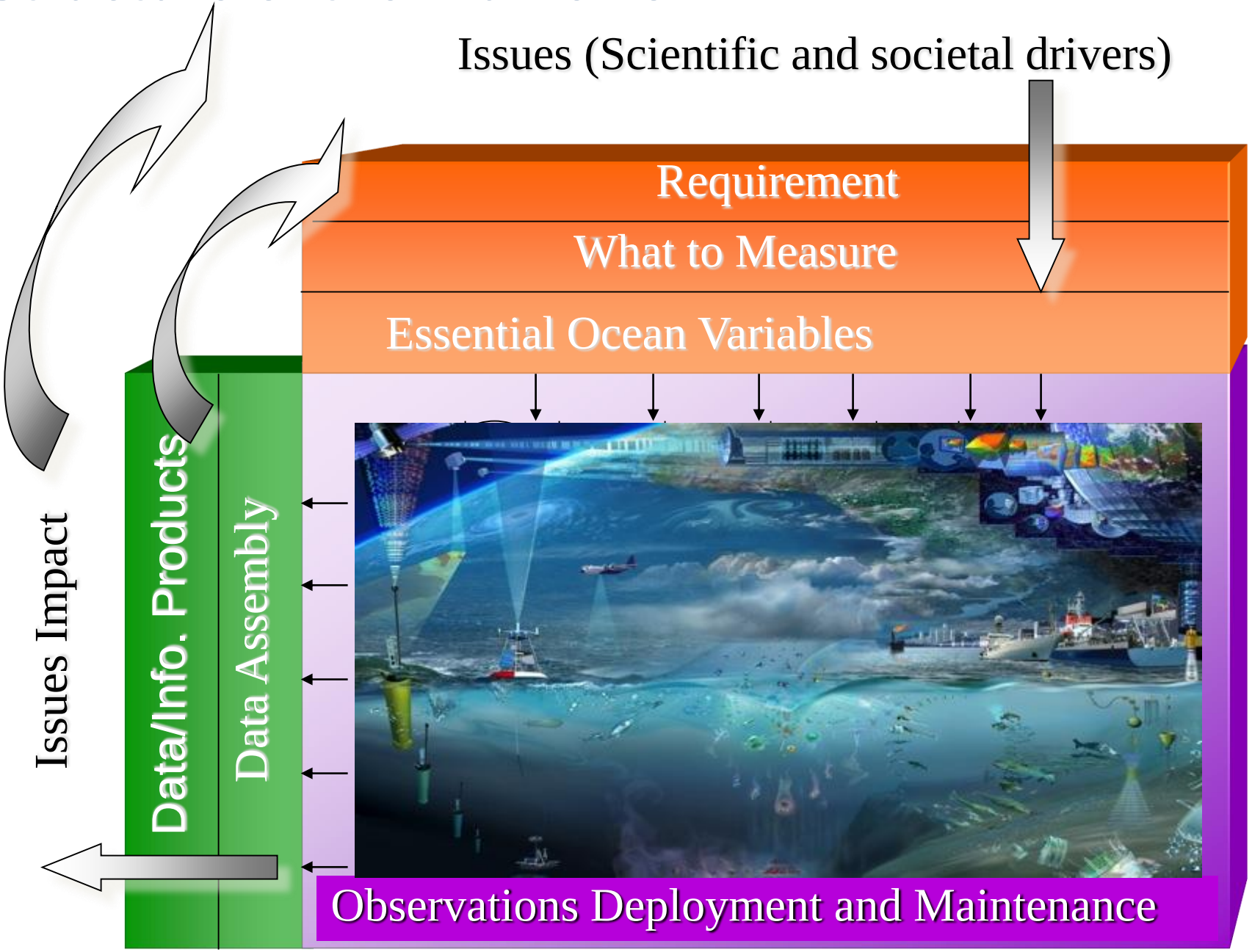
A simple system





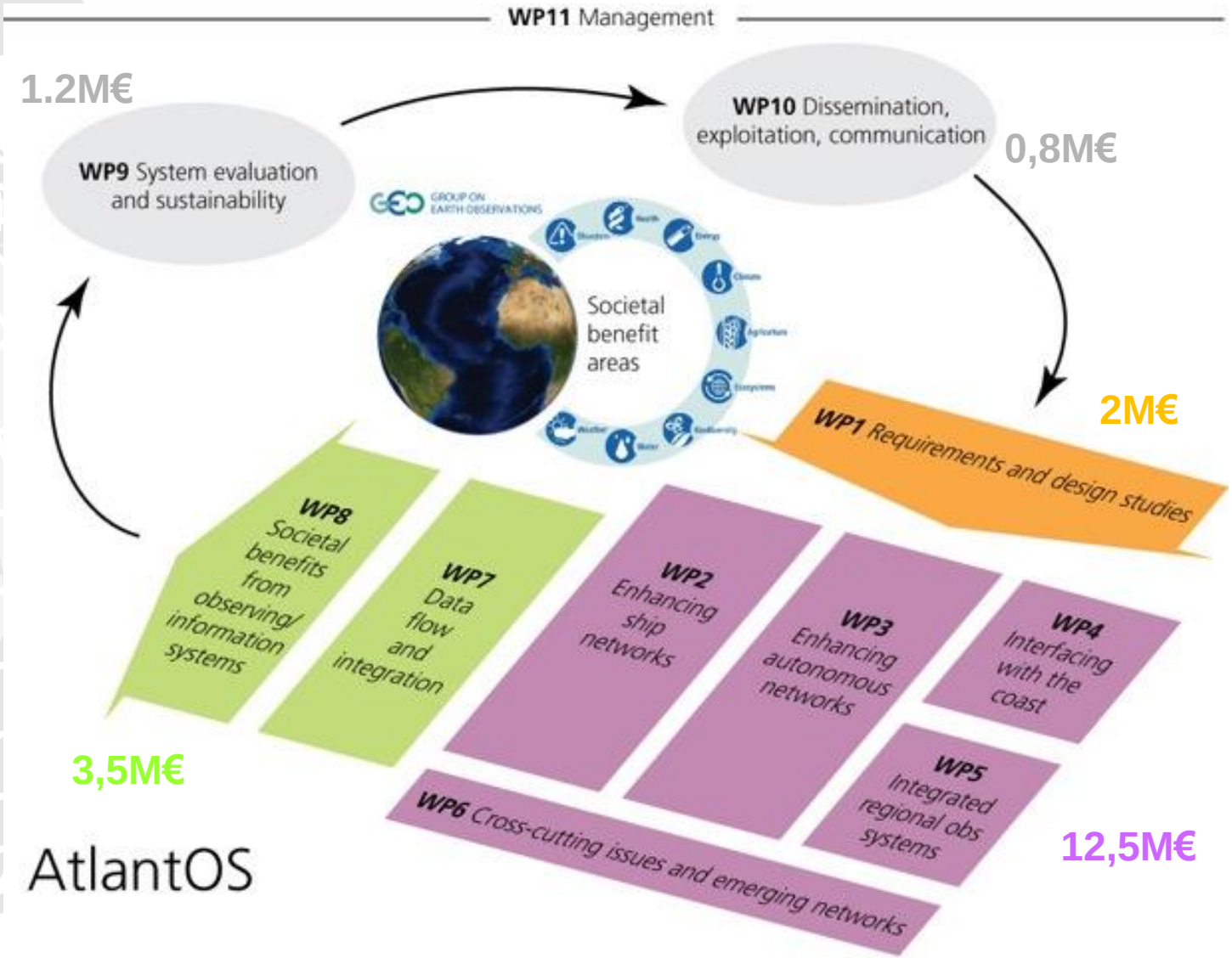
http://www.oceanobs09.net/foo/

Structure of the Framework

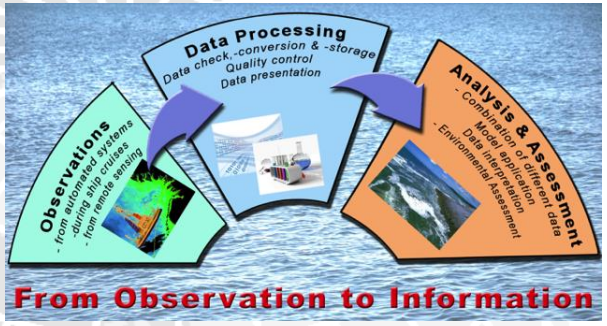


AtlantOS structure
62 Partners, 20.7 M€

Optimizing and Enhancing the Integrated Atlantic Ocean Observing System



WP7: Data flow and data integration



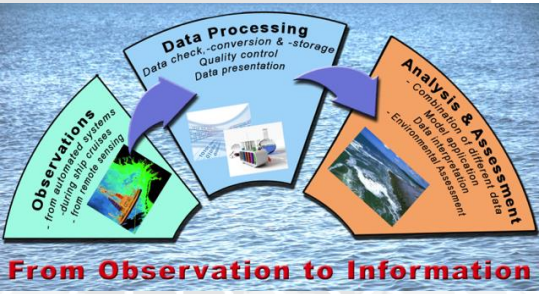
- Task 7.1 Data Harmonization of the data management activities (382,000 €)
- Task 7.2 Data flow and integration to existing systems (818,000 €)
- Task 7.3 Operation demonstration of the integrated data system (200,000 €)
- Task 7.4 Integration in models and impact (Copernicus Marine Service and seasonal prediction) (400,000 €)
- Task 7.5 Product Development (EOV based assessments) (600,000 €)

Mercator Ocean
Ocean Forecasters

opernicus
The European Earth Observation Programme

EMODnet
European Marine Observation and Data Network

WP7: Data flow and data integration – objectives:

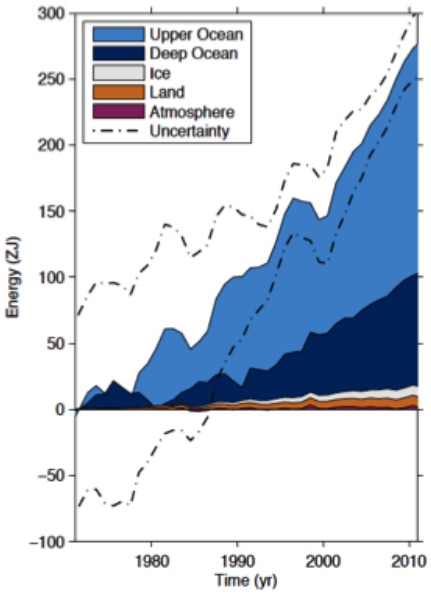


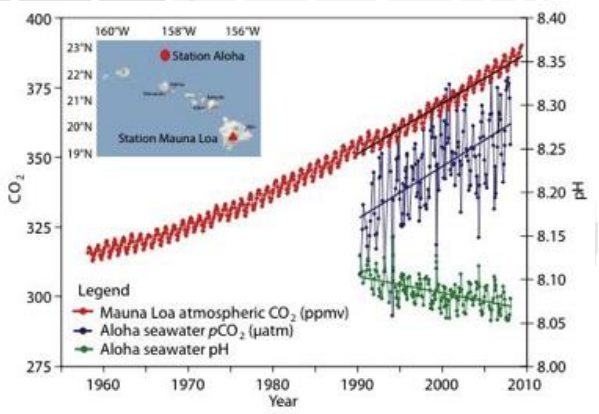
- Provide leadership for Europe in implementing GEOSS - The AtlantOs network data endpoints and related data products will be registered and by that made visible in GEOSS. Interfaces and services set up by WP7 will also **contribute conceptually to the further establishment of the GEOSS Common Infrastructure**
- **Integrate standardised in-situ key marine observations** by setting up an efficient data system integrated in the European existing data infrastructures and similar data infrastructures of other involved countries like in the US and Canada
- Improve modelling outputs and reduce cost of data collection in support of ocean-related industrial and societal activities by **streamlining and harmonising the observation data flows** from acquisition to established European and other involved data infrastructures, and by integration of the acquired data in the operational modelling systems of the Copernicus marine service, giving access to value-added products
- Contribute to make better informed decisions and documented processes within key sectors by facilitating access to AtlantOs in-situ observations and the enhanced products, generated by Copernicus models and **merging in-situ with satellite data for synthesis**.
- Improve the implementation of European maritime and environmental policies by enriching the **Copernicus Marine Service** and **EMODnet** with AtlantOs data sets, and by collaboration with EuroGOOS in coastal areas

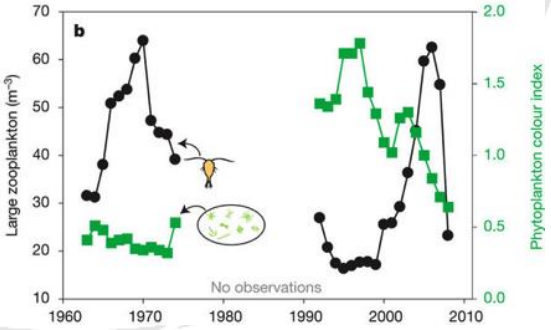
Mercator Ocean
Ocean Forecasters

opernicus
The European Earth Observation Programme

EMODnet
European Marine Observation and Data Network







WP8: Societal benefits from observing/information systems

- Task 8.1 Harmful Algal Blooms (199,375 €)
- Task 8.2 Coastal flooding/storm surges (150,750 €)
- Task 8.3 Ship routing hazard mapping (150,000 €)
- Task 8.4 Oil spill hazard mapping and disaster risk reduction best practices (199,375 €)
- Task 8.5 Offshore aquaculture siting (150,000 €)
- Task 8.6 Reanalyses for MSFD and ICES assessments (59,933 €)
- Task 8.7 Operational real-time and forecast modeling of North Atlantic albacore tuna populations (60,045 €)

#AtlantOS

AtlantOS

AtlantOS contributions to Marine Data:

Promote the use of marine data by developing and enhancing ocean information products in different societal benefit areas

Support integration and innovation of the collection of data by forming networks and establishing best practices

Support the integration, standardization and interoperability of data by connecting EU institutions with global efforts (focus on USA, Canada, S. Atlantic)

Promote the free and open availability and accessibility of data and engage in communication and promotion on data use and work with nation to grow and sustain observing activities.

www.atlantos-h2020.eu

#AtlantOS

AtlantOS

Outcome:
Blueprint to be ready for OceanObs19