



## Advanced Climate Simulation and Observation

Guest Editors:

**Prof. Dr. Zengyun Hu**

Xinjiang Institute of Ecology and  
Geography, Chinese Academy of  
Sciences, Urumqi 830011, China

**Dr. Xuguang Tang**

Institute of Remote Sensing and  
Earth Sciences, Hangzhou  
Normal University, Yuhangtang  
Road No. 2318, Hangzhou  
311121, China

**Prof. Dr. Qinchuan Xin**

School of Geography and  
Planning, Sun Yat-sen University,  
Guangzhou 510275, China

Deadline for manuscript  
submissions:

**closed (14 October 2022)**

### Message from the Guest Editors

Global climate changes, particularly extreme events, directly or indirectly affect terrestrial carbon, water, and energy exchanges between the atmosphere, biosphere, and lithosphere, thus controlling freshwater availability, food production, disease outbreaks, floods and droughts. It is necessary to develop advanced climate simulation and observation, especially in relation to extreme climate events. Advanced climate simulation and observation can improve accurate prediction of climate change and long-term trends which can mitigate the impacts of climate on social economy development and human lives.

This Special Issue aims to introduce advanced approaches in climate simulation and observation, to various practical studies related to climate variations. This includes the multidisciplinary exercise of global climate models (GCMs) and regional climate models (RCMs), remote sensing and radar monitors, mitigation studies of high-impact extreme climate events, future predictions of global and regional climate variations using GCMs, RCMs, some new artificial intelligence, such as artificial neural networks, random forest, and support vector machines.





## Editor-in-Chief

### **Prof. Dr. Ilias Kavouras**

Environmental, Occupational,  
and Geospatial Health Sciences,  
CUNY School of Public Health,  
New York, NY 10027, USA

## 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!

## 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)*)

## Contact Us

---

Atmosphere Editorial Office  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/atmosphere](https://mdpi.com/journal/atmosphere)  
[atmosphere@mdpi.com](mailto:atmosphere@mdpi.com)  
[X@Atmosphere\\_MDPI](https://twitter.com/Atmosphere_MDPI)