

**Technical Workshop on
Integrating Modeling, Monitoring and Observing Systems
for the Huron to Erie Corridor**

Thomas Edison Inn, Port Huron, Michigan - (810) 984-8000
March 16-17, 2005

Background

A high priority interest of the [Great Lakes Observing System](#) (GLOS) is to integrate observations and modeling within the lakes Huron to Erie Corridor (HEC). GLOS is a broad stakeholder-driven group of government, academic, maritime, and business, who are coordinating the operations, maintenance, and reporting of data from observing, modeling and monitoring instruments around the Great Lakes.

The Macomb / St. Clair Inter-County Watershed Management Advisory Group has recently begun examining potential benefits of integrating their real-time water quality monitoring/ notification system with a continuous hydrodynamic model for the Lake St. Clair area. The counties are also assessing priorities for implementation of recommendations from the [Lake St. Clair Management Plan](#), which could benefit from coordinated monitoring and modeling. The Southeast Michigan Council of Governments (SEMCOG) has promoted integrated real-time monitoring systems throughout the region.

In addition, the U.S. Army Corps of Engineers, National Oceanic and Atmospheric Administration, U.S. Geological Survey, U.S. Environmental Protection Agency, Environment Canada and the Canadian Department of Fisheries and Oceans and other federal agencies have been engaged in monitoring and hydrodynamic model development within the same domain. The [Lake Erie Millennium Network](#) has long supported hydrodynamic model development throughout the HEC. The State of Michigan and the Province of Ontario also have regulatory and resource management programs that could benefit from integrated information systems for this geography.

A multi-dimensional hydrodynamic modeling suite is being envisioned for application in the HEC. One-dimensional (1D) and two-dimensional (2D) models have been created for various reaches of the HEC, but are not used to simulate or forecast water movement on a continuous or real-time basis. A three dimensional (3D) model is being considered for use with the real-time monitoring system being managed by the Macomb – St. Clair Inter-County group. The 3D model is anticipated to be a flexible tool that could be used for multiple purposes including:

- plume tracking; (spill response and clean-up);
- riverbed movement (erosion studies);
- ice dynamics; and
- pathogen movement (public health protection at beaches).

A proposal for integrating modeling, monitoring and observing operations within the HEC has been developed by the Great Lakes Commission acting for the GLOS. The purpose of this workshop is to develop an implementation strategy to move this proposal forward in the 2007-2008 timeframe.

Workshop Objectives:

- Clarifying the objectives of the project;
- Identifying the monitoring needs to be addressed via hydrodynamic modeling;
- Identifying the types and details of hydrodynamic models that will be required;
- Identifying unmet data needs for hydrodynamic model development and data inputs;
- Developing requirements for model outputs and access;
- Identifying the costs and timelines associated with model development, testing and implementation;
- Identifying the roles of agencies in model development, testing and implementation; and,
- Developing and refining advocacy approaches for securing resources (limited to regional and local participation).

Preliminary Agenda
for the Technical Workshop on Integrating Modeling, Monitoring
and Observing Systems for the Huron to Erie Corridor

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Thursday, March 16, 2006

10:00 a.m. – Welcome and Introductions	SEMCOG
10:30 a.m. – Workshop Objectives and Process	GLC
10:45 a.m. – Historical Perspective of HEC Monitoring and Modeling	GLC
11:15 a.m. – Macomb / St. Clair Inter-County Water Quality Monitoring	Macomb/St. Clair
12:00 noon – Lake Erie Millennium Network Modeling Objectives	UW / USEPA

12:30-1:30 p.m. – Buffet lunch

1:30 p.m. – 2-dimensional hydrodynamic model applications/limitations	USGS / EC
2:00 p.m. – Multi-dimensional modeling environment	USACE
3:45 p.m. – NOAA PORTS and CO-OPS operations	NOAA

3:00-5:30 p.m. – Breakout A
Define desired model outputs and applications

5:30 and on - First Round – NCAA Basketball in the Hunt Room Lounge
Buffalo Sabres against the Toronto Maple Leafs in the Hunt Room Lounge
Dinner on your own

Friday, March 17, 2006 – St. Patrick's Day

8:00 a.m. – Blarney Stone reports and discussions

9:00-10:30 a.m. – Breakout B
Define model characteristics

10:30 a.m. – More Blarney reports and discussions

11:00 a.m. – Cost and time estimation

11:30 a.m. – Implementation teaming

12:00-1:00 p.m. – Buffet lunch

1:00-2:00 p.m. – Advocacy approaches (non-U.S. federal attendees)

Adjourn

Prospective Invitees
for the Technical Workshop on
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Local

Macomb County - Gary White
St. Clair County - Ron Miller
Ira Township - Eric Barnowski
Mount Clemens - Chuck Bellmore
Macomb County Water Quality Board - Doug Martz
City of Detroit – Gary Fajita, Pam Turner and/or Bahi Habib

Regional

Great Lakes Commission - Roger Gauthier, Jon Dettling, Stuart Eddy, Pete Giencke and/or Matt Doss
International Joint Commission – Mark Burrows, Tom McAuley, Paul Pilon, and/or Mark Colosimo
SEMCOG - Chuck Hersey and Bill Parkus

State/Provincial

Michigan Department of Environmental Quality – Jim Bredin, Jim Cleland, Elgar Brown, Bob Babcock and/or Art Ostazewski,
Michigan Department of Natural Resources - Bob Haas
Ontario Ministry of Environment – Gary Johnson, Shahram Tabe and/or Mike Mulroney
Ontario Ministry of Natural Resources – Mike Robertson
St. Clair Region Conservation Authority – Patty Hayman
Lower Thames Valley Conservation Authority – Jack Robertson
Essex Region Conservation Authority – Matthew Child

Federal

U.S. Army Corps of Engineers - Scott Thieme, Jim Selegean and John Koschik
U.S. Geological Survey - Jim Nicholas and Dave Holtschlag
NOAA, GLERL - Dave Schwab and Cynthia Sellinger
NOAA, NOS – Tom Landon, Mark Vincent, Peter Stone, Rob Bassett, Dave MacFarlane, Jeff Oyler and/or Brian Link
NOAA, National Data Buoy Center - Dave Gilhousen
U.S. Environmental Protection Agency - Russ Kreis, Rose Ellison and/or Ann Whelan
Environment Canada - Aaron Thompson, Syed Moin and/or Ralph Moulton
Department of Fisheries and Oceans – Larry Cao

Academic

University of Michigan - Guy Meadows, Tom Johengen and/or Nikolaos Katopodis
Ohio State University - Keith Bedford
University of Windsor - Scudder Mackey, Jan Ciborowski and/or Rajesh Seth
Oakland University - Linda Schweitzer