

# ICE SHEET CLIMATE INTERACTIONS - IMPLICATIONS FOR HUMAN RESPONSES

*PALSEA 2012 Workshop Agenda  
6-8 June 2012  
University of Wisconsin-Madison  
Department of Geoscience  
140 Weeks Hall, 1215 W. Dayton St.*

Conveners - Anders Carlson (acarlson@geology.wisc.edu), University of Wisconsin-Madison  
Mark Siddall, University of Bristol

***Places are limited and attendance is by invitation. Enquiries regarding places should be directed to the workshop organizers.***

*Abstracts are invited to fit into each of the sessions below. Following the PALSEA model, there will be a limited number oral presentations with a high emphasis on discussions. Oral presentations will be 40 minutes with 20 minutes of discussion prompted by questions from the speaker (NOT questions from the floor). There are two unfilled presentations per session. We hope that these will be filled competitively based on the quality of abstracts received. Abstracts will be judged on originality with an emphasis on new work/ideas and how interesting the suggested questions for the floor are. We hope to see strong abstracts from postdocs and PhDs.*

*Abstracts not chosen for oral presentations will receive poster presentations. Given the small number of talks and longer break sessions planned, the posters will receive a lot of attention.*

Abstracts by April 15 to <acarlson@geology.wisc.edu>. PLEASE INDICATE CLEARLY WHETHER YOU WANT A POSTER OR ORAL PRESENTATION AND THE SESSION NUMBER AND TITLE. SUBMISSIONS FOR ORAL PRESENTATIONS SHOULD INCLUDE TWO QUESTIONS THAT THE PRESENTER WOULD PUT TO THE FLOOR.

## **Wednesday 6 June 2012**

### **Session 1 – Big questions regarding Greenland and Antarctic Ice Sheets**

What is the current status of Earth's remaining ice sheets? What processes will dominate these ice sheets in the next century and how closely are these processes coupled with climate change?

Key Note Speaker *Tony Payne University of Bristol*

### **Session 2 – Late Holocene Greenlandic and Antarctic Ice-Climate Interactions**

What was the impact of centennial-scale climate fluctuations like the Little Ice Age and Medieval Climate Anomaly on Greenlandic and Antarctic ice? How does this response relate to natural ice-sheet variability/weather vs. truly deterministic forced variability? Are changes

in sea level during this interval dominated by thermal expansion or ice sheets? Has West Antarctic ice remained “stable” across this time frame?

Key Note Speaker *Antony Long University of Durham*

### **Thursday 7 June 2012**

#### **Session 3 – Ice-Sheet Responses to Early Holocene Climate**

How fast can sea level rise during periods of ice-sheet collapse? How does the break up of ice over Hudson Bay and the 8.2 ka event inform on the rate an ice sheet can collapse and raise sea level in several centuries. What were the climate-ice sheet triggers to these changes? Did ice shelves play a role in controlling/triggering this collapse?

Key Note Speaker *Torbjörn Törnqvist Tulane University*

#### **Session 4 – West Antarctic and Greenland Ice-Sheets’ Stability during Previous Interglaciations**

When were the Greenland and West Antarctic Ice Sheets smaller than present? How much did they raise sea level by? Was retreat monotonic or abrupt? Is this in response to a truly warmer than present interglacial climate or a chaotic response to previous climate-ice sheet interactions?

Key Note Speaker *Emma Stone University of Bristol*

### **Friday 8 June 2012**

#### **Session 5 – Greenland and Antarctic Ice Sheets during the Pliocene**

What information can be gleaned from Pliocene sea-level and ice-sheet records on the long-term responses of Greenlandic and Antarctic ice to approximately present-day greenhouse gas concentrations? How well do model predictions agree with data constraints on ice-sheet dimensions? How warm was climate regionally near Greenland and Antarctica? Do these gross links between climate and ice sheets indicate that modern climate change is so large that ice sheets will undergo secular changes in the near future?

Key Note Speaker *Rob DeConto University of Massachusetts-Amherst*

#### **Session 6 – Summary**

What does the past response of ice sheets to climate change say about their future response in the coming centuries? How stable are the remaining ice sheets? What is the natural range that a given ice sheet can fluctuate and still remain stable?

Ice-Sheet Modeling Summary *David Vaughan British Antarctic Survey*

Workshop Summary and Directions *Conveners*