

**WV GIS Technical Center**  
 (July 1, 2016 – June 30, 2017)  
 2017 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.

**Web Portals**

The Center maintains two major web portals to distribute spatial data and information in the State. The **WV GIS Clearinghouse** (<http://wvgis.wvu.edu>) catalogs over 300 unique datasets valued at more than \$56 million dollars, while **MapWV.gov** (<http://mapwv.gov>) provides a public gateway to online mapping resources in the Mountain State. These geospatial services are distributed through virtualized servers located at the Center with a storage capability of 120 TB. Web usage statistics reveal that over the last four quarters, the WV GIS Technical Center’s site hosted an average of 586 visitors a day for a total of 213,959 visits by 79,711 unique visitors. Its companion site, MapWV.gov, hosted 223,606 unique visitors for an average of 1,258 visits per day and a grand total of 459,311 visits.

**Geospatial Data Layers**

To reduce the duplication of costly data development efforts among organizations, the Center plays a crucial role in not only serving critical spatial data to state users but in updating and integrating local geospatial data within state and national geospatial databases. These framework data layers are utilized by almost all **state agencies, communities, and the general public** for emergency response, risk assessment, economic development, energy resource exploitation and management, transportation, natural resources, community planning, tax assessments, and health studies to name a few. This past year the Center focused on the development of the geospatial data layers listed in Table 1 to enhance the State’s Spatial Data Infrastructure. The continued development and publishing of GIS layers through the state clearinghouse node hosted by the Center supports the Mineral Lands Mapping Program and other vital programs in the State that depend on current and accurate base mapping layers.

Table 1: Statewide Data Services provided by Center

| <b>DATA LAYER</b>            | <b>PURPOSE</b>   | <b>PARTNERS</b>                                    |
|------------------------------|--|--|
| <b><i>Aerial Imagery</i></b> | Integrated hi-resolution aerial imagery from 29 counties into a statewide leaf-off imagery web map service   | Counties   |
| <b><i>Parcels</i></b>        | Integrated parcel data and attributes for 95% of West Virginia into statewide parcel web layer. Published digital tax maps and GIS parcels on State Data Clearinghouse.                  | WV Property Tax Division & County Assessor Offices |
| <b><i>Addresses</i></b>      | Integrated addressing data for 41 counties into statewide addressing layers for address matching services and online applications  | WV DHSEM and County E-911 Offices                  |
| <b><i>Public Lands</i></b>   | Updated 651 state and local public land units for the Protected Areas Database of the United States (PAD-US), the official inventory of public parks/protected open space for the nation | State (WV DNR, WV DOF) and local agencies          |

| DATA LAYER          | PURPOSE   | PARTNERS          |
|---------------------|---|-------------------|
| <b>Hydrography</b>  | Updated stream geometries for every watershed that changed due to mining or new roads for the National Hydrography Dataset. Also corrected streams located outside the floodplain boundary. | WV DEP            |
| <b>Elevation</b>    | Elevation data compiled for more than 10 different lidar acquisition projects   | WV View, WV DEP   |
| <b>Other Layers</b> | Updated statewide recreational trails and advisory flood heights for Approximate Zone A flood hazard areas  | WV DOT & WV DHSEM |

### GIS Map Applications

In addition to developing and updating geospatial base layers for the State, the Center also supports multiple state agencies with e-governance applications to meet their regulatory, communication, and information exchange goals (Table 2). The very successful WV Flood Tool ([www.mapwv.gov/flood](http://www.mapwv.gov/flood)), for example, provides floodplain managers, insurance agents, developers, real estate agents, local planners and citizens with an effective means by which to make informed decisions about the degree of flood risk for a specific area or property. This past year the WV GIS Technical Center received a NSGIC Geospatial Excellence Award and FEMA Letter of Appreciation for the outstanding support the WV Flood Tool provides for flood risk determinations and disaster assessments. During this fiscal year the Center modernized online web applications for state agencies: WV Division of Homeland Security and Emergency Management’s Statewide Addressing and Mapping System, State Historic Preservation Office’s Cultural Resources Map Viewer, and the Division of Natural Resources’ Hunting and Fishing Tool. The Center also supported federal initiatives for the Marcellus Shale Energy and Environment Laboratory ([www.mseel.org](http://www.mseel.org)) and terrestrial biosphere carbon ([www.carbonscapes.org](http://www.carbonscapes.org)).

Table 2: Statewide Map Applications supported by Center

| APPLICATION  | PURPOSE  | SPONSOR                              |
|--|--|--------------------------------------|
| <b>WV Lidar Download Tool</b>                              | Download raw lidar point cloud elevation data ( <a href="http://www.mapwv.gov/lidar">www.mapwv.gov/lidar</a> )   | WV VIEW                              |
| <b>WV Flood Tool</b>                                       | Make flood hazard determinations for flood insurance ( <a href="http://www.mapwv.gov/flood">www.mapwv.gov/flood</a> )  | WV DHSEM, FEMA                       |
| <b>SHPO Map Viewer</b>                                     | Conduct Cultural Resource Section 106 reviews ( <a href="http://www.mapwv.gov/SHPO">www.mapwv.gov/SHPO</a> )   | SHPO                                 |
| <b>Statewide Addressing &amp; Mapping System (SAMS)</b>    | Update address sites and road centerlines required for emergency response ( <a href="http://www.mapwv.gov/address">www.mapwv.gov/address</a> )   | WV DHSEM, E-911 Address Coordinators |
| <b>Hunting and Fishing</b>                                 | Search and identify hunting and fishing adventures ( <a href="http://www.mapwv.gov/huntfish">http://www.mapwv.gov/huntfish</a> )   | WV DNR                               |
| <b>WV Trail Inventory</b>                                  | View publicly accessible recreational trails in the State ( <a href="http://www.mapwv.gov/trails">http://www.mapwv.gov/trails</a> )  | WV DOT                               |
| <b>Highway Plans Locator</b>                               | View and download archival highway plans ( <a href="http://www.mapwv.gov/dotplans">http://www.mapwv.gov/dotplans</a> )   | WV DOT                               |
| <b>Conservation Planning Interagency Coordination Tool</b> | Determine conservation planning measures for endangered species in support of environmental site evaluations for West Virginia landowners ( <a href="http://www.mapwv.gov/ICT">www.mapwv.gov/ICT</a> ) | WV DNR, NRCS                         |
| <b>WV Base Map Viewer</b>                                  | Best available base map information for the public ( <a href="http://mapwv.gov/base_viewer">http://mapwv.gov/base_viewer</a> )   | WVGES OGC                            |
|  |  |                                      |

## Services

This past year the WV GIS Technical Center continued to assist the WV Geospatial Community with advisory services, training programs, and the implementation of new mapping standards. These services are coordinated with the WV Office of GIS Coordination and WV Association of Geospatial Professionals.

- Educational and outreach services included organizing and hosting five instructor-led GIS training courses and presenting on the Center's geospatial initiatives and applications at the National Capitol Region HAZUS User Group Meeting, WV Floodplain Management Association Conference, Eastern Panhandle GIS Users Group Meeting, Morgantown High School GIS Day, WVDOT GIS User Day Meeting, WVDOT/MPO/FHWA Transportation Planning Conference, and State Tax Commissioner's Annual In-Service Training for Assessors and Deputies.
- Completed hazard flood risk assessment reports for Berkeley and Morgan counties.
- WVGISTC provided consultation services for approved state legislation that established new rules for tax map sales.

**WV State GIS Data Clearinghouse**

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Keyword Search

Browse By Category

LIST ALL DATA HOLDINGS (CLICK ON SEARCH) ▼

**Search**      **Options**

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| ▲ Data Set                                | ↕ Category | Summary Data | ↕ Date Created | ↕ Download | ↕ Web Service |
|---|------------|--------------|----------------|------------|---------------|
| Public Lands - County/City Parks          | Boundaries | ⌵            | 2017           | 📄 Download |               |
| Public Lands - National Forest Boundaries | Boundaries | ⌵            | 2017           | 📄 Download |               |
| Public Lands - National Park Boundaries   | Boundaries | ⌵            | 2017           | 📄 Download |               |
| Public Lands - National Wildlife Refuges  | Boundaries | ⌵            | 2017           | 📄 Download |               |
| Public Lands - State Forests              | Boundaries | ⌵            | 2017           | 📄 Download |               |
| Public Lands - State Parks                | Boundaries | ⌵            | 2017           | 📄 Download |               |
| Public Lands - Wildlife Management Areas  | Boundaries | ⌵            | 2017           | 📄 Download |               |

Figure 1: GIS data search from the Tech Center’s website

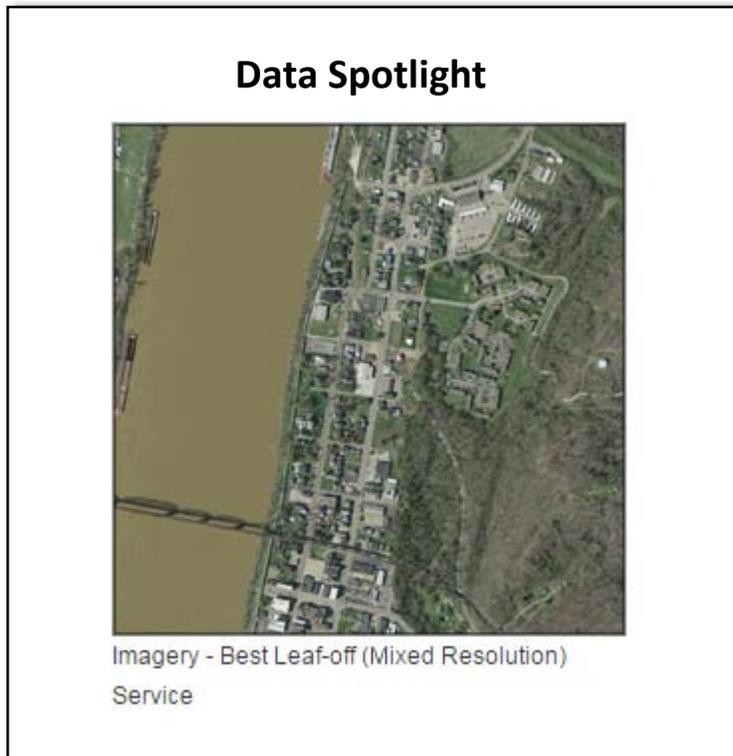


Figure 2: Data web service example from the website

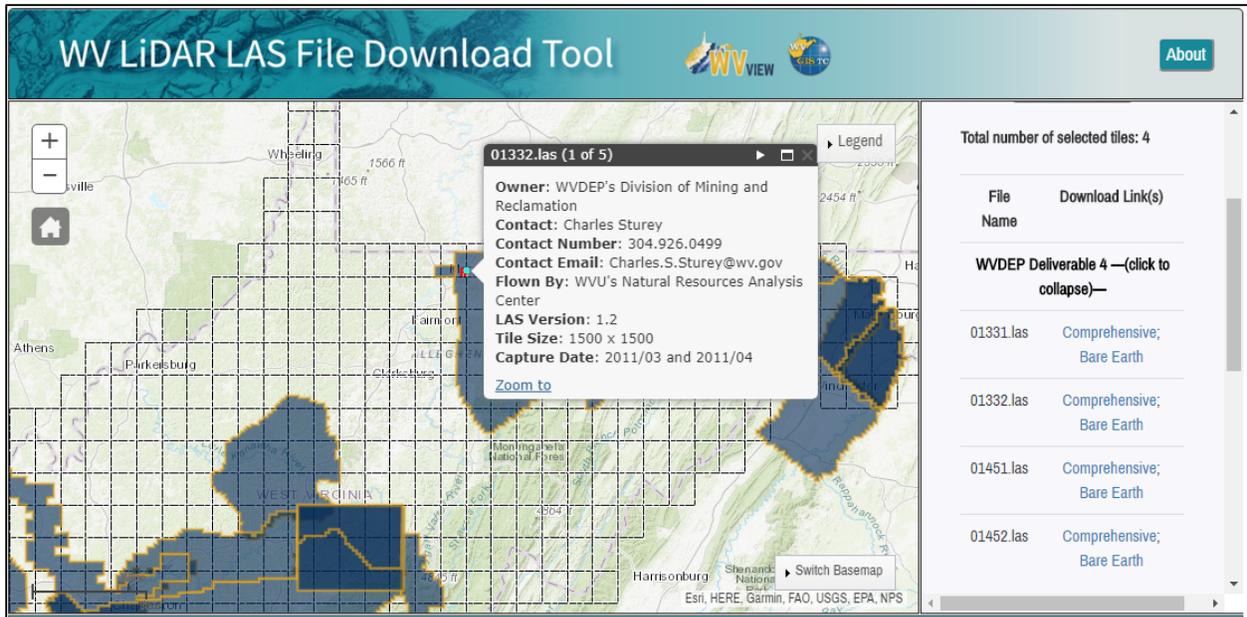


Figure 3: Web application for downloading high-resolution elevation lidar files

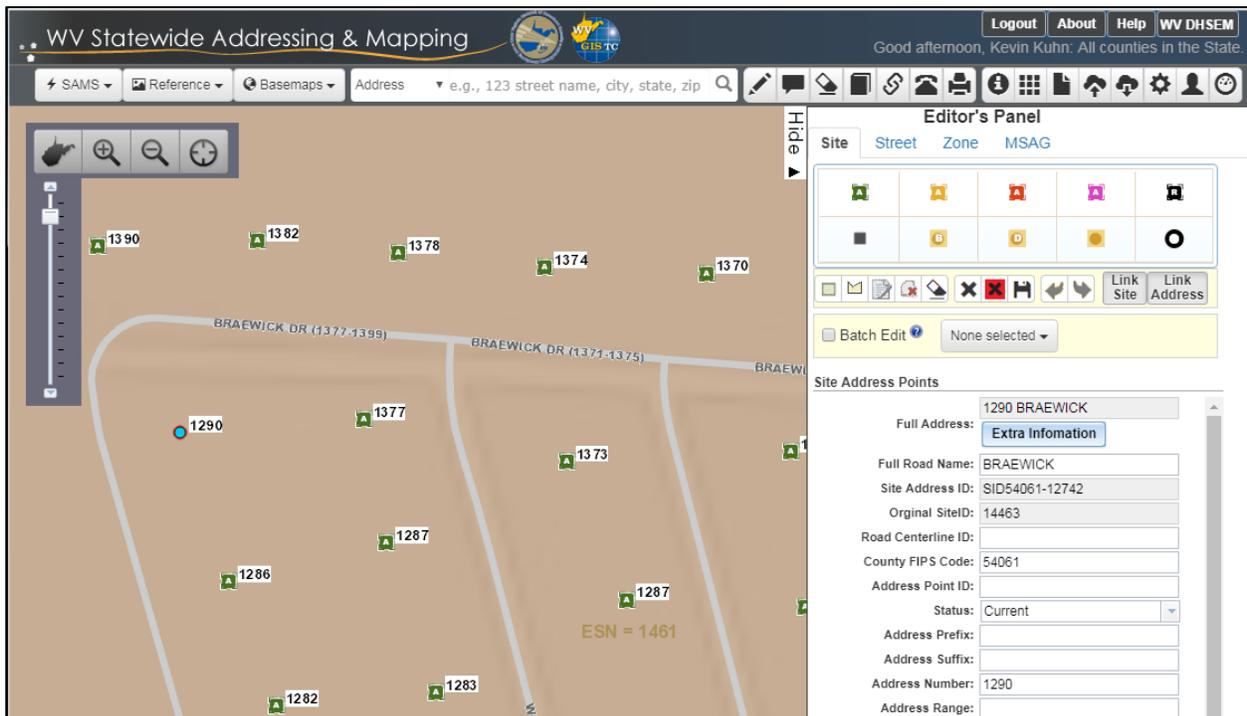


Figure 4. The Statewide and Addressing Mapping System (SAMS) allows authorized users to create, edit, and maintain local address data which is required for E-911 dispatching, address matching services, hazard risk assessments, and other applications