



## **The 55 years UERRA Surface Re-Analysis over Europe at 5.5km.**

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Within the European UERRA project ended end of 2017, a surface re-analysis was produced at high horizontal resolution (5.5km) over Europe for the period 1961-2015. Uncertainties have been also estimated with an ensemble of 8 members at the same resolution but for a shorter period (2006-2010).

The UERRA surface database, available at ECMWF on the MARS archive contains hourly surface and soil variables such as soil moisture, temperature, snow depth, surface fluxes etc.

The surface re-analysis done with the MESCOAN-SURFEX system should provide added value compared to global product such as

ERA-Interim-Land thanks to a finer horizontal grid (5.5km versus 80km), additional observations and the use of a precipitation analysis (Soci et al. 2016). This precipitation analysis done once a day improve significantly the precipitation field which is one of the most essential variable to drive surface module (SURFEX) and hydrological model (TRIP) for water management or snow pack evolution over mountains.

After a brief description of the MESCOAN-SURFEX system and the output data available, we will present the results and comparison for the 55 years period with independent observations and global re-analysis. A focus will be done on the evaluation of precipitation and the snow depth in particular over the mountainous area. The question of the uncertainties estimation and the impact of the evolution of the observation network along the period will be addressed.

Additional information about the UERRA project can be found at <http://www.uerra.eu>

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