



Dynamical-conditioned bias correction for seasonal forecasting in the Mediterranean region

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Seasonal forecasts are essential tools to offer early-warning decision support, that can help to reduce the socio-economics risk associated with anomalous events. Advances in statistical prediction are often linked with the enhance of understanding that usually leads to improve dynamical forecast. Thereby, both approaches are frequently combined in order to increase the robustness of the forecast.

Here we show a novel statistical-dynamical approach to ameliorate the quality of probabilistic seasonal forecasting based on General Circulation Model (GCM). We measure the instantaneous metrics defined in Faranda et al. (2017), namely the number of degrees of freedom and the persistence of daily averaged sea-level pressure and sea surface temperature in the North Atlantic sector to bias correct precipitation in the Mediterranean region. The dynamical forecast of monthly precipitation is provided by the CMCC-SPSv3 Ensemble model, while daily GPCC are used for validation with observations.

Faranda, D., Messori, G., & Yiou, P. (2017). Dynamical proxies of North Atlantic predictability and extremes. *Scientific reports*, 7, 41278.