Special Issue

Modeling and Numerical Simulation of Ocean and Coastal Waves

Message from the Guest Editor

Dear colleagues, Wind waves and swell play a decisive role in a number of oceanic and coastal issues. Many physical processes affect ocean wave fields from the wind generation area in deep water to the shore or to coastal structures. The development of mathematical models capable of representing all the physical processes on waves, or at least the dominant phenomena, remains a subject of research that is still widely open. Different types of mathematical models exist, based on a phase-resolving or phase-averaged approach. Regarding the numerical methods, a range of techniques are employed to solve these models, e.g., finite difference, finite volume, finite element, and spectral methods. The purpose of this Special Issue is to present the most recent advances in the field of mathematical modeling and numerical simulation of water waves, from the ocean domain to the coastal and port domains. The presentation of novel mathematical models is encouraged, as well as the development of efficient and accurate numerical methods to simulate these models, with applications to real cases from the ocean to the shore.

Guest Editor

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In the context of global changes, the sustainable management of water cycles, going from global and regional water cycles to urban, industrial and agricultural water cycles, plays a very important role on the water resources and on their relationships with food, energy, biodiversity, ecosystem functioning and human health. *Water* invites authors to provide innovative original full articles, critical reviews and timely short communications and to propose special issues devoted to new technological and scientific domains and to interdisciplinary approaches of the water cycles. We ensure a critical review process and a quick turnaround between submission and final decision.

Editor-in-Chief

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