NATURAL ENVIRONMENT RESEARCH COUNCIL

Rapid Climate Change

University of Reading

RAPID PEER-REVIEWED PUBLICATION

TITLE: Potential predictability of rapid changes in the Atlantic meridional overturning circulation

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JOURNAL: Geophysical Research Letters

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NON-TECHNICAL SUMMARY OF WORK*:

Rapid, natural fluctuations in the strength of the Atlantic 'meridional overturning circulation' [MOC] are analysed in a long control run of the HadCM3 global climate model. These large fluctuations, which can be increases or decreases, are shown to be potentially predictable being preceded by changes in Nordic Sea surface temperatures/salinity and, especially, the transport of dense water through the Denmark Strait.

Due to the significant climate impacts (e.g. a 0.5K temperature change in around 10 years over Europe) of these natural fluctuations, these results motivate the presence of extra observations in high latitude regions to investigate such relationships in the real world and therefore explore the possibility of devising an 'early warning system' for potential rapid change.

ANTICIPATED PRESS INTEREST/PLANNED PRESS ACTIVITIES:

New Scientist carried an online review of this research:
http://environment.newscientist.com/article/dn13870