

**Date:** February 17<sup>th</sup>

**Time:** 11:00 AM

**Location:** Maryland Hall 110

**Speaker:** Dr. Thomas Haine  
Department of Earth and Planetary Sciences  
Johns Hopkins University

**Title:** “Climate change in the Subpolar North Atlantic Ocean?”

**Abstract**

The meridional overturning circulation in the North Atlantic ocean is peculiarly strong and plays a substantial role in North Atlantic regional climate. There are also indications that this circulation may weaken significantly in the coming decades in response to anticipated changes in the hemispheric freshwater cycle from global warming. The importance of fresh, cold outflows from the Arctic in this weakening seems especially important. This talk will discuss these issues and present some recent results on estimating these Arctic outflows east of Greenland. There appear to be multiple dynamical processes by which the outflows enter the North Atlantic ocean. The importance of O(1km)-scale mechanisms has a disproportionately large impact on the basin-wide flow. There are also some aspects of this small-scale circulation that are surprisingly predictable.