

A Great Lakes Perspective

Linking Coastal Web Atlases
to Support Coastal and Marine
Spatial Planning

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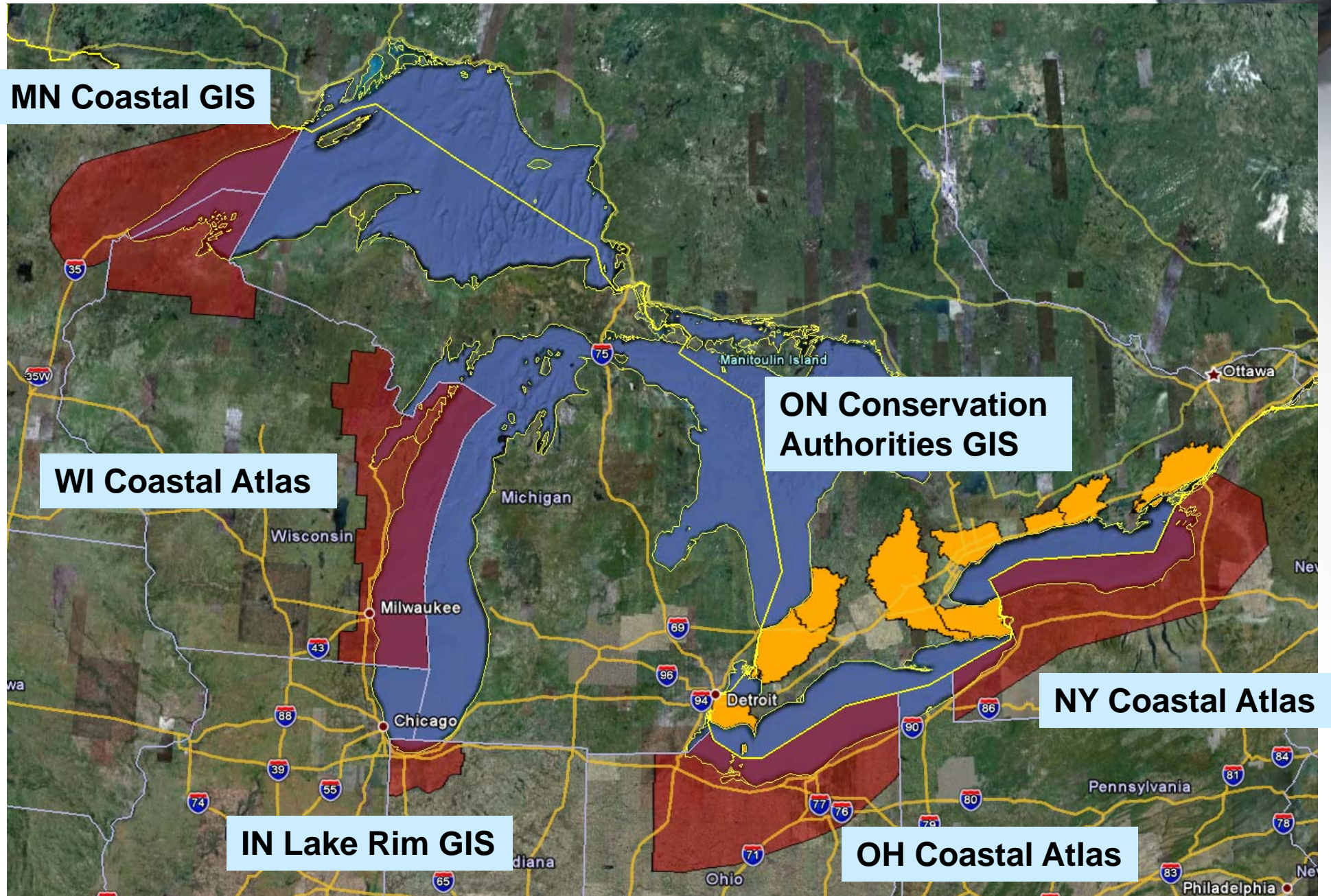
Coastal GeoTools 2011

Myrtle Beach, SC

Monday, March 21, 2011



Great Lakes Coastal Atlases/GIS



Ohio Coastal Atlas



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ODNR Office of Coastal Management - Coastal Atlas & GIS

Lake Erie Links

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- Coastal A-Z
- Beaches in Ohio
- Boating
- Coastal Counties
- Facts and History
- Fishing
- Great Lakes Compact
- Lake Erie Literacy
- License Plates
- Marine Forecast (NWS)
- Nautical Chart (NOAA)
- Regulatory Programs
- OCMP Document
- Satellite Images
- Water Temps/Levels (GLCFS)
- Water Temperature

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Ohio Coastal Atlas

Use Case Map Viewers

Expand

Use Case Map Viewers are part of the Ohio Coastal Atlas suite of mapping resources developed to provide coastal decision-makers, professionals, educators, interest groups and the public with information about Lake Erie and its watershed.

Each Use Case Map Viewer focuses on a specific topic, integrating thematic mapping layers relevant to the specific subject. Each viewer features a variety of custom tools that allow users to gather comprehensive attribute data and query information. Each viewer features a tool that allows you to create a JPG image and/or print the map being viewed. The Use Case Map Viewers use ArcGIS Viewer for Flex technology and are powered by ESRI.

For questions/comments regarding the use this new application, please contact [Brian George](#)

Lake Erie Shore Erosion Management Plan

The LESEMP Map Viewer was developed by the Office of Coastal Management in March 2011 and showcases the regions within the LESEMP. The LESEMP program is being developed as a tool to assist property owners in their efforts to control lake-based erosion. The LESEMP aims to promote successful means of controlling erosion by developing erosion control recommendations that are based on regional site conditions. Learn more: [LESEMP website](#)

Wind Turbine Placement Favorability

The Wind Turbine Placement Favorability Analysis Map was developed by the Office of Coastal Management after OCM and our and partners recognized a need for a visual means to relay offshore wind energy information. This Map Viewer showcases the thematic mapping layers used in the development of the Version 1.5 of the static map product. This viewer offers a variety of search and query tools to gather attribute information including but not limited to: lake depth, lakebed sediment, fish habitat and limiting factor weight values.

- The 'grandfather' of coastal atlases in the Great Lakes region.
- Started as a book, widely distributed as a CD, and has evolved into a sophisticated coastal web atlas.
- Now includes several innovative "use case map viewers," focusing on wind turbine placement, shore erosion, public access, and boating.

<http://ohiodnr.com/LakeErie/Maps/tabid/19562/Default.aspx>

Wisconsin Coastal Atlas



wca

Wisconsin Coastal Atlas

Home Maps Catalog Tools Learn About

search

Home

The Wisconsin Coastal Atlas is a new initiative to provide access to coastal data for decision-making about the Great Lakes. It provides a web-based platform that presents, and shares distributed sources of geospatial data and metadata, a "data infrastructure" for Wisconsin. The initial focus of the atlas is to develop an open architecture that allows addition of new tools and components. As part of the framework for the atlas, the project also tackles important research issues to effectively build and link coastal web atlases.

Design of the Wisconsin Coastal Atlas is based on concepts refined through interaction with Wisconsin coastal science and management. The atlas is organized into four useful sections: maps, search, tools, and learn. It provides customized perspectives related to specific coastal issues and geospatial data through an interface that connects to distributed data custodians. The atlas serves as a gateway to spatial decision-making for coastal management and provides a means to learn more about coastal resources in Wisconsin.

- Builds on UW Sea Grant-funded coastal GIS activities initiated in 1994.
- Modeled after the Oregon Coastal Atlas.
- Initial focus on coastal hazards.
- Project addresses the research needed to build and link coastal web atlases.
- Wisconsin's first coastal management fellow is helping build spatial decision support tools off the atlas data infrastructure.

<http://wicoastalatlasc.net/>

ICAN-Great Lakes Meeting



- Pyle Center – Madison, WI – September 13-15, 2010
 - 52 attended, every Great Lakes state/province represented
 - funding support from NOAA CSC and USGS WI Water Sci Center
- Showcase the impacts of mature CWAs
 - Oregon, Washington, California, Virginia, Maryland, Ohio
- Explore emerging use cases for networked CWAs
 - coastal and marine spatial planning, climate adaptation, water quality, and evaluating Great Lakes restoration
- Describe how CWAs relate to broader initiatives
 - Digital Coast, the Integrated Ocean Observing System, and the Open Geospatial Consortium-Interoperability Program
- Hands-on Training: Creating Robust Web Services and Catalogs for Coastal Web Atlases

<http://www.aqua.wisc.edu/ican/>

Great Lakes Context for CMSP



- Lead Agency
 - Council of Great Lakes Governors
 - David Naftzger, Executive Director (GL rep to NOC-GCC)
- The Great Lakes are in a somewhat different position relative to other regions
 - Freshwater system, Bi-national resource
 - States own the lakebeds to the international border
- Existing Plans and Partnerships
 - The Great Lakes Regional Collaboration established the region's consensus strategy for restoration and protection. There is broad stakeholder support for the strategy.
 - The Great Lake Restoration Initiative provides funding to accelerate implementation of the strategy.

Great Lakes Context for CMSP



- The proposal from the Great Lakes region to the Regional Ocean Partnership FFO in December seeks funding to update the restoration strategy and better mesh it with the nine priorities of the Interagency Ocean Policy Task Force.

The screenshot displays the official website of the National Ocean Council, a part of the White House administration. The top navigation bar includes links for 'BLOG', 'PHOTOS & VIDEO', 'BRIEFING ROOM', 'ISSUES', 'the ADMINISTRATION', 'the WHITE HOUSE', and 'our GOVERNMENT'. A search bar is located on the right side of the header. The main content area features the National Ocean Council logo and a navigation menu with links to 'Home', 'About the Council', 'National Ocean Policy', 'Priority Objectives', 'Coastal and Marine Spatial Planning', 'FAQ', and 'Contact Us'. The 'Coastal and Marine Spatial Planning' section is highlighted, showing an 'Introduction to Coastal and Marine Spatial Planning' which describes CMSP as a comprehensive, adaptive, integrated, ecosystem-based, and transparent spatial planning process for analyzing current and anticipated uses of ocean, coastal, and Great Lakes areas.

the WHITE HOUSE PRESIDENT BARACK OBAMA

★★★★★ THE WHITE HOUSE WASHINGTON ★★★★★

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Coastal and Marine Spatial Planning

Introduction to Coastal and Marine Spatial Planning

Coastal and Marine Spatial Planning (CMSP) is a comprehensive, adaptive, integrated, ecosystem-based, and transparent spatial planning process, based on sound science, for analyzing current and anticipated uses of ocean, coastal, and Great Lakes areas. In practical terms, CMSP provides a public policy process for society to better determine how these areas are sustainably used and protected – now and for future generations.




GLIN GIS Clearinghouse





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About the photos (©Mahan)

Maps and GIS Topics

Great Lakes Restoration

Great Lakes GIS Data
By Topic
By Geography
By Organization
By Upload Date
>> Publish Spatial Data

Map Explorer
Lake Huron
Lake Ontario
Lake Michigan
Lake Erie
Lake Superior
Lake St. Clair
>> Build Your Own Map

Map Gallery
Images to Download
Other Images

Connect
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Links/Resources

Regional GIS Data by Upload Date
Welcome, guest [\[login\]](#) [\[register\]](#)

About
These data are sorted by their date of upload and are available in many formats including [OGC WMS](#) and [WFS](#) web services, in addition to [PDF](#), [KML](#) (Google Earth), [SHP](#), and [GML](#) formats. Layers are accompanied by [FGDC-compliant metadata](#) and are ingested into [Geospatial Onestop](#). For more, please see the [GLIN GIS FAQ](#)

lake_erie_streams_with_str_order (NRRI)
Lake Erie streams with stream order delineated from elevation
[Link](#) | [Map Preview](#) | [Link](#) | [Metadata \(.html\)](#) | [Metadata \(.txt\)](#) | [Metadata \(.xml\)](#)
[GeoRSS](#) | [PNG](#) | [PDF](#) | [GML](#) | [SVG](#) | [JSON](#) | [Shapefile \(.shp\)](#) | [Google Earth \(.kmz\)](#)

lake_erie_watersheds (NRRI)
Coastal Watersheds of Lake Erie delineated from elevation data
[Link](#) | [Map Preview](#) | [Link](#) | [Metadata \(.html\)](#) | [Metadata \(.txt\)](#) | [Metadata \(.xml\)](#)
[GeoRSS](#) | [PNG](#) | [PDF](#) | [GML](#) | [SVG](#) | [JSON](#) | [Shapefile \(.shp\)](#) | [Google Earth \(.kmz\)](#)

Daily_Great_Lakes (UW - ERSC) (UW - SSEC)
Daily-updated MODIS image for the Great Lakes
[Link](#) | [Image Preview](#) | [GeoTiff](#) | [JPEG](#) | [KML](#) | [PDF](#) | [PNG](#)

gl_airtoxics_inventory_1999 (GLC)
Great Lakes Regional Toxic Air Emissions Inventory - 1999
[Link](#) | [Map Preview](#) | [Link](#) | [Metadata \(.html\)](#) | [Metadata \(.txt\)](#) | [Metadata \(.xml\)](#)
[GeoRSS](#) | [PNG](#) | [PDF](#) | [GML](#) | [SVG](#) | [JSON](#) | [Shapefile \(.shp\)](#) | [Google Earth \(.kmz\)](#)

- Circa 2006-07
- Based on GeoServer
- Demonstrated that KML is 10 times more popular for download than SHP
- Allows users to upload geospatial data
- Needs more promotion!

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

GLIN Map Viewer



Great Lakes **Maps & GIS**



Layer Control

Base Layers

Political Units

Elevation

Shoreline

Hydrography

Wetlands

Managed Lands

Soils

Winds

Physical Observations

Chemical Observations

Aquatic Biota

Terrestrial Biota

Avian Biota

Social Interests

1. To access metadata or to

Legend

Toolbox

Result

Work continues
on GLIN GIS at
the Great Lakes
Commission.

Developed and maintained by [The Great Lakes Commission](#); funding and support provided by [NOAA](#).

http://erie.glin.net/glin_viewer/

Great Lakes GIS – IFR, U of M



Institute For Fisheries Research
University of Michigan
Michigan DNR

A Geographic Information System for Great Lakes Aquatic Habitat

- GLGIS Home
- LEGIS
- LMGIS
- LHGIS
- LOGIS
- LSGIS
- Classifications
- GIS Help
- Links
- Contacts



[What's New](#) - [Project Background](#) - [Using the GLGIS](#) - [GLGIS Project Structure](#)
[Partners](#)

How do I get data?

For information on GLINDA-disseminated Internet distribution, click [here](#).



- Focus on providing GIS data to support fisheries management.
- Provides seamless, standardized, GIS-based map inventories and databases to inform policy, management and science inquiry.

<http://www.glfc.org/glgis/>

Enhancing the Great Lakes GIS



great lakes coastal atlas *GLGIS online*

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About GLCA

Some about the GLGIS project.

Tools

Tools information.

News

This will be the RSS feed text.

Maps

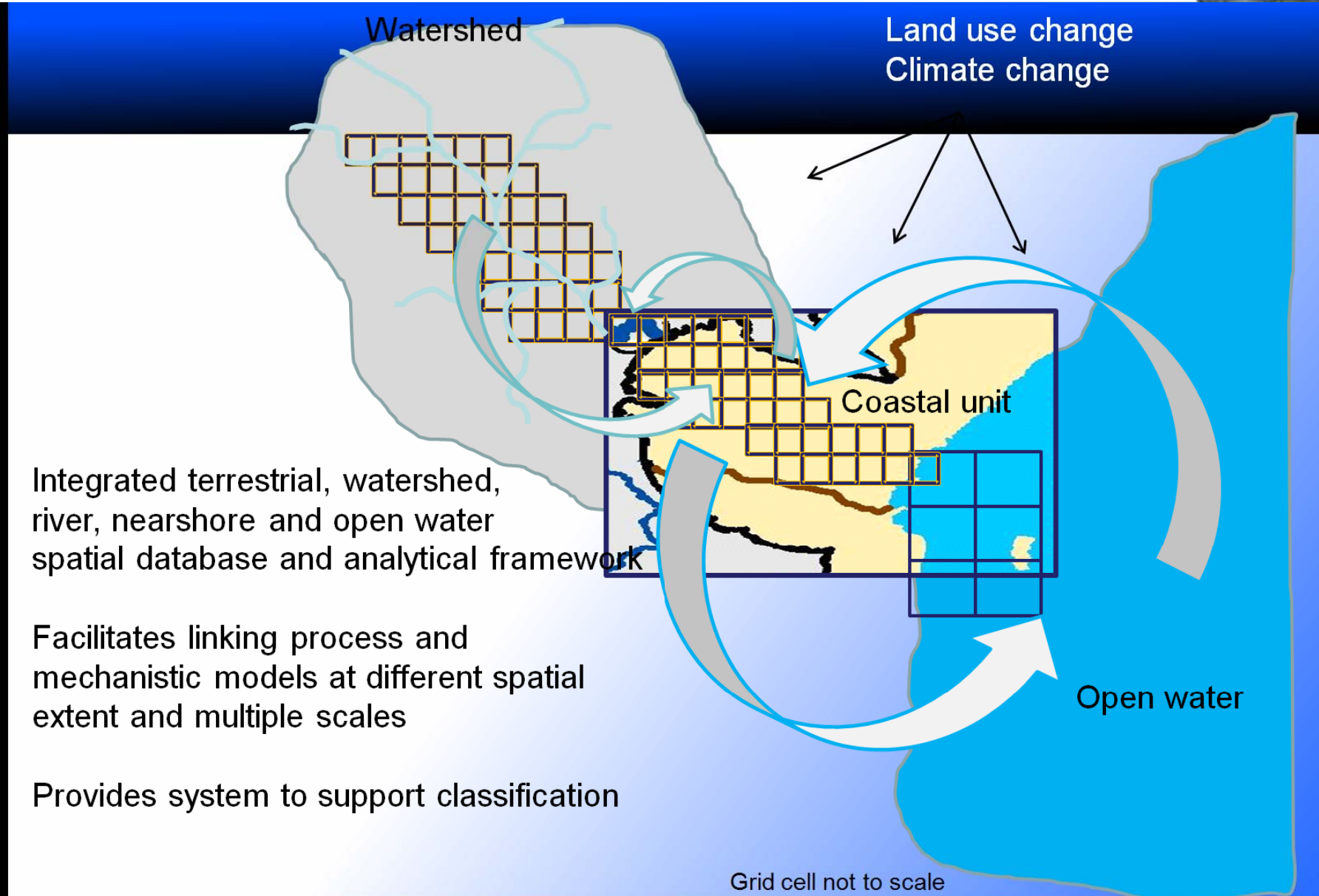
Information about map viewer(s) here.

Downloads

Go here to download GLGIS datasets and view metadata files.

GLGIS is being enhanced to provide a web-based coastal atlas for the Great Lakes region.

Enhancing the Great Lakes GIS

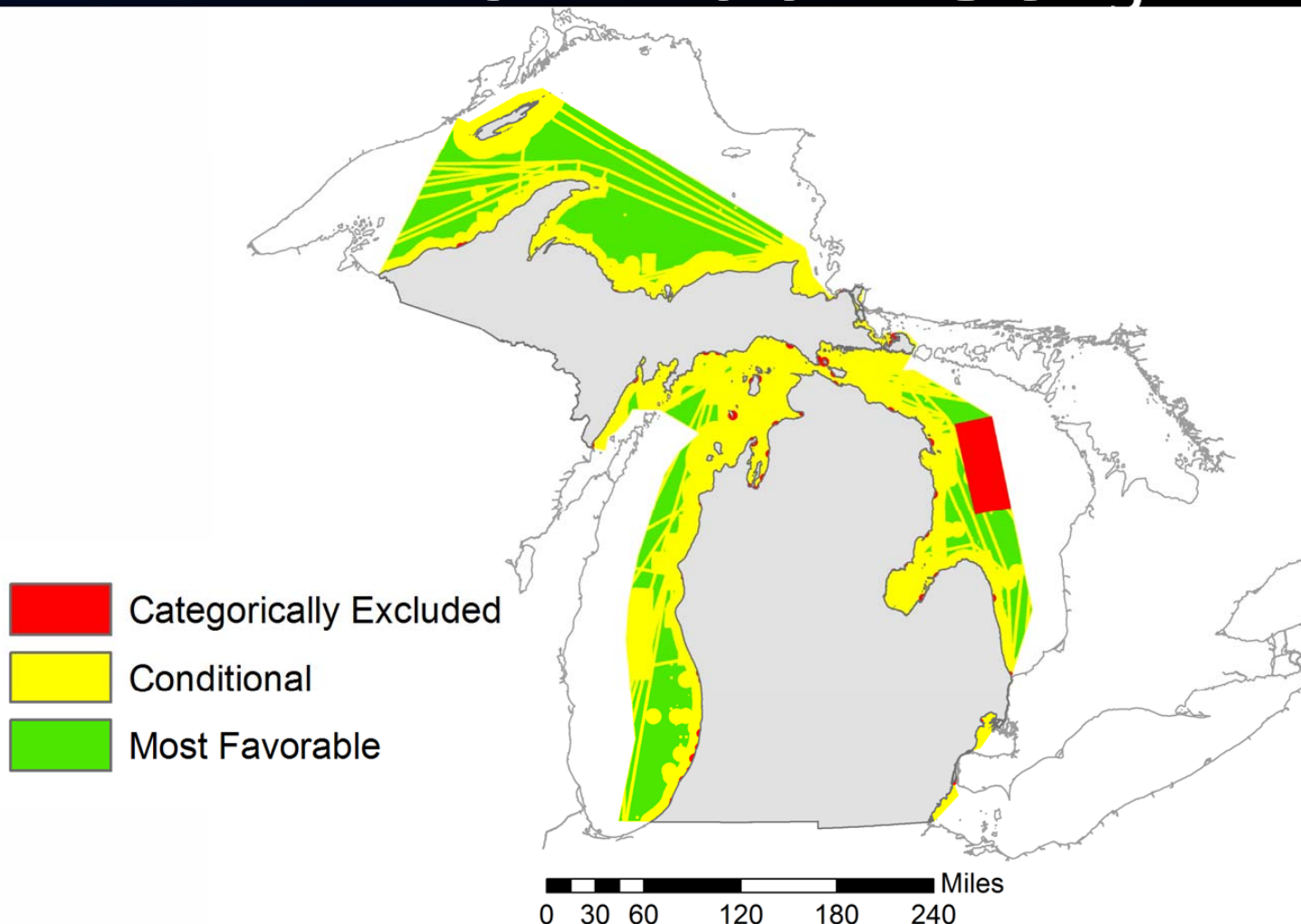


Enhancing the Great Lakes GIS



Decision Support Tool for Windfarm Siting

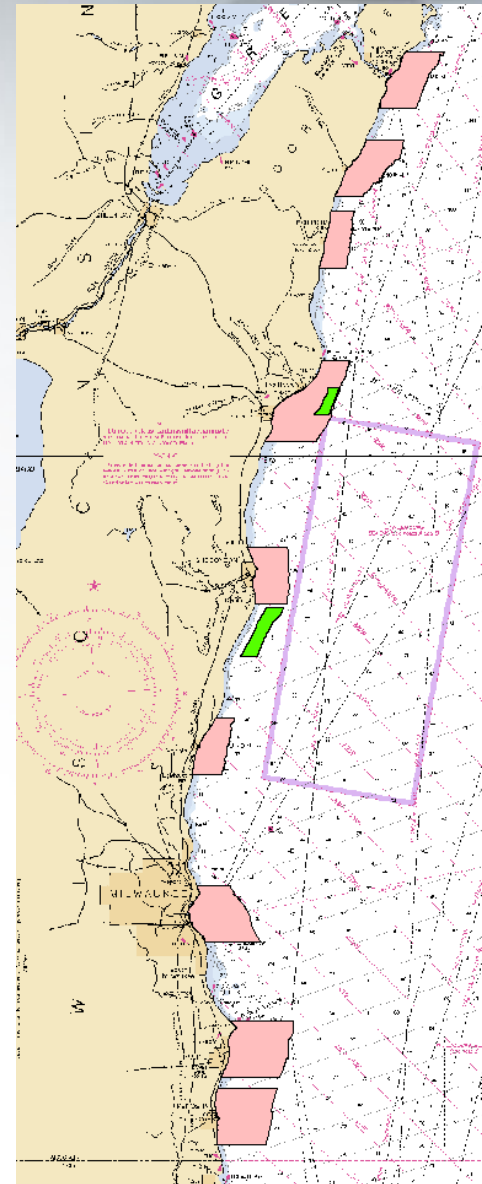
The Lakebed Alteration Decision Support Tool is being expanded to serve coastal waters of all Great Lakes states, and will be available online through the Great Lakes Coastal Atlas.



My Thoughts - CMSP



- Advancing CMSP in the Great Lakes will require a participatory process that matches or exceeds that used to build the Great Lakes Regional Collaboration strategy.
- Apply geospatial technologies to reduce existing conflicts associated with use of the lakes. Effectively tell the stories of the benefits from these applications.
 - An example: mapping to reduce the conflict between trap nets and recreational fishing
- Don't describe CMSP in the Great Lakes as “water zoning” or “geo-regulation”



My Thoughts - CWA

...based on a Jeffersonian
model of democracy



- Create a Great Lakes Coastal Atlas Network.
 - Capture the audience of the Great Lakes Regional Data Exchange with the agenda of the West Coast atlas workshops
- Promote a “bottom-up” approach to Great Lakes GIS that strengthens existing efforts.
 - Great Lakes Information Network GIS, GLIN Labs, Great Lakes GIS, Great Lakes Observing System (GLOS), GLERL, etc.
- Provide technical assistance to make existing coastal web mapping sites fully interoperable.
- Develop use cases for networked coastal atlases.
- Promote Great Lakes mapping mashups.
 - Teach users and managers of the Great Lakes how to build their own web mapping applications

<http://www.greatlakemashups.net/>



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Water is the most critical resource issue of our lifetime
and our children's lifetime.

The health of our waters is the principal measure
of how we live on the land.

-Luna Leopold