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

Special Issue on "Time series remote sensing for land surface dynamics monitoring"

Studies using time-series remote sensing data have become extremely popular because the numbers of free remote sensing images (including ground-based, airborne, and satellite images) available to the public are increasing. The rich archive and continuing acquisition of remote sensing imagery across a range of spatial, temporal, and spectral resolutions provides unprecedented opportunities to monitor evolving land surface dynamics and related responses to climatic and environmental changes. In parallel, the rapid development of big data technologies and cloud computing platforms, such as Google Earth Engine, makes it possible to access and process large volumes of remote sensing data. These factors promote the use of time-series data for monitoring land surface dynamics from regional to global scales, and from short-term to long-term. This special issue aims to collect the most recent research works related to different aspects of time-series remote sensing data processing and applications in characterizing land surface dynamics.

The broad topics include (but are not limited to):
- Time series data generation (e.g., multi-temporal image calibration, co-registration, multi-source image fusion, etc.)
- Time series data preprocessing (e.g., cloud and cloud shadow detection, data harmonization, missing data interpolation, and time series smoothing, etc.)
- Time series data analysis (e.g., curve fitting, trend analysis, and disturbance detection, etc.)
- Time series data based domain applications (e.g., vegetation phenology, land cover and land use change, land surface biophysical characteristics including using time series to map vegetation structure, ecosystem evolution and conservation, natural hazards monitoring, etc.)
- Long-term, large-scale land surface dynamic analysis catalyzed by cloud computing (e.g., google earth engine) and high-performance computing
- Evaluation of time series data quality and assessment of time series analysis results
- Characterization of drivers and consequences of land surface dynamics

Datasets for prospective authors to test their techniques of time-series remote sensing:
- Sample data for spatiotemporal fusion, cloud detection, and missing data interpolation: https://xiaolinzhu.weebly.com/open-source-code.html
- Datasets for testing spatiotemporal fusion technologies: https://data.csiro.au/collections/collection/CIcsiro:5846; https://drive.google.com/open?id=1yzw-4TaY6GcLPIRNFBpchETrFKno30he
- Landsat 8 cloud mask validate data: https://landsat.usgs.gov/landsat-8-cloud-cover-assessment-validation-data
- Observational data for validating vegetation phenology derived from time-series remote sensing: https://www.neonscience.org/data-collection/phenocams; https://www.usanpn.org/data/observational

Schedule
January 1, 2021   Submission system opening
May 31, 2021   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 "**Time series remote sensing for land surface dynamics monitoring**" 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 as of Jan. 1, 2020, IEEE J-STARS has become a fully open-access journal charging a flat publication fee $1,250 per paper.

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