

Elevation Sources for WV Flood Tool

8/2/2019

#	1	2	3	4	5	6	7	8A	8B	9A	9B	10	11
WV Project Name	2003 WV Statewide Addressing & Mapping Board	2004 FEMA Lidar: Gilmer County, WV	2009 Cabell County, WV Lidar	2009 Marion County, WV Lidar	2009 USACE Lidar: Bluestone Lake and Downstream, WV	2010 - 2011 WVDEP DMR/Coal Fields Lidar Project	2012 FEMA R3 WV-VA-MD (Jefferson, Berkeley, Morgan)	2016 FEMA R3 WV East	2016 FEMA R3 WV-East Elk-River-AOI	2016-17 FEMA R3 WV Northeast	2016-17 FEMA R3 VA Southwest	2017 WVU Lidar	2018 Logan County, WV Lidar
Source	SAMS	FEMA	Cabell	Marion	USACE	WVDEP	FEMA	FEMA	FEMA	FEMA	FEMA	WVU	Logan
Year	2003	2004	2009	2009	2009	2010-11	2012	2016	2016	2016-17	2016-17	2017	2018
Quality Level		4	3	4	3	3 and 4	2	2	2	2	2	2	2
Grid Resolution	3m	2m	2m	2m	2m	2m	1m	1m	1m	1m	1m	1 Ft	3 Ft
Horizontal Accuracy	3 m	0.20 m	Not Provided	0.76 m	0.45 m	0.76 m	1 m	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
Vertical Accuracy	10 feet	36 cm RMSE	10.14 cm RMSEz	25 cm RMSE	2ft & 4ft contours	21 cm(DMR) 11.8 cm RMSE(Coal Fields)	10 cm RMSEz	6.7 cm	6.7 cm	6.22 cm	6.22 cm	Not Provided	Not Provided
Coordinate Sytem	UTM Zone 17	UTM Zone 17	UTM Zone 17	UTM Zone 17	UTM Zone 17	UTM Zone 17	UTM Zone 17 & 18	UTM Zone 17	UTM Zone 17	UTM Zone 17	UTM Zone 17	SPCS North	SPCS South
Horizontal Datum	NAD83	NAD83	NAD83	NAD83	NAD83	NAD83	NAD83	NAD83	NAD83	NAD83	NAD83	NAD83	NAD83
Vertical Datum	NAVD88	NAVD88	NAVD88	NAVD88	NAVD88	NAVD88	NAVD88	NAVD88	NAVD88	NAVD88	NAVD88	NAVD88	NAVD88
Z-Units	Meters	Meters	Meters	Meters	Meters	Meters	Meters	Meters	Meters	Meters	Meters	Feet	Feet
Source Data Type	Photogrammetry	Lidar-Topo	Lidar-Topo	Lidar-Topo	Lidar-Topo	Lidar-Topo	Lidar-Topo	Lidar-Topo	Lidar-Topo	Lidar-Topo	Lidar-Topo	Lidar-Topo	Lidar-Topo
Restrictions	Public	Public	Public	Other	Public	Public	Public	Public	Public	Public	Public	Public	Not Public
Products Available	Points, breaklines, DEM, 10-ft contours	Bare earth points, DEMs (1m)	Points	Not Provided	Points, DTMs, DEMs, breaklines, 2 ft and 4 ft contours	Points, DEMs, breaklines. In house produced derived data products include an intensity image, breaklines, digital elevation model (DEM), elevation grid, hillshade, contours (100, 20 and 2 foot), slope and aspect datasets	Points, bare earth, breaklines, DEM	DEM, point cloud, contours, breaklines	DEM, point cloud, contours, breaklines	DEMs, point cloud, contours, breaklines	DEMs, point cloud	Point Cloud DEM	Point Cloud, DEM
Point Spacing		1 m	1 m	1 m	1 m	2 m or less	0.5 m	0.64 m	0.64 m	0.7 m (spec)	0.7 m (spec)		
Vertical RMSE		36	10.14	25	18.2	21(DMR) 11.8(Coal Fields)	10	6.7	6.7	10	10		
InvID		2034	2450	2533	2150	5048(DMR) 2376(Coal Fields)	4114	8265	8265	9282	9282		
Meets 3DEP	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No	No
Reasons 3DEP	QL3 or lower quality lidar	QL3 or lower quality lidar	QL3 or lower quality lidar	Data not in public domain	QL3 or lower quality lidar	QL3 or lower quality lidar	Missing USGS Base Spec products	QL2 or better quality lidar data with USGS Base Spec v1.2 products	QL2 or better quality lidar data with USGS Base Spec v1.2 products	QL2 or better quality lidar data with USGS Base Spec v1.2 products	QL2 or better quality lidar data with USGS Base Spec v1.2 products	Not a 3DEP project.	Not a 3DEP project.
Prime Contractor	Statewide Addressing & Mapping Board	Canaan Valley Inst.	Woolpert		Woolpert	WVU	Dewberry	Quantum Spatial	Quantum Spatial	Dewberry	Dewberry	Thrasher	Kucera
FEMA Project Name							VA-WV-MD_FEMA-LIDAR-R3 Lol4_2012	2016 FEMA R3 WV East	2016 FEMA R3 WV East	2016 VA FEMA R3 Southwest Lidar	2016 VA FEMA R3 Southwest Lidar		

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Source	SAMS	FEMA	Cabell	Marion	USACE	WVDEP	FEMA	FEMA	FEMA	FEMA	FEMA	WVU	Logan
Year	2003	2004	2009	2009	2009	2010-11	2012	2016	2016	2016-17	2016-17	2017	2018
Start Date	2003	03/25/04	03/18/09	02/13/09	04/2009	4/9/2010	01/29/12	11/22/16	11/22/16	11/04/16	11/04/16	2017	2018
End Date		04/07/04	Mar 22, 2009			12/13/2011	04/26/12	12/28/16	12/28/16	04/27/17	04/27/17	2017	2018
Tile Extent			2,500m x 2,500m			1,500m x 1,500m	1,500m x 1,500m	1,500m x 1,500m	1,500m x 1,500m	1,500m x 1,500m	1,500m x 1,500m	2,500 ft x 2,500 ft	2,962 ft x 2,962 ft
# Tiles		4,346	1,741 (63.1 GB)		433		1,023 (29.8GB)	4133 (300GB)	187 (13GB)	3,242 (579GB)	74 (8.70GB)	102 (1.36GB)	1,577 (51.6GB)
DEM/LAS Download	WVGISTC	WVGISTC	TNM	None	WVGISTC	WVDEP	TNM	TNM	TNM	TNM	TNM	WVGISTC	WVGISTC
Notes	Statewide coverage		Part of 2008 NGA Urban Area, USGS Partnership. Project name in The National Map: WV_CABELLCO_2009	Originally delivered to Marion County by CVI in 2009; recreated with permission for WVDEP in 2011	USACE-Huntington District; ARRA project	Data was flown and .LAS files produced by West Virginia University's Natural Resources Analysis Center for the West Virginia Department of Environmental Protection's Division of Mining and Reclamation. Clean .LAS files were provided to WVView (http://www.wvview.org/)	Covered by multiple projects in The National Map: VA-WV-MD_FEMA_REGION3_UTM18_2012, VA-WV-MD_FEMA_REGION3_UTM17_2012, and VA_LOUDOUNCO_2012	FEMA R3 GPSC	FEMA R3 GPSC	USGS GPSC	USGS GPSC	No metadata	No metadata

Notes:

(1) All the datums for the ground elevation data are NAVD 88 (vertical) and NAD83 (horizontal)

(2) The WVDEP fused the different elevation sources into a 3-meter resolution elevation grid for Coal Fields project.

(3) Elevation source information compiled from the NOAA U.S. Interagency Elevation Inventory (<https://coast.noaa.gov/inventory/>) and project metadata.

(4) Lidar tiles and derived products can be downloaded from USGS' The National Map (<https://viewer.nationalmap.gov/basic/>) and the WV LiDAR LAS File Download Tool (<http://data.wvgis.wvu.edu/lidar/>).

Elevation Sources for WV LiDAR

Photogrammetric-Derived DEM

(1) 2003 WV Statewide Addressing & Mapping Board

LiDAR-Derived DEM

QL 3-4

(2) 2004 FEMA Lidar: Gilmer County, WV

(3) 2009 Cabell County, WV Lidar

(4) 2009 Marion County, WV Lidar

(5) 2009 USACE Bluestone Lake and Downstream Lidar

(6) 2010-2011 WVDEP DMR/Coal Fields, WV Lidar

LiDAR-Derived DEM

QL 2

(7) 2012 FEMA Jefferson, Berkeley & Morgan Lidar

(8A) 2016 FEMA R3 Lidar WV East

(8B) 2016 FEMA R3 Lidar WV Elk River

(9A) 2016-17 FEMA R3 Lidar WV Northeast

(9B) 2016-17 FEMA R3 Lidar WV Southwest

(10) 2017 WVU Lidar

(11) 2018 Logan County, WV Lidar

