

Preface

The goal of this book is to provide a synthesis of how scientists, water managers, and policy makers have considered drought and water scarcity in Spain, Mexico, Australia, South Africa, and the United States with attention to these countries arid and semiarid regions. A cross-country exposé for understanding the various elements of drought and drought management is a much more expedient approach to understanding the relative merits of various approaches to address drought and water scarcity than waiting for each country to explore such options over an extended and uncertain time horizon and drawing conclusions from those experiences. In addition to providing a cross-country description and comparison of drought awareness and experience, this book will also provide an assessment of drought from the perspective of multiple disciplines. To wit, efforts to efficiently mitigate and/or cope with the effects of drought requires an understanding of the biophysical aspects of drought, including the hydrologic and ecologic elements, as well as the technical, economic, and policy aspects. Hence, researchers from multiple disciplines within these countries, including disciplines such as agronomy, ecology, economics, hydrology, and irrigation technology, provided an assessment of drought experiences from their particular disciplinary perspective. Additionally, water manager and policy makers from each of these countries provided background and the current status of drought policy within their own country.

Each of the main sections in the book is discipline specific and provides the reader with an in-depth understanding of particular drought experiences, knowledge bases, and approaches to modeling drought from multiple countries. Together, these separate sections offer the reader with a better understanding of how to approach drought from a multidisciplinary perspective. The final chapter provides an in-depth comparison of drought experiences, descriptions, and approaches within each discipline by experts within each discipline. As such, after reading this book an interested reader should be able to identify both the successful and problematic approaches used to cope with various aspects of the droughts. Such an outcome should prove useful to researchers, practitioners, water managers, and policy makers who are looking to improve their baseline understanding of drought from different disciplines and levels of management. Furthermore, highlighting

and identifying the different approaches and experiences from various integral disciplines across a multitude of countries should go a long way at improving our fundamental understanding of the interactions between physical impacts of drought and the effectiveness of mitigation policies on the economic consequences of droughts. Finally, a comparison of alternative policy outcomes and the evaluation of particular policy approaches from one country to another will enhance our understanding of how physical, institutional, and economic factors impact the effectiveness of one policy instrument relative to another.

The genesis of this book was developed on the heels of a symposium titled, “International Drought Symposium: Integrating Science and Policy” that took place on March 24–26, 2010 in Riverside, California (<http://cnas.ucr.edu/drought-symposium/>). The symposium, which was organized by the Water Science and Policy Center at the University of California, Riverside, brought together senior disciplinary experts from Spain, Australia, South Africa, Mexico, and California—all drought-prone areas—to sit together and share scientific and policy aspects related to drought and its mitigation in each of these areas. Most, but not all, of the initial drafts of these chapters were submitted to, and presented at, this symposium.

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A Multi-Disciplinary and Cross-Country Perspective

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