



## MedECC: Towards an improved scientific assessment of climate change and its impacts in the Mediterranean Basin

### Context and rationale

Recent anthropogenic climate change is manifest in the Mediterranean, alongside other changes in the environment such as air pollution, soil degradation and biodiversity loss. The Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) has highlighted the region as one of the most vulnerable in the world. Besides the various direct regional consequences of climate change (e.g. heat waves, ocean acidification, extreme precipitation events, droughts, sea-level rise, etc.), the combined consequences of landscape and ecosystem degradation due to urbanization, pollution, and unsustainable use of the land and the sea are widely recognized as a severe problem.

The shared history and the close connections between countries and regions bordering the Mediterranean call for strong cooperation with respect to adaptation to, and mitigation of ongoing environmental change. Yet a comprehensive assessment of recent trends, likely future development and the consequences of environmental change for natural systems, the economy, and the human well-being, including questions of poverty and migrations, is still lacking. Existing assessments cover only parts of the region in disconnected chapters (e.g. the reports of the IPCC or the World Bank) or only some topics (e.g. climate variability). While substantial scientific knowledge exists (e.g. in leading research institutions around the Mediterranean, from large European projects such as CIRCE<sup>1</sup>, or MedCLIVAR<sup>2</sup>), a coherent and comprehensive synthesis and assessment of recent and expected changes for environmental policy and a dedicated science - policy interface is lacking.

There is widely shared concern that, in the Mediterranean region, research activities, monitoring data and other knowledge generation about climate change and other environmental changes are not sufficiently coordinated. There is not tool to conduct a sustainable dialogue to bridge the gap between scientists and decision-makers, to facilitate ownership of scientific knowledge by decision-makers. Observational data and findings are not easily accessible and therefore insufficiently used to inform climate and other environmental policy at regional, national and local levels. The large difference in monitoring and research effort in different parts of the region is creating unbalanced information. These gaps have been pointed out in many regional reports, conferences and policy fora: e.g. Union for the Mediteranean (UfM) Climate Change Expert Group Meeting in October 2014 in Barcelona, as well as MEDCOP21 Conference in June 2015 in Marseille.

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<sup>1</sup> <http://www.cmcc.it/projects/circe-climate-change-and-impact-research-the-mediterranean-environment>

<sup>2</sup> <http://www.medclivar.eu>

## MedECC, a network of Mediterranean Experts on Climate and Environmental Change

In order to prepare the ground for improved assessments and a comprehensive synthesis of global change knowledge in the Mediterranean region, a side event was organised during the Conference ‘Our Common Future under Climate Change’ (CFCC) in Paris, France, July 9, 2015, gathering about 40 scientists and representatives of the supporting institutions. **The goal and conclusion of the event was to build a group of scientists and a mechanism in support of a regional science - policy interface for climatic and other environmental changes across the Mediterranean.**

Implementing this mechanism would meet a number of existing intentions by important stakeholders, such as the Mediterranean Strategy for Sustainable Development (MSSD 2016-2025), the Regional Framework for Adaptation to Climate Change in the Mediterranean by UNEP/MAP, as well as the proposal included in the Agenda of Positive Solutions<sup>3</sup> approved at MEDCOP21. The establishment of such a group would also be supported by the French MISTRALS<sup>4</sup> research program and other research initiatives, such as Med-Cordex<sup>5</sup>. Several regional research institutes have indicated possible support, including the ‘Centro Euro-Mediterraneo sui Cambiamenti Climatici’ (CMCC, Italy), the Energy, Environment and Water Research Center at the Cyprus Institute (EEWRC), and the French ‘‘Laboratoire d’Excellence Objectif Terre - Bassin Méditerranéen (LABEX OT-Med). In addition, sub-regional expert networks are likely to cooperate, e.g. the Advisory Council for the Sustainable Development of Catalonia (CADS) with the ‘Grup d’Experts en Canvi Climàtic de Catalunya’ (GECCC, Catalonia), or the ‘Groupe Régional des Experts sur le Changement Climatique’ (GREC-PACA, Provence-Alpes-Côte d’Azur, France).

### MedECC Aims

- 1) To gather the scientific community working on climate change in the whole Mediterranean basin. This includes building a bridge between existing research structures and programs and facilitating data-sharing through existing or new fora and platforms.
- 2) To update and consolidate the best scientific knowledge about climate and environmental changes in the Mediterranean basin and render it accessible to policy-makers, key stakeholders and citizens.
- 3) To contribute to future IPCC, IPBES or related assessments in the Mediterranean basin.
- 4) To bridge the gap between research and decision-making, contributing to the improvement of policies at national, regional, and local level by providing consolidated scientific assessments on particular issues and by responding to requests by decision-makers.
- 5) To identify possible gaps in the current research on climate change and its impacts in the Mediterranean and interact with funding agencies for the development of new research programs to fill these gaps.
- 6) To help building the capacity of scientists from Southern and Eastern Mediterranean Countries (SEMCs) at the international level and standards, encouraging training, research and development efforts of these countries.

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<sup>3</sup> [http://www.medcop21.com/doc/MEDCOP21\\_solutions\\_agenda\\_positif.pdf](http://www.medcop21.com/doc/MEDCOP21_solutions_agenda_positif.pdf)

<sup>4</sup> Mediterranean Integrated STudies at Regional And Local Scales: <http://www.mistrals-home.org/spip/?lang=en>

<sup>5</sup> <https://www.medcordex.eu>

## MedECC products

The intended outputs of the MedECC, depending on participation and financial support, may include:

- 1) Regular and comprehensive “state of the art” reports about climate and environmental change for the entire Mediterranean basin, including summaries for decision-makers for approval by government representatives.
- 2) Specific reports on demand by decision-makers on specific issues, sectors or scientific domains.
- 3) Scientific workshops co-hosted by MedECC and research institutions or MedECC supporting institutions.
- 4) Training for decision-makers, professionals and other stakeholders involved in environmental change mitigation and adaptation.
- 5) Dialogues between the scientific community, decision-makers and stakeholders on specific issues of environmental change in the Mediterranean basin.

MedECC pays special attention to organise its activities and internal meetings in different locations of the Mediterranean basin, in coherence with its wide territorial approach.

## MedECC structure (governance)

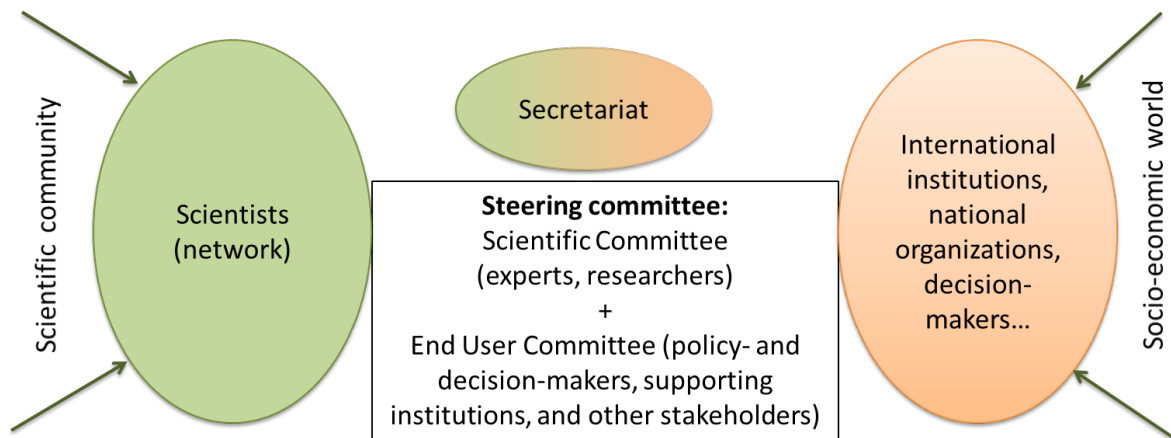
MedECC is based on an open and independent international scientific expert network acting as a mechanism of on-going support for decision-makers and the general public on the basis of available scientific information and on-going research. Membership is open to scientific experts working on different aspects of climate and environmental changes with appropriate personal academic credentials, independent of their nationality, institutional affiliation and of their national government. MedECC aims to cover all major geographical sub-regions of the Mediterranean area, defined as the ensemble of countries bordering the Mediterranean Sea, including Jordan and Portugal (the Mediterranean Sea, their land and sea territories).

MedECC thematic scope includes all aspects of the Rio conventions i.e. climate change, desertification and biodiversity conservation, embracing the domains of IPCC and IPBES (Intergovernmental Platform on Biodiversity and Ecosystem Services). These include the physical and chemical characteristics of the atmosphere and the ocean, all aspects of natural and human systems potentially impacted by the changing environment, and the economic and social solutions in the form of adaptation and mitigation.

The governance of MedECC needs to be developed. It must ensure that work is fully oriented towards the highest possible scientific standards, with full participation of experts from all involved regions and required scientific disciplines. Appropriate interaction with public and private decision-makers and stakeholders needs to be developed, through a formally established science - policy interface (see scheme below).

Funding of MedECC activities will be sought through several sources once the mechanism is formally established. Similar to IPCC and IPBES, it is expected that research institutes and individual scientists provide their knowledge on a voluntary basis. It is recognised that scientists from low-income countries may need additional financial support for their contribution.

# MedECC Structure (governance)



MedECC governance structure needs to remain flexible and geographically and thematically balanced. It should enable an appropriate interaction between scientist and public and private decision-makers and stakeholders. According to these previous aspects, the governance structure includes several interconnected bodies (as follows):

## 1) MedECC Members (wide network of experts, not representing institutions)

MedECC is open to all scientific experts working on climate and environmental changes in the Mediterranean from the natural sciences, social sciences and/or humanities perspective. MedECC members provide their knowledge on a voluntary basis (it is recognised that scientists from low-income countries may need additional financial support for their contribution).

The MedECC Scientific Committee is responsible for the confirmation of new memberships, based on provable personal academic and/or technical credentials of possible applicants, independently of their nationality and institutional affiliation.

A large number of experts (>180 scientists from 23 countries) already expressed their interest in joining MedECC. The steering committee aims to enlarge the membership basis especially with scientists from the Southern and Eastern rims of the Mediterranean Basin, and experts from social and human sciences.

## 2) MedECC Scientific Committee

A group of leading scientists took the initiative for the July 2015 Paris meeting and initial drafting of the documents – these currently act as *Ad hoc* Steering Committee until the opportunity has been found to select a committee with better thematic and geographic coverage of Mediterranean environmental and climatic science.

Nowadays, the scientific committee includes the following 10 members:

Joël Guiot (CEREGE, Aix-en-Provence, France), Wolfgang Cramer (IMBE, Aix-en-Provence, France), Ghani Chehbouni (IRD, Rabat, Morocco), Jean-Pierre Gattuso (LOV, Villefranche, France), Manfred Lange (Aglantzia, Cyprus), Piero Lionello (University of Salento, Italy), Maria del Carmen Llasat Botija (University of Barcelona, Spain), Maria

Snoussi (Mohammed V University, Rabat, Morocco), Riccardo Valentini (CMCC, University of Tuscia, Viterbo, Italy), Elena Xoplaki (University of Gießen, Germany / Greece).

The scientific committee is responsible for leading the scientific activities of the network and ensuring the scientific rigour of the MedECC work and specific deliverables. The approval of new members is also a task of this committee.

It will be integrated by a total of 20 members, including the 10 founder members, which will have a permanent seat on the committee. The 10 remaining members will be elected by the members of the network through a transparent and accountable election system.

The scientific committee will work within a 5 years mandate framework.

3) MedECC Institutional Committee (advisory board: policy- and decision-makers, supporting institutions, and other stakeholders)

MedECC will closely interact with various public and private institutions concerned by climate change and other environmental issues in the Mediterranean. Some of them are of primary interest and will be strongly involved within the MedECC Institutional Committee, as specified in following paragraphs.

This institutional committee will have the strategic responsibility of facilitating the links between scientists and policy-makers. According to this, it will be in charge of the MedECC interactions with other relevant organisations and institutions (both at international, European, Mediterranean, regional and local levels). Additionally, this committee will advise MedECC on concrete deliverables and activities, communication initiatives and public presence.

It will meet in a regular basis (at least twice per year) with the Scientific Committee in order to contribute to the good functioning of MedECC. These meetings will be hosted by the different members in order to increase the visibility of the group in the Mediterranean.

Although the Institutional Committee can be enlarged in the future, the initial structure consists of the following main organisations:

3.1. The **UfM Energy & Climate Action theme**: the UfM Climate Change Expert Group is the platform of dialogue on solutions and initiatives of Euro-Mediterranean countries (43). MedECC is well placed to complement this policy/diplomatic group by providing with scientific knowledge and evidence useful for decision-making. The UfM will be responsible of interactions between MedECC and relevant organizations and initiatives, such as : EC (DGs Energy & Climate), League of Arab States, OME - Observatoire Méditerranéen de l'Énergie, RCREEE - Regional Centre for Renewable Energy and Energy Efficiency, IEA - International Energy Agency, RES4MED - Renewable Energy Solutions for the Mediterranean, MEDENER - Mediterranean Association of the National Agencies for Energy Conservation, IMEDER - Institut Méditerranéen des Énergies Renouvelables, MED-ENEC - Energy Efficiency in the Construction Sector in the Mediterranean, CES-MED - Cleaner Energy Saving Mediterranean cities, etc.

3.2. **Plan Bleu (UNEP/MAP-Barcelona Convention Regional Activity Centre)** is in charge of activities aiming to support the implementation of MSSD 2016-2025, notably by providing functions of technical secretariat to the Mediterranean Commission on Sustainable Development / MCS<sup>6</sup>. MedECC should become a

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<sup>6</sup> The MCS<sup>6</sup> is a key structure within the MAP system for supporting the development and implementation of the MSSD 2016-2025. Bringing together representatives of the Contracting Parties to the Barcelona Convention (i.e. 21 riparian countries, plus the European Union) and stakeholders

flagship initiative of the Strategy, which recommends to “*Establish a regional science-policy interface mechanism, (...) with a view to preparing consolidated regional scientific assessments and guidance on climate change trends, impacts and adaptation and mitigation options*”. Within MedECC, Plan Bleu could coordinate the Institutional Committee, which is responsible for the interactions between the scientific network and the end-users of the MedECC deliverables and activities (e.g. regional institutions, national policy- and decision-makers, supporting institutions, and other stakeholders). The other members of the committee will collaborate with Plan Bleu to facilitate an effective interface between Science and Policy. That will include actions of information/communication and stakeholder consultations.

**3.3. Advisory Council for the Sustainable Development of Catalonia (CADS)** is an advisory body of the Catalan Government which main instrumental aim is being an effective and successful interface between scientists, policy makers and stakeholders. Although its activities are mainly focused on a leading Mediterranean region, it is an active member of the Network of European Environment and Sustainable Development Advisory Councils (EEAC) and participates in some SD initiatives in the Mediterranean region. Since 2005, CADS has been in charge of the elaboration of the periodic Report on Climate Change in Catalonia, whose 3<sup>rd</sup> edition –to be published in September 2016- has involved 150 experts and more than 40 reviewers. It founded the Catalan Expert Group on Climate Change and is member of the UfM Expert Group on Climate Change. All this long-term experience on the interfacing between Scientists and Policy Makers and Stakeholders will be a relevant contribution to the MedECC.

#### 4) MedECC Secretariat

MEDECC Scientific Secretariat will be based in Marseille and managed by the Labex OT-Med with the help of IRD; it is important to have a full time secretariat and technical support. Secretariat of the Institutional Committee will also be based in Marseille, managed by Plan Bleu; hosting this secretariat would demand a part time contract.

### Work plan

After the side event organised under the label of the Conference ‘Our Common Future under Climate Change’ (CFCC) in Paris, France, July 9, 2015 (a meeting report was produced and its main conclusions are included in this concept note), the following steps/activities are envisaged:

- 1) **September – October 2015:** the list of participants, already complemented by further expressions of interest, will be consolidated and used as a primary means of electronic communication. Members will be asked to invite other experts to join, aiming at establishing a list of partners that cover all relevant scientific domains (especially social sciences experts) and also all sub-regions of the Mediterranean Basin. A particular attention will be paid to SEMCs. Existing relevant on-going national actions will be also identified and contacted (e.g., the Agence Nationale pour les Changements Climatiques (ANCC) in Algeria and the Climate Change Committee in Libya).
- 2) **1-2 October 2015:** Presentation and discussion at the UfM CCEG Meeting – Barcelona.

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involved with sustainable development, MCSDD works closely with relevant organizations for the effective implementation of the Strategy.

3) **November - December 2015:**

- a. A meeting of an extended group of founding members will be held in order to develop a proposal for a governance structure of MedECC, including a multidisciplinary and multinational steering committee
  - b. Financial and infrastructural support for networking and assessment from multiple sources will be sought, aiming at a lean and simple structure, based primarily on voluntary contributions.
- 4) **7-8 April 2016**, the ad-hoc steering committee, completed with a few key scientists and end-user representatives (UfM-CCEG, Plan Bleu), met in Barcelona, in the building of the UfM (7 April) and in the building of the Generalitat of Catalonia (8 April) to discuss about the governance of MedECC and to prepare a scientific paper on challenges of climatic change in the Mediterranean.
- 5) **18-19 July 2016**, participation to the “Great Event Science and Society” at the MedCOP Climate in Tangiers (MedECC represented by M. Snoussi)..
- 6) **10-12 October 2016**, Aix-en-Provence, enlarged workshop (~40 scientists and 20 end-users) to finalize the governance, to scope the first MedECC report, and to organise the report writing.
- 7) **November 2016**: participation to the COP22 conference in Marrakech, side event (to be coordinated with the UfM).
- 8) **2016**: search for funding
- 9) 2017-2019: report writing, thematic meetings...