



Air & Waste Management  
Association and  
Environmental Law Section  
State Bar of Michigan  
Joint Conference  
November 17, 2020

## Allegheny County Erosion

Dana Burd, P.E., CFM, LEED AP

Prein & Newhof



1986





January 2016



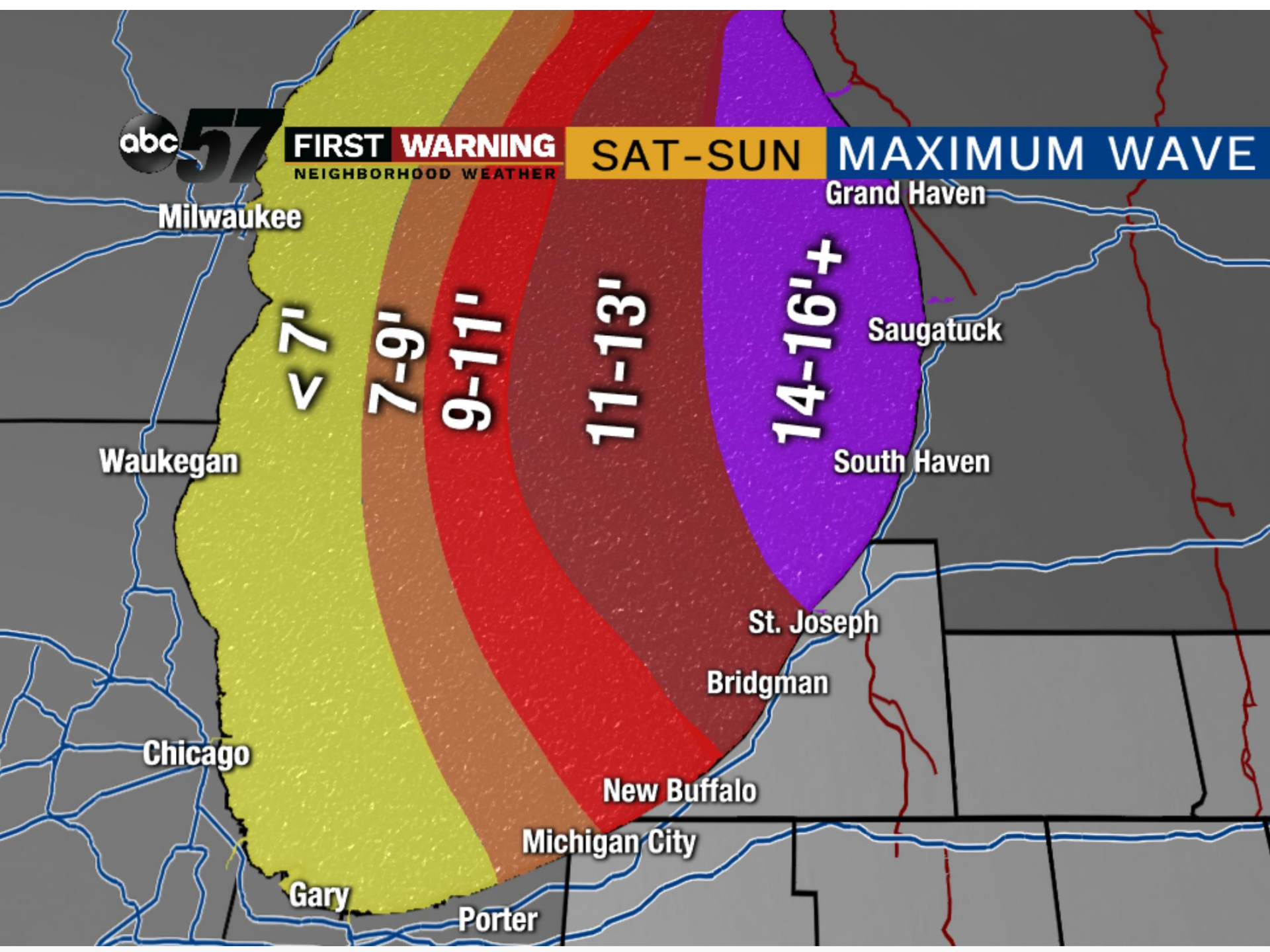




**FIRST WARNING**  
NEIGHBORHOOD WEATHER

**SAT-SUN**

**MAXIMUM WAVE**



Milwaukee

Grand Haven

< 7'

7-9'

9-11'

11-13'

14-16'+

Saugatuck

Waukegan

South Haven

Chicago

St. Joseph

Bridgman

New Buffalo

Michigan City

Gary

Porter





January 2020



# Saugatuck Project

April 1988

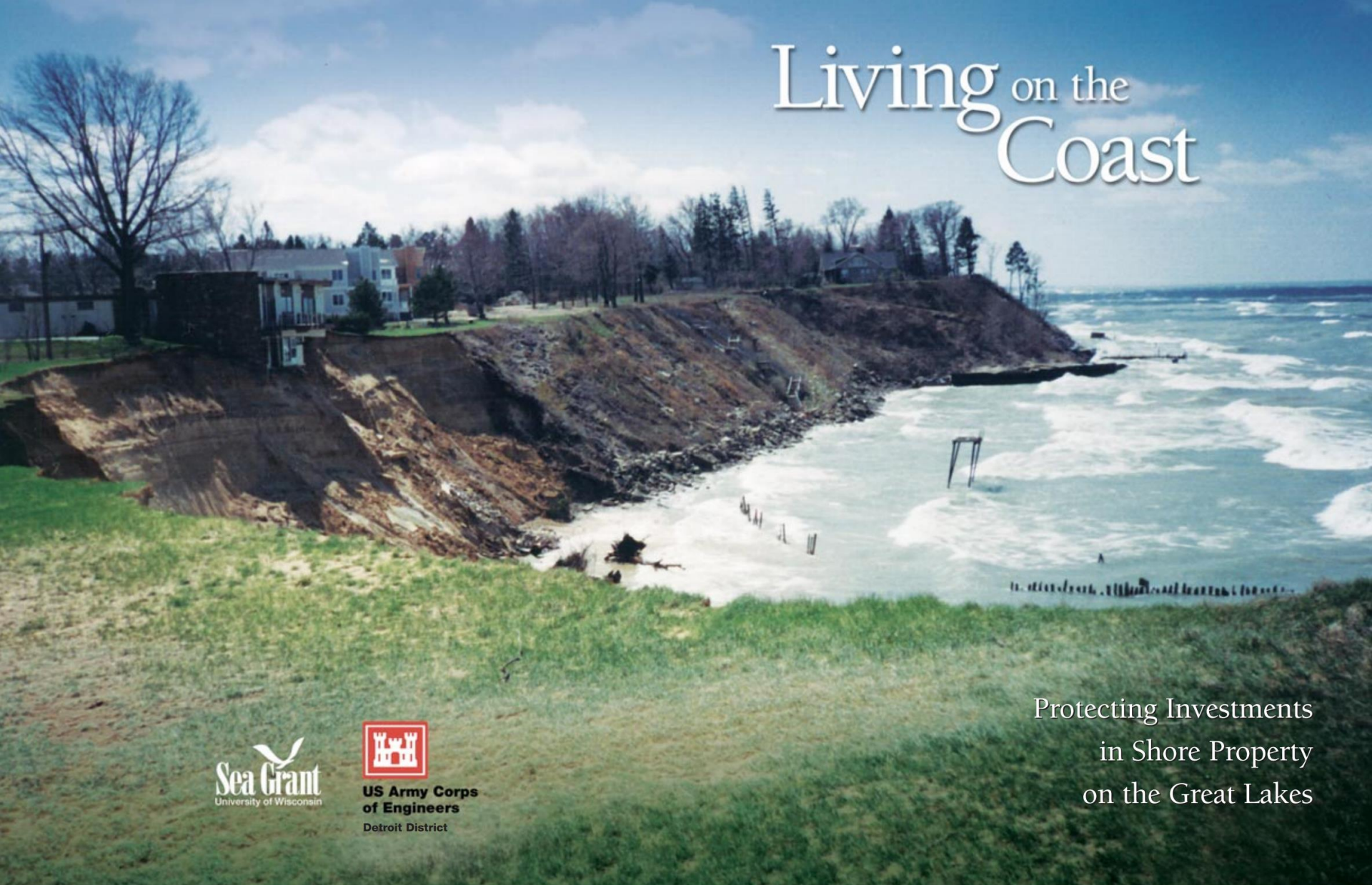


APRIL 1988

**Allegan County, Douglas, Michigan**



# Living on the Coast



**Sea Grant**  
University of Wisconsin



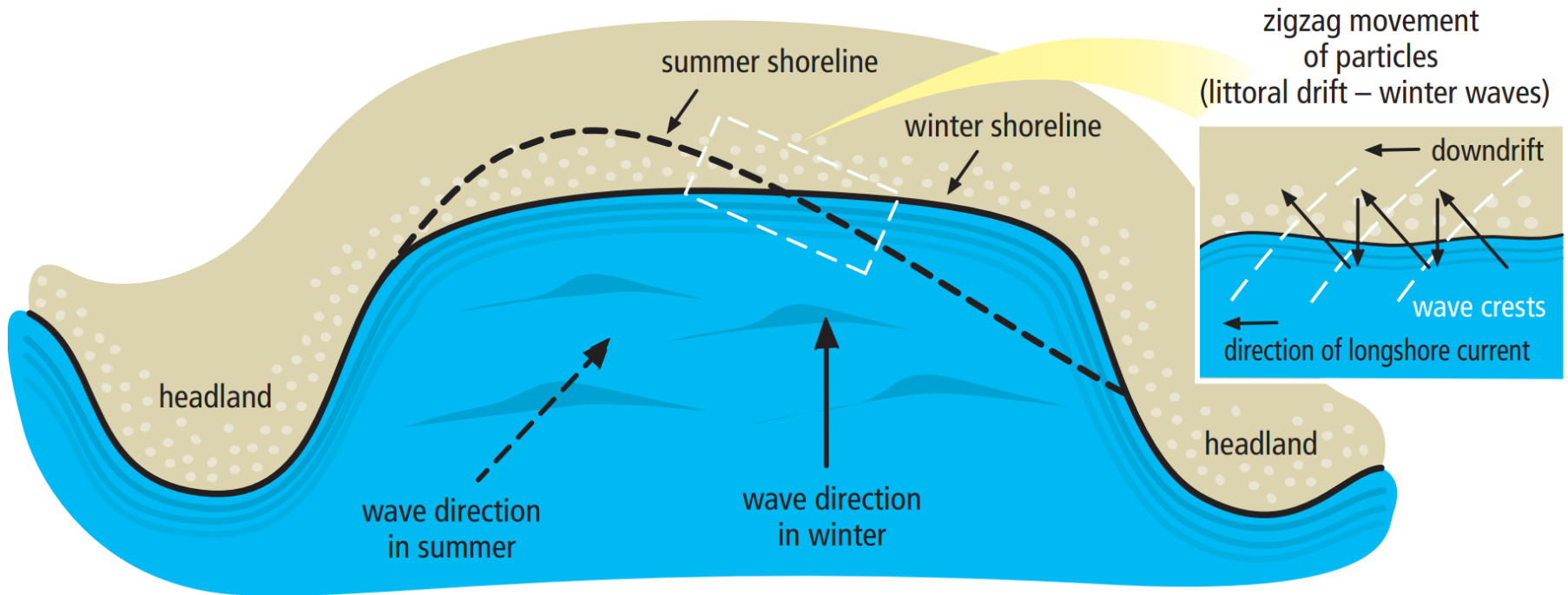
**US Army Corps  
of Engineers**  
Detroit District

Protecting Investments  
in Shore Property  
on the Great Lakes

2003 – Mandatory Reading – the Science of Shore Erosion - Lessons



# Lesson 1 – Natural Processes



Littoral Drift and a Shoreline Response to Waves





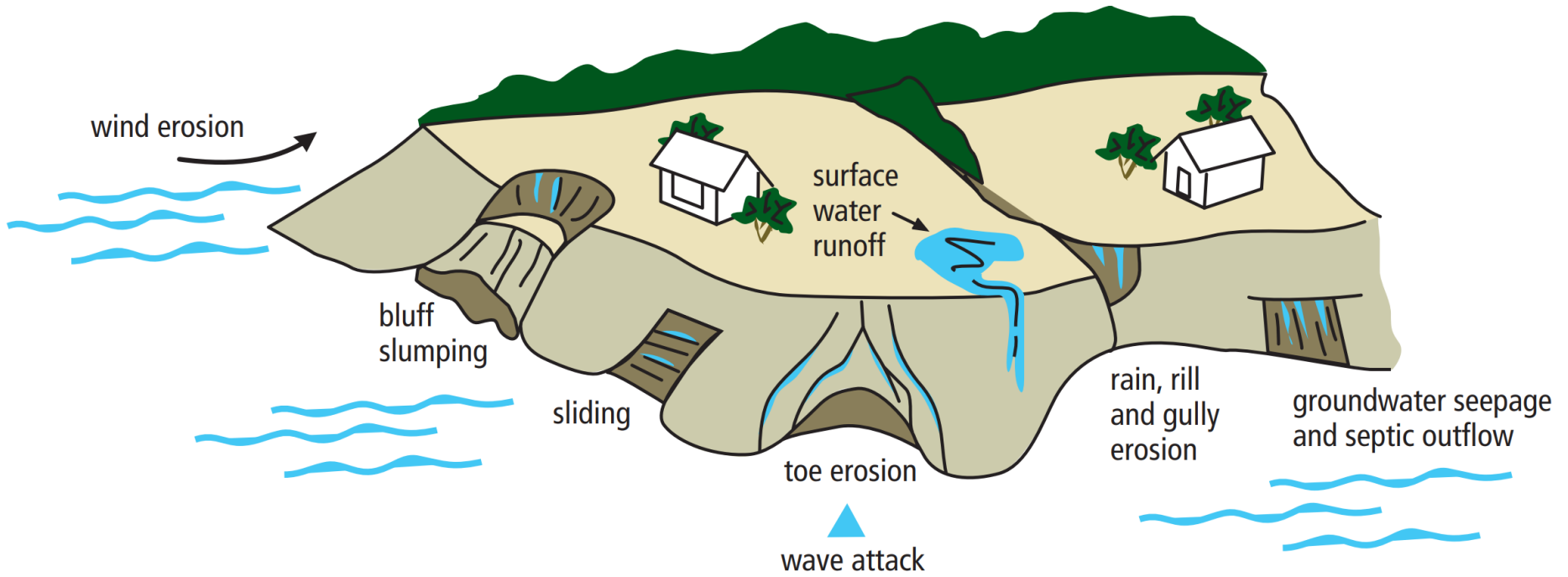






# Lesson 2 – Nature is Relentless

## LIVING ON THE COAST



**Causes and Effects of Coastal Erosion**





January 2020





Dec 2019





ROAD  
CLOSED

ROAD  
CLOSED

Nov 2020





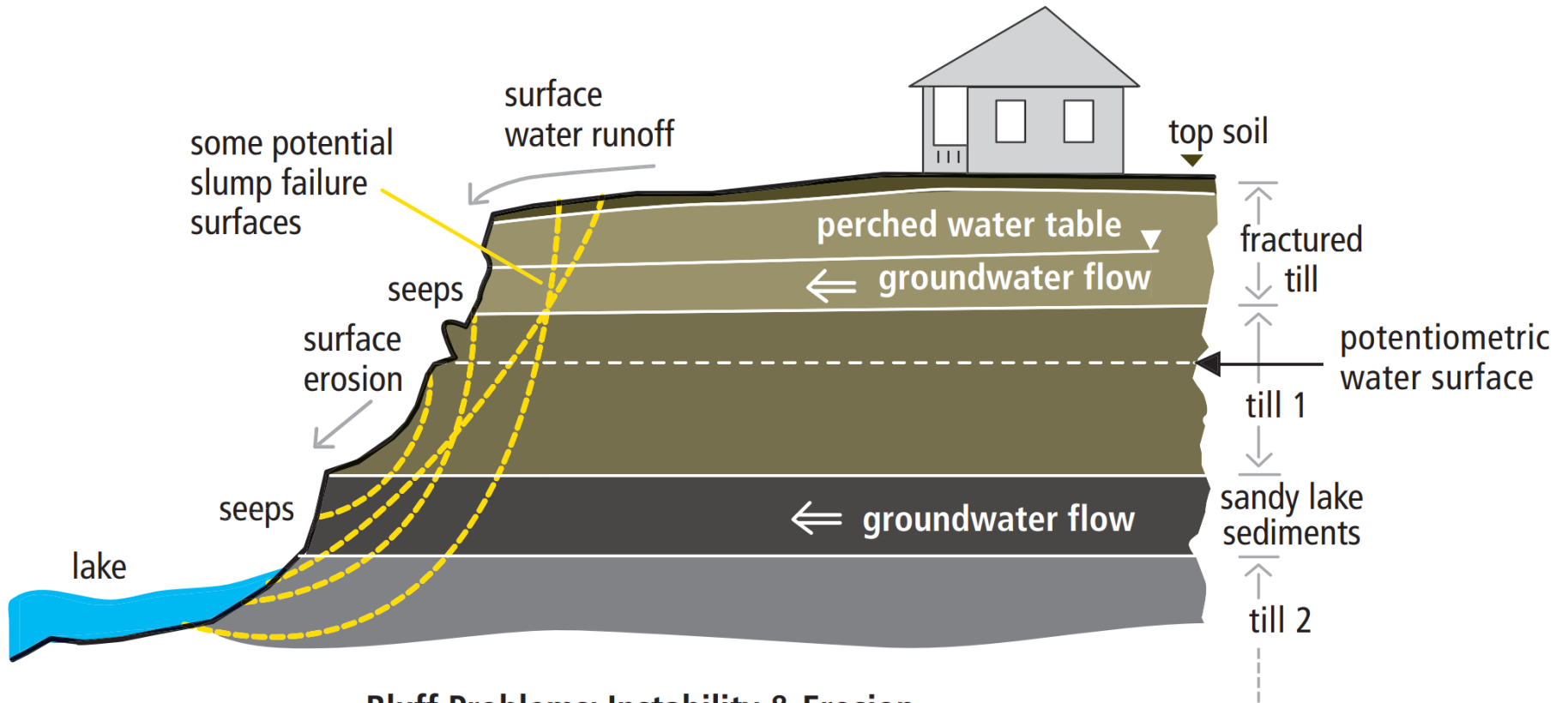
September 1, 2019  
From John Yellich, Western Michigan University  
Michigan Geological Survey







# It's not just the lake level



**Bluff Problems: Instability & Erosion**  
**Surface Water Runoff Groundwater Seepage**





December 2019

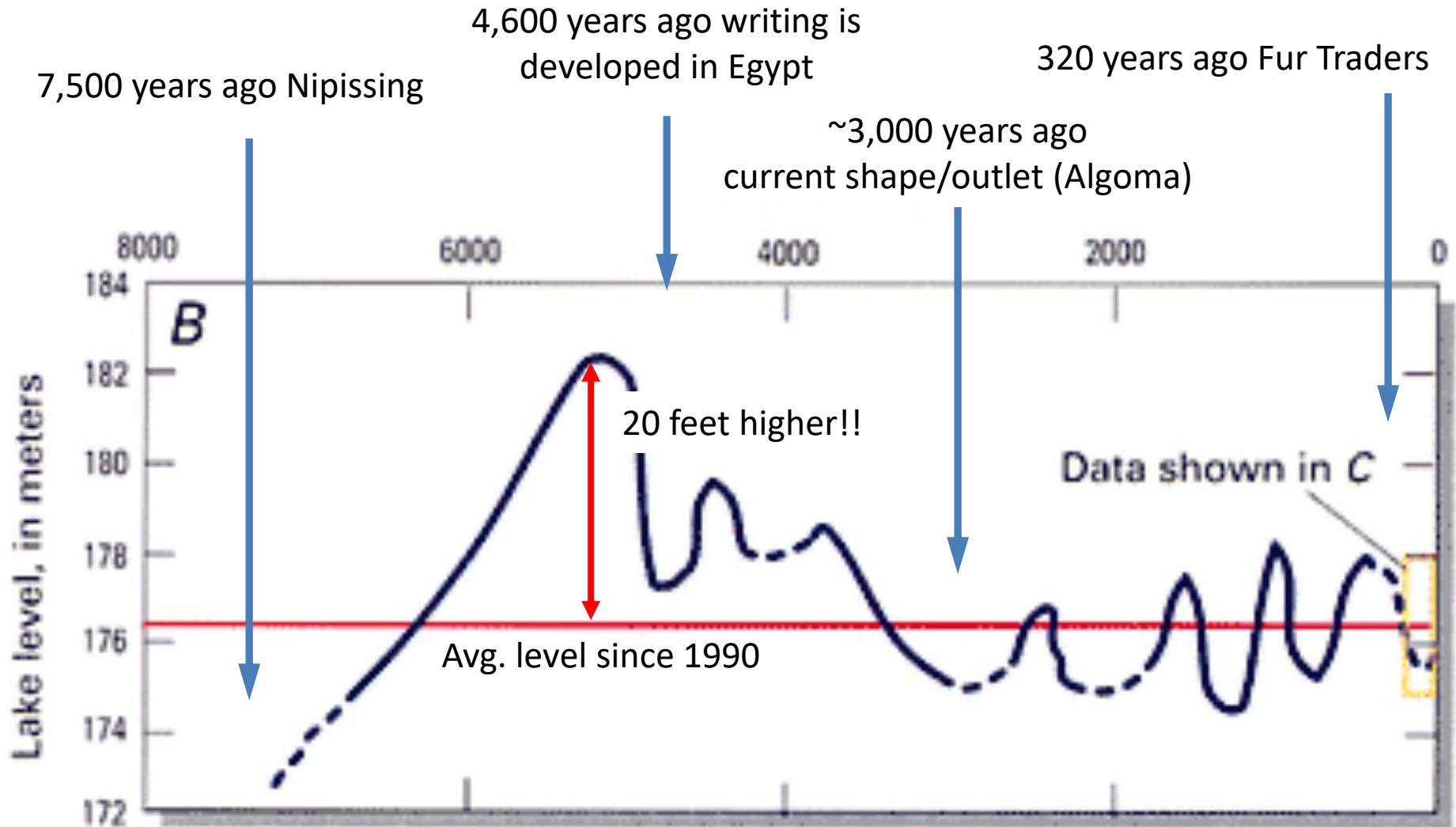


January 2020



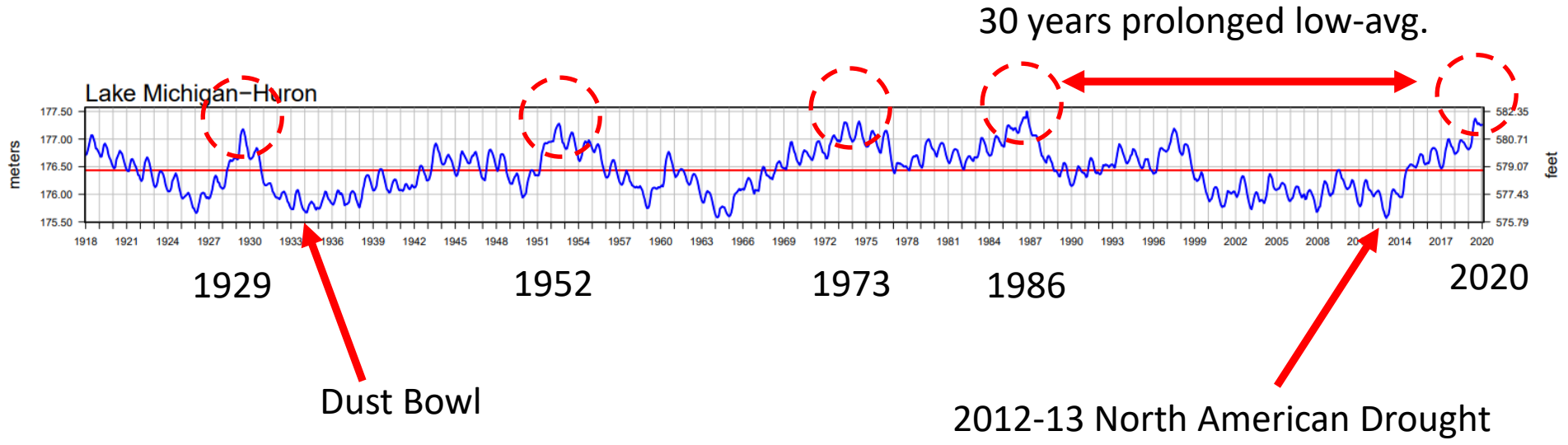


# Lesson 3 – How long have we been dealing with this?



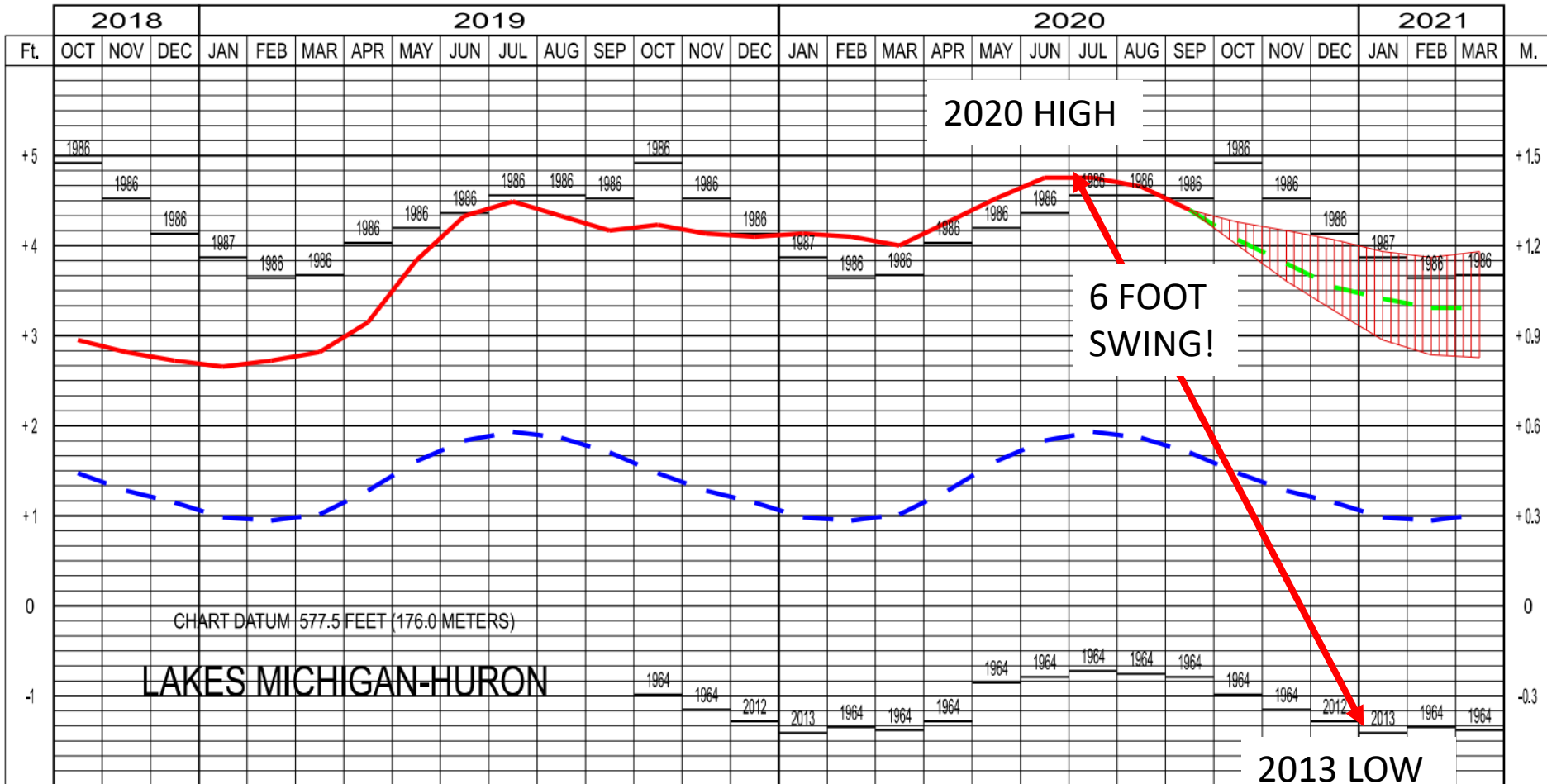
<https://pubs.usgs.gov/fs/lake-michigan/figures/fig3.html>







# 2021... What's next?



6 Month Army Corp Projection (Oct 2020)





1700's



# Lesson 4 – People Build Stuff



50 y  
S





52 yd  
S 45M/h



## Lesson 5 – Human Response







- EMERGENCY MGMT HOME
- Four Phases
- Sirens
- School Resources
- Special Needs
- NIMS
- R.A.C.E.S.
- Citizen Corps
- Emergency Mgmt. Advisory Council
- LEPC
- Local Planning Team
- Volunteers
- Training and Exercises
- Grants
- Emergency Resources
- Links
- Meeting Minutes / Calendar site

**Emergency Management**  
 3271 122nd Ave.  
 Allegan, MI 49010  
**Phone:** (269) 673-0571  
**Fax:** (269) 673-0566  
[Email Us](#)  
 Facebook

## High Water

The following are resources to help address concerns with high water issues. If you have any questions you can submit them to the Emergency Operations Center (EOC) Public Information Officer (PIO) at [eocpio@allegancounty.org](mailto:eocpio@allegancounty.org). The questions will be combined with the answers in our High Water Q&A document that is listed below under "Resources".

**If your property is at risk of soil erosion or flooding please use the following link below and complete the "Self-Reporting Survey"**



### "Self-Reporting Survey"

#### Resources

Type	Name	Edit
	<a href="#">1980 High Lake Levels Ref. Video I</a>	
	<a href="#">1980's High Lake Levels Ref. Video II</a>	
	<a href="#">1986 MSP Lakeshore Flyover</a>	
	<a href="#">2019_Sandbag_Brochure_3-2019</a>	
	<a href="#">Army Corp. Great Lakes High Water Info</a>	
	<a href="#">Army Corp. Instructional Sandbagging Video</a>	
	<a href="#">CAP Section 14 Program</a>	
	<a href="#">Fact Sheet Great Lakes 2020 Declaration Process</a>	
	<a href="#">FAQ Great Lakes NFIP 2020 FINAL</a>	
	<a href="#">International Joint Commission for Great Lakes</a>	
	<a href="#">QA Fact Sheet Allegan County Emergency Management - 02032020</a>	
	<a href="#">Sandbag Sand Suppliers 2019</a>	
	<a href="#">Stream Bank and Shoreline Protection; Section 14 Program</a>	
	<a href="#">Subject Matter Expert - WMU Geology</a>	
	<a href="#">Us S Army Corp of Eng. Flood Tips</a>	



Joe Bush was tagged.



James M. Storey is with Joe Bush.

6 hrs · 🌐

SHORELINE EROSION HELP NEEDED ASAP- On February 21, 2024, Michigan Water Resources Commissioner Joe Bush and I met with a panel of experts before MI Senate appropriations committee this morning to discuss the need for state action to help local governments address the shoreline erosion crisis along our shorelines. Beach trash and water system threats need immediate attention.



9:00 AM. WELCOME

CURRENT STATUS & FUTURE PREDICTIONS OF LAKE MICHIGAN LEVELS  
 Deanna Apps, Physical Scientist, USACOE, Detroit District  
 Greg Weykamp, Edgewater Resources  
 Kyle Alexander, John Bayha & Jerrod Sanders, EGLE

ISSUES TO LOOK FOR IN A PROPERTY & WAYS TO TACKLE PROBLEMS  
 Logan Williams, Emergency Management, USACOE  
 Brian Bograaf, Cottage Homes  
 Greg Weykamp, Edgewater Resources  
 Kyle Alexander, John Bayha & Jerrod Sanders, EGLE  
 Dr. Ron Chase, Western Michigan University, Emeritus Michigan Geological Survey at WMIU

CAN WE EXPECT HELP ON A FEDERAL LEVEL?  
 Fred Upton, U.S. House of Representatives, Michigan, 6th District

WHAT ARE OUR PRIORITIES?  
 Kate Hosier, Assistant Manager, City of South Haven

HELP ON A STATE LEVEL?  
 Mary Whiteford, Michigan House of Representatives, 80th District  
 Beth Griffin, Michigan House of Representatives, 66th District  
 Aric Nesbitt, Michigan Senate, 26th District

HELP ON THE LOCAL LEVEL?  
 Scott Corbin, Allegan County Emergency Management Director

LOCAL INFORMATION—MANAGING EXPECTATIONS & SAFETY OF RESIDENTS, BUYERS & SELLERS  
 Scott Corbin, Allegan County Emergency Management Director  
 Sheriff Frank Baker, Allegan County  
 Brian Dissette, Manager, City of South Haven  
 Kate Hosier, Assistant Manager, City of South Haven

👍❤️ Joe Bush and 31 others

👍 Like

💬 Comment

### Allegan County Emergency Management

February 21 at 5:34 PM

Today, Allegan County Emergency Management participated in a panel discussion on rising waters and shoreline erosion issues along Lake Michigan hosted by the So...  
See More





WOODTV.COM

## **Upton, Stabenow tour Michigan's lakeshore erosion**

The historically high waters of Lake Michigan are drawing lawmakers from...

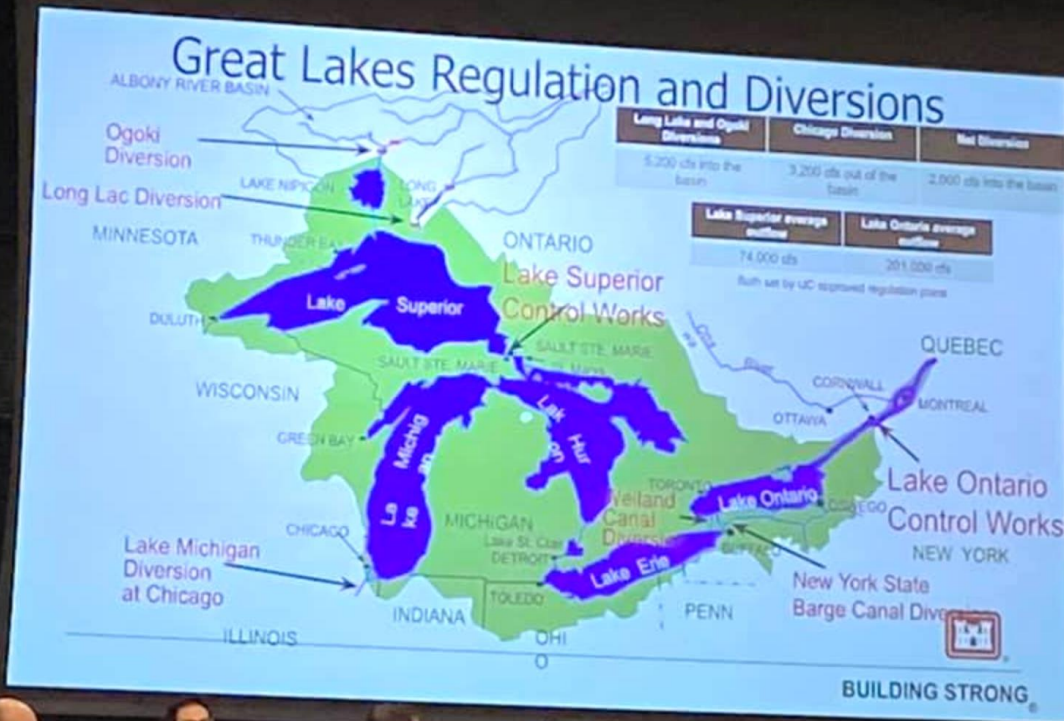


# Great Lakes Shoreline Erosion

You and 5 others

Public group

2 Comments



Dana Burd ▸ Great Lakes Shoreline Erosion

February 27 · 🌐

Add a description

Tag Photo Add Location Edit

Like Comment Share



Write a comment...





**KEEP OUT**

**DANGEROUS**  
**\*KEEP OUT\***  
**Access Closed**  
**to Beach**

**Construction &**  
**Dune Restoration**  
**Area**  
**Due to High Waters**  
**& Erosion**

**PARK IS CLOSED**  
**DO NOT ENTER THE PARK!**  
**PARK IS CLOSED DUE TO**  
**HIGH WATER AND EROSION**

**VIOLATIONS ARE**  
**PUNISHABLE WITH FINES**  
**UP TO \$500**

**GANGES TOWNSHIP BOARD**

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have  
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1 Share  
  
GIF









Lakeshore Drive

Lakeshore Drive

Washout Area

DRAWING TITLE  
OBLIQUE VIEW - EXISTING

DRAWING NUMBER  
FIGURE 3

PREPARED FOR  
SAUGATUCK TOWNSHIP

PROJECT NUMBER  
2150060

# 1986 Washout in 2012









January 2020





Thank you!  
Questions?

## Alleghen County Erosion

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dburd@preinnewhof.com

Prein&Newhof