

## Lake Ontario Climatology: Education for NY Great Lakes Resilient Communities and Economies

The climatology of impact-producing Great Lakes storms is not well-documented. The scientific study of the causes and long-term effects of regional and global climate variations requires time and includes how human actions impact those variations.

One of the primary reasons for the absence of such climatology in New York's Great Lakes region is that impact-producing storms on Lake Ontario are not well-defined compared to hurricanes or nor'easters.

New York Sea Grant (NYSG) has undertaken a project, funded by the National Sea Grant College Program Coastal Storms Program, to focus on two critical geographic areas of interest for those working on enhancing the resiliency of Lake Ontario, its natural resources, and communities: the Eastern Lake Ontario Dune and Wetlands Area (ELOWDA), and Sodus Bay (SB). The goal was to enhance the understanding of these "communities" regarding the resiliency of the areas to current lake conditions, and the potential changes driven by water level fluctuations and storms.

NYSG, working with the NOAA Northeast Regional Climate Center, Cornell University's Department of Earth and Atmospheric Sciences, County Soil & Water Conservation Districts, the Eastern Lake Ontario Dune Coalition and Save Our Sodus:

- developed a climatology baseline for impact-producing eastern Lake Ontario storms by assessing long-term risks associated with historic storm events;
- enhanced and established a photo-monitoring program for ELOWDA and SB to measure damage, particularly erosion resulting from coastal storm events; and
- assembled, assessed and synthesized existing and newly-developed data that document storm erosion.

The project baseline and data, as well as historic shoreline resiliency maps developed for the North Sandy Pond Resiliency Project funded by the NY Great Lakes Basin Small Grants Program, were



*NYSG has developed a climatology baseline resource to help Eastern Lake Ontario coastal property owners and managers build resiliency in areas such as Sodus Bay (above).*

*Photo: courtesy of John Griebsch and Great Lakes Seaway Trail*

shared at a workshop for ELOWDA managers and users. The maps, photo-monitoring results, and data synthesis are online at [nysgdunes.org](http://nysgdunes.org) to provide stakeholders and partners with additional resources for effective decision-making.

### Partners:

- Cornell University Department of Earth and Atmospheric Sciences
- County Soil & Water Conservation Districts
- Eastern Lake Ontario Dune Coalition
- NOAA Northeast Regional Climate Center
- Save Our Sodus
- Funding: National Sea Grant College Program Coastal Storms Program

### *The Sea Grant Focus Area for this project is New York Resilient Communities & Economies*

New York Sea Grant is a joint program of Cornell University, the State University of New York, and NOAA.

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