

Special Issue

Fluid Mechanics in Ocean Engineering: Modeling and Simulation

Message from the Guest Editor

This Special Issue focuses on advances in numerical simulation, modeling, and fluid mechanics as they relate to modern ocean engineering challenges. The marine environment presents complex hydrodynamic behaviors that require increasingly sophisticated computational approaches. Techniques such as computational fluid dynamics (CFD), multiphase flow modeling, turbulence modeling, and high-fidelity simulation frameworks play a critical role in understanding fluid–structure interactions, wave mechanics, coastal processes, and the performance of marine vehicles and offshore structures. The aim of this Special Issue is to bring together and showcase cutting-edge research that enhances predictive accuracy, computational efficiency, and practical applicability in ocean engineering design and analysis. Submissions may explore new numerical algorithms, validation against experimental or field data, innovative modeling and simulation tools, or applications involving waves, currents, sediment transport, underwater vehicles, renewable energy systems, and offshore platforms.

Guest Editor

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Deadline for manuscript submissions

31 July 2026



Water

an Open Access Journal
by MDPI

Impact Factor 3.0
CiteScore 6.0



mdpi.com/si/264395

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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

Dr. Jean-Luc PROBST

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