

Special Issue

Applications of Machine Learning and Deep Learning in Coastal Process Modelling

Message from the Guest Editor

The primary goal of the current Special Issue is to leverage the capabilities of ML to better understand and predict the dynamics of coastal systems. The scope of this Special Issue encompasses interdisciplinary studies focusing on the application of ML techniques in understanding and managing coastal dynamics. Contributions are invited that explore various themes, including but not limited to the following:

- The development of AI-based predictive models for coastal erosion, sediment transport, shoreline evolution, sea level rise, salt intrusion, extreme natural events, and hydrodynamic and morphodynamic processes.
- Explorations of coastline nourishments' impact and temporal and spatial evolution using ML models.
- Understanding the dynamics surrounding the nature-based solutions (e.g., sand engines, sea grasses, etc.) using ML models.
- Exploring the impact of climate change on coastal resilience using ML models.
- The use of ML algorithms for analyzing complex environmental data sets related to coastal systems
- Application of AI-driven autonomous sensing technologies for real-time data collection and monitoring of coastal processes.

Guest Editor

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Deadline for manuscript submissions

closed (20 February 2026)



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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

Dr. Jean-Luc PROBST

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