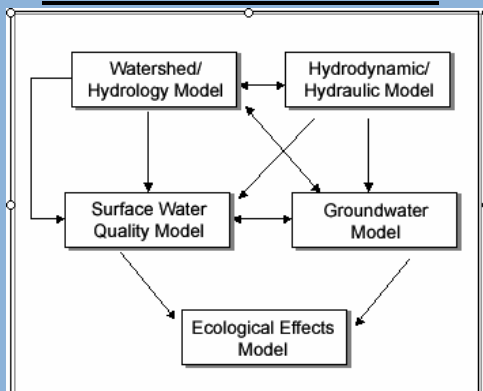




# Great Lakes

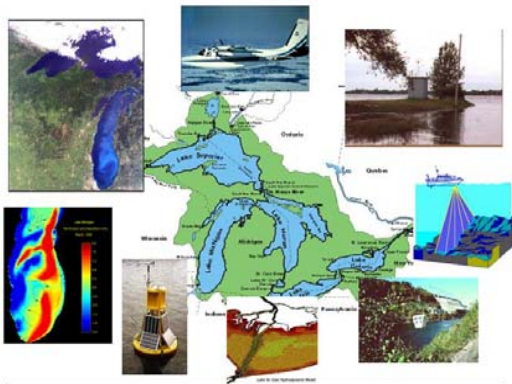
## Integrated System Solutions

### EARTH SYSTEM MODELS



Data

### MONITORING & MEASUREMENTS



Meteorologic, Hydrologic, Hydraulic, Chemical and Biological Data

Observations

### DECISION SUPPORT TOOLS

#### Examples

- Economic and ecological impact models of cumulative impacts from current and proposed water withdrawals
- Cost curve models for wastewater treatment and combined sewer overflow frequencies under different precipitation and flow regimes
- Simulation models of climate impacts to supply chains for key agricultural crops
- Multivariate models of economic sensitivity to climate variability and change to tourism and recreation sectors
- Cost analysis of dredging strategies under different hydrological scenarios
- Quantitative models of climate stressor effects on the health of ecosystems and their services

Predictions

### VALUE & BENEFITS

- Improvements in water quality and quantity management
- Better predictive abilities of water demand impacts
- Better seasonal yield estimates and management options for agricultural commodities
- Increased ability to adjust for climate change in tourism and recreation industries
- Improved economic performance and reduced risks for shipping industry during low water periods
- Minimize biodiversity losses to aquatic and terrestrial ecosystems

