



# remote sensing



*Special Issue Reprint*

## AI for Marine, Ocean and Climate Change Monitoring

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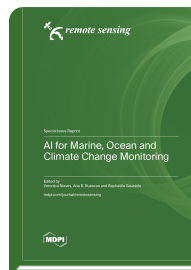
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The oceans play a pivotal role in regulating the Earth's climate, absorbing excess heat with far-reaching consequences such as rising sea levels and shifts in ocean circulation. To address these complex challenges, there is a growing interest in using advanced statistical, machine learning, and AI techniques to observe and model these ocean processes from space. This approach holds immense potential for identifying and predicting these intricate mechanisms, providing valuable insights into the impacts of climate change. This Special Issue reprint is dedicated to advancing climate science by integrating machine learning, remote sensing, and oceanography. It explores the application of cutting-edge technologies such as artificial neural networks and data-driven algorithms to skillfully analyze and forecast ocean-related processes. These cutting-edge techniques are essential for the challenges posed by ocean warming and its effects, emphasizing the urgent need for interdisciplinary research that combines expertise in AI, machine learning, and earth sciences. By fostering innovation and knowledge exchange, this Special Issue compiles recent advancements in ocean and climate sciences. It offers a wide array of methodological perspectives and tools to enhance our understanding of global and regional climate change monitoring, elevate forecasting capabilities, and clarify sources of uncertainty in predictive models. This effort signifies a crucial step in addressing the challenges arising from technological gaps and the impacts of climate change on our oceans and the planet.



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