Special Section Guest Editorial: Advances in Agro-Hydrological Remote Sensing for Water Resources Conservation

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Remote sensing technology has enhanced our ability to monitor and manage our agriculture, ecosystems, and water resources at different scales.

However, in spite of significant progress in recent years in the development of sensor technology and satellite systems, there are still many areas of application where the potential of remote sensing has not fully been realized.

This special section focuses on the use of remote sensing tools in some of these areas, including monitoring the volume and turbidity in lake fresh water resources, retrieving soil organic matter from spectral information with particular attention to abandoned croplands and areas affected by wildfires, and identification and monitoring of natural and agricultural vegetation through emerging techniques such as shallow and deep learning algorithms. These data mining and analysis approaches are particularly promising and include convolutional neural network and the application of back propagation neural network algorithms for soil water content monitoring and the extraction of other canopy information.

The papers herein give an assessment of the advances in physical modelling and data analysis and contribute towards improving our knowledge of water resources, food security, and ecosystems processes.

We would like to extend our appreciation to the authors who submitted their research for inclusion in this issue. Our thanks also go to the efforts of the many reviewers for their critical comments in ensuring the highest quality of the research presented.

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