Great Lakes National Program Office Role in Developing a Great Lakes Observing System (GLOS)

Paul Horvatin

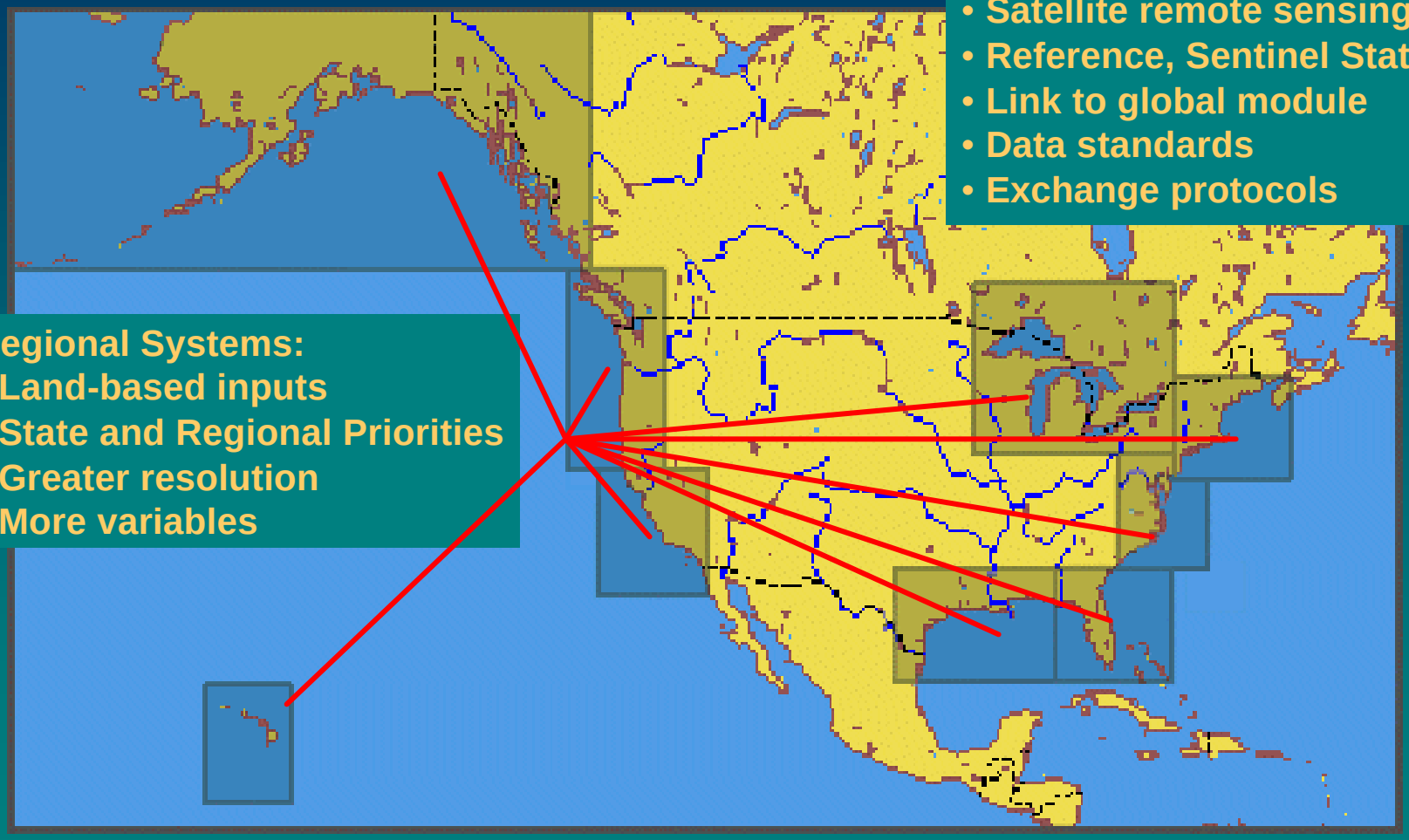
Glenn Warren

Integrated Ocean Observing System

- Global Ocean Observing System
  - Intergovernmental Oceanographic Commission
  - World Meteorological Organization
  - United Nations Environment Program
  - International Council for Science
- U.S. GOOS
- Integrated Ocean Observing System
- Great Lakes Component

National Federation of Regional Systems

National System:
- Satellite remote sensing
- Reference, Sentinel Stations
- Link to global module
- Data standards
- Exchange protocols



Regional Systems:
- Land-based inputs
- State and Regional Priorities
- Greater resolution
- More variables

Integrated Ocean Observing System

Observations will be needed to produce products and services required by a broad community of users for:

- **Detecting and predicting open water components of climate variability**
- **Facilitating safe and efficient marine operations**
- **Ensuring national security**
- **Managing resources for sustainable use**
- **Preserving and restoring healthy ecosystems**
- **Mitigating natural hazards**
- **Ensuring public health**

Integrated Ocean Observing System

- Global component (climate, marine services, security and defense) will be federally funded
- Regional enhancements will be locally driven
- Products and services will be developed by a wide range of entities

Great Lakes

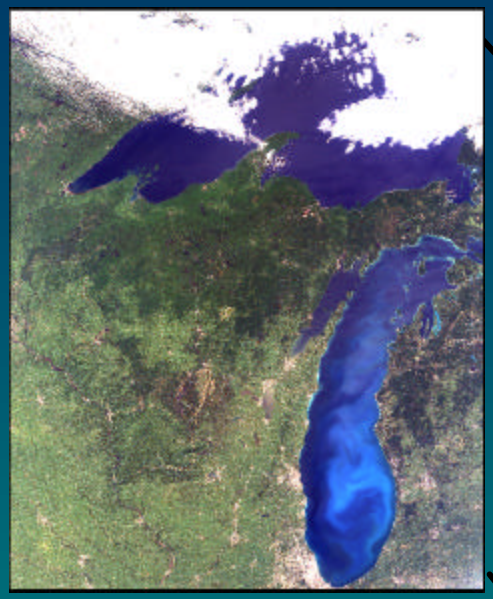
14,000 miles of shoreline
95,000 square miles of water
200,000 square miles of land

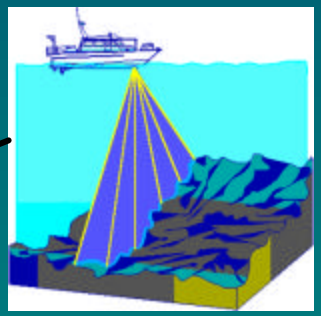
Great Lakes Observing System

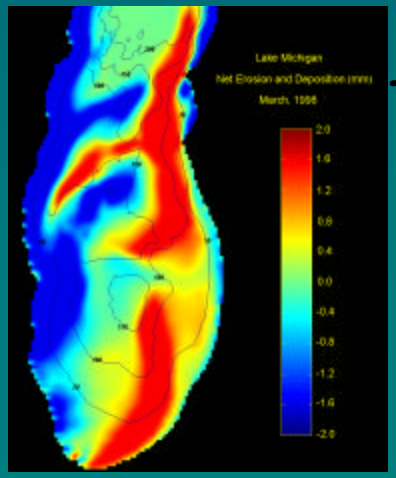
Data Components

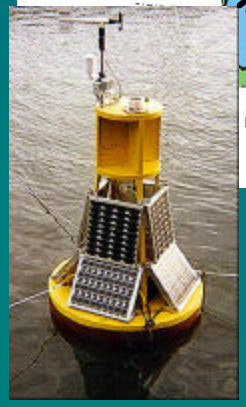
- Buoy systems
- Coastal and riverine sensors
- Satellite observations
- Field measurements
- Ship observations
- Aerial observations

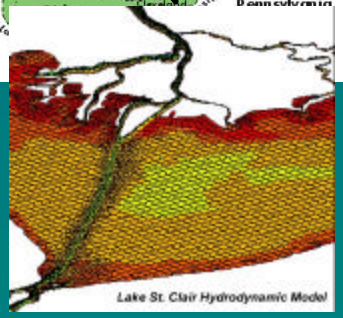
Meteorologic, Hydrologic, Hydraulic, Chemical and Biological Data

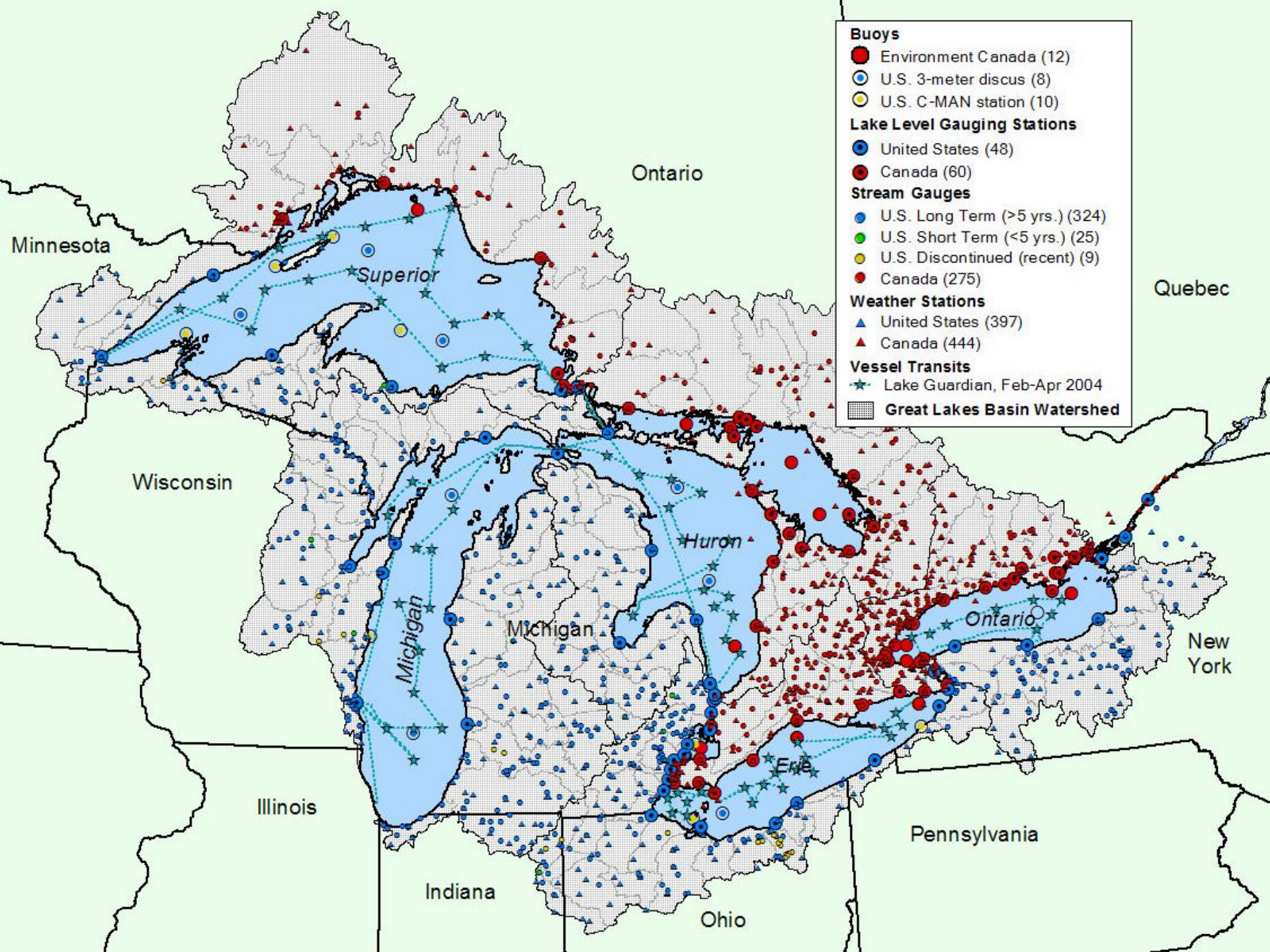











Buoys
Environment Canada (12)
U.S. 3-meter discus (8)
U.S. C-MAN station (10)
Lake Level Gauging Stations
United States (48)
Canada (60)
Stream Gauges
U.S. Long Term (>5 yrs.) (324)
U.S. Short Term (<5 yrs.) (25)
U.S. Discontinued (recent) (9)
Canada (275)
Weather Stations
United States (397)
Canada (444)
Vessel Transits
Lake Guardian, Feb-Apr 2004
Great Lakes Basin Watershed
Ontario
Minnesota
Quebec
Superior
Wisconsin
Huron
Michigan
Michigan
Ontario
New York
Erie
Illinois
Pennsylvania
Indiana
Ohio

Great Lakes Observing System

User Community

Provide input on data and product needs

- Commercial Shipping Industry
- Commercial and Sports Fishing
- Recreational Boaters
- Emergency Responders
- National Security
- Restoration Management
- Coastal Research
- Other Affected Interest Groups

Great Lakes Observing System

The system will focus on:

- Coordination of data collection between U.S. and Canada
- Integration of large, distributed data holdings
- Interoperable data archives
- Easy data discovery, evaluation and access
- Development of improved products
- Interface to national information backbone
- Improved public access to information

Business Plan Development for the Great Lakes Observing System

Objective:

Develop the organizational infrastructure for a Regional Observing System node to coordinate data collection, modeling and product development for the Great Lakes, their Connecting Channels and the St. Lawrence River

Time-Line:

One year - began in October 2003

Business Plan Development for the Great Lakes Observing System

The Business Plan will focus on:

- Governance for the regional association
- Coordination of binational programs
- Coordination of large, distributed data holdings
- Integrated archival systems
- Easy data discovery, evaluation and access
- Standardization of value-added products
- Integration of agency web pages
- Interface to NOAA-DMAC
- Improved public access to information

Business Plan Development for the Great Lakes Observing System

Project Steering Committee Members:

- International Joint Commssion (CGLRM)
- Federal (NOAA, USCG, FWS, EPA, USACE, Sea Grant)
- Canadian (EC, DFO-MEDS)
- Academic (Wisconsin, Ohio State, Minnesota – Duluth)
- NGOs (GLC)
- Consultants

Business Plan Development for the Great Lakes Observing System

Anticipated Regional Associates

Provide data, system component management, long-term system support

- Great Lakes Fishery Commission
- U.S. Coast Guard
- U.S. Environmental Protection Agency
- U.S. Army Corps of Engineers
- Department of Homeland Security
- U.S. Geological Survey
- St. Lawrence Seaway Development Corporation
- St. Lawrence Seaway Authority
- Environment Canada
- Department of Fisheries and Oceans
- Canadian Coast Guard
- States and Provinces
- Sea Grant Institutions
- Academia

USGS
science for a changing world
Great Lakes Commission
des Grands Lacs
INTERNATIONAL JOINT COMMISSION · COMMISSION MIXTE INTERNATIONALE
1909
U.S. FISH & WILDLIFE SERVICE
Environment Canada
Environnement Canada
Fisheries and Oceans Canada
Pêches et Océans Canada
NOAA
WISCONSIN
1848
U.S. Army Corps of Engineers
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ILLINOIS

Business Plan Development for the Great Lakes Observing System

Major Tasks – Year One

- Convene Project Steering Committee
- Identify Regional Associates and User Community
- Develop and Update GLOS Web Page
- Draft GLOS Business Plan
- Conduct GLOS Conference
- Finalize GLOS Business Plan

Building a Great Lakes Observing System

Proposed Major Tasks – Year Two

- Develop MOUs for Regional Associate commitments
- Implement data synthesis demonstration
- Implementation planning
- Advance communications
- Address sustainability issues

Great Lakes Observing System

Questions for You !!!!

1. *Where do you think that we should put specific focus on in the business plan?*
2. *What information content should we insure is incorporated?*
3. *What benefits would GLASS like us to stress?*