Great Lakes

Population growth and demographic shifts, along with development, resource use, and land-use changes, have affected the Great Lakes region. The area poses serious challenges to planners and policymakers working to ensure both a growing economy and a healthy environment. Current concerns include:

- Increasing use of Great Lakes water, and diversion of lake water out of the region
- Land-use changes (urban and suburban growth), loss of prime agricultural lands, and restrictions of land use
- Continued availability and use of building resources such as glacial gravel, aggregate, and crushed stone
- Chemicals in the lakes and on land that accumulate in fish and animal tissue and affect human and wildlife health
- Brownfields
- Drinking-water contamination by pathogens
- Beach closings due to fecal contamination
- Wetland loss
- Shoreline erosion
- Introduction and spread of exotic species
- Loss of critical habitat for fish and wildlife

People are not the only agents of change; the surface of the earth is continually being altered by natural climatic and geologic processes. Such processes of change control the levels of the lakes and their shipping and recreation seasons and affect maritime transportation, wetlands, shoreline erosion, flooding, drought, and the health of biological communities.

Many government agencies, universities, non-governmental organizations, and citizen groups have conducted natural-science studies related to these issues in the lakes or on the land. However, no regional organization has coordinated an approach to linking science in the lakes to science in the watershed and the surrounding region - a necessary linkage.

In FY 2001, the USGS will begin to make that linkage with a study of Lake Michigan's watershed and lake processes and how they affect the living resources, primarily fish. Integrated activities will include water-quality sampling for various contaminants, geologic studies, habitat data inventory including effects of land use change on habitat loss, shoreline mapping to determine changes in coastlines, and analysis of land-use change and urban dynamics. Inclusion of this kind of information into a Great Lakes database will give managers the data to make better decisions for the future of the lakes and the people who live there. This effort will complement other USGS Great Lakes activities that focus on the watershed and surficial processes and glacial framework of the Great Lakes region.

The USGS recently completed the Great Lakes Region Strategic Plan to increase and sharpen the focus of USGS activities in the region, guide scientific research, and foster the coordination and integration of proposed studies to leverage with ongoing efforts. USGS activities will complement the work of other Federal, State, and local agency programs and Canadian programs as well. With these programs and organizations in mind, USGS scientists working in the region will be able to establish effective partnerships and develop research priorities that meet the needs of those responsible for making resource management decisions.

	(Dollars in Thousands)
Geologic Hazards, Resources, and Processes	
Geologic Landscape and Coastal Assessments	
Earth Surface Dynamics	+$ 500

The data USGS collects and the information derived from it will be disseminated to meet customer needs. The customers of USGS information in the Great Lakes Region include lawmakers, regulatory authorities, management agencies, scientists, nonprofit organizations, and the general public. Each of these audiences will receive targeted products so that the information will be most beneficial to their needs.

As the nation's largest water, earth and biological science and civilian mapping agency, the USGS works in cooperation with more than 2000 organizations across the country to provide reliable, impartial, scientific information to resource managers, planners, and other customers. This information is gathered in every state by USGS scientists to minimize the loss of life and property from natural disasters, contribute to sound economic and physical development of the nation's natural resources, and enhance the quality of life by monitoring water, biological, energy, and mineral resources.