# How El Niño can be used to improve wind speed seasonal skill?

Nube Gonzalez-Reviriego (1), Raül Marcos (1), Francisco J. Doblas-Reyes (1,2), Verónica Torralba (1), Nicola Cortesi (1), Doo Young Lee (1), and Albert Soret (1)

(1) Barcelona Supercomputing Center (BSC), Earth Science, Spain (nube.gonzalez@bsc.es), (2) Institució Catalana de Recerca i Estudis Avançats (ICREA), Barcelona, Spain

The potential benefit of seasonal wind speed forecasts for the energy sector has been recently discussed (Torralba et al. 2016, Buontempo et al. 2016). Nevertheless, the lack of skill over several inland areas and especially at high lead times, can limit the application of these seasonal probabilistic forecasts. By using a simple methodology approach, this study aims to illustrate how the scientific user-driven research, conducted in a context of climate services, should play a role in the improvement of the wind speed seasonal forecast skill. In this framework the results obtained from the correlation coefficients between the ensemble mean prediction of the ECMWF System 4 and the observed wind speeds are compared with the results from the correlations between the wind speed constructed from the seasonal predicted El Niño index and the observations. An improvement of the skill at lead times ranging from 1 up to 5 months is measured over several regions such as Northern United States, Canada, Uruguay and Argentina. The added value of this constructed wind speed predictions is found in those areas over the world where the seasonal prediction system is not able to reproduce correctly the teleconnections of El Niño.

Buontempo C, Hanlon H.M., Bruno Soares M., Christel I., Soubeyroux J-M., Viel C., Calmanti S, Bosi L., Falloon P., Palin E.J., Vanvyve E., Torralba V., Gonzalez-Reviriego N., Doblas-Reyes F.J., Pope E.C.D., Newton P. and Liggins F., 2016: What have we learnt from EUPORIAS climate service prototypes? Climate Services (Submitted)

Torralba V., Doblas-Reyes F.J., Macleod D., Christel I. and Davis M., 2016: Seasonal climate prediction: a new source of information for the management of wind energy resources. Journal of Applied Meteorology and Climatology (Submitted)