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Nota di contenuto	Introduction -- Using Radar and Optical Data for Soil Salinity Modeling and Mapping in Central Iraq -- Monitoring and Mapping of Land Threats in Iraq using Remote Sensing.-Proximal Sensing for Soil Monitoring -- Multi-Temporal Satellite Data for Land Use/Cover (LULC) Change Detection in Zakho, Kurdistan Region-Iraq -- Using Remote Sensing to Predict Soil Properties in Iraq -- Agricultural Drought Monitoring over Iraq utilizing MODIS Products -- Monitoring of the Land Cover Changes in Iraq -- The Aeolian Sand Dunes in Iraq: A New Insight -- Effects of Land Cover Change on Surface Runoff Using GIS and Remote Sensing: a Case Study Duhok Sub-Basin -- Drought Monitoring for Northern part of Iraq using Temporal NDVI and Rainfall Indices -- Geo-morphometric analysis and flood simulation of the

Tigris River due to a predicted failure of the Mosul Dam -- Hydrologic and hydraulic modelling of the Greater Zab River-Basin for an effective management of water resources in the Kurdistan region of Iraq using DEM and Raster Images -- Spatial Prediction of Rainfall Distribution in the Iraqi Governorate using the Geographical Information Systems (GIS) -- Characterization and Classification of Soil Map Units using Remote Sensing and GIS in Bahar Al-Najaf, Iraq -- Proximal Soil Sensing Applications in Soil Fertility -- Assessing the Impacts of Climate Change on Natural Resources in Erbil Area, Iraq using Geo-Information and Landsat Data -- Agriculture Land Capability classification based on agro-spatial decision support system (microlies) -- Relationships Among the Landsat-based Indices and Soil Conditions in Sulaimaniya, Kurdistan Region, Iraq -- Monitoring the Sand and Dust Storms in Euphrates and Tigris Basins and Iraq using Remote Sensing -- Conclusions and Recommendations.

Sommario/riassunto

This unique book focuses on remote sensing (RS) and geographical information systems (GIS) in Iraq. The environmental applications include monitoring and mapping soil salinity and prediction of soil properties, monitoring and mapping of land threats, proximal sensing for soil monitoring and soil fertility, spatiotemporal land use/cover, agricultural drought monitoring, hydrological applications including spatial rainfall distribution, surface runoff and drought control, geo-morphometric analysis and flood simulation, hydrologic and hydraulic modelling and the effective management of water resources. Also, this book assesses the impacts of climate change on natural resources using both RS and GIS, as well as other applications, covering different parts of Iraq. The book chapters include tens of maps extracted from the remotely sensed datasets, in addition to tables and statistical relations obtained from the results of the studies of the chapters' authors. These studies have been conducted in different parts of Iraq; in the north (Kurdistan region) with its mountainous and undulating lands, in western parts which have desert soils, and in central and southern Iraq where there are salty soils, dunes, wetlands, and marshes. The book is written by distinguished scientists from Iraq, China, USA, Italy, Iran, Germany, and the Czech Republic who are interested in the Iraqi environment. The book is therefore a useful source of information and knowledge on Iraqi environment for graduate students, researchers, policy planners, and stakeholders in Iraq as well as similar regions.