



Changement climatique et environnemental dans le bassin méditerranéen – Situation actuelle et risques pour le futur

Premier rapport d'évaluation sur la Méditerranée (MAR1)

Rédigé par

Wolfgang Cramer
Coordinateur du MedECC
CNRS, France
Institut Méditerranéen de Biodiversité et
d'Écologie marine et continentale (IMBE)

Joël Guiot
Coordinateur du MedECC
CNRS, France
Centre Européen de Recherche et
d'Enseignement des Géosciences de
l'Environnement (CEREGE)

Katarzyna Marini
Coordinatrice scientifique du MedECC
Secrétariat du MedECC
Plan Bleu

Le MedECC

Le MedECC (experts du changement climatique et environnemental en région méditerranéenne) est un réseau indépendant de scientifiques fondé en 2015. Il évalue les meilleures connaissances scientifiques disponibles sur le changement climatique et environnemental et les risques associés dans le bassin méditerranéen afin de les rendre accessibles aux décideurs, aux parties prenantes et à la population.

À l'heure actuelle (septembre 2020), le MedECC compte plus de 600 membres scientifiques qui contribuent individuellement sans contrepartie financière. Les scientifiques du MedECC sont issus de 35 pays, dont 19 sont des Parties contractantes à la Convention pour la protection du milieu marin et du littoral de la Méditerranée (Convention de Barcelone) et 23 sont membres de l'Union pour la Méditerranée.

Le Secrétariat de la Convention de Barcelone – PNUE/PAM, via son Centre d'activités régionales Plan Bleu, et le Secrétariat de l'Union pour la Méditerranée travaillent en partenariat afin de soutenir le MedECC et contribuer à l'établissement d'un processus d'évaluation scientifique solide et transparent.

Les rapports du MedECC sont préparés à l'intention des décideurs et d'un public plus large. Ils sont élaborés uniquement sur la base de critères scientifiques ; les auteurs des rapports du MedECC sont donc seuls responsables de leur validité. Les connaissances disponibles sur les risques étudiés par le MedECC présentent certaines lacunes importantes, souvent dues à des systèmes de surveillance et une capacité de recherche scientifique limitées ; elles ont été indiquées le plus clairement possible. Malgré les meilleurs efforts, des erreurs et des omissions restent possibles.

Le présent rapport

Le MedECC a préparé le premier Rapport d'évaluation sur la Méditerranée (MAR1) sur l'état des lieux actuel et les risques attendus en matière de changement climatique et environnemental dans le bassin méditerranéen. Le rapport inclut un résumé à l'intention des décideurs (RID), avec les messages clés du MAR1. Une première version du MAR1 préparée en 2019 a fait l'objet d'un examen par les pairs.

Une deuxième version du rapport, révisée en tenant compte des commentaires de l'examen, et fourni maintenant avec un RID, a été largement commentée par les autorités, les décideurs et les parties prenantes en 2020. La consultation avait en particulier pour but de vérifier que les conclusions du MAR1, telles que présentées dans le RID, sont parfaitement compréhensibles et sans ambiguïté. Les projets des chapitres, également fournis avec le RID en cours d'examen, ont servi uniquement à des fins d'informations contextuelles et ne faisaient pas partie de l'examen.

Les coordinateurs du MedECC sont particulièrement reconnaissants de l'expertise, la rigueur et le dévouement dont ont fait preuve les auteurs principaux et ceux chargés de la coordination, qui ont travaillé de manière transversale dans chaque chapitre du rapport, avec l'aide indispensable des nombreux auteurs qui ont contribué.

À l'issue de la consultation des parties prenantes, 453 commentaires ont été reçus pour le RID et ont permis de réviser ce qui était possible. L'examen par les parties prenantes a été conclu par une session plénière en ligne qui a eu lieu le 22 septembre 2020. La publication finale du MAR1 est prévue pour la fin de l'année 2020.

Les auteurs et coordinateurs du MedECC souhaitent remercier tous les examinateurs pour le temps et les efforts consacrés. Un registre des réponses à tous les commentaires est disponible.

This publication has been made possible through the collaboration of more than 180 contributors, who are listed in the full report.

Editors: Wolfgang Cramer, Joël Guiot, Katarzyna Marini

Editorial Committee: Semia Cherif (Tunisia), Wolfgang Cramer (France), Carlo Giupponi (Italy), Joël Guiot (France), Manfred Lange (Cyprus/Germany), Piero Lionello (Italy), Katarzyna Marini (France), Maria Snoussi (Morocco) Andrea Toreti (Italy), Elena Xoplaki (Greece/Germany)

Reproduction is authorised provided the source is acknowledged. An online version of this work is published at <https://www.medecc.org/first-mediterranean-assessment-report-mar1/> which permits reuse, distribution and reproduction in any medium for non-commercial purposes providing appropriate credit to the original work is given. All versions of this work may contain content reproduced under license from third parties. Permission to reproduce this third-party content must be obtained from these third-parties directly.

Preferred citation:

MedECC (2020) Climate and Environmental Change in the Mediterranean Basin – Current Situation and Risks for the Future. First Mediterranean Assessment Report [Cramer, W., Guiot, J., Marini, K. (eds.)] Union for the Mediterranean, Plan Bleu, UNEP/MAP, Marseille, France, 600pp, in press

Cover design and graphs (re)design : Pandaroo (Péronnas)

Copy-editing by Connected Language Services

The UNEP/MAP – Barcelona Convention Secretariat, through its Plan Bleu Regional Activity Center, and the Secretariat of the Union for the Mediterranean are working in partnership to support MedECC. The MedECC Secretariat is supported and funded by UfM, through a grant provided by the Swedish International Development Cooperation Agency (SIDA), hosted by Plan Bleu in Marseille, France.

Supporting institutions:



Union for the Mediterranean
Union pour la Méditerranée
الاتحاد من أجل المتوسط

with financial support from



Mediterranean
Action Plan
Barcelona
Convention



Generalitat de Catalunya
Consell Assessor
per al Desenvolupament Sostenible



The content and views expressed in this document are purely those of the authors and may not, in any circumstances, be interpreted as stating an official position of the supporting institutions. Neither the supporting institutions nor any person acting on their behalf may be held responsible for the use, which may be made of the information contained therein.

The supporting institutions does not guarantee the accuracy of the information included in this document, nor does it accept any responsibility for any use thereof. Reference herein to any specific products, specifications, processes or services by trade name, trademark, manufacturer or otherwise does not necessarily constitute or imply its endorsement, recommendation or favoring by the supporting institutions.

Foreword

Climate change is possibly the most crucial challenge for the future of the Mediterranean: the pace and magnitude of climate change and its impacts in the region can turn it into a serious stability risk if untamed and not integrated organically in national and regional policy.

In accordance with their respective mandates, the Secretariats of the Union for the Mediterranean (UfM) and of the United Nations Environment Programme / Mediterranean Action Plan – Barcelona Convention (UNEP/MAP) have joined efforts to support the work undertaken by the network of Mediterranean Experts on Climate and environmental Change (MedECC) and its Secretariat, which is hosted by Plan Regional Activity Centre (UNEP/MAP) in Marseille, France.

Despite the pressing need to better understand the current state of play and the present and future risks of climate and environmental change in the Mediterranean, there was until recently a dearth of reliable, robust and scientific data combined with a deficit in knowledge sharing with decision-makers and stakeholders.

Thanks to MedECC, the First Mediterranean Assessment Report (MAR1) now bridges the gap.

The methodology used by MedECC is based on key principles of the Intergovernmental Panel on Climate Change (IPCC) and of the Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). This approach is innovative, but its application was fraught with challenges specific to the Mediterranean region. We commend MedECC for the results achieved.

For the UfM Secretariat, it is clear that MAR1 is a major deliverable of the 1st UfM Ministerial Declaration on Environment and Climate Change; it is also a cornerstone between the first and the second UfM Ministerial Declarations.

From the UNEP/MAP perspective, the support to MedECC is a major achievement under the Mediterranean Strategy for Sustainable Development (MSSD), which identifies the establishment of a regional science-policy interface on climate change as a priority (Flagship Initiative). MAR1 will take centre stage in the context of the 22nd Meeting of the Contracting Parties to the Barcelona Convention, which will adopt the UNEP/MAP Medium-Term Strategy (MTS) 2022-2027.

At a time when an unprecedented health crisis having severe impacts on Mediterranean societies and economies, regional cooperation and multilateralism underpinned by robust science have never been more sorely needed. In this vein, MedECC offers a unique synthesis on best available scientific knowledge on climate and environmental changes in the Mediterranean, thus allowing for an evidence-based, basin-wide policy response.

This is also a report of great importance to our partners in the Mediterranean region as MAR1 will inform integrated programming in ways that can improve cooperation to address urgent needs and to inform long-term climate and environmental action. Its findings constitute a foundation for meeting sustainable development needs whilst informing strategic planning and investment at the regional level.

We acknowledge with appreciation MedECC's efforts, which also have an important impact in terms of capacity-building. UfM and UNEP/MAP reiterate their commitment to bolstering MedECC and its linkages with global processes. We will deploy additional support for the best-possible use of MAR1 in the context of the enforcement of the three UN Rio conventions in the region.



Mr. Nasser KAMEL
Secretary General
Union for the Mediterranean



Mr. Gaetano LEONE
Coordinator
UNEP/MAP – Barcelona Convention

Within the mandate given by the Contracting Parties to the Barcelona Convention to Plan Bleu in its role of Regional Activity Centre of the UNEP/MAP system, and in the framework of an agreement with the Secretariat of the Union for the Mediterranean, Plan Bleu has hosted the MedECC Secretariat and supported directly its activities since its creation.

We would like to commend all the scientists who contributed to this report, MedECC Steering Committee and especially its Coordinators and Scientific Secretary for the delivery of this outstanding report. This work would not have been possible without the financial support of the Swedish International Development Agency (SIDA), the Principality of Monaco, the French Agency for Ecological Transition (ADEME), the French Ministry of Ecological Transition and Solidarity, the French National Centre for Scientific Research (CNRS) and the French Research Institute for Development (IRD) via the MISTRALS programme, the Aix-Marseille University via the Laboratory of Excellence (Labex) OT-Med, the Advisory Council for the Sustainable Development of Catalonia of the Government of Catalonia (CADS) and the Aix-Marseille Provence Metropole.

Plan Bleu will maintain its support to the MedECC network to disseminate the key MAR1 findings to all stakeholders, including to policymakers through UfM and UNEP/MAP processes; and to dive in the assessment of thematic issues in its next phase of activities.



Mr. Thierry LAVOUX
Président, Plan Bleu

Acknowledgements

The MedECC report is the outcome of the work of many people, supported by many institutions. While we cannot mention all of them here, the editors and authors wish to acknowledge and thank the following individuals and institutions who provided their help at different stages of the process: Plan Bleu director, its current François Guerquin, as well as his predecessors Elen Lemaître-Curri and Anne France-Didier, also the Plan Bleu team, in particular Antoine Lafitte, Lina Tode, Sandra Dulbecco and Anna Goubert; the Union for the Mediterranean, its Climate Adviser Arnault Graves, its Senior Deputy Secretary General Grammenos Mastrojeni, its previous Climate Adviser Nicolas Debaisieux, the team of the Union for the Mediterranean Energy and Climate Action, as well as the UfM Communication and Public Affairs Unit; the UN Environment Programme/Mediterranean Action Plan Coordinating Unit, its Coordinator Gaetano Leone and its Programme Management Officer Julien Le Tellier.

We also wish to thank wholeheartedly the reviewers of various drafts of the report – all their comments have been considered carefully even if it was not always possible to accommodate them. The many participants of the Conference "Climate Our Common Future" in Paris 2015 and numerous following scoping meetings made very important contributions to the report.

We received important support from the hosting institutions of several workshops: Mohammed V University in Rabat (Morocco), University of Palermo (Italy), Venice International University (VIU) (Italy), Scientific Centre of Monaco (CSM), Oceanographic Museum of Monaco, National Research Council CNR Congress Center in Milan (Italy) and Aix-Marseille University (France). The Summary for Policymakers (SPM) was crucially refined during a day-long discussion with focal point representatives of the main stakeholders, chaired by Valentina Mauriello and Grammenos Mastrojeni. The report preparation was also supported by the team of the Labex OT-Med (including administrative staff: Sophie Pékar, Barbara Bourlion), the team of AIR Climat (Aurore Aubail and Antoine Nicault), Acterra (Stéphane Simonet), Service Informatique Pythéas (OSU Institut Pythéas, France), Stéphanie Wicha, Aurore Pfitzmann and Marie-Aimée Gros-Rosanvallon.