

Special Issue

Highly Resolved Numerical Models in Regional Weather Forecasting

Message from the Guest Editors

Numerical Weather Prediction (NWP) models' accuracies depends significantly on grid resolution. High-resolution models are essential for properly capturing interactions between scales of different sizes. However, demonstrating the consistency property of a complex numerical system such as an NWP remains challenging, and not only because of the high computational power demand; key areas in which further advancements are required include, among others, the tuning of three-dimensional turbulence models such as Large Eddy Simulations (LES), the accurate modeling of exchange energy between soil and atmosphere in urban and rural areas, and complex orography. This Special Issue invites scientific contributions focused on refining weather simulations, at a sub-kilometer scale, through LES turbulence models, particularly in their ability to capture local convective phenomena in urban environments and complex terrains. Studies that explore land–soil–atmosphere interactions and atmosphere–ocean interaction in this context are of special interest.

Guest Editors

Dr. Davide Cinquegrana

Dr. Antonio Ricchi

Dr. Edoardo Bucchignani

Deadline for manuscript submissions

30 May 2026



Meteorology

an Open Access Journal
by MDPI



mdpi.com/si/235494

Meteorology
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
meteorology@mdpi.com

[mdpi.com/journal/
meteorology](https://mdpi.com/journal/meteorology)





Meteorology

an Open Access Journal
by MDPI



[mdpi.com/journal/
meteorology](https://mdpi.com/journal/meteorology)



About the Journal

Message from the Editor-in-Chief

Editor-in-Chief

Prof. Dr. Paul D. Williams
Department of Meteorology, University of Reading, Earley Gate,
Reading RG6 6ET, UK

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 44.9 days after submission; acceptance to publication is undertaken in 5.8 days (median values for papers published in this journal in the first half of 2025).

Recognition of Reviewers:

APC discount vouchers, optional signed peer review, and reviewer names published annually in the journal.