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Improved decadal predictability due to memory in vegetation? A study with the EC-Earth model

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In this analysis we revisit the EC-Earth-based study on decadal predictability of ocean and atmosphere conditions, where a set of decadal hindcast experiments for the period 1960-2005 was carried out.
Especially the subpolar North-Atlantic region due to its low-frequency variations in the model showed model skill in predicting observed variations in sea surface temperature up to 6 to 9 years ahead, and good skill in both hindcasting observed trends, as well as capturing inter-annual variability in the region. Predictability over land, however, was marginal.
Here, this set of experiments is repeated with a new version of the EC-Earth model, which is now supplemented by a dynamic vegetation model in order to identify impacts of land surface, i.e. vegetation initialization, as well as impacts of vegetation memory as possible predictability sources.