

**Interreg**  
Mediterranean



EUROPEAN UNION



**SHAREMED**

## SHAREMED

### First Capitalisation Workshop

*Designing the future system of observing systems to assess and address threats to the Mediterranean marine ecosystem  
- State-of-the-art, needs and future direction*

*Webinar: 14-15<sup>th</sup> December, 2020*



**ODYSSEA**

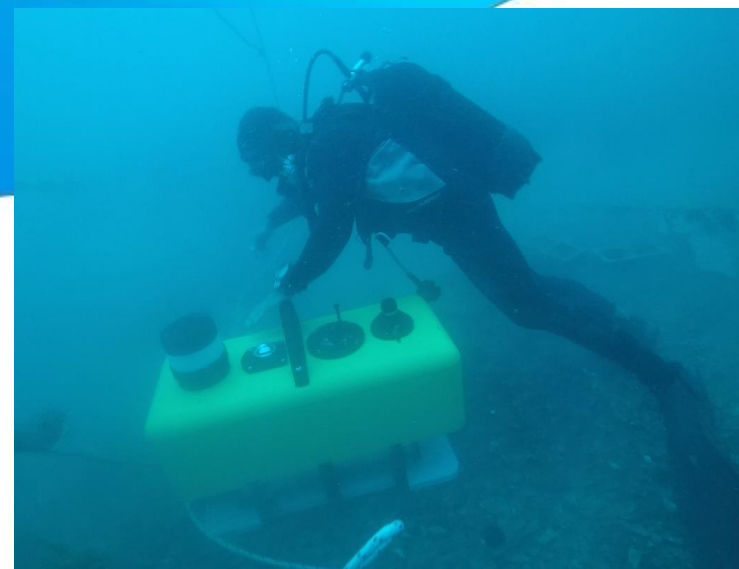
**GEORGIOS SYLAIOS**  
**ODYSSEA**

ODYSSEA is a Mediterranean-focused research project funded by EU Research and Innovation Program Horizon 2020

- 28 partners from 14 countries (6 non-EU)
- 8.398 Meuros budget
- 54 months duration
- Starting date 1<sup>st</sup> June 2017
- Ending date 30<sup>th</sup> November 2021
- 932 PMs in total
- 118 researchers involved
- 7 Advisory Board Members

On-line hourly measurements of:

- Temperature
- Salinity, pH
- Pressure
- Dissolved Oxygen
- Turbidity, CDOM
- Hydrophone to record marine mammals
- Submarine camera to record fish
- Currents
- Microplastics sensor

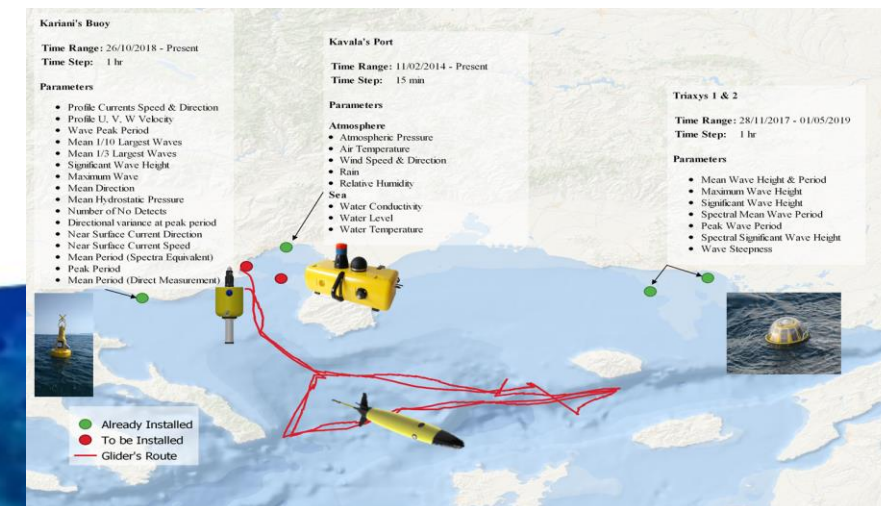
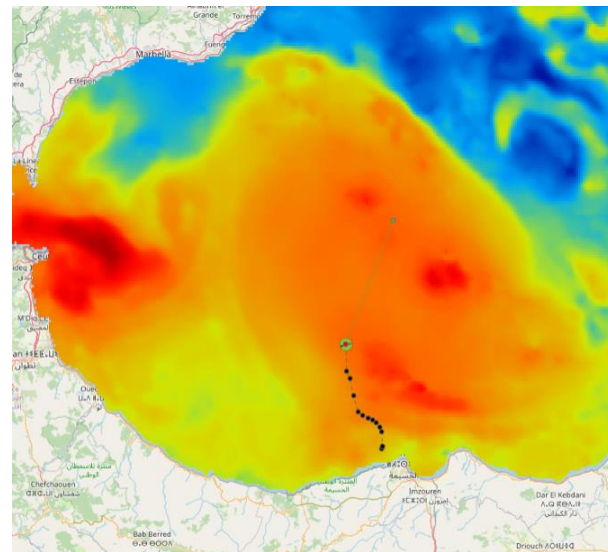


Surface fixed stations (Fish, Mussel farms & Ports)

Benthic fixed stations (Oil & Gas, Maritime Museum)

### ODYSSEA OBSERVATORIES

- A. North Aegean/Thracian Sea (Greece),
- B. Gulf of Gökova (Turkey),
- C. Valencia's regional coastline (Spain),
- D. Northern Adriatic Sea basin,
- E. Arzew Bay/Stora Gulf (Algeria)
- F. Gulf of Gabes (Tunisia),
- G. MPA National Park Al-Hoceima (Morocco),
- H. Israel's coastline and
- I. Nile River of Freshwater Influence (Egypt).





ODYSSEA

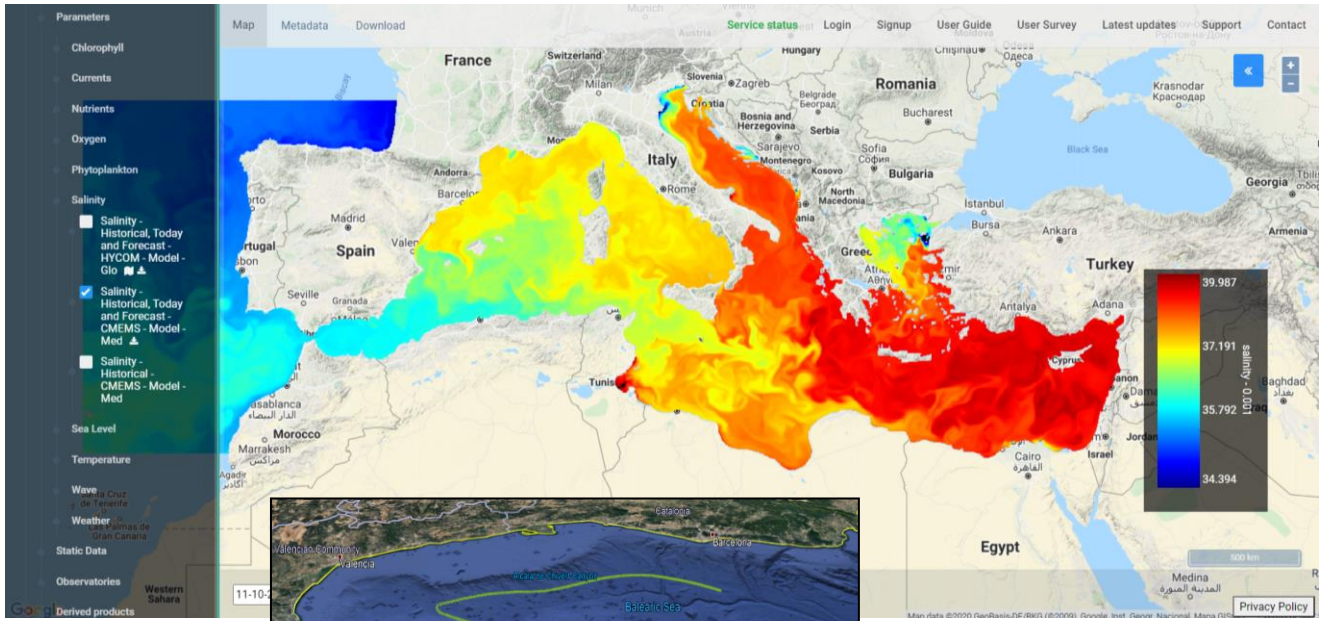


# The Marinomica platform

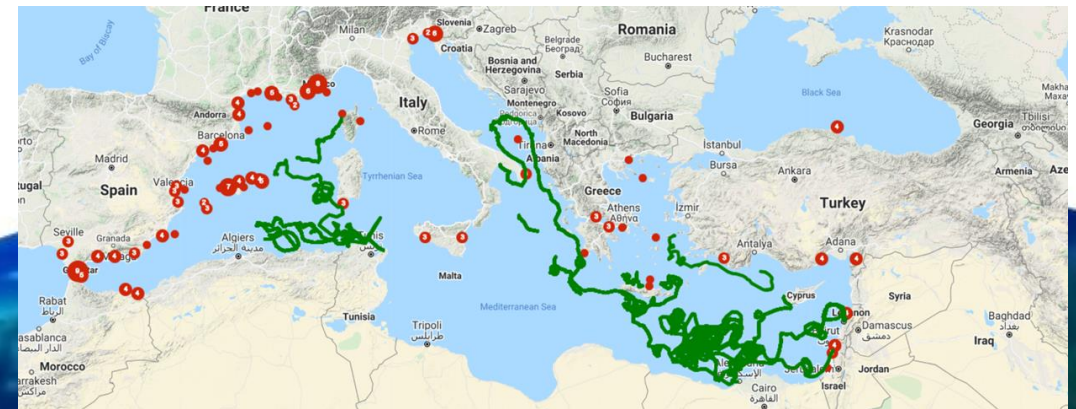
Data are disseminated through the Marinomica Platform integrating data from external data providers (CMEMS, EMODnet, Fishbase, etc.) and data from ODYSSEA models and sensors.

Produced project data contribute to MSFD (Descriptors: Biodiversity, Non-indigenous species, eutrophication, hydrographic conditions, marine litter, noise) and the Ballast Water Monitoring Implementation.

Data are used for a) aggregation and derivation of secondary parameters (e.g., TRIX, Wave power, Wind energy); b) data fusion and implementation of ML models to extract hidden patterns and preferences (Seagrass, Pelagic Fish)



Jelly-fish modeling





## Main environmental threats studied in ODYSSEA:

- Jelly fish invasions
- Seagrass response to CC
- Impact of heatwaves on seagrass species
- Pelagic food webs and CC impacts
- Microplastics RT monitoring
- Oil spills operational forecasting

ODYSSEA data are free and open and are transferred to CMEMS InSitu TAC. ODYSSEA considers that we need to maximize the involvement of local/regional players and integrate all systems at national level. Moreover, better coordination is needed among NOOS and EOOS at national and supranational level

## Next decade novelties

- Internet of Underwater Things
- Low cost / low maintenance sensors
- Integrate all EO data (sensors, satellites, models) in one system





ODYSSEA

A governance framework at the level of GOOS and UNEP could act as initiators for the development of cross-country and cross-border System of Systems to successfully integrate EU and non-EU countries.

Main ODYSSEA Message

**ODYSSEA is a research project to create novel knowledge, services and products for the Mediterranean with a bottom-up approach (from local/regional to broad and general) to fulfill end-user needs at diverse marine and maritime sectors**