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Editorial: Climate and environmental changes in circum-mediterranean regions

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Editorial on the Research Topic

Climate and environmental changes in circum-mediterranean regions

Circum-Mediterranean regions, consisting of South Europe, the Middle East, and North Africa, are located at the crossroads of global environmental patterns. There is a convergence between various maritime conditions and different continental air masses from adjacent extensive lands marked by extreme differences in topographical features. At a spatial scale, the climate and environmental parameters vary considerably across circum-Mediterranean regions. At a temporal scale, significant climate and environmental changes have occurred over the past thousands of years. Currently, circum-Mediterranean regions are experiencing challenges ranging from drought and fire to intense floods and water quality concerns under the changing climate. Further warming will lead to an unbearable future for human beings and ecosystems.

To make suitable mitigation and adaptation measures, it is important to reveal mechanisms of “Climate and environmental changes in circum-Mediterranean regions” and make better predictions and impact assessments for future changes. This Research Topic gives new insights into these aspects. [Khemiri et al.](#) delved into mapping significant flood events in the Lower Mejerda Valley of Tunisia by using Sentinel-1 SAR and highlighted the crucial importance of flood management. These floods had a devastating impact on various aspects of life in the region, affecting the human population and the local ecosystems, agriculture, and the local economy. [De Razza et al.](#) investigated urban heat island intensity in Salento, Southern Italy, including assessing climate change trends for heat-related extremes (hot days and heatwaves), calculating urban heat islands intensity at regional and urban scales, and assessing spatial relationships among thermal intensity and urban characteristics (soil sealing and surface albedo). [Çelik](#) found a noticeable rise in the number of research publications discussing how animal production is impacted by climate change through bibliometric analysis. Moreover, the level of cooperation and research projects in this field among nations has increased, which has improved the caliber of publications over time. The problem of animal production and climate change is becoming significantly more dependent on new data, techniques, and technology.

Chinedu et al. sought to furnish essential geospatial data concerning flood vulnerability, flood risks, and exposure rates in the Lower Niger Catchment, southeastern Nigeria, and indicated the high susceptibility and exposure to flooding in the lower Niger River Basin around Onitsha. de La Vara et al. offered stakeholders from aquaculture, fisheries and coastal tourism along the Spanish Mediterranean coasts, for the first time, climate information from air-sea coupled simulations from the Med-CORDEX initiative to promote evidence-based decision-making regarding adaptation.

Overall, these studies emphasize the importance of knowledge sharing and collaborative research among the circum-Mediterranean nations to ensure appropriate climate mitigation policies can be put in place.

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