Millersville Professors and Students to Study Hazardous Lake-effect Snow Bands

Weather forecasts will be better in the future, thanks to the work of two Millersville University professors, Dr. Todd Sikora and Dr. Richard Clark, earth sciences. Millersville University received a $387,738 National Science Foundation (NSF) grant to study lake-effect snow events downwind of the Great Lakes. The corresponding field project—Ontario Winter Lake-effect Systems (OWLeS)—is scheduled for December 2013 through January 2014.

The OWLeS project is unique because it will involve approximately 35 undergraduate students from several institutions, including 12 from Millersville. “This presents extensive opportunities for undergraduate students to participate in cutting-edge research, from data collection in the field to coauthoring peer-reviewed publications,” said Sikora. “Our research on the processes that lead to intense and persistent downwind lake-effect systems will result in better corresponding weather forecasts, thus mitigating those impacts. This research becomes more urgent in a warming global climate, as boreal lakes are expected to remain ice-free for longer periods of time, leading to a longer lake-effect season.”

The OWLeS project will analyze the atmospheric processes associated with persistent and intense lake-effect systems in the area around Lake Ontario. The data collection will be at unprecedented detail, using an instrumented aircraft and multiple surface-based instruments. The OWLeS project focuses on Lake Ontario because of its size and orientation, the local orography, the climatological frequency of its lake-effect systems and the degree of Lake Ontario lake-effect system hazards on public safety and commerce.

Clark and Sikora will be collaborating with scientists from the University of Illinois, Penn State University and Hobart and William Smith Colleges.

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