



Model selection for DeFoReSt: a strategy for recalibrating decadal predictions.

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Decadal climate predictions aim to characterize climatic conditions over the coming years. In this context, international and national projects like the German initiative Mittelfristige Klimaprognosen (MiKlip) have developed model systems to produce a skillful decadal climate prediction. However, these forecasts still suffer from considerable systematic errors like lead-time dependent unconditional (drift), conditional biases and ensemble dispersion. With DeFoReSt, we proposed a Decadal Climate Forecast Recalibration Strategy, a parametric post-processing approach to tackle these problems. The original approach of DeFoReSt assumes third order polynomials in lead time to capture conditional and unconditional biases, second order for dispersion, first order for start time dependency. Here, we propose not to restrict orders a priori but use a systematic model selection strategy to obtain model orders from the data based on non-homogeneous boosting.