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> Water is coming: the EU Strategy on climate adaptation – focus on coastal erosion and sea level rise

> > 29 March 2021



## What is the Plan Bleu?

- A Regional Activity Centre attached to the Mediterranean Action Plan (MAP – 1976), first-ever UNEP Regional Seas programme
- Created 43 years ago as a systemic and prospective analysis centre in the Mediterranean



## **OUR MISSIONS**



## What is the MedECC?

- An expert network on climate and environmental changes in the Mediterranean Basin 

  → Voluntary, independent initiative launched in 2015 gathering ~700 scientists
- Supported by Plan Bleu (that hosts MedECC Secretariat), UfM Secretariat and UNEP/MAP
- Scientifically robust assessments of the risks associated with climate and environmental change in the Mediterranean Basin, based on published research (mainly in peer-reviewed journals)
- a regional science-policy interface on climate and environmental change in the Mediterranean, approved by policymakers
- policy-relevant, but not policy-prescriptive



Union for the Mediterranean Union pour la Méditerranée الإتحاد من أجل المتوسط





Mediterranean Action Plan Barcelona Convention



Sweden Sverige

With financial support from



PRINCIPAUTÉ DE MONACO

Gouvernement Princier



AiX MARSEILLE PROVENCE PAYS D'AIX





Aix\*Marse





MINISTÈRE DE LA TRANSITION ÉCOLOGIQUE

www.medecc.org

## What is the MedECC?

# Political responses to climate change should be based on scientific evidence

- Contributes to the MSSD implementation and to the IPCC AR6
- Responds to the needs expressed during the 1st UfM Ministerial Meeting on Environment and Climate Change (2014)
- → 1st Mediterranean Assessment Report (MAR1)
- Released in November 2020 (<u>www.medecc.org</u>)
- 190 authors from 25 countries
- MedECC was awarded North-South Prize 2020 of the Council of Europe
- Thematic report on coastal risks (call for authors in April 2021)



### CLIMATE AND ENVIRONMENTAL CHANGE IN THE MEDITERRANEAN BASIN Current situation and risks for the future

by MedECC (Mediterranean Experts on Climate and environmental Change)



## Coastal risks in MAR1

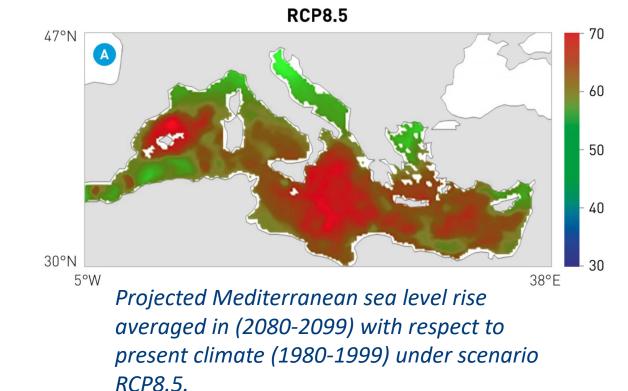
- 1/3 Mediterranean population (~150 million people) lives close to the sea
- 20 million people live < 5 m above the sea level</p>
- 40 % of Mediterranean coastal areas built up or otherwise modified ⇒ vulnerable to coastal flooding, erosion
- Constructions close to the mean sea level (surface sealing)





### Coastal risks in MAR1

- Sea level rise of 6 cm over the past 20 years (2.8 mm/yr)
- Accelerating trend  $\rightarrow$  43 to 84 cm by 2100 (possibly >1 m if further ice-sheet destabilization in Antarctica)
- By 2100, flood risk may increase by 50% and erosion risk by 13% across the Mediterranean region
- Damaging flash-floods (incl. Italy, France, Spain)
- Loss of agricultural land
- Decrease of groundwater quality, infiltration of seawater into coastal aquifers
- Impacts on coastal ecosystems (wetlands, estuaries)
- Impacts on tourism, trade (port operations)
- Many UNESCO World Heritage Sites directly threatened



### How to improve socio-ecological resilience in the Mediterranean?

- Education and raising-awareness, strengthening of capacities
- Based on scientific knowledge (improve the availability of data & long-term monitoring)
- No one-size-fits all strategy (local scale, vulnerability maps)
- Improve and extend action to protect and restore ecosystems (e.g. Posidonia) and associated services
- Develop Nature-Based solutions (e.g. dune or wetlands restoration, beach nourishment, blue and green infrastructures)
- Flood risk management (implementation of warning systems, emergency management plans, improvement of drainage systems in urbanized areas)
- Development of local climate integrated plans (adaptation & mitigation)
- Strenghten cooperation between countries and stakeholders, exchange of best practices



### POSidonia Beaches in the MED Region

- Posidonia oceanica (NBS)
- Erosion problems in the context of Climate Change adaptation: Posidonia banks preservation
- Governance and management of Posidonia beach-dune systems across the Mediterranean

### LES SERVICES ÉCOSYSTÉMIQUES FOURNIS PAR L'HERBIER DE POSIDONIE

#### BANQUETTE DE POSIDONIE

Rempart contre l'érosion des plages Stabilisation de la plage et piège à sédiments (10 à 100 kg pour 1m<sup>3</sup> de banquette)

Support de biodiversité Abri et source d'alimentation pour de nombreuses espèces Source de carbone et de nutriments

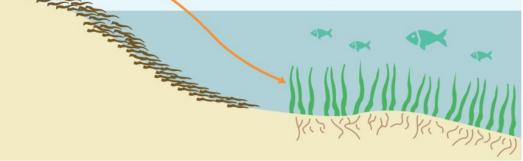
#### HERBIER DE POSIDONIE

Support de biodiversité Zone d'alimentation, de frayère et de nurserie pour de nombreuses espèces Alimentation des autres écosystèmes par exportation de feuilles mortes

Rempart contre l'érosion des plages Réduction de la force de la houle Production de sable

Stabilisation des fonds et limitation de la turbidité

Piège à carbone et production d'oxygène 1 km² d'herbier de posidonie stocke jusqu'à 3 fois plus de carbone qu'1 km² de forêt



Source : Améliorer la gestion de la posidonie sur les plages. Région Sud













### Main goals:

- Knowledge
- Change management practices
- Stakeholders awareness raising
- Define coastline management strategies (multi-actors)

### Outputs:

- Set of policy recommendations and tools for integrated management of Posidonia littoral zone in PAs
- Joint Charter of Commitment for Mediterranean Municipalities
- Guidelines for the private sector
- Mediterranean network of actors
- European Label

### **Protecting Posidonia means preserving Mediterranean beaches**









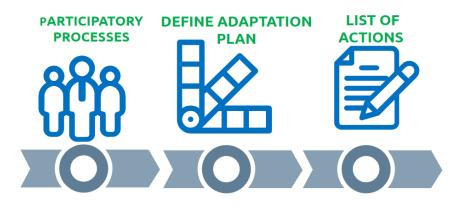




MPA-ENGAGE: To promote Marine Protected Areas at the frontline for adaptation to Climate Change in the Mediterranean and beyond!

### Objectives:

- MPAs as a network of sentinel sites for climate change
- Enhance socio-ecological resilience
- Empowering local actors in Mediterranean
- Raise awareness and engagement of society





Bottom up approach:

ACT LOCAL, THINK MEDITERRANEAN











HOW? collaborative approach, training activities to support the development of a climate change adaptation and mitigation action plan in MPAs

- Monitoring in a harmonized way the climate change impacts in MPAs (11 monitoring protocols, monitoring toolkit)
- Engaging local communities in citizen science activities (methodological approaches)
- Assessing climate change vulnerability in Med MPAs (Guidelines)



### Effective marine protected areas to adapt and mitigate climate change











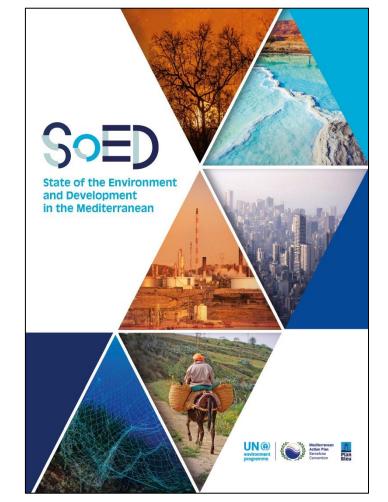
# Thank you for your attention !

### More information:

www.planbleu.org

www.medecc.org

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### CLIMATE AND ENVIRONMENTAL CHANGE IN THE MEDITERRANEAN BASIN

Current situation and risks for the future

First Mediterranean Assessment Report by MedECC (Mediterranean Experts on Climate and environmental Change)

