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Climate impacts of a reduction in thermohaline circulation

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The Thermohaline circulation (THC) is known to have a strong influence on climate. However, the consequences of a THC collapse on global and regional climate is not well known. Through the distributed computing climate*prediction*.net project and the participation of members of the public, we were able to investigate the climate response due to a 50% slowdown of the THC in a large ensemb le of general circulation models taking into account model uncertainty. We found that such a reduction in the THC could induce a cooling enough to offset the wa rming due to rising greenhouse gases. The results also suggested some likelihood of a positive feedback on a reduction in the THC, with increased precipitation in the North Atlantic, therefore implying future changes in the THC may be reinforced by the effects of global warming.