Special Issue

Climate-Driven Coastal and Ocean Dynamics: Waves, Shoreline Changes, and Carbon Cycle Interactions

Message from the Guest Editor

Climate change is profoundly altering coastal and ocean systems, with cascading impacts on wave dynamics, shoreline stability, and the marine carbon cycle. Rising sea levels, stronger storms, and shifting currents accelerate erosion and threaten ecosystems and infrastructure. These physical changes interact with biogeochemical processes, potentially reducing the ocean's capacity to sequester carbon. This Special Issue seeks high-quality research addressing intersections among these critical systems under climate forcing. We invite contributions advancing understanding of the following: Physical dynamics: Wave climate variability, extreme events (e.g., storm surges), and sediment transport shaping shoreline evolution. Carbon cycle feedbacks: Impacts of erosion, ocean acidification, and blue carbon ecosystems (e.g., mangroves, seagrasses) on carbon storage and fluxes. Modeling and tools: Remote sensing, modeling, and field studies to predict long-term changes and inform adaptive management. Interdisciplinary studies linking hydrodynamics, geomorphology, and biogeochemistry are especially encouraged, as are assessments of mitigation strategies (e.g., nature-based solutions).

Guest Editor

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Message from the Editor-in-Chief

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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