



Climate change and the stability of ocean circulation – a review

S. Rahmstorf

PIK, Potsdam, Germany (rahmstorf@pik-potsdam.de)

The IPCC 4th assessment report has noted a probability of 5% to 10% for a “large abrupt transition” of the meridional overturning circulation of the ocean during the course of the 21st Century, in response to global warming. Such ocean circulation changes therefore pose a non-negligible risk for humanity. Over the past decade a growing scientific effort has gone into observation and modeling of ocean circulation as well as the collection of paleoclimatic data on past ocean changes in Earth’s history. This lecture will present a personal review of the current state of knowledge about the risk posed by instabilities in the ocean circulation.