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Sensitivity of wind and soil moisture to the land surface component in 30-year continuous simulations over the Iberian Peninsula

Elena García-Bustamante[1,2], J. Fidel González-Rouco[2], Jorge Navarro[1,2], **Ana Palomares Losada**[1], Almudena García-García[3,4], Francisco José Cuesta-Valero[3,5], and Hugo Beltrami[3]

[1]CIEMAT, Dpt. of Energy, Madrid, Spain (elena.garcia2@ciemat.es)
[2]Physics of the Earth and Astrophysics, IGEO (UCM-CSIC), Universidad Complutense de Madrid, Spain
[3]Climate & Atmospheric Sciences Institute, St. Francis Xavier University, Antigonish, Nova Scotia, Canada
[4]Department of Remote Sensing, Helmholtz Centre for Environmental Research−UFZ, Leipzig, Germany
[5]Environmental Sciences Program, Memorial University of Newfoundland, St. John's, Newfoundland, Canada

During the last three decades significant trends compatible with a changing climate due to increased anthropogenic emissions have been observed. Changes are remarkable not only at global but also at regional scales. The Euro-Mediterranean sector has been identified as one of the hot spots potentially subject to critical impacts of climate change already manifest. In this work several long continuous (non re-initialized) WRF simulations at a high resolution (9 km) over peninsular Iberia that make use of a set of different land surface schemes have been performed. In doing so we categorize the impact of using alternate land surface models in long (30 years) continuous simulations since only such running approach allows to preserve the memory of the soil processes. Thus, we explore changes in the soil moisture content aiming at the detection of plausible evidences of drying trends, specially for the south of Spain. In addition we investigate a 30-year climatology of wind speed in the search of a potential stilling phenomenon already documented over several European and worldwide regions.