

Maritime Snow

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- Important questions:
 - How does heterogeneity affect satellite observations
 - What are the characteristics of maritime snowpack cycles of accumulation and melt?
 - How does a high wind / high temperature / high precipitation environments effect the range of snow densities found in maritime snow?

Lake Effect – Maritime Snow in Western NY

- Location:
 - Lake effect snow within 50 mi
 - Flat elevation and low forest cover
 - Avoid compounding effects
 - Less urban
- Existing infrastructure
 - Mesonet snow network (University of Albany)
 - SUNY Geneseo
 - University of Buffalo

Methodology

- Sampling strategy:
 - Emphasize high temporal sampling due to constant evolution of snowpack
 - Weekly measurements for an entire season to capture snowpack evolution
 - UAV (allows more frequent measurements)
 - Structure from motion/LiDAR – Snow Dept
 - Hyperspectral – Broadband Albedo
 - Snow pits:
 - For structure (ice layers, grain size)
 - Density
 - Satellite possibility : C-Band on Sentinel

