



## **Validation of remote sensing of soil moisture in Southern Africa**

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From May 2005, the University of KwaZulu-Natal (UKZN) has been receiving METEOSAT-8 data directly from EUMETSAT under their Meteosat to Africa Project. These data are currently being used under a South African Water Research Commission (WRC) project to estimate soil wetness indices at pixel scale from early morning surface temperature gradients over the southern African region. In addition, in collaboration with the Institute of Photogrammetry and Remote Sensing of the Vienna University of Technology (VUT) as senior partner, UKZN has won a TIGER Innovator contract with ESA called "Soil Moisture for Hydrometeorological Applications in the SADC region" (SHARE). SHARE complements the WRC project in the estimation of soil moisture, by using a different approach. Through SHARE (accessible on the internet), VUT provides access to three products, the third of which is an experimental high resolution soil moisture product from ASAR GM. Intercomparisons between the two remote sensing estimates (i) under the WRC project and (ii) the ASAR GM product are a feature of our work. In an associated endeavour, a network of soil moisture probes managed by the South African Weather Service is being deployed for ground validation purposes. The presentation highlights progress made so far in the combined projects, principally from the viewpoint of UKZN, emphasizing the linking of early morning temperature gradients with soil wetness indices, taking soil-type, cloud, fire, ground-cover and open water into account.