

O-21 (218) Keynote Speaker**GROUND WATER MANAGEMENT IN CONNECTION WITH DROUGHT CONDITIONS IN CALIFORNIA**

Prof. Mohammadali Lahsaiezadeh, Prof. of Watershed Management Regulation, University of California, Irvine UCI, Irvine, United States of America; mlahsaie@cox.net

Over the past 5 years, the Iranian plateau has experienced very severe drought conditions similar to the drought conditions observed in California with a notable impact to its agricultural productivity. Iran's horticultural production is vital to the ongoing expansion and diversification of its population. It appears that Iran is also planning to increase its agricultural employment base and improve the environmental quality in its various regions. In recent years, Iran has made progress in reducing water consumption, expanding alternative sources of water, and understanding the country's potential contribution to the globally recognized climate change phenomenon. However, the country as a whole needs to have a comprehensive strategy for mitigating and adapting to the current climate change situation. The State of California has been faced with numerous challenges with its long-term drought conditions. However, California is developing a Sustainable Groundwater Management Plan for groundwater basins with the notion of the "Water Available for Groundwater Replenishment" using different water available methods. Examples of these methods in California are surface water (e.g. storm water), water conservation, recycled water, desalination, water transfer, and others. Numerous sources of information and roadmaps to plan for and implement groundwater replenishment projects have been developed. California's efforts in promoting desalinization of brackish (poor quality) groundwater in remote rural areas using solar energy as a source for both small and large scale projects is being pursued by both private and/or public organizations. In the California model, there are 2 parts to "Water Available for Groundwater Replenishment". The first part, "Water Available" includes a quantity of water that could be developed by one of the water available methods stated above. The second part, "for Groundwater Replenishment" designates the physical process of the augmentation of groundwater basins by natural or artificial means. The uncertainties of these methods and how they will change in the future with the impact of climate change, population growth, and land use changes are presently being addressed by various State and local agencies.