

Special Issue

Remote Sensing and Data Assimilation in Flood Modeling and Prediction

Message from the Guest Editors

Flooding remains one of the most destructive natural hazards globally, amplified by intensifying climate extremes and rapid urbanization. Accurate, real-time flood forecasting is vital for disaster mitigation, yet traditional hydrological models often struggle with uncertainties in initial conditions, rainfall inputs, and boundary parameters. Integrating advanced remote sensing observations, such as multi-band radar rainfall estimates, high-resolution satellite imagery, and inundation extent mapping, with data assimilation (DA) techniques offers a transformative pathway to improve model calibration, state estimation, and lead-time accuracy. This Special Issue, "Remote Sensing and Data Assimilation in Flood Modeling and Prediction," aims to gather state-of-the-art research bridging multi-source remote sensing with advanced hydrodynamic and hydrological modeling. Submissions focusing on uncertainty propagation, GPU-accelerated coupled modeling, and assimilation frameworks (e.g., EnKF, particle filters) are particularly welcome.

Guest Editors

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About the Journal

Message from the Editor-in-Chief

Remote Sensing is now a prominent international journal of repute in the world of remote sensing and spatial sciences, as a pioneer and pathfinder in open access format. It has highly accomplished global remote sensing scientists on the editorial board and a dedicated team of associate editors. The journal emphasizes quality and novelty and has a rigorous peer-review process. It is now one of the top remote sensing journals with a significant Impact Factor, and a goal to become the best journal in remote sensing in the coming years. I strongly recommend *Remote Sensing* for your best research publications for a fast dissemination of your research.

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