

A METHODOLOGY TO ESTIMATE DAILY EVAPOTRANSPIRATION FROM AHS DATA: APPLICATION TO THE AGRISAR AND CEFLES2 CAMPAIGNS

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Abstract:

In this work a new methodology to estimate daily evapotranspiration (ET_d) from high resolution remotely sensed data is presented. It is a modification of the surface energy balance model S-SEBI (Simplified Surface Balance Index), which allows the retrieval of daily evapotranspiration from the evaporative fraction and the daily net radiation flux (R_{ni}), for which the relative humidity measured in situ is needed. The methodology has been applied over the Gärmin (Germany), and Marmmande (France) test sites in the framework of the AGRISAR 2006 (Agricultural Bio-/Geophysical Retrievals from Frequent Repeat SAR and Optical Imaging) and CEFLES2 (CarboEurope, FLEX and Sentinel-2) campaigns, carried out by ESA (European Space Agency). In both campaigns high-resolution images have been acquired with the Airborne Hyperspectral Scanner (AHS) sensor. The results show that the proposed methodology leading to an accuracy for the daily evapotranspiration of 0.5 mm d⁻¹.

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