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IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing

Special Issue on
"Remote sensing information processing and dynamic monitoring in agriculture"

Remote sensing technologies have revolutionized the way we monitor and manage agricultural systems. By providing detailed, real-time data, remote sensing enables farmers, researchers, and policymakers to make informed decisions that enhance productivity, sustainability, and resilience in agriculture. The integration of advanced information processing techniques with remote sensing data further amplifies its potential, allowing for precise, dynamic monitoring of agricultural landscapes and ecosystem. However, traditional remote sensing retrieval still faces challenges such as low accuracy and poor model extrapolation in complex agricultural environments. It is urgently needed to synergistically utilize the advantages of data sensing from different platforms such as satellites, aerial, and ground-based sensors to meet the expectations of various application scenarios. Accurate and timely monitoring of crop planting, cultivated land quality, crop yields, etc., provides vital information for resource management and decision-making at all levels.

Data sources used include remote sensing data, UAV data, ground observation data, etc. We encourage the exploration of novel methods for agricultural monitoring using flux tower data sources. This special issue aims to disseminate the latest research and applications of remote sensing technology in address key challenges in agriculture. The broad topics include (but are not limited to):

- Exploring cutting-edge technologies such as satellite imagery, UAV-based sensing, and hyperspectral/multispectral imaging to gather high-resolution data on agricultural systems
- Advancements in satellite-based data fusion for precise agricultural mapping and monitoring
- Optimizing field samples for crop mapping and obtaining crop growth parameters from continuous acquisition
- Methods for mapping, monitoring and characterizing crop cropping distributions, change detection, multiple cropping rotations and fallow, conservation tillage, and abandoned land
- Crop condition monitoring, such as flood monitoring and estimation, pest and disease monitoring, etc.
- Dynamic monitoring and rapid inspection methods for the entire process of infrastructure construction
- Improving electromagnetic scattering, passive microwave mechanisms, and process-based modeling to retrieve core parameters of soil
- Soil moisture, temperature, and organic matter remote sensing inversion methods
- Large-scale, spatiotemporally dynamic monitoring of cultivated land quality
- Integrating remote sensing information with deep/machine learning techniques for enhanced soil quality assessment and grain yield estimation
- Environmental monitoring of agricultural land use and land use change

Schedule
1-November-2024, Submission system opening
31-July-2025, 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 "**Remote sensing information processing and dynamic monitoring in agriculture**" 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 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.

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