Abstract

The Internet is becoming the medium of choice for delivering geologic information to both technical users and the general public. The Indiana Geological Survey (IGS) is currently creating a Web-based glacial and bedrock geologic map site for Allen County in northeastern Indiana. Allen County is the site of Fort Wayne, Indiana’s second largest city, and lies within IGS mapping and outreach priority areas based on population density and transportation corridors. This Web site provides detailed geologic information in an area that continues to experience pressure on natural resources by a large population and expanding transportation network. It is anticipated that the information from the Web site will be widely used by the general public and by industry and government entities.

The Allen County Web site includes an Internet map server (IMS), as well as illustrations, educational summaries, and discussions of geologic maps, terrain images, and databases that complement the IMS. The site provides a front-end to the IGS enterprise geodatabases, which contain information used simultaneously for research and for viewing by the general public. The geodatabase systems allow maps and data to be efficiently created, managed, updated, and distributed.

Maps provided on the Allen County Web site include: (1) digital elevation model terrain, (2) Landsat imagery, (3) surficial geology, (4) drift thickness, (5) bedrock topography, and (6) water-table elevation. Technical database information includes: (1) lithologic information compiled from water-well information in the Indiana Department of Natural Resources, Division of Water well records, (2) natural gamma-ray geophysical log data, (3) stratigraphic test hole data, and (4) petroleum-well data. The development of the Web site was funded by the IGS and the Central Great Lakes Geologic Mapping Coalition.

Homepage

Web-based geologic map products and databases Allen County, Indiana

Interactive Map Viewer

Digital elevation model of Allen County

Topographic map of the Three Rivers area in Fort Wayne

Aerial photo of the Three Rivers area in Fort Wayne

Infrared image of the Three Rivers area in Fort Wayne

Additional Information and References

Petroleum Database

Gamma-Ray Log Database

DEM Terrain

Data Sets

Water-Table Elevation

Bedrock Topography

Bedrock Geology

Clay Thickness

Unconsolidated Material Thickness

Surficial Geology

Soils

Explanation of Site

Home     About     Contact

GEOLOGIC MAPPING COALITION

INDIANA GEOLOGICAL SURVEY
The bedrock units in Allen County are composed of Precambrian to Tertiary sediments, and glacial-erosional deposits from the Wisconsinan stage. These units were deposited under various glacial conditions which resulted in a variety of erosional and depositional landforms. The bedrock surface is composed of sandstone and shale, which are overlain by as much as 300 feet of glacial drift. The glacial drift consists of till, hummocks, and eskers that are distinctively related to those processes. These features are distinct landforms that are characteristic of the late Wisconsinan glacial period, and include silt- and clay-rich lake plains, silty-clay to clay tills, end moraines, and eskers and outwash bodies.

The surficial geology map of Allen County depicts local glacial terrains. These terrains are characterized by specific landforms and glacial deposits that are distinctively related to those processes. These landforms include talus slopes, hill and valley, till plains, and eskers and outwash channels. The map shows the variability of glacial deposits across the county, and highlights the different landforms and glacial deposits that are present.

The Petroleum Database Management System is a Web application designed to display and manage information about petroleum-related wells in Allen County. This database contains more than 70,000 records collected from water wells in the county, and includes information on the physical logs, which provide reliable lithologic descriptions. The database can be printed or downloaded from the site, and allows one to click on each point and bring up the plotted digital data in PDF format. These PDFs can be opened or downloaded from the site.

The Clay Thickness (0-50 ft) map shows the distribution of clay thickness across the county, with values ranging from 0 to 50 feet. The map highlights areas where clay thicknesses are particularly thick, such as the central part of the county. The map also shows areas where clay thicknesses are particularly thin, such as the southern part of the county.