CLIMOC

CLIMATE IMPACTS OF THE ATLANTIC MERIDIONAL OVERTURNING CIRCULATION

The aim of CLIMOC is to investigate the role of the Atlantic Meridional Overturning Circulation (AMOC) on climate impacts over Europe.
Previous studies have shown an important role for the AMOC in modulating global climate change, in particular over the Northern Hemisphere and Europe.

An AMOC collapse has been identified as a possible trigger of the initiation of Ice Ages. However, the influence of AMOC in future climate change is still unclear given the large inter-model uncertainty in the decline rate of AMOC, and the concurrent climate changes due to increasing concentrations of well-mixed greenhouse gases in the atmosphere.

In this project the objective is to advance some hypotheses for the role of AMOC in the current climate and future climate change, and propose a hierarchy of climate model simulations to separate the role of AMOC from other processes. More specifically, plan to implement a slab-ocean model component in the EC-Earth global climate model.

Using the ocean heat fluxes from a fully-coupled EC-Earth simulation in which the AMOC is artificially weakened, it will be possible to run a slab-ocean EC-Earth simulation with a high-resolution atmospheric component, which will let investigate the role of AMOC in future climate change impacts over Europe.

This work will help reduce the uncertainties in projections of future climate change by constraining the influence of AMOC.

PROJECT DURATION
From 1/06/2021to 31/05/2023
24 months

WEBSITE E SOCIAL MEDIA
https://cordis.europa.eu/project/id/101026907/it

PARTNER

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