

BEC L4 soil moisture product is now "all-weather"

Soil moisture at fine-scale (BEC L4 soil moisture product) can now be estimated under all-weather conditions. A delayed 5-year (2010-2015) data set covering the Iberian Peninsula is already available, and maps from 2015 onwards are provided in [near real-time](#). This is BIG news! The L4 product is obtained by combining SMOS brightness temperatures with higher spatial resolution MODIS information into fine-scale soil moisture estimates [1,2]. In all previous releases, the presence of clouds masked the information from MODIS and therefore the fine-scale soil moisture. In the new L4 version 3.0 or "all-weather" product, we are including additional information in the downscaling algorithm, which allows fine-scale soil moisture mapping from space independently of cloud cover.

With the L4 all-weather product, we plan to extend the downscaling approach to other climatic regions. See Fig. 1 for an example of its application over Europe on July 1, 2014 (ascending passes). The version 2.0 is also provided (Fig. 2) to illustrate the differences between the two versions.



Fig.1. Soil moisture map at 1 km spatial resolution (with version 3.0 downscaling), from 1/07/2014 (AM).



Fig.2 Soil moisture map at 1 km spatial resolution (with version 2.0 downscaling), from 1/07/2014 (AM).

A quality report of the new product can be found [here](#). This product, as well as its applicability in forestry applications (forest fire prevention and forest die-off predictability) will be presented at the [2nd SMOS Science Workshop](#) in Madrid next week.

Stay tuned!!

Note: the previous release of the L4 product over the Iberian Peninsula can still be accessed ([version 2.0](#))

[1] Piles, M., N. Sánchez, M. Vall-llossera, A. Camps, J. Martínez-Fernández, J. Martínez, V. González-Gambau (2014) “A Downscaling Approach for SMOS Land Observations: Evaluation of High-Resolution Soil Moisture Maps Over the Iberian Peninsula”, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, vol.7, no.9, pp.3845-3857.

[2] Sánchez-Ruiz, S., M. Piles, N. Sánchez, J. Martínez-Fernández, M. Vall-llossera, A. Camps (2014), “Combining SMOS with visible and near/shortwave/thermal infrared satellite data for high resolution soil moisture estimates”, Journal of Hydrology, vol. 516, pp. 273-283, <http://dx.doi.org/10.1016/j.jhydrol.2013.12.047>.