

Special Issue

Extreme Weather and Climate Events: Physical Drivers, Modeling and Impact Assessment

Message from the Guest Editors

Extreme weather and climate events, such as intense tropical cyclones (e.g., major hurricanes and super typhoons), explosive extra-tropical storms, atmospheric rivers, extreme precipitation, atmospheric and marine heat waves, floods and droughts, can cause tremendous economic losses, pose a great mortality risk and lead to substantial damage to ecosystems; thus, scientific understanding of the physical drivers controlling these extreme events will be important for improving the predictive skill regarding extreme events on day to decadal time scales. Publications in this Special Issue will aim at understanding the physical mechanisms underpinning the occurrence frequency of these extremes, improving model capabilities of simulating and predicting extreme events, and assessing their socioeconomic impacts.

With these issues in mind, among the various subjects, authors are invited to discuss physical drivers of extreme events, identify the key physical processes and/or model resolutions on revolving extreme events in weather/climate models, examine the predictability of extreme events and assess ecosystem responses to extreme events.

Guest Editors

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Deadline for manuscript submissions

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About the Journal

Message from the Editor-in-Chief

Journal of Marine Science and Engineering (JMSE, ISSN: 2077-1312) focuses on research in the fields of Ocean Engineering, Coastal Engineering, Physical Oceanography, Geological Oceanography, Marine Biology, and Marine Environmental Science. It publishes reviews, regular research papers, and short communications, as well as Special Issues on particular subjects. Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the maximum length of the papers.

Editor-in-Chief

Prof. Dr. Charitha Pattiaratchi

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.5 days after submission; acceptance to publication is undertaken in 2.5 days (median values for papers published in this journal in the second half of 2025).