Les Ateliers de la Méditerranée

September 25th and 26th 2019
Musée des Civilisations de l'Europe et de la Méditerranée – MUCEM, Fort Saint-Jean
Promenade Louis Brauquier, 13002 Marseille
France

The Mediterranean Sea and Climate Change: common challenges and shared solutions

1. General Framework:

The 21st Conference of Parties (COP21) was held under French Presidency from November 30th to December 11th 2015 in Paris. With an aim to containing global warming below 2° C, on December 12th 2015, the 195 states and the European Union adopted the first ever legally binding global climate agreement, the Paris Agreement. The latter represents a major success of the 21st century for the United Nations but also for intergovernmental cooperation as it plans to limit the increase in temperature to 2° C or even 1.5° C by the end of the century. To this end, the Intergovernmental Panel on Climate Change (IPCC) has been mandated to prepare a special report in 2018 on a 1.5° C target at a time when current commitments made by all countries would lead to global warming of more than 3° C by 2100. For its report, the IPCC relied on the evaluation of available scientific, technical and socio-economic literature (accepted for publication until May 15th 2018) in order to show the consequences of warming temperatures above 1.5° C but also to compare between a warming of 1.5° C and 2° C (IPCC, 2018).

Among the countless studies and reports relating to climate change, a special place is reserved for the Mediterranean Sea. The latter constitutes 0.82% of the world's ocean surface and 0.32% of its volume (Defant, 1961), nonetheless it hosts 4 to 18% (relative to taxonomic groups) of all known marine species (~ 17,000) with a high endemic level threshold (Bianchi et Morri, 2000; Zenetos et al., 2002; UNEP/MAP SPA/RAC, 2003; Boudouresque, 2004; Bianchi, 2007; Boero, 2007; Briand et Giuliano, 2007; PNUE/PAM Plan Bleu, 2009; Coll et al., 2010; Lejeusne et al., 2010). The Mediterranean Sea constitutes one of the 25 internationally recognised biodiversity hotspots (Meyers et al., 2000).

Since the establishment in 1974 of the Regional Seas Programme promoted by the United Nations Environment Programme (UNEP), the Mediterranean region has acted as a pioneer in setting up a Mediterranean Action Plan (MAP) in 1975 followed by the 1976 adoption of the the Barcelona Convention for the Protection of the Marine Environment against pollution, which started being enforced in 1978 and was subsequently amended in 1995 (Vallega, 1995). The latter currently represents the dynamic framework which allows the 22 participating countries, the European Union and the 21 Mediterranean riparian states, to meet emerging challenges and to adapt to the evolution of international law in the field of environmental protection of marine habitats (UNEP, 2011).

At this juncture the implementation of the Paris Agreement would appear nevertheless to be one of the priorities for the Mediterranean region, especially since without additional mitigation measures, the increase in temperature will be of 2,2° C in 2040 and may exceed 3.8° C in some areas of the Mediterranean basin by 2100 (Cramer et al., 2018). Hence concerning the marine part of the basin, the main findings (UNEP/MAP SPA/RAC, 2009 ; Cramer et al., 2018) reveal that:

- species geographical distribution will be strongly affected and the number of non-native marine species will increase (especially those from the Red Sea)
- changes in hydrodynamic and hydrological parameters will occur (local and regional currents, rising upwelling, thermal stratification, frequency of storms and extreme events, salinity, turbidity, nutrient supply, etc.)
- mass mortality episodes will occur mainly in coralligenous due to high water temperatures
- sea acidification will have a negative impact on carbonated shells and skeletons

The first evaluation report, in preparation, of the Expert Group on Environmental and Climatic Changes in the Mediterranean (MedECC) confirms, clarifies and puts these results into perspective, calling for public action.

In support of the above protocols and strategies, marine protected areas (MPAs) in the Mediterranean can play an important role as 'sentinel sites' where the effects of climate change can be studied and management strategies can be developed to address climate change in order to adapt to these negative effects and, if possible, counter them (UNEP/MAP SPA/RAC, 2017).
Individual MPAs and the network of Mediterranean MPAs therefore have an important role to play in optimizing our understanding and in promoting the development of strategies to mitigate the effects of climate change.

2. Aims:

This workshop is timely, as France, and Marseille in particular, is preparing to host the IUCN World Conservation Congress in 2020. Thus, the choice of the city of Marseille highlights the importance and leadership of this city in facing the environmental challenges to which the Mediterranean basin and the whole of humanity are exposed. To this end, the **Ateliers de la Méditerranée** pursue the goal of drawing up research orientations for the future, by defining priority issues in the various areas on which the LabexMed programme has focused in recent years. It is in this perspective that exchanges and discussions will be privileged, in order to allow researchers from LabexMed's partner institutions to:

- dialogue and promote further partnerships and collaborations on the basis of the cooperations and agreements set up during the years of activity of this programme
- identify collaborations to be put in place to support and strengthen the implementation of a regional strategy to increase the capacity of MPAs to adapt to, manage and monitor in a standardised and constant manner the impact of global warming, especially in the SPAMI, to achieve a supervision and regional overseeing of the phenomenon by supporting the Barcelona Convention.

3. Scientific Committee:

- Ibrahim Boubekri (post-doctoral researcher LabexMed, IRD, LPED, Aix-Marseille Université)

- Daniel Cebrian (Programme Officer for Strategic Action Programme for Biodiversity, SPA/RAC)
- Elen Lemaître-Curri (Director of Plan Bleu, Regional Activity Centre of Mediterranean Action Plan)
- Susan Gallon (Scientific Officer, MedPAN)
- Katarzyna Marini (MedECC Board)

4. Organisation :

- Ibrahim Boubekri (Aix-Marseille Université, IRD, LPED, LabexMed)
- Blandine Descamps-Julien (Aix-Marseille Université, LabexMed)
- Carlotta Tavormina (Aix-Marseille Université, LabexMed)

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