



**“MORE EVIDENCE LINKING ARCTIC AMPLIFICATION WITH
EXTREME WEATHER IN MID-LATITUDES”**

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Monday, February 4, 2013
3:30 PM

Room 1202, Engineering and Computational Sciences Building

Abstract

In this presentation, I will build on analysis presented in Francis and Vavrus (GRL, 2012) in which mechanisms were proposed and demonstrated that link enhanced warming in the Arctic during recent decades with changes in the trajectory of the upper-level flow in mid-latitudes. Evidence suggests Arctic Amplification may have contributed to an increase in large-scale wave amplitude and slower upper-level zonal winds, both of which favor more persistent weather patterns in mid-latitudes. Prolonged weather conditions are often associated with extreme weather – such as droughts, cold spells, heat waves, and some flooding events – which have become more frequent in recent years. New analysis of fields from reanalyses will be presented that illustrates the response of mid-latitude upper-level flow characteristics to Arctic Amplification, in particular the regional and seasonal variability in large-scale wave propagation speed and wave amplitude that may favor an increase in extreme weather events in northern hemisphere mid-latitudes.

Biography

Dr. Jennifer Francis earned a B.S. in Meteorology from San Jose State University in 1988 and a Ph.D. in Atmospheric Sciences from the University of Washington in 1994. As a professor at Rutgers University since 1994, she has taught courses in satellite remote sensing and climate-change issues, and also co-founded and co-directed the Rutgers Climate and Environmental Change Initiative. Presently, she is a Research Professor with the Rutgers Institute of Marine and Coastal Sciences and studies Arctic climate change and Arctic-global climate linkages with ~40 peer-reviewed publications on these topics. During the 13 months from July 2009-July 2010, her family of four spent a year sailing through Central America. She and her husband circumnavigated the world in a sailboat from 1980-1985, including Cape Horn and the Arctic, which is when she first became interested in Arctic weather and climate.

Reception before seminar at 3:00 PM