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Remote Sensing Band Ratios for the Assessment of Water Quality

Guest Editors:

Dr. Anita Simic-Milas

School of Earth, Environment and Society, Bowling Green State University, 190 Overman Hall, Bowling Green, OH 43403, USA

Prof. Dr. Yuhong He

Department of Geography, University of Toronto Mississauga, 3359 Mississauga Road, Mississauga, ON L5L 1C6, Canada

Deadline for manuscript submissions: **30 April 2025**

Message from the Guest Editors

The retrieval of surface water quality information on a large scale using remote sensing data is a powerful approach in monitoring changes in water quality parameters such as chlorophyll and phytoplankton pigments, nutrients, total suspended matter, and dissolved organic matter. However, water quality monitoring using satellite remote sensing remains challenging due to the low signal-to-noise ratio (SNR) and limited instrument resolution. While remote sensing band ratios including vegetation indices, following qualitative and quantitative field data collection, are effective methods for the retrieval of some water parameters, it has become evident that the retrieval of other parameters using an empirical modeling scenario is limited.

In this context, this Special Issue is seeking contributions involving the monitoring of water quality using different remote sensing techniques based on band ratios including vegetation indices. We welcome papers that address retrieval methods of the chlorophyll content, harmful algal blooms (HABs), and other water-related parameters using empirical and/or non-parametric regression models, such as machine learning and AI.









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Editor-in-Chief

Dr. Prasad S. Thenkabail

Senior Scientist (ST), U. S. Geological Survey (USGS), USGS Western Geographic Science Center (WGSC), 2255, N. Gemini Dr., Flagstaff, AZ 86001, USA

Message from the Editor-in-Chief

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Remote Sensing Editorial Office MDPI, Grosspeteranlage 5 4052 Basel, Switzerland Tel: +41 61 683 77 34 www.mdpi.com mdpi.com/journal/remotesensing remotesensing@mdpi.com X@RemoteSens_MDPI