



## Understanding the Impact of Climate Extremes on the Terrestrial Carbon Cycle: Integrating Multiple Observations and Modeling Techniques

Guest Editors:

**Dr. Wei He**

International Institute for Earth  
System Science, Nanjing  
University, Nanjing 210023, China

**Dr. Peipei Xu**

School of Geography and  
Tourism, Anhui Normal  
University, Wuhu 241002, China

Deadline for manuscript  
submissions:

**closed (23 December 2022)**

### Message from the Guest Editors

Understanding the impacts of climate extremes on the terrestrial carbon cycle is an essential step for predicting the fate of the terrestrial carbon cycle, for which integrating multiple observations and modeling techniques is indispensable.

Multi-source observations from sensors ranging from in situ to space-borne implementations, used to measure the status of the terrestrial biosphere and the atmosphere, could provide in-depth insights regarding the impacts of climate on the terrestrial carbon cycle from multiple dimensions. Especially, recent novel Earth observations associated with environmental conditions, vegetation physiology, and atmospheric CO<sub>2</sub> concentrations fundamentally support the implementation of such purposes. Meanwhile, new modeling techniques largely enhance our capacity to understand carbon cycle/climate change impacts and feedback. Here, the open-access journal Atmosphere is hosting a Special Issue to showcase the most recent achievements on the above theme. We encourage the submission of studies based on observation and modeling, especially those integrating the two. You are welcome to contribute to this Special Issue.





an Open Access Journal by MDPI

## 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, Grosspeteranlage 5  
4052 Basel, Switzerland

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

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