



Welcome to GLERL!



John Bratton

Acting Director

NOAA Oceanic and Atmospheric Research
Great Lakes Environmental Research Laboratory



NOAA HEADQUARTERS



Line Offices

National
Marine Fisheries
Service
(NMFS)

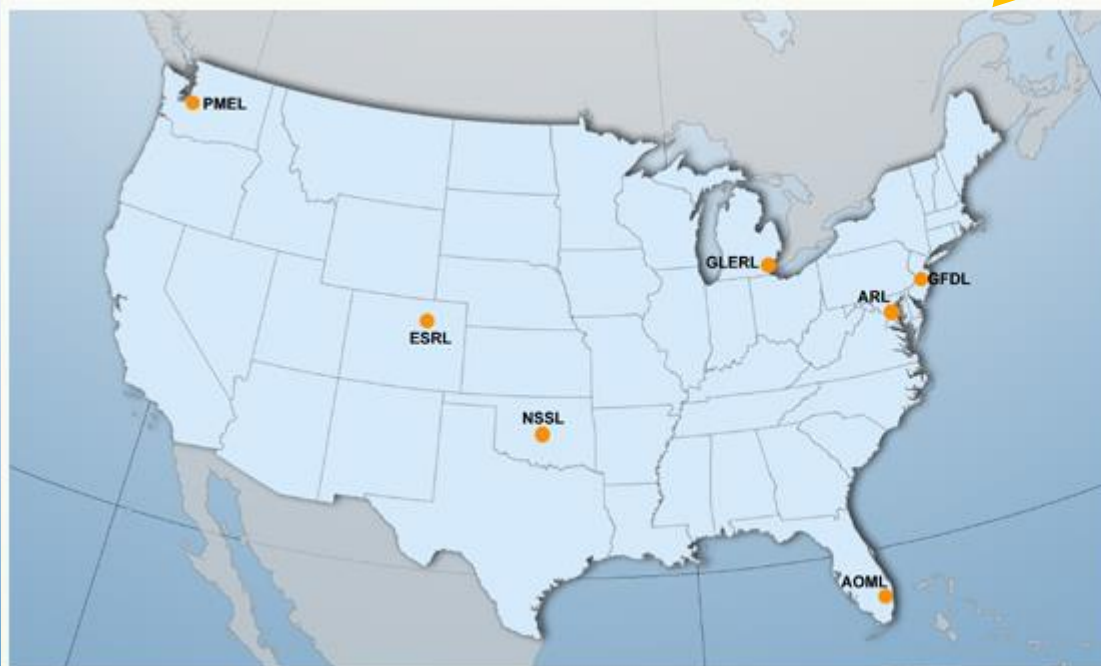
National
Ocean
Service
(NOS)

National
Environmental
Satellite, Data
& Information
Service (NESDIS)

Oceanic &
Atmospheric
Research
(OAR)

National
Weather
Service
(NWS)

Program
Planning &
Integration
(PPI)



Atlantic Oceanographic and Meteorological
Laboratory ([AOML](#))

Air Resources Laboratory ([ARL](#))

Earth System Research Laboratory ([ESRL](#))

Geophysical Fluid Dynamics Laboratory ([GFDL](#))

Great Lakes Environmental Research Laboratory
([GLERL](#))

National Severe Storms Laboratory ([NSSL](#))

Pacific Marine Environmental Laboratory ([PMEL](#))

North America's Freshwater Coast

Duluth

Alpena

Milwaukee

Muskegon

Toronto

Buffalo

Chicago

Ann Arbor

Detroit

Cleveland



Challenge: Freshwater Resource Management



Water Quality



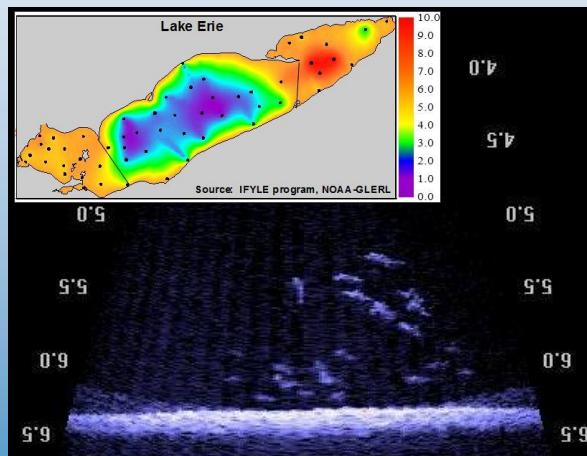
Water Levels



HABs



Fisheries



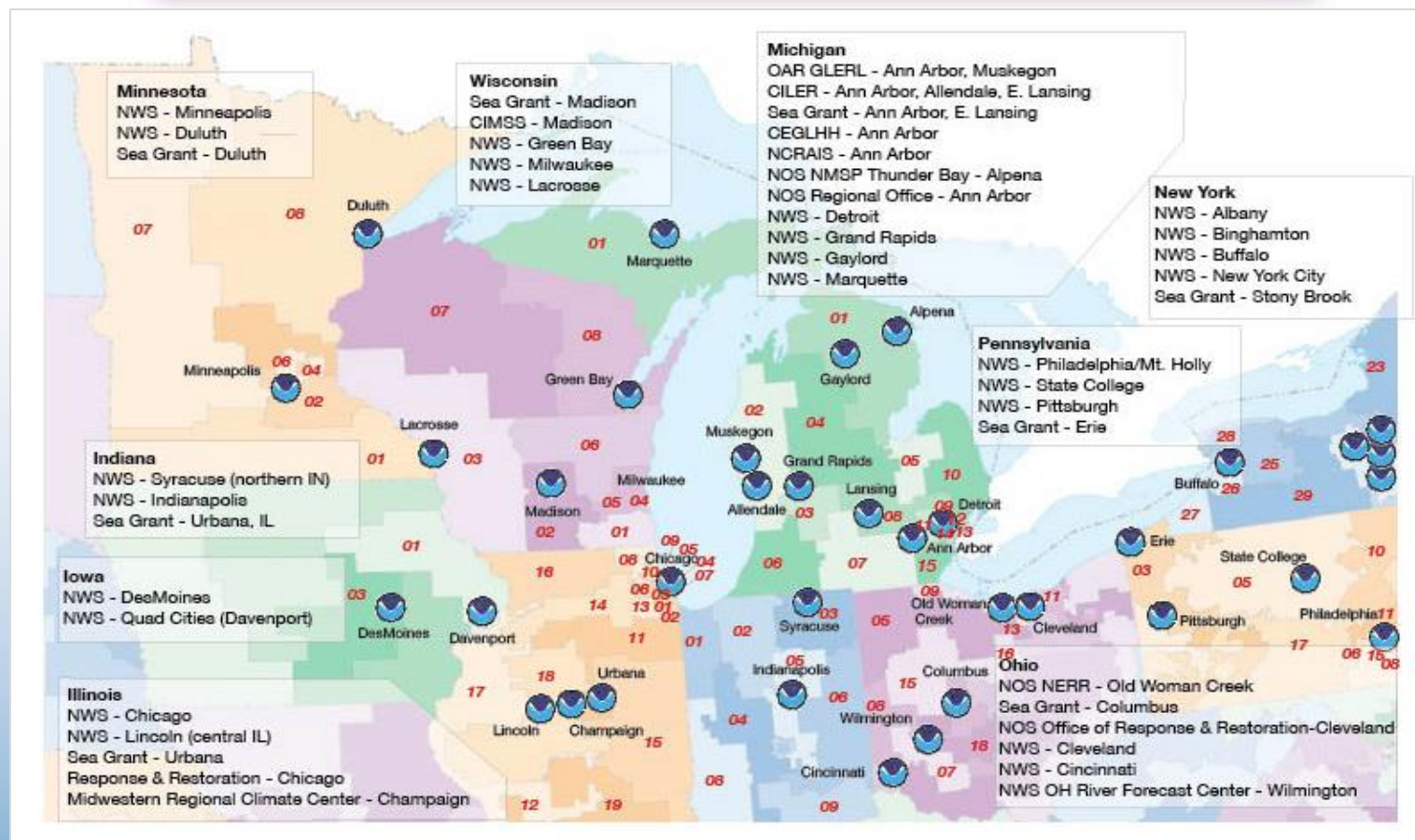
Hypoxia



Invasives

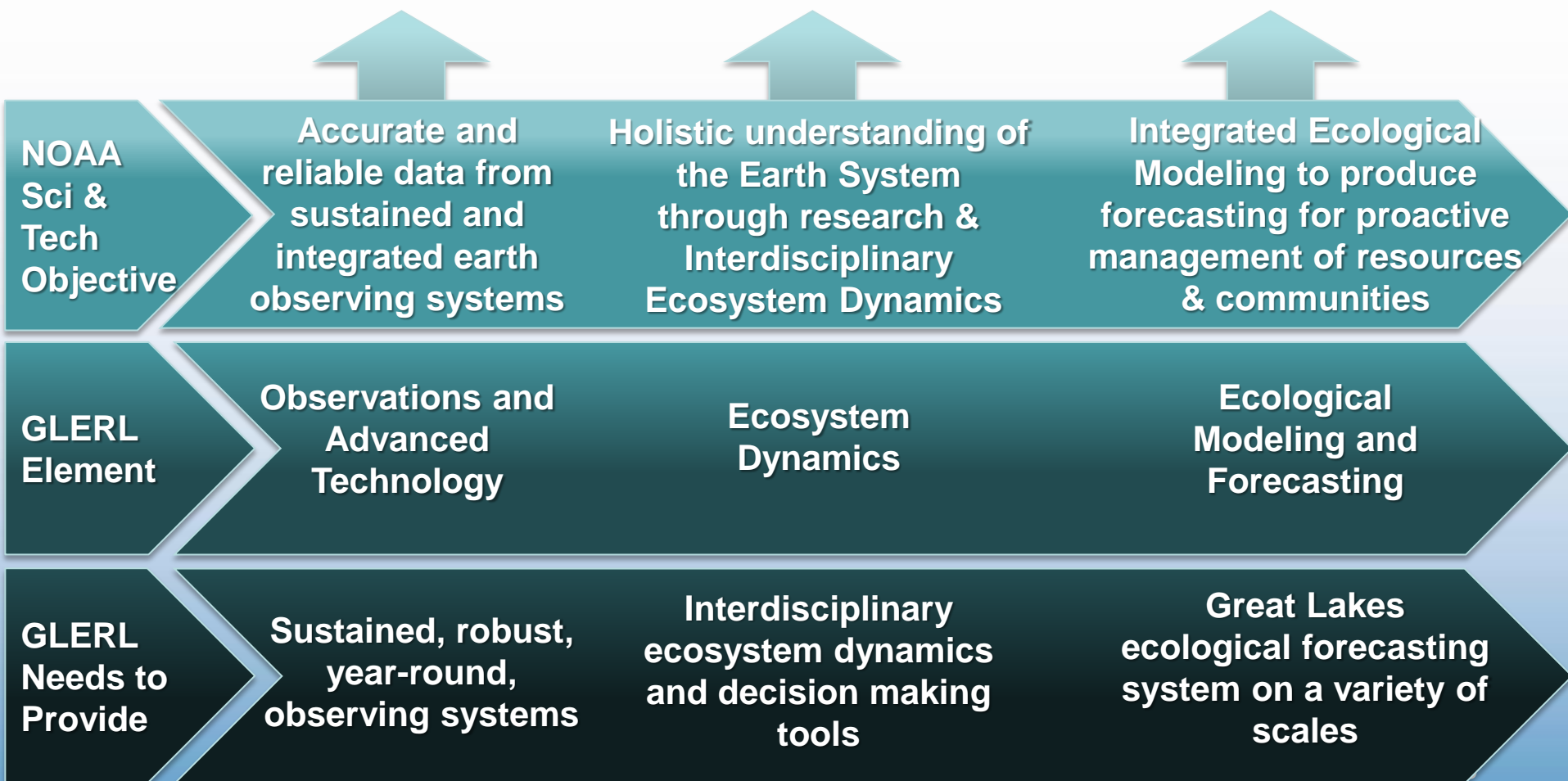


NOAA in the Great Lakes



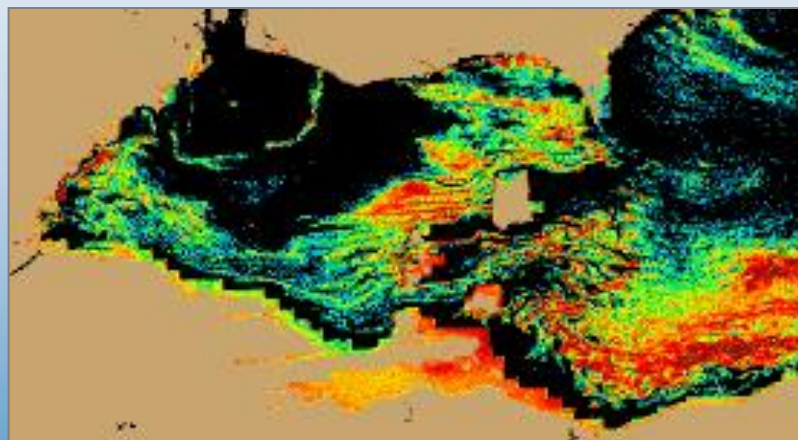
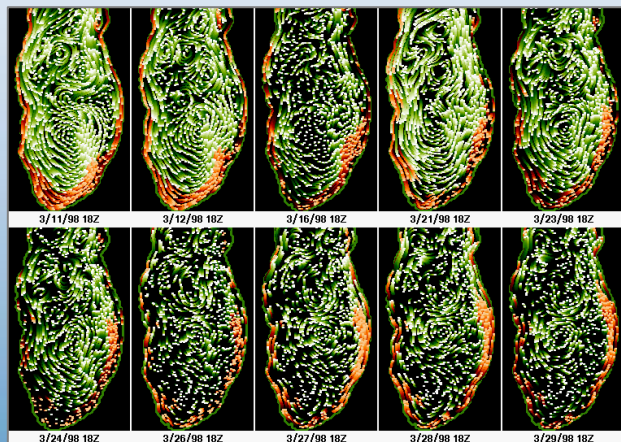
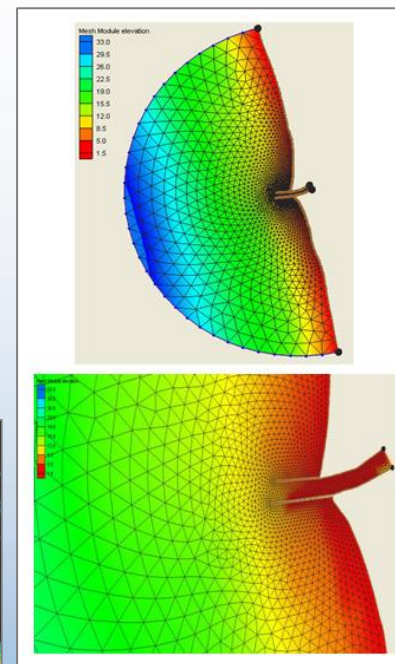
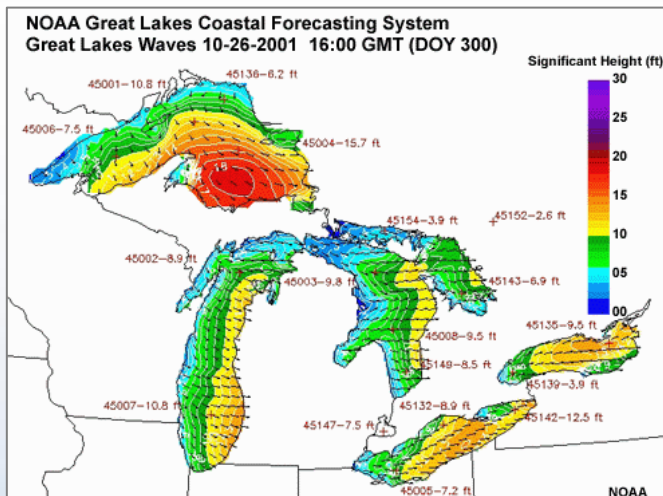


Strategic Objectives





Physical and Ecological Modeling

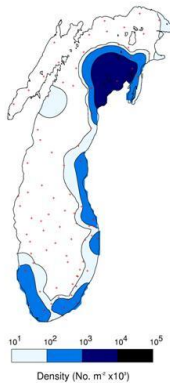




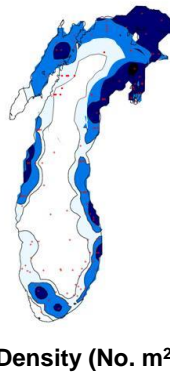
Ecosystem Dynamics



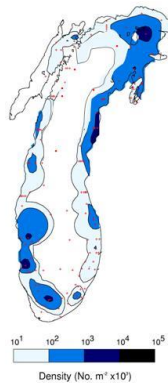
1994/95



2000



2005



2010



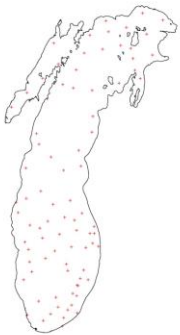
Density (No. m²)

Density (No. m²)

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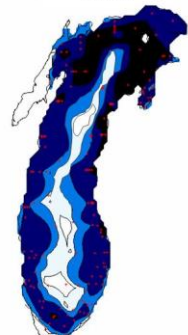
Zebra vs. Quagga Mussels

2000



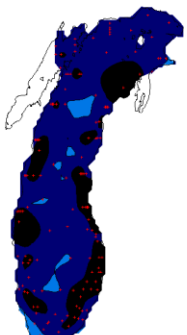
Density (No. m²)

2005

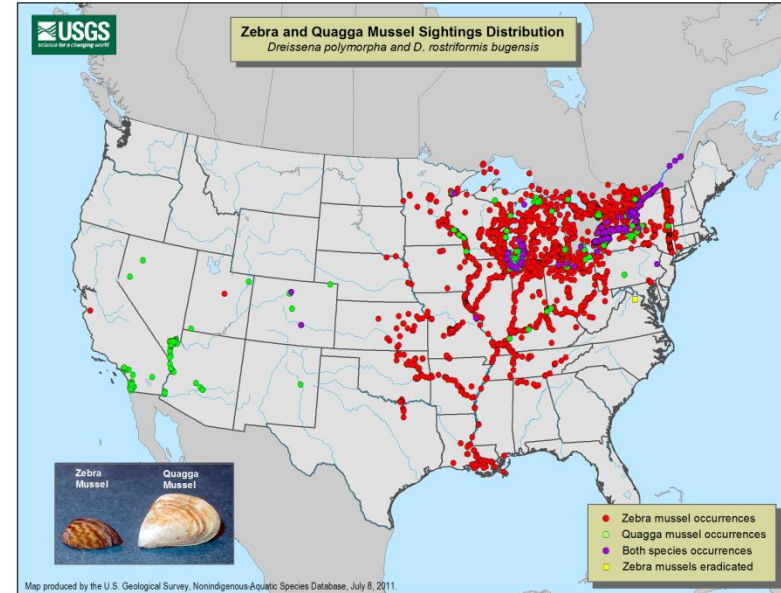


Density (No. m²)

Quagga Mussel

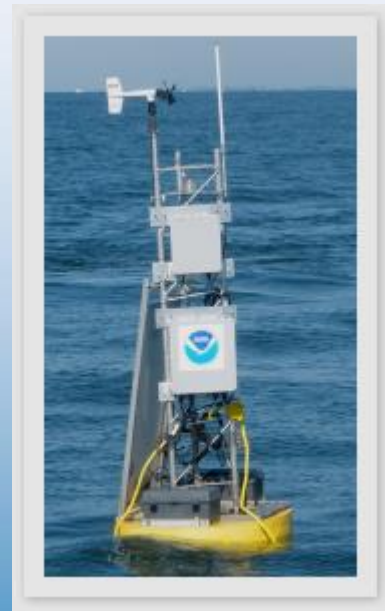
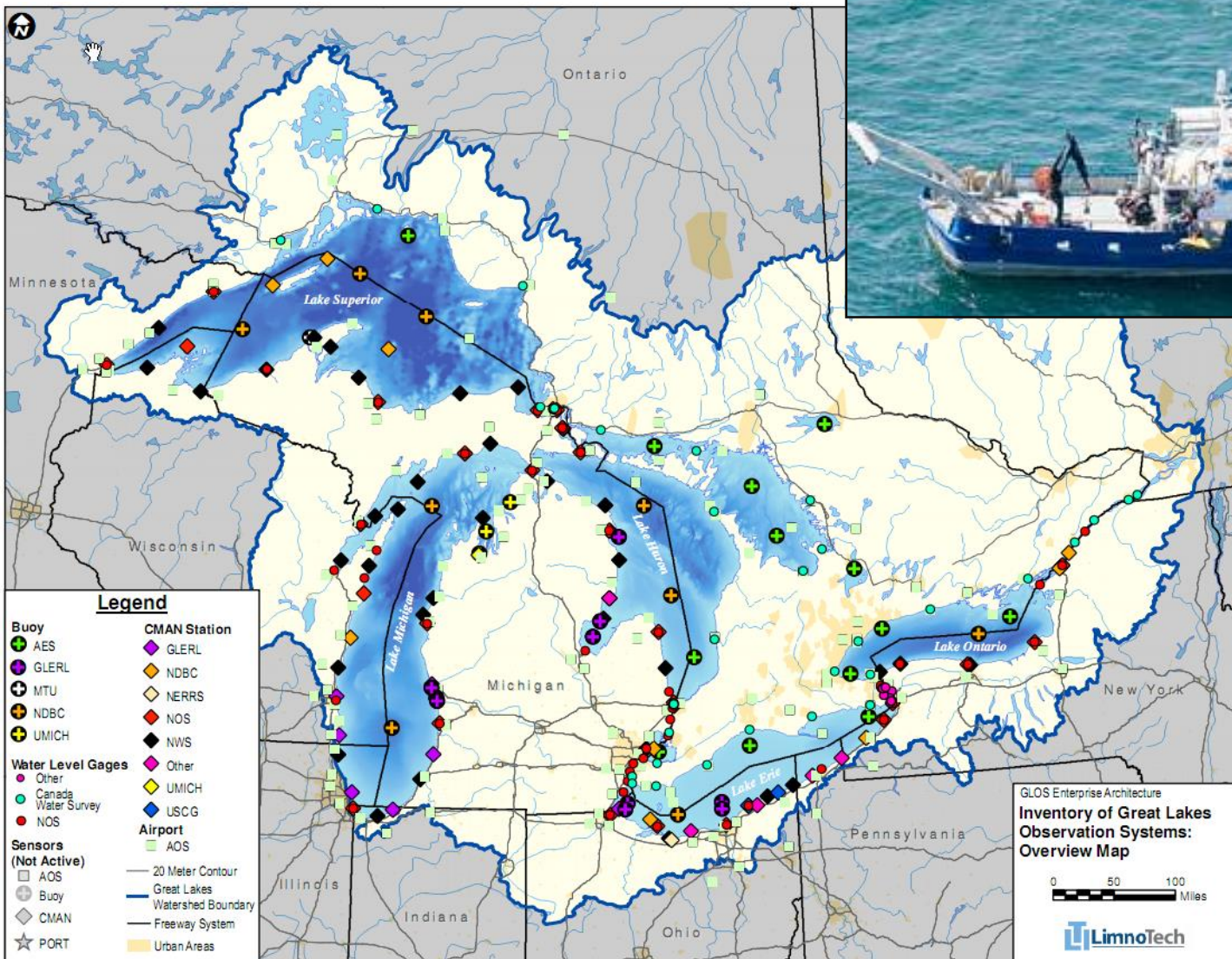


Density (No. m²)





Observing Systems and Advanced Technology





Observing Systems and Advanced Technology



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