ICNet Members' New England Research & Project Survey

Research/Project Focus	Current and Future Projections of Snow in New England
Research/Project Description	Current and future projections of snow in New England including magnitude and timing. This research first determined which RCM models appropriately capture snow dynamics in New England, and then used those models to contrast historic and future snow products.
Primary Category*	Hydrology
Geographic Location	New England
Funding	NASA
Contact	Jennifer Jacobs, UNH: Jennifer.Jacobs@unh.edu
Infrastructure sectors effected, subject area	Limited
For modeled climate or sea level rise projections, AOGCM or other sources used	NARCCAP with A2 Emissions NCEP with CRCM, RCM3, WRFG, MM5I,HRM3, ECP2 CRCM-CCSM, CRCM-CGCM3, RCM3-CGCM3 and RCM3-GFDL
Other Information, data, models, used	Local snow observations from Hubbard Brook, NHDES, Maine State Survey, and USACE; RCM & NCEP model output; RCM/AOGCM model output

Time periods analyzed	The RCMs are nested within the AOGCMs for the current period 1971-2000 and for the future period 2041-2070. As a preliminary step to evaluate the performance of the RCMs over North America, the RCMS are driven with NCEP Reanalysis II data for the period 1979-2004. All the RCMs are run at a spatial resolution of 50 km.
Status /Date submitted to ICNet	In Progress. Submitted to ICNet Oct, 2013
Brief key findings to date	CRCM and RCM3 are the only models that provide reasonable snow estimates for New England. Snow will start 2 weeks later and end 2 to 3 weeks earlier in the future. Peak date won't change. Monthly SWE averages could decrease by 25% to 75%, depending on the month. Maximum snow depths are projected to decline by 25% to 30%.
Key publications/reports?	In Progress
Other information (e.g., web links to technical reports).	N/A

*** Categories: Roads, bridges, and culverts; Pavement and/or soils; Hydrology (study of data/floods); Environmental/water resources (stormwater, drinking water); Transportation assets (network); Climate model output**