



# Complete Baseline Data for Transboundary Flood and Erosion Hazard / Impact Assessment in the Great Lakes

Scientific Fantasy

Vs

Political Reality??

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# Recession Rates

- ☀ Key data set for historical trends and prediction of future shoreline positions
- ☀ Pro's
  - Numerous data sets in existence
  - Can generally identify shorelines in GL with high or low rates of erosion
  - Some great ongoing data collection efforts
    - Michigan
    - Ohio

# Recession Rates

## ✦ Con's

- No consistent, standardized method of determination
  - Air photos, surveys, GIS methods
  - Top of bluff, toe of bluff, waterline, mid-bluff
- No standard for “degree of accuracy” that is tolerable or defensible
- Tend toward a focus on data collection in developed areas...what about areas to be developed?
- Long term vs short term?
  - No systematic, long-term, recurring surveys
- Differences in application of rates to setback calculation

# Shore Protection

- ☀ How does shoreline protection influence shore response? Littoral response
  - Positive? Negative?
  - Need to know structure type/extent/quality
- ☀ Can not understand this unless we understand:
  - What was there (or not) before...
  - What is there (or not) now...
  - What will be there (or not) in the future

# Shoreline Protection

- ☀ Limited comprehensive inventory / trend information
- ☀ Limited (if any) ongoing monitoring of new structures or maintenance/quality of older structures
- ☀ Where are new structures going in?
  - Permit data unreliable, inconsistent and not accurate
  - Many structures built without permits

# Topography / Bathymetry

## ☀ Current Status

- Existing bathymetric data insufficient in spatial resolution...frequently outdated (particularly for open-coast wetlands)
- Topographic – current technologies allow for higher resolution than ever – LIDAR

## ☀ Need comprehensive and complete minimum 2 ft (0.6m) contouring for both bathymetry and topography

# Political Roadblocks

## ☀ Issue Attention Cycle

- HWL = Public Outcry = \$studies = Data
- AVG WL = So What? = No \$\$ = No Data
- Low WL = Public Outcry = \$studies = Data

## ☀ Budgetary Cycles vs Program Objectives

- Long-term goals vs short-term budgets

## ☀ Administration Changes

- e.g., Ontario Shoreline Policy

# Recent Initiatives

- ✿ Lake Michigan Potential Damages Study
  - Comprehensive, lakewide data sets and inventories
  - High resolution topography/bathymetry, DOPs, DOQQs
  - Advanced erosion and flood hazard delineation methods
  - Recreational boating impacts
  - Multi-jurisdictional (federal, state, county) problem solving
- ✿ Lower Great Lakes Erosion Study
  - Detailed data sets, Lake Erie and Ontario

# Recent Initiatives

## IJC Lake Ontario Study

- Most recent bi-national study pertaining to water level issues
- Lake Ontario – St. Lawrence River
- In part, striving for first truly, bi-national, comprehensive, consistent, coordinated coastal zone database.

# Institutional Changes

- ✿ Break Issue Attention and other cycles and recognize long-term aspect and importance of data collection and monitoring
- ✿ Be proactive not reactive...plan for data needs of 2050 coastal zone managers
- ✿ Establish Coordinating Committee for Development of Coastal Zone and GIS Data
  - Use model of GL Hydrologic and Hydraulic Data Coordinating Committee