



Climate Change on Ocean Dynamics

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Deadline for manuscript submissions:

closed (14 July 2023)

Message from the Guest Editors

Ocean plays a critically important role in climate change. About 93% of the additional heat and 30% of the CO₂ produced by human activity is absorbed by the ocean, which strongly regulates long-term climate variations. The severe impact of climate change on ocean dynamics has broad implications for our society. Understanding ocean dynamics is essential for the exploration of climate change.

This Special Issue aims to promote studies that analyze the connection between climate change and ocean dynamics, and consequently advance understanding of the impact that the ocean will have on future climate change. Potential submission topics include, but are not limited to:

- Changes to the ocean's mixed layer and stratification, and implications for extreme climate variability;
- The impact of large-scale ocean dynamics on future climate change and low-frequency variability in Earth system models.
- The impact of river flows, flooding, and variable land-based precipitation on ocean salinity and circulation;
- The impact of atmospheric changes and shifts in wind patterns on the frequency and intensity of coastal storm systems and upwelling;
- Drivers of drastic changes in polar areas.





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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!

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

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