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Large-Scale Forest Mapping and Monitoring by Synthetic Aperture Radar and Multi-Source Remote Sensing Data

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Message from the Guest Editors

Global forest inventory data (including forest height, biomass, classification, and volume) is of critical importance for global carbon flux calculations and climate change research. Given the intensification of climate change and human activities in the past few years, it is imperative to develop technologies for rapid and high-precision forest mapping and monitoring at a large scale. Synthetic aperture radar (SAR) provides great opportunities for us to investigate the forest system due to its penetration ability and its ability to acquire information about the forest vertical structure and biophysical properties. Particularly, ESA's BIOMASS (P-band) and NASA-ISRO's NISAR (L-band) mission will be launched in the upcoming years, which opens a new era of long-wavelength SAR remote sensing, characterized by stronger penetration into the forest canopy. This Special Issue aims to delve deep into innovative applications of these techniques for forest inventory, forest system investigation, and monitoring forest dynamics. We also invite research that uses machine learning and deep learning methodologies for forest parameters retrieval across different scales.



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Special Issue



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