The Mediterranean region is rich in natural and documentary proxies of past regional climate. They resolve different temporal and spatial scales and reflect a wide range of climate parameters (SST, salinity, temperature, precipitation, sea level, geochemistry, etc). However, the currently available proxy data sets are not sufficiently dense to reconstruct climate with a high spatial variability as would be required for the Mediterranean basin. The main gaps in information come from Northern Africa, the Eastern Mediterranean and the Balkans.

There are numerous ongoing initiatives from different research teams to retrieve information from documentary collections and natural proxies but there is not a general strategy to search data and proxies on a basin-wide scale. This should be the target of an interdisciplinary approach, with researchers from different fields collaborating towards a common understanding of past climate change of the last 1000 to 2000 years using high-resolution proxies.

The simulation of past climates is accomplished using models of different complexity: EMICs and full complexity GCMs. Comparison with proxies at the Mediterranean scale is based on the use of GCMs. Simulations of the last millennium climate are subject to limitations by model resolution, orography representation, parameterization, as well as to model and external forcing uncertainties but still can provide some interesting comparisons with climate reconstructions.

Exercises comparing documentary and natural proxies, and model outputs are scarce for the region. They should improve the quality of all types of data sets and models but should be compared with care, taking into account the uncertainties in the proxy reconstructions, the complexity in the transfer functions from proxy parameters to climate variables, and the internal variability of the models, which is highly dependent on the modeled variable.

The workshop was the starting point towards building a community working together on the past climate of the Mediterranean region, incorporating scientists and data from the north African and Eastern Mediterranean communities, and creating links between paleoscientists, climatologists, and modelers. The next step will be the creation of a web-supported meta-database to increase data interchange. The database will be hosted by MedCLIVAR and will be supported by PAGES.

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