



COASTNET

COASTAL MONITORING NETWORK

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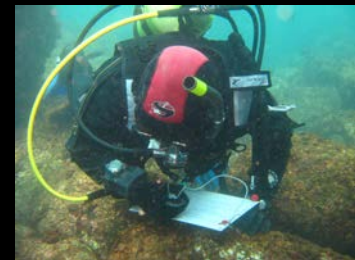
COASTNET
COASTAL MONITORING NETWORK

Included in the National Roadmap of Strategic Interest Research Infrastructures (RNIE) in the Environmental Sciences panel.

CoastNet is a research infrastructure on the functioning of coastal ecosystems

Main Goals:

- Obtain remote and local observations of the Portuguese coast;
- Integrate and permit visualization of obtained data;
- Allow free access to near real-time (and historical) data.



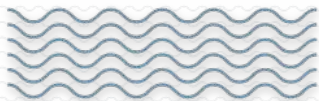


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COASTAL MONITORING NETWORK

Connecting people and environment

Data Integration
and Open Access



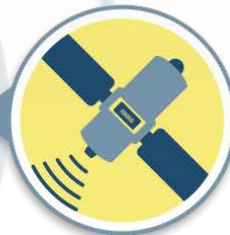
CoastNet is structured in 4 action lines

Integrate and process the data collected remotely, making this information available to the scientific community and general society



ENVIRONMENTAL SENSORS

GEOPORTAL



SATELLITE

Environmental and Biological Monitoring System:

A probe and sensor system to measure environmental variables

Coastal Remote Sensing Center:
A satellite data processing center



ANIMAL TRACKING

Portuguese Tracking Network:
A system of acoustic telemetry receiver detection lines

www.coastnet.pt • coastnet@mare-centre.pt



COASTAL REMOTE SENSING SYSTEM

1.

Coastal
Remote
Sensing
System

- Satellite data processing center;
- Aims to provide sea-surface temperature (SST), chlorophyll a and other non-standard ocean color derived regional products, based on data obtained from NASA and ESA, and processed at MARE.



Near Real Time/ Time series:

- Bioptical Properties
- Ocean Colour
- Sea Level
- Sea Surface Temperature
- Surface Velocity
- Wind Speed
- Wind Stress

Images are available in the Geoportal
which works as a server for
distributing



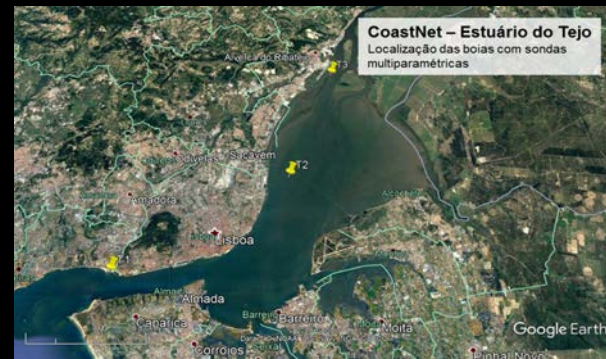
THE REGIONAL PRODUCTS

ENVIRONMENTAL AND BIOLOGICAL MONITORING SYSTEM

2.

Environmental and Biological Monitoring System

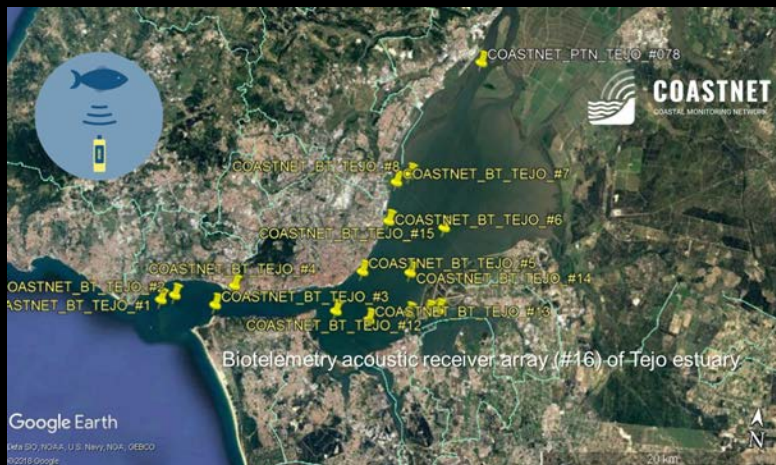
- Real-time measurements of environmental and biological variables;
- Salinity, temperature, dissolved oxygen, chlorophyll a;
- 3 estuaries (for now);
- Include the estuarine gradient.



THE PORTUGUESE TRACKING NETWORK

3. The Portuguese Tracking Network

- Consisting of acoustic telemetry receiver detection lines;
- Strategic locations in the coastal zone and river basins;
- Detection of marked animals;
- Track species movements and migrations.





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COASTAL MONITORING NETWORK

GEOPORTAL

4.

Web-based
CoastNet
Platform

- **Integrates and processes the data collected remotely (and historical data), making this information available to different stakeholders;**
- **Availability and presentation of data in web-based platform.**



- Satellite products;
- Products from environmental and ecological monitoring system in real-time;
- Products from measurements and integrated field surveys of environmental and biological variables;
- Products from coastal tracking network;
- Historical data products.



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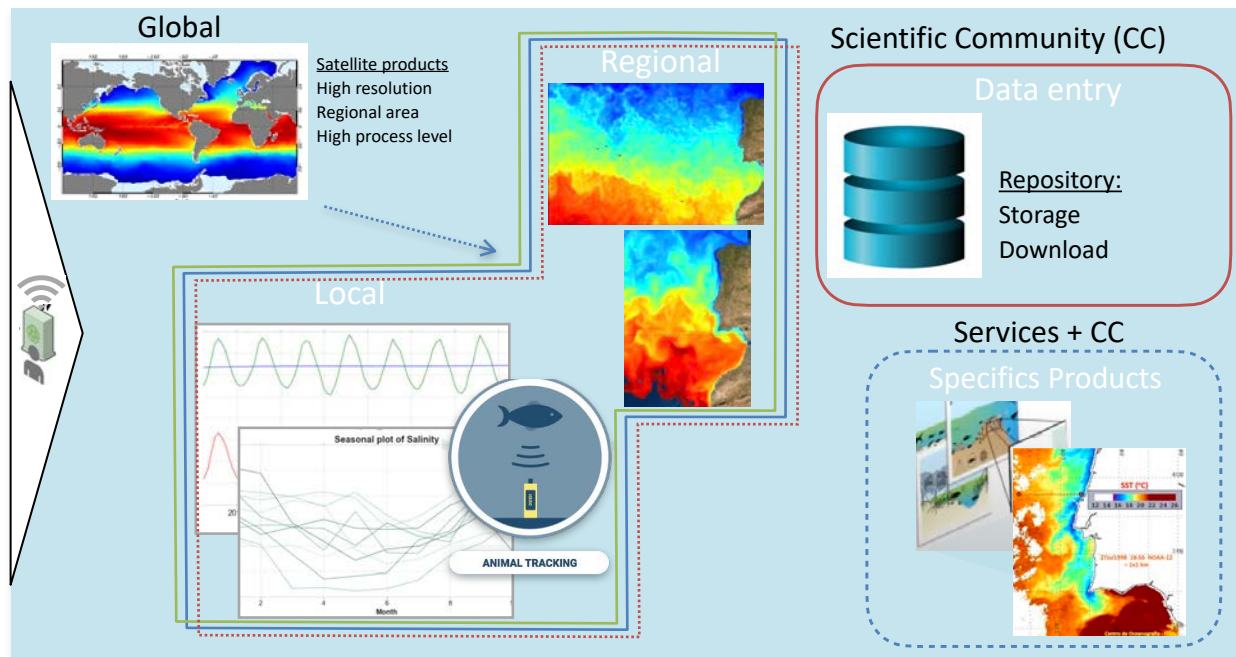


Coastal Monitoring Network CoastNet

CoastNet - GEOPORTAL

VIEW:

Visualization and repository
of data in real time



GEOPORTAL

Platform with a dynamic structure that allows the incorporation of **new data sets**, for their processing, storage and visualization.



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GEOPORTAL WORKFLOW



DATA SOURCES



Biological Group	Estuary	Year(s)	Project(s)
Fishes	Osoyo	2001, 2006	ERIC, Nurseries
	Guadiana	2006, 2009	Nurseries, Fishnet
	Lagoa de Ovar	1999	Ovarios
	Minho	2006, 2012/13	Nurseries, 3M-Recital
	Mira	1986, 1991/92, 2006, 2009, 2012/13	n.g. Nurseries, Fishnet, 3M-Recital
	Mundago	2000/01, 2006, 2009/11, 2012/13	n.g. Nurseries, Recreational, 3M-Recital
	Ria Aveiro	2006, 2009	Nurseries, Fishnet
	Ria Formosa	2006	Nurseries
	Sado	1994, 2001, 2006, 2009	n.g. MC, Nurseries, Fishnet
	Tagus	1979, 1994, 1995, 2001, 2006, 2009	n.g. ERIC, Nurseries, Fishnet
Invertebrates	Osoyo	2002, 2006	ERIC, Nurseries
	Guadiana	2006, 2009	Nurseries, Fishnet

NRT

-Near Real Time-
(ftp/satellite)

Time Series
(80'-present)

Visualization

- Maps
- Plots
- Transects
- Animations

Download

- Statistical analysis
- Space-time selection
- Repository
- Metadata

Calculation

- Mean
- Median
- Standard deviation
- Percentil 10,90

Live storage
(Data integration)

Specifics products

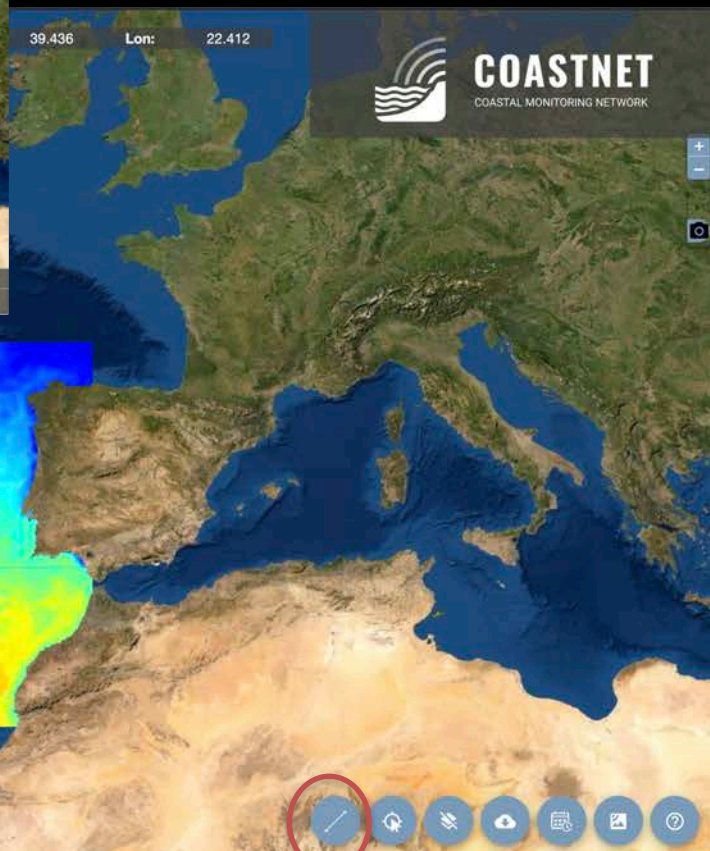
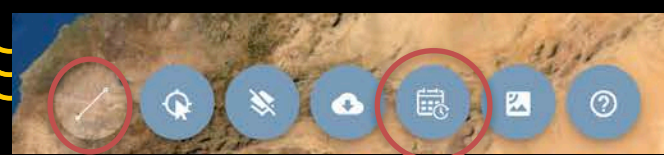
1. Real-time access

3. Online/statistical analysis

4. Dynamic data platform, layers
of offering services

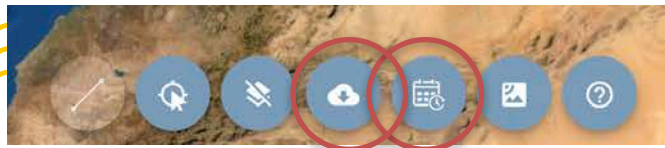
2. Data storage/repository
capacity

Services: Scientific community + Stakeholders





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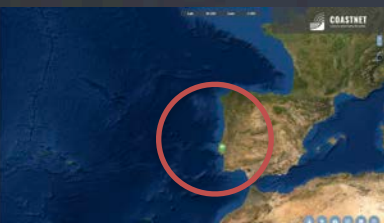
Tejo - Buoy 2 - Salinity

Satellite In-situ Sensor Biotelemetry

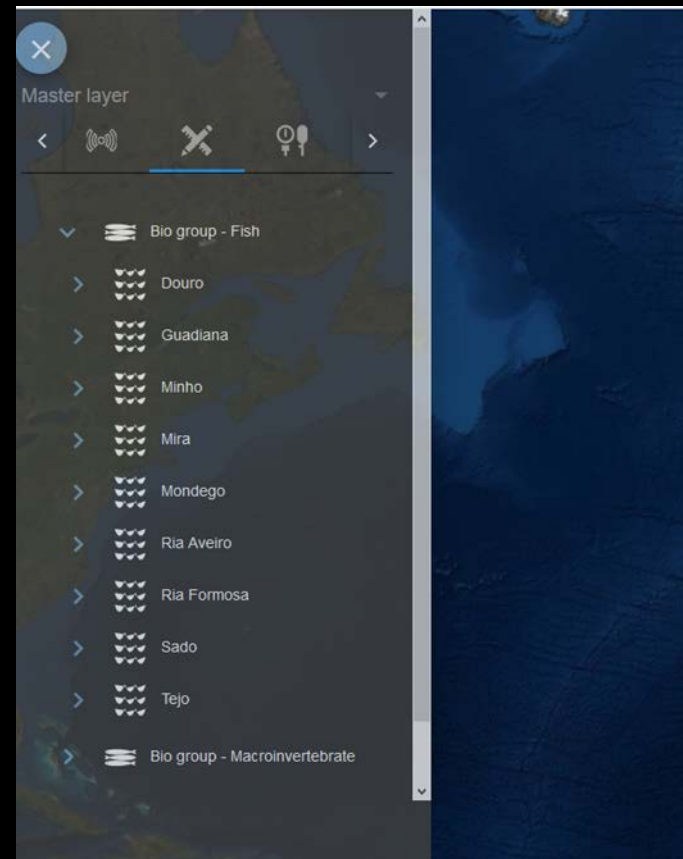
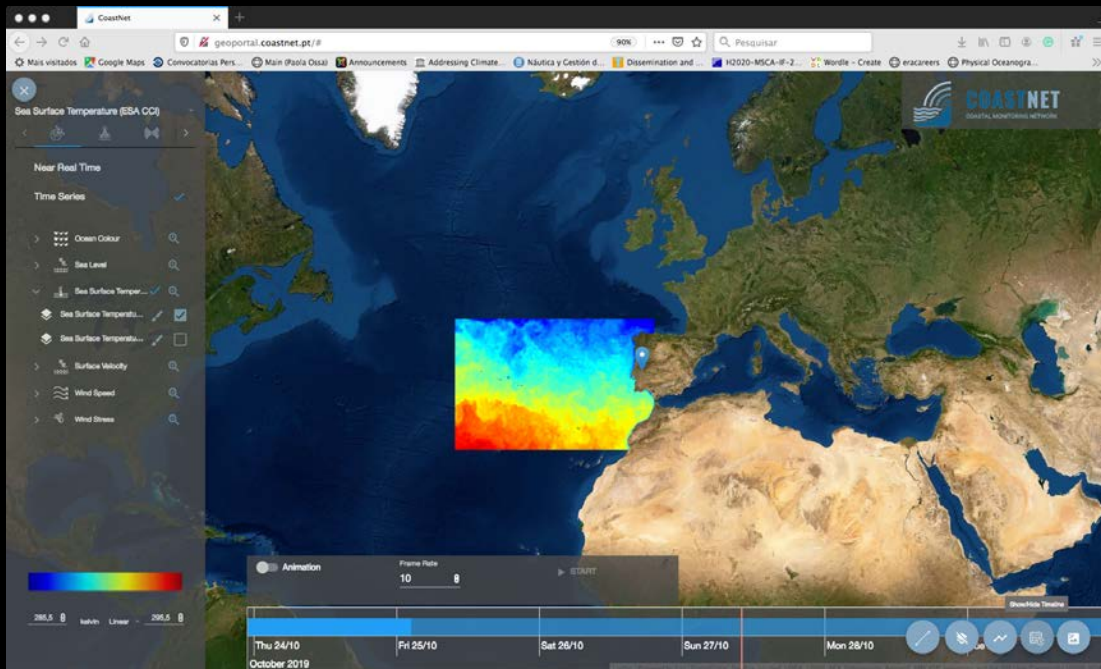
Near Real Time

Time Series

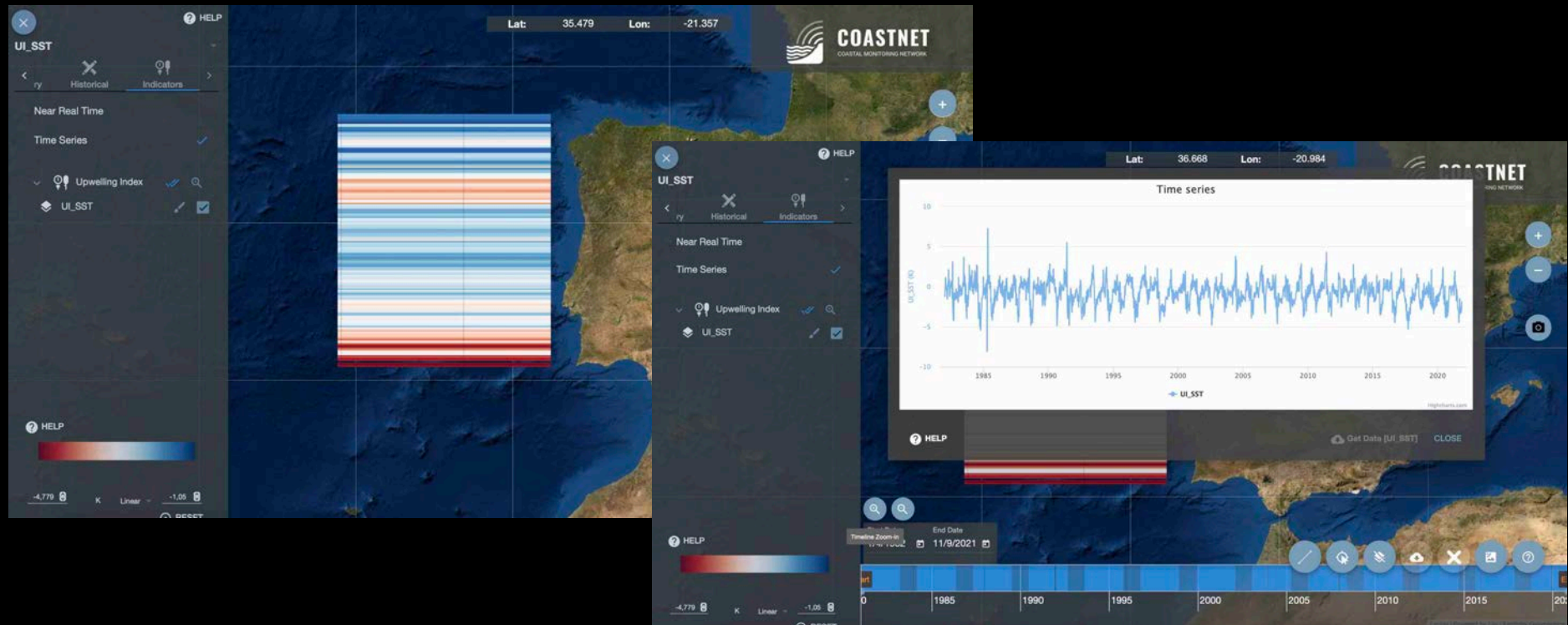
- Mondego
- Tejo
- Buoy 1
- Buoy 2
- pH
- Temperature
- Salinity
- Dissolved oxygen
- Chlorophyll
- Buoy 3



Geoportal - Historical data



Geoportal - Upwelling Index





ASSOCIATIONS

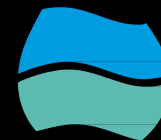
Portuguese representative of the European infrastructure **European Tracking Network (ETN)**.



Portuguese member of the European infrastructure **International Centre for Advanced Studies on River-Sea Systems (DANUBIUS)**.

DANUBIUS-RI

making River-Sea Systems work



Forms part of the **United Nations Decade of Ocean Science** for Sustainable Development 2021-2030.



2021
2030

United Nations Decade
of Ocean Science
for Sustainable Development



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Thank you!

