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Tropical Cyclone Forecasting - Analysis and Methods

Guest Editor:

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Deadline for manuscript submissions:
closed (30 October 2022)

Message from the Guest Editor

Dear Colleagues,

Accurate cyclone forecasts have great societal impacts when it comes to saving lives and minimizing economic loss. Over the years, forecast methods have moved from simple subjective deductions based on observations of specific parameters such as cloud types and motions, sea swells, and pressure, to more sophisticated techniques which use complex computer models of the atmosphere. Until recently, the prediction of track, winds, rainfall, storm surge, and threatened areas was incredibly difficult. Cyclone tracks are governed by weather conditions, wind pressure, sea surface temperature, air temperature, ocean currents, and Coriolis force, which means that it is a comprehensive and difficult task to take all these parameters into consideration and produce reliable forecasts. This Special Issue invites novel research from both the observation and modeling areas. In addition, machine-learning-based methods are also highly encouraged in this Special Issue. The editor encourages potential authors to use synergistic methods from both observation and models to explore new techniques for tropical cyclone forecasting.

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Editor-in-Chief

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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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