



**Mediterranean
Action Plan**
Barcelona
Convention



*The Mediterranean
Biodiversity
Centre*

Marine Environmental Monitoring in the Mediterranean

First DBCP Mediterranean Training Workshop on Ocean Observations and Data Applications-Part 2

2 - 4 May 2023, Tunisia

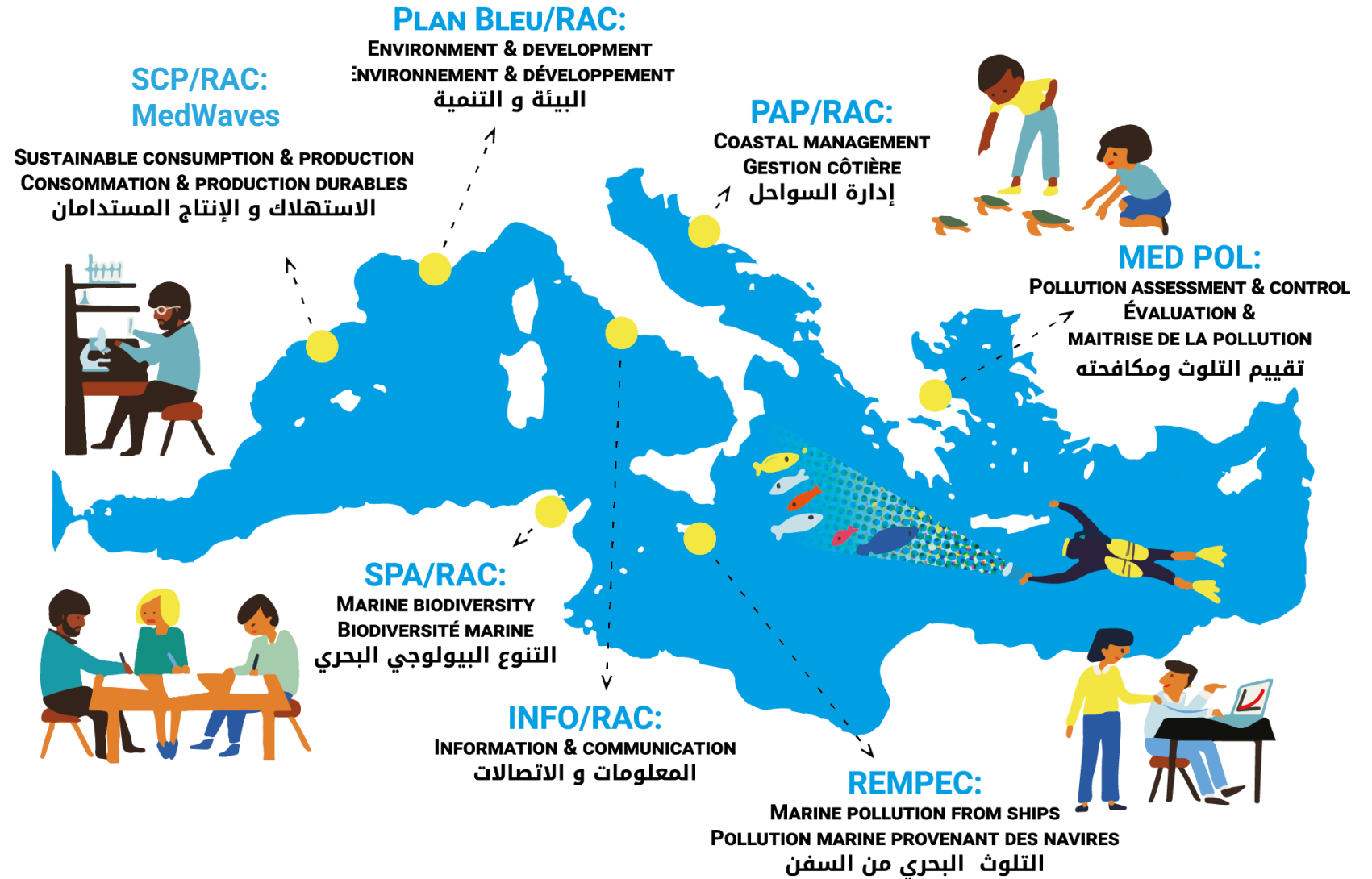
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SPA/RAC Director

SPA/RAC, Tunis

The UNEP/MAP - Barcelona Convention System

- **UNEP/MAP Coordinating Unit – Barcelona Convention Secretariat**, based in Athens (Greece).
- **MAP Components : 6** Regional Activity Centres (RACs) and the MED POL Programme.
- **Specially Protected Areas Regional Activity Centre (SPA/RAC)** based in Tunis (Tunisia).



SPA/RAC: the Marine Biodiversity Centre

SPA/RAC

The Marine Biodiversity Centre At The Service Of The Mediterranean Countries

MARINE PROTECTED AREAS & BIODIVERSITY

The Specially Protected Areas Regional Activity Centre, SPA/RAC, is created in 1985 to assist Contracting Parties to the Barcelona Convention in the implementation of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol).

1

Inventory and mapping

With the aim to identify species and sites of conservation interest.

2

Developing research

To complete knowledge and fill in gaps on biodiversity.

3

Conservation programmes coordination

At regional level, to mitigate threats on biodiversity components, while taking into account the Ecosystem Approach principles.

4

Monitoring & assessment

Of the marine biodiversity status, within the integrated Monitoring and Assessment Programme (IMAP).

5

MPAs & SPAMI development

Creation and enforcement towards a coherent network.

6

Capacity building

To strength skills for biodiversity monitoring & MPAs management.

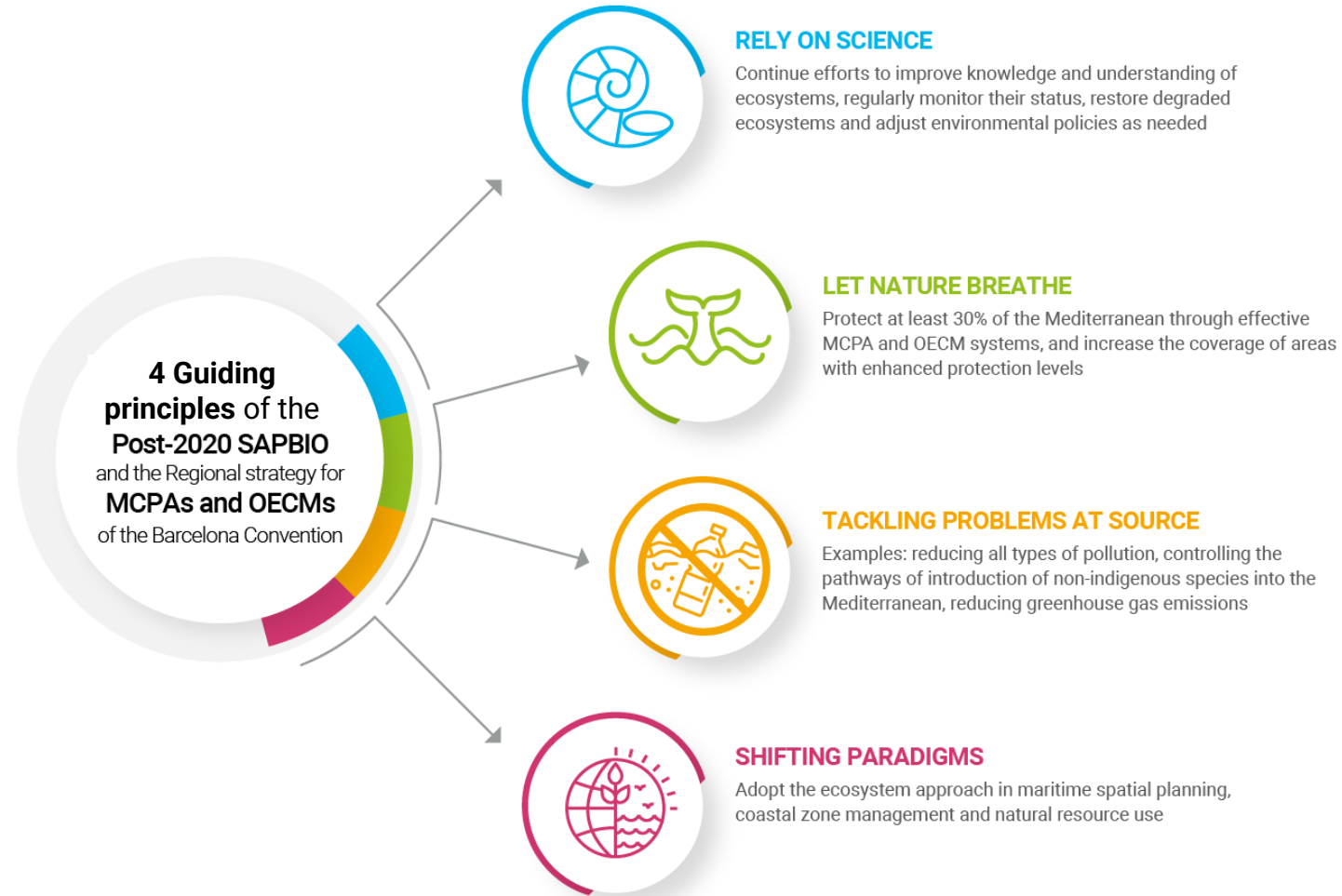
7

Information, outreach and education

On biodiversity and MPAs issues.



Post-2020 SAPBIO and the Post-2020 Regional Strategy for MCPAs and OECMs in the Mediterranean



Regional Action Plans for the conservation of Species and Habitats under the SPA/BD Protocol



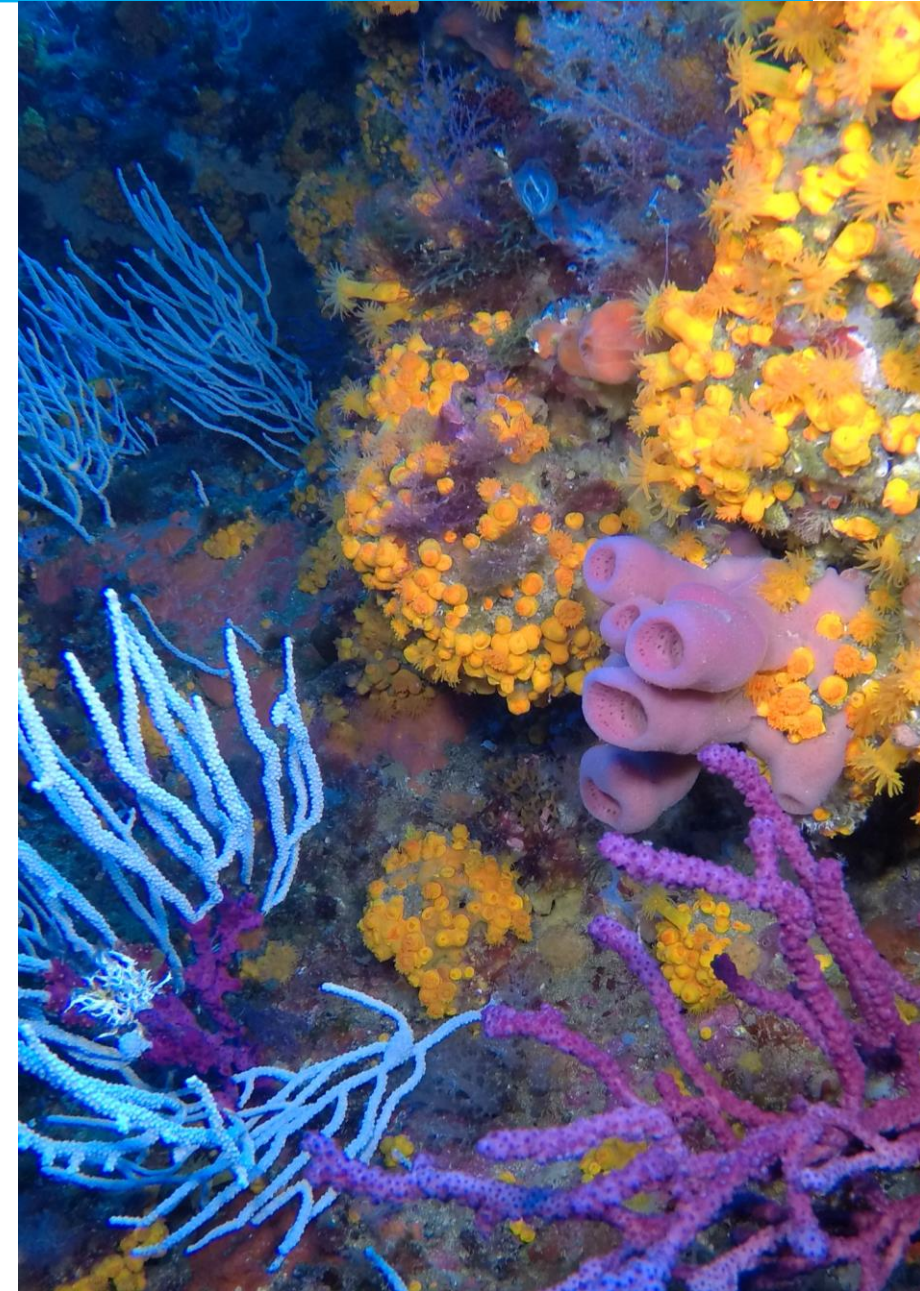
5 Action Plans & 1 Strategy for the conservation of species (**Mediterranean Monk Seal, Marine Turtles, Cetaceans, Cartilaginous Fishes, and Marine & Coastal Birds**)

3 Action Plans for the conservation of habitats (**Marine Vegetation, Coralligenous, and Dark Habitats**)

1 Action Plan on **Species Introductions and Invasive Species**

Implementation of the Ecosystem Approach in the Mediterranean

- Ecosystem approach as the overarching principle → **To achieve/maintain Good Environmental Status of the Mediterranean Sea and Coasts**
- MAP vision: **“A healthy Mediterranean with marine and coastal ecosystems that are productive and biologically diverse for the benefit of present and future generations”**

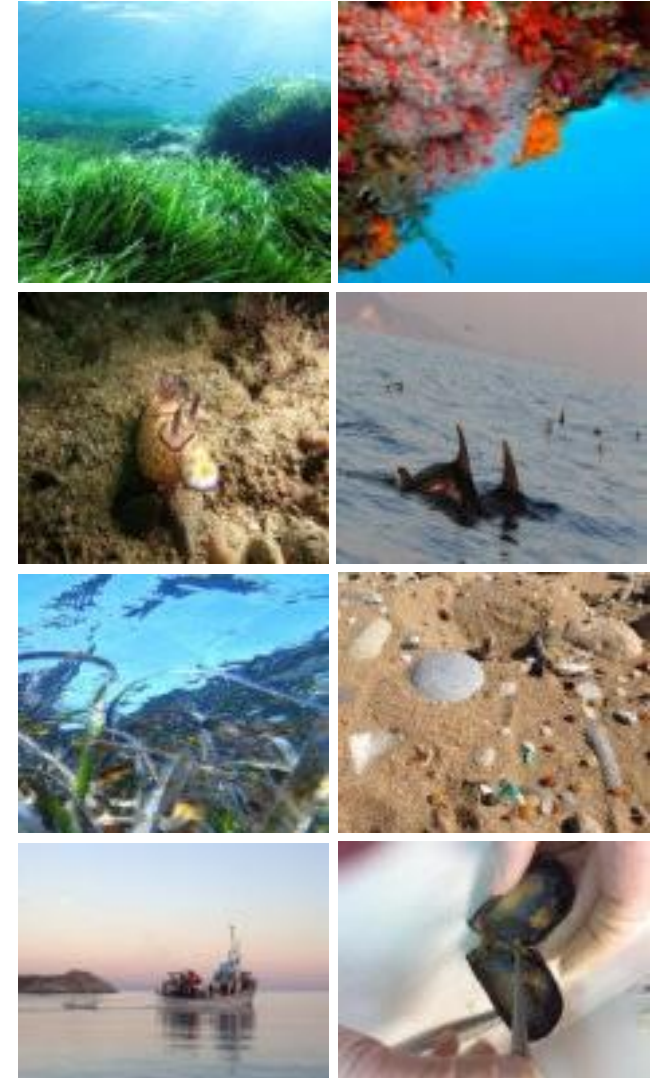


Good Environmental Status of the Mediterranean

- 11 Ecological Objectives covering all the main aspects of the marine and coastal environment

1. Biodiversity
2. Non-indigenous species
3. Harvest of commercially exploited fish and shellfish
4. Marine food webs
5. Eutrophication
6. Sea-floor integrity

7. Hydrography
8. Coastal ecosystems & landscapes
9. Pollution (contaminants)
10. Marine litter
11. Energy including underwater noise



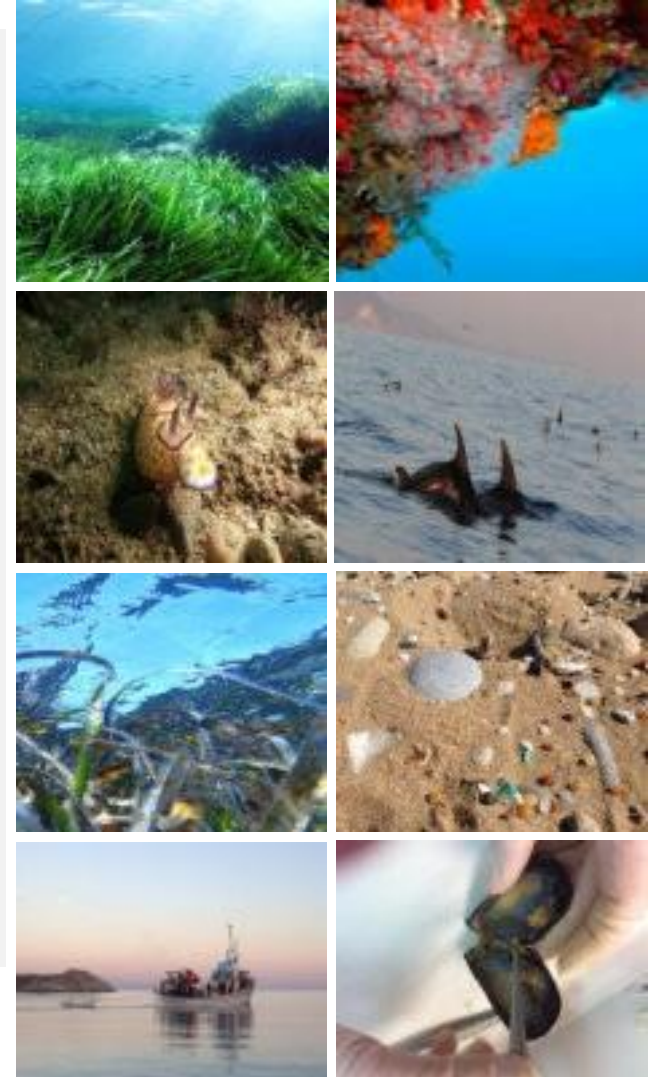
Good Environmental Status of the Mediterranean

Implementing the ecosystem approach:

- 28 Operational Objectives (COP 17, Decision IG. 20/4)
- 61 Indicators (COP 17, Decision IG. 20/4)
- 40 GES definitions (COP 18, Decision IG.21/3)
- 66 Targets (COP 18, Decision IG.21/3)

Integrated Monitoring and Assessment Programme (IMAP):

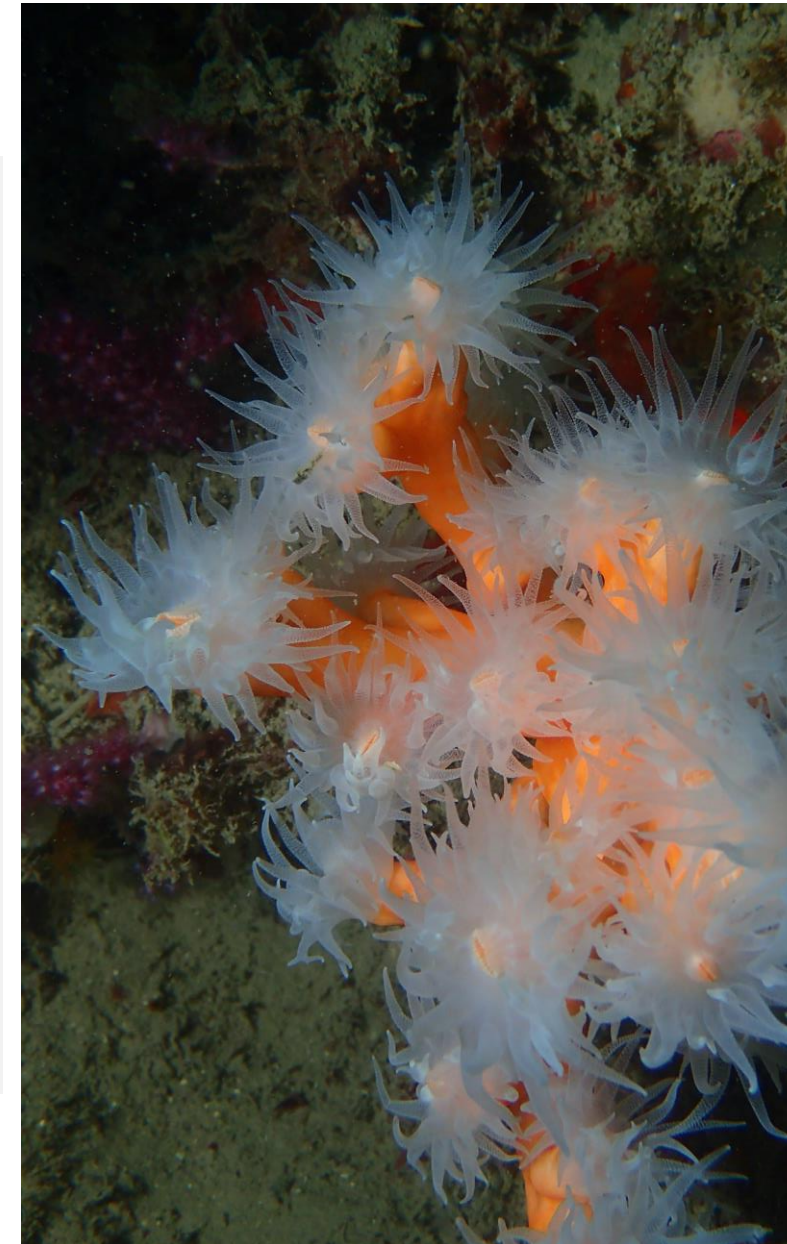
- 23 Common Indicators and 4 Candidate Indicators (COP 19, Decision IG.22/7)



National Integrated Monitoring and Assessment Programme

National Integrated Monitoring and Assessment Programme (IMAP) was developed to address the need for reliable and standardized data on biodiversity and ecosystem services, and to support the implementation of the Convention on Biological Diversity (CBD).

National IMAP aims to strengthen the monitoring and assessment capacities of Mediterranean countries and to provide them with the necessary tools and information to develop and implement effective policies and strategies for biodiversity conservation.



Mediterranean Quality Status Report 2017

Six-yearly Assessment Report of the Status of the Mediterranean Sea and coast is elaborated to demonstrate progress made towards Good Environmental Status and its related targets, as part of the Integrated Monitoring and Assessment Programme (IMAP).

The UNEP/MAP system delivered during the 2016-2017 biennium, the **first ever Quality Status Report for the Mediterranean** (referred to as **2017 MED QSR**).

This report was an assessment product based on regionwide Ecological Objectives (EOs) and Common Indicators (CIs) that is **built upon existing data and complemented with inputs from numerous diverse sources.**

Executive Summary 2017 Mediterranean Quality Status Report



Mediterranean Quality Status Report 2023

Assess the status of the Mediterranean Sea and Coast and the progress towards its GES, as the basis for informed decision-making and enhanced action

Vision

“An integrated Driver-Pressure-State-Impact-Response (DPSIR)-based GES assessment, developed on consolidated and quality-assured data sets, reported and processed through an effective IMAP Info System that is interoperable with national and other regional monitoring and reporting networks”



Mediterranean Quality Status Report 2023

Data sources:

- Contracting Parties' submitted data
- Other relevant data provided by MAP Components and projects GFCM and other regional sources of data.

GES assessment where feasible, per Ecological Objective – methods, assessment, conclusions, recommendations and key messages addressed to informed decision making.

Integration across Ecological Objectives where feasible.



Supporting the implementation of the Ecosystem Approach/IMAP process

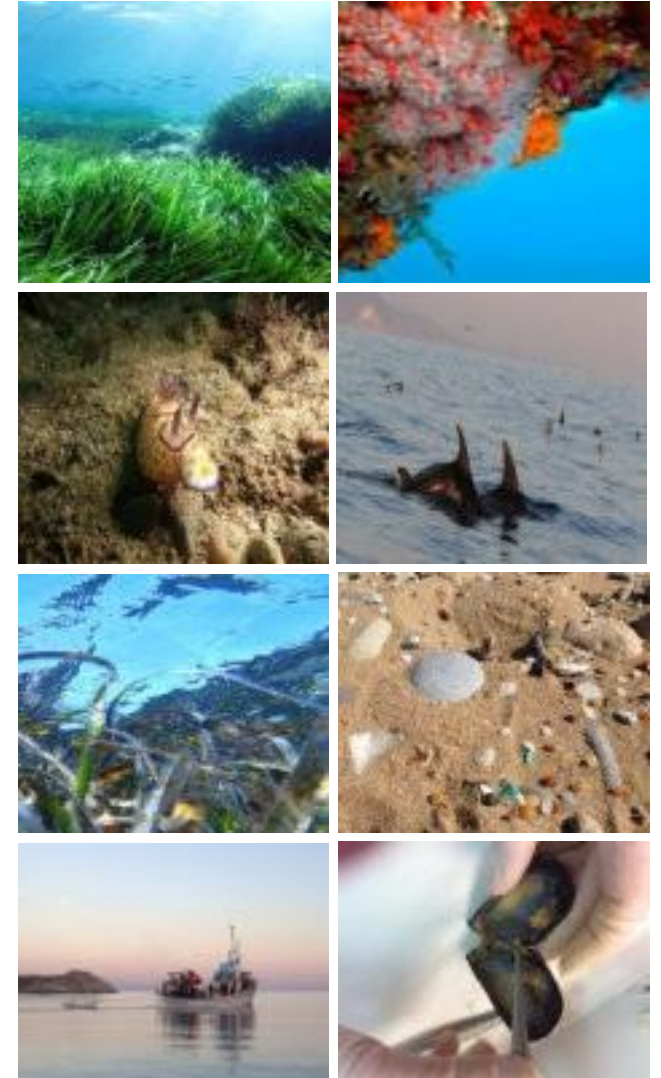
UNEP/MAP has implemented multiple initiatives, including EcAp Med II and III, GEF Adriatic, and IMAP/MPA projects, with the primary objective of **assisting Mediterranean countries** in designing **and implementing their national Integrated Monitoring and Assessment Programme (IMAP)** programs.

2016 - 2019

- ❑ Establishment of national monitoring programmes
- ❑ Elaboration of the 2017 Mediterranean Quality Status Report
- ❑ Harmonization of the monitoring guidelines
- ❑ Development of the IMAP Info system

2019 - 2023

- ❑ Implementation of the national monitoring programmes
- ❑ Elaboration of the 2023 Mediterranean Quality Status Report



Digital Twin of the Ocean

The Iliad consortium will develop virtual representations of the sea that will integrate earth observing, modelling and digital infrastructures to provide predictions of future developments "at sea".

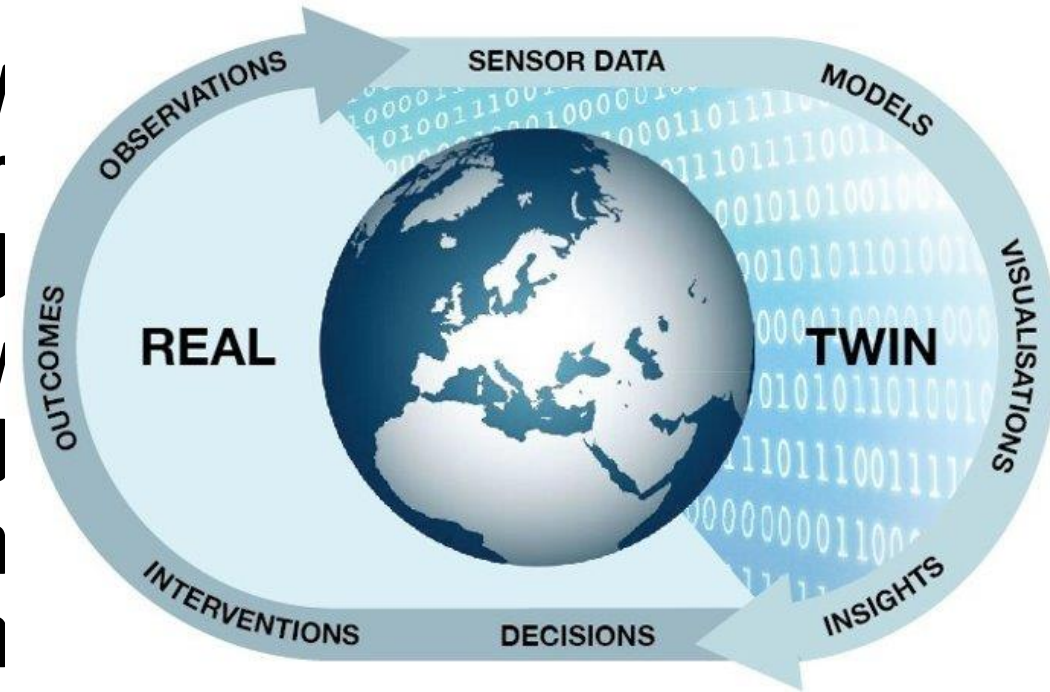
Stay Informed

The Integrated Digital Framework for Comprehensive Maritime Data and Information Services (ILIAD) is a 3 years (2022-2024) cutting-edge project funded by the EU. **Its goal** is to develop a digital replica of the ocean, known as **the Digital Twin Ocean (DTO)**, using the latest technological tools and models. To achieve this objective, ILIAD has formed a consortium of 56 international partners, who are working together to co-design and implement the DTO in 12 pilot areas. As a member of the consortium, **SPA/RAC** is leading activities related to policy mapping and capacity building and supporting several other activities related to biodiversity monitoring, non-indigenous species and ballast water.



What is a DIGITAL TWIN of the OCEAN

- A Digital Twin of the Ocean is a highly accurate model of the Ocean to monitor and predict environmental change, and human impact and vulnerability supporting an openly accessible and interoperable dataspace that can function as a central hub for informed decision making.



Outcomes of ILIAD



Accessing
Ocean Data &
New Sensors



Enabling
Ocean
Modeling



Serving the
Ocean | Ocean
Intelligence



Digital Twin of
The Ocean (DTO)
in a Digital
Framework



International
Collaborations



CONTEXT



The construction of the Digital Twin of the Ocean (DTO) is being carried out across 12 fields, which are grouped into 8 areas and cover all seas around Europe including the Mediterranean. This ambitious project is just the beginning of a more comprehensive DTO, which will follow a "system of systems" approach.



Wind Energy



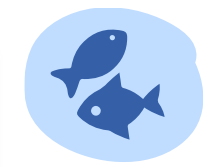
Renewable Energy from the Ocean



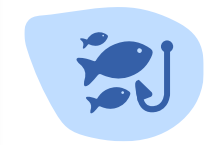
Pollution



Met Ocean Hind-, Now-, and Forecast



Biodiversity Assessments and Monitoring



Fisheries and Aquaculture



Marine Traffic and Harbor Safety



Insurance for Marine and Maritime Activities



United Nations
Environment Programme



Mediterranean Action Plan
Barcelona Convention



SPA / RAC

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Thank you

UN Environment/Mediterranean Action Plan
Specially Protected Area Regional Activity Centre
<http://www.spa-rac.org/>
<http://web.unep.org/unespmap/>