

## Special Issue on **Adapting to Climate Change in Coastal and Ocean Engineering**

# CALL FOR PAPERS

Coastal and offshore structures are exposed to many powerful environmental forces such as waves, winds, and currents. They are also subjected to various climate change influences including sea level rise and the increased frequency and intensity of storms. Over the coming decades, climate forcings are projected to increase as a result of anthropogenic causes as well as land-use changes. Predicting how these forcings may manifest themselves will empower and enable decision makers to prepare accordingly. As the diverse types of influences and adverse effects (e.g., structural damage and coastal flooding) are recognised and the associated uncertainties are understood, engineers will need to design coastal and offshore structures with climate change adaptation in mind. Addressing this challenge requires a greater analysis of the vulnerabilities of existing coastal and offshore structures, including a consideration of potential drivers and the circumstances contributing to more frequent structural failures and the loss of system functionalities and developing robust climate risk management strategies for building and improving the resilience of assets.

The purpose of this Special Issue is to publish original research articles and review articles that cover various aspects of the design, optimisation, and performance evaluation of coastal and offshore structures, with a particular focus on structural resilience against the impacts of various environmental factors, most notably climate change. Research that considers the mitigation of climate change impacts and best practices for climate change adaptation, alongside modelling and monitoring studies related to morphodynamics, sediment dynamics, and hydrodynamics, is particularly welcomed.

Potential topics include but are not limited to the following:

- ▶ Design and construction of innovative coastal and offshore structures (e.g., artificial islands, ports, beaches, and outfall systems) that are resilient to the impacts of climate change
- ▶ Nature-based approaches for climate change adaptation and management
- ▶ Risk analysis and life cycle analysis, including the maintenance and decommission, of coastal and offshore structures in the context of climate change adaptation pathways
- ▶ Statistical and probabilistic methods for climate change proof designs
- ▶ Case studies and/or lessons learned from climate change adaptation projects
- ▶ Development and implementation of climate risk management and adaptation strategies
- ▶ Performance of coastal systems including risk assessment and resilience to climate change
- ▶ Monitoring of degradation processes and fatigue in coastal and ocean structures

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/ace/walee/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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### **Submission Deadline**

Friday, 23 October 2020

### **Publication Date**

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