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Remote sensing monitoring methods for agricultural typhoon disasters: A case study of South China

Background: With a foreseen increase in the number of agrometeorological disasters due to climate change, especially in the field of crop lodging, lodging has been a major yield-limiting factor in agricultural production. Accurate assessment of crop lodging is essential for yield damage estimation, agricultural insurance claims settlement and subsequent management decisions. Meanwhile, the advent of remote sensing data of Sentinel 1 presents an opportunity for this kind of disaster monitoring. This report presented innovative monitoring techniques to explore the application potential of multi-source remote sensing data on crop disaster conditions.

Based on the sugarcane planting area extracted from sentinel-1 time-series data and combination of Landsat-8 and sentinel-2 MSI images before and after Super Typhoon Hato, a vegetation index distance leveling method was come out and then was applied to assess the sugarcane lodging in Nansha district of Guangzhou, south China.

An extraction method of lodging rice distribution using multi-source remote sensing data was also proposed for exploring the effect of lodging on backscatter/coherence and spectral reflectance derived from Sentinel-1 and Sentinel-2 data.



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Biography

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