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Simulating vegetation changes in a glacial climate under different oceanic circulation states

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Several abrupt climatic changes, Dansgaard-Oeschger and Heinrich events, occured during the last glacial period. In order to investigate the response of vegetation to abrupt climate changes, we force the dynamical vegetation model ORCHIDEE with outputs from the IPSL_CM4 Atmosphere-Ocean General Circulation Model (AOGCM). Two different glacial climatic states are used: with and without collapsed Atlantic Meridional Overturning Circulation (AMOC). The state with a collapsed AMOC results from an imposed additional freshwater flux in the North Atlantic ocean. We present results focusing on the role of the temperature, precipitations and CO2 anomalies.