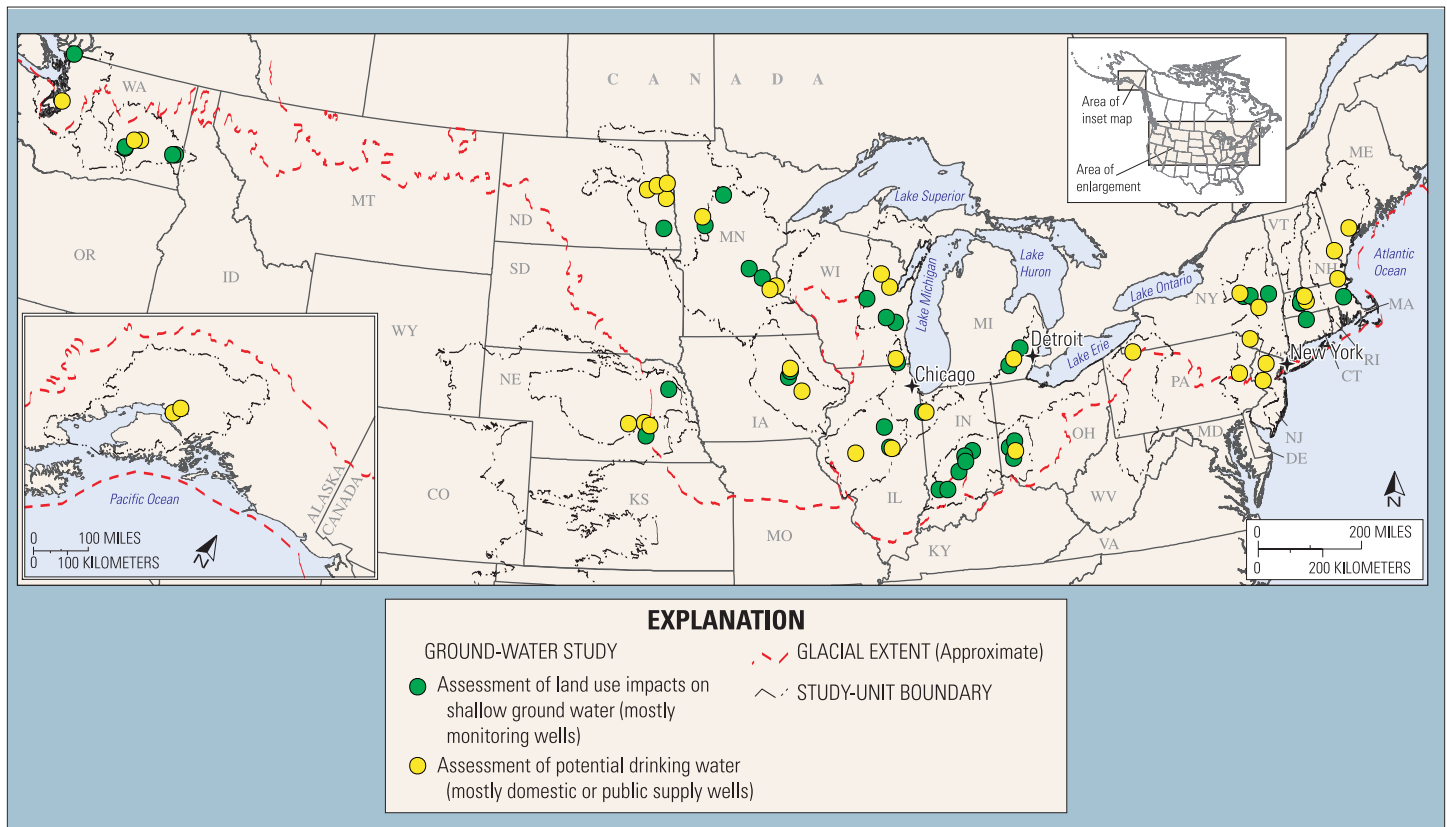


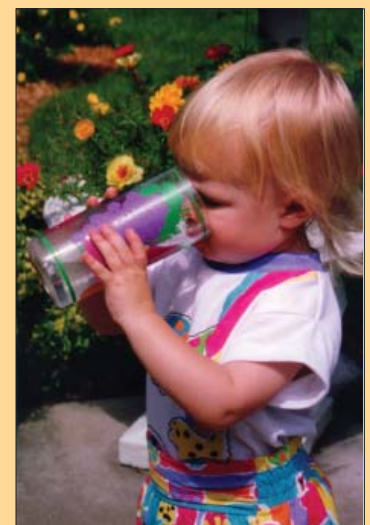
Water-Quality Assessment of the Glacial Aquifer System, United States

As part of the National Water-Quality Assessment Program (NAWQA)



The glacial aquifer system is the largest aquifer in aerial extent used for drinking water and ground-water use for public supply in the United States. The glacial aquifer system includes all unconsolidated aquifers above bedrock north of the line of continental glaciation throughout the country (see map above). Total withdrawals from the glacial aquifer system were 3,560 million gallons per day in 2000, which constitutes almost 5 percent of total withdrawals from all aquifers in the United States (USGS Circular-1279, Maupin and Barber, 2005).

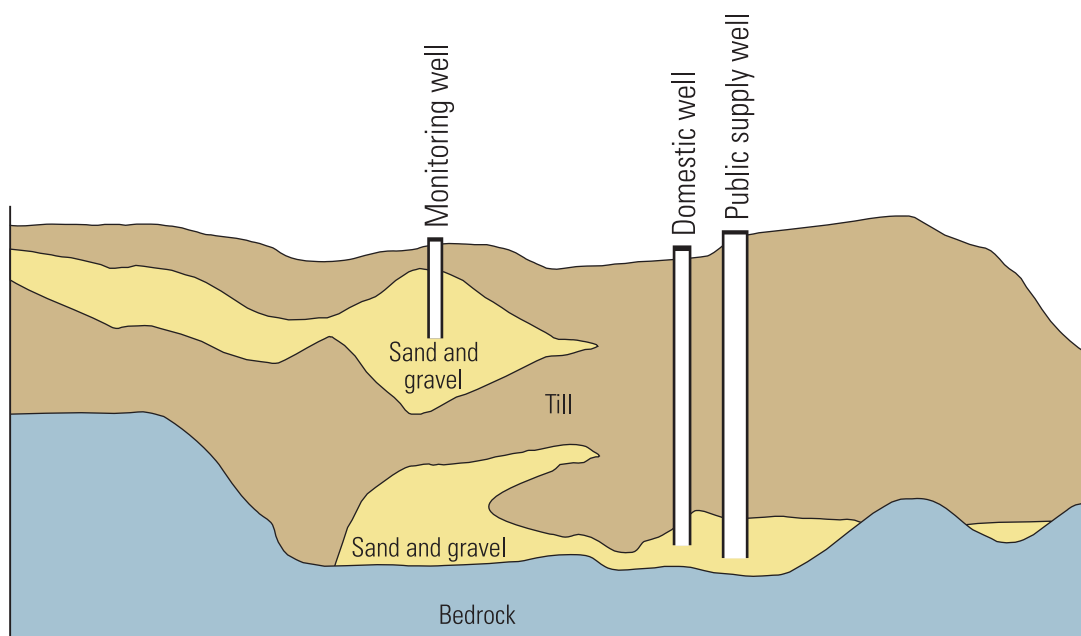
**Approximately
41 million people
rely on the
glacial aquifer
system for public
supply and
domestic use.**



Issues currently being addressed by the National Water-Quality Assessment program for the glacial aquifer system:

- **Nitrate in domestic wells—moving from monitoring to prediction**
- **Arsenic in ground water—where levels may be high and why**
- **Uranium and radon in ground water—how geology affects concentrations**
- **Chloride in ground and surface water—effects of road deicing chemicals**
- **Lead, copper and other trace metal concentrations in the aquifer system**
- **Water chemistry variations—environmental factors that influence water-quality**

Over 1,700 water-quality samples have been collected by the NAWQA Program from 1991 to 2004 to assess the glacial aquifer system. This large data set is unique in that the samples have been collected using a consistent sampling protocol, and multiple nested samples. The nested samples address the recently recharged shallow ground water, deeper ground water often used for domestic supply, and source water used for public supplies within the glacial aquifer system. Comparison of water quality within the glacial aquifer system will provide insight on source, distribution, fate, and transport of possible contaminants.



For additional information about the water quality of the glacial aquifer system, contact:
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For online information, reports, and data from the NAWQA program:
<http://water.usgs.gov/nawqa/>