

# AtlantOS

## An All-Atlantic Ocean Observing System

– High-level Strategy –

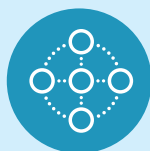
### Vision for AtlantOS

A comprehensive Atlantic Ocean  
Observing System that benefits all of us  
living, working and relying on the ocean

#### Guiding Principles



ENGAGING  
STAKEHOLDERS



COLLABORATIVE AND  
COORDINATED



FLEXIBLE AND  
RESPONSIVE



INTEGRATED AND  
TRANSPARENT



OPEN WITH FREE DATA  
ACCESS

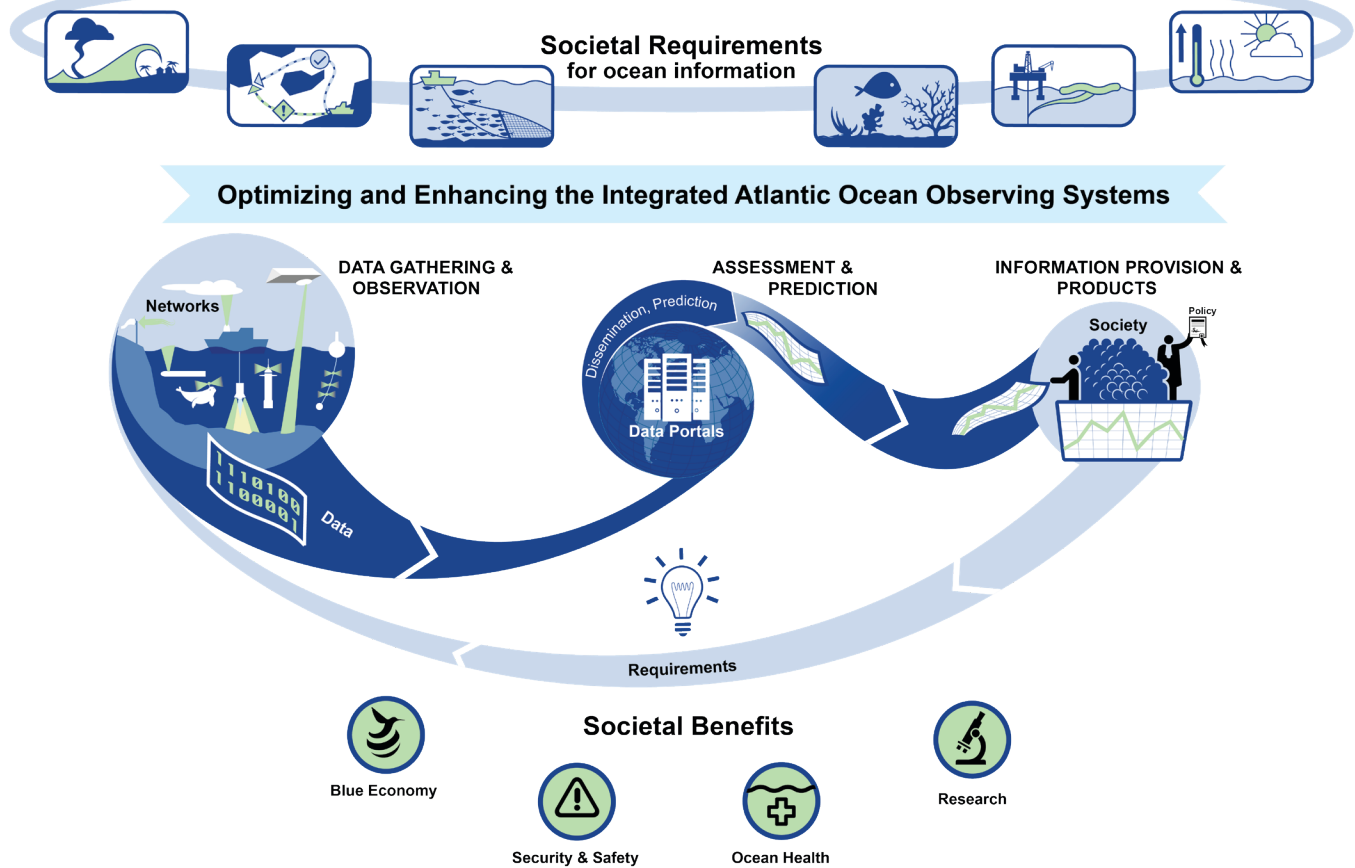


RELIABLY  
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### What does the High-Level AtlantOS Strategy describe?

- An *integrated concept* for a forward-looking framework and basin-scale partnership to establish a sustainable, multi-disciplinary, multi-thematic, efficient, and fit-for-purpose ocean observing system in the Atlantic as a whole
- A system that goes beyond the status quo by providing countries of the Atlantic the opportunity to join and support a basin-scale system. AtlantOS builds on observing platforms, networks, and systems that already exist and operate at various maturity levels
- The contribution to international bodies that coordinate global ocean observing: the Global Ocean Observing System (GOOS) and the Group on Earth Observations (GEO)
- The connection to the Galway Statement on Atlantic Ocean Cooperation, the Belém Statement on Atlantic Research and Innovation Cooperation, and the United Nation's Decade of Ocean Science for Sustainable Development (2021 - 2030)

# AtlantOS



## How will AtlantOS generate value?

- AtlantOS will ensure that we *share information widely*, encouraging multiple uses of data, opening data to many uses and providing us with the greatest value
- AtlantOS will help us to save time, money, and energy by *working together*
- AtlantOS will *coordinate* the implementation of observing systems and the collection of ocean data in the Atlantic Ocean
- AtlantOS will *support research, industry, and the public* – from the national to the international scale
- AtlantOS will help *keep us safe* as we use the oceans, and inform us about ocean environmental status

## How will AtlantOS realize its vision?

- Enable a *coordinated basin-scale* system by connecting existing networks and systems that operate in the Atlantic Ocean
- *Fostering cooperation and building trust* – through exchanges of knowledge and sharing of infrastructure
- Promote a *system that is sustainable*, offering the best value for investment.
- Developing an *implementation plan* for AtlantOS that prioritizes:
  1. Decisive actions to advance and sustain ocean observing systems in all regions of the Atlantic Ocean
  2. Integration of ecological, biological and seafloor observations with the physical and biochemical systems
  3. Connection of Atlantic ocean observations with ocean observations in adjacent seas and ocean basins

# SEAPOODYM: An Albacore Tuna monitoring system

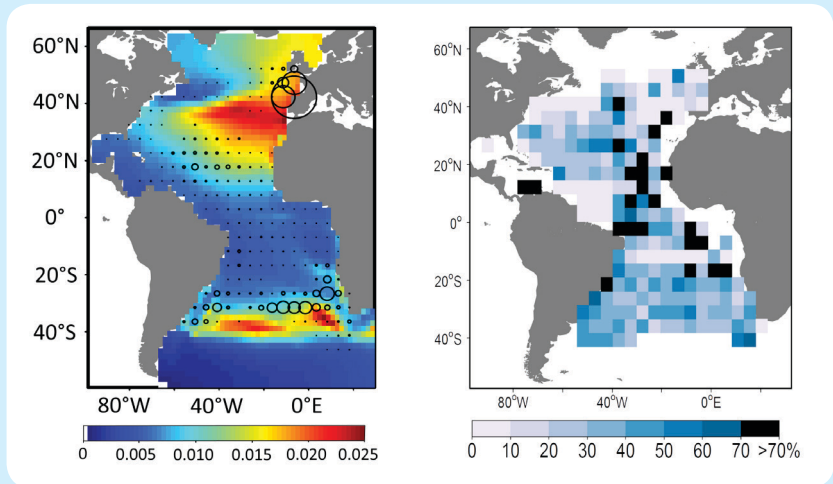
This pilot program is an example of the added value of a basin-scale observing system.

The SEAPOODYM operational forecast system adds value through:

- Increased knowledge about changes in catch rates due to environmental variability (changes in abundance over time and space of a target fish species by age class from larvae to oldest adults)
- Distinction between fishing impact and natural variability of fish stocks
- Improved real-time monitoring of fishing activity and stock assessment analyses

- Research sampling design, collection of fishing statistics, and identifying potential critical areas for control (e.g. due to illegal, unregulated and unreported fishing activities)
- Once the model has been calibrated using historical data, the SEAPOODYM operational forecast system

relies on ocean products, assimilating in situ (e.g. Argo floats and moorings) and satellite (e.g. SST, altimetry, ocean colour) data. It will soon be part of the COPERNICUS Marine Environment Monitoring Service (CMEMS) catalogue



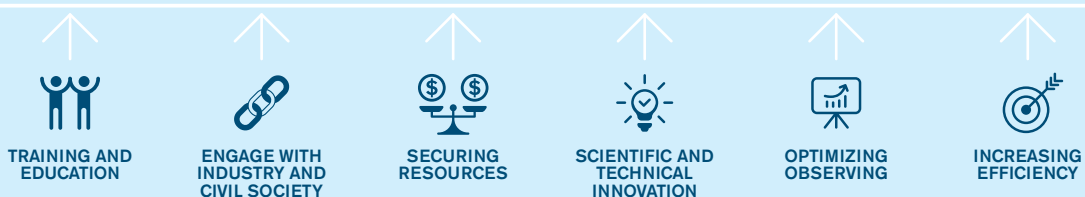
The SEAPOODYM (Spatial Ecosystem And Population Dynamics Model) operational system supports near real-time prediction of the albacore tuna stock in the Atlantic Ocean.

*Left:* Density of adult fish (t/km²) and observed catch (circles) in July.

*Right:* Error in predicted total catch.



GLOBAL RESPONSIBILITY AND OWNERSHIP ATTRACTS MEMBERS AND NEW PARTNERS  
SUSTAINABLE INFRASTRUCTURE GETS BACK MORE THAN THEY PUT IN  
CREATES A ROBUST LANDSCAPE  
GROWING OBSERVING CAPACITY OPEN DATA  
COST SAVINGS BUILDS TRUST PARTNERSHIPS BETWEEN COUNTRIES



Capacity building will take many different forms and will make a contribution to AtlantOS.

# Where are we now? Where are we heading?

- We are engaged in ocean observing but could do more to coordinate activities sustainably
- We share ocean data, provide fair and equitable access to ocean information, network on ocean observing data infrastructures, and engage in capacity building for ocean observing and data and information use
- We promote the engagement of contributors to ocean observing from science, social science, engineering, civil society, private sectors and across all levels of technical and financial abilities

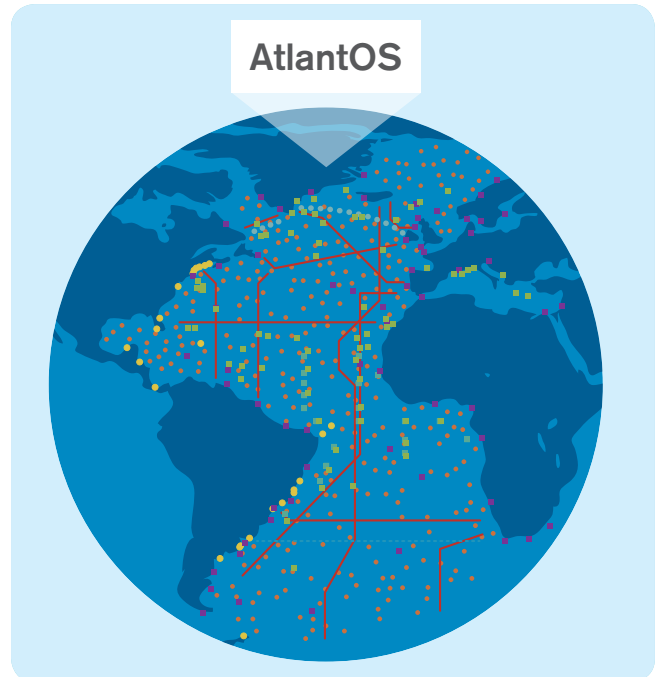
By 2030 we foresee that AtlantOS will have the following attributes:

- User needs are met – by keeping connected with users and understanding their evolving requirements
- AtlantOS is the All-Atlantic part of the Global Ocean Observing System
- A fully functioning governance framework is in place that provides a forum for coordination, resource mobilization, review and decision making
- Long-term sustainability has been achieved through national and stakeholder commitments with a goal of reaching 75% of sustained resources, in line with present meteorological observational support

Find out more about AtlantOS  
– An All-Atlantic Ocean Observing System –  
at [atlantos-ocean.org](http://atlantos-ocean.org).

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Covering the Atlantic basin and interface with the Arctic, Southern Ocean, and marginal seas.

## What information products will AtlantOS provide?

- Quantifying Atlantic climate and ocean change
- Biodiversity and ecosystem assessment
- Coastal disaster risk reduction
- Ocean system science improvement
- Blue Economy and food security potential
- Safety at Sea



The BluePrint process for an All-Atlantic Ocean Observing System has received funding and support from the European Union's Horizon 2020 research and innovation programme project AtlantOS (grant agreement No. 633211).



**BUILDING AN ALL ATLANTIC OCEAN COMMUNITY**  
Implementing the Belém Statement

**AORA**  
ATLANTIC OCEAN RESEARCH ALLIANCE  
THE ATLANTIC, OUR SHARED RESOURCE  
MAKING THE VISION REALITY

**BLUE PLANET**  
Oceans and Society  
a  Initiative

**GOOS**  
The Global Ocean Observing System

**AtlantOS**

The content of this brochure based on the 'BluePrint Vision for an Integrated Atlantic Ocean Observing System in 2030' to be considered for publication in *Frontiers in Marine Science*, section Ocean Observation.