



High-Resolution Regional Climate Modelling/Dynamical Downscaling

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Message from the Guest Editors

In the recent years, high-resolution regional climate simulations have matured to resolutions of about 5–10 km. The need for higher resolutions also depends on the region, physical terrain, and climate influences.

Given challenges in HPC computations of long-term integrations, newer models and the increasing resolutions of global-scale models, this Special Issue invites papers that answer the following questions:

How can dynamical downscaling be improved in the years to come?

What is the future of dynamical downscaling, and do we need more models in the research community?

How effective are CPM-scale simulations at urban and sub-regional scales?

What is the ‘added value’ in multi-RCM simulations?

Papers are generally invited on any aspect of dynamical downscaling that discuss high-resolution (10 km and above) simulations on urban or regional scales. The topics can be on model evaluations, sensitivities, parameterizations and their behavior at different resolutions, or climate projections and their quantifications. Multi-RCM comparisons, GCM forcing biases, and examinations on observational uncertainties against model simulations are also welcome.





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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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