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Volume II



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A contribution
to the International
Hydrological
Decade



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A contribution to the
*International Hydrological
Decade*

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Volume II
Analyses
of selected textbooks

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Preface

The International Hydrological Decade (IHD) 1965-1974 was launched by the General Conference of Unesco at its thirteenth session to promote international co-operation in research and studies and the training of specialists and technicians in scientific hydrology. Its purpose is to enable all countries to make a fuller assessment of their water resources and a more rational use of them as man's demands for water constantly increase in face of developments in population, industry and agriculture. In 1973 National Committees for the Decade had been formed in 107 of Unesco's 131 Member States to carry out national activities and to contribute to regional and international activities within the programme of the Decade. The implementation of the programme is supervised by a Co-ordinating Council, composed of thirty Member States selected by the General Conference of Unesco, which studies proposals for developments of the programme, recommends projects of interest to all or a large number of countries, assists in the development of national and regional projects and co-ordinates international co-operation.

Promotion of collaboration in developing hydrological research techniques, diffusing hydrological data and planning hydrological installations is a major feature of the programme of the IHD which encompasses all aspects of hydrological studies and research. Hydrological investigations are encouraged at the national, regional and international level to strengthen and to improve the use of natural resources from a local and a global perspective. The programme provides a means for countries well advanced in hydrological research to exchange scientific views and for developing countries to benefit from this exchange

of information in elaborating research projects and in implementing recent developments in the planning of hydrological installations.

As part of Unesco's contribution to the achievement of the objectives of the IHD, the General Conference authorized the Director-General to collect, exchange and disseminate information concerning research on scientific hydrology and to facilitate contacts between research workers in this field. To this end, Unesco has initiated two collections of publications: 'Studies and Reports in Hydrology' and 'Technical Papers in Hydrology'.

The collection 'Technical Papers in Hydrology' is intended to provide a means for the exchange of information on hydrological techniques and for the co-ordination of research and data collection.

The acquisition, transmission and processing of data in a manner permitting the intercomparison of results is a prerequisite to efforts to co-ordinate scientific projects within the framework of the IHD. The exchange of information on data collected throughout the world requires standard instruments, techniques, units of measure and terminology in order that data from all areas will be comparable. Much work has been done already towards international standardization, but much remains to be done even for simple measurements of basic factors such as precipitation, snow cover, soil moisture, streamflow, sediment transport and ground-water phenomena.

It is hoped that the guides on data collection and compilation in specific areas of hydrology to be published in this collection will provide means whereby hydrologists may standardize their records of observations and thus facilitate the study of hydrology on a world-wide basis.

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Introduction

The Working Group on Education and Training in Hydrology of the Co-ordinating Council of the International Hydrological Decade has undertaken a study of the different methods of teaching hydrology and the various aids used. In the course of this study, it became apparent that not only the methods but also the subjects taught in hydrology courses vary widely from country to country. The Working Group therefore analysed the hydrological subjects dealt with in textbooks and contained in the syllabuses of hydrological courses, particularly at the undergraduate and post-graduate level.

The Working Group decided also to analyse a selection of textbooks in various languages. Apart from their general interest to the hydrological profession, it was thought that such analyses might be particularly useful to the staff of teaching institutions in their selection of textbooks and the establishment of curricula and syllabuses. The study should also be of interest to publishers as an aid in determining whether translations are needed in a particular field or language.

In selecting the books for analysis, the Working Group attempted to list works from as many countries as possible. For that reason, it included certain books which are not well known outside their country of publication, and omitted some well known and excellent books. The inclusion or omission of a particular work should not, therefore, be taken as an indication of its importance.

A first set of detailed analyses, covering nineteen textbooks in English, French, Russian, Spanish, German and Italian, was published in 1970 as no. 6 in the present series together with data in the form of synoptic tables on a large number of other books. In view of the appearance since that date of many new textbooks, it was decided, at the fourth session of the Working

Group in April 1971, that additional analyses should be made. Members of the Working Group accordingly supplied over sixty analyses of books published in English, French, Russian, Czech, German, Hungarian, Italian, Norwegian, Polish, Serbocroat, Slovak, Spanish and Swedish for inclusion in this second volume. Members of the Working Group and others who contributed data for the analyses and tables are listed on pages 17 and 18.

The Working Group decided to consider also books in other fields closely related to hydrology that might prove useful in teaching hydrology.

Detailed analyses were prepared on 44 books, whereas data on 57 additional books are presented in the form of tables.

At its fifth session in April 1973, the IHD Working Group on Education decided on the final composition of the present volume. An editorial board consisting of Messrs. W.H. Gilbrich (Unesco), W.L. Moore (U.S.A.), L.J. Mostertman (Netherlands) and M.R. Tarafdar (Bangladesh) reviewed the final version in August 1973.

The final editing and preparation for printing was undertaken at the International Courses in Hydraulic and Sanitary Engineering, Delft, the Netherlands.

The general arrangement adopted for the first volume has been retained, but the following decimal classification of the works has been introduced :

1st digit	=	Field	1 General and engineering hydrology
			2 Hydrology of subsurface water
			3 Hydrometry
			4 Fields related to hydrology
2nd digit (in fields 1, 2 and 3)	=	Language	1 English
			2 French
			3 Russian
			4 Spanish
			5 Others
2nd digit (in field 4)	=	Subject area	1 General and surface water hydrology
			2 Hydrology of subsurface water
			3 Hydrometry
			4 Mathematics and mathematical modelling
			5 Physics
			6 Fluvial hydraulics
			7 Limnology
			8 Hydrochemistry
			9 Meteorology
			10 Open-channel flow
			11 Water-resources engineering
3rd digit	=	Serial number	

In spite of the efforts of the Working Group, it may be found that this work has some shortcomings. For that reason, and also because of the expansion of hydrological education, it is likely that further analyses will be necessary. Suggestions for subsequent analyses would be greatly appreciated, and should be addressed to:

Division of Hydrology

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