Advancements in Mesoscale Weather Analysis and Prediction

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Deadline for manuscript submissions:
closed (29 February 2020)

Message from the Guest Editors

This Special Issue showcases advancements across a range of topics on which skillful, useful mesoscale weather analysis and prediction depend. Leading the list of dependencies is the understanding of dynamical and physical mesoscale processes, along with the ability to use this knowledge to advance analyses and predictions. Cornerstones of this effort are observations for characterizing the atmosphere's state and various methods of assimilating those observations. Improvements to dynamical and statistical models mean that the atmosphere can be represented ever more faithfully and in more detail. With probabilistic approaches, including ensembles, it is possible to address uncertainty in models and in the state of the atmosphere. As models and their use become more sophisticated, so do approaches to evaluating models' skill and utility. Innovations in computation and data management enable progress in research and operations. Finally, a comprehensive treatment of the subject must consider stakeholders and their applications (coupled models, decision support systems, etc.). We invite submissions on any of the topics listed above.

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Special Issue

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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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