

## ICNet Members' New England Research & Project Survey



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|---|---|
| <b>Research/Project Focus</b>   | Uncertainty Quantification of Downscaling Precipitation Extremes  |
| <b>Research/Project Description</b>   | Uncertainty quantification of downscaling precipitation extremes via a quantile translation method which was pioneered by Kallache et al (2009). Downscaling here means from NARCCAP regional climate model outputs to climate monitoring station. Focus is on daily precipitation extremes and goal is to calculate uncertainty of downscaled future return levels given projections provided by the NARCCAP future model runs |
| <b>Primary Category*</b>  | Hydrology   |
| <b>Geographic Location</b>  | New England.  |
| <b>Funding</b>  | None  |
| <b>Contact</b>  | Ernst Linder, UNH: Ernst.Linder@unh.edu   |
| <b>Infrastructure sectors effected, subject area</b>                                  | Not directly involved, but addresses needs for impacts assessment related to floods.  |
| <b>For modeled climate or sea level rise projections, AOGCM or other sources used</b> | N/A   |

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| <b>Other Information, data, models, used</b>                     | Station data was obtained from NCDC, NARCCAP regional climate model outputs  |
| <b>Time periods analyzed</b>                                     | 1971 – 2000 (“current” NARCCAP outputs) 2041 – 2070 (“future” NARCCAP outputs). 25-year and 50-year return levels of daily maximum precipitation based on 2041 – 2070 projections. |
| <b>Status /Date submitted to ICNet</b>                           | In progress. Submitted: 10,2013  |
| <b>Brief key findings to date</b>                                | Uncertainty bounds are very large for downscaled future return levels mainly due to high variability in extremes estimates and perhaps also due to the statistical method.         |
| <b>Key publications/reports?</b>                                 | Presented at statistics meeting and AGU 2012   |
| <b>Other information (e.g., web links to technical reports).</b> | 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**