

Best Available Elevation Data Summary

DATA DESCRIPTION

North Carolina Emergency Management (NCEM) Risk Management Office in coordination with NC Department of Transportation and other partners has acquired NC PLS certified statewide Quality Level 1 (QL1) and Quality Level 2 (QL2) aerial LiDAR for the entire state. The LiDAR data was collected in 5 phases. Phases 1-3, done with a linear aerial sensor (traditional), was acquired and is available at 2 points per square meter (ppsm). Phases 4-5 were acquired utilizing evolving photon counting Geiger mode LiDAR technology. This allows for a 30-meter post spacing collection with 8 points per meter being processed and delivered. All data includes intensity values and is collected to support a 19.6 cm or 0.64-foot Non-Vegetated Vertical Accuracy (NVA) at a 95% confidence level.

The NCDOT Photogrammetry Unit has downloaded the bare earth QL1 and QL2 LiDAR data from each of these phases and has created two Geodatabases. One database contains the classified bare earth data; the other database contains a 10-foot DEM created from the classified bare earth data.

RESPONSIBLE AGENCY FOR DATA COLLECTION

North Carolina Emergency Management (NCEM) served as Project Manager and Contract Administrator for the aerial LiDAR project. They also supervised the overall quality control and product distribution of the project data. The NCDOT Photogrammetry Unit provided technical advisory services related to deliverables and photogrammetric quality assurance.

HOW TO ACCESS THE DATA

NCEM offers a spatial data download site where the data can be acquired, but the requester will need to attain a NCID first. Statewide bare earth ground elevation data is available on the NCDOT server for individuals that have an NCDOT email account.

The Photogrammetry Unit has developed 2 tools, Extract DEM and Get Decimated, that facilitate easy access to the elevation data in a gridded format or decimated format. The full density data is also available using the Get Decimated tool. Both tools, Extract DEM and Get Decimated, provide a GeoPak DAT file that can be imported into either the Bentley Select Series or the Bentley Connect/ORD software. Procedures and training to use the Extract DEM and Get Decimated tools are available from the Photogrammetry Unit.

| TYPE OF DATA | LOCATION OF DATA | DATA FORMAT | WHO HAS ACCESS | UNIFORM RESOURCE LOCATOR (URL) |
|---|------------------|-----------------|----------------------|--|
| Statewide Classified All Return Data or Bare Earth Data | NCEM Server | .LAS | NCID Accounts | https://sdd.nc.gov/ |
| Statewide Bare Earth Elevation Data | NCDOT Server | GeoPak DAT file | NCDOT Email Accounts | Contact us at photogrammetry@ncdot.gov |
| Statewide Gridded DEM Data | NCDOT Server | GeoPak DAT file | NCDOT Email Accounts | Contact us at photogrammetry@ncdot.gov |