

Interactive comment on “Soil moisture active and passive microwave products: intercomparison and evaluation over a Sahelian site” by C. Gruhier et al.

Anonymous Referee #2

Received and published: 2 October 2009

GENERAL COMMENTS

This paper provides an interesting comparison of currently available soil moisture datasets. Regarding the number of satellite soil moisture data sets it is to my knowledge the most comprehensive study over Western Africa up to date. I recommend publishing the paper after some revisions.

I agree with reviewer #1 - that a discussion of the limitations and applicability of the soil moisture methods should be included, - information on acquisition times should be added in Table 2, - explanation on normalization applied in figure 9b should be

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provided.

However, I disagree with reviewer #1 that the implications for other regions of the world should be discussed because of the very specific environmental conditions and limited number of stations and years which have been considered in this study.

SPECIFIC COMMENTS

P5305, L 9-30 You switch here from passive to active back to passive sensors and to past and again back to future of data availability. Please bring into some order.

P5310, L 14 . . . during 1992-2000. – Is this time period correct?

P5310, L15-19 This normalization approach is only applicable if the time period (of ERS data) was long enough to determine a reasonable wet reference. If not, this would result in an overestimation of Vol% increasing with dryness (as is observable in Fig 9).

P5312, L3 The MRD calculation seems to be applied over both years together. Is the term DOY appropriate in this case? Days from the two years are also added up in Figures 7 and 9.

P5315, L11 Most ERS scatterometer data gaps are actually due to operations conflicts with other sensors.

P5315, L25-28 This two DOY are representative . . . (not shown). – How did you determine this? Its only two years of data.

P5318, L1 This would mean that ERS/TUW data have undergone normalization twice for this plot?

Figure 1: From which date is the Landsat image and which channels have been used for the RGB composite?

TECHNICAL CORRECTIONS

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P 5304, L 12: Soil moisture values . . . this sentence repeats the second sentence of the abstract

P5310, L18-19 This absolute values -> These absolute values

P5310, L25 Soil moisture are provided -> soil moisture is provided

P5313, L13 Compared the ground station -> compared to the ground station

Figure 5: Current class break values are unsuitable

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 6, 5303, 2009.

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