

Preface

The Mediterranean Basin is one of the world's regions most vulnerable to climate change. It is already experiencing the increasingly severe effects of a changing climate such as higher average temperatures and the incidence of extreme events such as unprecedented heat waves, severe droughts, and major floods. These impacts threaten environment, society, and economy and can place human security at risk.

This book examines the water-related impacts of climate and global change in the protected area of the UNESCO Intercontinental Biosphere Reserve of the Mediterranean (hereafter IBRM). The IBRM straddles the continents of Africa and Europe and spans two countries (Spain and Morocco). The Reserve presents a particularly interesting case for study: on the one hand, predicted climate change effects are rather homogenous across both sides of the IBRM; on the other hand, the level of vulnerability and consequences for human security vary considerably depending on the national jurisdiction. This is due to the differing socio-economic contexts and patterns of land-use in Spain and Morocco, as well as the capacity of their respective policy frameworks to mitigate environmental threats.

This book considers the case of the IBRM through the application of a new approach for assessing vulnerability. Three distinct assessments (hydro-ecological, socio-economic, and policy) are conducted on the basis of a range of inputs (a hydro-ecological model, water management and climate change scenarios, desk-based research, and consultation with expert stakeholders). These individual assessments are then considered as a whole to produce an integrated vulnerability assessment for the IBRM. Key research insights are accompanied by recommendations for reducing vulnerability and ensuring human security within the IBRM and the region more generally.

The findings in this book signal that when climate change is coupled with other compounding factors—such as a paucity of structural water resources, unsustainable socio-economic growth, or inadequate policy frameworks—it can lead to serious consequences for human security (and its components e.g., water, food, personal, and economic security). The analysis suggests that the IBRM would benefit from improved implementation of current national-level climate change and

water management policies, with due consideration to the interplay between different sectoral strategies e.g., agriculture and tourism. Above all, it is estimated that the Reserve could better develop practical management approaches adapted to local needs that integrate the local population and their know-how e.g., on the use of drought-resistant crops to find climate adaptation solutions that reduce vulnerability and risks to human security.

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Adapting to Climate Change

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