



# Inspire

voices of Ocean action



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# Integrating Citizen Science and Digital Twin Technologies for Sustainable Coastal Management

**The Case of Cala Iris**



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# INTEGRATED Approach: CS + DTO + NBS



The initiative combines Citizen Science (CS), Digital Twin Ocean (DTO) technologies, and Nature-Based Solutions (NBS) to co-manage the ecosystem.

- Citizen monitoring with the I SEE SEA app
- Real-time sensors (Develogic) for physico-chemical parameters
- Community workshops and adaptive management

Supported by ILIAD and ODYSSEA EU initiatives.

## Current Initiatives:

The project includes waste management at the port to limit food sources for gulls and reproduction control using egg oiling techniques.

# Tools and Technologies



- Marine sensors for temperature, salinity, pH, fecal coliforms
- Standardized data using Darwin Core & PPSR Core
- Local engagement through public forums and youth participation



**Citizen Science Efforts:**  
Volunteers monitor water quality using the Develogic surface system, collecting key physico-chemical data.





**Improved water quality  
and ecosystem resilience**



**Enhanced aquaculture  
classification (towards  
Improved water quality)**



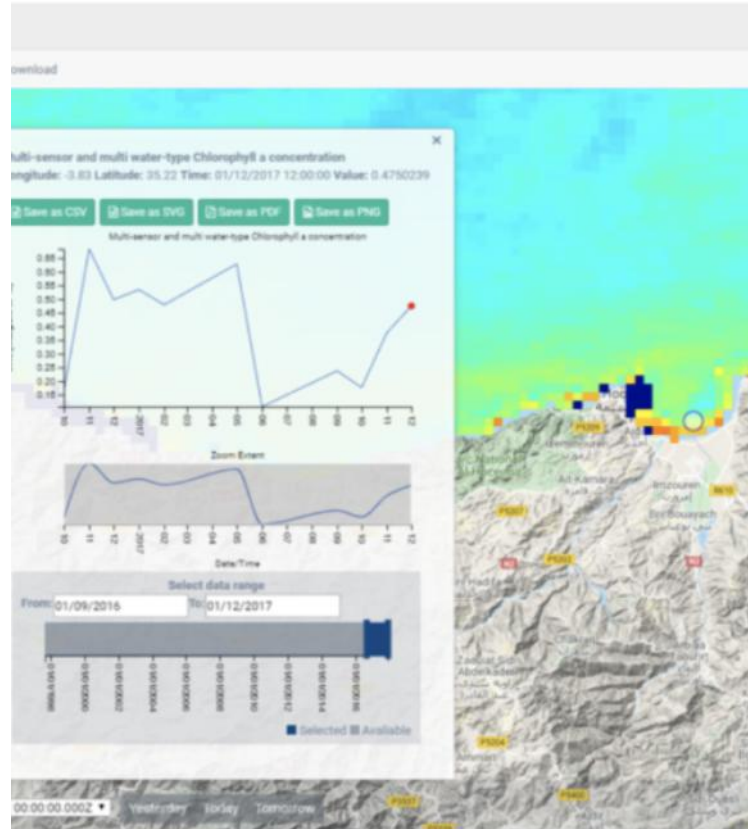
**Smart MPA model rooted in  
data and local participation**



**- Strengthened governance  
and stakeholder  
collaboration**



**Technical Integration:**  
**The project aligns with international data standards and uses mobile tools and sensors to ensure high-quality monitoring and decision-making.**





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## Nature Based Solutions Approach

- Stakeholder recognition and participation (Criteria 1)
- Biodiversity & ecosystem benefits (Criteria 3)
- Economic viability for local aquaculture (Criteria 4)
- Transparent and inclusive governance (Criteria 5)
- Monitoring and adaptive response (Criteria 7)
- Policy relevance and replicability (Criteria 8)

### Expected Impact:

Restoring the ecosystem to Category A status will benefit aquaculture, support the local economy, and serve as a replicable model for other sites.

