

Special Issue

Meso- to Submesoscale Dynamics in the Ocean

Message from the Guest Editors

Dear colleagues, Oceanic mesoscale and submesoscale processes with the respective horizontal scales of $O(10-100)$ km and $O(0.1-10)$ km are ubiquitous and important features in the ocean. Meso- to submesoscale dynamical processes play a crucial role in the oceanic energy cascade that maintains the balance of the ocean circulation's energy reservoir. And, they have a huge capability to transport oceanic tracers (e.g., heat, salt, nutrients, carbon, oxygen etc.) in three dimensions, significantly modulating the air-sea interaction and biogeochemical processes. With the advent of super computer and high-resolution observation technologies, considerable knowledge of meso- to submesoscale processes has been obtained, but many issues such as their fine three-dimensional structures, quantitative roles in tracer transports, generation and decay mechanisms, interactions with other processes and their route of energy cascade, subgrid parameterizations in models, impacts on large-scale circulation, air-sea interaction, as well as biogeochemical processes are still elusive. In this Special Issue, we welcome research that is relevant, but not limited to, the above issues.

Guest Editors

Prof. Dr. Jiwei Tian

Prof. Dr. Zhiyou Jing

Dr. Zhiwei Zhang

Deadline for manuscript submissions

closed (31 July 2022)



Journal of Marine Science and Engineering

an Open Access Journal
by MDPI

Impact Factor 2.8
CiteScore 5.0



mdpi.com/si/103048

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





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

Oceans Graduate School and 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).