



Interactive comment on “Mapping surface soil moisture over the Gourma mesoscale site (Mali) by using ENVISAT ASAR data” by F. Baup et al.

Anonymous Referee #1

Received and published: 15 October 2010

The paper analyzes the potentialities of ASAR in wide swath mode for mapping soil moisture in Sahelian area. Many points should be improved before an acceptance of paper:

1. Please provide more information and details concerning the angular normalization of ASAR data. So, the correction of vegetation effects should be developed (page 7425)
2. The term "change detection method" in page 7425 is not exact. The difference between wet image and dry image reduces the roughness effects ...
3. It is not clear in page 7426 if you use one image or the difference between two

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



images for mapping soil moisture. Please clarify.

4. Table 2: change "Month" and "Day" in "Date (dd/mm/yyyy)"

5. Table 4: please explain the difference in coefficient α between the different study site. Please replace this table by figures between backscattering coefficient and in situ soil moisture. These relationships correspond to the use of only one image. Please provide figure for the difference between dry and wet images as a function of soil moisture. This point is not clear in this paper. Moreover, the case of Bamba site with only 4 sample is not statistically representative.

6. Figure 5 should be improved. what is "alpha", "initial", "norm". The equation in the box "applying SSM local function" should be detailed.

7. The results of Figure 11 should be discussed. Why this bias between ASAR and WSC. Why you separate driest and wettest dates. It is necessary to compare these results to true values

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 7417, 2010.

HESSD

7, C2967–C2968, 2010

Interactive
Comment

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

