

Usability of estimated soil moisture derived from gridded rainfall in agricultural operations

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ABSTRACT

Soil moisture information has not been used extensively under PAN India mode operationally in the country due to sparse network of soil moisture measuring stations. Effort has been made to estimate the soil moisture using gridded rainfall data using soil water balance (SWB) model and subsequently to compare quantitatively with *insitu* soil moisture measured by gravimetric method. It is observed from the quantitative validation with ground observations that during monsoon season the accuracy with the observed was found to be fairly accurate from the early part of the July to the end of monsoon when the soil was almost recharged with the rainfall. One of the limiting factors is that during dry period and in the low rainfall areas accuracy is relatively low. Thus, the soil moisture information generated using gridded rainfall data can be used from the second month (July) of monsoon season to the end of the monsoon season on PAN India mode for irrigation scheduling and determination of sowing dates and for contingency crop planning etc.

Keywords: Soil moisture, soil water balance, gridded rainfall data, geospatial technology, PAN India, operational agromet advisory services