# New Jersey Statewide LiDAR

# What is the Data?

Light Detection and Ranging (LiDAR) data are remotely sensed, high-resolution elevation data obtained by an airborne collection platform. Light, in the form of a pulsed laser, measures ranges to the Earth. The laser is combined with a scanner and a specialized GPS receiver. LiDAR instruments can generate highly detailed, three-dimensional information about the ground, vegetation, shoreline, water, and man-made structures. Final LiDAR data are processed to create Digital Elevation Models (DEM), and files such as LAS, IMG, geoTIFF, and others. A variety of products are created from LiDAR and pertain to many interests. Some of these products and interests are: flood hazard, topography, geophysics, shoreline, slope and hillshade, transportation, waters’ edge breaklines, building footprints, land cover and environmental conditions, etc.

Managed by [NJ Office of GIS, NJ Office of Information Technology,](https://njgin.nj.gov/) these data are made available in AWS S3 for public use.

# How is the Data Organized?

Elevation datasets in New Jersey have been collected over several years as several discrete projects. Each project covers a geographic area, which is a subsection of the entire state, and has differing specifications based on the available technology at the time and project budget. The geographic extent of one project may overlap that of a neighboring project. Each of the 18 projects contains deliverable products such as:

* LAS (Lidar point cloud) files, unclassified/classified, tiled to cover project area
* Relevant metadata records or documents, most adhering to the Federal Geographic Data Committee’s (FGDC) Content Standard for Digital Geospatial Metadata (CSDGM).
* Tiling index feature class or shapefile
* Flights lines feature class or shapefile
* Digital Elevation Model in image format or Esri grid format
* Other derivative data products such as contour lines feature class or shapefile.

[This map](http://newjersey.maps.arcgis.com/apps/InformationLookup/index.html?appid=e5893928be7442bd878176da15158cf1) will help you determine what projects cover a specific location n NJ. This related [map](http://newjersey.maps.arcgis.com/apps/Minimalist/index.html?appid=0325b958bebc4d61ae430ec3f2f10323) shows the geographic extent of each project.

# How to Access the Data:

All the 18 projects are contained bucket *<s3://mybucket/elevation>*

To download, use the AWS CLI *aws s3 sync <s3://mybucket/elevation/project\_name>*

All files are web-accessible via HTTPS, *<url tbd>*

* AtlanticOceanSouthernMonmouth\_2010: QL3, covering Atlantic, Ocean and Southern Monmouth counties;
  + metadata record *< s3://mybucket/elevation/AtlanticOceanSouthernMonmouth\_2010/Documentation/Metadata/Documents/Atlantic\_Ocean\_Monmouth\_NJ\_Lidar\_Metadata.xml>*;
  + tile grid *<* [*https://maps.nj.gov/arcgis/rest/services/Framework/Grids/MapServer/3*](https://maps.nj.gov/arcgis/rest/services/Framework/Grids/MapServer/3) *>*
* BurlCam2011FEMApointcloud: QL3, riparian corridors in Burlington and Camden counties,
  + metadata record *< s3://mybucket/elevation/BurlCam2011FEMApointcloud/General/Project\_narrative>*
* Camden\_2008: DEM and LAS files
* CapeMayCumberlandCAFRA Salem\_2008: QL3,
  + metadata record *< s3://mybucket/elevation/CapeMayCumberlandCAFRA Salem\_2008/Documentation/Metadata/United States Geological >;*
  + tile grid *< s3://mybucket/elevation/*CapeMayCumberlandCAFRA Salem\_2008/Index>
* CoastalNOAATopobathy\_2013\_2014\_QL2: Post Hurricane Sandy, QL2
  + metadata record *< s3://mybucket/elevation/CoastalNOAATopobathy\_2013\_2014\_QL2/METADATA>;*
  + tile grid *< s3://mybucket/elevation/CoastalNOAATopobathy\_2013\_2014\_QL2/2014\_NGS\_postSandy\_topobathy\_njtiles\_index.shp>*
* DVRPC\_2015\_QL2: QL2
  + metadata record *< s3://mybucket/*el*evation/ DVRPC\_2015\_QL2/Documentation/Metadata/DE\_Valley\_Classified\_LAS\_Metadata.xml>*
  + tile grid *< s3://mybucket/*el*evation/ DVRPC\_2015\_QL2/Documentation/Supporting\_Shapefiles/TileGrid\_NJ\_clip/DVRPC\_Delivered\_Tiles\_NJclip.shp >*
* Gloucester\_2007: QL3
  + metadata record *< s3://mybucket/*el*evation/ Gloucester\_2007/Documentation/Metadata/GloucesterLidarMetadata.xml>*
  + tile grid *< s3://mybucket/*el*evation/ Gloucester\_2007/Tile Index/Gloucester2007\_TileIndex/tileindex.shp >*
* HackensackMeadowlands\_2014: QL1
  + dataset description *< s3://mybucket/elevation/ HackensackMeadowlands\_2014/Report/Hackensack\_Meadowlands\_LiDAR\_Report.pdf* >
  + tile grid *< s3://mybucket/elevation/HackensackMeadowlands\_2014/vectors/indices/Meadowlands\_LiDAR\_Index\_unclipped.shp >*
* Highlands\_2006\_2007: QL3
  + metadata record *< s3://mybucket/elevation/Highlands\_2006\_2007/Documentation/Metadata/Metadata 2.0/ >*
* Hunterdon\_2007: QL3.
* Mercer\_2009: QL3
  + metadata record *< s3://mybucket/elevation/Mercer\_2009/Documentation/MercerCountyNJ\_Metadata/MercerCountyNJ\_G09PD00704\_Lidar\_Metadata.xml >*
  + tile grid *< s3://mybucket/elevation/Mercer\_2009/Tile\_Index/MercerCountyNJ\_G09PD00704\_TileLayout.shp >*
* Middlesex\_2006: QL3, Middlesex County
  + metadata record *< s3://mybucket/elevation/Middlesex\_2006/Documentation/NJ\_Mdlsx\_2006\_40074d5a.html >*
  + tile grid *< s3://mybucket/elevation/Middlesex\_2006/Tile\_Index/TilingSchemeNotes.txt >*
* Non-CAFRA Salem\_2009: QL3, inland Salem County
  + Metadata record *< s3://mybucket/elevation/Non-CAFRA Salem\_2009/Documentation/SalemCountyNJ\_Metadata/SalemCountyNJ\_G09PD00703\_LidarMetadata.xml >*
  + Tile grid *< s3://mybucket/elevation/Non-CAFRA Salem\_2009/TileIndex/SalemCountyNJ\_G09PD00703\_TileLayout.shp >*
* NortheastNJ-NGA\_2007: QL3
  + Metadata record *< s3://mybucket/elevation/NortheastNJ-NGA\_2007/Documentation/Metadata/ >*
  + Tile grid *< s3://mybucket/elevation/NortheastNJ-NGA\_2007/TileGrid/nga\_grid.zhp >*
* NortheastNJPostSandy\_2014\_QL2: QL2
  + Metadata record *< s3://mybucket/elevation/ NortheastNJPostSandy\_2014\_QL2/* *Documentation/Metadata/USGS\_NJ\_Sandy\_Recovery\_Lidar\_Project\_Level.xml >*
  + Tile grid *< s3://mybucket/elevation/NortheastNJPostSandy\_2014\_QL2/SandyNE\_NJ\_tileGrid/NJ\_TileLayout.shp >*
* NorthwestNJ\_2018, QL2
  + Metadata record *< s3://mybucket/elevation/ NorthwestNJ\_2018/metadata/reports/vendor\_provided\_xml/312017118\_GPSC3\_New\_Jersey\_Lidar\_Project.xml >*
  + Tile grid *< s3://mybucket/elevation/NorthwestNJ\_2018/metadata/shapefiles/ 312017118\_GPSC3\_New\_Jersey\_Lidar\_Index.shp >*
* Somerset\_2008
  + Metadata record *< s3://mybucket/elevation/Somerset\_2008/Documentation/ProjectMetadata.xml >*
  + Tile grid *< s3://mybucket/elevation/Tile Index/Tiling Scheme/Tiling\_Scheme\_NJDP.shp >*
* WesternSussexWarren\_Repro\_2012
  + Metadata record *< s3://mybucket/elevation/* *WesternSussexWarren\_Repro\_2012/Metadata/Final\_Metadata/1120808 SussexWarren.HTML >*
  + Tile grid *< s3://mybucket/elevation/WesternSussexWarren\_Repro\_2012/Report/Sussex Warren NewJersey Project Report.pdf*