

Preface

The Western Mediterranean area is a very sensitive area that suffers frequent droughts due to climate conditions, significant anthropogenic impacts on land use (urbanization or increment of cultivated areas) and high seasonality both in precipitation and water resources demands. This effect will be exacerbated in the future due to the global change and specially in the coastal areas with growing urban development and intensive agriculture. In this framework, groundwater plays an important role in the definition of management alternatives of Water Resources systems. An exhaustive knowledge of those systems and their problems is required to identify appropriate sustainable decision, which is one of the most important “challenges of our society”.

This book aims to contribute to the dissemination of the knowledge about impacts of global change on water resources systems in the Western Mediterranean area, with special emphasis on groundwater. It is a compilation of works carried out by researchers from Algeria, France, Italy, Morocco, Portugal, Tunisia and Spain. Although most global change investigation is focused on surface water, the number of research papers dealing with global change and groundwater has grown fast in recent years, as shown in recent review papers. This compilation covers a particularly interesting area, the Western Mediterranean countries, from the perspective of the water resources with frequent scarcity periods and societies highly dependent on groundwater. It includes work on this Mediterranean area of both, southern Europe and North Africa, where important impacts are expected on the sustainability, quantity, quality, and management of water resources. This volume is composed by a selection of contributions presented in the Conference “Groundwater and Global Change in the Western Mediterranean” (Granada, November 2017). It covers a wide range of aspects

linking global change to groundwater, from monitoring and modeling historical and future impacts to adaption strategies. This provides an overview of methods, study areas and case studies in multiple countries essential for facing future challenges.

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