



## The Needs and Path Toward an SI-Traceable Space-based Climate Observing System

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Deadline for manuscript  
submissions:

**closed (30 April 2020)**

### Message from the Guest Editors

Recent years have seen increasing urgency from international coordinating bodies for establishing a space-based climate observing system capable of unambiguously monitoring indicators of change in the Earth's climate, as needed for international mitigation strategies. The harshness of the launch and the space environment has, to date, limited many satellite missions' abilities to robustly demonstrate SI traceability on-orbit at the accuracy and confidence levels needed. An order of magnitude of improvement is typically required for robust climate observations.

The intent of this Special Issue is to present a community strategy on the benefits and consequential specifications of a space-based climate observing system along with a roadmap to implementation. Articles for this Special Issue are solicited on the following:

- Societal need and economic benefits
- Applications benefitting from higher-accuracy space-based observations
- Reflected-solar observations
- Thermal infrared observations
- Broadband radiation-budget measurements
- Microwave, radio-occultation, radar, and lidar observations
- Concepts to improve the global inter-calibration of space-based assets





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## Message from the Editor-in-Chief

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