Karst Hydrology

Edited by

CHRIS LEIBUNBGUT
Institute of Hydrology, University of Freiburg i. Br., Werderring 4, D-79098 Freiburg, Germany

JOHN GUNN
Limestone Research Group, Department of Geographical and Environmental Sciences, The University of Huddersfield, Queensgate, Huddersfield HD1 3DH, UK

ALAIN DASSARGUES
Laboratory of Engineering Geology, Hydrogeology and Geophysical Prospecting, University of Liège, B.19 Sart-Tilman, B-4000 Liège, Belgium

Proceedings of an international workshop (Workshop W2) held at Rabat, Morocco, during the Fifth Scientific Assembly of the International Association of Hydrological Sciences (IAHS) from 23 April to 3 May 1997. The conference was organized by the International Committee on Tracers and co-sponsored by the International Commission on Groundwater of IAHS.

IAHS Publication no. 247
in the IAHS Series of Proceedings and Reports
Contents

Preface by Chris Leibundgut, Alain Dassargues, John Gunn & Abdelmajid El Hebil

Preface par Chris Leibundgut, Alain Dassargues, John Gunn & Abdelmajid El Hebil

Introduction by Chris Leibundgut, John Gunn & Alain Dassargues

1 Flow and Transport Processes in Karst Aquifers

Processus d’écoulements et de transports dans les aquifères karstiques

Application of groundwater models in karstic aquifers (keynote paper)

Alain Dassargues

Interpretation of tracer tests in karst systems with unsteady flow conditions

Andreas Werner, Heinz Hörzl, Piotr Maloszewski & Werner Käss

Summary of the discussion on “Flow and transport processes in karst aquifers”

Andreas Werner (rapporteur) et al.

2 Recharge of Karst Aquifers by Surface Water under Arid and Semiarid Conditions

Recharge des aquifères karstiques en conditions arides et semi arides

Using artificial tracers to study water losses of ephemeral floods in small arid streams

Jens Lange, Christian Leibundgut, Tamir Grodek, Judith Lekach & Asher Schick

Summary of the discussion on “Recharge of karst aquifers by surface water under arid and semiarid conditions”

Jens Lange (rapporteur) et al.

3 Vulnerability and Carrying Capacity of Karst Water Systems

Vulnérabilité et capacité de transport des systèmes karstiques

Vulnerability of karst aquifers (keynote paper)

Chris Leibundgut

Sanitary bacterial dynamics in a mixed karst aquifer

John Gunn, Jamie Tranter, Joy Perkins & Colin Hunter

A modelling approach as an intermediate step for the study of protection zones in karstified limestones

Alain Dassargues & Johan Derouane

A computerized methodology for aquifer vulnerability mapping: Mean Sea Level aquifer, Malta and Manouba aquifer, Tunisia

Dirk De Ketelaere, Marco Cremona, Marco Cremonini, Roberto Pedone, Michel Bernat, Alain le Page, François Fernex, Ayed Added, Abdullah Ben Mammou & Yacine Marzoughi

Summary of the discussion on “Vulnerability and carrying capacity of karst water systems”

Torsten Clemens (rapporteur) et al.
4 Regional Karst Hydrology
Hydrologie karstique régionale

Etude hydrogéologique de l’aquifère liasique du couloir Fès-Taza  Omar Fassi-Fihri & M’hamed Fasskaoui 99

Contribution à la connaissance de l’aquifère karstique de l’Atlas de Béni Mellal (Maroc)  Lhoussaine Bouchaou 117

Systèmes aquifères karstiques du Pays Basque  Íñaki Antiguedad 127

Sur l’existence d’une zonation hydrogéochimique verticale dans certains aquifères karstiques  Antonio Pulido-Bosch, Jose Miguel Andreu & Antonio Estévez 137

Résumé de la discussion sur “Hydrologie karstique régionale”  Lhoussaine Bouchaou (rapporteur) et al. 145