Special Issue

Advancing Weather and Flood Forecasting using Remote Sensing and Artificial Intelligence

Message from the Guest Editors

Reliable modeling and prediction of high-impact hydrometeorological events remains one of the major challenges in Earth system science. Severe floods and intense precipitation events cause severe socioeconomic damage, yet the accuracy of forecasts at local to regional scales is still limited. This Special Issue aims to focus on innovative approaches that combine remote sensing observations with AI techniques to improve weather and hydrological modeling and predictions, particularly related to heavy precipitation and flood events. Contributions may include novel satellite-based data products, bias adjustment and post-processing methods for forecasts, AI-driven and physics-based hydrological modeling, data assimilation, or case studies highlighting successful applications in flood monitoring and prediction. By bringing together expertise from meteorology, hydrology, remote sensing, and data science, this Special Issue aims to advance the state of knowledge and foster new interdisciplinary solutions for more accurate and actionable forecasts of high-impact events.

Guest Editors

Dr. Ehsan Sharifi

Karlsruhe Institute of Technology, The Research University in the Helmholtz Association, Karlsruhe, Baden-Wurttemberg, Germany

Dr. Karam Alsafadi

College of Environment and Ecology, Xiamen University, Xiamen, China

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

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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.

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

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