

Special Issue

Aerosol–Cloud–Precipitation Interactions: From Weather to Climate

Message from the Guest Editor

Aerosols or their predecessors from human activities, with varying properties and geographical locations, can remarkably alter the microphysical characteristics of clouds and their propensity to generate precipitation, which affects not only the local weather characteristics, but also the radiation budget and climate on larger scales. However, great uncertainties still persist in the modelling of aerosol–cloud–precipitation interaction (ACPI) in both numerical weather prediction and global climate models. Challenges arise largely from the broad span of scales: from submicrons to tens or hundreds of kilometers. It therefore warrants more intensive cross-scale research efforts, from both the observational and modeling approaches, in order to disentangle the role of aerosols in affecting weather and climate. This Special Issue is expected to focus on studies on ACPI on various spatial and temporal scales. All studies that enhance our understanding of the mechanisms within and the impacts from ACPI are highly relevant to this Special Issue. Cross-scale studies that bridge the gap between the weather and climate effects of ACPI are especially welcome.

Guest Editor

Dr. Xianwen Jing

Department of Climate and Space Sciences and Engineering,
University of Michigan, 2455 Hayward Street, Ann Arbor, MI, USA

Deadline for manuscript submissions

closed (22 November 2021)



Atmosphere

an Open Access Journal
by MDPI

Impact Factor 2.3
CiteScore 4.9



mdpi.com/si/78730

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

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





Atmosphere

an Open Access Journal
by MDPI

Impact Factor 2.3
CiteScore 4.9



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



About the Journal

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

Dr. Daniele Contini

Institute of Atmospheric Sciences and Climate (ISAC), National Research Council (CNR), Str. Prv. Lecce-Monteroni km 1.2, 73100 Lecce, Italy

Author Benefits

Open Access:

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

High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, GEOBASE, GeoRef, Inspec, CAPlus / SciFinder, Astrophysics Data System, and other databases.

Journal Rank:

CiteScore - Q2 (Environmental Science (miscellaneous))