



WV GIS Technical Center 2009 ANNUAL REPORT

Fiscal Year 2009 (1 July 2008 - 30 June 2009)

Mission and Objectives

The West Virginia GIS Technical Center, located in the Department of Geology and Geography at West Virginia University, provides focus, direction and leadership to users of geographic information systems (GIS), digital mapping and remote sensing within the State of West Virginia. The WV GIS Technical Center (WVGISTC) was established under Executive Order No. 4-93 in November 1993, which specified that the Technical Center should provide technical support services to support the development and operation of GIS in West Virginia.

The primary objectives of the Center are to reduce the duplication of GIS data development among organizations; disseminate GIS spatial data, Web map services, mapping applications, and other geographic information free-of-charge through the Internet; coordinate acquisition of new data additions to the West Virginia Spatial Data Infrastructure; assist with strategic planning, development and implementation of GIS and mapping guidelines statewide; provide advisory services and training programs in GIS; and conduct research and provide education towards improvement of geographic information technologies in West Virginia.

Personnel

The staff consists of two geography professors who serve as co-directors, five full-time employees, and student and temporary employees hired periodically to accomplish project tasks.

- Dr. Gregory Elmes, Co-director
- Dr. Trevor Harris, Co-director
- Kurt Donaldson, Manager
- Frank LaFone, Senior Internet Programmer
- Evan Fedorko, GIS Analyst
- Eric Hopkins, GIS Analyst
- Kevin Kuhn, GIS Analyst

Funding

Primary FY 2008-09 funding of \$295,000 was received from the state-appropriated Mineral Lands Mapping Program (Fund 0253, Activity 207) approved under House Bill 2222 in February 1995. Fiscal management of this program was delegated to the WV Geological & Economic Survey, with programmatic oversight by the GIS Policy Council. Additional external funding was obtained from several grants and service contracts.

Projects and Activities FY 2009

Build and Disseminate State's Spatial Data Infrastructure

The WVGISTC supports digital data conversion, data development, and coordination with federal geospatial data initiatives, statewide mapping programs, and local (county, municipal) data producers. The Center collaborates with the Statewide Addressing and Mapping Board (SAMB), U.S. Geological Survey, and other partners to create a value-added, high resolution 1:4800-scale digital base map for West Virginia. Elevation, transportation, streams and administrative map layers benefit the entire state community; government, private sector and non-profits.

National Hydrology Dataset (NHD): In cooperation with the U.S. Geological Survey and WVU Natural Resource Analysis Center, completed development of an attributed, linear referenced, 1:4800-scale local resolution hydrography data set for two 8-digit watersheds: Upper Guyandotte (05070101) and Gauley (05050005). Both a business plan and a stewardship agreement plan were also developed.

Transportation and Structures: Completed a grant from the Federal Geographic Data Committee to build stewardship for integrating statewide structure and transportation data into national, standardized databases.

Orthophotos: Cooperated with other stakeholders in support of USDA's efforts to collect ground control points for the 2009 National Agricultural Imagery Program (NAIP) acquisition.

Economic Development: In partnership with the Development Office, WVGISTC identified potential new ski resorts in West Virginia.

Historical Geospatial Data: Continued to scan Sanborn Fire Insurance Maps from the WVU Library archives.

Flood Hazard Layers: Completed digitization and creation of flood hazard data for several counties in the Eastern Panhandle.

Utility Lines: Completed digitization and attribution of sewers for the Jefferson County Public Service District.

Mapping Projects and Applications

During fiscal year 2009, WVGISTC participated in a number of projects which generated geospatial data and products. Select projects are highlighted below:

Flood Hazard Mapping and Hazard Determination Tool: In partnership with the State Floodplain Manager, WVGISTC updated the online Flood Hazard Determination System (Figure 1) with new flood hazard data and addresses from the Statewide Addressing and Mapping System. This interactive mapping tool, which utilizes the best available digital flood hazard data for West Virginia, allows home and business owners, insurance and real estate agents, developers, and flood plain managers to make informed decisions about the degree of flood risk faced and what precautions, if any, should be taken. The flood mapping application has garnered acclaim from FEMA as well as from the state floodplain management office and local floodplain managers and is part of the MapWV.gov initiative to make online mapping resources in the Mountain State available to the public. Link: <http://www.mapwv.gov/flood>

Carbon Sequestration Mapping and Modeling: In cooperation with federal and state energy partners, WVGISTC continued work on mapping databases and modeling to locate potential sequestration sites in oil, gas, and coal fields suitable of hosting a Coal-To-Liquids facility.

Internet Mapping Applications: WVGISTC completed development of a Trout Stream Stocking application for the WV Division of Natural Resources (<http://www.mapwv.gov/website/dnr/viewer.htm>), a source water application for the Department of Health and Human Resources, and a National Register application for the State Historic Preservation Office (<http://www.wvculture.org/shpo/nr/index.html>)

Next Generation Topographic Maps: WVGISTC continued work on a grant funded by the U.S. Geological Survey to create new mapping routines for the next-generation topographic maps in West Virginia. The final technical report will be completed in fall of 2009.

Geographic Information Network Services

WVGISTC provides a suite of Internet services to disseminate geographic data and information, including the MapWV.gov portal, State GIS Data Clearinghouse, and GIS People Directory.

MapWV.gov: MapWV.gov is a public gateway to online mapping resources in the Mountain State, providing a wealth of high-quality maps and geographic data via the Internet. The site provides access to static and dynamic maps as well as Web map services. The target audience of MapWV.gov is the general public or casual user who is seeking geospatial information. MapWV.gov has been visited by nearly 475 visitors today since its inception. In spring 2008 the website was re-designed and new content was added (Figure 2). To support the growth of this public service, a new enterprise hardware system was installed which expanded storage capacities from 16 to 52 Terabytes. <http://www.mapwv.gov/>

Data Clearinghouse: **In 2009, the State Data Clearinghouse website hosted by WVGISTC was revamped to include catalog information about Web map services.** The State Data Clearinghouse has over 270 GIS data sets valued at more than \$50 million dollars. Since 2004, the website has serviced over two million visitors. It averages 700 people per visit per day, and over nine Terabytes of data downloaded from the clearinghouse over the past 5 years. Mapping professionals in the state and nation are the target audience for this online service. Data is accessed by FTP download, Web map services, or links to data stewards who routinely post geospatial data on their websites. Data clearinghouse at <http://wvgis.wvu.edu//data/data.php>

GIS Contacts and News: WVGISTC maintains a list of people interested in GIS news, events and activities in West Virginia. People directories are maintained by an Access Database connected to a Web interface and ConstantContact.com email marketing services. WVGISTC also provides support with news postings and online surveys.

Assists with strategic planning, development, and implementation of statewide mapping guidelines.

This past year WVGISTC worked with the State Tax Department and Property Valuation Training and Procedures Commission to publish new tax mapping guidelines. It also assisted the West Virginia Association of Geospatial Professionals (WVAGP) in creating a map disclaimer policy. WVGISTC is also assisting the WV GIS State Coordinator in developing a new GIS Strategic Plan.

Technical Support, Educational and Training Services

WVGISTC provides outreach, educational and training support, and advisory services to the citizens, government agencies, non-profit organizations, and businesses of West Virginia in the area of GIS and related spatial data handling technologies.

2009 Workshops: WVGISTC assisted WVAGP in creating a GIS Workshop Catalog of instructors and training facilities in the State. It then conducted a survey to determine which workshops GIS professionals wanted. After the completion of the survey, WVGISTC helped with the organizing of two workshops on GIS Program Management and Tax Mapping.

2008 Agency Roll Call Report: WVGISTC completed the GIS agency roll call report, a reference guide of geospatial activities of organizations in West Virginia.

Instructor-Led Training: Staff presented workshops and training throughout the year, including five “Introduction to GIS” courses by an ESRI-certified instructor.

WV Association of Geospatial Professionals: WVGISTC provided Web site development and other start-up tasks in support of the new GIS user and advisory group in West Virginia.

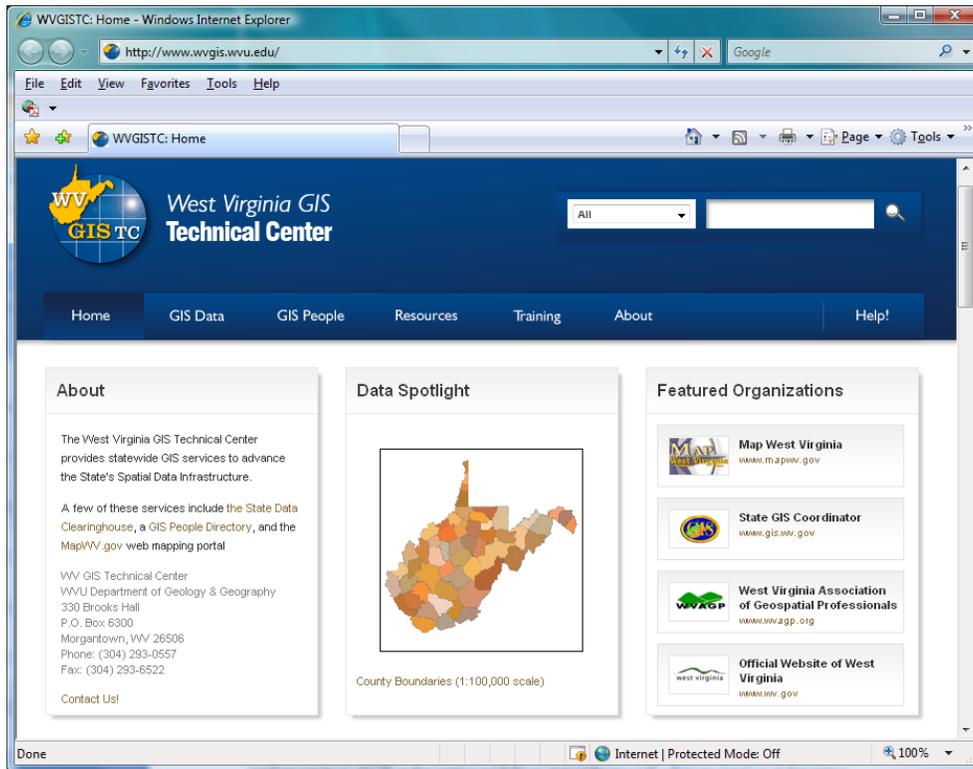


Figure 1: Home page of revamped WVGISTC website.

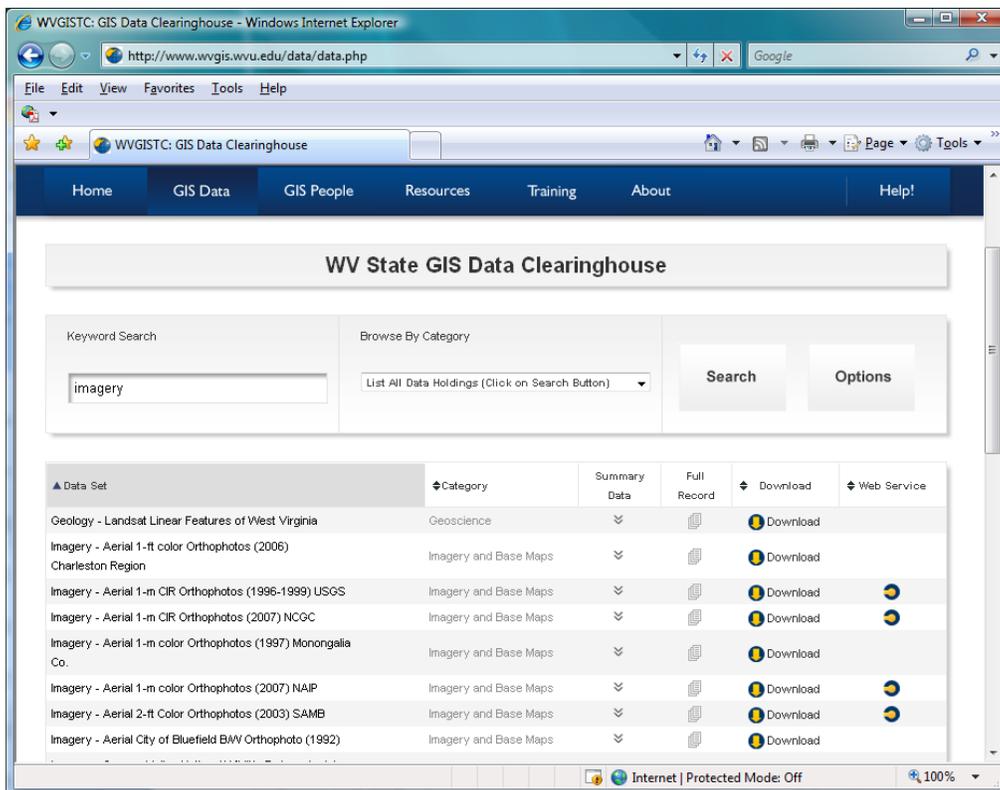


Figure 2: Data Clearinghouse re-design and updated content to include Web Map Services and other formats