



Recent Progress in Air Pollution Dispersion and Transport Over Complex Terrain

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Message from the Guest Editors

Recent research has highlighted the significant impact of stratospheric-to-tropospheric transport, also known as deep stratospheric ozone intrusions, on near-surface air quality. The horizontal and vertical transport of air pollutants can also alter the atmospheric oxidizing capacity, further influencing the regional chemical composition. Complex terrain and underlying surface properties can alter regional atmospheric stratification and the boundary layer structure, triggering meso- to micro-scale circulations. Foreign air pollutants, controlled by these complex physical processes and constrained by the complex terrain leading to more challenging air quality issues.

This Special Issue seeks state-of-the-art publications (including review articles) on the dispersion and transport of atmospheric pollutants, particularly focusing on the comprehensive effects of multi-scale transport and diffusion on regional and local atmospheric environments, along with their terrain-meteorological mechanisms. Research employing artificial intelligence (AI), numerical simulations, and three-dimensional comprehensive observations is highly encouraged.





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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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