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  - Existing bathymetric data insufficient in spatial resolution…frequently outdated (particularly for open-coast wetlands)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 = $tudies = Data
  - AVG WL = So What? = No $$ = No Data
  - Low WL = Public Outcry = $tudies = 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
  - His 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