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Nota di contenuto	Introduction to “Groundwater in Arid and Semi-arid Areas” -- Groundwater in Arid and Semi-Arid Regions of India: A Review on the Quality, Management and Challenges -- Vulnerability to Pollution of Karstic Aquifers in the Tafna River Basin and Risk Mitigation Strategies (Northwest Algeria) -- Effect of Urbanization on Water Resources: Challenges and Prospects -- Understanding the Challenges: Sustainable Usage of Groundwater Resources in Türkiye -- Application of Geospatial Multicriteria Decision Analysis in the evaluation of groundwater Quality for Irrigation in the Northern sector of Gabes region (SE Tunisia) -- Creation of Rational Groundwater Management Schemes in the Chu Valley of the Kyrgyz Republic Based on Groundwater Modelling -- Applications of Machine Learning Models for Solving Complex Groundwater Modelling, Monitoring and Management Problems -- New Trends in Groundwater Contaminant Transport Modelling -- Groundwater Environment and Management in Kabul, Afghanistan -- Groundwater in the Nile Delta Aquifer, Egypt:

Assessment, Modelling and Management with Climate Change in the Core -- Groundwater Contamination by Fluoride and Mitigation Measures for Sustainable Management of Groundwater in the Indo-Gangetic Plains of India -- Groundwater Quality in Shallow Aquifers of the Sedimentary Plain in Iraq: A Potential Concern for Drinking and Irrigation -- Investigating and Improving Natural Treatment Processes by Riverbank 2 Filtration in Egypt.

Sommario/riassunto

This book provides comprehensive studies from Middle East, African countries and Asia including Afghanistan, Algeria, Egypt, India, Iraq, Kyrgyzstan, Tunisia and Turkey on groundwater management, modelling and monitoring. A broad approach such as modelling, artificial intelligence, machine learning, and statistical models was applied in arid and semi-arid areas for management of the groundwater. These new approaches are currently in high demand. The book delves into the applications of these methods and will be a potential asset to the researchers worldwide. The book is a timely publication containing chapters based on primary data or/and extensive review chapters comprising new emerging techniques. Current high-demand research on management through the application of modelling, artificial intelligence and machine learning is the main selling point of this book.