

# WEST VIRGINIA’S STATE SPATIAL DATA INFRASTRUCTURE

*West Virginia’s Base Layer Development:* Core geographic layers form the “framework” for most mapping applications and base map products that support the state’s spatial data infrastructure. Data development of statewide geographic mapping layers requires defined stewardship roles, standards, data integration, and effective business processes for sharing and publishing data in seamless national databases and products.

**Table 1.** Base Layers: Table 1 lists the best available data and future data development activities. **Yellow highlighted layers** indicate WVGISTC active involvement. WV Geological & Economic Survey includes WV Office of GIS Coordination.

MAPPING LAYER	PRINCIPAL STEWARDS 2024			DATA DEVELOPMENT FOCAL ISSUES
	Local	State	Federal	
<b>ORTHOPHOTOS</b>	County Assessors  County E-911	WVGES <b>WVGISTC</b>	USDA USGS	<p><b>Statewide Digital Imagery</b></p> <p><b>HISTORICAL:</b></p> <ol style="list-style-type: none"> <li>(1) <a href="#">Sanborn Fire Insurance Maps</a> (1866-1970)</li> <li>(2) <a href="#">Historical Aerial Photos</a> Catalog (1936-1976)</li> <li>(3) <a href="#">1996-99 USGS DOQQ</a>, 1-meter CIR, leaf off</li> <li>(4) <a href="#">2003 SAMB</a>, 2-ft natural color, leaf off</li> <li>(5) <a href="#">2010-12 WV Sheriff Association (Pictometry)</a>, 1-ft (4” urban areas) natural color, mostly leaf-off, oblique and top down</li> </ol> <p><b>PRESENT:</b></p> <ol style="list-style-type: none"> <li>(1) <a href="#">USDA NAIP</a>; 1-meter leaf on (2007, 2009, 2011, 2016, 2018, 2020, 2022 web services and downloads)</li> <li>(2) <a href="#">WV County Mosaic Mixed Resolution</a>, Leaf-Off, 9-inch or higher resolution, 2018-2022. View cached <a href="#">imagery map service</a> or download <a href="#">aerial imagery</a> for counties that reside in the public domain.</li> </ol> <p><b>WV Statewide Imagery Program (WVSIP)</b></p> <ul style="list-style-type: none"> <li>• 2019-2025. WV Statewide Imagery Program (<a href="#">WVSIP</a>) initially funded with partial funding from FEMA HMGP grant. Between years 2019-2022, the total cost share by counties was 85% (\$713K) while the grant share was \$124K. The entire aerial imagery cost with no county cost share contributions only had to be paid for two disadvantaged counties (Clay and Pendleton counties). A total of 18,987 square miles were flown from this state contract. All counties were collected at 4-inch resolution except for Cabell (3”), Pendleton (6”), and Randolph (6”) counties. The spring flying season was from late February to mid-April during leaf-out and no snow conditions. Replaced the legacy WV Sheriffs Association (2010-12) as the best available leaf-off imagery. See <a href="#">TEIF-TEAL Data Development Report</a>.</li> <li>• In 2023, the statewide imagery contract was amended to extend the contract until June 30, 2025 with the Thrasher Group. The imagery costs increased by 67%. Imagery cost share at the local level is typically paid by county assessor offices, E-911 offices, and county commissions.</li> </ul> <p><b>FUTURE:</b></p> <ol style="list-style-type: none"> <li>(1) Fused imagery of different sources. GISTC has successfully mosaicked statewide leaf-off imagery with other partial coverage sources of higher temporal and spatial resolution imagery into an image map service.</li> <li>(2) Local funding driver for aerial imagery is the county assessor’s annual valuation fund comprised of 2% of a county’s tax collections.</li> </ol> <p><b>ISSUES:</b></p> <ol style="list-style-type: none"> <li>(1) Funding for new statewide imagery contract for program management costs and for cost-shares for disadvantaged counties. See other state programs like <a href="#">Kentucky</a>.</li> <li>(2) County leaf-off imagery should not be older than 5 years.</li> </ol>

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				<p>(3) Some counties purchase oblique imagery which is more expensive and typically does not reside in the public domain compared to top-down imagery.</p> <p>(4) Counties and other stakeholders acquiring “top-down” aerial imagery need to make sure imagery can be shared with other partners (no restrictive license agreements), and preferably in the public domain.</p> <p>(5) Need source files for 2022 NAIP to create localized web map service for greater zoom in control.</p>
TRANSPORTATION ROADS	E-911	WV DOT WV EMD  <b>WVGISTC</b> (Archival Plan Scanning)	Census USDOT USFS	<p><b>HISTORICAL:</b> WV DOT Plan scanning and archive. Archival plans downloaded from <a href="#">Highway Plans Locator</a>. As of 3/1/2024, 416,785 highway plans sheets have been scanned and 11,040 plan sets published. The archival system and web retrieval plan application are being migrated from WVGISTC to DOT.</p> <p><b>PRESENT:</b></p> <p>(1) <u>WV DOT</u>: 37,000 miles of major roads (Interstates, U.S. Highways, State Routes, &amp; County Routes) maintained by WV DOT that includes a linear referencing system. An “all roads” database of 1:4,800 scale or better is maintained and updated periodically by WV DOT. <a href="#">WV DOT Open Data Portal</a>.</p> <p>(2) <u>E-911 Roads</u>: SAMS E-911 addressable roads. See Addressing Section.</p> <p>(3) <u>USFS Roads</u>: USFS made available in July 2008 1,500 miles of forest service roads collected at 1:24,000-scale.</p> <p>(4) <u>Census TIGER</u>: In December 2008, Census TIGER roads were re-aligned to the WV SAMS 1:4800-scale geometry; the updated higher-resolution TIGER files were released in 2010.</p> <p><b>FUTURE:</b></p> <p>(1) Ideally, an “All-Roads” databases at 1:4800-scale or better which supports linear referencing, routing, and address ranges.</p> <p>(2) WVGISTC is modeling transportation infrastructure inundated by a 1%-annual-chance (100-yr) flood. More coordination required with WV DOT.</p> <p><b>ISSUES:</b></p> <p>(1) Integration of geometry, attributes, and functions of different road databases. In 2022, WVGISTC completed a <a href="#">conflation pilot project</a> of WV DOT and SAMS road centerlines; project funded by WV DOT.</p> <p>(2) SAMS local road centerlines not collected uniformly as compared to Census TIGER road centerlines. For example, some counties inventory logging roads while other may not.</p>
RAILROADS		WV DOT	Census USDOT	<p><b>PRESENT:</b> (1) SAMB-derived railroad (state generated) database. (2) US-DOT Federal Rail Authority database. (3) WV DOT has a railroad-highway crossing database.</p> <p><b>FUTURE:</b> Further integration of railroad data by state and federal rail authorities.</p>
TRAILS		WV DOT <b>WVGISTC</b>	NPS USDOI	<p><b>PRESENT:</b> WV DOT funded the completion of statewide inventory of land and water trails. The WVGISTC hosts the <a href="#">WV Trail Inventory</a> online application and publishes a standardized <a href="#">statewide trails geodatabase</a> at 1:4,800 scale or better (most trails are GPS accuracy) on the State Data Clearinghouse. See <a href="#">Trail Flyer</a>.</p> <p><b>ISSUES:</b> Maintaining comprehensive trail inventory and contacts.</p>
AIRPORTS		WV DOT WV EMD	FAA USDOT	<p><b>PRESENT:</b> Federal point and polygon airport databases. In 2008 WV EMD digitized airport runways from 1:4800-scale imagery.</p> <p><b>ISSUES:</b> Completeness and validation of airplane footprints.</p>
BRIDGES, TUNNELS		WV DOT		<p><b>PRESENT:</b> 7200 bridges maintained by WV DOT. WVGISTC is tracking bridges inundated by a 1%-annual-chance (100-yr) flood.</p>
PORTS		WV DOT		<p><b>PRESENT:</b> 700 ports</p>
HYDROGRAPHY		WVGES WV DEP WVGISTC Other agencies	USGS EPA	<p><b>PRESENT:</b></p> <p>(1) <a href="#">1:24K National Hydrography Dataset (NHD)</a>. In 2018, WVGISTC completed updates to the high-resolution 1:24,000-scale NHD, verifying 28,095 stream segments. Water bodies and stream segments were modified as needed, especially in surface mined areas of the state where streams were altered. Funding from EPA. See <a href="#">2018 report</a>.</p> <p>(2) <a href="#">1:4800 SAMB Local Resolution (2003)</a> streams</p>

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				<p><b>FUTURE:</b> Up-to-date and spatially accurate 3DHP stream layer which supports stream addressing and flow modeling at multiple map scales.</p> <p><b>ISSUES:</b></p> <p>(1) Improving spatial resolution of NHD features to 1:4800 scale or better. In 2009, WVU conducted a <a href="#">local resolution NHD pilot study</a> and determined that the SAMS 1:4800-scale streams data is not suitable to develop Local Resolution NHD.</p> <p>(2) State stewardship of NHD and sustained funding for NHD maintenance.</p>
DAMS, LOCKS			USACE, USGS	<b>PRESENT:</b> USACE, USGS, FEMA
<b>ELEVATION</b>	Local	WVGISTC WVDEP WVGES	USGS	<p><b>PRESENT:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">2012-2020 FEMA LiDAR Elevation Data</a>. All the newly purchased FEMA QL2 LiDAR was processed and published to the WV Elevation Download Tool. This includes the LiDAR-derived elevation products of 1-meter DEMs (and Hillshade) and 1- or 2-foot contours. All new elevation data has been published to the WV Property and WV Flood Tool viewers. <ul style="list-style-type: none"> <li>○ Metadata: <a href="https://www.mapwv.gov/lidar-metadata">https://www.mapwv.gov/lidar-metadata</a></li> <li>○ Elevation Download Site: <a href="https://data.wvgis.wvu.edu/elevation/">https://data.wvgis.wvu.edu/elevation/</a></li> <li>○ FEMA-Purchased LiDAR Projects: <a href="#">Project coverage graphic</a></li> </ul> </li> </ul> <p><b>HISTORICAL:</b></p> <p>(1) <a href="#">2004-18 Legacy Non-FEMA Elevation Data</a>. Acquired by USACE, <a href="#">WVDEP</a> (96% southern coalfields collected), counties, etc. <a href="#">Non-FEMA graphic</a>.</p> <p>(2) 2003 SAMS 3-meter National Elevation Dataset (NED). Derived from SAMS elevation points and breaklines; supports <a href="#">3-meter DEM</a> and <a href="#">10-foot contours</a>.</p> <p>(3) 1999 USGS Topographic Maps. 1:24,000 scale; 30- or 10-meter DEM; <a href="#">20-foot contours</a>. Refer to USGS download site.</p>
<b>ADDRESSING – Road and Site Points</b>	Local E-911 Offices	WVEMD E-911 Council WVGISTC	USDOT	<p>The <a href="#">Statewide and Addressing Mapping System</a> (SAMS) sponsored by WVEMD and hosted by WVGISTC allows authorized users to create, edit, and maintain local address data which is required for E-911 dispatching, address matching services, hazard risk assessments, geocoding health and voter registration data, and other applications. It includes a <a href="#">SAMS Training Site</a> for training purposes.</p> <ul style="list-style-type: none"> <li>• <a href="#">E-911 SAMS data layers</a> are requested routinely from the Local E-911 Addressing Offices for creating statewide addressing layers and services. E-911 address coordinators should update at a minimum annually. See <a href="#">SAMS County update graphic</a>.</li> <li>• Geocoding Services. The SAMS addressing layers support both single and bulk geocoding <a href="#">address locator services</a> utilized by state agencies and the public for pinpointing geographic locations.</li> </ul> <p><b>ISSUES:</b></p> <ul style="list-style-type: none"> <li>• Funding support for SAMS system.</li> <li>• Migrating SAMSII to new servers and modernizing architecture: enterprise databases, <a href="#">web application</a>, geoprocessing services, and user management system.</li> <li>• County technical support, training, and funding.</li> </ul> <p><b>FUTURE:</b> Next Generation 911</p>
<b>BOUNDARIES</b>  LEGAL	County / municipal officials	WVGES WVSOS WVTAX WVDOT WVGISTC	Census USGS	<p><b>PRESENT:</b></p> <p><a href="#">County Boundaries</a>. The official <a href="#">county boundaries</a> are derived from the 1:24,000-scale U.S. Geological Survey's topographic maps (W.Va. Code §7-2-6) of which the official set is maintained by the WVGES. Sample <a href="#">Boone-Logan update</a>. <b>IMPORTANT:</b> The 1:24,000 scale county boundaries should be consumed by a Census special project before Redistricting 2030, similar to how addresses from the SAMS project were adopted for the 2010 Census. The</p>

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				<p>W.Va. Code needs to be modernized for updating and maintaining the official paper and digital records.</p> <p><u>Municipal Boundaries.</u> Best available <a href="#">municipal boundaries</a> (also referred to as incorporated places or incorporated boundaries) are derived from Census and local data sources. An online <a href="#">BAS Viewer</a> and <a href="#">status graphic</a> track incorporated place boundary updates. Sample <a href="#">BAS engagement letter</a>. It is estimated that a third of the municipal boundaries in the State are not accurate nor match the boundaries published by Census. BAS submissions can be performed at the local level or state-level (WVGISTC). The W.Va. Code should be modernized for the submission of municipal boundaries to state and federal geodatabases.</p> <p><b>ISSUES:</b></p> <ul style="list-style-type: none"> <li>• <u>Boundary Integrity at Local, State, and National Levels.</u> Authoritative county and municipal boundaries at the local level need to be the same for the state federal levels. Accurate municipal boundaries are required for Census Redistricting and the WV Municipal Home Rule Program.</li> <li>• <u>Municipal Home Rule Program.</u> The Municipal Home Rule Program (W.Va. Code <a href="#">§8-1-5a</a>) also known as the municipal <a href="#">sales tax list</a> requires accurate municipal boundaries.</li> <li>• <u>Disputed County Boundaries.</u> Counties can execute <a href="#">§7-2-1</a> to resolve county boundary disputes, such as the Berkeley-Jefferson dispute. In the past the defunct Boundary Commission would appoint surveyors to resolve county and state boundary disputes legislatively.</li> <li>• <u>Authoritative Sources.</u> Census will not accept county or municipal boundary submission into <a href="#">BAS</a> or their federal geodatabase without the proper legal documentation. GIS Professionals often mistakenly conflate legal (coordinate geometry) jurisdictional and land ownership (parcel) boundaries.</li> <li>• <u>Scope of Practice:</u> The GIS Professional Community should review its Scope of Practice to ensure professionals do not exceed their certification or licensure. Refer to W.Va. Code <a href="#">§30-13A-10</a> - Scope of Practice for Land Surveyors and GIS Professionals. In certain instances, GIS Professionals are creating authoritative boundary files outside the scope of a mapping professional’s practice. The main issue is when mapping professionals conflate legal and property tax assessment boundaries which are not the same. Legal boundaries should be supported by Coordinate Geometry (COGO) and metes and bounds descriptions.</li> </ul> <p><b>FUTURE:</b> More spatially accurate incorporated place boundaries using the Census Boundary and Annexation Survey (<a href="#">BAS</a>) program. Active partnerships with State Tax Department, Secretary of State’s Office, and WVGES/Office of GIS Coordination. WVGISTC can provide technical assistance to communities in submitting political boundary changes to Census BAS.</p>
ELECTION				<p><b>PRESENT:</b></p> <ul style="list-style-type: none"> <li>• <u>Magisterial District Boundaries.</u> The U.S. Census Bureau defines these districts as non-functioning subdivisions used for various purposes, such as in West Virginia for conducting elections or apportioning county officials from different areas. County subdivision <a href="#">magisterial districts</a> possess no governmental organization or authority.</li> <li>• <u>Voting Precinct Boundaries.</u> Besides <a href="#">Decennial Redistricting</a>, the county subdivision <a href="#">voting precincts</a> are updated periodically by the WV GIS Technical Center in support of county clerks and the Secretary of State’s Offices.</li> </ul> <p><b>ISSUES:</b> <u>Census Submissions.</u></p> <ul style="list-style-type: none"> <li>• After the 2021 Redistricting, West Virginia has 195 magisterial districts but the Census is showing 228 districts in its database, or 33 more than should be. Nearly all the magisterial districts in the state are incorrect, and a state-level submission to BAS needs to be submitted to Census along with commission order dates.</li> </ul>

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				<ul style="list-style-type: none"> <li>A special project with Census need to consume the more accurate 1:24,000-scale county boundary lines so election boundaries are coincidental and align properly.</li> </ul>
PUBLIC LANDS	Local Parks	WVDNR WVDOF WVGISTC	USGS USFS NPS	<p><b>PRESENT:</b> WVDNR and WVDOF are primary stewards of <a href="#">state public land</a> layers.</p> <p>12% or 1.9 million acres of West Virginia’s 1.5 million-acre land area are protected lands. In 2017, WVGISTC updated a total of 651 protected land units: 35 state parks, eight state forests, 109 state wildlife management areas, and 499 county or city parks (<a href="#">see report</a>). The PAD-US update of state and local lands increased fee-owned <a href="#">protected areas</a> by a total of 67,395 acres and new land units by 515. In 2022, WVGISTC coordinated with WVDNR and WVDOF to submit state public land updates to the USGS Protected Areas Database of the United States (<a href="#">PAD-US</a>). Federal agencies submit public land boundary changes directly to PAD-US. State and local boundaries can be viewed <a href="#">online</a> or <a href="#">graphic</a>. Last submission of state lands to PAD-US was in 2023.</p> <p><u>STATE AND LOCAL LANDS</u></p> <ul style="list-style-type: none"> <li>State Forests - <a href="http://wvgis.wvu.edu/data/dataset.php?ID=58">http://wvgis.wvu.edu/data/dataset.php?ID=58</a></li> <li>State Parks - <a href="http://wvgis.wvu.edu/data/dataset.php?ID=203">http://wvgis.wvu.edu/data/dataset.php?ID=203</a></li> <li>Wildlife Management Areas - <a href="http://wvgis.wvu.edu/data/dataset.php?ID=59">http://wvgis.wvu.edu/data/dataset.php?ID=59</a></li> <li>County/City Parks - <a href="http://wvgis.wvu.edu/data/dataset.php?ID=472">http://wvgis.wvu.edu/data/dataset.php?ID=472</a></li> </ul> <p><u>NATIONAL LANDS</u></p> <ul style="list-style-type: none"> <li>National Parks - <a href="http://wvgis.wvu.edu/data/dataset.php?ID=57">http://wvgis.wvu.edu/data/dataset.php?ID=57</a></li> <li>National Forests - <a href="http://wvgis.wvu.edu/data/dataset.php?ID=262">http://wvgis.wvu.edu/data/dataset.php?ID=262</a></li> <li>National Wildlife Refuges - <a href="http://wvgis.wvu.edu/data/dataset.php?ID=236">http://wvgis.wvu.edu/data/dataset.php?ID=236</a></li> </ul> <p><u>WV Farmland Protection Board easement and NGO properties</u></p> <ul style="list-style-type: none"> <li><a href="#">Farmland Protection Easement &amp; Other Protected Lands</a> (Lavonne Paden)</li> </ul> <p><b>ISSUES:</b> Coincidental boundary issues of certain datasets (vertical integration). Timely submission to nationwide PAD-US database. Steward responsibility for conservation easement updates.</p>
<p><b>TAX PARCELS</b></p> <p>TAX BOUNDARIES</p> <p>OUTSIDE TAX PARCELS</p> <p>DELINQUENT PROPERTIES</p>	Assessors	Tax WVSAO WVGISTC	BLM?	<p><b>HISTORIC:</b> <u>Tax district boundaries.</u> In 1978, the WV Legislature established the <i>rural tax district boundaries</i> as the magisterial districts drawn on the 1:24,000-scale USGS topographic. After 1978, tax district boundaries did not have to align with magisterial districts, since magisterial districts are realigned every ten years during Census Redistricting to achieve equal representation requirements for voting. (W.Va. Code §§7-2-7 and 11-3-1a). Today, consequently, in most areas of the state, the magisterial and tax district boundaries do not align. As for <i>corporate tax district boundaries</i>, the municipal tax district boundaries should match the “official” incorporated place boundary.</p> <p><b>PRESENT:</b></p> <ol style="list-style-type: none"> <li>After two decades of migrating from paper to digital, all counties now have digital tax parcels and maps. Accordingly, updated tax map maintenance standards to reflect the digital conversion should be approved by the WV Property Valuation Training and Procedures Commission (PVC).</li> <li>A <a href="#">tax map vendor graphic</a> created in 2023 shows that a majority of counties (n=38) outsource their tax map maintenance to GIS Professional service companies. Many of these GIS vendors also provide hosting and technical support for county tax map viewers.</li> </ol>

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				<p>(3) Statewide parcel map viewer and property search tool (<a href="http://www.mapwv.gov/property">www.mapwv.gov/property</a>). Updated annually with WV Property Tax Division. This tool can be used by county assessor offices to resolve overlapping tax parcel issues at county boundaries.</p> <p>(4) Delinquent properties from the WVSAO are updated weekly on the WV Property Viewer.</p> <p><b>ISSUES:</b></p> <p>(1) <u>Corporation Tax District Boundaries</u>: Corporation boundaries of Tax District Boundary and Municipal Boundary files should be the same. The current statewide Tax District Boundary file is not accurate.</p> <p>(2) <u>Assessment Tax Boundaries / Outside County Parcels</u>: "Assessment tax boundary" changes occur over time and can consist of individual tax parcels that can span more than one tax district or county. County assessor offices should coordinate to make boundaries seamless at county boundaries. In addition, the geometry of parcels should not be entirely lie in one county while assessed in another county. "Outside county parcels" that entirely lie and are assessed in the wrong county may lead to voter registration errors by county clerk offices.</p> <ul style="list-style-type: none"> <li>9/2023 Graphics: <a href="#">County Values Assessed in Wrong County   Voter Registrations in Wrong County</a></li> <li>Suggested <a href="#">Guidelines</a> for Parcel Transfers (from Putnam and Cabell Counties)</li> </ul> <p>(3) <u>Tax Map Standards</u>: PVC Monitoring and Tax Map Procedural Rule <a href="#">§189-3</a> should be modernized for best digital mapping practices in state.</p>
LAND COVER/LAND USE		WVDNR WVU WVLSC  Chesapeake Bay Watershed	USGS	<p><b>PRESENT:</b></p> <p>(1) <a href="#">NLCD 2021</a></p> <p>(2) <a href="#">2016 WVU NRAC land Cover</a></p> <p>(3) <a href="#">Chesapeake Conservancy</a> (partial WV coverage)</p> <p>(4) <a href="#">WV Land Stewardship Corporation</a> (WVLSC) operates a statewide land bank. Its program includes mapping services and analytics to facilitate the reuse of commercial and industrial sites.</p> <p><b>FUTURE:</b> Dr. Aaron Maxwell of WVGISTC is a subject matter expert in deep learning for creating statewide land cover datasets.</p>
<b>GEOGRAPHIC NAMES</b>		WVGES <b>WVGISTC</b>	USGS	<p><b>PRESENT:</b> USGS Geographic Names Information System (GNIS) is the official names layer for the U.S. (national gazetteer) and used for a property search parameters besides addresses or coordinates. A GNIS search is available on the WV Flood Tool (<a href="http://www.mapwv.gov/flood">www.mapwv.gov/flood</a>) and is useful for locating streams, historical towns, and other topographic features.</p> <p>Between 2009 and 2012, USGS funded the WVGISTC to update more than 20 feature classes and 3,773 feature identities. <a href="#">2012 GNIS Report</a>.</p>
<b>GEODETIC CONTROL (Invisible Layer)</b>		WVDOT WVGES	NGS	<p><b>PRESENT:</b> <a href="#">WVRTN CORS network</a></p> <p><b>ISSUES:</b> (1) No state geodetic advisor. (2) New coordinates systems and datums.</p>
<b>NATURAL RESOURCES</b> WV CONSERVATION INTERAGENCY TOOL  HUNTING & FISHING  WETLANDS		WVDNR WVDEP <b>WVGISTC</b>	NRCS FWS	<ul style="list-style-type: none"> <li>Determine conservation planning measures for endangered species in support of environmental site evaluations (<a href="http://www.mapwv.gov/ICT">www.mapwv.gov/ICT</a>). A similar conservation tool is utilized by Kentucky as well.</li> <li>Search and identify hunting and fishing adventures (<a href="http://www.mapwv.gov/huntfish">http://www.mapwv.gov/huntfish</a>)</li> <li>A standardized tool for assessing wetlands (<a href="https://mapwv.gov/wetlands">https://mapwv.gov/wetlands</a>)</li> </ul>
<b>CULTURAL RESOURCES</b>		WV SHPO <b>WVGISTC</b>		<p>Conduct Cultural Resource Section 106 reviews (<a href="http://www.mapwv.gov/SHPO">www.mapwv.gov/SHPO</a>). Cultural resources are updated <i>monthly</i> by WVGISTC to online viewer.</p>
<b>ELECTIONS &amp; VOTER REGISTRATION</b>	County Clerks	WVSOS <b>WVGISTC</b>		<p><b>PRESENT:</b> Geo-enabled election support and monthly spatial audits of 1.1 million voter addresses for the county clerk offices and Secretary of State's</p>

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				<p>Office, including online G-SVRS Tool (<a href="http://www.mapwv.gov/G-SVRS">www.mapwv.gov/G-SVRS</a>) to verify voter registration assignments.</p> <ul style="list-style-type: none"> <li>A monthly statewide audit of all records of the Statewide Voter Registration System (SVRS) is conducted to ensure voters are assigned to the correct voting precinct.                             <ul style="list-style-type: none"> <li>County SVRS-GEO and Address Geocoding Statuses <a href="#">Table</a>   <a href="#">Graphic</a>   <a href="#">Geocode Status</a></li> <li>Precinct SVRS-GEO Status <a href="#">Table</a>   <a href="#">Graphic</a>   <a href="#">Sub-Splits</a></li> </ul> </li> <li>Voter web map applications for the public to look up election districts, polling sites and directions, or sample ballots by address (<a href="https://www.mapwv.gov/vote">https://www.mapwv.gov/vote</a>; <a href="https://www.mapwv.gov/vote/poll/">https://www.mapwv.gov/vote/poll/</a>; <a href="https://www.mapwv.gov/vote/ev/">https://www.mapwv.gov/vote/ev/</a>)</li> </ul> <p><b>ISSUES:</b></p> <ul style="list-style-type: none"> <li><u>County of Residence</u>. For voting purposes, the county of residence means the county in which the voter physically lives. W.Va. State Code §3-2-2 (Eligibility to register to vote) rules that the county of residence is determined by where the voter physically lives and identified by a valid E-911 site address. Only the geographic position of the physical dwelling in relationship to the official county boundary determines the correct county of a registered voter. The county of a voter’s residence is not determined by the land/property books (deeds), tax assessments, school districts, or emergency service zones, which may be a different county than where the registered voter resides. Some local county officials may take a casual attitude about the county of residence determination, but voting errors expose counties to election lawsuits, such as has occurred in <a href="#">Virginia</a> and <a href="#">Tennessee</a>.</li> </ul>
<p><b>NATURAL HAZARDS</b></p> <p>FLOOD</p> <p>LANDSLIDES</p>	<p>Floodplain Managers</p> <p>Risk Planners</p>	<p>WVEMD</p> <p>WVGES</p> <p><b>WVGISTC</b></p>	<p>FEMA</p> <p>USACE</p> <p>NWS</p> <p>USGS</p>	<p><b>PRESENT:</b></p> <ul style="list-style-type: none"> <li>Flood hazard determinations, floodplain management, building-level risk assessments (<a href="http://www.mapwv.gov/flood">www.mapwv.gov/flood</a>). WVGISTC is working with other partners on statewide flood risk assessment tools and flood visualizations.</li> <li>Landslide incidents and susceptibility maps. (<a href="http://www.mapwv.gov/landslide">www.mapwv.gov/landslide</a>). 116,000 landslides were mapped statewide from FEMA LiDAR.</li> </ul>
<p><b>STRUCTURES / INFRASTRUCTURE</b></p> <p>CRITICAL STRUCTURES</p> <p>BUILDING FOOTPRINTS</p>	<p>E-911</p>	<p>WVEMD</p> <p>WVGES</p> <p>WVDHHR</p> <p>WVDEP</p> <p>IJDC</p> <p>Broadband</p> <p><b>WVGISTC</b></p>	<p>DHS</p> <p>Utilities (private)</p>	<p><b>HISTORICAL:</b></p> <ul style="list-style-type: none"> <li>2003 SAMB structures; centroids and polygons for building footprints greater than 7500 square feet.</li> </ul> <p><b>PRESENT:</b></p> <ul style="list-style-type: none"> <li>Critical infrastructure datasets are diverse and cover a wide range of sectors. DHS provides access to Homeland Infrastructure Foundation-Level Data (HIFLD) datasets (<a href="https://hifld-geoplatform.hub.arcgis.com/">https://hifld-geoplatform.hub.arcgis.com/</a>).</li> <li>Statewide Addressing and Mapping System (SAMS) maintained by WVEMD with input from county 911 offices allows for point and <a href="#">bulk geocoding services available</a> for generated critical infrastructure lists from addresses.</li> <li>Statewide building footprints are available by <a href="#">Microsoft (2017)</a> version and <a href="#">WVGISTC (2018-2023)</a> version using Esri Deep Learning algorithm. <a href="#">Project Report</a>.</li> </ul> <p><b>ISSUES:</b></p> <ul style="list-style-type: none"> <li>An updated <a href="#">BRIM</a> dataset (preferably spatial dataset) from the state would be helpful in assigning values to critical facilities.</li> </ul>

MAPPING LAYER	PRINCIPAL STEWARDS 2024			DATA DEVELOPMENT FOCAL ISSUES
	Local	State	Federal	
				<ul style="list-style-type: none"> <li>Building footprint extractions are not perfect and outputs are affected by image quality and algorithm precision.</li> </ul>
<p>&lt;&lt; OTHER &gt;&gt;</p> <p>Daniel's Law Privacy Information</p>	Local GIS Stewards	WVEMD Tax SOS WVGES WVGISTC  Other agencies		Daniel's Law Privacy Information: As of 3/25/2024, there are currently 14 records statewide in WVGISTC's tracking database for <a href="#">Daniel's Law</a> . When we receive Daniel's Law requests, we perform the following actions on the following statewide geodatabases: <ul style="list-style-type: none"> <li><u>E-911 Address</u>: Coordinate with WV Emergency Management Division. Flag the address in the E-911 database as a "sensitive record" and do not display the address label on applications.</li> <li><u>Parcel Record</u>: Coordinate with WV State Tax Department. Remove the owner name, address, and legal description from the tax assessment database while preserving the parcel geometry. Update the data records on the Data Clearinghouse so sensitive parcel records cannot be downloaded.</li> <li><u>State Voter Registration System (SVRS)</u>: Coordinate with the Secretary of State's Office which is responsible to set a sensitive flag for voting records in the SVRS.</li> </ul>
<p>&lt;&lt; OTHER &gt;&gt;</p> <p>State Data Clearinghouse</p>	Local GIS Stewards	WVGISTC WVGES  Other agencies	Federal GIS Stewards	<p><b>PRESENT:</b> A core mission of the WV GIS Technical Center is to provide a mechanism to distribute GIS data and products to the public. Two portals serve the means for achieving this goal – MapWV.gov and the WV GIS State Clearinghouse. The WV GIS State Clearinghouse (<a href="https://wvgis.wvu.edu">https://wvgis.wvu.edu</a>) catalogs over 300 unique datasets and 120 web services valued at more than \$70 million dollars. MapWV.gov (<a href="https://mapwv.gov">https://mapwv.gov</a>) provides the public accessible gateway to the wealth of GIS data available in the Clearinghouse. The WVGISTC currently provides over 197 TB of storage space in a virtualized environment configured to maximize availability and access.</p> <p>Most popular web map services are (1) Parcels/E-911 addresses, (2) leaf-off imagery, and (3) boundaries</p> <p><b>FUTURE:</b> WVGISTC needs to partnership with other state stewards to update and modernize the <a href="#">State Data Clearinghouse</a> records and <a href="#">MapWV.gov</a> web map services. Recommend State GIS Strategic Data Program Sheets for Imagery, Addresses, Parcels, and Boundaries.</p>