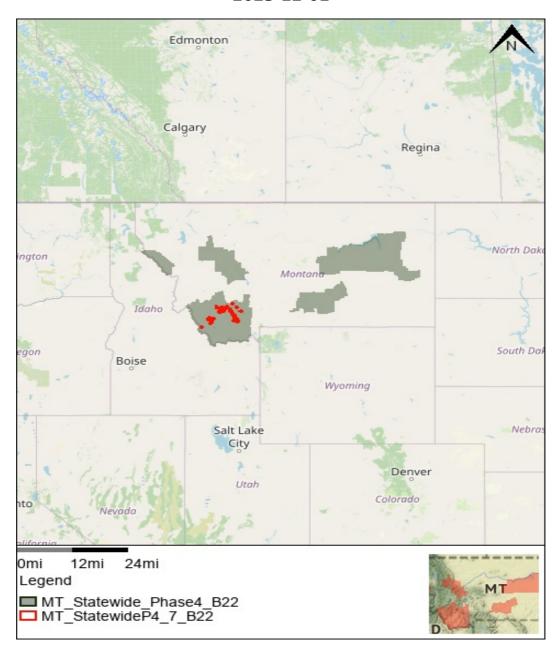


## **Data Validation Report**

## from the National Geospatial Technical Operations Center in Support of the 3D Elevation Program

## MT\_StatewideP4\_7\_B22

2023-12-01







Project Name: MT\_Statewide\_Phase4\_B22

Report Date: 2023-12-01

# Based on this review, the delivered data is **EXPECTED TO MEET** 3D Elevation Program requirements.

## **Work Unit Summary Information**

Project Name: MT_Statewide_Phase4_B22	Project ID: 231442	
WU Name: MT_StatewideP4_7_B22	Work Unit ID: 300232	
Mechanism: GPSC	Lidar Base Spec: 2021 Revision A	
Quality Level: $1$	P-Method: 7 - Linear-Mode Lidar	
Horizontal EPSG Code: 6514	Vertical EPSG Code: 5703	Geoid Model: GEOID18
The National Map Help Desk Email: tnm_help@usgs.gov		

The U.S. Geological Survey evaluates absolute vertical accuracy of the lidar and lidar-derived bare earth digital elevation model (DEM) data at the project level. Data are produced to meet 9.8 cm absolute vertical accuracy at the 95-percent confidence level in non-vegetated, open terrain. To review vertical accuracy results, please see the project report

#### **Breaklines**

#### Based on this Review, the USGS-NGTOC ACCEPTS the Breaklines

Breaklines are visually reviewed in conjunction with the bare earth DEM for spatial and geometric accuracy. Breaklines are confirmed to be three dimensional (3D) features and that elevations are at or just below the immediately surrounding terrain. Single- and double-line drainages are reviewed to ensure downstream flow. The USGS recognizes that differences in collection methodology, resampling techniques, and other factors that are unique to proprietary production do occur, and these will result in minor horizontal and vertical differences between breaklines derived on the fly.

#### **Reporting Metadata**

#### Based on this Review, the USGS-NGTOC ACCEPTS the Reporting Metadata

Reports from the contractor, including calibration, collection, and processing methods, are reviewed for accurate information. For more information, please see the work units metadata.

#### **FGDC XML Metadata**

#### Based on this Review, the USGS-NGTOC ACCEPTS the FGDC XML Metadata

CSGDM .xml metadata are parsed using the USGS Geospatial Metadata Validation Service and reviewed for accurate information. CSDGM is maintained by the Federal Geographic Data Committee (FGDC).

#### **Spatial Metadata**

#### Based on this Review, the USGS-NGTOC ACCEPTS the Spatial Metadata

Spatial metadata from the contractor, including raster and vector datasets, are evaluated together with pertinent deliverables for geometric fidelity and attribution accuracy. For more information, please see the work units metadata.





Project Name: MT\_Statewide\_Phase4\_B22

Report Date: 2023-12-01

#### DEM

#### Based on this Review, the USGS-NGTOC ACCEPTS the DEM

Visual review is performed on .tif bare earth rasters at a 1:5,000 or larger viewing scale to validate point cloud geometry, raster processing methodology, point classification, and breaklines. Comprehensive review is completed to ensure consistency and accuracy across all files. For additional information, please see this work units metadata folder.

#### **Pointcloud**

#### Based on this Review, the USGS-NGTOC ACCEPTS the Pointcloud

Visual and statistical review is performed on classified .las files to validate adherence to contracted specifications. A comprehensive review is completed to ensure consistency and accuracy across all files, including the spatial reference system. Classification verification is limited to the minimum required by applicable Lidar Base Specification. Classifications beyond the minimum are not verified by USGS. LAS files are evaluated to ensure the public header block, point data records, and variable/extended variable length records are correctly populated. For additional information, please see the work units metadata folder.





Project Name: MT\_Statewide\_Phase4\_B22

Report Date: 2023-12-01