Special Issue

Numerical Weather Prediction Models in Atmospheric Dispersion

Message from the Guest Editor

Recent advances in computational power have allowed numerical weather prediction (NWP) models to simulate the release and subsequent dispersion of pollutants. There are many advantages of using NWP models to simulate dispersion: such models usually contain state-of-the-art representations of a whole range of physical processes, such as turbulence and microphysics. Some models also include full or partial chemistry, others simulate dispersion using passive tracers. Articles are invited on all aspects of the use of NWP-type models in atmospheric dispersion including, but not limited to, case studies of individual events, broader climatological studies, novel techniques and applications of NWP in atmospheric dispersion modelling, emergency planning and the response to natural phenomena such as volcanic activity, the effects of topography upon dispersion, the influence of physical processes such as radiative effects, deposition, buoyancy, idealised frameworks or large-eddy formulations to determine or characterise dispersion properties.

Guest Editor

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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!

Editor-in-Chief

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