

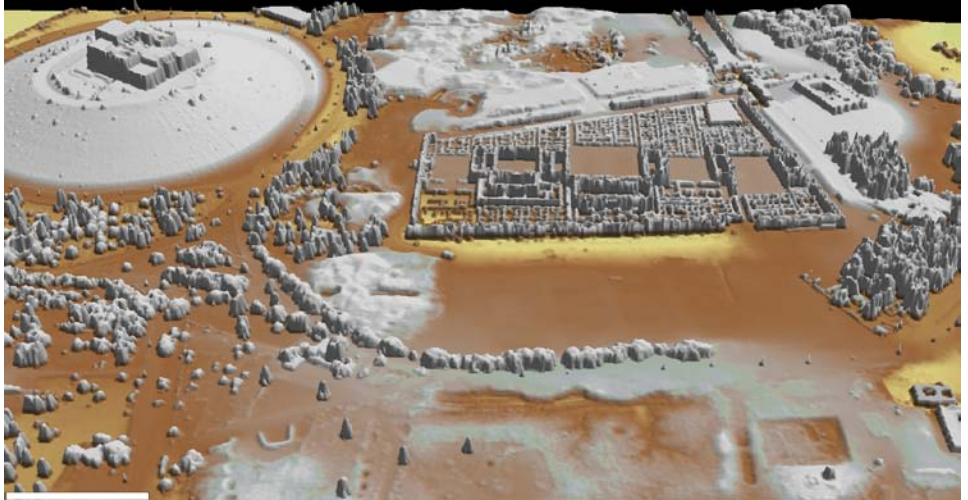


LIDAR Data

U.S. ARMY CORPS OF ENGINEERS

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Background: Light Detection and Ranging (LIDAR) sensors provide high-resolution, 3-dimensional (3D) geospatial data. Using capabilities developed and refined under the Rapid Terrain Visualization Advanced Concept Technology Demonstration (RTV ACTD), the AGC continues to perform LIDAR data collections, exploit LIDAR data for operational support, and research LIDAR technologies. LIDAR data can be used as a stand-alone product, or as an accurate foundation for rectifying and draping high-resolution imagery.



LIDAR provides a way to see urban areas in rich 3-D views that give tactical forces unprecedented awareness in urban environments. LIDAR data is both high-resolution and high-accuracy, enabling improved battlefield visualization, mission planning and force protection. LIDAR also supports automated extraction of urban features like buildings and trees—a critical technological improvement for constructing simulation databases rapidly.

LIDAR Data Products:

Typical AGC LIDAR data sets are 1-meter resolution, although higher resolutions have been collected where possible. The standard projection is Universal Transverse Mercator (UTM), and the standard format for gridded data is GeoTIFF. There are normally 5 files for every LIDAR data set:

1. First Return Digital Elevation Model (DEM) – 32-bit floating point gridded matrix - designated by a1
2. Last Return DEM – 32-bit floating point gridded matrix - designated by a2
3. Intensity Image (int) – 8-bit
4. Bare Earth DEM (dem_bare) – 32-bit floating point gridded matrix
5. Merged Intensity-Color Coded Shaded Relief Image (mrg) – 24-bit

LIDAR point cloud data in LAS format is available for most data sets upon request.

Current Operations / Future Developments

BuckEye missions to collect LIDAR and Color Imagery continue in Afghanistan and other countries. Other data collections for training, research, and system development take place as required. Distribution of data from the archive of LIDAR holdings is continuous and ongoing. Data distribution is accomplished via DVD, hard drive, and web-based downloads on all DoD networks. High-altitude LIDAR collectors have been demonstrated in Afghanistan, and the next generation of high altitude systems is in development.

LIDAR Points of Contact

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