

SUMMARY FOR POLICY MAKERS

Outsmart climate change: work with nature!

Enhancing the Mediterranean's climate resilience
through nature-based solutions

OFF
YOUR
MAP

Life
begins in
wetlands

The Mediterranean has been identified by the International Panel on Climate Change (IPCC) as one of the world's most vulnerable regions in terms of global warming. At the same time, the Mediterranean is a global biodiversity hotspot endowed with a great wealth of natural resources and ecosystems.

The critical role of biodiversity, ecosystems and natural infrastructure in mitigating climate change and reducing its impacts is increasingly being recognized.

Forests and seagrass meadows capture and store carbon; wetlands and floodplains act as buffers absorbing floods and providing water during droughts; vegetated shorelines provide citizens and infrastructure shelter from storms, while green roofs and urban parks provide relief from heat during the increasingly hot summers in our region. This is what **Nature-based Solutions (NbS)** stands for.

Not only can NbS help society adapt to ongoing climate change and contribute to mitigating it, but they often fare better than conventional, man-made infrastructure. They usually prove to be “climate-smarter” – i.e. more flexible and robust to shocks – than their man-made counterparts. They often come for free or with low maintenance requirements, which makes them cost-effective and time efficient. They also provide multiple co-benefits and can complement existing infrastructure over a long time. This makes them important “no regrets” options.

Moreover, while enhancing the Mediterranean region's resilience to climate change, NbS offer a **leapfrog opportunity** for an early **transition towards a sustainable, inclusive green and blue economy**, fostering much needed employment and promoting sustainable local livelihoods.



MAIN FINDINGS

1) The Mediterranean region has been identified as a climate change 'hotspot'.

Average temperatures in the region have already risen to 1.6°C above pre-industrial levels, while a temperature rise of 2-3 °C by 2050, and a rise of 3-5 °C by 2100, have been forecast for the region (IPCC, 2013). This will lead to an increased frequency in extreme weather events, such as droughts, heatwaves, storms and floods.

2) **Conventional infrastructure alone will not be able to cope** with this new, highly dynamic and challenging context, which implies a significant level of uncertainty. Robust but flexible solutions are needed to help societies adapt.

3) **Biodiversity and healthy ecosystems provide a broad range of services** – through Nature-based Solutions (NbS) – in terms of adaptation to and mitigation of climate change, and can increase society's overall resilience to stresses and shocks (FAO, 2019).

4) **NbS are robust, flexible, cost-efficient, inclusive and long-term oriented solutions.** Stand alone or combined with man-made solutions, they also offer co-benefits related to food security, livelihoods, improved health and well-being, water regulation and disaster risk reduction, while contributing to nature conservation and restoration.

5) To facilitate the implementation of NbS and fully reap their benefits, **shifts in mindsets, public policy, incl. legal and regulatory frameworks, as well as sound investment opportunities** are needed. This will help to overcome current barriers and allow NbS to reach their maximum potential.

KEY POLICY RECOMMENDATIONS

- 1) Within the framework of the Barcelona Convention, develop a strategy to **fully integrate NbS into national policies across all sectors** so as to significantly enhance climate resilience by 2030.
- 2) In particular, **mainstream NbS into national plans related to climate mitigation and adaptation**, such as the NDCs (Nationally Determined Contributions) and NAPs (National Adaptation Plans) required under the Paris Agreement and DRR (Disaster Risk Reduction) plans in accordance with the Sendai Framework.
- 3) **Foster « Green City » schemes** throughout the region to enhance citizens' resilience to heatwaves, flood surges and coastal erosion, and possible water and food shortages.
- 4) **Promote sustainable, biodiversity-friendly agriculture and aquaculture models**, using approaches such as agroecology, local integrated nature-based production systems and sustainable fisheries, in order to secure food security, resilient rural and coastal livelihoods and increase employment opportunities.
- 5) **Sustainably manage coastal and marine ecosystems, including wetlands**, to enhance their capacity as carbon sinks and climate buffers, restore depleted fish stocks and protect marine biodiversity.
- 6) Overall, **put in place adequate institutional settings, legal frameworks and economic incentives** to facilitate the uptake and implementation of NbS and overcome existing challenges to their implementation with a view to **moving towards a blue-green and circular economy**, and ensure society's long-term resilience, leaving no-one behind.



WHY DO NATURE-BASED SOLUTIONS MATTER FOR THE MEDITERRANEAN?

NbS can help Mediterranean societies achieve their sustainable development goals and safeguard their wellbeing while enhancing people's and nature's resilience to climate change.

In the region, climate change is expected to exacerbate dry spells, heatwaves, water shortages as well as storms and floods. There is a wide range of NbS available to address and reduce these impacts and provide additional benefits, as shown in Table 1.

To properly implement NbS, however, there is still a need to overcome several challenges ranging from competing land uses, conventional mindsets and institutional arrangements to the lack of financing and political will.

Table I: Key climate impacts and types of NbS in the Mediterranean

	Examples of NbS	Co-benefits	Possible challenges
Overall climate change	Conservation, restoration of carbon sinks (e.g. forests, seagrass meadows)	Biodiversity conservation, food production, support to local livelihoods, health & wellbeing	Space requirements, competing land uses, legal and regulatory frameworks, lack of political will
Low precipitation, dry spells, water scarcity	Conservation and restoration of wetlands, agroecology, drought-resilient local crops	Biodiversity conservation, food production, water purification, resilient rural livelihoods, protection of cattle/crops	Space requirements, competing land uses, urban sprawl, legal and regulatory frameworks, lack of political will
Heatwaves in human settlements	Creation of green roofs, walls and corridors, urban parks and wetlands (ponds, lakes, etc.)	Food production, leisure, tourism, reduced electricity consumption from air conditioning	Space requirements, type of architecture, legal /regulatory frameworks, safety concerns, water pricing, know-how
Storms and sea surges in coastal areas	Conservation and restoration of shorelines and coastal wetlands (incl. estuaries, lagoons)	Protection of infrastructure, biodiversity conservation, leisure and tourism, seafood production	Space requirements, competing land uses, urban sprawl, legal and regulatory frameworks, economic/ political priorities
Heavy precipitation and floods	Conservation and restoration of wetlands, floodplain restoration, urban green spaces	Biodiversity conservation, leisure/ tourism, food production, water filtration, protection of infrastructure	Space requirements, competing land uses, urban sprawl, legal and regulatory frameworks, economic/ political priorities



WHAT IS THE POLICY CONTEXT RELEVANT TO NBS IN THE MEDITERRANEAN?

Via several international agreements – e.g. Barcelona Convention, Paris Agreement, UN 2030 Sustainable Development Agenda, Convention on Biological Diversity – Mediterranean countries have committed to fight climate change, achieve the Sustainable Development Goals (SDGs) and contribute to the conservation of biodiversity.

NbS offer “no-regrets” solutions contributing to all at once.



Table 2: NbS-relevant policy frameworks in the Mediterranean

	Barcelona Convention (UNEP Regional Seas)	Mediterranean Strategy for Sustainable Development (MSSD) Specific Objectives	UN Sustainable Development Goals (SDGs)	Other frameworks or initiatives
Climate Change	MSSD, Marrakesh Declaration, Regional Climate Change Adaptation Framework for the Mediterranean Marine & Coastal Zones	Objective 4: Addressing climate change as a priority issue for the Mediterranean	SDG 13 (Climate Action)	UNFCCC, Paris Agreement, Sendai Framework on Disaster Risk Reduction
Food Security	MSSD	Objective 2: Promoting resource management, food production and food security through sustainable forms of rural development	SDG 1 (No Poverty); SDG 2 (Zero Hunger)	UN-FAO
Water Security	Integrated Coastal Zone Management (ICZM) and Land-based sources of pollution (LBS) Protocols	Cross-cutting, mostly addressed under Objective 2 (see above)	SDG 6 (Clean Water and Sanitation)	UN Water Courses Convention, UNECE Water Convention
Urban Areas	ICZM and LBS Protocols, MSSD	Objective 3: Planning and managing sustainable Mediterranean cities	SDG 11 (Sustainable Cities and Communities)	
Ecosystems	Special Protected Areas (SPA), ICZM Protocol, LBS Protocol, MSSD	Objective 1: Ensuring sustainable development in marine and coastal areas; Objective 2 (SD 2.1, 2.3)	SDG 14 (Life below Water); SDG 15 (Life on Land)	CBD, IPBES, Ramsar Convention, UN Decade for Ecosystem Restoration
Health/Well-being	All	Cross-cutting, addressed under several Objectives	SDG 3 (Good Health & Well-being)	WHO

SO, WHAT'S IN IT FOR YOU?

- **Savings** by avoiding expensive investments in 'grey' solutions
- **Reduced impacts** on public health and **lessened damage** to infrastructure and crop yields
- An **abundant environment**, creating **opportunities for employment, tourism** and attracting **sustainable investments**
- A **thriving, healthy community** and **social peace**
- Long-term **climate resilience, sustainable livelihoods and food security**



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Pictures: Aline Rollin & Flore Vigneron

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This publication is published in the framework of the Workshop « Implementation of Nature Based Solutions to tackle climate change » hosted by the City of Marseille from the 22nd to the 24th of January 2019, and organized by Plan Bleu, IUCN Centre for Mediterranean Cooperation, IUCN French Committee, Conservatoire du Littoral, Tour du Valat, MedWet and Wetlands International. It was funded by the campaign OffYourmap, as well as by AFD and UN Environment/MAP.

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Off Your Map is a collaboration between the following partners,
with the support and funding of the MAVA Foundation

