Special Issue

Artificial Intelligence in Air–Sea Interaction Monitoring

Message from the Guest Editor

The dynamic interplay between the atmosphere and the ocean significantly influences the global climate and extreme weather events. With the rapid advancement of artificial intelligence (AI), machine learning (ML), and deep learning (DL) techniques, novel approaches are emerging to enhance our accuracy, efficiency, and predictive capabilities in air–sea interaction monitoring. This Special Issue will explore the integration of AI into air–sea interaction research, addressing challenges such as real-time data assimilation, spatiotemporal modeling, and uncertainty quantification. We welcome contributions that leverage AI-based methodologies, including but not limited to neural networks, generative models, data fusion techniques, and remote sensing applications. Topics of interest include AI-driven wave and wind field analysis, ocean–atmosphere coupling models, typhoon and extreme weather prediction, AI-enhanced satellite observations, and innovative approaches to processing marine meteorological data.

Guest Editor

Dr. Chih-Chiang Wei

Department of Marine Environmental Informatics, National Taiwan Ocean University, Keelung 20224, Taiwan

Deadline for manuscript submissions

28 February 2026

About the Journal

Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

Editor-in-Chief

Dr. Daniele Contini
Institute of Atmospheric Sciences and Climate (ISAC), National Research Council (CNR), Str. Prv. Lecce-Monteroni km 1.2, 73100 Lecce, Italy

Author Benefits

Open Access:
free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:
indexed within Scopus, SCIE (Web of Science), Ei Compendex, GEOBASE, GeoRef, Inspec, CAPlus / SciFinder, Astrophysics Data System, and other databases.

Journal Rank:
CiteScore - Q2 (Environmental Science (miscellaneous))