Special Issue

Advanced Remote Sensing Approaches for Multi-Scale Atmospheric Components Monitoring and Impact Assessment

Message from the Guest Editors

Atmospheric components such as aerosols, clouds, and trace gases play pivotal roles in radiative transfer simulations, atmospheric optical propagation effect assessments, and climate change studies. These constituents modulate the Earth's energy balance through scattering, absorption, and emission processes, directly influencing weather patterns, air quality, and long-term climatic trends. Recent advancements in remote sensing technologies have enabled the unprecedented multi-scale monitoring of these components, offering critical insights into their spatiotemporal variability and interactions. This Special Issue focuses on pioneering, innovative, and fundamental research on advanced retrieval algorithms, multi-source data fusion, multi-scale radiative transfer modeling, and impact assessment methodologies. By integrating cutting-edge observational techniques with theoretical and computational advances, this collection aims to address challenges in characterizing atmospheric dynamics, quantifying uncertainties, and improving predictive capabilities for environmental and climate applications.

Guest Editors

Dr. Shengcheng Cui

Dr. Bing Chen

Prof. Dr. Yong Han

Dr. Zhen Wang

Dr. Zhenzhu Wang

Deadline for manuscript submissions

31 October 2025

Remote Sensing

an Open Access Journal by MDPI

Impact Factor 4.1
CiteScore 8.6

mdpi.com/si/238091

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

mdpi.com/journal/remotesensing

Remote Sensing

an Open Access Journal by MDPI

Impact Factor 4.1
CiteScore 8.6

mdpi.com/journal/remotesensing

About the Journal

Message from the Editor-in-Chief

Remote Sensing is now a prominent international journal of repute in the world of remote sensing and spatial sciences, as a pioneer and pathfinder in open access format. It has highly accomplished global remote sensing scientists on the editorial board and a dedicated team of associate editors. The journal emphasizes quality and novelty and has a rigorous peer-review process. It is now one of the top remote sensing journals with a significant Impact Factor, and a goal to become the best journal in remote sensing in the coming years. I strongly recommend *Remote Sensing* for your best research publications for a fast dissemination of your research.

Editor-in-Chief

Dr. Prasad S. Thenkabail
Senior Scientist (ST), U. S. Geological Survey (USGS), USGS Western Geographic Science Center (WGSC), 2255, N. Gemini Dr., Flagstaff, AZ 86001, USA

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, PubAg, GeoRef, Astrophysics Data System, Inspec, dblp, and other databases.

Journal Rank:

JCR - Q1 (Geosciences, Multidisciplinary) / CiteScore - Q1 (General Earth and Planetary Sciences)