



Products and Services to Promote Coastal Community Resilience

Jeffery L. Payne, Ph.D., and Heather Stirratt
NOAA Office for Coastal Management

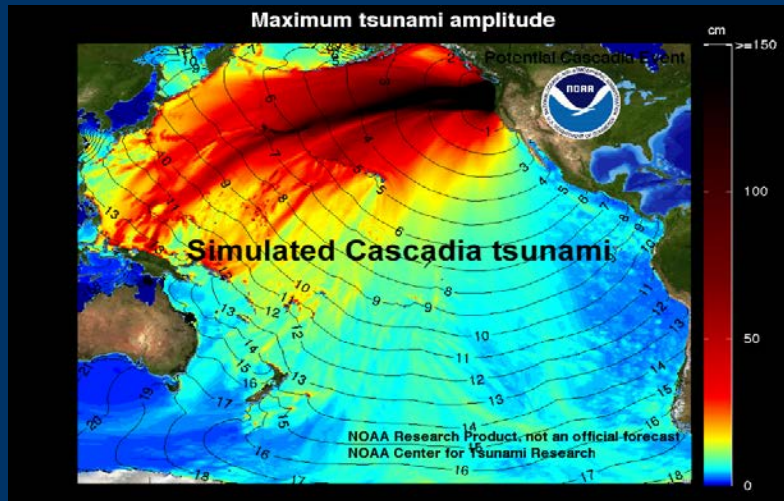
Office for Coastal Management



Coastal Communities: Vital to Domestic and International Economies

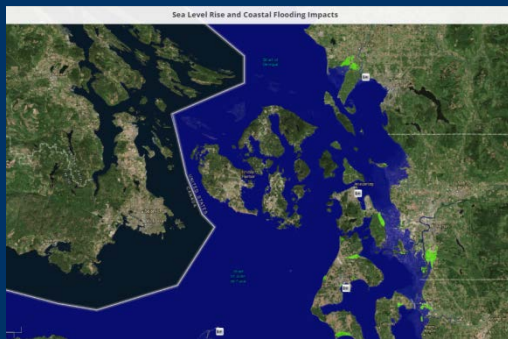


At Water's Edge

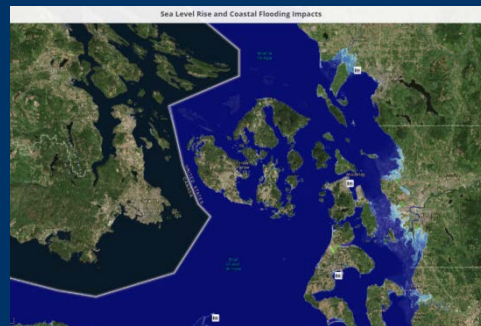


Sea Level Rise Viewer

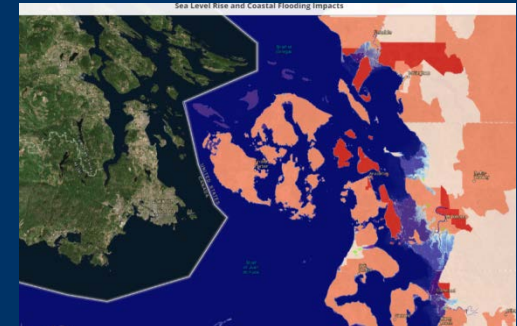
<https://coast.noaa.gov/slr/>



Mean Higher High Water
(MHHW)

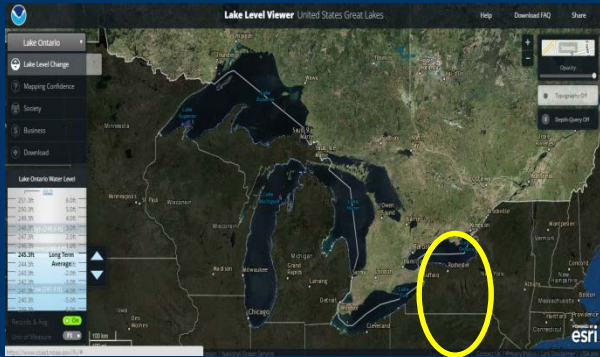


Six-Foot increase above
MHHW

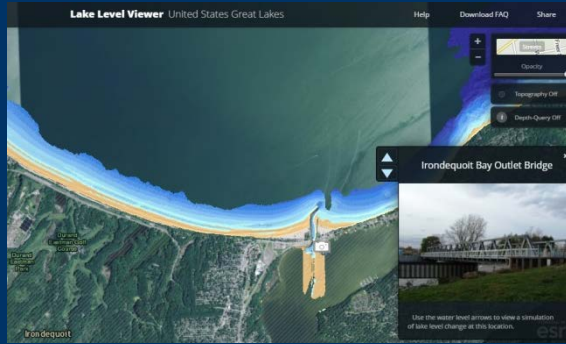


Social Vulnerability Index

coast.noaa.gov/llv



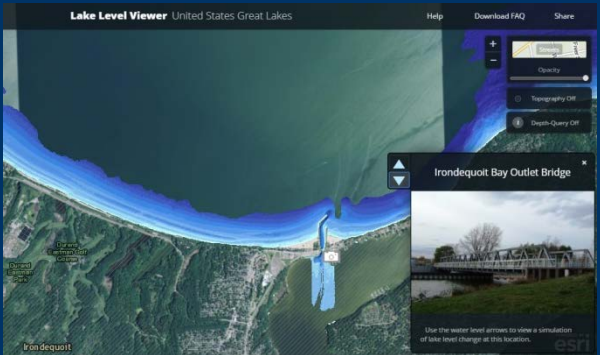
Minus Six Feet



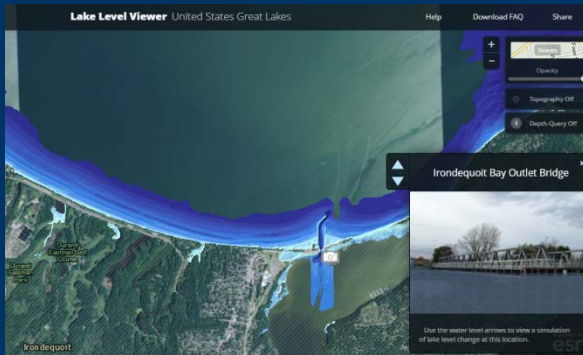
Social Vulnerability Index



Current Water Level



Plus Six Feet



Social Vulnerability Index



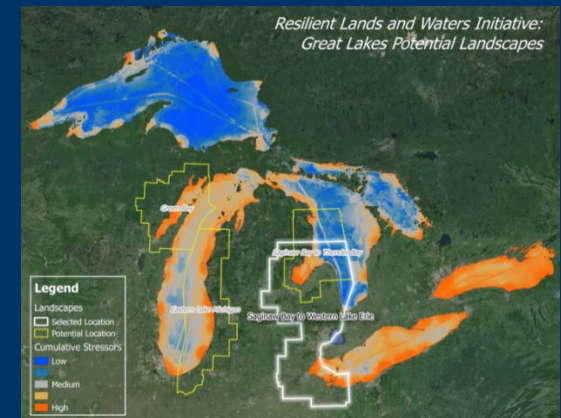
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Data: Land Cover Change Analysis Data

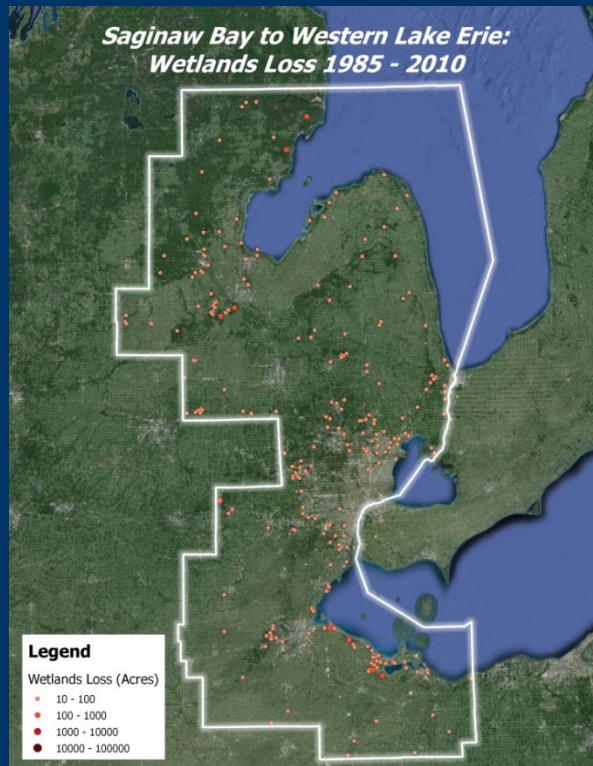
NOAA's Coastal Change Analysis Program

- NOAA maps 25 percent of the contiguous U.S.
- Coastal expression of the National Land Cover Database
- Added focus on wetlands detail
- Updated every five years
1996, 2001, 2006, 2010, 2015
Great Lakes also has 1975 and 1985 data
- High resolution available



Coastal Wetlands

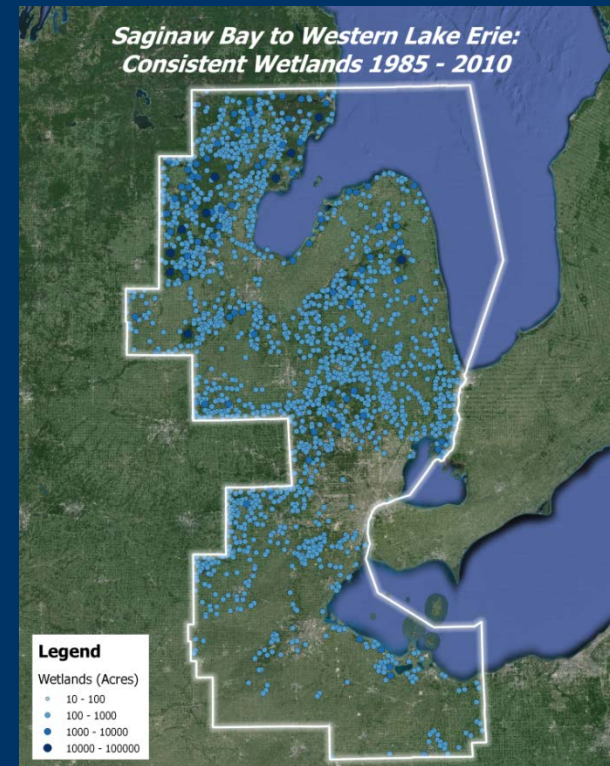
Restore



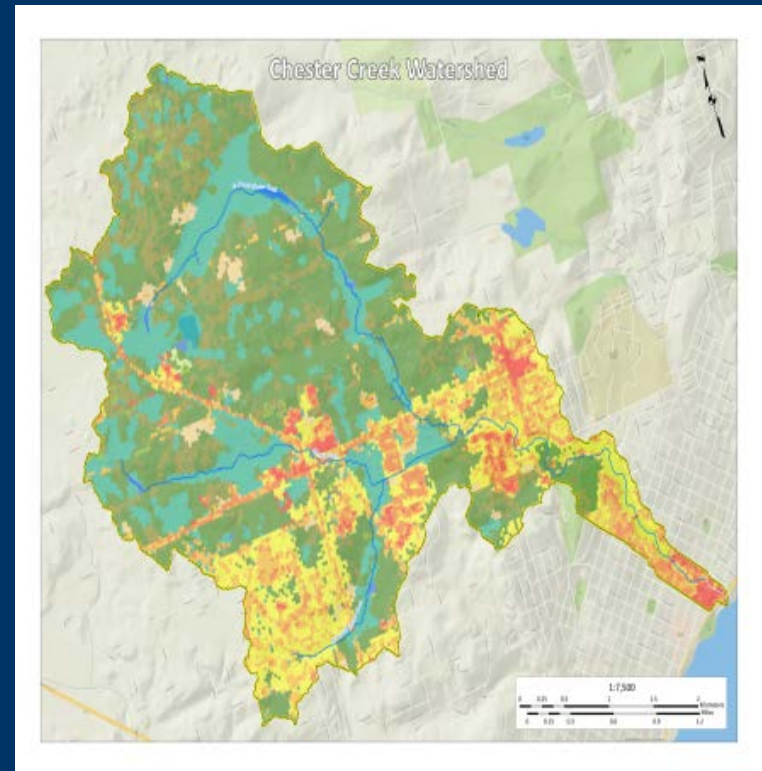
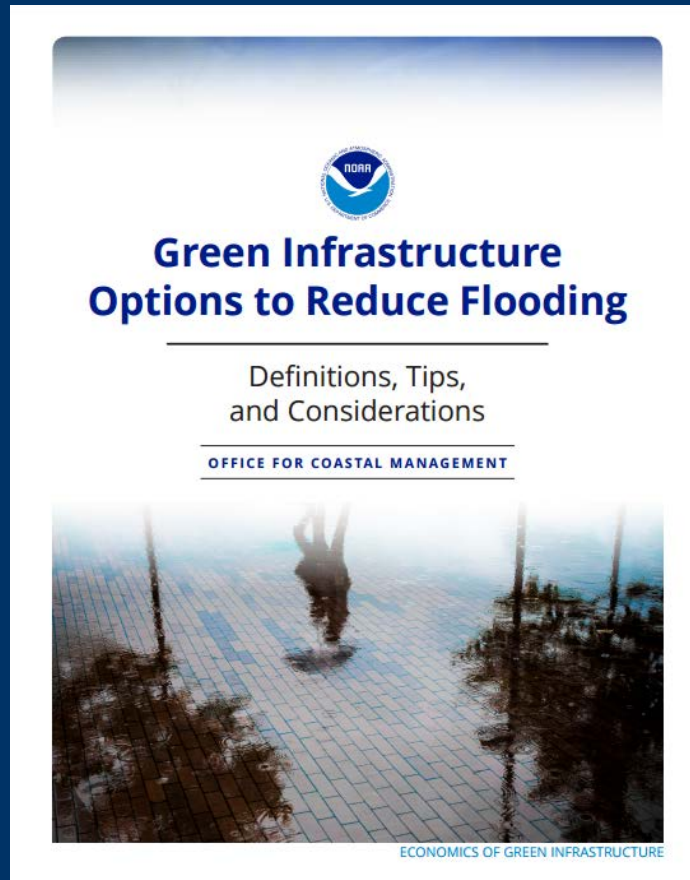
Protect



Enhance



Green Infrastructure



Chester Creek, Duluth, MN

Economics of Green Infrastructure

Data Checklist



This matrix provides a list of data used to conduct two pilot projects in the Great Lakes assessing the costs and benefits of using green infrastructure to reduce flooding impacts. These data are the best available from national, state, and municipal data sources and models. They are suitable for watershed-scale studies. Work with your local GIS analyst to discuss the data available for your assessment.

Learn more about each assessment step in the "Guide for Assessing Green Infrastructure Costs and Benefits for Flood Reduction," www.coast.noaa.gov/publications/gi-cost-benefit.pdf

Data Checklist

Economics of Green Infrastructure

ASSESSMENT STEPS



STEP 1:
Define the
Flooding
Problem



STEP 2:
Assess Flooding
Scenarios
without
Green
Infrastructure



STEP 3:
Identify How a
Flood Reduction
Target Can
Be Met
with Green
Infrastructure



STEP 4:
Assess Flooding
Scenarios
with Green
Infrastructure



STEP 5:
Estimate
Benefits
and Costs



STEP 6:
Identify and
Communicate
the Desired
Green
Infrastructure
Strategy

Land Data

Land Use, Current
Land Use, Future
Land Cover, Current
Land Cover, Historical
Digital Elevation Models (DEMs)

✓	✓	✓	✓	•	•
•	✓	✓	✓	•	•
•	•	•	✓	•	•
•	✓	•	✓	•	•

Weather and Climate Data

Precipitation, Current
Climate, Current
Precipitation, Future
Climate, Future

•	✓	•	✓	•	•
•	✓	•	✓	•	•
•	✓	•	✓	•	•
•	✓	•	✓	•	•

Hydrology Data

Historic Flood Locations
Watershed Delineations
Streams
Stream Points
FEMA Regulatory Maps
FEMA Digital Flood Insurance Maps (DFIRM)
FEMA Flood Insurance Studies (FIS)
USGS Regression Equations
Basin Storage %
Basin Development Factor
Main Channel Slope
Rural Peak Discharge
Inundation Grids
Flow Direction Grids
Flow Accumulation Grids

✓	✓	•	✓	•	•
✓	✓	•	✓	•	•
✓	✓	•	✓	•	•
•	✓	•	✓	•	•
•	✓	•	✓	•	•
•	✓	•	✓	•	•
•	✓	•	✓	•	•
•	✓	•	✓	•	•
•	✓	•	✓	•	•
•	✓	•	✓	•	•
•	✓	•	✓	•	•
•	✓	•	✓	•	•
•	✓	•	✓	•	•
•	✓	•	✓	•	•
•	✓	•	✓	•	•

Social and Economic Data

Social Vulnerability Index
Bureau of Labor Statistics Employment

•	•	•	•	•	•
•	•	•	•	•	•

Infrastructure Data

Land Parcel / Assessor Database
Stormwater Utilities
Building Structure
Green Infrastructure Sites, Current
Green Infrastructure Sites, Future
Impervious Surface %

•	✓	•	✓	•	•
•	•	•	•	•	•
•	•	•	•	•	•
•	•	✓	•	•	✓
•	•	•	•	•	•
•	✓	•	✓	•	•

✓ Required: Data that get you through the process • Optional: Data that help to improve the process

www.coast.noaa.gov/digitalcoast/publications/gi-cost-benefit

Training

- 22 different trainings offered
- Topics: Coastal planning, climate adaptation, green infrastructure, and effective project design



Regional Coastal Resilience Program

- Help with preparation and recovery
- Competitive funding program aimed at advancing coastal resilience
- FY 2015 and 2016 awards complete
- Gathering project ideas for FY2017



Foundational Partnerships

Domestic:

- The Coastal Zone Management Program
- The National Estuarine Research Reserve System

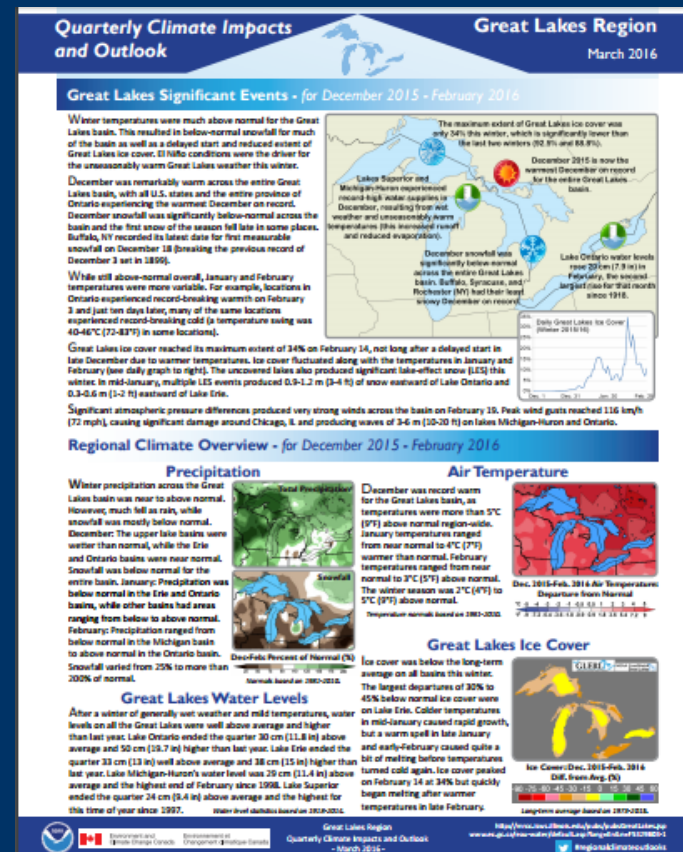


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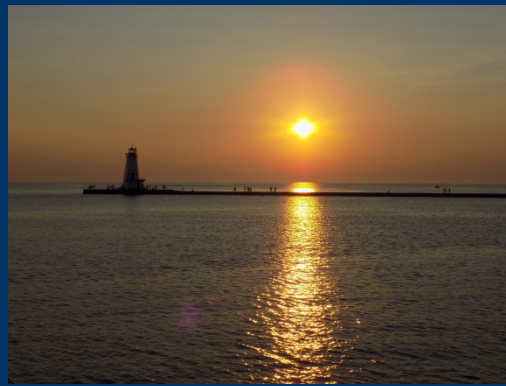
Foundational Partnerships

Binational:

- Gulf of Maine Council
- Great Lakes Water Quality Agreement
- *Quarterly Climate Impacts and Outlook – Great Lakes Region*



binational.net/annexes/a9



Questions?

Jeff.Payne@noaa.gov

Heather.Stirratt@noaa.gov