



CALL FOR PAPERS
IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing
Special Issue on
“Advances in Waterbody surface temperature retrieval and prediction”

Waterbody (e.g., lakes, streams, and reservoirs) surface temperature (WST) is critical for the water ecological environment. We have witnessed rising WST in the past, especially in the context of fast climate change and rapid urbanization. With accelerated development in remote sensing and machine learning, the retrieval and prediction of the WST have extended from regional to global scales. For one thing, a variety of WST retrieval methods have been proposed to adapt to different remote sensing data (Landsat, SPOT, Sentinel, MODIS, etc.). Challenges in LST estimations such as retrieval accuracy and spatial-temporal resolution have been conquered by recent models. For another, an increasing number of machine learning and deep learning algorithms such as Support Vector Machine (SVM), Artificial Neural Network (ANN), Long Short-Term Memory (LSTM) have contributed to improving the prediction accuracy, efficiency, robustness.

This Special Issue aims to present new theories and methods about WST retrieval and prediction, analyzing WST spatial and temporal changing characteristics and trends. We are particularly interested in recent contributions on WST retrieval with multi-source remote sensing data, validation, and applications. The topics of interest include, but are not limited to, the following:

- New theory and method in remote sensing approaches for the WST estimation
- Spatial downscaling and upscaling algorithms for remotely sensed water body surface temperature
- Generation of high spatio-temporal resolution water body surface temperature products
- Long term and short term WST prediction using machine learning and deep learning algorithms
- Process-based models combined with deep learning techniques for predict lake temperatures
- Validation of water body surface temperature, which is estimated and predicted with remote sensing and in-situ data
- Heterogeneity of WST change and its driving factors, the impact of WST change on ecology structure and function

Schedule

Feb 1, 2022	Submission system opening
Jul 31, 2022	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 “**Advances in Waterbody surface temperature retrieval and prediction**” 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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