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Athens, Greece, 16-19 September 2025

Agenda Item 5: Specific Matters for Consideration and Action by the Meeting, including Draft Decisions

Draft Decision IG.27/5: Regional Climate Change Adaptation Framework for the Mediterranean Marine and Coastal Areas 2026-2035

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UNEP/MAP
Athens, 2025

Note by the Secretariat

1. The 19th Meeting of the Contracting Parties to the Barcelona Convention and its Protocols (COP 19, Athens, Greece, 9-12 February 2016) adopted, with Decision IG.22/6, the Regional Climate Change Adaptation Framework for the Mediterranean Marine and Coastal Areas (RCCAF), which has a timeline of 10 years, aligned with the 2016-2025 Mediterranean Strategy for Sustainable Development (MSSD).

2. The 23rd Meeting of the Contracting Parties to the Barcelona Convention and its Protocols (COP 23, 5-8 December 2023 Portorož, Slovenia) recommended to review the RCCAF for the next period, considering new challenges, tools and nature-based solutions.

3. The initial phase of the RCCAF update process included a desk review of the MAP-relevant assessments, reports and findings from recent global and regional climate change developments and frameworks, complemented by a consultation with the Members of the Mediterranean Commission on Sustainable Development (MCSD), MAP Components and MAP Partners.

4. The outcomes of this work have been presented during the Thematic Ad Hoc MCSD Meeting (Istanbul, Türkiye, 12-13 February 2025) as initial elements for the updated RCCAF. After this Meeting, the Secretariat, together with the MAP Components, have continued refining the text of the RCCAF, whose updated version has been further discussed by national experts on climate change during the regional Meeting on Climate Change Adaptation that took place in Istanbul, Türkiye, on 8-9 July 2025.

5. The approach for the update of the RCCAF takes into account the significant changes of the global and regional policy frameworks for climate action i.e the Paris Agreement and the recent United Nations Framework Convention on Climate Change (UNFCCC) COPs, including the adoption in 2023 by its COP 28 of the Framework for Global Climate Resilience.

6. The RCCAF 2026-20235 considers key recent landmark scientific reports of the UNEP/MAP-Barcelona Convention System relevant to climate change challenges, future scenarios and solutions, and in particular the First Mediterranean Assessment Report (MAR1) MedECC.

7. The RCCAF 2026-2035 provides the directions and the priorities to effectivity act on climate change adaptation and accelerate implementation, while in parallel the role of national, local and subnational levels through the National Adaptation Plans (NAPs) and National Determined Contributions (NDC) are crucial to operationalize its implementation.

8. Main elements focus on the proposed priorities that address Nature-based Solutions; the need to further and better embed climate change adaptation into national, subnational and sectoral development planning and budgeting processes; the reinforced role of Marine Spatial Planning and Integrated Coastal Zone Management and their integration into national adaptation planning; the promotion of solutions location-time- and sector-specific; the further emphasis on the role of National Determined Contributions and National Adaptation Plans, which together with annual planning and budgeting are the main instruments for mobilizing public finance; the leverage of climate finance; the strengthening of climate scientific knowledge, data and information sharing; building on the best practices' examples of low-regret measures; the promotion of pilots on climate change adaptation.

9. The newly introduced framework for monitoring and evaluation will allow a reinforced assessment of the RCCAF implementation and progress, thus better informing on revision needs in the future.

10. The implementation of the RCCAF is addressed especially by the activities 3.1.1 and 3.2.1. of the UNEP/MAP Programme of Work and Budget PoW 2026-2027.

11. This proposed Decision and its Annex are hereby submitted to the Meeting of the MAP Focal Points (Athens, Greece, 16-19 September 2025) for consideration and possible transmission to the 24th Meeting of the Contracting Parties (COP24, Cairo, Egypt, 2-5 December 2025).

Draft Decision IG.27/5

Regional Climate Change Adaptation Framework for the Mediterranean Marine and Coastal Areas 2026-2035

The Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) and its Protocols, at their 24th Meeting,

Welcoming the outcome document of the 2025 United Nations Ocean Conference (UNOC-3) entitled "Our ocean, our future: united for urgent action", *reaffirming* the strong global commitment to conserve and sustainably use the ocean, seas and marine resources and *reconfirming* the need to strengthen the role of regional seas conventions and action plans,

Being inspired by the high-level celebration of the anniversary of the 50 years of the UNEP/Mediterranean Action Plan and the 30 years of the Post-Rio Barcelona Convention, in UNOC-3, on 10 June 2025, as a strong sign of renewed commitment of the Contracting Parties, as reflected in their Ministerial Declaration,

Noting with appreciation the Resolution 6/15 adopted by the United Nations Environment Assembly on 1 March 2024, on strengthening ocean efforts to tackle climate change, marine biodiversity loss and pollution,

Recalling also the United Nations General Assembly resolution 67/296 of July 2022, entitled "Our Ocean, Our future, Our responsibility",

Having regard to the Protocol on Integrated Coastal Zone Management in the Mediterranean and its provisions on mitigation and adaptation measures to address the effects of climate change, the Mediterranean Strategy for Sustainable Development and the COP 23 recommendations providing for the preparation of the Regional Climate Change Adaptation Framework for the Mediterranean, in synergy with relevant developments at regional and global levels, herein after referred to as the Regional Climate Change Adaptation Framework for the Mediterranean Marine and Coastal Areas (RCCAF),

Considering that climate change is one of the greatest challenges of our time, and its adverse effects, including rising sea temperatures and levels, acidification and deoxygenation and degradation of marine biodiversity, have alarming and fast escalating impacts on human life and on coastal and marine ecosystems as well as on public expenditures,

Concerned about the findings of the relevant Reports of the UNEP/MAP Barcelona Convention system, the Mediterranean Experts on Climate and environmental Change (MedECC) and the 6th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) related to the climate change impacts, risks, present and future challenging scenario for the Mediterranean,

Aware that increasing the resilience to the effects of climate change is crucial for the coastal and marine and socio-economic ecosystems of the Mediterranean,

Having considered the reports of the 21st Meeting of the MCSD (Corinth, Greece, June 2025) and of the Regional Meeting on Climate Change Adaptation (Istanbul, Türkiye, July 2025),

1. *Adopt* the Regional Climate Change Adaptation Framework 2026-2035 set-out in the Annex I to this Decision;

2. *Urge* the Contracting Parties to take into account and address the implementation of the RCCAF, through their national and local Integrated Coastal Zone Management (ICZM), climate change adaptation strategies and plans, National Determined Contributions in line with their national circumstances and priorities;

3. *Adopt* the Performance Monitoring Matrix (MEL) of the Regional Climate Change Adaptation Framework, set out in Annex II to this Decision, as an evolving monitoring tool for assessing the implementation of RCCAF, to be further detailed taking into account existing data-sharing and information systems with the view to ensuring that any reporting obligation created under the MEL, build on existing tools and data used by Contracting Parties to avoid duplication or further administrative burden;

4. *Encourage* all relevant intergovernmental organizations, donor agencies, industry, non-governmental organizations and academic institutions to support the implementation of the RCCAF, including through adequate funding;

5. *Request* the Secretariat, the CC/RAC and other MAP Components to make every effort to provide coordinated technical support to identify and mobilize external resources to support Contracting Parties in enhancing their capacity and effectively implement the RCCAF.

Annex I

Regional Climate Change Adaptation Framework for the Mediterranean Marine and Coastal Areas 2026-2035

INTRODUCTION

Purpose and scope of the Framework

1. The development of the Framework is guided by the following vision:

By 2035 the Marine and Coastal Areas of the Mediterranean countries and their communities have increased their resilience to the adverse impacts of climate variability and change, in the context of Sustainable Development. This is achieved through common objectives, cooperation, solidarity, equity, transparency, accountability and participatory governance.

2. Climate change is one of the most critical challenges that the Mediterranean region is facing, from a demographic standpoint with approximately 30% growth between 2025 and 2050 (from about 500 to 650 million people). It is also one of the regions with the greatest ecological deficit (difference between ecological footprint and biocapacity), it is home to 60% of the world's water-poor human populations.

3. Pressing climate change challenges are expected to rapidly worsen the already acute climatic conditions present in the region and aggravate existing pressures including increased health risks for Mediterranean citizens. Even societal stability might be compromised: demographics in the Basin are on the rise and the more the population grows, especially in the South, the more the Governments and population will have to face civil security issues and an increase of human losses.

4. The adverse climate change context for the Mediterranean Region requires urgent and ambitious preventive remedial action. The Mediterranean has long been identified as a global climate change hotspot, one of the two most responsive regions to climate change globally[1]. A series of landmark scientific reports have confirmed climate change fragility of the Mediterranean region, with warming 20% faster than the global average, verifying its "hot spot" reputation. Climate change impacts, therefore, will continue to exert further pressure on already strained ecosystems and on vulnerable economies and societies. Coastal zones will face heightened disaster risks, including floods, droughts, erosion, and salinization of river deltas and aquifers that sustain food security and livelihoods[2]. Historically, responses to climate-related pressures and hazards in the Mediterranean region have often been limited to short-term and reactive local emergency measures.

5. Building on environmental and socioeconomic resilience against climate change at-national, regional and local levels requires pro-active, long-term integrated planning that addresses the root causes of vulnerability and guides the economic development of the region in a more sustainable direction. The Mediterranean countries need to turn the challenges they face under a changing climate into opportunities to increase their resilience by addressing the reasons that have led many environmental parameters into almost critical status.

6. At their 23rd Meeting, the Contracting Parties to the Barcelona Convention and its Protocols (COP23, 5-8 December 2023, Portorož, Slovenia) confirmed their commitment to "enhance actions to address climate change in the Mediterranean and increase protection of the marine ecosystems against the detrimental impacts of climate change, and strengthen scientific knowledge and expertise in this area".

7. The outcome document of the 2025 United Nations Ocean Conference (UNOC-3) entitled "*Our ocean, our future: united for urgent action*", reaffirms the strong global commitment to conserve and sustainably use oceans, seas, and marine resources and emphasizes the need to adapt to the unavoidable effects of climate change.

8. The United Nations Framework Convention on Climate Change (UNFCCC) Ocean and Climate Change Dialogue aims to strengthen understanding and action on ocean-related climate issues within the UNFCCC process. This involves enhancing collaboration, sharing knowledge, and identifying opportunities to integrate ocean-based solutions into climate policies and Nationally

[1] Giorgi, F. (2006), Climate change hot-spots, Geophysical Research Letters, 33, L08707.
[2] First Mediterranean Assessment Report (MAR1) on "Climate and Environmental Change in the Mediterranean Basin – Current Situation and Risks for the Future", MedECC, 2020

Determined Contributions (NDCs).

9. Resolution 15 of the 6th United Nations Environment Assembly (UNEA-6) on Strengthening ocean efforts to tackle climate change, marine biodiversity loss and pollution, calls upon all Member States 'to encourage investment in sustainable, climate-resilient water and sanitation infrastructure and nature-based solutions and/or ecosystem-based approaches.'

10. Climate Change, with its accompanying risks and vulnerabilities, is a global common challenge faced by all and with local, regional, national and international dimensions[3]. Therefore international/regional cooperation is required. The Mediterranean region will need a strengthened, cross-border collaborative and coordinated approach to adaptation consistent with the UNFCCC and the Paris Agreement's Global Goal on Adaptation process for "enhancing adaptive capacity, in order to strengthen resilience and reduce vulnerability", and with reference to National Adaptation Plans (NAPs) and COP 28 Decision on the UAE Framework for Global Climate Resilience, including its thematic and dimensional targets (Para 9 and 10)[4].

11. The 2021 EU Strategy on Adaptation to Climate Change promotes national, regional and local approaches to adaptation and resilience and strong partnerships with its neighborhood, in particular the Mediterranean region[5].

12. The Main Objective of the Regional Climate Change Adaptation Framework (RCCAF) 2026-2035 is to ~~set~~ consolidate a regional strategic approach to increase the resilience of the Mediterranean marine and coastal natural and socioeconomic systems against the impacts of climate change. The Framework assists policy makers and stakeholders at all levels across the Mediterranean in the development and implementation of coherent and effective policies and measures by identifying strategic objectives, strategic directions and priorities that:

- promote the right enabling environment for mainstreaming adaptation into national and local planning;
- promote and exchange best practices and low-regret measures;
- promote leveraging of necessary funding; and
- exchange and access best available data, knowledge, assessments and tools on adaptation.

13. The RCCAF focus and geographical scope are consistent with the legal framework set by the Barcelona Convention and its Protocols for the marine and coastal environments of the Mediterranean Sea and the coastal zones of the 21 countries that border it. The Framework recognizes that climate change is having and will have heavy impacts that do not respect the boundaries of a coastal zone as it is usually defined and that coastal adaptation actions may be required further inland, in particular in inland watersheds.

14. At the national level, the implementation of this strategic framework is linked to the work carried out under the Barcelona Convention, and is complementary to the provisions of the ICZM protocol, Mediterranean Strategy for Sustainable Development (MSSD) implementation, and other relevant instruments. The time scale of the Framework is aligned with the MSSD 2026-2035.

15. The Framework is structured around four strategic objectives. Each strategic objective includes separate strategic directions and suggested priorities for their realization.

16. The RCCAF 2026-2035 takes into consideration key recent documents of the UNEP/MAP System:

- The *2020 State of the Environment and Development (SoED) of /Plan Bleu* provides an analysis of the region's climate policy and institutional landscape, noting the varied climate change response needs of different sub-regions and pointing to the importance of

[3] Art 7.2, 2015 Paris Agreement
[4] COP30 expected elements of the final outcome of the UAE-Belém work programme to be agreed include no more than 100 indicators that are globally applicable and can inform analysis of global trends, and constitute a menu of indicators that Parties can choose to report on in light of their national circumstances.
[5] Communication From The Commission to the European Parliament, the Council, the European Economic And Social Committee And The Committee Of The Regions, Forging a climate-resilient Europe - the new EU Strategy on Adaptation to Climate Change. COM(2021) 82 final, 24.2.2021

the integration of Nature-based Solutions (NbS) into climate change adaptation planning.

- *The 2020 Climate and Environmental Change in the Mediterranean Basin, The First Mediterranean Assessment Report (MAR1) of MedECC*[6]*,* presents a synthesis of available climate scientific knowledge, covering most climate-sensitive sectors and sub-regions. It supports local and vulnerable communities via resilience policies for climate adaptation which take into account poverty, inequalities, gender imbalances, social inclusion and redistribution.
- The *"2023 Summary for Policy Makers of the Special Report on Climate and Environmental Coastal Risks in the Mediterranean of MedECC",* presents current and future climate scenarios and risks. It also notes that "available knowledge concerning the risks studied by MedECC has significant gaps, often due to limited monitoring systems or scientific research capacity".
- The 2025 Report *"The Mediterranean by 2050: A Foresight by Plan Bleu*"[7] of Plan Bleu is a milestone report in understanding the sustainable development issues in the Mediterranean region that offers future perspectives for the next thirty years.

17. The RCCAF 2026-2035 was updated in parallel with the process of the preparation of the MSSD 2026-2035, and especially its Objective addressing climate change with emphasis to adaptation. Every effort will be made to ensure full complementarity of the implementation of the RCCAF 2026-2035 with the MSSD 2026-2035, to maximize impacts on the ground. Relevant Strategic Directions are specifically referenced in the RCCAF objectives, strategic directions and priorities, as described in the next sections.

Background – The Mediterranean Changing Climate

18. The climate of the Mediterranean region is characterized by mild winters and hot and dry summers. From the west, the Atlantic Ocean regimes have a great intra-seasonal and interannual variability influences in the Mediterranean reaching mainly the northeast part of the Mediterranean land and sea, whilst the eastern and southern climatic regimes provide the characteristics of the southern Mediterranean areas.

19. The Mediterranean coast is one of the region's most endangered areas. Over the past 60 years, coastal population growth has been rapid and sustained, resulting in one-third of the region's population now living along the coast. The Mediterranean hosts approximately one-third of global tourism, with a large share concentrated around coastal zones. High concentrations of population and tourism resulted in intensive coastal build-up, often well above national averages. Minimal tidal variation has historically allowed infrastructure and settlements to be placed very close to the sea. This now heightens the risk of coastal and compound flooding, especially in low-elevation coastal areas. At the same time, wildfire risks are intensifying, making Mediterranean coasts a hotspot for converging climate-related hazards

20. For the marine environment, available data indicates that since the 1980's, documented impacts on marine Mediterranean species and habitats were attributed to climate change. These included frequent and drastic mortalities of sessile benthic species of the infralittoral and circalittoral communities. For the deeper Mediterranean ecosystems, recent scientific articles reported that in the 1990's, Climate change caused an accumulation of organic matter on the deep-sea floor and altered the carbon and nitrogen cycles.[8]

21. Climate change poses significant challenges to the Mediterranean countries and is expected to worsen already acute climatic conditions present in the region. Essential resources like fresh water, clean air, fertile soil, agricultural production and fish provisions are endangered while coastal communities, ecosystems and infrastructure are challenged by increased physical risks. More

[6] The Mediterranean Experts on Climate and Environmental Change (MedECC) is an open and independent international scientific expert network, providing information to decision-makers and the general public on the basis of available scientific information and on-going research,
[7] https://planbleu.org/wp-content/uploads/2025/01/Rapport-MED-2050-EN.pdf
[8] Mediterranean Quality Status Report 2023

importantly, human lives may become endangered, health risks increased, and even societal stability compromised in a changing climate. A Mediterranean-wide response to these risks reduces the vulnerability and exposure of the region's society, economy and ecosystems to climate-related hazards, and increases the overall resilience of the Mediterranean marine and coastal areas.

The Region's climate has already changed

22. Climate change is one of the most critical challenges that the Mediterranean region is facing. After the Arctic, the Mediterranean is the second fastest-warming region in the world. It is also one of the regions with the greatest ecological deficit (difference between ecological footprint and biocapacity) and is home to 60% of the world's water-poor human populations. Over the two decades up to 2020, the frequency and duration of marine heat waves increased by 40% and 15 percent, respectively. The magnitude and pattern of observed precipitation trends also exhibit pronounced spatial variability dependent on the time period and season.[9]

23. In its Sixth Assessment Report, the IPCC concluded that "during the 21st century, climate change is projected to intensify throughout the region. Air and sea temperature and their extremes (notably heat waves) are likely to continue to increase more than the global average (high confidence)". The report predicted (i) a decrease in precipitation in most areas by 4–22%, depending on the emission scenario, (ii) a further rise in the Mediterranean Sea level during the coming decades and centuries, likely reaching 0.15 to 0.6 m in 2050 and 0.6 to 1.1 m in 2100 (relative to 1995–2014) and the process is irreversible at the scale of centuries to millennia; (iii) coastal flood risks will increase in low-lying areas along 37% of the Mediterranean coastline with an increase in the number of people exposed to sea level rise, especially in the southern and eastern Mediterranean region, and may reach up to 130% compared to present in 2100; (iv) ocean warming and acidification will impact marine ecosystems, with however uncertain consequences on fisheries[10].

24. Climate change affects all of the Mediterranean coastal region's terrestrial and marine costal zones. The near surface air temperature of the Mediterranean region in 2020 was 1.5°C warmer than pre-industrial times (1850–1900), with an increasing trend of 0.01– 0.05°C since the 1980s. Satellite data since the 1980s shows spatially different warming rates of the sea surface between +0.29°C and +0.44°C per decade, and stronger in the eastern basin. Mediterranean coastlines have experienced relative sea level rise at an accelerated rate during the last three decades. Mean sea level rise shows an approximate trend of ~1.4 mm per year during the 20th century, and it has accelerated to 2.8 ± 0.1 mm per year in the three decades up to 2018. The interannual and decadal variability that is superimposed on this trend can temporarily mask it. Coastal flooding in the Mediterranean due to storm surges and wind waves threatens the flood-prone areas in the waterfronts (river mouths and deltas) and low-lying coastal plains in many Mediterranean countries. The estimated decrease of the pH of the Mediterranean Sea surface waters is between 0.055 and 0.156 pH units since the preindustrial period with serious implications for acidification[11].

Projections for the future

25. While the IPCC AR5 had already considered the Mediterranean Region as "*highly vulnerable to climate change*" that "*will suffer multiple stresses and systemic failures due to climate changes*", the Cross-Chapter Paper 4 Mediterranean Region of the IPCC AR6[12] confirms that due to its particular combination of multiple strong climate hazards and high vulnerability, the Mediterranean region is a hotspot for highly interconnected climate risks.

26. In the future, warm temperature extremes will increase, and heat waves will intensify in duration and peak temperatures. For 2°C of global warming above the pre-industrial value, maximum daytime temperatures in the Mediterranean will likely increase by 3.3°C. With 4°C global warming, nearly all nights will be tropical (nighttime temperature for at least five days above a location-

[9] MED 2050, The Mediterranean by 2050, A foresight by Plan Bleu - Summary, Jacques Theys, with contributions from Denis Lacroix and Khadidja Amine, Plan Bleu, 2025, Marseille, 19 pages.
[10] IPCC, Climate Change 2023, Synthesis Report
[11] The Summary for Policy Makers of the MedECC Special Report on Climate and Environmental Coastal Risks in the Mediterranean 2023
[12] https://www.ipcc.ch/report/ar6/wg2/chapter/ccp4/

depending threshold) and there will be almost no cold days[13].

27. Mean surface air temperature relative to pre-industrial values, is projected to increase by 2.1°C (1.6 to 2.7C) for the 2041–2060 period under the low (GHG) emissions scenario, and by 2.2°C (2.3 to 3.6C) over 2041–2060 under the high emissions scenario. Heat waves will increase both over land and over sea. Mean sea surface temperature is expected to increase by mid-21st century compared to the end of the 20th century, in the range from 0.6°C to 1.3°C under the high GHG emissions scenario. Warming is expected to be stronger in summer than in winter and associated with longer and more intense marine heat waves. The projected increase of dry spell length is larger in the south than in the north Mediterranean. Precipitation will decrease over most of the Mediterranean though heavy rainfalls will increase in some areas of the northern Mediterranean. Global warming will further increase the existing difference in intensity of precipitation and hydrological extremes between the northern and southern Mediterranean areas.

28. Sea levels are expected to continue to rise during the coming decades at a rate dependent on the future emissions of GHGs. The increase of relative sea level will cause more frequent coastal floods covering larger coastal areas. Mean sea level is projected to rise during the coming decades reaching 0.15–0.33 m by mid-21st century under the low GHG emissions scenario, and by 0.63–1.01m under the high emissions scenario. The frequency of an extreme sea level event that occurs once in a100 years is likely to increase by 10-30% by mid-21st century under intermediate, moderate and high emission scenarios.

29. Seawater acidification is projected to continue both off-shore and at the coast with pH levels decreasing between –0.25 and –0.46 units in Mediterranean surface waters by the end of the century under the very high emission scenario. The future evolution of sea surface salinity of the Mediterranean Sea remains largely uncertain with low confidence in its sign of change. Any change will likely be spatially and temporally irregular due to the primary role of the river and near-Atlantic freshwater inputs.

30. Future reduced precipitation, associated with increased evapotranspiration will lead to droughts, with drier soils and a decline of runoff and of coastal freshwater supply, and will become more severe under moderate and high emission scenarios. and strongly enhanced under severe emission scenarios[14].

Overview of expected climate change-related impacts and risks

31. Climate change will apply additional stresses on ecosystems and socioeconomic systems, by adversely increasing land degradation rates, the frequency and intensity of droughts, floods and other extreme climate events, as well as through changes in temperatures, precipitation patterns and the level of sea acidity.

32. *Natural and managed resources and systems*: The Mediterranean region is among the richest in biodiversity of global importance. However, many of its ecosystems have already been weakened by pollution, overexploitation, fragmentation of habitats, and biological invasions. Such stresses are expected to be, and will be further amplified under climate change. The composition of most of the present marine and coastal ecosystems has changed and will further change. There is a greater risk of extinction of species, especially those with a restricted climatic distribution, those that need highly specific habitats and/or those small populations which are naturally more vulnerable to modifications in their habitats.

33. Climate change is expected to amplify biological invasions and proliferation of pathogens and diseases fostered by the rise in temperature of the marine waters[15]. It is expected to alter the distribution of some species as a response to changes in the availability of their preys[16]. At the same time, sea acidification is currently occurring at an unprecedented rate, subjecting some marine

[13] The Summary for Policy Makers of the MedECC Special Report on Climate and Environmental Coastal Risks in the Mediterranean 2023
[14] See the Summary for Policy Makers of the MedECC Special Report on Climate and Environmental Coastal Risks in the Mediterranean 2023.
[15] UNEP/MAP SPA/RAC, 2010. Impact of climate change on marine and coastal biodiversity in the Mediterranean Sea.
[16] Mediterranean Quality Status Report 2023

organisms to additional and worsening environmental stress.

34. The region's water resources are subject to various interacting pressures such as rapid population growth, urbanization, tourism, alongside environmental degradation. These stresses are multiplied under climate change because of projected decline in precipitation and runoff, and depletion of groundwater resources. Agriculture in the coastal zones will be affected by increased temperatures, land degradation, and reduced water availability, with significant decreases in some crop yields that could reach alarming levels under high emissions scenarios, threatening food security especially for poor communities.

35. Changes in the geographical distribution of wild fish stocks can lead to ~~possible~~ decreased catch potential of some species. Climate change can also influence geographical distribution of aquaculture, species that could be raised, and the efficiency of production. The coastal zones which face high risks due to sea-level rise, host one third of the world tourism of the Mediterranean countries' coastal areas. The region's coastal systems and low-lying areas are subject to submergence and erosion due to increased sea-level rise and sea flood surges. Coastal aquifers, already overexploited, become increasingly threatened by saltwater intrusion due to rising sea levels and/or over-extraction. Warming and reduced rainfall leads to a decrease in trees and plant growth while annual burned areas due to forest and wild land fires are significantly increasing in many areas bordering the Mediterranean Sea.

36. *Human Settlements, Industry, and Infrastructure:* As coastal populations and assets in coastal areas continue to grow, exposure to climate change-related hazards, especially those associated with sea-level rise, is also increasing. The key impacts of climate change in coastal urban areas include inland flooding; coastal flooding and storm surges in low-lying and unprotected coastal zones; heatwaves exacerbated by the urban heat island effect; wind storms; water shortages and drought; air pollution; and other geo-hydrological hazards such as saltwater intrusion and landslides.

37. The crucial tourism industry faces negative consequences due to loss of beaches, natural attractions, tourism infrastructure and ambient comfort, especially during the summer months because of heat waves, drought and the associated risk of fires. Impacts on the sector will not be uniform across the region and occupancy rates may increase during spring and autumn in some areas. Port infrastructure, as well as coastal roads, railways, and airports, are at risk due to temporary and permanent flooding arising from sea-level rise, high winds and storm surges.

38. Energy transmission infrastructure also is at risk. Changes in water availability will affect hydropower generation and may lead to increased deployment of energy-intensive desalination options. Higher temperatures ~~will~~ increase the overall and peak demand for cooling in the summer months, but at the same time the heating demand during the winter is reduced.

39. The energy transition towards renewable energy sources can both mitigate Green House Gas (GHG) emissions in line with the temperature goal of the Paris Agreement and enhance resilience to climate change impacts, bearing in mind that greater levels of mitigation can reduce the need for additional adaptation efforts. The upscale of renewable Energies can play an important role in climate change adaptation. Examining the intersection of renewable energy and climate adaptation measures presents a critical opportunity for addressing climate impacts and supporting sustainable development. Promoting renewable energy as a strategy for adaptation requires well informed policy-making as well as raising awareness of its benefits.[17] However, further research is needed to establish the risks posed by the implementation of renewable energy projects (wind, solar and wave energies, hybrid systems) to the unique biodiversity of Mediterranean coastal ecosystems.[18]

40. *Human Health, Well-Being, and Security:* The overall health effects of a changing climate are likely to be negative. Extreme air temperatures contribute directly (through heat stress) and indirectly (through raised levels of ozone and other secondary pollutants) to an increase in the number of heat-

[17] IRENA (2025), Renewable energy in climate change adaptation: Metrics and risk assessment framework, International Renewable Energy Agency, Abu Dhabi.
[18] MedEcc, 2024 Climate and environmental coastal risks in the Mediterranean Summary for Policymakers

related illnesses and deaths. Such illnesses include cardiovascular and respiratory diseases particularly among the elderly, but also among children, people with medical conditions, and the poor. Extreme heat also raises pollen and other aeroallergen levels which trigger asthma.

41. Rising sea levels and increasingly extreme weather events may destroy homes, medical facilities and other essential services, therefore increasing risks to public health. Lack of safe water can compromise hygiene and increase the risk of diarrheal diseases, while floods can contaminate freshwater supplies, heighten the risk of water-borne diseases, and create breeding grounds for disease-carrying insects, especially threatening those with already limited access to water and sanitation. Decrease in the production of staple foods will increase the prevalence of malnutrition and undernutrition and food insecurity in general, especially among those with low incomes. Finally, changes in the climate are likely to lengthen the transmission seasons of important vector-borne diseases and to alter their geographic range, while some toxic marine species could expand their distribution range.

42. *A threat Multiplier:* Finally, climate change could act as a threat multiplier in the Mediterranean region, by placing additional pressure on already scarce resources (especially water and land), reinforcing preexisting threats as political instability, poverty, migration flows, unemployment, and overstretching societies' adaptive capacities.

Other Relevant Policy and Institutional Frameworks and Initiatives

43. Alongside the activities ongoing under the auspices of the UNEP/MAP-Barcelona Convention in relation to climate change adaptation, there are various other global and regional initiatives and frameworks, with which cooperation is a necessity. It is worth noting that the United Nations Framework Convention on Climate Change (UNFCCC), during the 20th and 25th Meetings of the UNFCCC Contracting Parties (COP 20 and COP 25), expressed the intention of Parties to cooperate and engage through multilateral, bilateral and regional complementary initiatives that aim to raise awareness and enhance education on climate change and its impacts, opportunities, and co-benefits.

44. Since entering into force in 1994, the UNFCCC has provided the basis for international climate negotiations, including the landmark Paris Agreement of 2015 that provides the overarching framework for the countries who have joined the UNFCCC. Its Article 7 provides the Global Goal on Adaptation (GGA) for enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to ensuring an adequate adaptation response.

45. In 2023 the UNFCCC COP 28 adopted the Framework for Global Climate Resilience, which positions adaptation as a top priority for all nations. It includes a range of thematic and dimensional targets for climate adaptation and resilience (inter alia water scarcity, food systems, biodiversity and ecosystems) and UAE Belem Work Programme for the development of indicators for measuring progress towards the Framework targets. Parties also committed to enhance cooperation with subnational governments in the planning, financing, implementation, and monitoring of climate strategies.

46. In November 2024, UNFCCC COP 29 reached an agreement on a new climate finance goal calling on all actors to scale up financing to developing countries for climate action from all public and private sources to reach at least USD1.3 trillion per year by 2035 for climate actions in developing countries and the goal to mobilize at least USD300 billion per year by 2035 with the developped countries taking the lead.

47. The European Commission adopted in February 2021 the EU Strategy on Adaptation to Climate Change. The new strategy sets out how the European Union can adapt to the unavoidable impacts of climate change and become climate resilient by 2050. It identifies four principles: to make adaptation smarter, swifter and more systemic, and to step up international action on adaptation to climate change. The new Strategy will support the further development and implementation of adaptation strategies and plans at all levels of governance with three cross-cutting priorities: 1. integrate adaptation into macro-fiscal policy; 2. nature-based solutions for adaptation; 3. local adaptation action. In order to support the development and implementation of climate change adaptation strategies and actions in Europe, the European Climate Adaptation Knowledge Platform

Climate-ADAPT[19] is operational.

48. The Agenda of the Union for the Mediterranean (UfM) "Towards 2030: Agenda for a Greener Med – Contributing to Achieving the Environmental SDGs in the Mediterranean" (2030GreenerMed) addresses key environmental issues in the Mediterranean that require cooperation across borders and sectors in order to accelerate the transition of the Mediterranean region towards a green, circular and inclusive economy.

49. The 2022-2025 Climate Change Strategy for the Arab Region elaborated by UN-Habitat aims at curbing the impact of climate change on Arab cities and communities through resilience building, reduction of urban vulnerabilities, advancing adaptation and mitigation actions for the development of sustainable cities and mainstreaming climate considerations in urban policies and plans. Linkages have been secured with other relevant LAS strategies such as the Pan Arab Renewable Energy Strategy 2030, the Arab Strategy for housing and sustainable development 2030 and the Arab Water Security Strategy 2010-2030, in order to enhance the respective countries' capacity to take appropriate measures for addressing climate change issues while achieving sustainable development targets and SDGs.

THE FRAMEWORK'S OBJECTIVES, STRATEGIC DIRECTIONS AND PRIORITIES

50. The Framework is structured around four Strategic Objectives, each of them identifying several Strategic Directions with Priorities for Consideration. The Strategic Objectives and Strategic Directions are presented below and are elaborated in the following section:

1. *Appropriate institutional and policy frameworks, increased awareness and stakeholder engagement, and enhanced capacity building and cooperation:*
    - 1.1. *Enhancing awareness and engagement of key stakeholders on climate adaptation*
    - 1.2. *Promoting adequate institutional and policy frameworks*
    - 1.3. *Promoting a regional approach on Disaster Risk Management*
    - 1.4. *Improving implementation and effectiveness of adaptation policies through monitoring and reviewing progress*
    - 1.5. *Integrating climate adaptation into local plans for the protection and management of areas of special interest*

2. *Development of best practices (including low regret measures) for effective and sustainable adaptation to climate change impacts:*
    - 2.1. *Identifying adaptation needs and best practices*
    - 2.2. *Mainstreaming, exchanging and adopting best practices*

3. *Access to existing and emerging finance mechanisms relevant to climate change adaptation, including international and domestic instruments:*
    - 3.1. *Prioritizing public spending relative to climate adaptation and mobilizing national sources of climate finance*
    - 3.2. *Accessing international financing*
    - 3.3. *Building alliances with the banking and insurance sectors*

4. *Better informed decision-making through research and scientific cooperation and availability and use of reliable data, information and tools:*
    - 4.1. *Understanding of the vulnerability of natural and socioeconomic systems and sectors and of possible impacts*
    - 4.2. *Building capacities for and promoting the use of vulnerability and risk assessment at regional to local levels*
    - 4.3. *Strengthening Science-policy interface and accessibility of related knowledge*
    - 4.4. *Developing Regional climate information at a resolution suitable for adaptation planning*

[19] https://climate-adapt.eea.europa.eu/en

Strategic Objective 1: Appropriate institutional and policy frameworks, increased awareness and stakeholder engagement, and enhanced capacity building and cooperation

51. Climate change and its impacts are placing Mediterranean stakeholders in a position that requires maximum coordination, harmonization and integration of different national and regional sectoral policies. The water- scarce Countries in the South and East will face the challenge of managing sharp population increases, with the number of inhabitants in the South rising from 200 million to almost 300 million, and in the East from 122 million to 160 million. By 2050, these two regions could account for almost 70% of the Mediterranean population, compared with just over 60% today.[20]

52. In order to reach results, institutional capacities, relationships, policies and practices to assess and manage climate change risks and opportunities and national development goals must be strengthened.

53. Coordination within and between national institutions on climate change adaptation in the coastal and marine areas with Nature-based Solutions at the forefront, is a vital prerequisite to create an enabling environment for the formulation and implementation of efficient solutions for the complex and cross-cutting problems created by climate change.

54. Alongside the coordinated and aligned preparation of national planning dedicated to climate change, e.g. via National Adaptation Plans (NAPs) and Nationally Determined Contributions (NDCs), it is equally important to embed climate change adaptation into national, subnational and sectoral development planning and budgeting processes. This will help sensitize and raise awareness and engagement of all stakeholders including the general public.

Strategic Direction 1.1: Enhancing awareness and engagement of key stakeholders on climate adaptation

55. Public support and engagement are essential for the acceptance and implementation of adaptation activities. This requires an appreciation of the importance of the issues involved costs of inaction as well as the environmental socio-economic benefits of adaptation. Improving awareness of climate change, its impacts, adaptation options and engagement in RCCAF activities is something that must also at the heart of the education, the business sector, local authorities and civil society including women, youth people with disabilities and migrants. Building awareness on the adaptation needs is a slow and complex process which requires immediate, sustained and well-resourced action. Competent civil society actors are valuable partners in this effort.

56. In this context priorities for consideration include:

i. Enhance High-level national political interest, support and commitment including awareness and capacity building to country negotiators on climate change matters
ii. Integrated awareness-raising campaigns addressing the general public, public bodies and the private sector, communicating consistent and effective messages about climate change risks, vulnerabilities and adaptation measures, including financial technical support to countries.
iii. Targeted awareness campaigns tailored for specific audiences, sectors or circumstances aiming to integrate adaptation measures in a most efficient way.
iv. E-learning and massive open online course (MOOC) programmes on climate change impacts in the Mediterranean.
v. Deepening engagement and Involvement of networks and stakeholder organizations (including local authorities, civil society institutions, farmers, fishermen, tourism managers and coastal and marine protected areas managers, private sector) in order to promote awareness raising, provide salient information and enhance their ability to respond to hazard events and take advantage of potential opportunities created by climate change.

[20] 2025 Report of Plan Bleu/RAC "The Mediterranean by 2050: A Foresight by Plan Bleu" (MED2050 Report)

vi. Involvement of journalists including through the establishment of a central information e-desk for the provision and communication of relevant information.

vii. Use effectively, as appropriate, the role of the UNEP-MAP IMAP Info System and its interoperability of different public country information systems in developing evidence-based information and communication contents.

Strategic Direction 1.2: Promoting adequate institutional and policy frameworks

57. Planning for adaptation to climate change and increased resilience to its impacts should not be considered as a separate policy field, disconnected from other aspects of sustainable development, but should rather be integrated across strategies and plans, including those related to development. Accordingly, the COP23 Decision IG.26/10 on the Conceptual Framework for Implementing Marine Spatial Planning in the Mediterranean, renews the central role of Marine Spatial Planning (MSP) as the main tool/process for the implementation of ICZM in the marine part of the coastal zone, and by integrating climate action into MSP as a novel approach. In fact, when integrated approaches to adaptation are used, this not only prevents maladaptation, but also contributes to mitigation. UNEP/MAP ICZM Plans routinely mainstream climate change into their design.

58. Adaptation planning via the NAPs and NDCs should be further embedded across national, sectoral and subnational development strategies and plans. Accordingly, this Direction is closely related to the MSSD 2026-2035[21].

59. Vital support is needed to develop countries' capacities to use the available knowledge base in the decision-making processes and access the right tools, also considering that practical adaptations especially for livelihoods take place at the community and household levels, therefore de-centralised processes are particularly important.

60. In this context priorities for consideration include:

i. Promote Regional policy instruments adopted under MAP Barcelona Convention related to the adaptation to the impacts of climate change, to assist countries to build coastal resilience, and on the future implementation of its protocols and action plans in the light of climate change.

ii. Take into account marine spatial planning, ICZM and related land-sea interactions by prioritizing interaction between national, regional and local institutions for promoting climate change adaptation across development planning and policy processes. These processes should take into account the benefit of the designing of coastal and marine adaptation measures against impacts of climate change.[22]

iii. Identification and addressing of relevant institutional, legal and cultural barriers to adaptation policies, beginning with the transposition of the concepts of "adaptation", "resilience", "vulnerability" and "risk" into legislative procedures.

iv. Support to countries to develop and adopt comprehensive coastal adaptation plans and strategies which integrate socioeconomic considerations into climate analytics, also by utilizing the ICZM adaptation piloting work carried out in some Mediterranean Countries by the UNEP/MAP system with the support of the Global Environment Facility (GEF), as a tool to assist countries to build coastal resilience into both climate and development planning.

v. Support and guidance on best practices and fully integrated approaches to mainstream and embed climate change considerations into national and sectoral developmental and environmental plans and strategies.

vi. Coordination between sectoral plans in order to derive synergies and co-benefits and avoid maladaptation.

vii. Integrated approaches for the reduction of non-climate related threats that have a

[21] Strategic Direction 1.4 of the to "Encourage institutional, policy, legal and legislative reforms and initiative for the effective mainstreaming of climate change responses into national and local development frameworks in all sectors".
[22] UNFCCC's Article 4, paragraph 1 (e) invites countries to prepare ICZM Plans. And 2023 United Nations General Assembly Resolution calls for strengthening cooperation for ICZM.

strong influence on risk and undermine the capacities of communities and ecosystems to adapt to climate change (land and water pollution, water extraction, overfishing, sand mining, damming, distortionary subsidies/taxes/incentives).

viii. Strategic Environmental Assessments carried out by national competent authorities, including the assessment of climatic factors and adaptation implications for all major national development and climate plans and strategies.

ix. Environment-Impact Assessments which include climate change, carried out prior to major infrastructure and commercial investments in coastal and marine areas.

Strategic Direction 1.3: Promoting a regional approach on Disaster Risk Management

61. Despite Disaster Risk Management (DRM) and climate change adaptation have traditionally evolved separately, the two approaches need to be closely linked. As climate change and socioeconomic trends boost the number of people exposed to extreme events, such as floods and heatwaves, improved early warning systems, anticipatory actions and greater coordination of disaster management activities will be needed to manage risks and protect lives and property. In this context priorities for consideration include:

i. Promoting integration of regional climate related data into national and subnational disaster risk assessments and management, incorporating gender and vulnerable group aspects in order to advance a more fair and just society.

ii. Regional and transboundary cooperation and assistance to cope with climate-related extreme events and emergency situations.

iii. Exchange of best practices on disaster risk management in the region, including disaster risk assessments at regional and national levels, and for disaster risk management financing.

iv. Innovative climate services and products to inform Risk Management, tailored to the needs of key public and private stakeholders.

v. National and regional contingency plans to handle crisis situations, incorporating environmental, social and economic aspects.

Strategic Direction 1.4: Improving implementation and effectiveness of adaptation policies through monitoring and reviewing progress

i. Appropriate measurement and reporting of the progress towards achieving the objectives of adaptation policies and plans, at both the national and regional level, is essential for transparency, effectiveness transparency and accountability. It is therefore necessary that adaptation policies are designed through a continuous and flexible process of learning including feedback through monitoring, reviews and evaluation, both in terms of the validity of the underlying scientific assumptions and of the appropriateness and effectiveness of projects and policies. In this context priorities for consideration include: Reporting on the implementation of national climate adaptation policies related to the coastal and the marine environment with results aligned with the relevant Protocols, MSSD and RCCAF processes and linking with IMAP and its knowledge management platform.

ii. Development of a RCCAF monitoring, evaluation and learning framework, taking into account the existing national and international environment monitoring systems and the efforts under UNFCCC and the Paris Agreement and which includes objectives, benchmarks, indicators[23] and timescales for reviews and reporting to take place.

iii. Identification of institutions responsible for monitoring and review and evaluation with mechanisms in place at national, sectoral and local levels ensuring the

[23] Incusing the Climate Change indicators developped in the framework of the updated EcAp RoadMap and Integrated Monitoring and Assessment Programme

availability of good quality data.

iv. Dynamic updating and refining of adaptation plans as more data on impacts becomes available and lessons are learned.

Strategic Direction 1.5: Integrating climate adaptation into local plans for the protection and management of areas of special interest

62. Not all marine and coastal areas of the Mediterranean face the same climate-related risks. Some areas may exhibit specific characteristics that render them particularly vulnerable to climate hazards; others may host very significant historical, cultural or socioeconomic assets exposed to climate change impacts; while others have an iconic or special interest status. Early planning and implementation of adaptation measures in such areas should be a regional priority and should take into account that adaptation activity is being activated at local levels.

63. In this context, the Land-Based Sources Protocol, Article 5, is being supportive of local planning where Contracting Parties shall elaborate and implement national and regional action plans and programmes containing measures and timetables for their implementation.

64. In this context priorities for consideration include:

i. Work with local governments to ensure the integration of urgent adaptation action for:
   a. coastal zones especially urbanised low-elevation coastal zones[24]
   b. coastal infrastructure, settlements and assets
   c. safety for human lives

ii. Identification and preservation of areas of special interest (such as heritage sites, nature reserves, biodiversity and ecosystems, coastal mega-cities, river deltas etc.) as well as Marine Protected Areas (MPAs) and undertaking their risk assessments against various climate change scenarios, development of methodologies and guidelines for subnational levels for the integration of climate adaptation dimensions into their development and management plans, using Nature-based Solutions and ICZM as priority tools.

Strategic Objective 2: Development of best practices (including low regret measures) for effective and sustainable adaptation to climate change impacts

65. Improved knowledge and understanding are essential for more reliable forecasts of future conditions that will guide policy makers and implementers of adaptation solutions. While global climate uncertainty will remain inherent to adaptation decision making processes and the need for providing further guidance to decision makers will increase, adopting a forward-looking vision over the medium and long term, both assessing risks and vulnerabilities and planning adaptation measures, taking into account various climate scenario is essential

66. Adaptation solutions can be location, time and sector specific. Grey adaptation, as engineering solutions for sea defenses, may be applied across different geo-climatic zones, but livelihood sectors, agriculture, forestry, water management, fisheries, nature conservation, tourism, are dependent on locality-specific conditions.

67. Low-regret measures are existent, such as rainwater harvesting, water efficiency and reuse, drought resistant crops etc., with proven developmental benefits and effectiveness more accurate information related to climate change is awaited.

68. Progress is being made with many of these low-regret measures which produce co-benefits, help address other development goals, and help minimize the scope for maladaptation. This incudes elevating the emerging Water-Energy-Food-Ecosystems (WEFE) Nexus in the design and

[24] The 2023 UNEP/MAP Mediterranean Quality Status Report (QSR) mentions giving priority to low-lying zones in adaptation planning.

implementation of adaptation policies [25]

69. Livelihoods adaptation takes place at the community and household levels and is frequently time and space specific. This process needs guidelines to provide good practice for identification, testing and piloting which should be as decentralized as possible. This is closely aligned with MSSD 2026-2035[26], while the scaling up of the adaptation solution can build on pilot adaptation and resilience work from the GEF supported MedProgramme in Montenegro and Morocco.

Strategic Direction 2.1: Identifying adaptation needs and best practices

70. In the face of identified key climate risks (and opportunities) for a country or a region, decision makers need to focus on the most pressing needs and the best available and most efficient options to manage these risks. The latter includes activities under the MSSD 2026-2035[27].

71. In this context priorities for consideration include:

i. Identification by countries of their adaptation needs for the coastal and marine environment, and of relevant technology needs and inclusion in their National Adaptation Plans

ii. Identification of criteria and processes to select and prioritize the most effective best and adaptation options practices for the coastal and marine environment[28].

iii. Identification and addressing challenges and constraints for the transfer and adoption of best practices (including low-regret measures) and technologies across the Mediterranean basin.

iv. Testing and piloting adaptation actions including Nature-based Solutions at national and sub-national levels as key enablers for scaling up especially for livelihood adaptations, and by taking account of the experience of the ICZM adaptation piloting work carried out by the UNEP-MAP System with the support of Global Environment Facility (GEF) , including engagement, capacity-building, cooperation and gender-sensitive risk and vulnerability assessments which are especially important for livelihoods.

v. Strengthening national and local capacities on the application of Nature-based Solutions for climate change adaptation, including via pilots in the Southern Mediterranean, North and Ionian/Adriatic sub-regions, and based on the best practiced developped in the framework of the 2020-2024 Special Climate Change Fund (SCCF) established the Project for "Enhancing regional climate change adaptation in the Mediterranean Marine and Coastal Areas". Advancing in existing traditional techniques that could provide effective adaptive solutions, forming an integral part of the Mediterranean tangible and intangible cultural heritage.

Strategic Direction 2.2: Mainstreaming, exchanging and adopting best practices

72. In this context priorities for consideration include:

i. Mainstreaming and implementation of best practices into national adaptation planning processes.

ii. Maximization of synergies with relevant mitigation efforts (e.g. climate smart agriculture and forestry, energy efficiency in buildings, "blue carbon" policies etc.) and minimization of possible conflicts.

iii. Local authorities and communities implement adaptation actions tailored effectively to localized impacts of climate change including application of innovative, grass root responses and applying participatory science to monitor progress.

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[25] 2020 MedECC First Mediterranean Assessment Report
[26] Strategic Direction 1.2 to "Accelerate the uptake of climate smart and climate resilient responses".
[27] Strategic Direction 1.6 "Strengthen national and local capacities on the application of nature-based solution for climate change adaptation and mitigation".
[28] Building on the 2020 MedECC First Mediterranean Assessment Report which presents climate adaptation assessments, scenarios, solutions and best practices across a range climate-sensitive sectors.

iv. Consider Nature-based Solutions approaches, the ICZM Protocol and Post 2020 SAP/BIO adaptation practices as priority policy and actions tools for encouraging adaptation efforts.

v. Opportunities for integrating climate change mitigation, adaptation and resilience measures into maritime policies compatible with a 1.5 C trajectory, in line with 2023 IMO Strategy for the reduction of GHG from ships (and in line with IMO Net Zero Framework[29])

vi. Strengthen exchanges of adaptation knowledge and expertise across the Mediterranean Region to draw on adaptation experience from differing geographical climatic and socioeconomic, human and financial resource conditions.

vii. Innovative information sharing tools for the exchange of best practices and stakeholders' engagement at all levels

Strategic Objective 3: Access to existing and emerging finance mechanisms relevant to climate change adaptation, including international and domestic instruments

73. In the face of climate change and related risks, the cost of inaction can be considerable. The measures to increase the resilience of our natural and socioeconomic systems should therefore not be considered as economic costs but rather as investments that are even economically profitable as they reduce risks and expected damages and losses, while at the same time exploiting opportunities towards sustainable development.

74. Even if global GHG emissions are deeply reduced to the level required to meet the goal of the Paris Agreement of limiting the increase in global average temperature to well below 2°C, and pursuing efforts to limit the increase to 1.5 degrees, according to UNEP the global investment of adaptation for developing countries could exceed USD387 billion per year up to 2030, excluding domestic and private sector flows[30]. In contrast, international public finance flows to developing countries were just USD 27.5 billion per year in 2022 for adaptation compared with USD 46 billion for mitigation. While international public finance flows for adaptation have increased, a considerably large adaptation finance gap exists. Such a finance gap will mean higher loss and damage for developing countries but will also impact adversely on developed countries through international and transboundary spillovers such as population displacement.[31] Such financial resources should not be expected to come from only one or a few sources. For developing countries, international assistance is the primary source of adaptation finance but mobilizing public and private funds domestically is also essential.

75. Historically, the Global Environment Facility (GEF) has been a major source of environment and climate finance. More recently, the Green Climate Fund (GCF), established under the Cancun Agreement in 2010, with headquarters in the Republic of Korea, is now the main dedicated climate financing vehicle for developing countries, serving as the financial mechanism of the UNFCCC and the Paris Agreement. The UNFCCC Adaptation Fund, managed by the World Bank, is another dedicated source of climate finance dealing with smaller scale projects. Both the IMF and the World Bank have their own climate-related funds. The EU provides climate financing which has been used by the region's countries, while bilateral donor sources continue to be important depending on their developmental interests.

76. Most adaptation actions especially those for livelihood areas will be implemented by the private sector. The private sector needs to be drawn into financing its own adaptation through a combination of regulation and/or financial incentives and regulation. When sensitized to risks and the potential benefits of climate change adaptation, the private sector will mobilize resources to integrate technologies into its production and service functions. The MAP system and its Contracting Parties should develop inter-stakeholder cooperation for close working relations between the public and private sectors and civil societies, to construct a platform of trust and synergy through which 'win-win' collaborations can be established.

[29] Formal adoption expected in October 2025
[30] UNEP, Come hell and high water, 2024 Adaptation Gap Report.
[31] UNEP, Come hell and high water, 2024 Adaptation Gap Report.

Strategic Direction 3.1: Prioritizing public spending relative to climate adaptation and mobilizing national sources of climate finance

77. Country-led approaches are essential for a strategic allocation of funds to key areas, especially taking into account that national sources are expected to cover most of the costs of adaptation measures. Beyond public resources, the involvement of the private sector which is essential for the sharing of investments costs, risks, rewards and responsibilities, needs to be fully tapped and engagement strategies developped. Fiscal and other existing and emerging economic instruments can foster adaptation by providing funds as well as incentives for anticipating and reducing impacts. It should be noted that mainstreaming climate-related considerations into sectoral policies would also allow to pursue adaptation objectives to take advantage on already available financial resources.

78. At the country level, NDCs and NAPs together with annual planning and budgeting are the main instruments for mobilizing public finance. In this context priorities for consideration include:

i. Discussions with financial authorities and review of the national portfolio of climate response options to facilitate more effective and efficient climate-resilient and disaster-responsive funding allocation and decisions, e.g. through a Climate Public Expenditure and Institutional Reviews.
ii. Discussing with financial authorities the government subsidies adversely affecting adaptation, and fiscal incentives which could promote adaptation, linked to the MSSD 2026-2035[32]
iii. Economic valuations of the costs of climate change as a foundation for governments to allocate national funding on adaptation.
iv. Avoidance of maladaptive actions and non-efficient "hard" infrastructures and seek for low-regret measures that improve climate resilience.
v. Appropriate share of public spending to climate adaptation as part of an integrated sustainable development agenda, and coordinated with the actions foreseen under the MSSD 2026- 2035[33]
vi. Socially sensitive and transparent public-private partnerships for adaptation action encouraging the involvement of the private sector in related schemes.
vii. Mainstreaming adaptation considerations into the existing financial frameworks and programmes

Strategic Direction 3.2: Accessing international financing

79. The Contracting Parties to the UNFCCC have set up a number of dedicated funding mechanisms for channeling international assistance envisaged in the Convention such as the Adaptation Fund and the Green Climate Fund as prominent ones. On July 2015, UNEP was accredited as a partner institution to the Green Climate Fund, thus opening new opportunities and enhancing capacities for adaptation-related activities.

80. Other global funds have also been set up through multilateral agencies such as the World Bank and the International Monetary Fund. In the Mediterranean context, dedicated international financing for adaptation measures can be available through international banking institutions such as the European Investment Bank (EIB)[34], its Facility for Euro-Mediterranean Investment and Partnership (FEMIP) which addresses funding gaps in the EU's Southern Neighborhood, the European Bank for Regional Development (EBRD), the Global Environment Facility (GEF), the African Development Bank and the Islamic Development Bank , as well as the Blue Mediterranean Partnership to support transition to blue economy in the Southern Mediterranean Region. Bilateral donor sources continue to be important depending on their portfolio interests.

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[32] Strategic Direction 5.5 "Promote an integrated financial ecosystem through a Mediterranean Framework for Green and Sustainable Finance aiming to foster the channeling of private and public capital into sustainable investments."

33 Strategic Direction 1.3 "Leverage existing and emerging climate finance mechanisms, including international and domestic instruments, and enhance the engagement of the private and finance sectors".

[34] With its seven key adaptation investment areas.

81. Some countries in the region have been unable to take advantage of opportunities offered by existing and emerging financing instruments related to adaptation, mainly due to demanding compliance and review requirements. The GCF reformed *modus operandi* to be more supportive to the massive scale up of global climate finance mobilization needed to meet the targets adopted at COP29, combined with working with UNEP's Climate Change Division, should make international adaptation finance more accessible. Efforts should be made to accommodate countries with political and economic instabilities, in order to leave no one behind.

82. In this context priorities for consideration include:

i. Developing guidelines to support countries' capacities to prepare bankable adaptation schemes and projects proposals in order to effectively access and manage international and regional funding for climate change adaptation.
ii. Maximization of multilateral and bilateral funding for areas of common interest and concern related to adaptation
iii. Coordination mechanisms between donors and key actors in the Region and beyond in order to agree on an integrated funding strategy and priorities, for avoiding overlapping or duplication of efforts and activities.
iv. Feasibility and potential of a regional approach to adaptation finance and risk transfer mechanisms.
v. Innovative financing mechanisms such as the issuance of Green Bonds, carbon markets, biodiversity offsets, etc.

Strategic Direction 3.3: Building alliances with the banking and insurance sectors

83. Integrating banking and insurance risk management into businesses practices could be best achieved through pricing them into commercial processes. Communicating risks associated with climate change through pricing may raise awareness better than any other communication tool. Therefore, alliances between government, banks and the insurance sector could result with smarter risk management and reduced future climate related costs for the society.

84. In this context priorities for consideration include:

i. Study of climate risk banking, reinsurance and insurance practices with a focus on the Mediterranean countries.
ii. Development of a Climate Risk Banking and Insurance Strategy for the Mediterranean with linkages with MSSD 2026-2035[35].
iii. Integration of climate risk management into business and management practices.
iv. Cooperation with the insurance (including re-insurance) and banking sectors in the Mediterranean countries.
v. Standardized international metrics related to climate risk and exposure.
vi. Exchange of best practices and provision of targeted information for different coastal stakeholders.

Strategic Objective 4: Better informed decision-making through research and scientific cooperation and availability and use of reliable data, information and tools

85. Decisions on adaptation policies should be informed by scientific research, results from pilot projects and knowledge of the changes in the region's climate system, the impacts of climate change, the vulnerabilities of natural and socio-economic systems to those impacts and the effectiveness of adaptation options, and closely related to the MSSD 2026-2035[36].

[35] Strategic Direction "Promote an integrated financial ecosystem through a Mediterranean Framework for Green and Sustainable Finance aiming to foster the channeling of private and public capital into sustainable investments".
[36] Strategic Direction 1.1: "Increase scientific knowledge, education, raise awareness, and develop technical capacities to deal with climate change and ensure informed decision-making at all levels, recognizing and protecting the climate adaptation and mitigation services of natural ecosystems".

Strategic Direction 4.1: Understanding of the vulnerability of natural and socioeconomic systems and sectors and of possible impacts

86. In order to formulate informed, effective and sustainable adaptation strategies and plans, it is vital that knowledge is applied and uncertainties are reduced, especially regarding the understanding of ecosystem-scale interactions and of socioeconomic consequences, including the socio-cultural specificities of the Mediterranean communities. Despite the production of a number of landmark scientific reports in the recent years, the 2023 MedECC Special Report acknowledges that "the available knowledge concerning the risks (and vulnerabilities) studied by MedECC has significant gaps". Knowledge gaps still need to be addressed and socioeconomic trends and scenarios need to be assessed. Approaches and methods to assess vulnerabilities and climate risks need to be constantly updated and upskilled in order to prioritize solutions and actions.

87. In this context priorities for consideration include:

i. Strengthening climate scientific knowledge, data and information sharing from research and monitoring.
ii. Assess climate change science and knowledge, policy, institutional and capacity gaps across Contracting Parties to provide a baseline for the development of guidelines for regional and national strategies to address the requirements of the RCCAF 2026-2035.
iii. Sensitivity and adaptive capacity of marine species and ecosystem responses to changes and cumulative impacts in oceanic conditions, including the introduction of non-indigenous species and ocean acidification.
iv. Mapping of coastal and marine ecosystems and assessment of the role of services they provide to climate resilience.
v. Assessing the effectiveness of the network of Marine and Coastal Protected Areas (MCPAs), including their environmental and socio-economic vulnerabilities and resilience, as well as their governance
vi. Sea level rise causing coastal subsidence and saltwater intrusion affecting groundwater resources and wetlands; current and wave patterns, and sediment movement affecting shoreline dynamics.
vii. Water resources and the water cycle
viii. Vulnerability and interactions of socioeconomic systems and sectors such as: agriculture and forestry, water resources management, health, tourism, urbanisation, fisheries, energy, transport and trade, and key infrastructure.
ix. Combined effects and interactions of climate change and socioeconomic dimensions, trends and scenarios, taking account of the socio-cultural specificities of the Mediterranean communities, such as migration, demographics, conflict and social stability, gender, and vulnerable groups (children and youth, older people, local communities and people with disabilities).
x. Assessment of potential positive opportunities and consequences for different sectors from a changing climate.

Strategic Direction 4.2: Building capacities for and promoting the use of vulnerability and risk assessment at regional to local levels

88. In order to support policy makers at the national, regional and local levels, capacities and tools need to be developed for a better understanding of climate change risks, of options for adaptation, and of how climate change adaptation links to national development goals. The risks need to be assessed in all dimensions: environmental (biodiversity losses of marine and coastal ecosystems), social (health, mortality) and socioeconomic (potential losses in all sectors). Direct and indirect effects of climate forcing on natural hazards must be explored and disentangled. Special attention should be given to the vulnerabilities and exposure of the Mediterranean component of risk where the level of uncertainties is much higher, such as water supply, flooding, etc.

89. Despite the fact that the Mediterranean is a global climate hotspot, the studies in the region are

still incomplete in terms of comprehensive analyses and assessments.

90. Numerous sub-regional projects and initiatives exist whose results need to be brought together in a consistent way in order to move towards the further development of a complete and integrated Risks and Vulnerability Assessment for the whole Mediterranean, both at national and regional level

91. In this context priorities for consideration include:

i. Understanding of the drivers, interactions, impacts and responses within the socioeconomic and environmental nexus.
ii. Integrated, multidisciplinary risk and vulnerability models introducing natural and socio-economic systems
iii. Economic valuations of the costs of climate change impacts on vulnerable sectors and hotspots.
iv. Development of easy-to-use risk assessment methods such as index-based methods to be applied at national, regional and local levels, and build capacities to apply those methods.
v. Technical assistance and capacity building for competent local and national institutions and civil society organizations for the monitoring of climate change impacts and assessing the cost of adaptation options.
vi. Georeferencing of the Mediterranean Sea and coasts and their resources and threats.
vii. Auditing of strategically important coastal assets and assessment of their vulnerability.
viii. Integrating climate change, adaptation and mitigation considerations into school and university departments' curricula and modules, including exchange programmes for climate change experts, researchers and students

Strategic Direction 4.3: Strengthening science-policy interface and accessibility of related knowledge

92. The strengthening of adaptive capacities requires an increasing in ~~systematization~~ organization and communication of scientific and traditional adaptation knowledge, as well as their integration into public policies and programmes. However, institutional and cultural barriers between researchers, policy makers and the public that sometimes hinder the transformation of knowledge into plans and actions, still remain a challenge in the Mediterranean. There is a need to contribute to strengthening the science/policy interface, and to recognize the three-way relationship between scientists, policymakers and the public, as well as the leveraging role that civil society plays.

1. In this context priorities for consideration include:

i. Strategy for communicating scientific and other types of knowledge for sharing and exchanging to policy makers at all levels as well as key stakeholders.
ii. Process for science-policy-business-community-managers dialogues at and between all governance levels, both regionally and nationally.
iii. Development of a Mediterranean Regional Network and Platform under the UNEP-facilitated Global Adaptation Network in order to share lessons, knowledge and information and highlight research and guidance needs and priorities.
iv. Regional Clearinghouse/repository/knowledge platform of best practices and relevant reports and publications.

Strategic Direction 4.4: Developing regional climate information at a resolution suitable for adaptation planning

93. In order for scientists and stakeholders to be able to assess the impacts of climate change and develop situation-specific adaptation plans at a downscaled level, it is essential that they will need to have access to high-resolution information from observation systems that monitor the climate system and detect and attribute climate change. The countries of the Mediterranean have national observation and monitoring systems of varying data quality and availability, with northern countries enjoying more long-term and high-quality climate data than southern ones. Generally, monitoring systems related to marine ecosystems (biotic and abiotic components) in the coastal and open waters are still lacking.

Infrastructure, spatial coverage and data issues at the national level are challenges that need to be addressed. Crucial coordination issues, however, are also essential to be addressed at the regional level. In this context priorities for consideration include:

i. Enhancing the availability and quality of environmental and socioeconomic data required for adaptation, including provisions for improving data collection and predictions to increase the knowledge of hot-spots and needs, as well as methodologies to apply this data for designing adaptation policies and measures.
ii. Supporting the maintenance and modernization and further development of monitoring programmes and networks in the region, including the creation/upgrade and complementarity of early warning systems for the Mediterranean sea and coasts, taking into account as appropriate existing systems, acknowledging that establishing and improving national inventories of climate impacts over time and building accessible, user driven climate services systems, including early warning systems, can strengthen the implementation of adaptation actions[37]
iii. Sharing and standardization of collection, quality and storage, of all data relevant to adaptation planning., following the Word Meteorological Organisation (WMO) Resolution 40[14].
iv. Using efficiently the UNEP/MAP knowledge management platform including the one on best practices on climate change monitoring and research, interconnecting or harvesting information from relevant databases and platforms, and taking account of good practice database examples such as the EU Climate-ADAPT platform.
v. Development of regional climate models integrating socioeconomic trends and threats.
vi. A strategic approach to climate adaptation research in the region involving academic, industry and government bodies and their partnerships.

Monitoring and Evaluation

94. A comprehensive monitoring, evaluation and learning (MEL) system will be introduced with relevant indicators and targets for the action planning and implementation of the RCCAF. The system design will be complex due to the large number of countries and will need to take account of the experience and challenges of the existing IMAP system and of existing indicators of the MSSD dashboard.

95. The purpose of the MEL system will be to manage and adjust the implementation of the RCCAF Strategic Directions. It will do this by:

- monitoring the level of implementation progress of the actions recommended in the Strategy;
- identifying successes and gaps and their causes in the implementation of directions/actions;
- adjusting implementation planning in response to successes, gaps and challenges.

96. The UNFCCC provides outline guidance for structuring and operating an indicator-based, MEL-type system which can track progress towards achieving adaptation goals[38]. The guidance cites examples of existing tracking adaptation and resilience systems which deliver information on climate, climate risks, impacts and vulnerability, and adaptation response measures. These can be backed up by "dashboard" or "traffic light" approaches to assess the progress made towards the desired adaptation outcomes.

97. The Contracting Parties will need to support the process through the regular and timely

[37] COP 28, Outcome of the 1st Global stock take (para 49)
[38] Approaches to reviewing the overall progress made in achieving the global goal on adaptation technical paper by the Adaptation Committee, 2021. https://unfccc.int/sites/default/files/resource/AC_TP_GlobalGoalOnAdaptation.pdf

provision of relevant data. The design of the system will need to take account at the regional level of the MAP data-sharing and information systems such as IMAP. Care and knowledge will be required in order to coordinate with existing national and international climate information systems so as to minimize new reporting obligations. Any reporting obligation created under the MEL system for national, regional and local entities will build on existing tools and data used in each country to avoid duplication or further administrative burden.

98. A Strategic Direction-based performance monitoring matrix setting out the regular monitoring of RCCAF implementation should be approved by the Contracting Parties. It should provide for monitoring the implementation of RCCAF Strategic Directions with sets of country level indicators.

Annex II

Performance Monitoring Matrix of the Regional Climate Change Adaptation Framework

Performance Monitoring Matrix Ensuring the Regular Monitoring of RCCAF Processes and Actions	
Strategic Objectives / Directions	**Indicators** **Country level**
1. Appropriate institutional and policy frameworks, increased awareness and stakeholder engagement, and enhanced capacity building and cooperation	
1.1. Enhancing awareness and engagement of key stakeholders on climate adaptation	Number of country/national climate change and adaptation awareness and engagement campaigns.
1.2. Promoting adequate institutional and policy frameworks	Number of country/national NAP and NDC processes and contents aligned. Number of country policy processes to embed adaptation in national development planning updated/implemented.
1.3. Promoting a regional approach on Disaster Risk Management	Number of national climate change adaptation and DRR strategies and policies developed and aligned.
1.4. Integrating climate adaptation into local plans for the protection and management of areas of special interest	Number of national and local actions and targeted measures to support climate change mitigation and adaptation, including nature-based solution actions, developed and implemented.
1.5. Improving implementation and effectiveness of adaptation policies through monitoring and reviewing progress	Number of countries RCCAF monitoring and evaluation reports measured against the RCCAF indicators and targets: – annual RCCAF country progress reports – three yearly RCCAF country progress reports – regional and country RCCAF Mid-term Reviews – Full-term RCCAF regional and country evaluations
2. Development of best practices (including low regret measures) for effective and sustainable adaptation to climate change impacts:	
2.1. Identifying adaptation needs and best practices	Number of countries adopting and implementing coastal plans, streamlining climate change adaptation in line with Art. 18 of the ICZM Protocol
2.2. Mainstreaming, exchanging and adopting best practices	Number of countries mainstreaming, exchanging and adopting best adaptation solutions and practices.
3. Access to existing and emerging finance mechanisms relevant to climate change	

adaptation, including international and domestic instruments:	
3.1. Prioritizing public spending relative to climate adaptation and mobilizing national sources of climate finance	Numbers of Climate sensitive Ministries utilizing argumentation from the advocacy brief.
3.2. Accessing international financing	Numbers of international financing proposals using MAP advisory brief.
3.3. Building alliances with the banking and insurance sectors	Numbers of advisory, policy and regulatory documents for countries able to interact with the banking and insurance sectors.
4. Better informed decision-making through research and scientific cooperation and availability and use of reliable data, information and tools:	
4.1. Understanding of the vulnerability of natural and socioeconomic systems and sectors and of possible impacts	Numbers of countries mainstreaming substantial risk and vulnerability analyses into their adaptation planning.
4.2. Building capacities for and promoting the use of vulnerability and risk assessment at regional to local levels	Numbers of countries utilising the training modules.
4.3. Strengthening Science-policy interface and accessibility of related knowledge	Numbers of countries benefitting from virtual or F2F interactions with MAP climate scientists
4.4. Developing Regional climate information at a resolution suitable for adaptation planning	Numbers of countries drawing on the central guidance.