

Estimation of canopy water content in corn fields by means of Landsat8 OLI imagery and inverse modeling

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This study investigates the efficiency and accuracy of the approach for estimating leaf water content based on PROSAIL model by using Landsat8 OLI data and the Shuffled Complex Evolution Uncertainty Algorithm (SCE-UA) in Heihe River Basin. Validation data which are obtained from the seed production corn fields in the growing season from 2015. Results demonstrate that EWT retrieval has a relative error of 0.12 kg/m² and a good agreement was achieved between the estimated and field measured EWT from the Landsat8 OLI data alone ($R^2 = 0.85$ and $RMSE = 0.55$).