Land-Atmosphere coupling strength in the ECHAM5/JSBACH atmosphere/land model

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The recent project GLACE (Global Land Atmosphere Coupling Experiment) aimed at comparing the coupling strength of land with the atmosphere (CS) which was computed for twelve selected GCMs for the boreal summer. The experiments reveal a wide range of land-atmosphere coupling strength across participating models. In this study we compare the results of GLACE with the recently developed model ECHAM5/JSBACH. Additionally, we present the coupling strength of two slowly varying quantities, namely soil moisture and phenology (Leaf Area Index, LAI) for boreal spring and boreal summer. The ECHAM5/JSBACH model reveals a weak coupling between soil moisture / LAI and precipitation for the Boreal spring (MAM) and summer (JJA). It also simulates large variations in the CS of soil moisture and LAI from the boreal spring to boreal summer.