

## FOREWORD

The Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM), and its predecessor, has a long-standing programme activity relating to the provision of technical advice on ocean wave modelling, forecast and hindcast, to assist national Meteorological Services and Oceanographic agencies in fulfilling their services duties in support of the requirements of users in the whole range of maritime activities (shipping, fisheries, offshore mining, commerce, coastal engineering, construction, recreation, etc.).

JCOMM-II (Halifax, Canada, September 2005) recognized the importance of conferences, workshops, seminars and training courses in the coordination of wind wave and storm surge activities globally, for exchange of information on databases, methodologies and techniques, and sharing of expertise among developed as well as developing countries. Of particular note in this regard were the series of International Workshops on Wave Hindcasting and Forecasting, including the Tenth International Workshop on Wave Hindcasting and Forecasting and Coastal Hazard Symposium, which was held in North Shore, Oahu, Hawaii, from 11 to 16 November 2007, co-sponsored and organized by the U.S. Army Engineer Research and Development Centre's Coastal and Hydraulics Laboratory, and Environmental Canada, jointly with the WMO and IOC through the Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM). The objectives of the workshop were:

- 1) to provide a forum for the exchange of ideas and information related to wind, wave, and surge hindcasting and forecasting, including some special topics related to the evaluation of coastal hazards;
- 2) to coordinate ongoing R&D initiatives;
- 3) to discuss priorities for future research and development.

The theme session for this workshop was "Improved Predictions of Coastal Hazards". Papers dealing with research related to this theme were given particular consideration. Topics included theoretical, numerical, laboratory, and field studies of wind, wave and surge phenomena in coastal areas; the interpretation of climatic characteristics of storms and related processes in coastal areas, data assimilation/fusion methods for coastal applications, and the assessment of wind, wave and surge hazards in coastal areas.

Papers were also welcomed on other research and operational aspects of wave hindcasting and forecasting, including operational forecasting, regional hindcasts; data collection and instrumentation, data assimilation into numerical models, wave-current interaction, wave-ice interaction, shallow water and nearshore effects, wind fields for wave hindcasting or forecasting; extremal analysis, and case studies. In addition to regular sessions organized around submitted papers, this year several sessions were organized by a number of invited experts in a number of key areas related to the evaluation of coastal hazards. These sessions provided an excellent opportunity for cross-pollination of ideas.

A specific session on the wave model forecast verification scheme was convened at the Workshop, ten years after the first presentation of the project at the 1<sup>st</sup> International Workshop on Wave Hindcasting and Forecasting, in 1997. This session covered (1) aspects related to the routine intercomparison of wave model forecast verification data that was first informally established in 1995 to provide a mechanism for benchmarking and assuring the quality of wave forecast model products that support the provision of safety-related services; and (2) a number of proposals for future development of this data exchange based on recommendations by the JCOMM Expert Team on Wind Waves and Storm Surges (ETWS) which met in March 2007.

The outcomes from this workshop would greatly assist Members/Member States in the implementation and improvement of wave analysis and forecasting systems operated by Meteorological Services and oceanographic agencies.

The considerable appreciation of WMO and IOC is due to the co-sponsors (U.S. Army Engineer Research and Development Centre's Coastal and Hydraulics Laboratory, and Environmental Canada), all members of the Organizing and Programme Committees, in particular Dr Donald Resio (USA) and Mr Val Swail (Canada), and all those who have contributed to the success of this Workshop.