

Special Issue

AI Technology in Change Detection for High-Resolution Remote Sensing Images

Message from the Guest Editors

High-resolution remote sensing images have become an essential data source for observing land surface dynamics, supporting applications such as urban expansion monitoring, land use/land cover mapping, ecological assessment, agricultural management, natural resource investigation and disaster response. With the rapid development of multi-temporal, multi-source and multi-modal Earth observation data, change detection is no longer limited to pixel-level difference analysis, but is increasingly moving toward object-level, semantic-level and process-oriented interpretation of complex land surface changes. Despite significant progress, high-resolution remote sensing change detection still faces several challenges, including pseudo-changes caused by imaging conditions, geometric misregistration, cross-sensor discrepancies, limited annotated samples, weak generalization across scenes and insufficient interpretability. Recent advances in artificial intelligence offer new opportunities to address these issues. The self-supervised pretraining and foundation models have enhanced transferable feature representation for diverse Earth observation tasks.

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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.

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