

Making Lake Michigan Great Tour

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GVSU Annis Water
Resources Institute



Location of GVSU-AWRI

AWRI's mission is to integrate research, education, and outreach to enhance and preserve freshwater resources.



Muskegon Lake

Lake Michigan





Education and Outreach Program

- Aft deck and onboard laboratory
- Thousands per year do hands-on science and water quality testing





R/V *D. J. Angus*

- 1986
- Docked at Harbor Island in Grand Haven
- 45 feet long





R/V W. G. Jackson

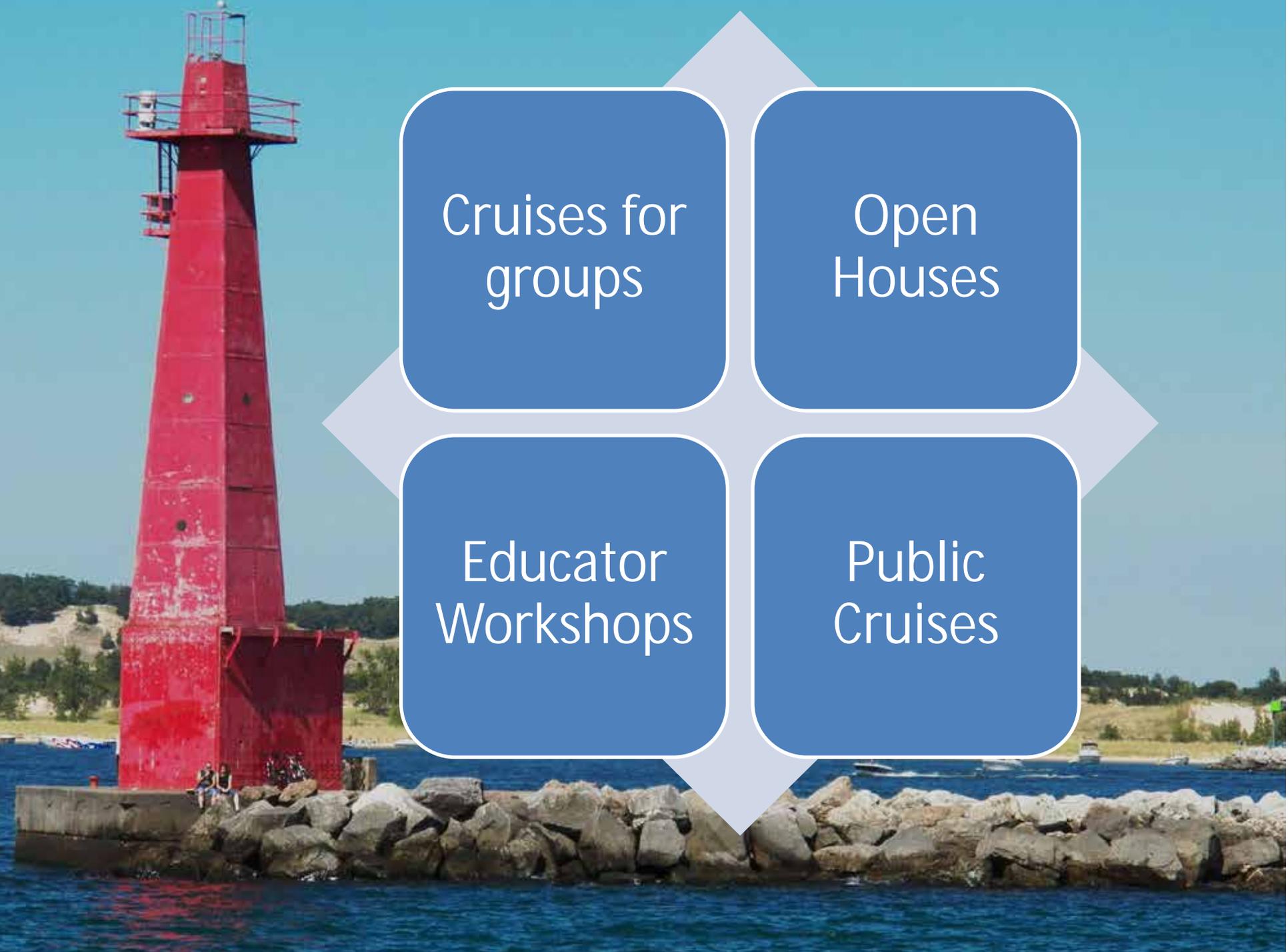
- 1996
- Docked at GVSU-AWRI in Muskegon
- 65 feet long



Making Lake Michigan Great



- Tour of the research and education vessels from the GVSU Annis Water Resources Institute (GVSU-AWRI); a project for the U.S. EPA Lake Michigan Forum
- Connecting people to the Lake Michigan Lakewide Action and Management Plan and local projects
- 33 ports of call in Lake Michigan since 1998



Cruises for
groups

Open
Houses

Educator
Workshops

Public
Cruises

MLMG Funding

- U.S. EPA Great Lakes National Program Office
- Great Lakes Restoration Initiative
- Waukegan Harbor CAG
- Indiana Department of Environmental Management
- Sanitary District of Michigan City
- Various corporations and community foundations





Muskegon, Michigan



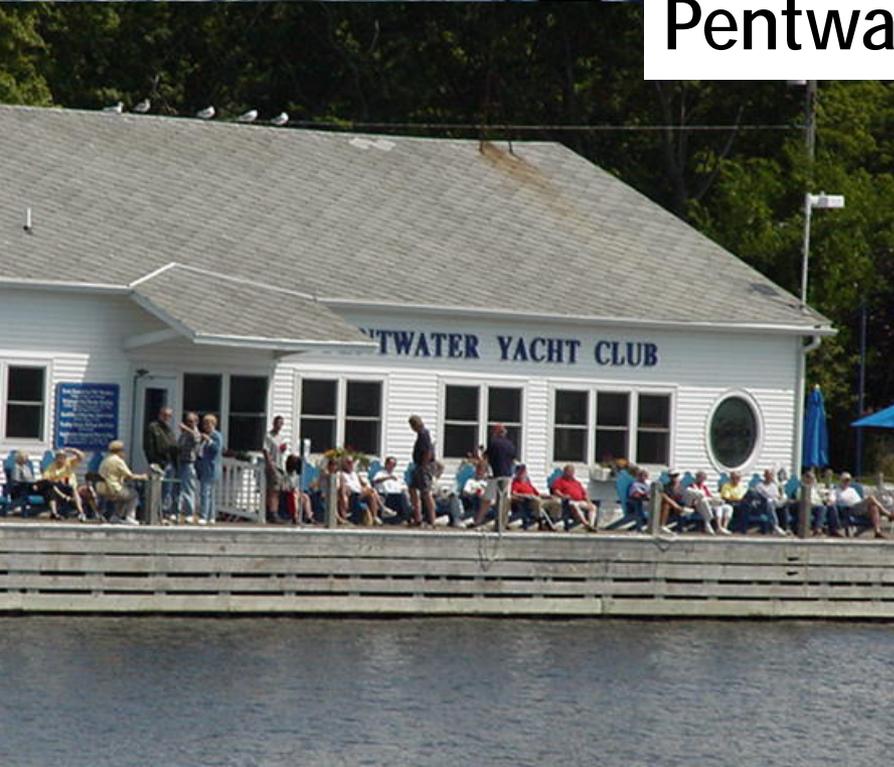


White Lake, Michigan





Pentwater, Michigan





Ludington, Michigan





Manistee, Michigan





Frankfort, Michigan



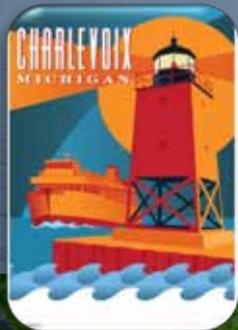


Traverse City, Michigan





Charlevoix, Michigan





Beaver Island, Michigan





Harbor Springs, MI

Petoskey, Michigan





Manistique, Michigan





Escanaba, Michigan





Menominee, Michigan





Green Bay, Wisconsin





Sturgeon Bay, Wisconsin





Manitowoc, Wisconsin





Sheboygan, Wisconsin





Port Washington, Wisconsin





Milwaukee, Wisconsin





Racine, Wisconsin





Kenosha, Wisconsin





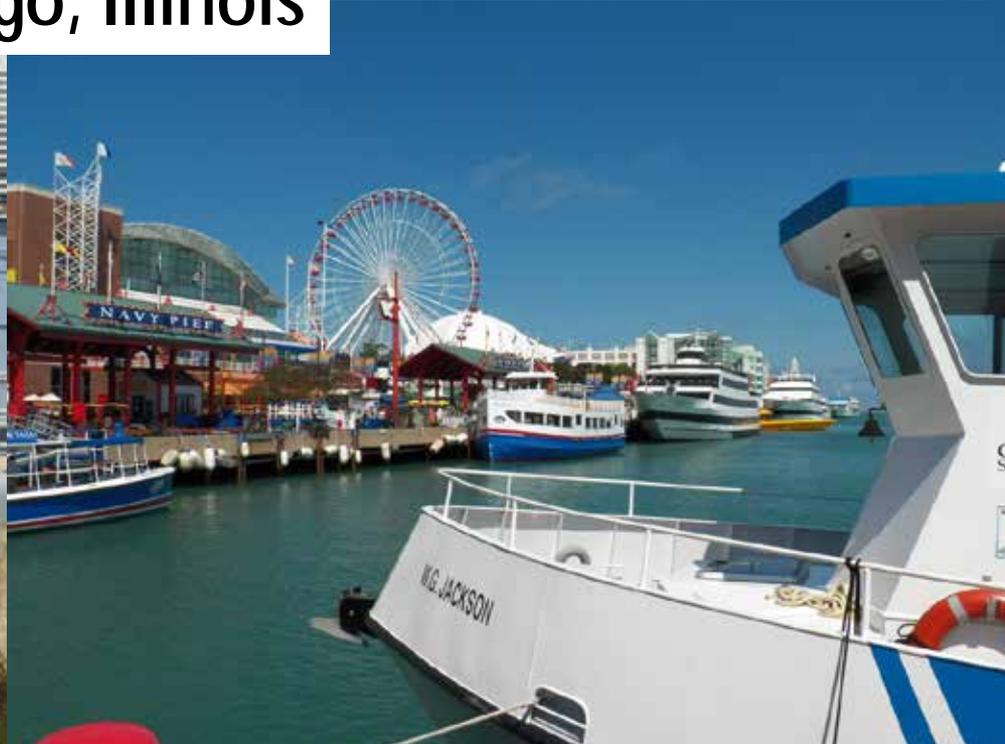
Waukegan, Illinois







Chicago, Illinois





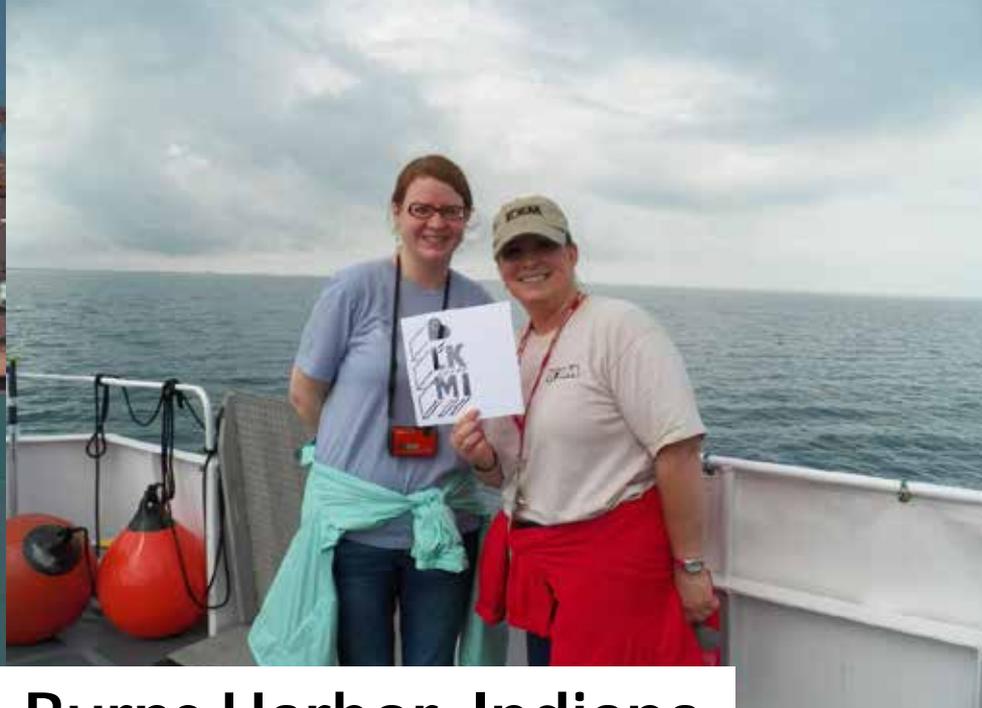
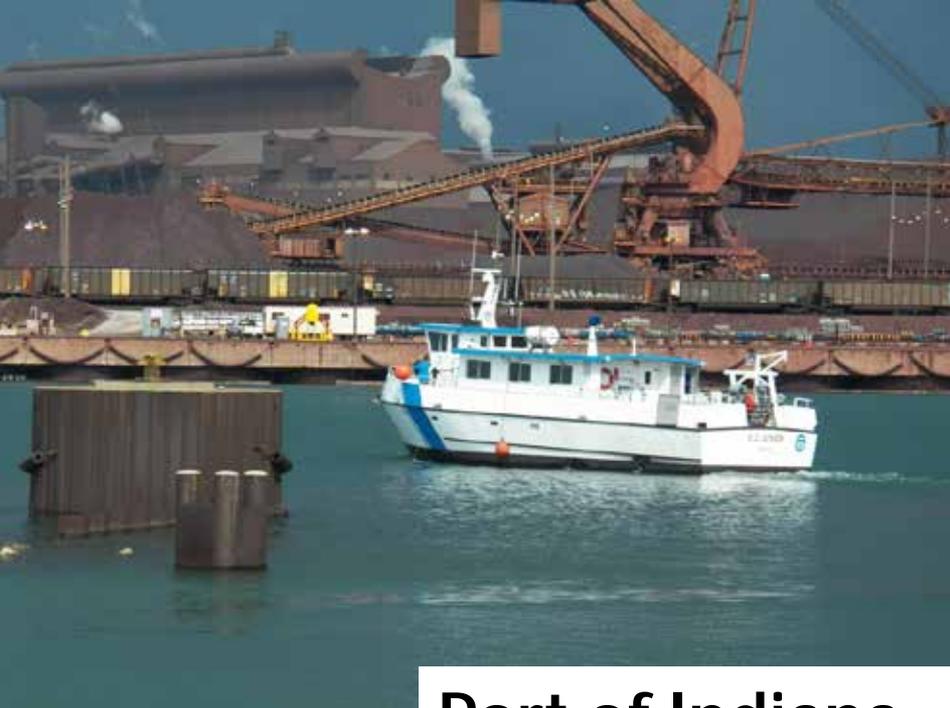
Hammond, Indiana



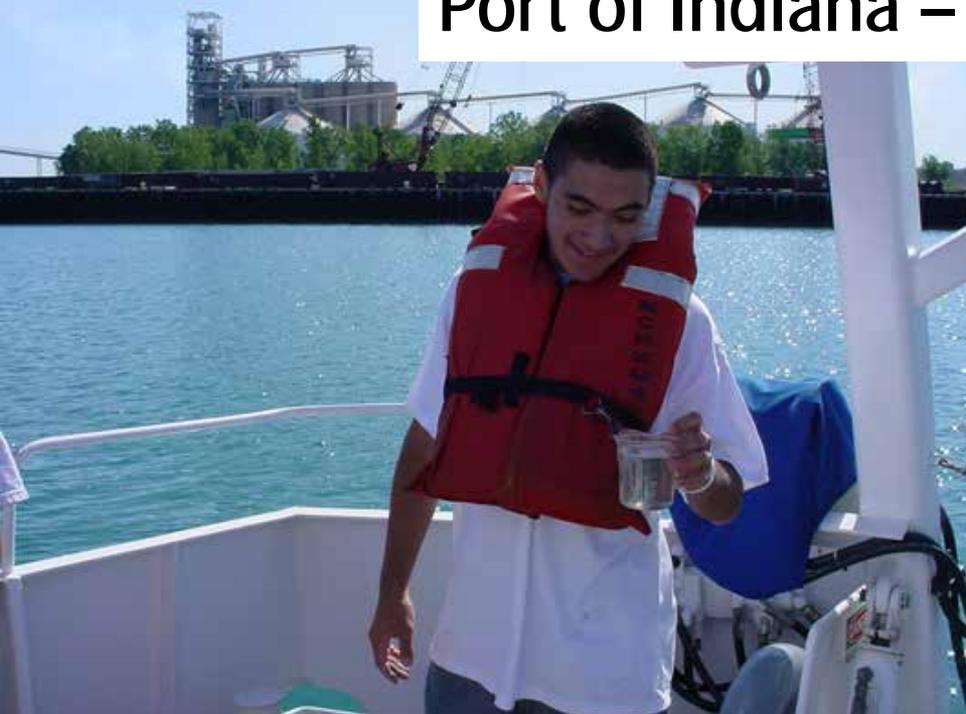


East Chicago, Indiana





Port of Indiana – Burns Harbor, Indiana





Michigan City, Indiana



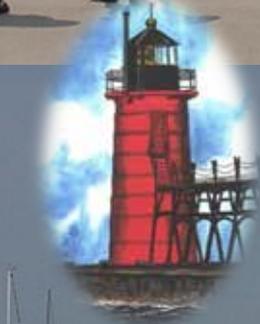


St. Joseph, Michigan





South Haven, Michigan





Saugatuck, Michigan





Holland, Michigan



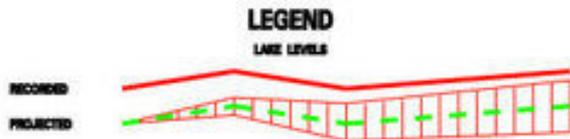
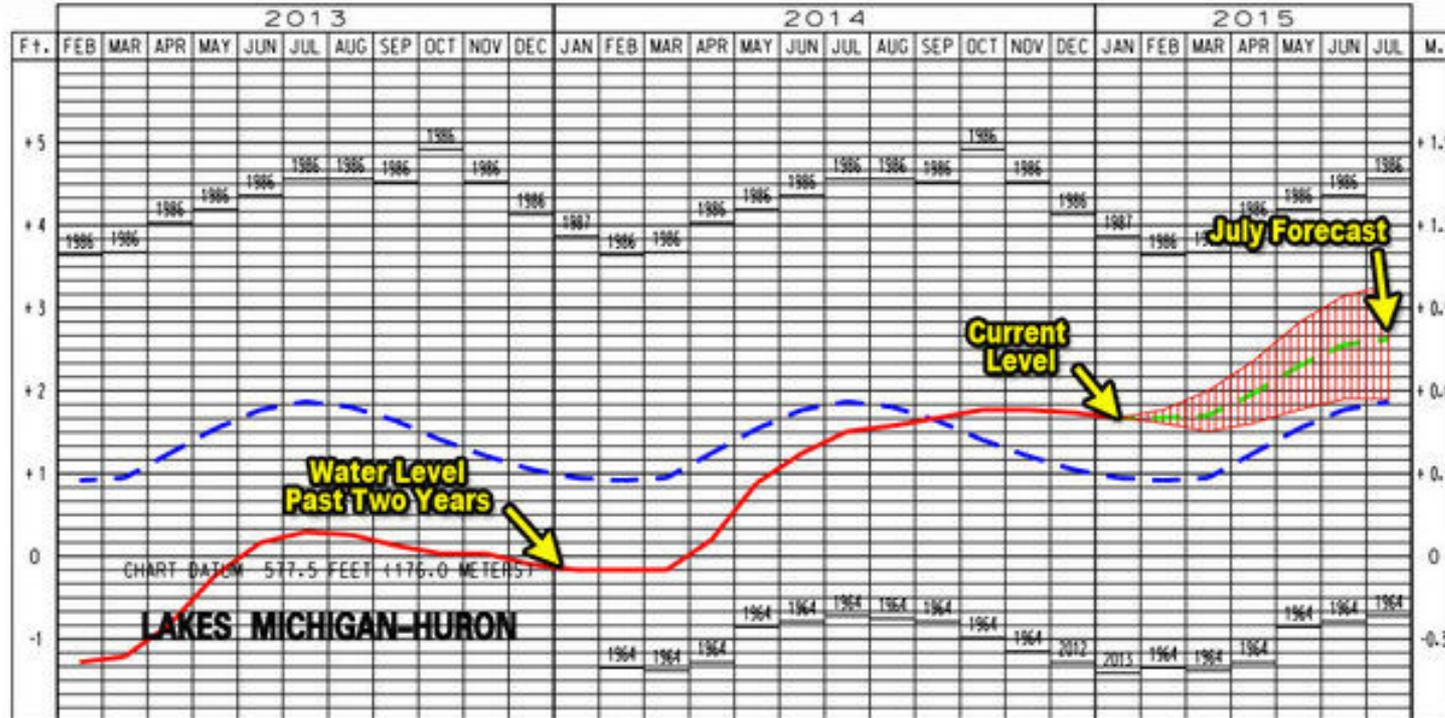


Grand Haven, Michigan



Biggest Challenges

Lake Michigan-Huron Water Levels Past And Forecast



AVERAGE **	MAXIMUM **	MINIMUM **
	1985	1936
	1985	1934
	1973	1926
	1973	1934

** Average, Maximum and Minimum for period 1918-2013



<http://coast.noaa.gov/llv/>

Lake Michigan



Lake Level Change



Mapping Confidence



Society



Business



Download

Lake Michigan Water Level

IGLD

584.8ft	6.0ft
583.8ft	5.0ft
582.8ft	4.0ft
581.8ft	3.0ft
580.8ft	2.0ft
579.8ft	1.0ft
578.8ft	0.0ft
577.8ft	-1.0ft
576.8ft	-2.0ft
575.8ft	-3.0ft
574.8ft	-4.0ft
573.8ft	-5.0ft
572.8ft	-6.0ft

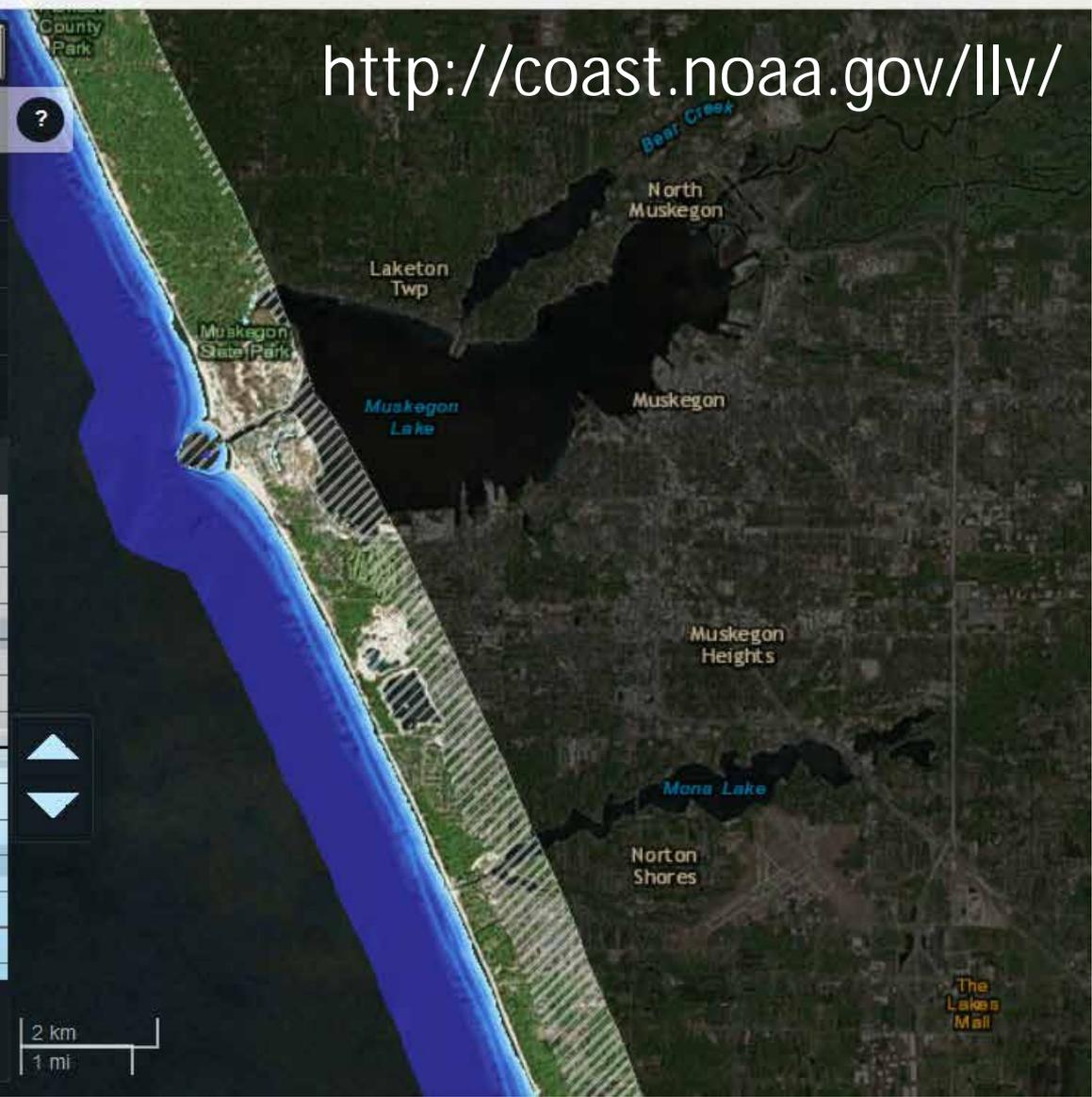
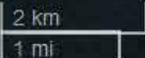
Long Term Average

Records & Avg.

Unit of Measure

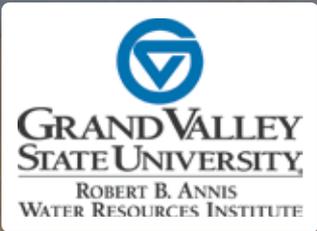
On

Ft



Weather and Waves





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Thank you to all of the partners who help Make Lake Michigan Great