

Staying Ahead of the Greenland Ice Sheet

Robert Bindshadler

Recent large and rapid changes in the Greenland Ice Sheet have forced revision of many long-held thoughts about ice sheet response to climate change. Increased surface melt and changes in the surrounding oceans are responsible for an increase in the rate of ice loss. Deeper understandings of the processes responsible for this loss are required to provide urgently needed projections of future mass loss on a decadal time scale. This is challenging work in many ways, not the least of which is the necessity to bridge the gap between observations and modeling. My talk will provide an overview of where observations have brought the scientific community in its understanding of the response behavior of this important ice sheet and how models are struggling to incorporate this knowledge to project a credible future behavior of the ice sheet. In so doing, I intend to highlight some of the most important, but least understood, gaps in our knowledge, pointing to a likely provocative set of most desirable research activities.

For the CLIVAR workshop on Ice Sheet/Ocean/Atmosphere interactions in Greenland