

## Special Issue

# Recent Research on the Measurement and Modeling of Sea Ice

### Message from the Guest Editors

Sea ice in the polar oceans plays a crucial role in the Earth's climate system, serving as both a barometer and amplifier of climate change. The ice acts as a reflective shield, reflecting a significant portion of incoming solar radiation back into space and helping to regulate the planet's temperature. Measurement and modeling of sea ice are crucial for determining and predicting its extent, thickness, and overall health. A wide range of different techniques are used to monitor and quantify sea ice conditions, including satellite observations, ice-penetrating radar and laser altimeters, field expeditions, and autonomous buoys. For this Special Issue, we welcome contributions focusing on any aspects of the measurement or modeling of polar sea ice, including but not limited to physical properties, seasonal evolution patterns, present and future extent, the sea ice ecosystem, effects on the polar environment, its role in moderating global climate change, or air-ice-ocean-wave interactions.

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### Guest Editors

Dr. Mark D. Orzech

Dr. David A. Hebert

Prof. Aleksey Marchenko

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### Deadline for manuscript submissions

30 September 2025



## Journal of Marine Science and Engineering

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## About the Journal

### Message from the Editor-in-Chief

The *Journal of Marine Science and Engineering* (JMSE, ISSN 2077-1312) is an international peer-reviewed open access journal which provides an advanced forum for studies related to marine science and engineering. The journal aims to provide scholarly research on a range of topics, including ocean engineering, chemical oceanography, physical oceanography, marine biology and marine geosciences. We invite you to publish in our journal sharing your important research findings with the global ocean community.

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### Editor-in-Chief

Prof. Dr. Charitha Pattiaratchi  
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