

Lake Superior Environmental Collaborative

Michigan Tech...A University with a commitment to northern environments
Faculty
Super Computer
Facilities

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Photo courtesy of FTC&H
Robbins Prof of Sustainable
Marine Engineering

Michigan Tech
Great Lakes Research Center

Under Ice Water Quality Arctic Conditions...Right Outside Our Door

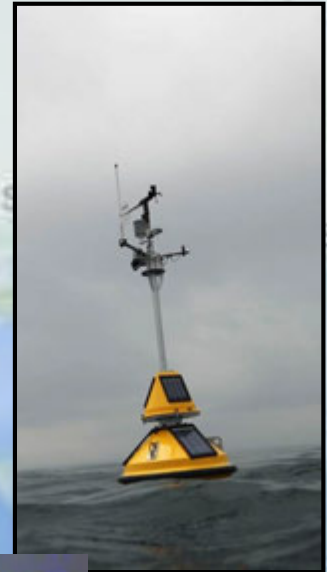


The Great Lakes are
“Scientifically Blind”
During the Winter Season

IOOS / GLOS Observing Activities

Upper Great Lakes Obs System (UGLOS)

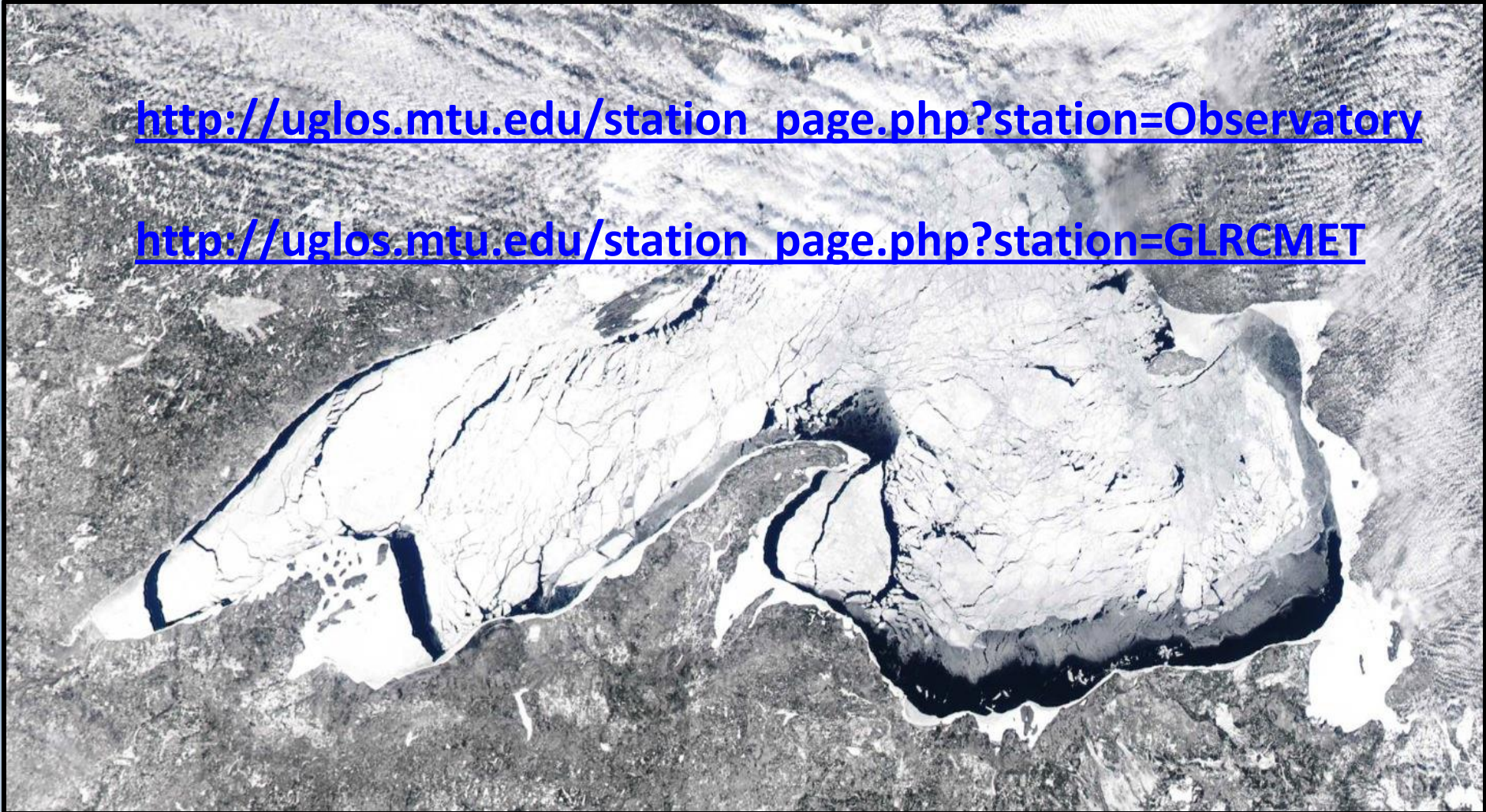
- Three Real-Time Buoys (fully loaded)
 - 14 Coastal Monitoring buoys report to UGLOS
 - <http://uglos.mtu.edu/>
- Winter Waterfront Met Station
- Winter Under-Ice Observatory



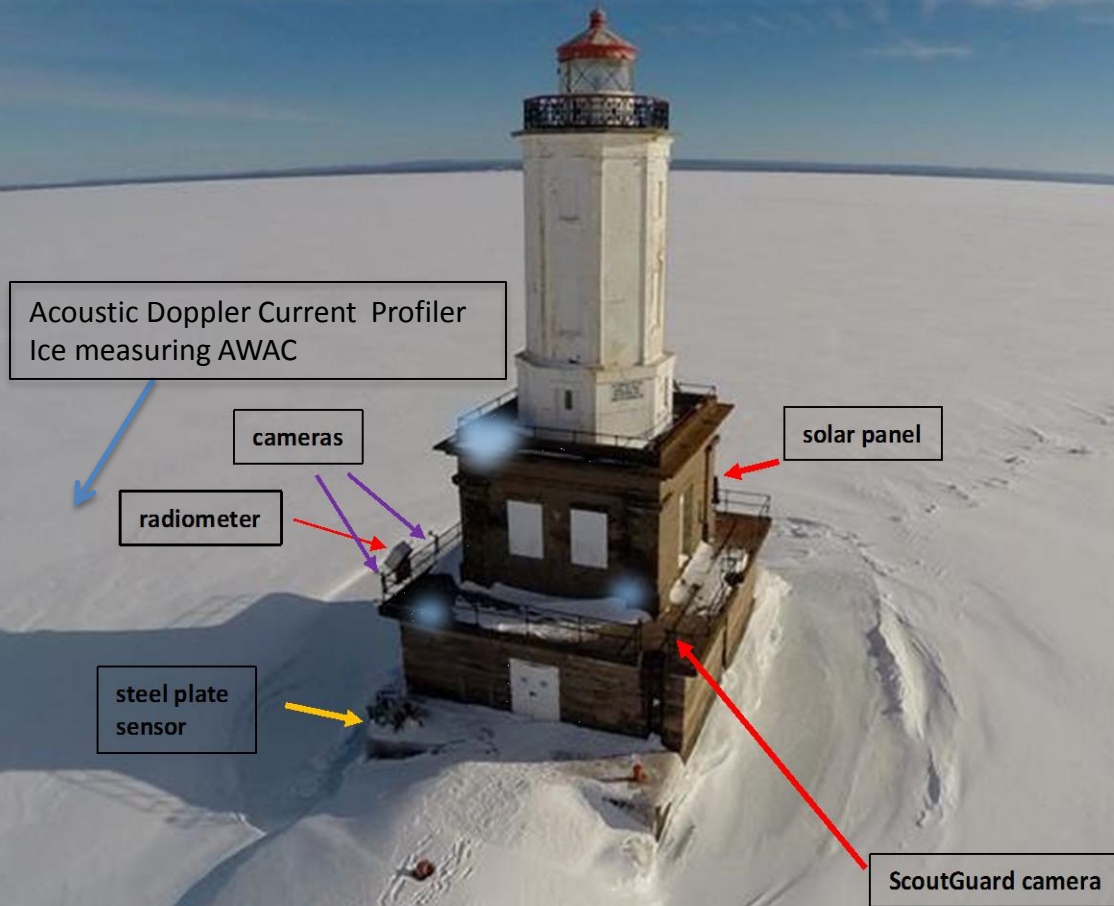
Winter Observations Real-Time and Archived

http://uglos.mtu.edu/station_page.php?station=Observatory

http://uglos.mtu.edu/station_page.php?station=GLRCMET



DOE Ice Impact Loads Winter Monitoring (2013-14)



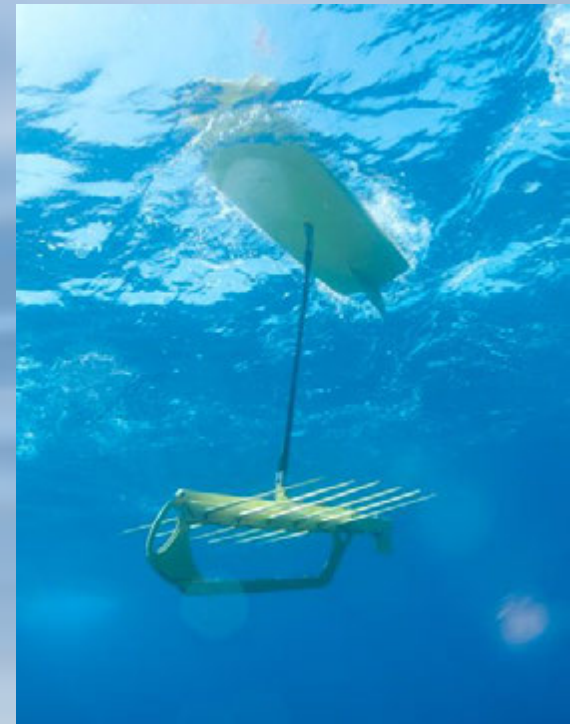
c) Kite Aerial Photography
with Nathan Invinible

Collaborative Efforts

- Organized “Big Chill” documentation across the Upper Great Lakes (Spring 2014)
 - 10 coastal “void” cruises completed
 - Three Glider Missions supported w/ UM-D

April 26, 2014 Image

Great Lakes Wide Hybrid Observatory System w/ Canadian Partners

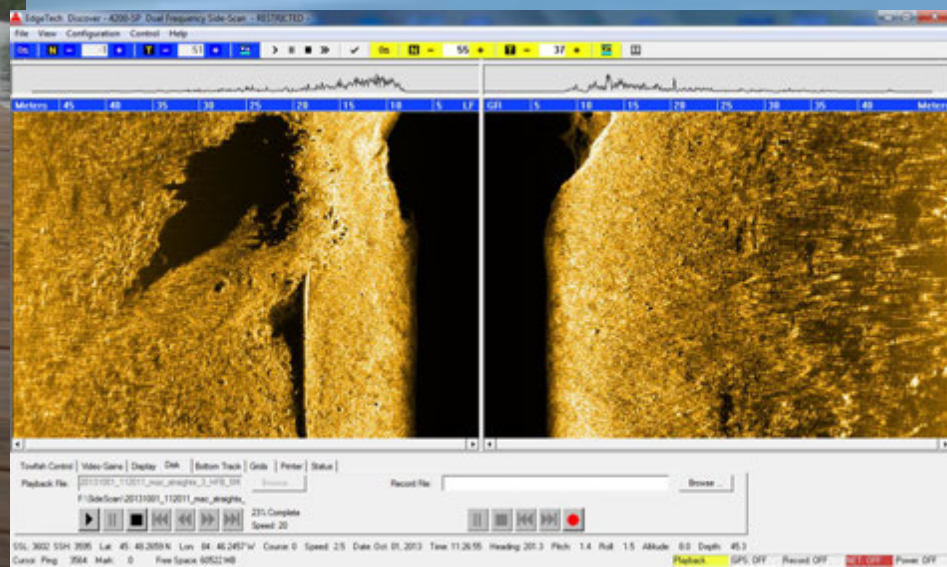


Advanced Underwater Sensing Straits of Mackinac

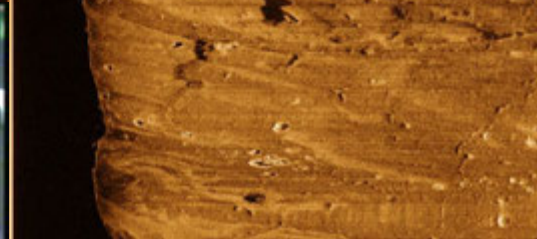
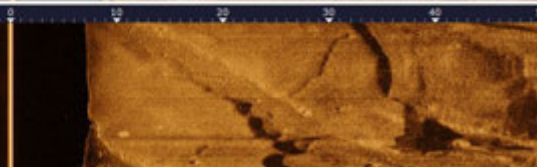
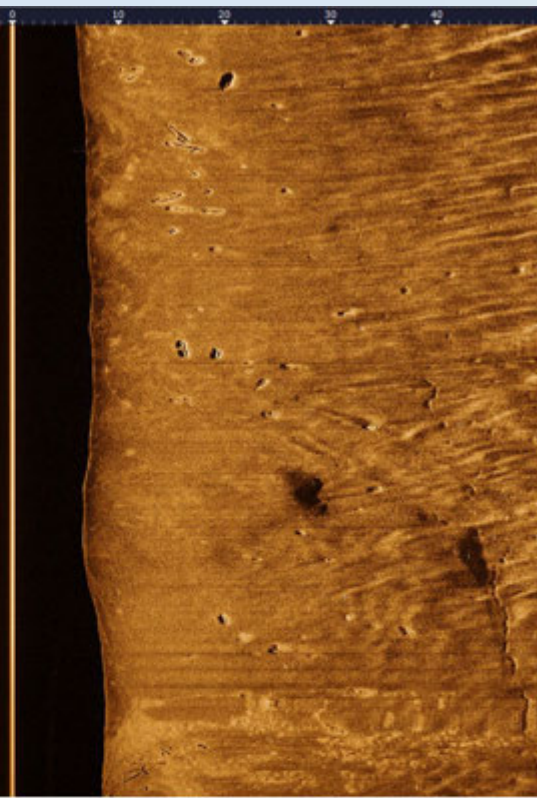
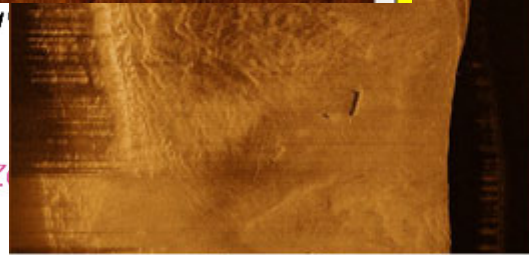
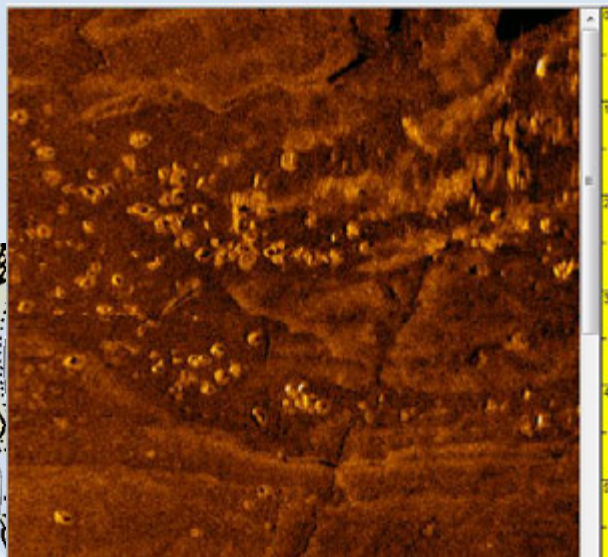
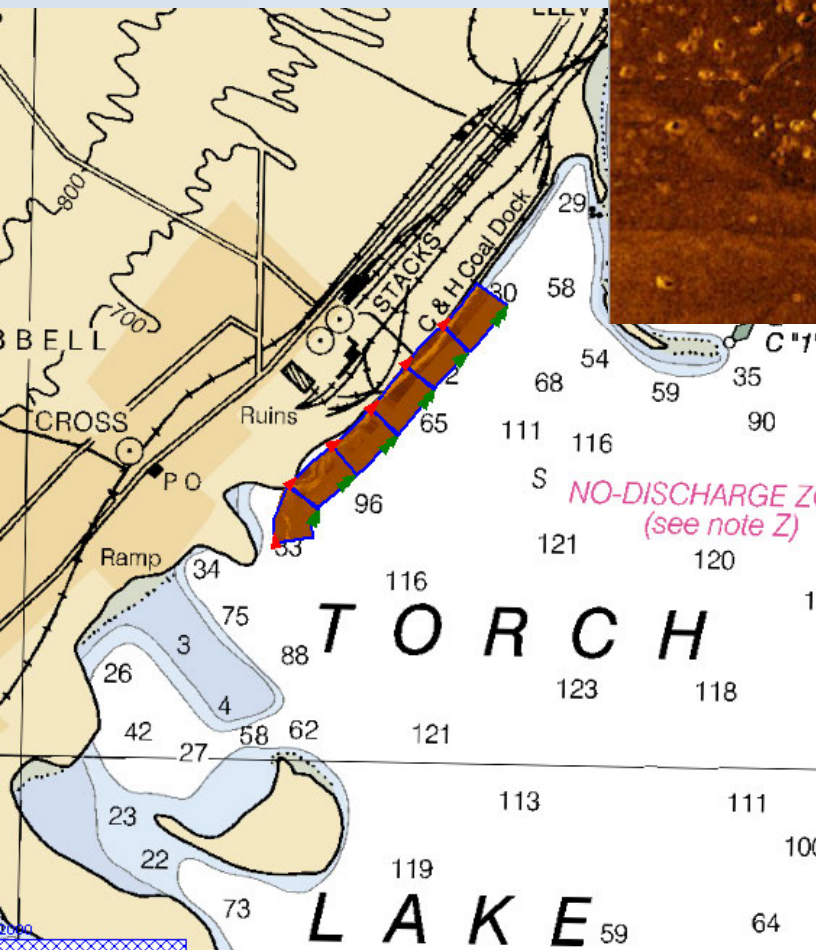
Research Supported by
Enbridge Pipelines, Inc.



09/10/2013



Torch Lake



Over 800 targets Identified...

Questions ?

