Arid Lands Water Evaluation and Management: Robert Maliva 2012-06-09 A large part of the global population lives in arid lands which have low rainfall and often lack the water required for sustainable population and economic growth. This book presents a comprehensive description of the hydrogeology and hydrologic processes of work in arid lands. It describes the challenges that can be used to assess and manage the water resources of these areas with an emphasis on groundwater resources, including water resources in arid regions and the differences between arid land conditions and other natural environments. Water management techniques are described and summarized to show how a more comprehensive approach to water management is required in these areas, including the need for careful water use and conservation. The integration of existing resources with the addition of new water sources, such as desalination and reuse, will be necessary to meet future needs. In arid conditions not only water management systems to be more robust so that future water supply demands can be met as droughts become more common and random events become more common. A change in water management techniques is described and illustrated in order to illustrate the methods for integrating these resources within the context of arid lands conditions.

Selected Papers from SDEWES 2017: The 12th Conference on Sustainable Development of Energy, Water and Environment Systems - Marco C. Calise 2017-06-08 This book is a printed edition of the Special Issue "Selected Papers from SDEWES 2017: The 12th Conference on Sustainable Development of Energy, Water and Environment Systems" that was published in Energies. The conference proceedings include a wide range of topics related to sustainable development, energy, water, and environment systems. The papers cover various aspects of sustainable development, including energy technologies, water management, and environmental issues. The conference aimed to bring together experts from different fields to discuss the latest developments and challenges in the area of sustainable development.

Principles of Desalination - K Spiegler 2012-12-02 Principles of Desalination focuses on the principles of the developing technology of large-scale desalting. This book presents the physical and chemical principles underlying the process of liquid-liquid or reverse osmosis. Comprised of 11 chapters, this book starts with an overview of the water use and the problem of potential water shortages. The text then discusses the fundamentals of the major desalting methods in use and explores the basic principles and design principles that underlie the methods. Other chapters introduce the method of reverse osmosis, which is unique among the desalting methods for its ability to remove dissolved solids and reduce hardness. This book is a valuable resource for technologists and scientists. Students in graduate courses of engineering will also find this book useful.