# Twenty-Second Coastal Engineering Conference

Proceedings of the International Conference

## **VOLUME 1**

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Organized by the Royal Institution of Engineers in the Netherlands (KIvI), Division for Civil Engineering and co-sponsored by the Permanent International Association of Navigation Congresses and the International Association for Hydraulic Research.

Edited by Billy L. Edge



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#### **ABSTRACT**

This proceedings contains over 250 papers presented at the 22nd International Conference on Coastal Engineering which was held in Delft, The Netherlands, July 2-6, 1990. The book is divided into eight parts: 1) Characteristics of coastal waves and currents; 2) long waves and storm surges; 3) coastal structures; 4) the Dutch coast 5) coastal processes and sediment transport; 6) coastal, estuarine and environmental problems; 7) ship motions; and 8) case studies. The individual papers include such topics as the sedimentation and beach nourishment. Special emphasis is given to case studies of completed engineering projects. With the inclusion of both theoretical and practical information, these papers provide the civil engineer and related fields with a broad range of information on coastal engineering.

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#### Foreword

The 22nd International Conference on Coastal Engineering was held in Delft, The Netherlands. The 22nd ICCE, like the oncs before it, was organized and managed by volunteers from within The Netherlands representing private, industrial and governmental contributors. This Conference represented an opportunity to share scientific and engineering information and provided a forum for interaction with other engineers and scientists working on similar coastal problems. The time and effort contributed to the development and organization of each conference becomes more complex and difficult as they continue to grow in size and content. The Local Organizing Committee worked on the planning for this Conference for nearly four years. All who attended the 22nd ICCE will agree that it was a tremendous success. The **Proceedings** of this Conference will represent a major step forward in the field of coastal engineering.

The chapters in this **Proceedings** have been prepared by the authors who were selected to make presentations at the 22nd International Conference on Coastal Engineering. The authors were asked to make the presentations and submit the final papers based upon review of the abstracts which were submitted well in advance of the Conference. The Technical Review Committee included four professionals who are active in the field of coastal engineering. One of the members is a representative of the Local Organizing Committee, a second member was part of the technical program committee for a previous conference in his country and the other two review members were selected for their broad understanding and recognition in the field. The papers included in this volume are eligible for discussion in the **Journal of the Waterways**, **Port**, **Coastal and Ocean Division** of the ASCE. All papers are cligible for ASCE awards.

Venues for the upcoming conferences are listed below:

23rd ICCE - Venice, Italy	1992
24th ICCE - Kobe, Japan	1994
25th ICCE - Orlando, FL, USA	1996
26th ICCE - Copenhagen, Donmark	1998

Coastal engineers who would desire to host a future conference in their country should contact the Sccretary of the Coastal Engineering Research Council to receive information about submitting a proposal.

The continuing coordination of the International Conferences on Coastal Engineering is through the Coastal Engineering Research Council of the ASCE. The Research Council began at the instigation of Professor Boris Bakhmeteff who as chairman of the Research Committee of the Engineering Foundation suggested the formation of the Council on Wave Research. The Council was established in June 1950 under the Engineering Foundation.

Subsequently in 1963 the Council was transferred from the Foundation to the ASCE

and was renamed the Coastal Engineering Research Council which better described its expanded function.

Members of the Foundation and subsequently members of the Council recognized that coastal engineering problems required broad based research to better define the coastal and ocean phenomena with which they dealt. The Foundation felt that it was important that all disciplines working in the coastal area should have an opportunity and be encouraged to communicate with one another through the mechanism of interdisciplinary conferences.

The first conference was held in Long Beach, CA in 1950. The papers which were delivered at that conference were published and became the first coastal engineering conference **Proceedings**. Although the conferences began with a national focus they quickly became international in scope. After planning and conducting 22 conferences on coastal engineering the Series has been established as the principal conference on coastal engineering in the world. Contributors to the conference represent nearly all coastal nations and the numbers of abstracts which are submitted for consideration are generally twice as large as the available opportunity for presentations. The **Proceedings** of the conferences are all available from the ASCE.

Billy L. Edge, Secretary Coastal Engineering Research Council, ASCE

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K & O Netherlands Coastal Works Association

NABU Netherlands Association of International Contractors

NEDECO Netherlands Engineering Consultants VGB Dutch Association of Major Contractors

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