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IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing
Special Issue on
"Remote sensing across scales for watershed science"

A watershed is an ideal unit for practicing Earth system science, and is also a natural platform for remote sensing experimental research. A predictive understanding of the heterogeneous land surface processes in watersheds is needed, including the complex surface and subsurface hydrological and ecological dynamics and their interactions with the atmospheric system. Remote monitoring from various platforms is highly required due to its repeatability, spatial coverage, and because if its significant role to extrapolate the knowledge from the point to multiple spatiotemporal scales. Remote sensing across scales is now leading towards a new era of improved understanding of land surface dynamics within watersheds. Various watershed-scale remote sensing experiments have been implemented with integrated measurements to study physical, chemical, biological, and societal processes. Those experiments concentrate on integrated research in watershed science with applications of remote sensing in estimating various hydrological/ecological variables and processes, such as precipitation, soil moisture, runoff, land surface temperature, evapotranspiration, snow cover and water equivalent, permafrost and ground-ice distribution, groundwater storage, leaf area index, vegetation height and cover fraction, water quality, land cover, etc. This special issue invites new advances in remote sensing approaches and cutting-edge applications by taking the advantage of remote sensing observations across scales towards an integrated watershed science.

The broad topics include (but are not limited to):
- Review of remote sensing techniques and applications across scales for watershed science
- In situ measurements and remote sensing experiments across spatial scales
- Development and validation of radiative transfer models across wavelengths
- Approaches and algorithms for estimating hydrological/ecological variables across platforms
- Downscaling, upscaling, and integration of multiple variables over the watersheds
- Development and analysis of long-term or high-resolution remote sensing products to facilitate watershed studies
- Validation and calibration of remote sensing data products over heterogeneous land surfaces
- Remote sensing applications and data assimilation to improve scientific understanding of watersheds

Schedule

January 1, 2021	Submission system opening
August 30, 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 "**Remote sensing across scales for watershed science**" 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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