

PREFACE

Intensification and expansion of human activities are the causes of an increased dispersion of polluting substances into soil and groundwater. In recent years progressively more hazardous substances have appeared among the pollutants. As a result the quality of groundwater in many instances has steadily deteriorated, with severe consequences for the use of water for several purposes, especially for drinking water. Looking at these problems and observing the intensification of research in the field of groundwater quality, it is important to stimulate the exchange of information between researchers and legislative and executive authorities. Therefore, the National Institute for Water Supply, which forms part of the Ministry of Health and Environmental Protection, decided to organize the ISQG.

The organization of the symposium was made possible by the active support of several international organizations. Well known scientists and legislative and executive authorities agreed to serve on the Advisory Board, which consisted of the following members:

- | | |
|--------------------|---|
| G. Castany, | President of the I.A.H., Bourg-la-Reine, France |
| H.J. Colenbrander, | International Association of Hydrological Sciences, The Hague,
The Netherlands |
| J.C. van Dam, | University of Technology, Delft, The Netherlands |
| G.B. Engelen, | Free University, Amsterdam, The Netherlands |
| J.J. Fried, | Consultant to the Commission of the European Communities,
Strasbourg, France |
| F.A.M. de Haan, | Agricultural University, Wageningen, The Netherlands |
| L. Huisman, | University of Technology, Delft, The Netherlands |
| L.F. Konikow, | United States Department of the Interior, Geological Survey,
Reston, V.A., United States of America |
| G. Matthes, | University of Kiel, Federal Republic of Germany |
| E. Romijn, | International Association of Hydrogeologists and International
Association of Hydrological Sciences (National Committee),
Arnhem, The Netherlands |
| P. Santema, | National Institute for Water Supply, Voorburg, The Netherlands
(chairman) |
| M.J. Suess, | World Health Organization, Copenhagen, Denmark |
| P.J. Verkerk, | Ministry of Health and Environmental Protection, Leidschendam,
The Netherlands |

XX

W.B. Wilkinson, Water Research Centre, Medmenham, United Kingdom
D.A. Zeilmaker, Ministry of Health and Environmental Protection, Leidschendam,
The Netherlands

The Organizing Committee, after consulting the Advisory Board, aimed at a symposium programme covering a relatively wide field. The programme was divided into the following topics:

topic 1 Effects of diffuse polluting sources, land use and precipitation
topic 2 Effects of local polluting sources
topic 3 Subsurface waste disposal and deep-well injection
topic 4 Hazardous pollutants in subsoil
topic 5 Collection and interpretation of data
topic 6 Development of models
topic 7 Criteria and methods for protection of groundwater quality

The Organizing Committee has attempted to attract internationally known scientists for the different topics to be discussed. During the symposium the topics were divided into general, specialist, parallel and poster sessions. The general and specialist sessions were chaired by the following persons:

topic 1 J. Vrba, Stavebni Geologie, Prague, Czechoslovakia
topic 2 G. Matthess, University of Kiel, Fed. Republic of Germany
topic 3 J. Vecchioli, U.S. Geological Survey, Tallahassee, U.S.A.
topic 4 B.C.J. Zoeteman, National Institute for Water Supply, Voorburg,
The Netherlands
topic 5 W.B. Wilkinson, Water Research Centre, Medmenham, United
Kingdom
topic 6 J.J. Fried, Université Louis Pasteur, Strasbourg, France
topic 7 R.V. Blau, Department Water and Energy Management, Canton
Berne, Ostermundigen, Switzerland

The parallel sessions were chaired by the following persons:

C. van den Akker, Municipal Waterworks of Amsterdam, The Netherlands (topic 6)
G. Castany, President of the I.A.H., France (topic 5 and 6)
H.J. Colenbrander, International Association of Hydrological Sciences, The Hague,
The Netherlands (topic 5)
K.J. Edworthy, Water Research Centre, Medmenham, United Kingdom (topic 2)
M.P. Henton, Forth River Purification Board, Edinburgh, United Kingdom,
(topic 1)
L.F. Konikow, United States Department of the Interior, Geological Survey,
Reston, V.A., U.S.A. (topic 6)
V. Neumayr, Institut für Wasser-, Boden- und Lufthygiene des Bundesgesund-

G.J. Piet,	heitsantes, Berlin, Fed. Republic of Germany (topic 4) National Institute for Water Supply, Voorburg, The Netherlands (topic 4)
E. Romijn,	Provincial Waterboard, Gelderland, Arnhem, The Netherlands (topic 1 and 7)
C.J. Swinnerton,	Wessex Water Authority, Bristol, United Kingdom (topic 7)
C.P. Young,	Water Research Centre, Medmenham, United Kingdom (topic 2 and 5)

The enthusiastic participation in and contribution to the symposium of chairmen and speakers as well as participants conduced considerably to the success of the symposium.

We trust that this volume, containing the papers presented during the symposium in the various sessions, will be useful as a review of the present knowledge concerning the quality of groundwater and that it will stimulate further research.

The symposium organizers acknowledge the following sponsoring organizations:

UNESCO,	United Nations Educational, Scientific and Cultural Organization,
WHO	World Health Organization,
EC	Commission of the European Communities,
IAH	International Association of Hydrogeologists,
IAHS	International Association of Hydrological Sciences,
UNO	Department of Technical Cooperation for Development.

The Organizing Committee,

W. van Duijvenbooden (chairman)
P. Glasbergen
H. van Lelyveld
J.C. van den Toorn