A new assessment of climate and environmental coastal risks in the Mediterranean elaborated by the Mediterranean Experts on Climate and environmental Risks (MedECC)



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A third of the Mediterranean population – around 150 million people – lives close to the sea, relying on coastal infrastructure, economic activities and vital marine and coastal ecosystems. However, Mediterranean countries are not on track to achieve most Sustainable Development Goals (SDGs), and are particularly struggling with blodiversity protection (SDG 14 - Life Below Water) and climate action (SDG 13). The Mediterranean coastal zone is often narrow, densely populated, and over-pressured, and requires a tailored risk assessment that reflects its specific vulnerabilities and characteristics to inform effective adaptation pathways and support decision-making towards risk reduction and long-term sustainability in coastal governance, policies and social perception.

In this context, the Mediterranean Experts on Climate and environmental Change – MedECC – has published the "Climate and environmental coastal risks in the Mediterranean basin" Special Report to provide an assessment of the scientific, technical and socio-economic literature on the multiple drivers of change affecting the Mediterranean (climate, pollution, biologic and socio-economic processes), their evolution, impacts on ecosystems and people, the risks that are posed and solutions to reduce them, together with pathways for sustainable development.

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One mission : Contribute to the improvement of policies to ensure the well-being of current and future generations in the Mediterranean region.

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Report background, methodology, and process

MedECC is an open and independent international network of scientists focused on climate and environmental change and its SCIENCE associated risks in the Mediterranean basin. It acts as a Science Policy Interface and produces assessment reports based on available scientific knowledge, and engages in disseminating the findings with the objective to provide essential, region-specific information to stakeholders, governments, and citizens. MedECC reports aim to maintain neutrality regarding policy and to objectively address MedECC is supported by the UfM, scientific, technical and socio-economic factors relevant to the UNEP/MAP and Plan Bleu application of policies.

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Secretariat in 2018).



The report identifies and assesses environmental and climate change hazards in the coastal zone of the Mediterranean Basin, the related risks, adaptation options and solutions. It further assesses and provides information on actions to meet the United Nations SDGs. Adaptation plans are presented by placing the social and cultural values in context of the region, considering the need to protect communities and biodiversity, minimise impacts on the natural environment, and addressing ethical considerations important for socially-oriented adaptation policies.

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FINDINGS

The Mediterranean is a 'hot spot' of climate and environmental change given the high exposure and vulnerability of human societies and ecosystems and interconnected risks in this region (MAR1 2020, IPCC 2022). A third of the Mediterranean population lives close to the sea and depends on infrastructure and economic activities in its immediate vicinity.

Climate change is already affecting both the terrestrial and marine components of the Mediterranean coastal zone. Projections show an increase in surface air temperatures, frequency and intensity of hot extremes, sea level, evapotranspiration and a decrease of precipitation, which, depending on the level of future greenhouse gas emissions will pose serious risks for ecosystems and important economic sectors (summer beach tourism, agriculture, aquaculture and fisheries). Along the Mediterranean coastlines, rising sea levels will exacerbate the risks of coastal floods, permanent inundation of some areas, and coastal erosion, with impacts on ecosystems and coastal structures, such as airports, transport networks, ports, and cultural heritage sites. Growing urbanisation will further increase the risk posed by flash floods in some coastal areas.



In the absence of effective adaptation policies in the Mediterranean region, up to 20 million people could be affected by permanent displacement due to sea-level rise by 2100. This exposure is about three times higher in the southern and eastern countries than in the northern countries.



Recent developments and sustainable development pathway

In the Mediterranean coastal zone, present actions towards solutions to environmental problems, adaptation to climate change and its mitigation are insufficient to attain the UN Sustainable Development Goals (SDGs), and transformative actions across all sectors, systems, and scales are required to meet the SDGs. This requires the proper identification of vulnerabilities related to human activities and climate change impacts, and assessment of options to reduce risks to the affected communities and ecosystems, as a mix of legal, policy and economic instruments, and behavioural nudges, are available for local, national, and regional authorities to promote effective climate resilient sustainable development pathways in the Mediterranean coastal zone.

Achieving sustainable development in the Mediterranean coastal zone requires a transformative approach that adresses environmental challenges while promoting social equity and economic stability. By integrating circular development models, investing in renewable energy, protecting blue carbon ecosystems and engaging all stakeholders in the decision making process, the Mediterranean region can move towards a more resilient and sustainable future.

References & Acknowledgements

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