



Advancements in Mesoscale Weather Analysis and Prediction

Guest Editors:

Dr. Jason C. Knievel

National Center for Atmospheric Research, Boulder, CO 80307-3000, USA

Dr. Ligia R. Bernardet

Cooperative Institute for Research in Environmental Sciences at the National Oceanic and Atmospheric Administration Global Systems Division, Boulder, CO, USA

Dr. Thomas J. Galarneau Jr.

Department of Hydrology and Atmospheric Sciences, University of Arizona, Tucson, AZ, USA

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.





an Open Access Journal by MDPI

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

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!

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)*)

Contact Us

Atmosphere Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/atmosphere
atmosphere@mdpi.com
[X@Atmosphere_MDPI](https://twitter.com/Atmosphere_MDPI)