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## News Release

U.S. Department of the Interior  
U.S. Geological Survey

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# USGS Begins Water-Resource Study in the Tuscarawas River Basin of Eastern Ohio

The U.S. Geological Survey (USGS) has begun the first of a three-phase hydrogeologic study of water resources in the Tuscarawas River Basin, the agency announced today. The research was prompted by increases in population and dependence on ground water in the basin, which drains part of 13 counties in eastern Ohio and is an important source of drinking water for the 600,000 people living in the area, including the cities of Akron, Canton, New Philadelphia, and Coshocton. Since 1970, ground-water use has increased from 55 percent to more than 85 percent of the total amount of water utilized in the area.

“Results from this basin-wide study will provide policy makers with the detailed hydrologic information needed to make decisions regarding future land and water uses in the basin,” said Jim Morris, Director of the USGS Ohio Water Science Center.

The three phases of the study include: compiling information from existing sources of data; establishing hydrologic data-collection networks, such as water-quality and water-level networks of monitoring and domestic wells and stream water-quality and discharge networks; interpreting the data collected; and publishing the results in a final report.

“An important part of this work will be to evaluate the influence of land use on the quantity and quality of water in different hydrologic settings,” said Dr. Ralph Haefner, project chief and principal investigator who has been a hydrologist with the USGS for the past 19 years. “To do this, USGS scientists will examine the movement of water from recharge areas, where rain water enters the ground, to discharge areas, where water leaves the ground and enters streams or wells. Research efforts will focus on flow of water between consolidated rock and the buried-valley aquifer system and interactions between ground water and surface water.”

The Stark-Tuscarawas-Wayne Joint Solid Waste Management District will provide major funding for phase one of the study, which has an estimated total cost of \$415,000. USGS is providing \$40,000 of the funding. Specific work to be completed in the next 14 months for phase one of the study includes:

- A background data compilation and literature review.

- Development of a geographic information system (GIS) database to provide a tool for managing and displaying the data in the basin.
- Compilation of water-well logs to locate potential wells for future water-level measurement and water-quality sampling. In cooperation with the Ohio Department of Natural Resources (ODNR) Division of Water, USGS will prepare two “historical” ground-water-level maps and will drill additional monitoring wells.
- Collection of ten water-quality samples from wells and streams to determine the usefulness of selected water-quality constituents in identifying important sources of recharge to ground water and the age of ground water prior to using them in a large-scale sampling effort described in phase two.
- Identification of additional data needs, such as drilling of monitoring wells, installation of additional stream gages, and other data-collection activities crucial to the understanding of the hydrogeology of the basin.
- Submission of a report that describes existing data, relevant literature, and data gaps pertinent to a basin-scale hydrologic study of the Tuscarawas River Basin. This report also will include the ground-water-level maps prepared by the ODNR.

The USGS serves the nation by providing reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life.

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