Twila Moon
National Snow & Ice Data Center
Cooperative Institute for Research in Environmental Sciences
University of Colorado

Ice sheet to ocean: ice motion, ice loss, and icebergs

The Greenland Ice Sheet is shrinking. The impacts of ice loss telescope from local to global; from changing ocean and ecosystem conditions in local fjords to raising global sea levels. This seminar will present a true science story exploring Greenland ice loss during the 21st century. Starting on the ice sheet itself, Dr. Moon will examine its changing motion and the behavior of glaciers across seasons and decades. These results come directly from a new U.S. National Snow and Ice Data Center hosted data stream, providing a glimpse at the science this data stream can support. With a clear picture of the widespread retreat and speedup established, she will then explore how ice loss transforms into ocean-bound freshwater. This includes results from a new method to understand the full spatio-temporal fingerprint of freshwater fluxes from the ice sheet to the ocean, including iceberg and glacier melt and subglacial and terrestrial runoff. Finally, Dr. Moon will look towards the future to discuss how these new tools and methods can improve our ability to predict changes, from local glacier speedup to global sea level.