Interactive
Comment

Interactive comment on "The Sodankylä in-situ soil moisture observation network: an example application to Earth Observation data product evaluation" *by* J. Ikonen et al.

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Received and published: 9 February 2016

1   General comments

The work uses insitu soil moisture measurements to examine the quality of the ESA CCI soil moisture product over an area in Finland.

I believe the assessment of remotely sensed data is an important area of research and should be supported. I understand that the area covered by soil moisture measurements used is a new addition to the validation network for satellite products.

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2 Specfic comments

The abstract seems overly long and to my mind repeats the methods section more than communicates the findings and conclusions. I think a briefer abstract that highlighted the findings would grab the reader's attention more.

Furthermore the abstract mentions that removing a third of the data (2014) results in better correlation between the data sets. As a process modeller, I think it would be better to explain this i.e. to say that there is better correlation in years when there is a long term trend in the data or less short term variation.

It is stated that soil moisture is a "main driver" of water, air and carbon cycles. I think this might be over stating the case. Soil moisture certainly influences these cycles but without rainfall and, in these latitudes especially, solar radiation it would not drive much.

A small thing CAL-VAL is used in the abstract before it is defined.

In the method section 3.2 Figure 1 shows the geographical area covered by the ASCAT pixel and the soil moisture network. I am concerned that only a small number of the soil moisture stations are covered by the pixel.

It seems to me that there is an assumption that the only factor influencing soil moisture is soil type and precipitation is not counted. If there is strong heterogeneity in the precipitation totals and intensity across the network this may explain, to some extent, the low correlation values.

Should more ASCAT pixels have been used? If not, plot the rain gauge data to show how homogeneous it is across the network. Maybe the averaging of a number of ASCAT pixels would increase the correlation.

I agree with reviewer 1 that the main finding, that the CCI product should not be used as an absolute value of soil moisture should be stated more prominently.

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Interactive comment on Geosci. Instrum. Method. Data Syst. Discuss., 5, 599, 2015.