PROCEEDINGS OF

THE INTERNATIONAL CONFERENCE ON WATER RESOURCES ENGINEERING

HELD AT
ASIAN INSTITUTE OF TECHNOLOGY
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VOLUME I
FLUVIAL AND COASTAL HYDRAULICS

PREFACE

Asia and the Pacific Regional Division of the International Association for Hydraulic Research was formed with the following objectives : to stimulate basic and applied research intended to increase the corpus of knowledge in the field of hydraulic engineering and water resources management; and to promote in Asia the professional competence of individuals engaged in these sciences and their application to the hydrosphere. This first International Conference is a significant step toward achieving these goals. The Conference is preceded by the Executive Committee meeting of the Asia and the Pacific Regional Division of IAHR and appropriately named as the First Congress of the Regional Division.

The problems concerning water resources engineering are regional as well as international in scope. It is important that regional characteristics be appropriately recognized in the design and operation of projects involving the control and efficient use of water resources. The Conference is aimed at helping countries in tackling actual problems associated with the fields covered.

The *Proceedings* consists of two volumes which correspond to the two parallel sessions of the Conference. Volume I contains 42 papers and Volume II is made of 38 papers. Papers contributed by authors from 24 countries are arranged in seven sessions in each Volume. The division into the seven sections is, in some cases, rather arbitary since several papers could fit under more than one of the chosen subject headings. As far as possible these headings are made to correspond with the titles of the Conference sessions.

It has been found necessary to edit some of the papers to make them confirm to the standards necessary for reproduction by a photo offset process. The editors hope that they might be forgiven for any mistakes that have arisen as a result, but they accept responsibility for any misrepresentations of the authors original manuscripts. Great care has been exercised in an attempt to avoid such mistakes.

The Organizers of the Conference wish to express their appreciation to the Technical Divisions of IAHR for reviewing the abstracts submitted and to the IAHR Secretariat for the encouragement and support. Sincere thanks are also due to the Administration of the Asian Institute of Technology. We are indebted to each and every one in the Division of Water Resources Engineering, and would like to mention in particular the helpful assistance of Miss K. Kunapermsiri, Mr. S.R. Coran, Mr. P.P.M. Castro and Mr. G.E. Amirthanathan in the preparation of the final manuscript.

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