



## PM2.5 Predictions in the USA

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### Message from the Guest Editors

High concentrations of PM<sub>2.5</sub> are of great concern due to their negative impacts on human health, the environment, and visibility. Accurate forecasts of PM<sub>2.5</sub> are difficult, due in part to the complexity of the various processes governing ambient levels. Ongoing research aims to characterize and constrain these key processes, improving PM<sub>2.5</sub> forecasts and mitigating the negative effects of pollution episodes. To highlight these efforts, we invite you to submit your research related to PM<sub>2.5</sub> predictions in the United States for publication in a special issue dedicated to the topic. This issue aims to collect and disseminate recent research papers on current scientific advances, applications, and challenges related to PM<sub>2.5</sub> forecasts in the US, including (but not limited to) topics such as wildfire emissions, wind-blown dust, secondary aerosol formation, surface and satellite measurements and their applications, forecast challenges over complex terrain and coastal regions, meteorological impacts, planetary boundary layer dynamics, data assimilation, machine learning techniques, and air quality model development, evaluation, and bias correction.





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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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