

Projekt-Titel: RESCUE: Ice sheet simulations representing Greenland and Antarctica

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Zusammenhang: EU Horizon-Projekt: *RESCUE* (Response of the Earth System to overshoot, Climate neUtrality and negative Emissions)

Abstract

The European Union's ambition to fulfill the Paris agreement limiting global warming to 1.5°C or 2°C requires a substantial reduction in greenhouse gas emissions complemented by active Carbon Dioxide Removal from the atmosphere. Various climate neutrality scenario pathways of energy and land-use transformation that fulfill the Paris agreement are developed in the recently started European project RESCUE (Response of the Earth System to overshoot, Climate neUtrality and negative Emissions). These developments consider delays in climate policies which could lead to a temporal overshoot beyond the Paris temperature targets.

In this RESCUE framework, we will perform ice sheet simulations to evaluate how these scenarios, with and without temperature overshoots, govern the sea level contribution from the Greenland and Antarctic ice sheets. One aim is to assess if temporal overshoots may force the ice sheets onto a trajectory that is not reversible, leading to sustained ice loss driving global sea level rise.