



Transient simulation of the last deglaciation: impact of well-known forcings on climate

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The last deglaciation (21 ka B.P. to \simeq 7 ka B.P.) is the most recent major climate transition that occurred on Earth. During this period, changes in insolation and atmospheric greenhouse gases melted the major northern hemisphere ice-sheet leaving only Greenland as we know it today. The last deglaciation presents a unique opportunity in the climate record to test the relative impact of the changes of ice-sheet, greenhouse gases, sea-level on climate.

To test the impact of the different factors acting throughout this time period, we present a suite of transient simulation covering the last deglaciation, adding one forcing after the other (Albedo, Ice-sheet elevation, Greenhouse gases, Orbital & freshwater forcing). This enables us to test the relative importance of each forcing on the local and global climate and try to decipher periods where some of the forcings are predominant.

Ultimately we discuss a "full" forcing scenario that accounts for some of the features observed in the climate record and the lessons we can derive from the missing ones.