



Coastal Resiliency Training Workshops

welcome

Mission and Strategic Goals

Coastal Management Program



Mission: Ensure a healthy environment, strong economy, and high quality of life for the people of Michigan

Strategic Goals:

- ***Protect and restore aquatic ecosystems***
- ***Support vibrant, healthy and resilient communities***
- ***Promote a culture of stewardship***
- ***Build collaboration and shared governance for water***

Mission and Strategic Goals Coastal Management Program



Focus Areas

1. Coastal Community Planning and Zoning
2. Coastal Public Access
3. Coastal Habitat
4. Coastal Water Quality
5. Coastal Hazards

Mission and Strategic Goals Coastal Management Program



Coastal Hazard 309 Enhancement Strategy (2017-2021)

“Building Resiliency in Michigan Coastal Communities”

A new approach for master planning that focuses on adaptation to changing weather conditions

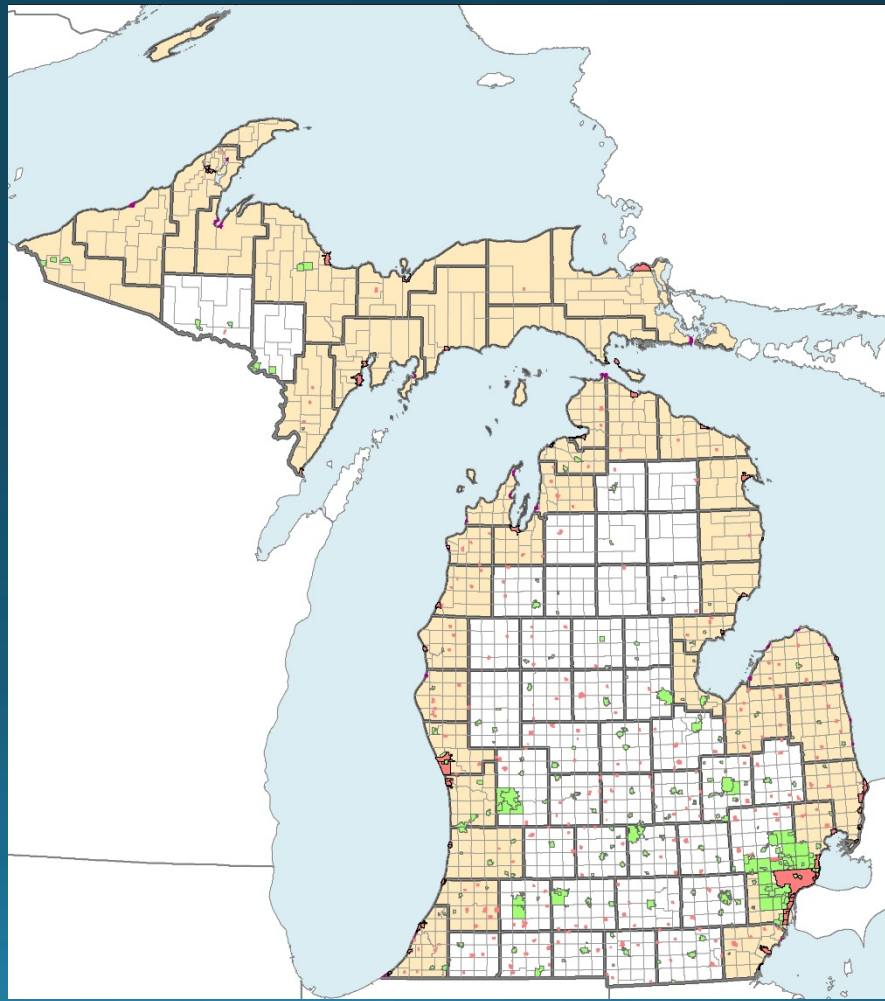
1. How can Great Lakes Coastal Communities better respond to dynamic coastal forces through improved land use policy and planning?
2. What are the fiscal implications given various land use practices?
3. What are the impacts to coastal resources?



Municipalities on the Great Lakes

	Total	Municipalities on Great Lakes	Percent on Great Lakes
Village	262	24	9%
City	273	43	16%
Township	1,241	183	15%
County	83	41	49%
Total	1,859	291	16%

Total Population: 4,680,503



Planning for Resilient Communities

Program Partners



Michigan
Technological
University

Resilient Master Planning Efforts

- Monroe (and surrounding townships)
- Holland
- St. Joseph
- Grand Haven (Twp. & City)
- Beaver Island (Two Twp.'s)
- Ludington (and surrounding townships)
- Macomb County & City of St. Clair
- East Jordan
- Bridgman



Planning for Community Resilience in Michigan

A Comprehensive Handbook

April 2017

Table of Contents

1. Building Community Resilience In Michigan	1
Defining Community Resilience	1
How to Use This Handbook	4
A Quick Primer on Climate Trends	6
A Planner's Responsibility to the Principles of Resiliency	12
Legal and Policy Framework	14
2. Climate Impacts on Michigan Communities	21
Extreme Heat	23
Heavy Rain and Flooding.....	26
Severe Winter Storms.....	30
Coastal Dynamics.....	31
Natural Ecosystems.....	34
Agriculture and Food Systems	38
3. Civic Engagement	41
Education	42
Public Input	45
4. Gathering Data	57
Climate	59
People	61
Mapping as a Resiliency Tool.....	64
Data Sources.....	66
The Built Environment.....	78
Economic Resiliency.....	83
5. A Resiliency Planner's Toolbox	89
Conducting a Vulnerability Assessment.....	91
Weighing Risk.....	97
Building Scenarios.....	98
Tracking Metrics.....	102
6. Ideas for Implementation	107
Master Plan	109
Zoning Ordinance.....	112
Parks and Recreation Plan.....	114
Site Plan Review	118
Capital Improvement Plan.....	120
Watershed Management Plan	123
Climate Action and Greenhouse Gas Emissions Plan.....	126
Natural Hazard Mitigation Plan.....	128
Appendix: Expert Contacts In Michigan	131



BUILDING COMMUNITY RESILIENCE
An introduction to Resiliency Planning and guidelines for using this Handbook.



CIVIC ENGAGEMENT
Ideas for engaging all members of the community in an inclusive and transparent process.



A RESILIENCY PLANNER'S TOOLBOX
Four useful tools to help identify community vulnerabilities and inform solutions.



CLIMATE IMPACTS ON MICHIGAN COMMUNITIES
A summary of the impacts of long-term climate trends.



GATHERING DATA
An overview of relevant data sources and how to access them.



IDEAS FOR IMPLEMENTATION
Ideas for incorporating resiliency principles into local plans and policies.

[Home](#) » [Video](#)

RESILIENT MICHIGAN VIDEO SERIES

The eight-part Resilient Michigan video series features statewide experts and practitioners explaining how to build and support greater resilience in your community. ([Note](#))



WHAT IS RESILIENCY?

This video gives you an overview of what resiliency looks like in several Michigan communities.

Eight-Part Resilient Michigan Video Series

Coastal Resiliency Training Workshops

www.resilientmichigan.org/workshops

Resilient
MICHIGAN

[ABOUT](#) [COMMUNITIES](#) [VIDEO SERIES](#) [HANDBOOK](#)

[Home](#) ▶ [Workshops](#)

SPECIAL COASTAL RESILIENCY TRAINING WORKSHOPS

You Are Invited! October 25, November 1, and November 15, 2017

[Workshop Registration](#) >>

Changes to lake levels and climate are forcing coastal communities to reevaluate how they manage land use, new development and infrastructure. These [three no-cost workshops](#) are intended to teach local and regional planners, planning commissioners, elected officials, municipal staff and interested citizens in **Berrien, Cass and Van Buren counties** how to address these dynamic challenges and bring greater resiliency to their communities.

Each workshop is from **6:00pm to 7:30pm**, and held in the Commission Chambers on the 2nd Floor of [St. Joseph City Hall, 700 Broad Street, St. Joseph, MI](#). Light refreshments will be provided. Each workshop will present unique information, so participants are encouraged to attend all three.



In Partnership with SWMPC



Coastal Resiliency Training Workshops

Workshop Two. Understanding and Gathering Coastal Data (Wednesday, November 1st)

- Dr. Alan Arbogast, Professor and Chair
Department of Geography, Michigan State University
Speaking on Dune Morphology and Dynamics
- How to use scenario planning and climate futures
- Mapping high-risk areas and management options

Workshop Three. Using Coastal Data to Impact Local Planning (Wednesday, November 1st)

- John Yellich, Director
Michigan Geological Survey, Western Michigan University
Speaking on Dune/Groundwater Dynamics
- Land Use, fiscal and environmental impacts
- How to conduct and analyze vulnerability assessments

Coastal Resiliency Training Workshops

Workshop One. Introduction to Coastal Dynamics and Resiliency (Wednesday, October 25th)

Featured Speakers

Dr. Jeffrey Andresen, State Climatologist & Co-Director
Great Lakes Integrated Sciences & Assessments Program (GLISA) &
Michigan State University

Dr. Guy Meadows, Director
Great Lakes Research Center, Michigan Tech. University

Dr. Richard Norton, Professor
University of Michigan School of Urban and Regional Planning

Coastal Resiliency Training Workshops

Workshop Two. Understanding and Gathering Coastal Data (Wednesday, November 1st)

- Dr. Alan Arbogast, Professor and Chair
Department of Geography, Michigan State University
Speaking on Dune Morphology and Dynamics
- How to use scenario planning and climate futures
- Mapping high-risk areas and management options

Workshop Three. Using Coastal Data to Impact Local Planning (Wednesday, November 1st)

- John Yellich, Director
Michigan Geological Survey, Western Michigan University
Speaking on Dune/Groundwater Dynamics
- Land Use, fiscal and environmental impacts
- How to conduct and analyze vulnerability assessments

Thank You For Coming!

www.resilientmichigan.org/workshops