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2nd INTERNATIONAL CONFERENCE

**WATER RESOURCES MANAGEMENT
& SUSTAINABILITY:
SOLUTIONS FOR ARID REGIONS**

EDITORS

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**BOOK OF
ABSTRACTS**

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Resources Management and Sustainability:
Solutions for Arid Regions**

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Book of Abstracts

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Preface

Water is vital for human activities, freshwater and prosperity over decades due to its availability in urbanized areas. Climate change and population growth are global challenges that require government action for a sustainable future. The agenda of water management in arid and semi-arid regions is becoming increasingly important.

Based on the findings of the "Second International Conference on Water Resources Management and Sustainability: Solutions for Arid Regions", the importance of water management in arid and semi-arid regions is highlighted. The conference was a success, and the participants shared their experiences and knowledge, contributing to the advancement of water resources management in arid regions.

The special issue contains the proceedings of the conference, which are applicable to the international water resources management community. We hope that these proceedings will help to achieve water sustainability in arid and semi-arid regions.

Covering the presentation of the proceedings, the program committee members, and the organizers, we hope that the conference will be a success. The program committee members and the organizers are grateful to the participants for their contribution to the conference. The conference was a success, and the participants shared their experiences and knowledge, contributing to the advancement of water resources management in arid regions.

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The challenges of water management in the Canary Islands (Spain)

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Keywords: Archipelago; Climate Change; Desalination; Groundwater; Water management

Abstract

The islands, due to their geographic condition of limited territory, are also limited in the resources available to them for the development of regular life. Spain has an archipelago that is itself an outermost European region, the Canary Islands, with unique characteristics due to its richness in groundwater and the use of desalination to support the water demand, which rises mainly due to agriculture and the tourism sector. In addition, this archipelago also suffers from further matters such as the contamination of coastal aquifers as a result of seawater intrusion, deficient wastewater treatment and a significant increase in the desalination of seawater, with the consequent energy demand that this entails. Therefore, this article has analyzed the current situation of the resources in the Canary Islands, as well as the future challenges that arise, in a scenario of climate change, where temperatures are expected to increase in Spain.

Proposal for nature-based solutions and artificial aquifer recharge as measures for improving water management on the Island of Fuerteventura (Canary Islands, Spain)

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Keywords: Desertification; Runoff; SUDS; Water resources; Managed aquifer recharge

Abstract

The Canary Islands are an archipelago belonging to Spain, which is, in turn, divided into two provinces. The eastern province is the closest to the Sahara Desert, with the island of Fuerteventura being only 100 km from the African coast. Additionally, Fuerteventura is the oldest island in the Canary archipelago and one of the islands where the desertification process is most acute. That is why, in this article, we have reviewed the current state of water resources on the island of Fuerteventura and how nature-based solutions can be a great environmental solution. Specifically, the artificial recharge of its aquifer through lagoon systems can be fundamental to recover its biodiversity, improving the quantity and quality of its water resources, and gradually slow down the desertification processes affecting the island. Finally, we present the main conclusions, especially after previous experience in the feasibility studies of artificial recharge of aquifers on another of the Canary Islands, Gran Canaria.