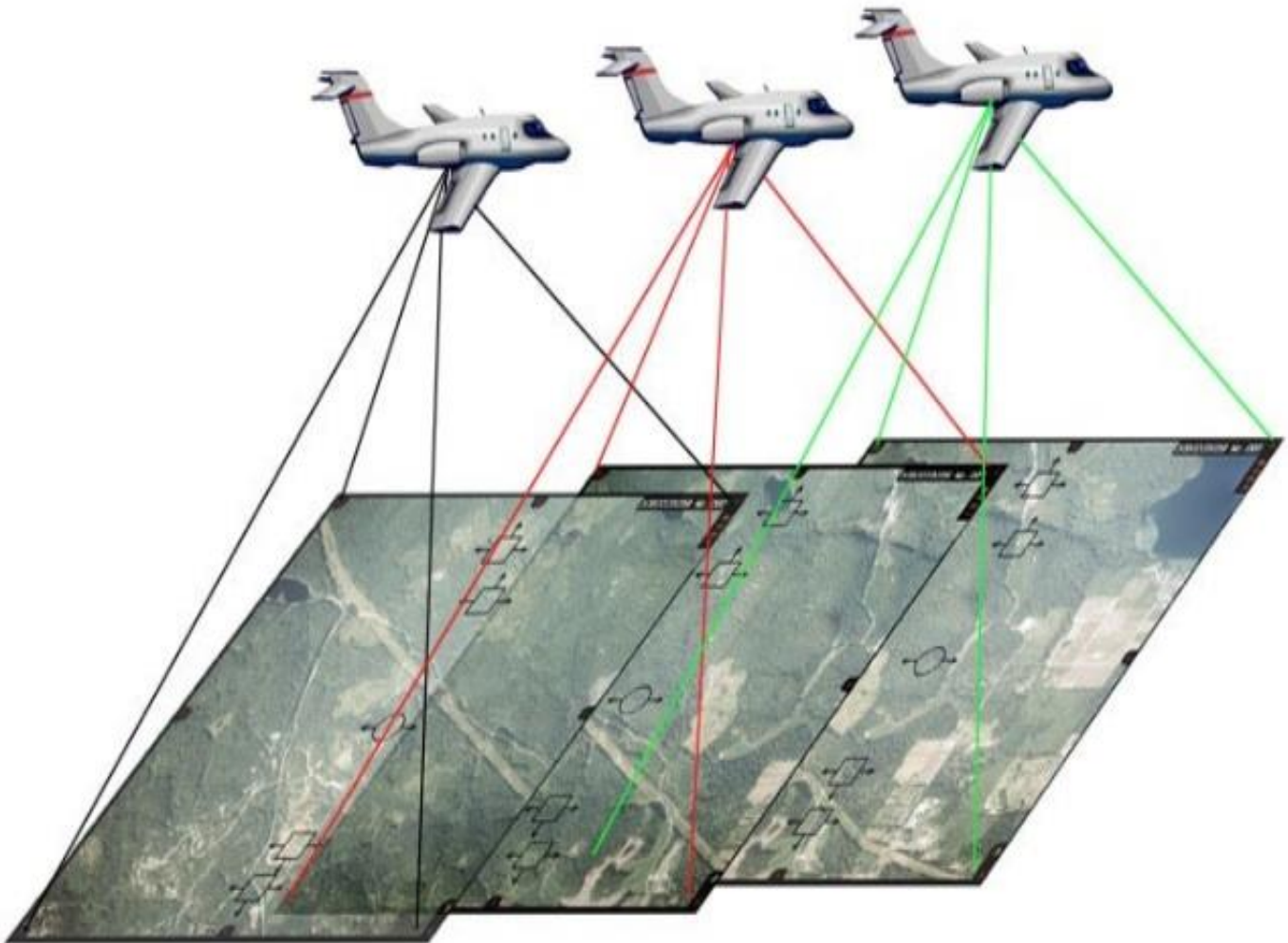


# Accessing Existing Geospatial Data

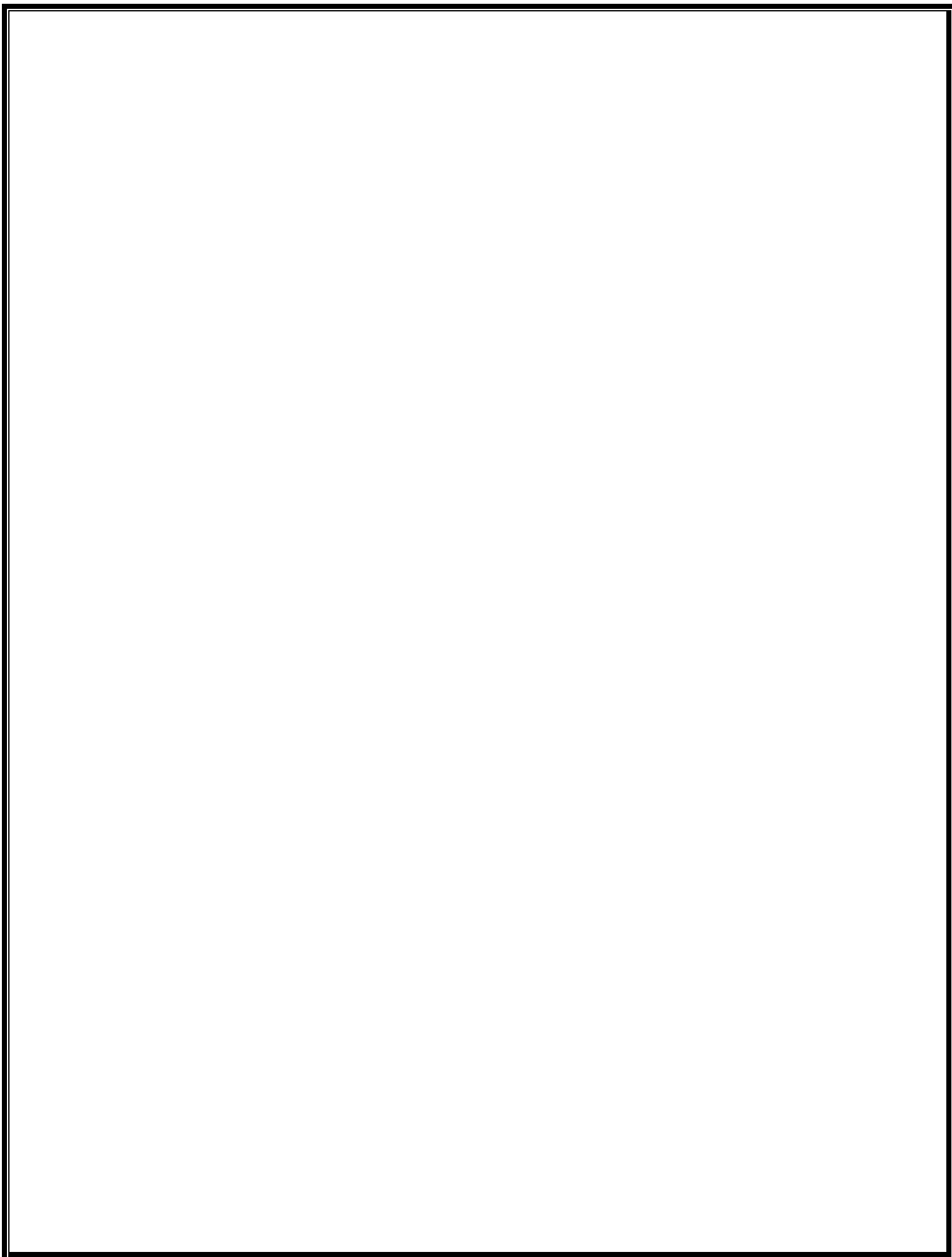
Training Available Upon Request By

## The NCDOT Photogrammetry Unit



**NCDOT PRECONSTRUCTION CONFERENCE**

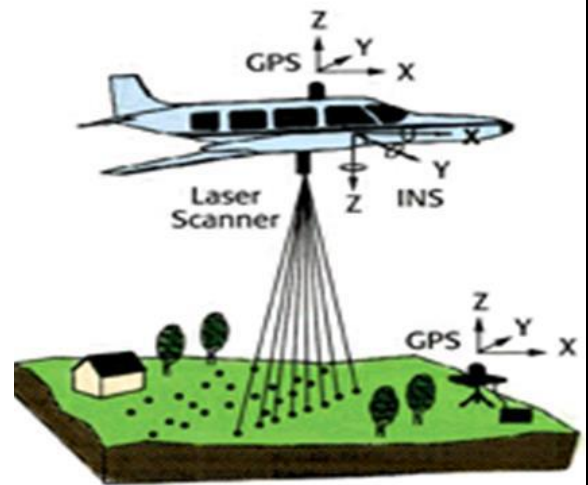
**NORTH RALEIGH HILTON, MAY 8<sup>TH</sup> AND 9<sup>TH</sup>, 2018**



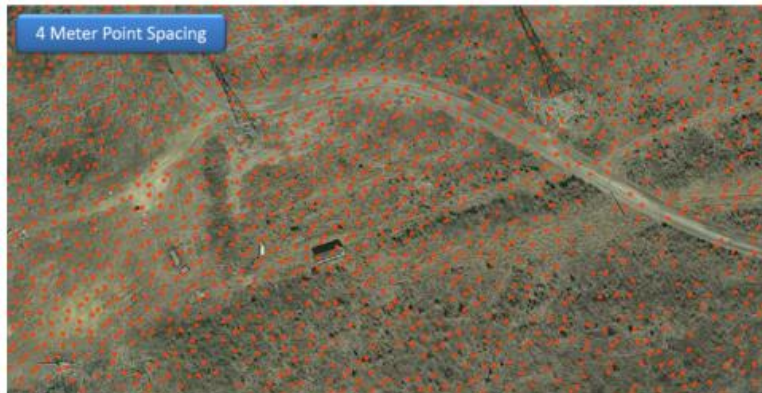
# Extract DEM (QL2 Lidar) Tool

## LiDAR

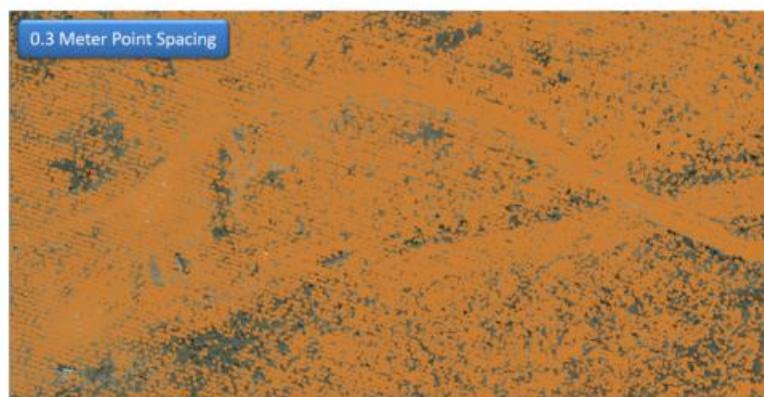
- Light Detection and Ranging
- Active sensor unlike a camera which is a passive sensor.
- Uses thousands of laser pulses/sec to accurately measure distances to the earth's surface.
- Each LIDAR pulse is a laser beam of light that reflects back to the LIDAR sensor.
- Each reflection is called a return and there are multiple returns collected for each



4 Meter Elevation Model (2001 – 2005 NC LiDar)



QL2 Elevation Model (2014 – 2017)



# Vertical Accuracy

## Point Cloud Data Open Terrain Vertical Accuracy

- 4 Meter (2001,2003, & 2005 NC collection)
  - Fundamental Vertical Accuracy (FVA) **1.6 feet at a 95% confidence level**
    - ❖ Not Suitable for Plan Sheet Mapping
- QL2 (nominal 2 points per meter)
  - Non-Vegetated Vertical Accuracy (NVA): **0.59 feet at a 95% confidence level**
    - ❖ Suitable For Preliminary and Plan Sheet Mapping

Training For Extract DEM Lidar Data Tool Provided by the NCDOT Photogrammetry Unit

Contact Charles Lee

919-707-7105





























[cglee@ncdot.gov](mailto:cglee@ncdot.gov)

# NCDOT GIS Property Search Tool

Using ArcMap to Create DGN County Property Files



## Produced File Examples

Name	Date modified	Type ^	Size
 Parcel_Working.gdb	3/10/2016 10:28 AM	File folder	
 OwnerNames_Johnston.dxf	2/29/2016 9:32 AM	Autodesk Design	1,244 KB
 OwnerNames_Wake.dxf	2/29/2016 9:32 AM	Autodesk Design	34,831 KB
 parcel_Johnston.dxf	2/29/2016 9:31 AM	Autodesk Design	1,134 KB
 parcel_Wake.dxf	2/29/2016 9:30 AM	Autodesk Design	14,492 KB
 row_Johnston.dxf	2/29/2016 9:30 AM	Autodesk Design	142 KB
 row_Wake.dxf	2/29/2016 8:34 AM	Autodesk Design	1,512 KB
 OwnerNames_Johnston.dxf.bak	2/29/2016 8:24 AM	BAK File	1,244 KB
 OwnerNames_Wake.dxf.bak	2/29/2016 8:25 AM	BAK File	34,831 KB
 parcel_Johnston.dxf.bak	2/29/2016 8:22 AM	BAK File	1,134 KB
 parcel_Wake.dxf.bak	2/29/2016 8:23 AM	BAK File	14,492 KB
 row_Johnston.dxf.bak	2/29/2016 8:22 AM	BAK File	142 KB
 row_Wake.dxf.bak	2/29/2016 8:22 AM	BAK File	1,512 KB
 r2721_nc1map_limits.dgn	2/5/2016 2:48 PM	Bentley MicroStatio...	119 KB
 r2721_nc1map_ownernames_Johnston.dgn	3/1/2016 11:37 AM	Bentley MicroStatio...	96 KB
 r2721_nc1map_ownernames_Wake.dgn	3/1/2016 11:29 AM	Bentley MicroStatio...	333 KB
 r2721_nc1map_parcel_Johnston.dgn	2/29/2016 1:19 PM	Bentley MicroStatio...	126 KB
 r2721_nc1map_parcel_Wake.dgn	2/29/2016 1:18 PM	Bentley MicroStatio...	626 KB
 r2721_nc1map_Property_Johnston.dgn	2/5/2016 2:48 PM	Bentley MicroStatio...	119 KB
 r2721_nc1map_property_Wake.dgn	4/30/2018 11:45 AM	Bentley MicroStatio...	1,288 KB
 r2721_nc1map_row_Johnston.dgn	2/29/2016 1:18 PM	Bentley MicroStatio...	113 KB
 r2721_nc1map_row_Wake.dgn	2/29/2016 1:14 PM	Bentley MicroStatio...	478 KB
 OwnerNames_Johnston.dxf.xml	2/29/2016 8:24 AM	XML Document	1 KB
 OwnerNames_Wake.dxf.xml	2/29/2016 8:25 AM	XML Document	1 KB
 parcel_Johnston.dxf.xml	2/29/2016 8:22 AM	XML Document	1 KB
 parcel_Wake.dxf.xml	2/29/2016 8:23 AM	XML Document	1 KB
 row_Johnston.dxf.xml	2/29/2016 8:22 AM	XML Document	1 KB
 row_Wake.dxf.xml	2/29/2016 8:22 AM	XML Document	1 KB

**Training For Extraction of GIS Property Data Search Tool Provided by the NCDOT  
Photogrammetry Unit**

**Contact Charles Lee**

**919-707-7105**

**[cglee@ncdot.gov](mailto:cglee@ncdot.gov)**

# NCDOT Historical Aerial Imagery Search Tool Using ArcMap

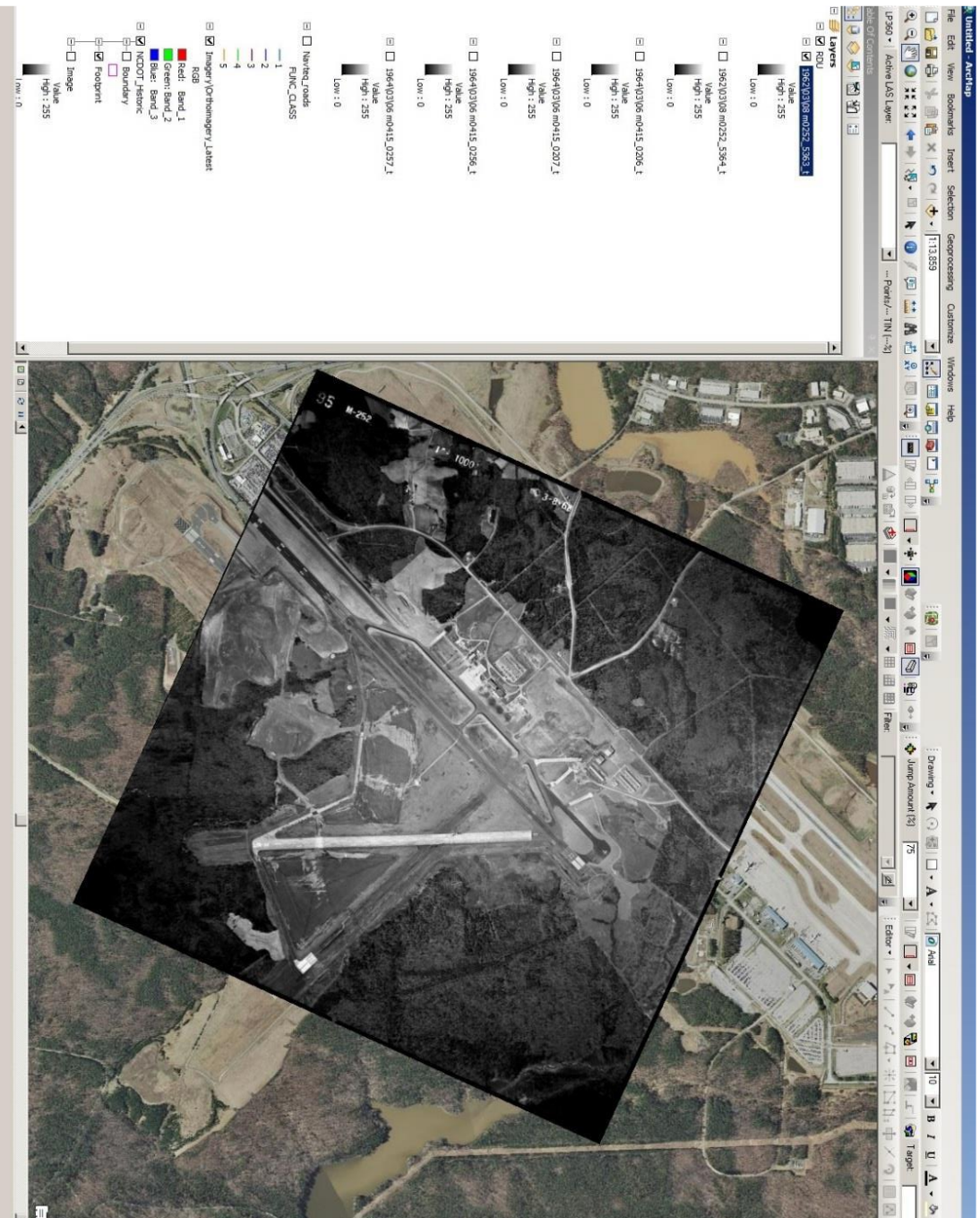
- NCDOT Employees (Only) Can Search Historical Aerial Imagery Using ArcMap
- Imagery For Years 1955 – 1995 and 2009 – 2016 is Available
- NCDOT Photogrammetry Unit Can Supply High Resolution Scans Of Requested Imagery For NCDOT Staff



*Selected Historical Imagery Foot Prints*



*Selected Historical Imagery Footprints of at Area of Interest*



*NOTE: Base Image is NCONeMap and Historic Image is (RDU Airport) from Mission M-252 Flown 03/08/1968, 1"=1000' Photo Scale*

## Training For Historical Imagery Search Provided by the NCDOT Photogrammetry Unit

Contact Charles Lee

919-707-7105

[cglee@ncdot.gov](mailto:cglee@ncdot.gov)



# NCDOT Historical Aerial Imagery Search Tool Using ArcGIS Online (AGOL)

- Available To The Public Through GOINC
- Imagery For Years 1955 – 1992 is Available
- NCDOT Photogrammetry Unit Can Supply High Resolution Scans of Required Imagery
  - Service Provided For a Fee

ArcGIS NCDOT Historical Aerial Imagery Index

Sign In

1 About Content Legend

DIL\_1950\_Low

DIL\_1950\_Medium

DIL\_1950\_High

DIL\_1960\_Low

DIL\_1960\_Medium

DIL\_1960\_High

DIL\_1970\_Low

DIL\_1970\_Medium

DIL\_1970\_High

DIL\_1980\_Low

Chapel Hill State Capitol

Farrington Church

State Capitol Building

Christ Church Raleigh

Waste Fungus Capitol Center

Nash Square

Mature Square

City Market

One Progress Plaza

Two Progress Plaza

Two Hargett Square

Raleigh

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ESRI

## NCDOT Historical Aerial Imagery Index

Overview



NCDOT Photogrammetry Unit's Historical Aerial Imagery Thumbnails in resolution layers.

Web Map by Photogrammetry.NCDOT.GOV

Created: May 5, 2015 Updated: May 23, 2017 View Count: 3,722

[Open In Map Viewer](#)  
[Open In ArcGIS Desktop](#)

### Description

NCDOT Photogrammetry Unit has 9 inch format aerial imagery from 1955 to 2008. This map covers 1955 through 1992. The aerial film was scanned at 100 dots per inch and then Geo-located so these images may be several hundred feet off from their true position. We call these images geo located thumbnails.

Display of the data was broken down by decade and then by scale.

High resolution is any imagery under a scale of 1" = 480 feet. This is the most detailed imagery, but each frame covers a small area.

Medium resolution is any imagery greater than or equal to 1" = 480 feet to less than or equal to 1" = 1200 feet.

Low resolution is any imagery over 1" = 1200 feet. This is the least detailed imagery but covers large areas.

See this link for more information about the NCDOT Photogrammetry Unit: <https://connect.ncdot.gov/resources/photogrammetry/Pages/default.aspx>

### Details

Size: 107 kb

★★★★★



### Owner

Photogrammetry.NCDOT.GOV

### Tags

NCDOT, NCDOT Photogrammetry, NCDOT Photogrammetry Unit, NC, Historic Imagery, aerial imagery, Official NCDOT, North Carolina

### Credits (Attribution)

NCDOT Photogrammetry Unit

### Layers

- DIL\_1950\_Low
- DIL\_1950\_Medium
- DIL\_1950\_High
- DIL\_1960\_Low
- DIL\_1960\_Medium
- DIL\_1960\_High
- DIL\_1970\_Low
- DIL\_1970\_Medium
- DIL\_1970\_High
- DIL\_1980\_Low
- DIL\_1980\_Medium
- DIL\_1980\_High
- DIL\_1990\_92\_Low
- DIL\_1990\_92\_Medium
- DIL\_1990\_92\_High
- NCOneMap Parcel Boundaries
- NCDOT County Boundaries
- World Transportation
- Streets
- World\_Street\_Map

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Training For NCDOT Historical Aerial Imagery Search Tool Using AGOL, Provided by the

NCDOT Photogrammetry Unit

Contact Charles Lee

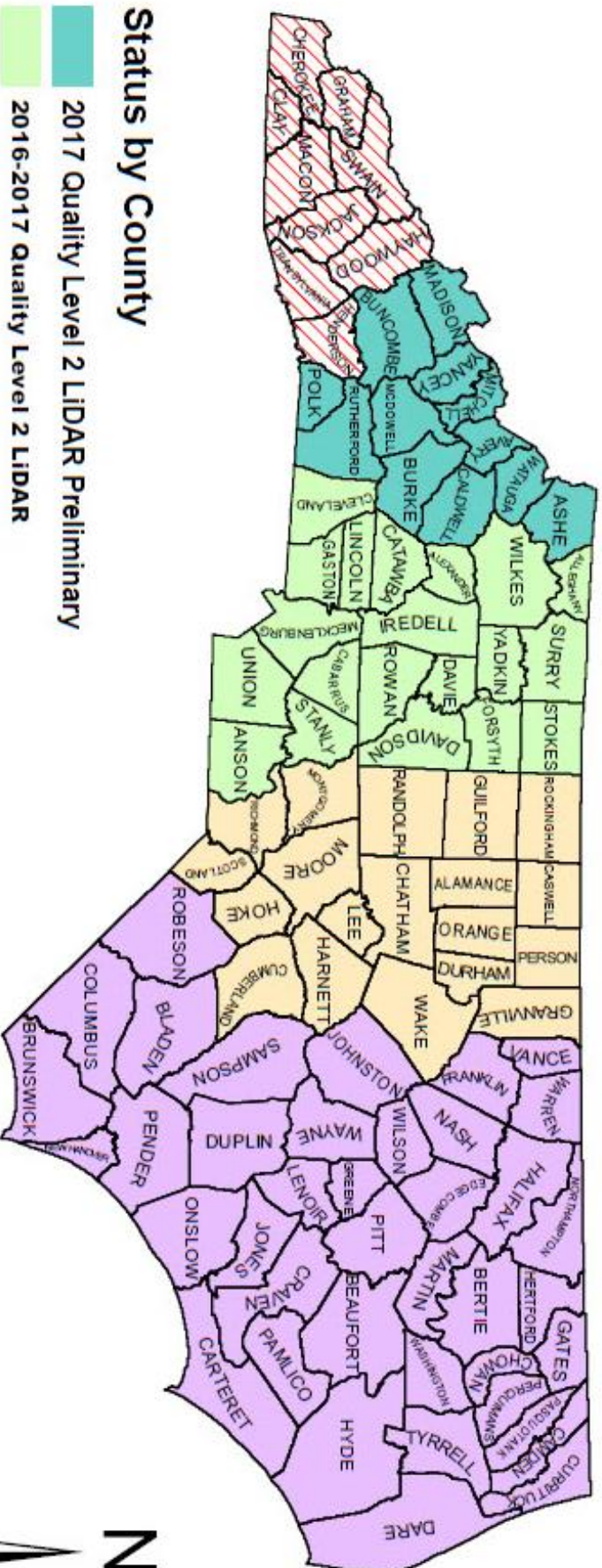
919-707-7105

cglee@ncdot.gov



# North Carolina LIDAR

Updated April 18th 2018



## Status by County

- 2017 Quality Level 2 LIDAR Preliminary
- 2016-2017 Quality Level 2 LIDAR
- Year Flown**      **LIDAR Type**
- 2003      Floodplain Mapping LIDAR
- 2005      Floodplain Mapping LIDAR
- 2014      Quality Level 2 LIDAR
- 2015      Quality Level 2 LIDAR

