

Interactive comment on “Modelling soil moisture at SMOS scale by use of a SVAT model over the Valencia Anchor Station” by S. Juglea et al.

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First of all I want to thank you for your comments and now I will try to answer/justify my work. Over the VAS area we dispose of two important soil moisture campaigns: Melbex 1 and 2. The first campaign (Melbex 1 – 39.326°N, -1.163°E) was carried out over shrubs and the second one (Melbex 2 – 39.312°N, -1.172°E) was carried out over vineyards. The places where the campaigns took place are situated at about 3km one from the other. The calibration and validation was done in two steps and we used all the accurate data that we disposed. The calibration of the soil parameters was done using the soil moisture obtained during the first campaign (Melbex 1) and the validation process was done by using data from the Melbex 2 campaign. The atmospheric forcing was considered the same for both cases (the closest meteorological station

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was chosen) but the characteristics of the area (texture, LAI, FVC) were different for each case. As you mentioned, so as to obtain the spatialized soil moisture we used the spatialized atmospheric forcing. In addition, as we dispose of a soil texture map for the entire area, the Table 2 was used for each grid point so as to calculate the soil properties in function of the texture. The surface characteristics (LAI, FVC) were also considered for each grid point. The spatialized soil moisture obtained was tested with remote sensing products from AMSR-E and ERS-SCAT. We can observe that the soil moisture patterns are well reproduced. About the Vachaud et al. (1985) paper yes, you are right, a limited number of soil moisture measurements are sufficient to obtain representative values over large areas. In our case, as we dispose only few measurement points, I'm not sure that this method can be applied.

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