

Change in the Atlantic Meridional Overturning Circulation over the last 1,500 years

*Benoit Thibodeau¹

1. The University of Hong Kong, Division of Earth and Planetary Sciences & SWIRE Institute of Marine Science

The Atlantic meridional overturning circulation (AMOC) is a key component of the global climate system as it transports warm waters to the high latitudes which allow the formation of intermediate and deep Atlantic water masses. Models have predicted a slowdown, or even a collapse of the AMOC under global warming and increased freshwater flux. While some field data are available for the last decade, they do not provide the perspective required to evaluate the present state of AMOC against its natural variability. Moreover, until recently the intensity of the AMOC beyond the last century was mostly unknown, which also limited our understanding of the present state of the AMOC. Over the past year research groups managed to develop paleo reconstruction of the AMOC strength and highlighted the fact that the 20th century AMOC is significantly weaker than it was over the last millennium (Rahmstorf et al., 2015; Thibodeau et al., 2018) and that this weakening is of unprecedented amplitude over this period (Caesar et al., 2018; Thibodeau et al., 2010).

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<https://doi.org/10.1038/s41586-018-0006-5>

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a) AMOC Index

MD99-2220, CR02-23 ($\delta^{18}\text{O}$ for both cores)