



Multidecadal and multicentennial variability of the meridional overturning circulation

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The variability of the meridional overturning circulation (MOC) simulated in a multimillennial control integration of the Kiel Climate Model (KCM) displays enhanced variability relative to the red background at decadal and centennial timescales. The multidecadal variability is the model's version of the Atlantic Multidecadal Variability (AMV), often referred to as Atlantic Multidecadal Oscillation (AMO). While multidecadal variability originates in the North Atlantic, multicentennial variability is driven in the Southern Ocean. Both multidecadal and multicentennial variability are associated with considerable changes in sea ice extent. This may be important to understand the different evolution of sea ice cover in the Northern and Southern Hemisphere during the most recent decades, with a strong decline observed in the North and almost no trend in the South.