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Remote Sensing and Machine Learning Applications in Atmospheric Physics, Weather, and Air Quality

Guest Editor:

Dr. Michal Segal-Rosenheimer
1. Department of Geophysics and Planetary Sciences, Tel Aviv-Yafo, Israel
2. NASA Ames Research Area, BAERI, Moffett Field, CA, USA

Deadline for manuscript submissions:
closed (30 December 2025)

Message from the Guest Editor

Dear Colleagues,

AI and machine learning applications have been the fastest-growing field in the past decade. However, only recently these applications have been applied to the field of atmospheric measurements and processes. While still challenging, this field has a wealth of data from satellites, airborne observations, or modeling with a very dynamic nature that can be tamed to produce new insights with the newest AI approaches and computational power available today.

This Special Issue seeks papers dedicated to remote sensing measurements. Specific topics include but are not limited to: (1) cloud and aerosol plume detection and identification, (2) prediction of fire smoke spread, (3) improved prediction of precipitation and cloud cover, (4) improved understanding of atmospheric dynamical processes, (5) implementing machine learning and observations to improve climate model parameterization schemes, (6) air quality and extreme pollution event identification and early warning, and (7) improved sets of satellite-based products, on high spatial and/or temporal resolutions from federal and commercial platforms.

Dr. Michal Segal-Rosenheimer
Guest Editor

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Message from the Editorial Board

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.

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Contact Us

Remote Sensing Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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remotesensing@mdpi.com
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