



The land contribution to natural CO₂ variability on time scales of centuries

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Based on the MPI-M CMIP5 preindustrial simulations with the MPI Earth System Model (MPI-ESM-LR) and additional simulations we show, that climate variability can induce variations of land carbon storage on centennial time scales (up to 15 GtC/100yrs). North-America contributes strongest to these storage variations in the model. Causes are the long-term fluctuations of net primary production and soil respiration. We find in some regions that incoming shortwave radiation at the surface correlates with the total carbon change.