

# **The Ontario Winter Lake-effect Systems (OWLeS) Project Influences of Upwind Lakes**

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## Abstract

Upwind lakes can lead to considerable enhancement of lake-effect snow storms over the eastern Great Lakes. Striking examples of this can be seen in satellite imagery showing bands of lake-effect cloudiness that extend from one of the Great Lakes (lake-to-lake, L2L, cloud bands) to another. Detailed observations of the evolution of the atmosphere as it passes over mesoscale regions of lake and land surfaces during lake-effect conditions have rarely been taken, however, limiting our ability to evaluate numerical model simulations and answer key questions of processes involved.

This presentation will provide an overview of the OWLeS field project in December 2013 and January 2014, the primary groups involved, forecasting activities (with the National Weather Service Forecast Offices, Binghamton and Buffalo, NY, and students from several schools), observational facilities utilized, and some experiences of field work in extreme winter conditions.

Two cases of lake-effect storms over Lake Ontario that developed within air modified by upwind water bodies will be discussed and initial findings provided. Mesoscale and possible microphysical influences on Lake Ontario snowbands will be discussed.