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Examples of the European approach to groundwater vulnerability assessment and mapping; CHAPTER 1 The vulnerability paradox for hard fractured Lower Palaeozoic and Precambrian rocks; CHAPTER 2 Evaluation of reactive transport parameters to assess specific vulnerability in karst systems; CHAPTER 3 Dense hydrogeological mapping as a basis for establishing groundwater vulnerability maps in Denmark
CHAPTER 4 The Polish concept of groundwater vulnerability mappingCase studies: Part I. Porous aquifers; CHAPTER 5 Contamination of coastal aquifers from intense anthropic activity in southwestern Sicily, Italy; CHAPTER 6 Vulnerability assessment of a shallow aquifer situated in Danube's Plain (Oltenia-region, Romania) using different overlay and index methods; CHAPTER 7 Application of a groundwater contamination index to assessment of confined aquifer vulnerability; CHAPTER 8 Application of GIS for presentation of mining impact on change in vulnerability of a Quaternary aquifer
CHAPTER 9 A GIS-based DRASTIC vulnerability assessment in the coastal alluvial aquifer of Metline-Ras Jebel-Raf Raf (Northeastern part of Tunisia)CHAPTER 10 The changes of groundwater quality of the "Czarny Dwor" intake as a result of the aquifer vulnerability; CHAPTER 11 Groundwater vulnerability to contamination in the central part of Vistula River valley, Kampinoski National Park, Poland; CHAPTER 12 Development of an integrated methodology for the assessment of groundwater contamination by pesticides at the catchment scale
CHAPTER 13 Hydrological controls of the groundwater vulnerability maps (case study of the lower Vistula valley near Plock, Poland)
CHAPTER 14 Modeling and mapping groundwater protection priorities using GIS: the case of Dar Es Salaam city, Tanzania; CHAPTER 15 Vulnerability mapping in two coastal detrital aquifers in South Spain and North Morocco; Part II: Karst aquifers; CHAPTER 16 DAC: a vulnerability assessing methodology for carbonate aquifers, validated by field and laboratory experiments; CHAPTER 17 VURAAS - vulnerability and risk assessment for Alpine aquifer systems
CHAPTER 18 Groundwater circulation in two transboundary carbonate aquifers of Albania their vulnerability and protection; CHAPTER 19 Karst aquifer intrinsic vulnerability mapping in the Orehek area (SW Slovenia) using the EPIK method; CHAPTER 20 Physically-based intrinsic groundwater resource vulnerability map of the Tisovec karst; CHAPTER 21 Vulnerability of the karst - fissured Upper Jurassic aquifer of the Cracow Jurassic Region (Poland); CHAPTER 22 Intrinsic vulnerability assessment for the Apulian aquifer near Brindisi (ITALY); Subject index; Author index; Series IAH-Selected Papers

Sommario/riassunto

This volume presents the contemporary issues surrounding groundwater pollution risk assessment and the application of vulnerability and risk assessment maps for the effective protection and management of aquifers. Numerous new and improved approaches to intrinsic and specific vulnerability assessment (modified DRASTIC, GOD, VULK, VURAAS) are described, some coupled with geophysical and hydrological surveys and hydrodynamic and transport modelling. Widespread use is made of GIS format.