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"WHY IS PROJECTING THE SEA LEVEL CONTRIBUTION FROM ICE SHEETS SO TRICKY?"

SOPHIE NOWICKI
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Monday, March 14, 2016
3:30 PM
Conference Center, Innovation Research Park Building II
4211 Monarch Way, Norfolk, VA 23508

Abstract
The Greenland and Antarctic ice sheets are the largest reservoir of freshwater on Earth, and the dominant source of uncertainty when projecting sea level. Remote sensed observations have revealed that the contemporary ice sheets are losing mass, and that their current contribution to sea level is accelerating. Whether the rate of sea level rise from the ice sheets will continue at the same pace, or what future sea level should our society prepare for, are questions that are very tricky to answer. In this presentation, I review the challenges faced by ice sheet models, along with developments that are required to make meaningful projections of Greenland and Antarctica on the timescale of the next IPCC assessment report. Finally, I will introduce the Ice Sheet Model Intercomparison Project for CMIP6 (ISMIP6), which has the key objective of improving projections of sea level from the Greenland and Antarctic ice sheets, along with increasing our understanding of the cryosphere in a changing climate. These goals map into both "Melting Ice and Global Consequence" and "Regional Sea-level Change" Grand Challenges relevant to the World Climate Research Program.

Biography
Dr. Sophie Nowicki is a Research Scientist in the Cryospheric Sciences Laboratory at NASA Goddard Space Flight Center (GSFC). Her research interests relate to ice sheet modeling (at various spatial scales) and their contribution to sea level rise in a warming climate. She currently leads an effort to couple ice sheet models to the two NASA climate models (GEOS5 and ModelE), and a NASA interdisciplinary effort to understand the causes, impacts and feedbacks of contemporary changes in the Arctic. Sophie previously co-led the Sea-level Response to Ice Sheet Evolution (SeaRISE) community effort that targeted the IPCC AR5, and currently leads the Ice Sheet Model Intercomparison Project for CMIP6 (ISMIP6). She was a science team member for NASA's Operation IceBridge and is currently a science team member for the NASA Sea Level Change Team. Sophie obtained a PhD in theoretical glaciology from the University College London and an MSc in Remote Sensing and Image Processing from the University of Edinburgh.

Reception before seminar at 3:00 PM