

 632264203792166385001	Event <h1 style="text-align: center;">5th International Conference on Reanalysis (ICR5)</h1>			
	Date+Time Monday, 13 November 2017 at 13:00 - Friday, 17 November 2017 at 13:00 (CET)	Location Angelicum Congress Centre Largo Angelicum, 1 - 00184 Roma Italy	Name Joaquin Munoz Sabater	Payment Status Free Order
	Order Info Order no. 632264203. Ordered by Joaquin Munoz Sabater on 23 May 2017 15:45			
	Type Abstract submission			

Ticket Information:

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Registration Information:

Names of authors and affiliations (Names must be separated by comma, with the affiliation in brackets after each name, for example: Initials1 LastName1 (Affiliation1), Initials2 LastName2 (Affiliation2), ...)
 J. Muñoz-Sabater (ECMWF, Reading, UK), E. Dutra (Instituto Dom Luiz, Faculdade de Ciências, Universidade de Lisboa), G. Balsamo (ECMWF, Reading, UK), S. Hirahara (Global Environment and Marine Department, Japan Meteorological Agency), H. Herbasch (ECMWF, Reading, UK), S. Boussetta (ECMWF, Reading, UK), C. Albergel (CNRM, Météo-France), D. Dee (ECMWF, Reading, UK)

Title (limit 300 characters)

ERA5-Land: a new state-of-the-art global land surface reanalysis dataset

Abstract text (limit 2000 characters, excluding spaces but including punctuation)

The European Centre for Medium Range Weather Forecasts (ECMWF) is implementing, on behalf of the European Commission, the Copernicus Climate Change Service (C3S, <http://climate.copernicus.eu/>). Among its portfolio of product, C3S is developing the ERA5-Land dataset, a new, state-of-the-art, high-resolution, global, hourly land-surface dedicated reanalysis dataset from 1979 (beginning of the satellite era) that is planned to be continued in Near-Real-Time through the C3S operational service. It is also expected that in a second phase of production this dataset will be back extended to the year 1950. ERA5-Land will be the result of a single simulation driven by near-surface atmospheric fields from ERA5 atmospheric reanalysis and climatic fields at native resolution. Additionally, near surface temperature and humidity fields will be adjusted using daily computed environmental lapse-rates. One of the added values of ERA5-Land with respect to the ERA5 atmospheric reanalysis is a global projected horizontal resolution of approximately 9 km (around 4 times finer resolution than ERA5), matching the current operational ECMWF TCo1279 operational grid, and therefore providing consistent input for Numerical Weather Prediction and climate studies involving land water resources, but also for downstream applications such as those based on hydrological and agricultural modeling. ERA5-Land will also include, for the first time, an estimation of key land-variables uncertainty based on meteorological forcing and model parameters uncertainties supplied by a 10-member ensemble parallel run, hence providing vital information to land-surface data assimilation systems. The offline nature of land reanalysis allows to incorporate forefront model developments before the production phase. For example, ERA5-Land could benefit from a larger discretization of the soil layer permitting better propagation of the energy and water fluxes through the vertical dimension of the soil layer (currently under development). This paper presents the methodology that will be used to produce the ERA5-Land dataset, as well as its main strengths and weaknesses. First results obtained from demonstrative scout-runs will be shown and discussed, and their performance will be assessed by comparison to in-situ data and other long-term available datasets.

Preferred presentation type (Note we may not be able to honour all requests)

oral

Reanalysis topic session

(3) Methods

Do you wish to serve as Rapporteur? (Rapporteurs will draft synthetic summaries of a small number of posters or talks during the conference; the information collected will feed the conference final summary)

No

Do you wish to apply for WCRP travel support?

No



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