



remote sensing



Special Issue Reprint

Remote Sensing and Artificial Intelligence in Inland Waters Monitoring

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Water, vital for life, confronts unprecedented challenges in aquatic ecosystems due to factors like scarcity and pollution. Monitoring at local to global scales is vital for effective management, aligning with sustainable development goals. To address these challenges, the integration of remote sensing technologies with in situ data proves invaluable in unveiling the spatial distribution and dynamic variations in water quality and quantity. Leveraging the advantages of frequent data acquisition, expansive coverage, and diverse sensor types, coupled with the power of artificial intelligence and cloud computing, enables a profound understanding of intricate changes within aquatic environments. This Special Issue is dedicated to showcasing papers that elucidate strategies for enhancing inland water monitoring, emphasizing precision, frequency, and the augmentation of user value derived from remote sensing data. Specifically, the issue aims to spotlight ongoing research leveraging satellite imagery, UAV data, in situ instrumentation, GeoAI, as well as deep and machine learning algorithms. Additionally, cloud computing and big data processing applications are explored to comprehensively comprehend the existing state and proactively mitigate the deterioration of water resources. Encompassing a broad spectrum, topics include remote sensing monitoring of water quality parameters, artificial intelligence, GeoAI applications and time-series analysis techniques.



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