



New technology and data collection for improving our understanding of the marine environment

NAUTILOS Project

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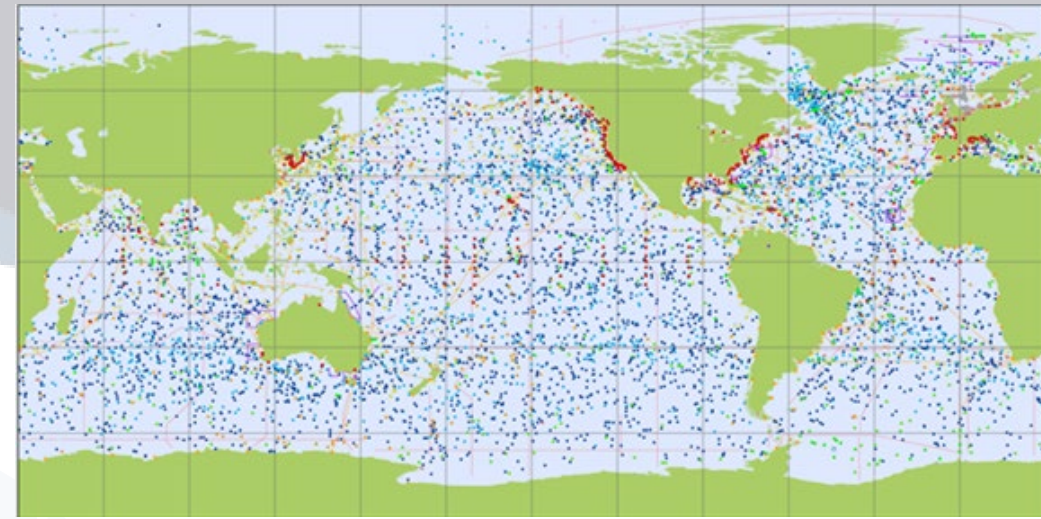
Main objective

Strategic objectives:

- **filling in marine observation and modelling gaps for chemical, biological and deep ocean physics variables**
- **By means of a new generation of cost-effective sensors and samplers**
- **To be integrated within observing platforms**
- **Long-term deployment in large-scale demonstrations in European seas**

Goals & achievements:

- ✓ **complement and expand current EU observation tools and services**
- ✓ **obtain a collection of data at a much higher spatial resolution, temporal regularity and length than currently available at the EU scale**
- ✓ **to further enable and democratise the monitoring of the marine environment to both traditional and non-traditional data users**



<http://www.nautilus-h2020.eu/>

 Consiglio Nazionale delle Ricerche



University of Ljubljana
Faculty of Electrical Engineering




ISTITUTO DI SCIENZA E TECNOLOGIE
DELL'INFORMAZIONE "A. FAEDO"



Hes·SO

Haute Ecole Spécialisée
de Suisse occidentale
Fachhochschule Westschweiz
University of Applied Sciences and Arts
Western Switzerland

nke

INSTRUMENTATION



DIPARTIMENTO DI INGEGNERIA
DELL'AMBIENTE



Finnish Environment Institute

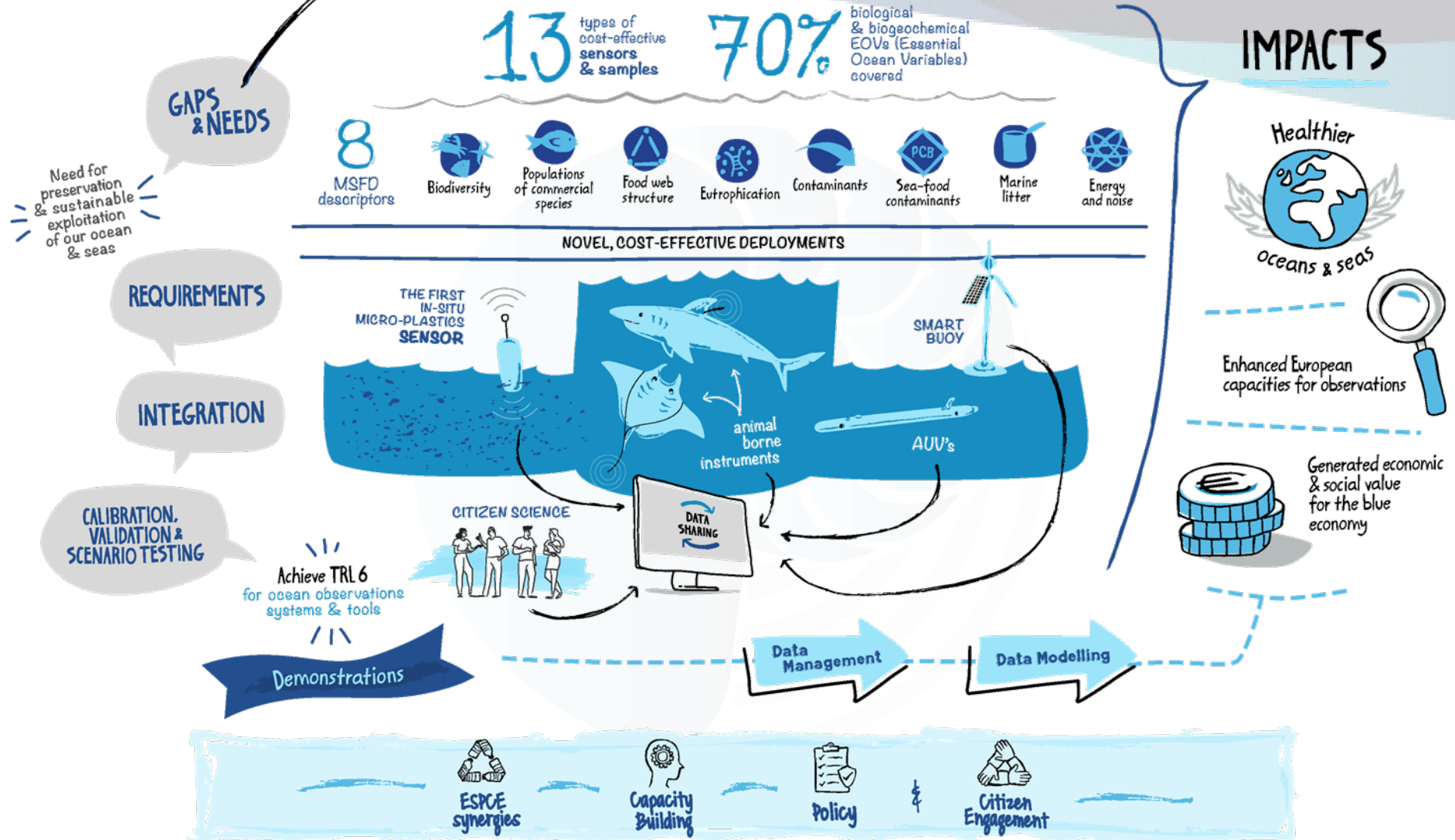


Norwegian Institute for Water Research



Concept

NAUTILOS' solutions



Gaps and needs addressed

MARINE TECHNOLOGIES AND TOOLS IN NAUTILOS

DO Sensors (T3.1)

Silicate Electrochemical Sensor (T4.2)

Carbonate system/OA sensors (T4.1)

Suspended matter sampler (Task 3.6)

Nano- and Microplastics Sampler (T4.3)

Low-cost Microplastic sensors (T4.4)

Smartphone NIR Scanner (T8.4)

Active Acoustic Profiling Sensor (T3.4)

Fluorescence Sensor (T3.1)

Multi-hyperspectral/laser induced sensors

Deep ocean low-level radioactivity sensor

Passive broadband acoustic recorder (ST3.3.1)

Passive acoustic event recorder (ST3.3.2)

Habitat mapping of key seabed habitats

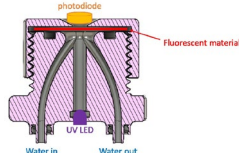
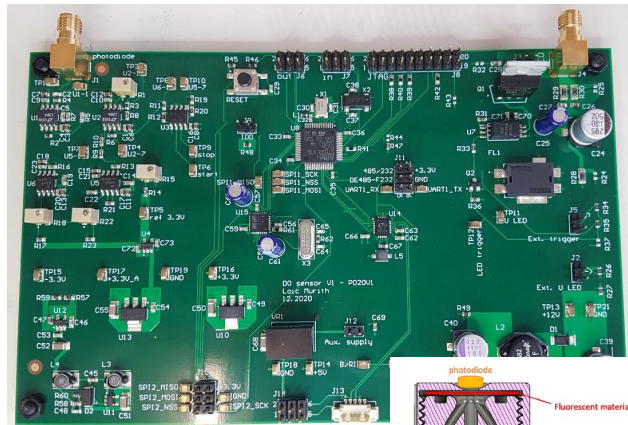
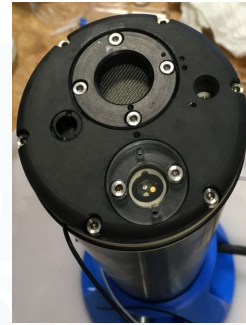
Visual marine image annotation (T10.4)

Deep Ocean CTD (T4.5)

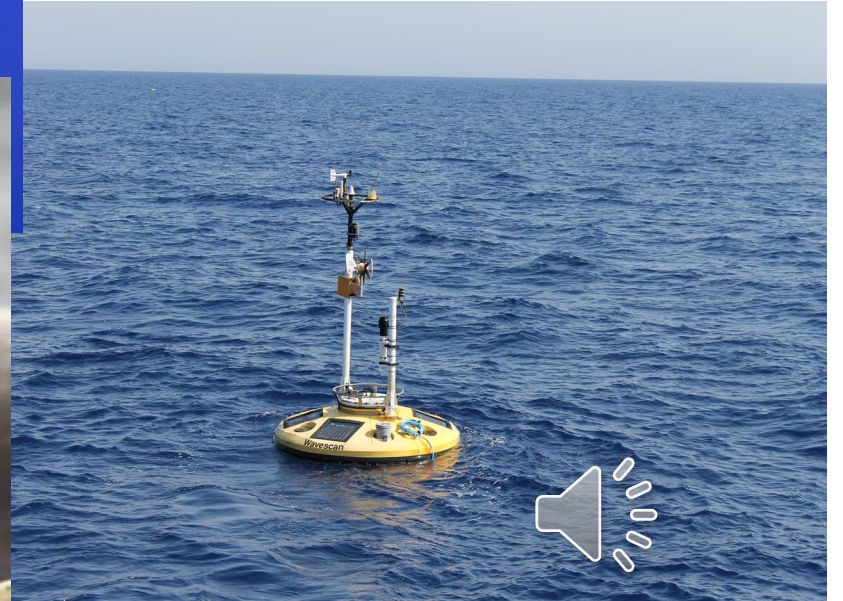
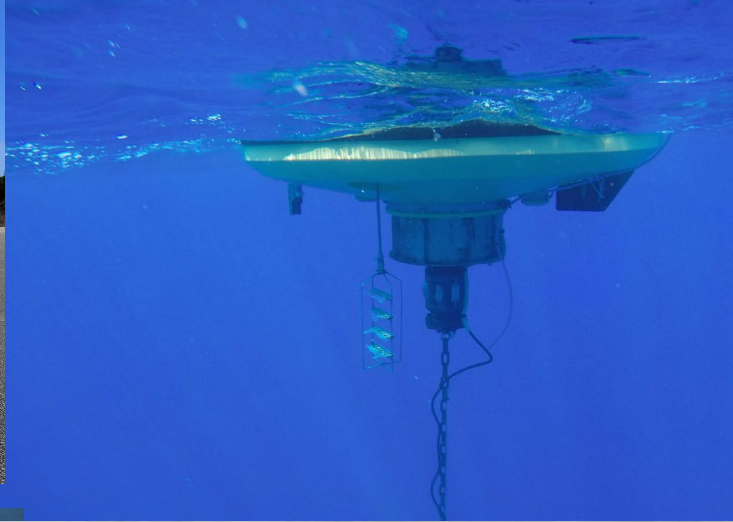
Animal tagging (T5.5)



Technological development of sensing and sampling marine instrumentation



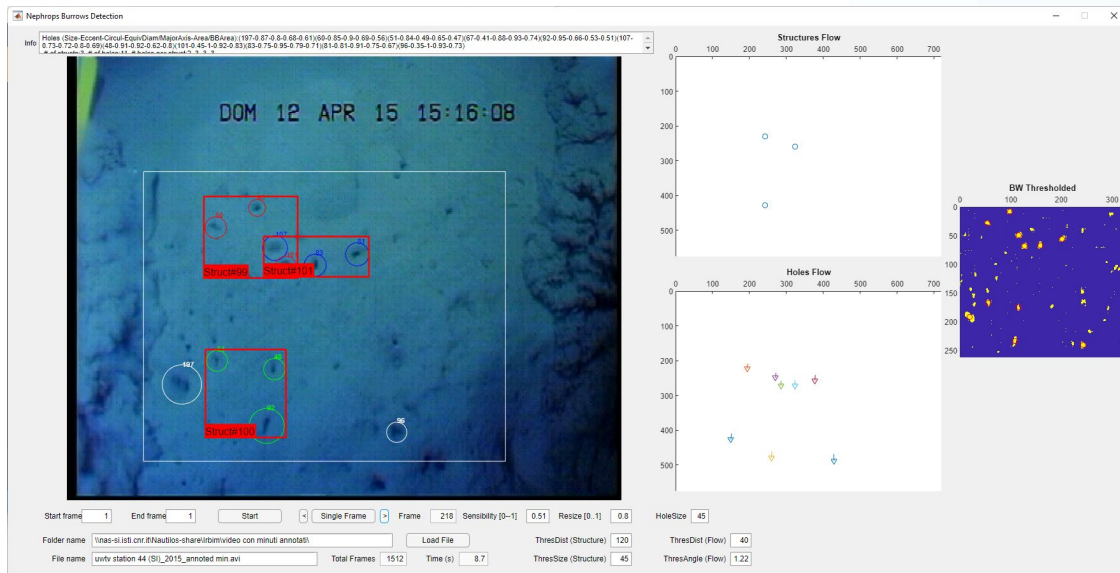
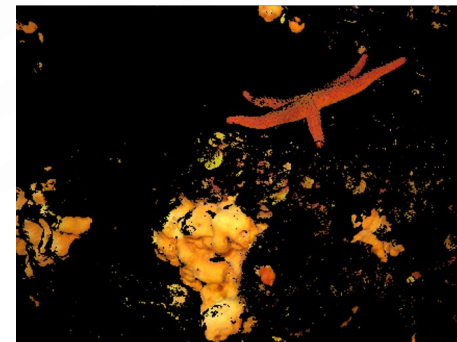
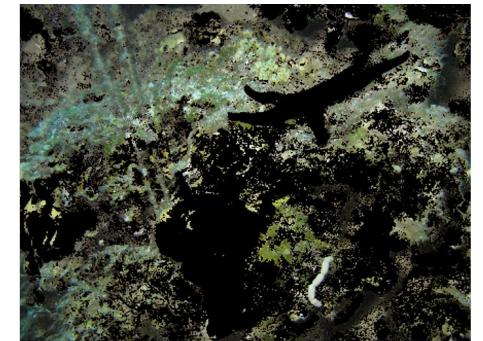
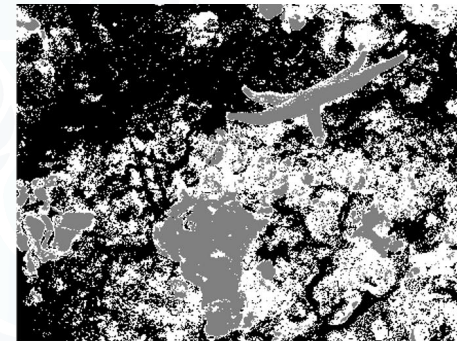
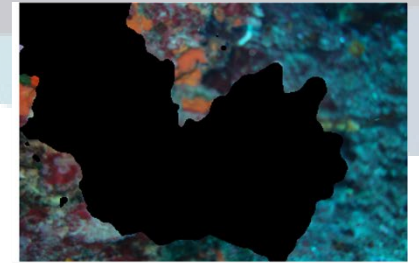
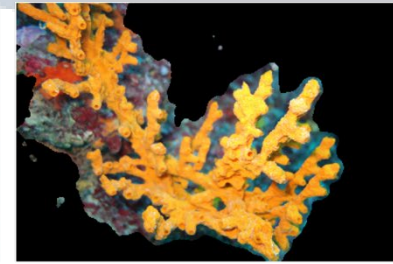
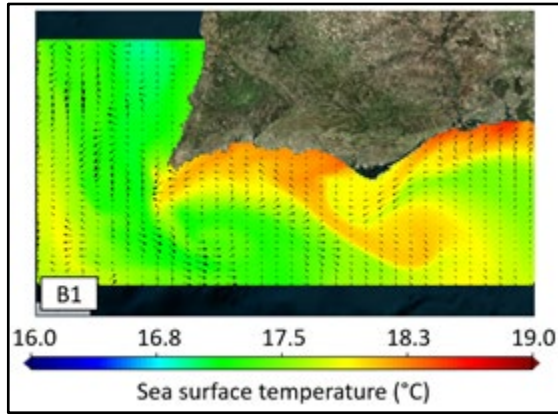
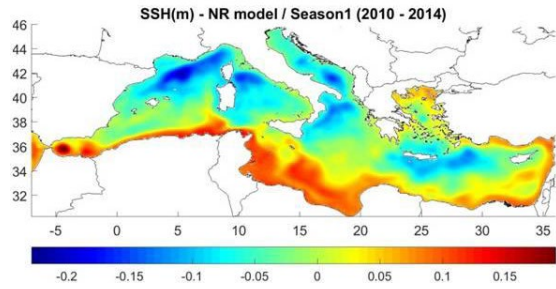
Integration of technologies into observation platforms



Data Management and Sharing

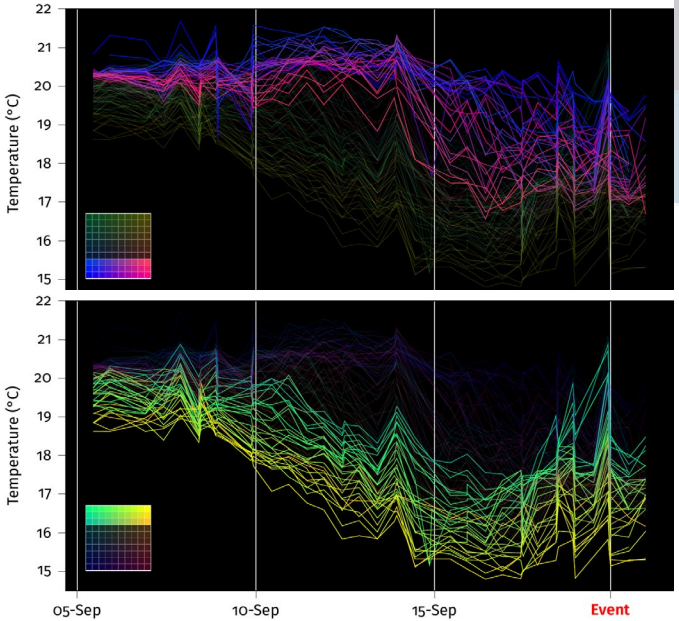
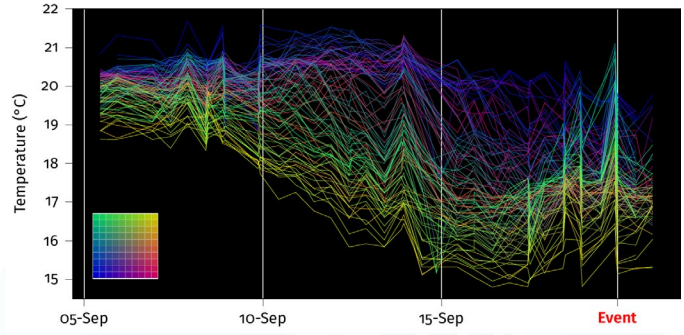
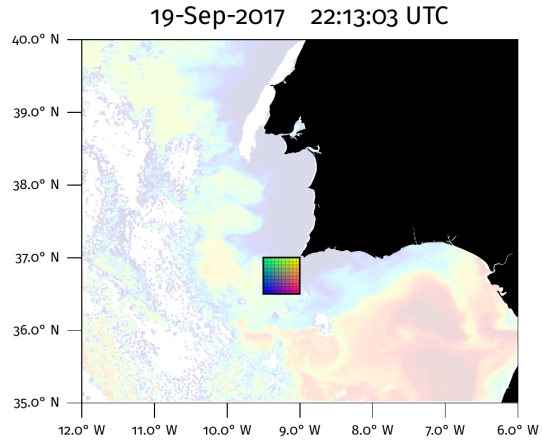


Data Processing and Modelling

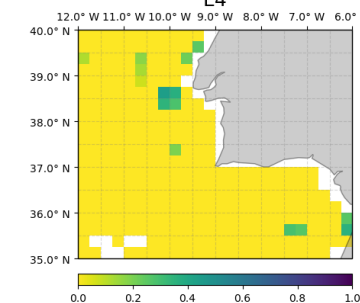
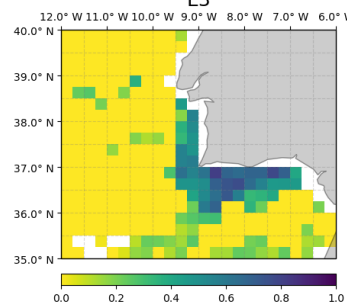
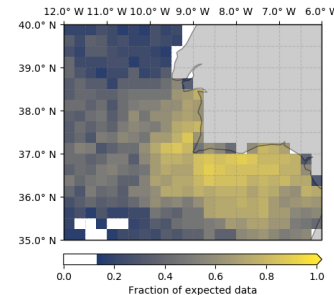
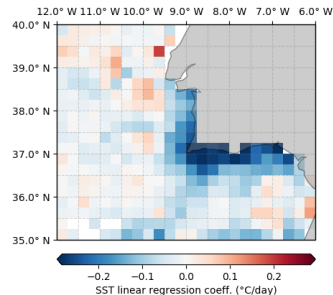
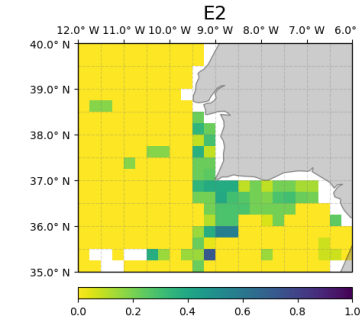
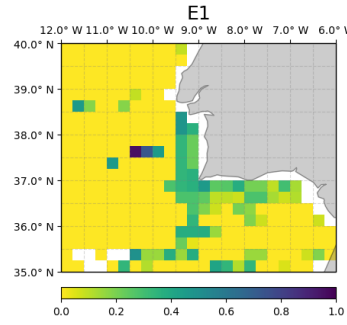
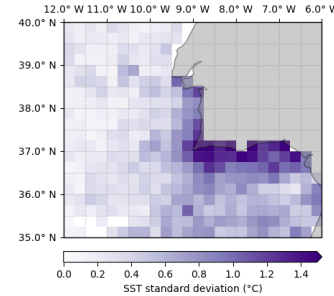
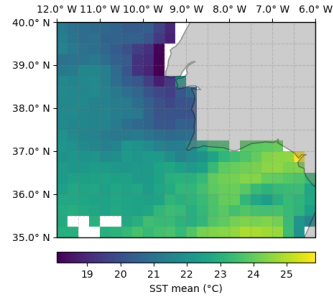


Data Processing and Modelling

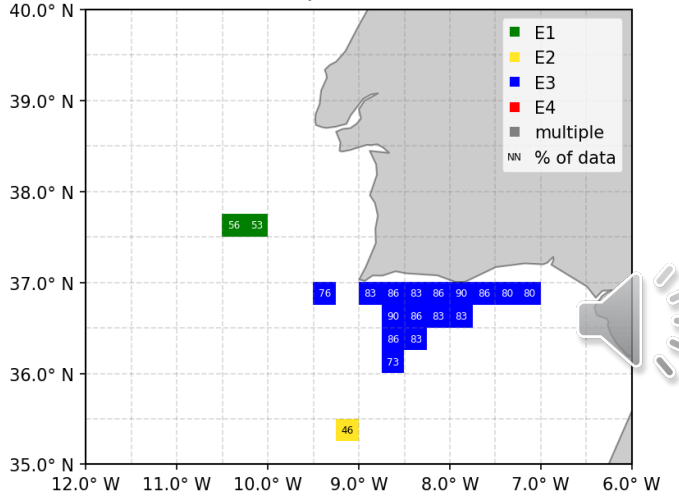
Upwelling Regimes



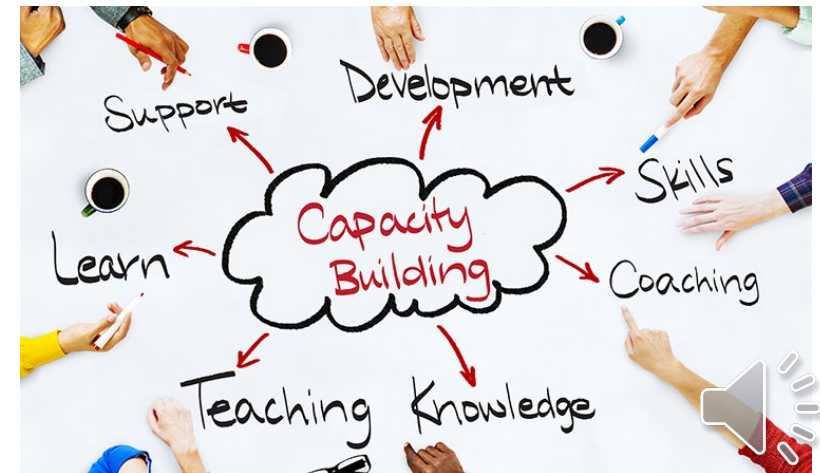
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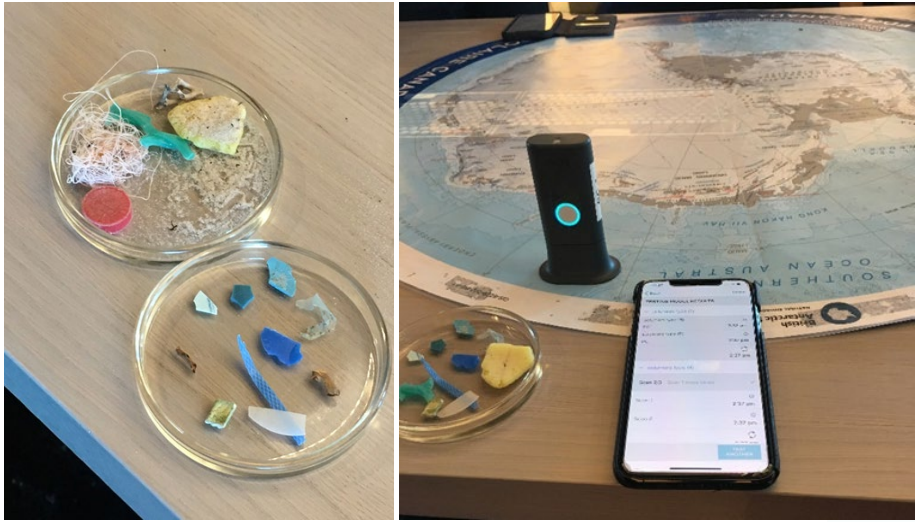
Dissemination, awareness raising and knowledge-transfer



Exploitation and Impact



Citizen Science & Synergies with ESPCE



THANK YOU!



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