

Special Issue

Wave–Ice Interactions in Oceans: Observations, Modeling, and Dynamics

Message from the Guest Editors

Interactions between ocean waves and sea ice affect both wave dynamics and sea ice behaviour. The most widely studied topic is wave attenuation by sea ice, an ice-to-wave feedback. However, the mechanisms behind attenuation—specifically the relative roles of scattering and dissipative processes across different ice types and length scales—remain insufficiently understood and are subject to large uncertainties. On the wave-to-ice side, increasing attention is being paid to wave-induced ice breakup, which may accelerate sea ice melting or refreezing. Waves also contribute to the formation of grease and pancake ice, influencing sea ice dynamics and thermodynamics. Despite their importance, many of these processes are not yet represented in operational sea ice models. This Special Issue welcomes studies on wave–ice interactions through in situ and satellite observations, theoretical and numerical modelling (including coupled model development), and laboratory experiments. We aim to highlight the latest research that advances the understanding and representation of wave–ice interaction physics in both scientific and operational contexts.

Guest Editors

Dr. Takehiko Nose

Graduate School of Frontier Sciences, The University of Tokyo, Kashiwa, Japan

Dr. Joey Voermans

Department of Infrastructure Engineering, University of Melbourne, Melbourne, VIC, Australia

Deadline for manuscript submissions

15 March 2026



Journal of Marine Science and Engineering

an Open Access Journal
by MDPI

Impact Factor 2.8
CiteScore 5.0



mdpi.com/si/238996

*Journal of Marine Science and
Engineering*
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
jmse@mdpi.com

[mdpi.com/journal/
jmse](https://mdpi.com/journal/jmse)





Journal of Marine Science and Engineering

an Open Access Journal
by MDPI

Impact Factor 2.8
CiteScore 5.0



[mdpi.com/journal/
jmse](https://mdpi.com/journal/jmse)



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.

Editor-in-Chief

Prof. Dr. Charitha Pattiaratchi
School of Engineering, The UWA Oceans Institute, The University of
Western Australia, Perth, WA 6009, Australia

Author Benefits

High Visibility:

indexed with Scopus, SCIE (Web of Science), Ei
Compendex, GeoRef, Inspec, AGRIS, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Marine) / CiteScore - Q2 (Ocean
Engineering)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is
provided to authors approximately 15.6 days after
submission; acceptance to publication is undertaken in 1.9
days (median values for papers published in this journal in
the first half of 2025).