



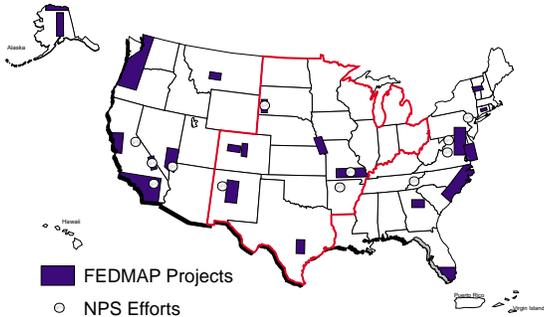
Association of American
State Geologists

in cooperation with

United States
Geological Survey

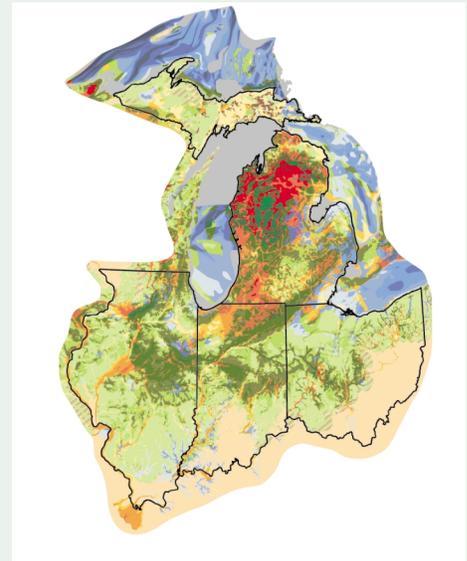


National Cooperative Geologic Mapping Program



Central United States

The Central Great Lakes Geologic Mapping Coalition is a geologic mapping partnership between the USGS and the State geological surveys of Indiana, Illinois, Ohio, and Michigan to better understand the geologic framework of the glacial deposits of the Central Great Lakes Region. The economy of the region supports one third of the Nation’s population as well as extensive manufacturing and agricultural industries. This strong industrial and agricultural base is built on an exceedingly complex network of glacial deposits, in which domains of high and low susceptibility to contamination are interspersed. Consequently, geologic maps of the glacial deposits are crucial guides to land and water resource management decisions. These deposits also provide the natural resources needed for sustained development. NCGMP efforts provide critical geologic map information on the three-dimensional distribution and characteristics of the glacial deposits and continually meets with stakeholders and customers to best align priorities and to coordinate work plans.



The **Geohydrologic Framework of the Edwards and Trinity Aquifers Project** is evaluating the complex aquifer system that serves as the source of water for more than 2 million people who live near San Antonio, TX. The City’s water needs compete with those of agricultural interests west of the city and threaten discharges from natural springs that sustain surface-water rights, endangered species, and tourism. A better understanding of the complex hydrogeologic processes that control the availability of water from the aquifer is needed. Geologic mapping efforts by the Project are supporting a ground-water-flow model to help managers evaluate the merits and shortcomings of optimization alternatives

Contact Information:

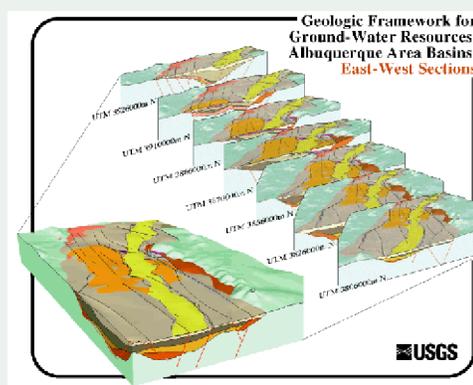
U.S. Geological Survey National Cooperative Geologic Mapping Program
 Program Coordinators: Peter T. Lyttle (703/648-6943); Martha N. Garcia (703/648-6978)
<http://ncgmp.usgs.gov/>

and to better prioritize future data collection. This work will leverage on prior studies by USGS Water Resource Districts, the Texas Bureau of Economic Geology, the University of Texas at Austin, the Edwards Aquifer Authority, and the San Antonio Water System.

The **Mid-continent Karst Systems and Geologic Mapping Project** is evaluating land-use, water resource, mineral resource, and hazard issues for selected areas of the Ozark Plateaus of Missouri and Arkansas, and the Black Hills of South Dakota. Geologic mapping contributes to three-dimensional frameworks that are being used by federal agencies to make decisions and formulate policies related to potential lead mining adjacent to National Parks, to protect caves from human contamination, to protect water quality in areas of urban development, and to define aquifers that are vulnerable to agricultural pollutants. These frameworks are also being used to assess mineral resources and the environmental impact of mining. Additionally, the effort contributes to the development of a regional tectonic framework for a corridor from St. Louis to Memphis addressing regional seismic-hazard potential by defining the tectonic framework of the mid-continent, determining the seismic history, and providing insights into the processes that earthquakes. The project works with a USGS National Mapping Division project designed to increase the knowledge of geospatial and geologic data to support the requirements of geologic and seismic hazards mapping, and risk assessment.



The **Middle Rio Grande Basin Project** is part of a multi-agency study of the geology and hydrology of the Middle Rio Grande basin, source for ground water in central New Mexico and for maintaining treaty rights to water in the Rio Grande River. The project, which contributes new geologic maps at 1:24,000 and 1,100,000-scale as well as three-dimensional geologic map-based models, is supported by all three components of the Program, FEDMAP, STATEMAP, and EDMAP. New surface and subsurface data contributed to a three-dimensional model of the basin structure, which allows, water allocation policies to be formulated on a more technically rigorous basis.



Past efforts in the Central United States include:

- Central Region State/USGS Cooperative Mapping Project (I-70) (1995 – 2000)
- Aggregate Geologic Mapping Project (1995 – 1998)
- Omaha Kansas City Urban Project (1995 – 1999)