

CGD SEMINAR



DATE: Tuesday, 30 October 2018

TIME: 11 a.m.

LOCATION: NCAR, 1850 Table Mesa Drive
Mesa Lab, Main Seminar Room

TITLE: The intersection of weather, climate,
and societal hazards: projecting future
"Snowmageddons" with the
CESM Large Ensemble

SPEAKER: Colin Zarzycki, NCAR

ABSTRACT:

Wintertime storms along the east coast of North America can produce impactful weather hazards such as heavy snow, wind, and storm surge. Much of the previous research regarding these storms in a climatic sense has centered around case studies, gridpoint distributions, or more large-scale metrics, such as seasonal averages and mean storm tracks. However, societally-relevant statistics at the storm level have been lacking, particularly in studies aimed at future projections on decadal timescales in global models.

This presentation defines a storm tracking metric that collocates snowfall totals with population density and applies it to the CESM Large Ensemble. This framework allows for isolation of independent events where heavy snowfall occurs in highly populated corridors, maximizing storm consequences. A decrease in northeastern United States snowstorm events is projected by the end of the 21st century, although this decrease is not proportional across all storm intensity classes, with reductions being more heavily weighted towards weaker events as opposed to stronger ones. This arises due to offsetting impacts of increased precipitation associated with future coastal low pressure systems and decreases in thermal support for precipitation to fall as snow. The potential impact of atmospheric model resolution moving forward is discussed and the importance of understanding higher-order moments of storm distributions and corresponding metrics that better link their impacts to society is highlighted.

Live webcast: <http://ucarconnect.ucar.edu/live>

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