

## Special Issue

# Artificial Intelligence and Earth Observation: On-Board Pre-processing, Data Compression and Image Selection

### Message from the Guest Editors

Potential topics are welcomed, but are not limited to:

- Image selection for ad hoc data compression. The selection of specific images for onboard data compression. Based on the target (in SAR by reflectivity, polarization, incidence angle; in optical/NIR by geographical area, presence of clouds, etc.), a more efficient data representation can be obtained by searching for the most performance quantizer and the ad hoc tuning of inner quantization parameters. This may be relevant, as an example, for future SAR missions with digital multichannel antenna.
- Onboard preprocessing. Smart data preprocessing for efficient onboard data compression. The transformation of data to provide a correlation, for example, range compression for SAR data, or towards another sparse domain, could help AI to find optimal space tessellation and compact data representation.
- Onboard data compression for specific targets. AI algorithms and onboard processing could be exploited for the finding of novel and more compact data representations, especially for specific targets such as ship recognition in maritime environments in SAR image acquisition, which is also an interesting example of sparse signals.

---

### Guest Editors

Dr. Pietro Guccione

Dr. Luisa Verdoliva

Dr. Michele Martone

Prof. Dr. Xiaoxiang Zhu

---

### Deadline for manuscript submissions

closed (30 September 2024)



## Remote Sensing

---

an Open Access Journal  
by MDPI

---

Impact Factor 4.1  
CiteScore 8.6



[mdpi.com/si/141073](https://mdpi.com/si/141073)

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

[mdpi.com/journal/  
remotesensing](https://mdpi.com/journal/remotesensing)





# Remote Sensing

---

an Open Access Journal  
by MDPI

---

Impact Factor 4.1  
CiteScore 8.6



[mdpi.com/journal/  
remotesensing](https://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)