

Journal of Marine Studies (JoMS): A new open-access journal in ocean science and technology

Munawar Khalil^{1,*}

¹Department of Marine Science, Faculty of Agriculture, Universitas Malikussaleh. Reuleut Main Campus, 24355 North Aceh, Indonesia

Editorial

The ocean is critical in shaping the Earth's climate and conserving biodiversity (Palumbi et al., 2009; Reid et al., 2009). Oceans are interconnected systems, covering more than 70% of the Earth's surface; thus, it plays a critical role in regulating global climate patterns, absorbing and dispersing heat energy that contributes to the regulation of weather patterns and climate stability (Showman & Dowling, 2014). In addition, the ocean is a source of oxygen, with phytoplankton, marine vegetation, and some bacteria supplying oxygen to the atmosphere through photosynthesis (Beer et al., 2014). The ocean also provides support for the sustainability of many ecosystems, such as coral reefs, mangroves and the deep sea; providing essential nutrients, carbon storage, coastal protection and food security services to humans (Cooley et al., 2023).

On the other side, ocean ecosystems face a multitude of critical threats that jeopardize its integrity and sustainability. Climate change is a major concern, driving increasing ocean temperatures, ocean acidification, ocean deoxygenation and extreme weather episodes, all disrupting marine habitats and biodiversity (IPCC, 2022, 2023). Overfishing and destructive fishing practices further exacerbate these problems, depleting fish stocks and destabilizing marine food chains (Burgess et al., 2013). Pollution, including plastic waste, oil spills and agricultural runoff, creates widespread risks to marine life and ecosystem health (Datta, 2023). Habitat destruction, driven by coastal development and industrial activities, exacerbates this problem by reducing critical habitat and altering ecological dynamics (Kennish, 2002; Lee et al., 2006). Invasive species introduced through global commerce and aquaculture exacerbate ecosystem instability, outcompeting native species and disrupting ecological balance (Kernan, 2015; Molnar et al., 2008). A holistic and interdisciplinary approach that integrates scientific research, policy interventions, and community engagement is essential to address these complex issues and ensure the long-term health and resilience of marine ecosystems.

Understanding ocean function, including its physical, chemical, biological, and geological processes, is essential for the sustainable management and utilization of ecosystems. Understanding these complex interactions allows for informed decisions regarding conservation efforts, resource utilization, and ecosystem protection. Exploring the complexity of ocean dynamics allows us to identify key drivers of change, predict ecosystem responses to human activities and natural events, and develop effective strategies to conserve marine biodiversity and ensure the long-term health of oceans (Bennett et al., 2009; Harley et al., 2006). This comprehensive knowledge serves as the basis for implementing policies and practices that promote sustainable ocean management, support marine conservation initiatives, and nurture harmonic relationships between human activities and the marine environment.

Over the past few decades, the field of marine science has witnessed a tremendous expansion in the scope and depth of global observation networks and data archives. This



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*Corresponding author: Munawar Khalil. Email: khalil@unimal.ac.id



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expansion has brought a number of new challenges stemming from the effective management and utilization of multidisciplinary observations. These challenges require sophisticated strategies for data acquisition, integration and analysis, as well as innovative approaches to address issues of data quality, consistency and interoperability across different data sets (Guidi et al., 2020; Hiscock et al., 2003). In addition, the interdisciplinary nature of ocean science underscores the importance of collaborative efforts among scientists from different disciplines, including oceanography, marine biology, geology, and atmospheric sciences, to effectively utilize the wealth of observational data available (Brodie et al., 2022; Ocean Studies Board & National Research Council, 2007). By tackling these challenges head-on through rigorous academic inquiry and interdisciplinary collaboration, researchers can unlock new insights into the dynamics of complex marine systems, providing a more comprehensive and nuanced understanding of the ocean and its role in the broader Earth system.

In recent years, the field of marine sciences has experienced a remarkable increase in research publications, with many studies delving into various aspects of oceanography, marine biology, social-economic and environmental conservation (Partelow et al., 2020; Potter & Pearson, 2023). However, amidst this proliferation of knowledge, there is still a significant gap - many of these valuable research findings are not being disseminated in a large spectrum; they are not accessible to a wider audience due to a lack of open access. Open access to marine science literature is essential to foster collaboration and advance interdisciplinary research efforts; allowing researchers from different backgrounds and institutions to access and build on existing knowledge, open access facilitates cross-pollination of ideas and expertise. This collaborative ethos is critical in addressing complex ocean-related challenges, such as the impacts of climate change, marine pollution and biodiversity loss, which demand a multidisciplinary approach.

New open access journal: Journal of Marine Studies (JoMS) is a scholarly publication committed to disseminating research in the field of marine studies. JoMS publishes a diverse range of content, including original research articles, critical reviews, case studies, brief communications, methodological advancements, and data papers. Covering various facets of the marine environment, the journal aims to enhance our understanding of marine systems and the reciprocal impacts of human activities. With a broad focus on marine science, technology, and interdisciplinary studies, JoMS strives to deliver impactful scientific contributions that are accessible to researchers, stakeholders, and interested individuals worldwide through freely available online access. JoMS publishes original research articles, opinion essays, case reports, short communications, and critical reviews on all aspects of the marine environment. JoMS publishes scientific articles across the extensive spectrum of the marine sciences, including:

- Oceanography
- Marine biotechnology
- Marine biodiversity and living resources
- Marine GIS and remote sensing
- Marine geology
- marine pollution
- Marine fisheries
- Mariculture
- Marine genomic
- Marine policy and law
- Marine management and conservation
- Marine technology
- Marine climatology
- Marine paleontology
- Coastal and estuarine dynamic
- Marine socio-economic
- Marine modelling
- Related topics constitute the key elements of papers
- Integrated studies that link gaps between marine science disciplines.

In this inaugural edition (Volume 1, Issue 1), we publish four articles that discuss the bioecological aspects of organisms in mangrove ecosystems (Fitriani et al., 2024; Mardiah et al., 2024), water quality as a critical aspect of mariculture (Yessy et al., 2024), and the use of integrated multi-trophic aquaculture technology as a sustainable environmental approach in aquaculture (Andika et al., 2024). With the full support of our editorial board, which ensures the best review, editorial processing and dissemination of marine research spanning local, regional and global contexts, JoMS is poised to bridge the knowledge gaps that exist in marine science. Through our joint efforts, we aim to foster a deeper understanding of the ocean and its complex dynamics, thereby advancing scientific understanding and contributing significantly to the wider field.

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Authorship contribution

MK: Conceptualization, writing - original draft preparation, writing - review and editing.

Conflict of interest

The corresponding author states that there are no conflicts of interest.

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