

WV GIS Technical Center

(July 1, 2022 – June 30, 2023)

2023 Annual Report

WV GIS Technical Center

The West Virginia GIS Technical Center, located in the Department of Geology and Geography, West Virginia University, provides focus, direction, statewide coordination, and leadership to users of geographic information systems (GIS), digital mapping and remote sensing within the state of West Virginia. The Center was established by Executive Order 4-93 to provide coordination and technical support in the development and operation of geographic information systems (GIS) for the state's spatial data infrastructure. Statewide geospatial activities are coordinated through the WV Office of GIS Coordination, WV Geological and Economic Survey. *Below are highlights of GIS Services that support 13 state agencies as well as local governmental offices that include E-911 (addresses), county assessor (tax parcel), and county clerk (elections and boundaries).*

GIS SERVICE	DESCRIPTION
Addresses	Host the statewide addressing and mapping system (SAMS) for the WV Emergency Management Division that incorporates 1.0 million site addresses along with road centerlines from the local E-911 Addressing Offices. See www.mapwv.gov/address . Completed a conflation study sponsored by the WV Division of Transportation for conflating road centerline geometry between the SAMS and DOT geodatabases.
Address Locator Services	Create bi-monthly locator services from statewide E-911 road and site addressing files for bulk geocoding that allows local and state agencies to convert their lists of addresses to map locations.
Aerial Imagery	Maintain and update the statewide web map service, an essential base map service for the state, in which new countywide leaf-off imagery is procured via a state contract administered by the Center.
Boundaries – Election Districts	Support the offices of county clerk and secretary of state in updating voting precincts and magisterial districts to include hosting a public voting application (www.mapwv.gov/vote). Perform monthly statewide audits of all 1.1 million voter points to ensure voters are assigned to the correct election districts.
Boundaries – Legal, Public Lands, Tax Districts	Perform state-level boundary change submissions for county and municipal legal boundaries to the U.S. Census. Submit state public land boundary updates for the WV Division of Natural Resources and WV Division of Forestry to the nationwide PAD-US database. Update the statewide rural and corporation tax district reference map file in coordination with the WV State Tax Department.
Building Footprints	Create building footprints from high-resolution aerial imagery using deep-learning software.
Elevation	Host for the public the statewide FEMA-purchased LiDAR, including downloadable elevation products (1-meter elevation grids; 1-ft. contours) and online map services valued at \$10 million. Refer to the WV Elevation Download Tool at www.mapwv.gov/elevation .

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Hazard Flood	Support the public and floodplain managers of 268 flood-prone communities with regulatory and flood risk products including maintaining an inventory of 98,000 structures located in high-risk floodplains. Refer to www.mapwv.gov/flood .
Hazard Landslide	Completed the inventory of more than 100,000 landslides inventoried from the high-resolution LiDAR elevation data and re-published a new statewide 2-meter landslide susceptibility grid.
Highway Plans Scanning	Provide scanning and GIS support for the WV Department of Transportation to include scanning more than 10,000 archival highway plans and publishing to an online retrieval system (www.mapwv.gov/DOTplans).
Tax Surface Parcels	Coordinate with the county assessors and WV State Tax Department to maintain 1.4 million parcels on the WV Property Viewer (www.mapwv.gov/property), the most popular website hosted by the Center. This viewer includes weekly updates of delinquent properties from the WV State Auditor's Office.
Tax Mineral Parcels	In a collaborative effort with the WV State Tax Division and WV Geological and Economic Survey to support the mineral lands mapping program, this past year the Center reviewed 38,028 mineral records, whereby 4,818 unique mineral records were mapped and 376 well plats geo-referenced.
WV GIS Support for Other Agencies	The Center provides hosting and e-government geospatial services for the State Historic Preservation Office (cultural resources), WV Department of Environmental Protection (wetlands), Department of Natural Resources (hunting and fishing ; land and streams), WV Department of Transportation (trails; highway plans), WV Natural Resources Conservation Agency (NRCS) (environmental resources screening), State Resiliency office (flood resiliency tool), and state legislature task force (NEPA screening tool).
WV State Base Layer Map Services	MapWV.gov (www.mapwv.gov) provides a publicly accessible gateway to essential base map layers and geoprocessing services (e.g., aerial imagery, elevation, address geocoding) utilized by many organizations in the state for their mapping activities.
WV State GIS Clearinghouse	The WV State GIS Data Clearinghouse (wvgis.wvu.edu) catalogs over 300 unique datasets and 120 web services valued at more than \$70 million dollars. To support the state's spatial data infrastructure, a new three-server SAN hardware system was installed at a cost of \$150,000 that expands the raw storage to 500 TB.
WV Technical, Training, & Outreach Services	Provides the WV Geospatial Community with advisory, training, and outreach services. These services are coordinated with the WV Office of GIS Coordination and WV Association of Geospatial Professionals. The Technical Center responds to an estimated 12 calls per week from the public and clients regarding GIS data and applications.