

MedECC Scientific Network Members
and other experts on climate
and environmental change
in the Mediterranean

Dear Sir/Madam,

MedECC, <http://www.medecc.org/>, the network of Mediterranean Experts on Climate and Environmental Change, has recently published its first assessment report (MAR1) on environmental issues of concern in the Mediterranean region. 190 scientists from 25 countries have contributed to the report. In 2020 MedECC has been awarded the North-South Prize of the Council of Europe.

MedECC now embarks on the next step by focusing on several specific 'burning issues' of concern in the region through the development of several Special Reports. We are pleased to share with you the call for self-nominations of potential Lead Authors for these MedECC Special Reports on the following issues related to climate and environmental change in the Mediterranean Basin:

- Coastal risks
- The climate-water-energy-food-ecosystems nexus
- Environmental change, conflict and human migration

The precise title, content and outline of each of these reports will be developed on the basis of existing concept notes, in consultation with experts and stakeholders during the coming months.

These Special Reports are intended to be the outcome of a shared and voluntary action by scientists from multiple disciplines, aiming for discussion and approval by policymakers after completion. They will be based on the critical assessment of all available scientific literature and not be a product of new research.

We here invite self-nominations from experts from the full range of scientific, technical and socio-economic expertise and backgrounds linked with the Mediterranean region. This call is not restricted to scientists who already joined MedECC. To the contrary, you are invited to share this call with other experts of these matters you know. We are keen to extend the pool of MedECC authors and we strive to further enhance diversity in this community. The condition is to be an active scientist in the domain of the report with a PhD degree and publications.

We particularly invite experts from the southern and eastern Mediterranean to apply. It is very important that the expertise from all sub-regions/countries of the Mediterranean is represented among the MedECC report authors in a balanced way. Moreover, the gender equilibrium is also important and we particularly encourage women to apply.

The objective of the MedECC reports is to provide comprehensive, objective, open and transparent scientific assessments. Therefore, the MedECC requires that the authors have appropriate expertise. All self-nominations should indicate the report to which the author wishes to contribute, author's role(s), key area of expertise within the topic of the report and be accompanied by a summary (maximum 4 pages) curriculum vitae in English.

The MedECC Steering Committee will select Coordinating Lead Authors and Lead Authors. The selection of Contributing Authors to support lead authors will be a matter for the Coordinating Lead



Authors and Lead Authors of each report and this will be decided during the writing phase.

We would like to point out that author roles for MedECC are assigned following a selection procedure overseen by our Steering Committee and they are not remunerated. You need to expect to be able to liberate some significant amount of time to carry out this work, which is expected to take place during approximately two years.

Please find enclosed the application form and here below some details on the procedure, the short concept notes and the description of the roles of authors.

You are invited to submit self-nominations by email to the MedECC Secretariat: marini@medecc.org (Kasia Marini) until **May 15, 2021**. Please, indicate in the message subject field "Call for self-nominations of Authors for MedECC Special Reports". Please, prepare your submission using the enclosed form. Please note that the work on the preparation of the reports will be conducted in English. Note that, if multiple applications are acceptable, a single report should be assigned to the selected authors.

We thank you in advance for your consideration of this matter.

Best regards,

MedECC Coordinators,

Wolfgang Cramer and Joël Guiot

MedECC Science Officer,

Katarzyna Marini

Concept note

The First Mediterranean Assessment Report (MAR1) on the current conditions and expected risks of climate and environmental change in the Mediterranean Basin has been released on 17 November 2020. The overarching goal for the development of MAR1 was to cover all major risks associated with environmental change as comprehensive as possible, regarding the major drivers of risk, the major systems impacted and as much as possible the subregions of the Mediterranean Basin. During this work, several important issues have emerged that require deeper analysis, often associated with the appearance of new scientific studies. It is therefore proposed that the MedECC community, and the approach developed for MAR1, could be enabled to produce three Special Reports, during the period 2021-2022. The topics to be addressed concern coastal risks, climate-water-energy-food-ecosystems nexus, and the relationship between environmental change, conflict and human migration.

This note outlines the procedure for the development of three reports, as well as introduces the different themes. It is essential that MedECC assessments imply an open thematic scoping process with full stakeholder participation, followed by work of MedECC network members bound solely by academic criteria. Findings are presented for discussion by stakeholders again, in order to ensure that the presentation of key results is comprehensible and useful for improved policy making.

Report preparation

The proposed preparation of each report follow the general principles applied in scientific assessments, as applied for MAR1, but within a compressed timeframe. The essential elements of this process are:

- 1) scoping of the report content among scientific experts, informed by the needs of decision makers, resulting in an outline approved by major stakeholders,
- 2) selection procedure of (voluntary, self-nominated) lead authors, emphasizing scientific competence but also regional, topical and gender diversity, the resulting list approved by the Steering Committee,
- 3) nomination and appointment of two scientific coordinators for each report,
- 4) collaborative assessment of the available scientific literature, in order to write the report content, guided by the report coordinators, assisted by MedECC coordinators, scientific secretariat and MedECC Steering Committee, involving regular online meetings,
- 5) expert review of one intermediate and the final draft,
- 6) drafting of a summary for policymakers (SPM) by report coordinators, lead authors and MedECC coordinators,
- 7) discussion of SPM with key stakeholders in an open meeting.

Overall, each Special Report is expected to count 40 pages and be accompanied by the Summary for Policymakers (SPM) of about 3-4 pages. The report will be in English, and we expect to have the SPM translated into the major Mediterranean languages after completion.

Web conferences for each report will be held when needed. In order to reduce the amount of travel, the drafting of the report is expected to progress through online exchanges, supported by the MedECC Secretariat and Steering Committee.

Report drafts will undergo review by independent experts and also governments' representative. The SPM will undergo the approval procedure by Union for the Mediterranean (UfM) Member States representatives (climate and environmental focal point experts, under the guidance of the UfM Co-Presidencies) and Plan Bleu (United Nations Environment Programme/ Mediterranean Action Plan Regional Activity Center) Focal Points.

For each report, the following mode of preparation is envisaged:

Activity	Actors	Timeline
Open call for voluntary authorship	MedECC Secretariat	Apr 2021
Selection and appointment of Lead Authors (three reports) ¹	MedECC SC	May 2021
Scoping of each report (~5-7 pages)	MedECC coordinators, key authors	June 2021
Assessment of literature, development of the First Order Draft (FOD) of the report and of the Summary for Policymakers (SPM)	Authors	June-Nov 2021
External peer-review of FOD	Reviewers	Dec 2021-Febr 2022
Report finalization (final draft)	Authors, MedECC Coordinators and SC, MedECC Secretariat	Mar-Apr 2022
Language revision, type-setting and final publication of report, communication campaign	MedECC Secretariat	May-June 2022

¹ From this point onwards, reports 2 and 3 will be developed with 3- and 6-months delay, respectively – the dates in the table refer to report 1 only

Topics for the Special Reports:

Report 1: Coastal risks

A third of the Mediterranean population (around 150 million people) lives close to the sea and depends on infrastructure developed in the immediate vicinity of sea due to the low amplitude of the tides. 40% of Mediterranean coastal areas are built-up or otherwise modified, often rendering them particularly vulnerable to coastal flooding and erosion (caused by sea level rise in combination with extreme climatic events, and reduced sedimentation in river estuaries), to the infiltration of seawater into coastal aquifers (seawater intrusion), and more generally to the degradation of habitats including wetlands and agricultural systems.

Mean sea level in the Mediterranean Basin has risen by 1.4 mm yr⁻¹ during the 20th century and has accelerated to reach 2.8 mm yr⁻¹ recently (1993–2018). Mediterranean sea level rise is expected to continue (with regional differences) by the expected global rate of 43-84 cm above current levels until 2100, but with a significant risk to exceed 1 m in the case of further ice-sheet destabilization in Antarctica. Sea level rise will increase most coastal risks through the increase in frequency and intensity of coastal floods and erosion. Until 2100, flood risk may increase by 50% and erosion risk by 13% across the Mediterranean region. Damaging flash floods are likely to increase in many countries including Italy, France and Spain, affecting mainly the coastal areas, in particular, where population and urban settlements are growing in flood-prone areas, these will likely become more frequent and/or intense due to climate change and surface-sealing. Important challenges to groundwater quality in coastal areas are likely to arise from salt-water intrusion driven by enhanced extraction of coastal groundwater aquifers and sea-level rise.

Reduced precipitation, prolonged droughts and dams will reduce the water discharge and sediment flow of Mediterranean rivers and catchments, leading to the risk of land loss in estuaries and deltas. The agriculture sector will be affected by direct impact on (or loss of) agricultural areas in coastal zones (e.g., in Egypt), along with up to three-fold increase in salinity of irrigation water and soil and retention of sediments that do not reach the coast. Sea level rise affects also coastal wetlands and estuaries with most severe impacts on the least mobile species.

Coastal erosion due to sea level rise and urban development will also likely affect tourism. The effect of sea level rise, together with changes in storm features is likely to seriously impact port operations, slowing down trade operations and productivity levels. Parts of the rich Mediterranean cultural heritage, notably many UNESCO World Heritage Sites, are threatened directly by sea-level rise or other aspects of environmental change.

Proactive adaptation to these hazards is essential for maintaining functioning coastal zones. Coastal adaptation practices can be classified in the following broad categories: protect, accommodate, advance, and retreat. Nature based protection solutions, i.e. beach and shore

nourishment, dune or wetland restoration, reforestation in upstream areas, and adequate agricultural practices to retain water, are becoming a more common alternative. Flood fatalities are reduced as societies are learning to live with flood hazards. Good practices in flood management are development, such as early warning systems, construction of check dams, improvement of drainage systems in urbanized areas or emergency management plans.

The report will assemble new information and thereby update the assessment of MAR1 about the risks and identify potential for adaptation.

Report 2: The climate-water-energy-food-ecosystems nexus

The Mediterranean region is one of the areas on earth most vulnerable to drought, and also impacted by irregular and excessive human water demand and ineffective water management, with more than 180 million people being already affected by water poverty and an additional 60 million facing water stress. Climate change exerts increasing pressures on water systems and related development sectors in the Mediterranean region. Water, energy, agriculture and natural ecosystems are strongly interlinked. Demographic, economic, social, and climatic changes, are all exerting increasing pressure on natural resources, including through a seemingly ever-growing global demand of energy, food, and water that threatens the functioning of the ecosystems we rely upon. It is equally recognized that climate and environmental change further increases the pressure on water systems and related sectors. To study these factors in conjunction to each other, a nexus approach has been proposed.

A growing number of studies address this nexus of integrated, concerted and climate-smart actions and joint planning in order to (i) meet the challenges related to water, energy and food security (ii) maintain the ecosystem's health, (iii) reach the Sustainable Development Goals (SDGs) and (iv) ensure resilience and adaptation to climate and environmental changes.

The objective of the Special Report will be to provide a comprehensive understanding of linkages and interdependencies between water resources, energy production and consumption and provision of food, as well as the links between water and ecosystem services in the Mediterranean, under the pressure of climate and environmental changes. The report will also address the transfer and integration of nexus-related knowledge into national, regional and transboundary policymaking by defining specific policy issues related to the use of limited resources, mainly related to water, e.g. extreme events (flood and droughts), water scarcity, pollution, and food and energy security. This holistic approach is necessary as actions in one policy area commonly have impacts on the others and a traditional sectoral approach, attempting to achieve resource security independently may endanger sustainability and security in one or more of the other sectors. This can result in painful inter-sectoral trade-offs and makes it more difficult to find collaborative solutions. In transboundary settings it may lead to frictions between countries and reduced trust, hindering regional

development or generating conflict. Conversely, a nexus (or cross-sectoral) approach to managing common resources could greatly enhance water, energy and food security in riparian countries.

Report 3: Environmental change, conflict and human migration

Climatic change has likely played a role in the decline or collapse of ancient civilizations around the Mediterranean Basin and elsewhere. There is some evidence that climate and environmental changes and their impacts imply risks for human security in the Mediterranean region today. Climate change-induced water shortage and food insecurity may intensify conflicts, especially in countries that lack adaptive capacity. The Mediterranean Basin, particularly its eastern and southern regions, is an area troubled by internal and cross-border conflicts, limited cross-border collaborations and limited links to the international frameworks for the whole Mediterranean.

Although there is disagreement between scientific scholars concerning a possible direct relationship between climate change and variability and violent conflict, there are indications that climate change increases the risk of violent conflict indirectly through declining human well-being, especially in countries, which are poor and are characterized by pre-existing tensions and conflict. Negative weather shocks such as dry spells occurring during the crop growing season by reducing agricultural production and income may increase the continuation and intensity rather than the outbreak of civil conflicts, especially in regions with agriculturally dependent and politically excluded groups. Several recent studies identify a link between higher food prices caused by climatic changes and urban social unrest in Africa. Rising food prices are considered to have played a significant role in the Arab Spring unrest across North Africa and the Middle East in 2011, although such forms of violence are mostly triggered by a complex set of political and economic factors rather than only by higher food prices caused by climatic change. Conflicts caused by scarce resources and human migration are likely to increase due to drought and degrading agricultural and fisheries resources, although socio-economic and political factors are likely to still play a major role.

Climate changes are added to escalating armed conflict and insecurity in some African and Eastern countries that are leading thousands of people to flee, taking their chances on unseaworthy boats across the Mediterranean. Recent human migration (mostly within southern and eastern countries of the Mediterranean Basin but also between the South and the North) can thus partially be attributed to environmental change, but other drivers such as economic and political factors are usually more important. While slow-onset environmental and climatic events have significantly affected human well-being in some areas, adaptation is usually possible reducing the need for human migration. In contrast, fast-onset events with associated environmental degradation (such as storms and floods) have likely led to migration, mostly temporary and over short-distance. There are large human migration flows, mostly within countries, but also between countries and from other parts of the world to the Mediterranean.

There is debate about the interrelationships between environmental change and the degradation of human livelihoods, and potential outcomes for migration. The relationship between climate, migration, and conflict is highly complex as it depends on the social, political, cultural, and economic conditions of a specific country. Knowledge is limited regarding how natural disasters interact with and/or are conditioned by socio-economic, political, and demographic settings to cause conflict. Future research remains necessary. The report will assess the scientific evidence underpinning current assumptions and projections for human migration in the region and will provide suggestions for future research.

Tasks and responsibilities

The Coordinating Lead Authors and Lead Authors are responsible for drafting the report and revising it taking into account comments submitted by reviewers. The Coordinating Lead Authors will also contribute to drafting, revising and finalizing the SPM. The task of Coordinating Lead Authors and Lead Authors is a demanding one. Please, refer to the definitions here below for the description of role of Coordinating Lead Authors, Lead Authors and Contributing Authors (according to Intergovernmental Panel on Climate Change, IPCC, definitions).

Coordinating Lead Authors (CLAs)

CLAs take overall responsibility for coordinating major sections of an assessment report. CLAs have similar roles as LAs with the added responsibility of ensuring that major sections of the report are completed to a high standard, collated and delivered to the MedECC Secretariat in a timely manner. CLAs play a leading role in ensuring that any cross-cutting scientific or technical issues which may involve several sections of a report, are addressed in a complete and coherent manner and reflect the latest information available.

Lead Authors (LAs)

LAs are responsible for the production of designated sections on the basis of the best scientific, technical and socio-economic information available. LAs typically work in small groups, which have responsibility for ensuring that the various components of their sections are brought together in time, are of uniformly high quality and conform to any overall standards of style set for the document as a whole. During the final stages of the report preparation, when the workload may be particularly heavy, LAs are dependent upon each other to read and edit material, and to promptly agree on any changes deemed necessary. The essence of the LAs' task is the synthesis of material drawn from all available literature. LAs are also required to take account of expert and government review comments when revising text. LAs must have the ability to develop text that is scientifically, technically and socio-economically sound and that faithfully represents, as much as possible,



contributions by a wide variety of experts. LAs are required to record in the report views which cannot be reconciled with a consensus view, but which are nonetheless scientifically or technically valid.

Contributing Authors (CAs)

CAs are asked to prepare technical information in the form of text, graphs or data for integration by the LAs into the draft section. Input from a wide range of contributors is a key element in the success of the MedECC assessment report. Contributed material may be edited, merged and if necessary, amended, in the course of developing the overall draft text.