



Fidelity of ECMWF Seasonal Predictions in representing “The Monsoon-Desert Mechanism” and related prediction signal over Euro-Mediterranean

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Summer descent over the Mediterranean region results from the interaction between westward propagating Rossby waves, generated by the diabatic heating associated with the South Asian summer monsoon rainfall, and the mean westerly flow north of the region. This interaction is named as “monsoon–desert mechanism.” Originally it was identified through linear modeling and theoretical approach by Rodwell and Hoskins (1996) and recently been verified and assessed in atmospheric re-analyses (Tyrlis et al. 2013) as well as in CMIP5 simulations (Cherchi et al. 2014). This process can be very important for Euro-Mediterranean summer also at interannual timescales, with clear potential for a contribution to seasonal prediction skill over the region. According to this, it could be important to verify those processes and potential related seasonal-prediction skill in Copernicus Climate Change Service (C3S) seasonal forecast products, based on data from several state-of-the-art seasonal prediction systems. As a first step, 1-month lead seasonal hindcasts provided by ECMWF (System 5) are used to verify this mechanism and its predictability signal over Euro-Mediterranean region in boreal summer. The results using ECMWF System 5 are likely compared with other C3S forecasting systems and with previous ECMWF seasonal prediction version (System 4).