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Application of Remote Sensing and GIS in Agricultural Engineering

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Message from the Guest Editors

Dear Colleagues,

It is well recognized that the traditional means of agricultural production cannot meet the growing demand for high-quality food around the world. Fortunately, precision agriculture management and agricultural engineering applications with remote sensing and GIS provide a hopeful way of capturing crop growth. Recently, many new technologies (e.g., deep learning) and multisource satellite remote sensing data (e.g., Landsat, Sentinel-1/2, and Planet) are drawing more and more attention for practical application in agricultural engineering. This means that agriculture production is an important bridge connecting carbon and water dynamics across the agroecosystem. Therefore, to advance the understanding of the role of remote sensing and GIS in agricultural engineering, it is necessary to (1) monitor and manage agriculture production using multisource satellite remote sensing images with advanced deep learning algorithms; (2) capture and quantify the carbon and water parameters during agriculture production; and (3) evaluate the impact of different water and heat conditions on agriculture production.