

Beach Hazard Risk Communication and Dangerous Currents

Wisconsin Coastal Beaches Working Group Annual Meeting
University of Wisconsin-Oshkosh
November 14, 2016

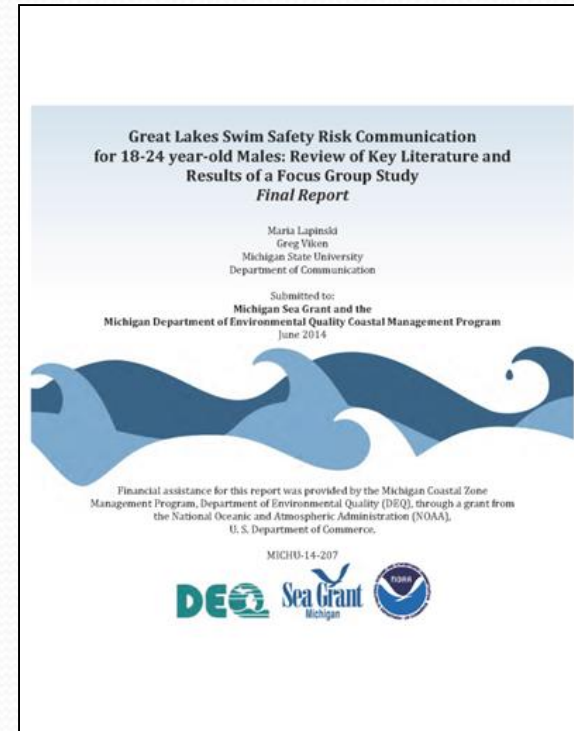
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Wisconsin Coastal Management Program and University of Wisconsin Sea Grant



Dangerous Currents

- Persistent hazard: 2002-2015 319 rescues and 150 fatalities in the Great Lakes (2016 Lake Michigan, 86, 30-40%)
- Different types of dangerous currents
- Public awareness of rip currents is low
- Public awareness of how to respond to rip currents is low
- Certain groups more susceptible
- Majority of Great Lakes beaches do not have lifeguards
- Inconsistent use of rescue and safety equipment
- Gaps in understanding about rip currents

Risk Communication: Great Lakes Beach Hazards



Targeted audience: youth, tourists and parents of small children

Development of an Observation, Forecasting, and Warning System for Rip Currents

Project Objective

Improve rip current beach hazard warning by developing an innovative and cost-effective means to characterize, identify and detect rip currents, communicate risks and educate public.

INFOS Observation System: Port Washington

Real-time rip watch camera



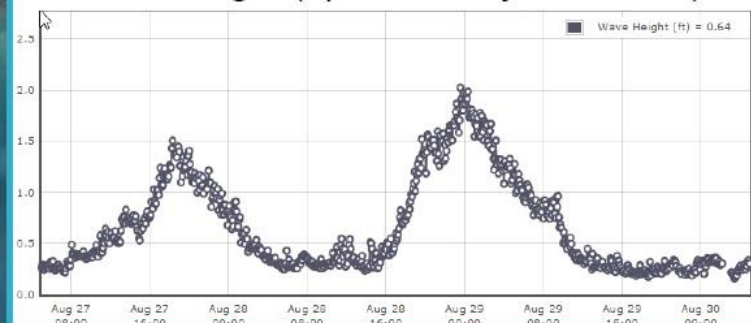
Tracking wave propagation



Real-time wave sensor

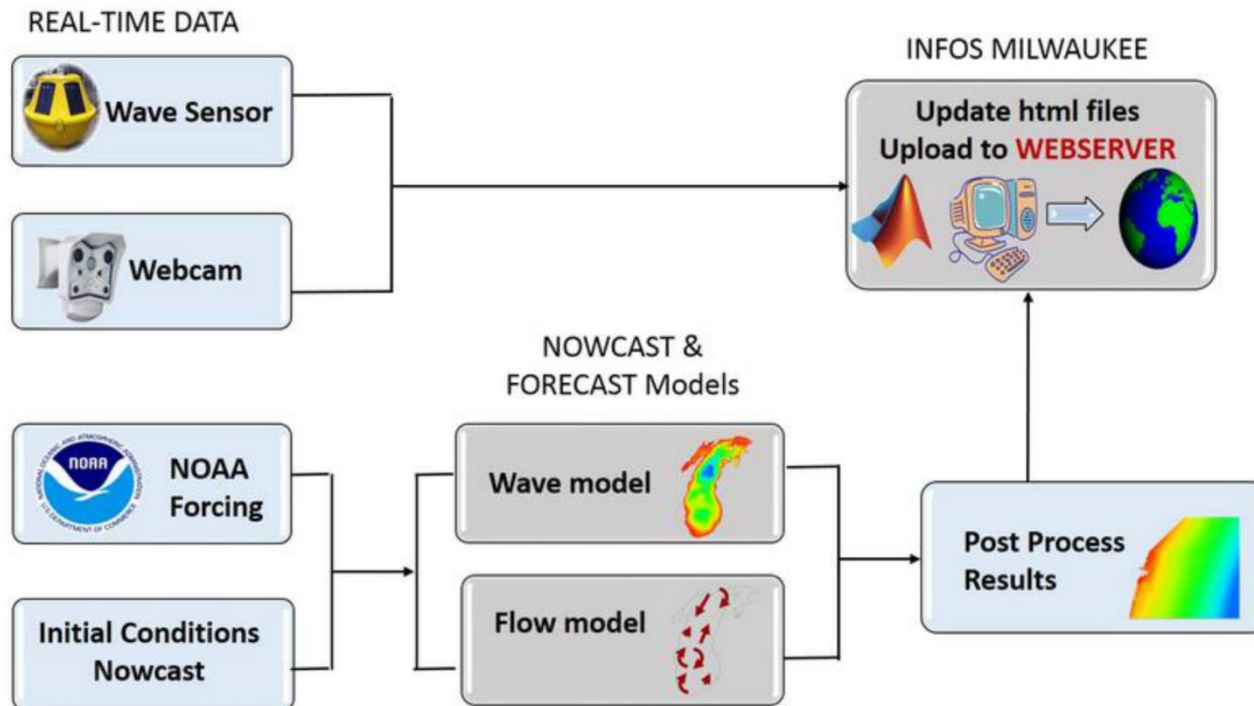


Wave height (update every 5 minutes)

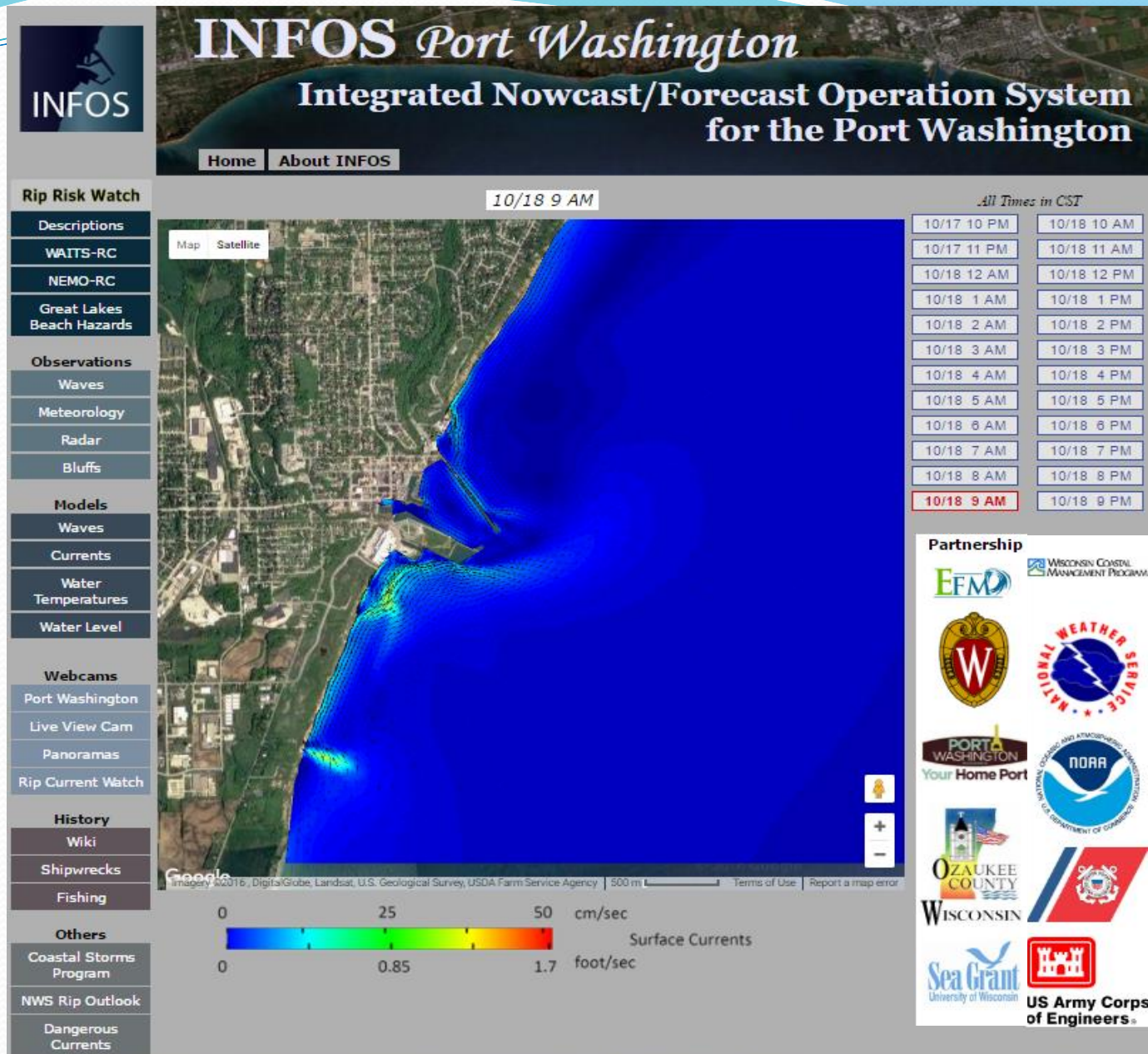


Integrated Nowcast (real-time) Observation and Forecast Operation System (INFOS)

Integrated **N**owcast **F**orecast **O**peration **S**ystem
(**INFOS**)



Forecast System



Real-Time Rip Risk Watch Tool

Current Condition

Update at: **2015/10/22**
2:16 PM

Wave Height	N/A
Wave Period	N/A
Wind Speed	5.8 mph
Wind Direction	S
Air Pressure	30.3 in Hg
Air Temp.	58.5 °F
Water Temp. (surface)	56.8 °F
Water Temp. (bottom)	N/A



Webcam live view

Rip Current Risk Levels

< 1 ft	1-2 ft	> 2 ft
Low Risk	Moderate Risk	High Risk

A LOW RISK implies that dangerous waves and currents are not expected. However, dangerous currents may exist at any time near breakwater. Always use caution and never swim alone.

Risk level & explanation



http://infosportwashington.cee.wisc.edu/pw_rip_watch_2.html

Implementing Dangerous Currents Best Practices

Project Objective

The project will implement consistent best practices in targeted Great Lakes coastal areas and communities to help reduce the loss of life from dangerous currents.






Deploy safety equipment, develop and deliver consistent messaging, Be Current Smart Campaign, regional sustainability plan

Water/Beach Safety Equipment

Implementing Dangerous Currents Best Practices Beach Safety Kits

State Working Groups will gather feedback from local partners and report to project group:

- Determine what water safety and emergency rescue components are desirable for application in each state.
- Determine exact location for kits (based in part on NWS incident data) and quantities of kit components (based on size of public beach area and other factors) for each state.

Item	Description	Purpose	Photo (if available)
<i>Emergency Land-based Rescue Equipment</i>			
Rescue Throw ring (Type IV Buoy)*	Orange, 24 in (std.) with grab rope on buoy and 75 ft. rope	On-land emergency assistance-more visible from shore and easier to toss	
Rescue Throwbag (RQ3 Ultimate "No Knot")	Second-chance float feature with 75 ft. rope	On-land emergency assistance-optimal in high wind conditions	
<i>Emergency In-water Rescue Equipment</i>			
Adult life vest (Crew Mate)*	Head up design, Type I, min. 22 lbs buoyancy	Trained first responders and others performing in-water emergency rescues	
Youth life jacket*	Head up design, 11.8 lbs buoyancy, 50 - 90 lbs. weight	Youth at the beach – loaner programs to encourage use (Could consider multiple sizes)	
Rescue Board	Carlson, 2'x4'x4" ethafoam (9 lbs.)	In-water emergency rescues (to be used with adult life vest)	
<i>Water Safety Equipment & Public Outreach Tools</i>			
Water watcher cards and lanyard	Break-away (no-choke cord) with plastic sleeve	Support a GL regional water watcher program to encourage close contact at the beach Printed cards for lanyards and 25K for Sea Grant and parks service to hand out	See appendices for MDEQ MI Sea Grant sample**

In 2015 more than 1,875 pieces of equipment were distributed in six Great Lakes states (IL, IN, MI, MN, OH & WI)



Safety Equipment Deployment and Rescue Stations



Lake Michigan and Lake Superior beaches

State and local public beaches

Over 200 pieces of safety equipment

41 coastal beaches

1 coastal structure

7 of 15 coastal counties



Leveraging Opportunities

Wisconsin Coastal Beaches Working Group

www.seagrant.wisc.edu/wicoastalbeaches

Great Lakes Water Safety Consortium

<http://greatlakeswatersafety.org/>

Great Lakes Beach Association

<http://glin.net/glba/>

Dangerous Currents

<http://www.miseagrant.umich.edu/dc/>

Great Lakes Surf Rescue Project

<http://www.glsrp.org/>



Thank You

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