

Project ID 575

Thermohaline Circulation – At Risk (THOR)?

Core Theme 4: Predictability of the THC

The climate of Europe is strongly influenced by the North Atlantic ocean circulation. Variations of the strength of the Thermohaline Circulation (THC) or the Meridional Overturning Circulation (MOC) are a main driver for decadal and longer time-scale changes for European and Northern hemisphere climate. The core theme 4 (ct4) of the EU-project THOR focuses on the assessment of the quality of THC forecasts.

The robustness of decadal predictions of THC variability will be quantified through ensemble simulations using a number of candidate methods for assessing the forecast uncertainty due to uncertainty in initial conditions. Forecast uncertainty due to modelling uncertainty will be assessed using both multi-model and perturbed physics ensembles. The MPI-M earth system model will participate in a joint experimental set up of decadal re-forecasts and forecasts with the focus on initialization and perturbation techniques.