



## CALL FOR PAPERS

### IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing Special Issue on

#### “Sensing Wetlands from Space: Current Status and Future Solutions”

Wetlands are pivotal in conserving water sources, regulating hydrology, sustaining biodiversity, ensuring regional ecological security, and contributing to global carbon storage and climate regulation. Often described as the Earth's 'kidneys,' 'bird havens,' 'biological supermarkets,' 'genetic reservoirs,' 'natural sponges,' and 'urban oxygen bars,' they embody the planet's most valuable ecosystem. Despite occupying less than 8% of global land area, wetlands deliver around 40% of world's ecosystem services (supply, regulation, culture) and hold over 30% of terrestrial carbon. However, their importance is often underrecognized. Coupled with socioeconomic development and climate change impacts, global wetlands are shrinking and degrading.

Wetlands are dynamic, complex ecosystems, varying across landscapes, regions, and climates. Accurate, timely monitoring is essential for understanding their dynamics, assessing environmental changes, and devising effective conservation strategies. Since the 1970s, remote sensing (RS) technologies have become a vital tool for observing, detecting, analyzing, and evaluating wetlands at diverse spatial and temporal scales. However, challenges persist in RS applications for wetland research due to variability in classifications, complex structures, and shifting boundaries.

This Special Issue invites submissions of review and research papers that explore RS data, products, techniques, methods, and models tailored for sensing various types, locations, and scales of wetlands.

The broad topics include (but are not limited to):

- Big RS data applications for wetlands;
- Advanced machine learning for wetland classification and mapping;
- Utilizing Hyperspectral, SAR, LiDAR, and UAV technologies in wetland studies;
- Spatiotemporal dynamics of wetlands;
- RS in measuring carbon emissions (e.g., CO<sub>2</sub>, CH<sub>4</sub>) and storage in wetlands;
- Hydrological studies of wetlands via RS;
- Investigating wetland vegetation structure and phenology through RS.

#### Schedule

Jun. 1, 2024, Submission system opening

Dec. 31, 2024, Submission system closing

#### Format

All submissions will be peer reviewed according to the IEEE Geoscience and Remote Sensing Society guidelines. Submitted articles should not have been published or be under review elsewhere. Submit your manuscript on <http://mc.manuscriptcentral.com/jstars>, using the Manuscript Central interface and select the “Sensing Wetlands from Space: Current Status and Future Solutions” special issue manuscript type. Prospective authors should consult the site <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9082768> for guidelines and information on paper submission. All submissions must be formatted using the IEEE standard format (double column, single spaced). Please visit [http://www.ieee.org/publications\\_standards/publications/authors/author\\_templates.html](http://www.ieee.org/publications_standards/publications/authors/author_templates.html) to download a template for transactions. Please note that since Jan. 1, 2024, IEEE J-STARS, as a fully open-access journal, is charging a flat publication fee \$1,496 per paper.

#### Guest Editors

Alim Samat, Xinjiang Institute of Ecology and Geography, CAS, China, ([alim\\_smt@ms.xjb.ac.cn](mailto:alim_smt@ms.xjb.ac.cn))

Hongtao Duan, Nanjing Institute of Geography and Limnology, CAS, China ([htduan@niglas.ac.cn](mailto:htduan@niglas.ac.cn))

Weiguo Jiang, Beijing Normal University, China ([jiangweiguo@bnu.edu.cn](mailto:jiangweiguo@bnu.edu.cn))

Dehua Mao, Northeast Institute of Geography and Agroecology, CAS, China ([maodehua@iga.ac.cn](mailto:maodehua@iga.ac.cn))

Tim Van de Voorde, Ghent University, Belgium ([tim.vandevoorde@ugent.be](mailto:tim.vandevoorde@ugent.be))

Antonio Plaza, University of Extremadura, Spain ([aplaza@unex.es](mailto:aplaza@unex.es))