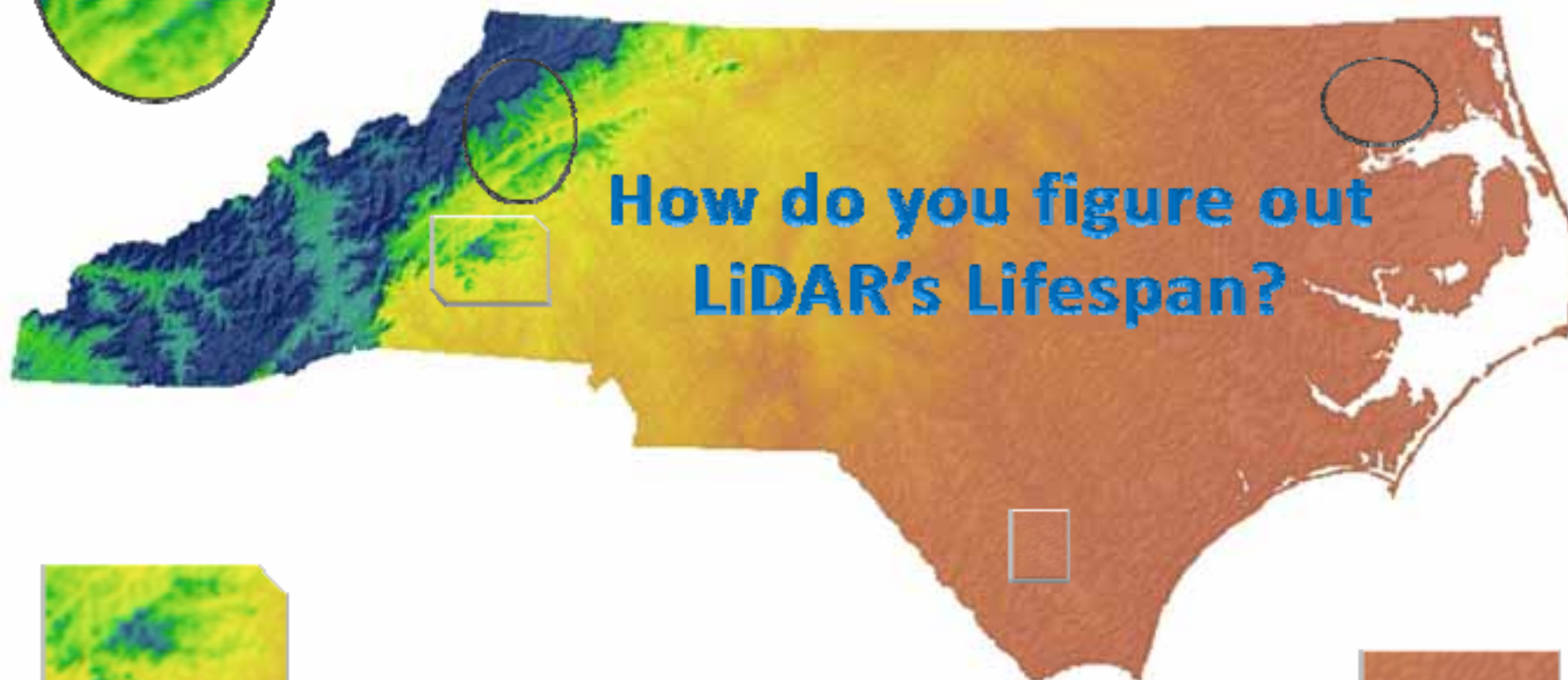
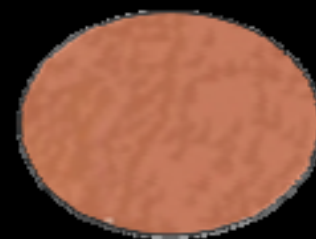
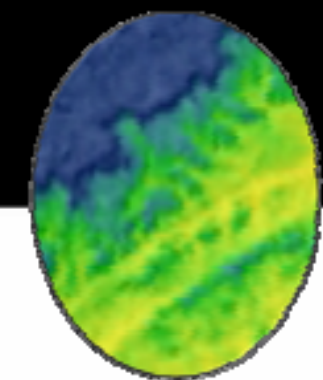
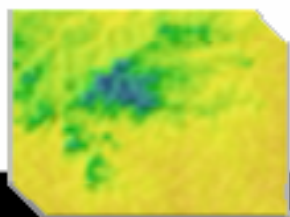


NORTH CAROLINA LIDAR



**How do you figure out
LiDAR's Lifespan?**



**Hope Morgan - GIS Manager
North Carolina Emergency Management**

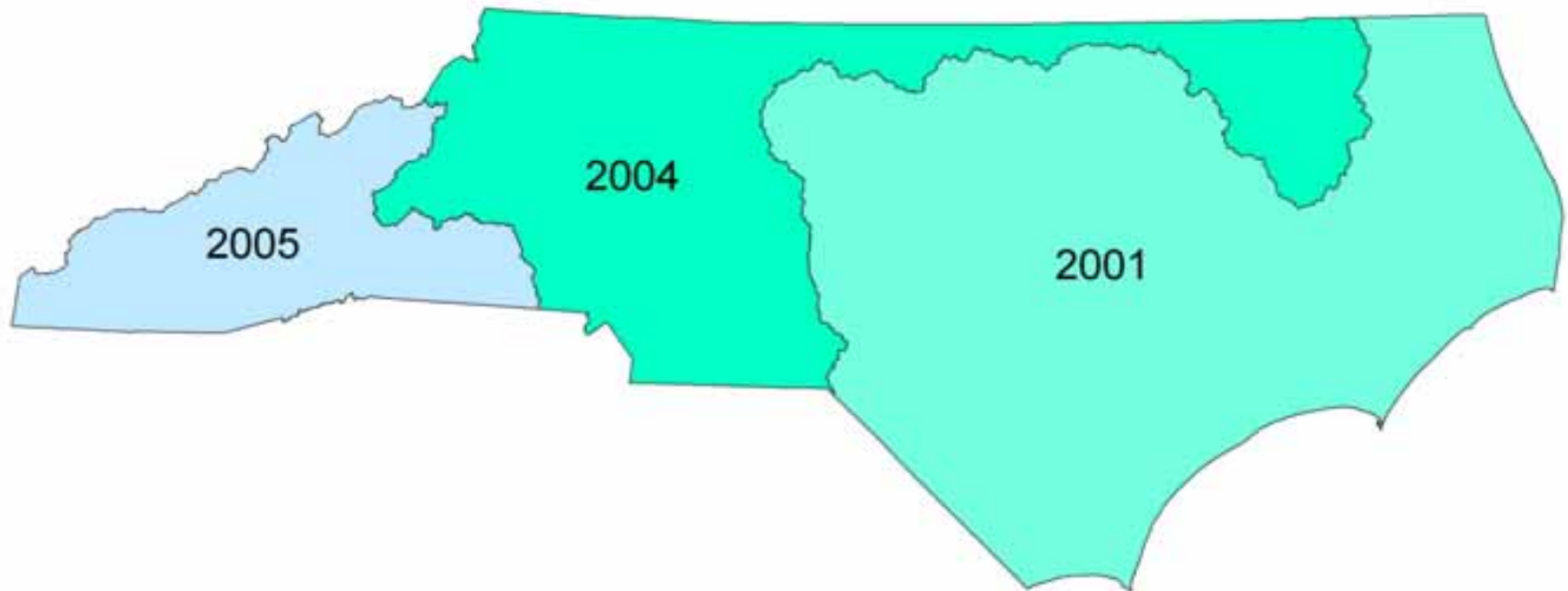
**John Lay - Technology Support Analyst
North Carolina Emergency Management**

Note

- Many of the slides have been deleted to accommodate file size.

NC LIDAR

- In 2000 NC began collecting LiDAR Data for the state
- **There were three phases**



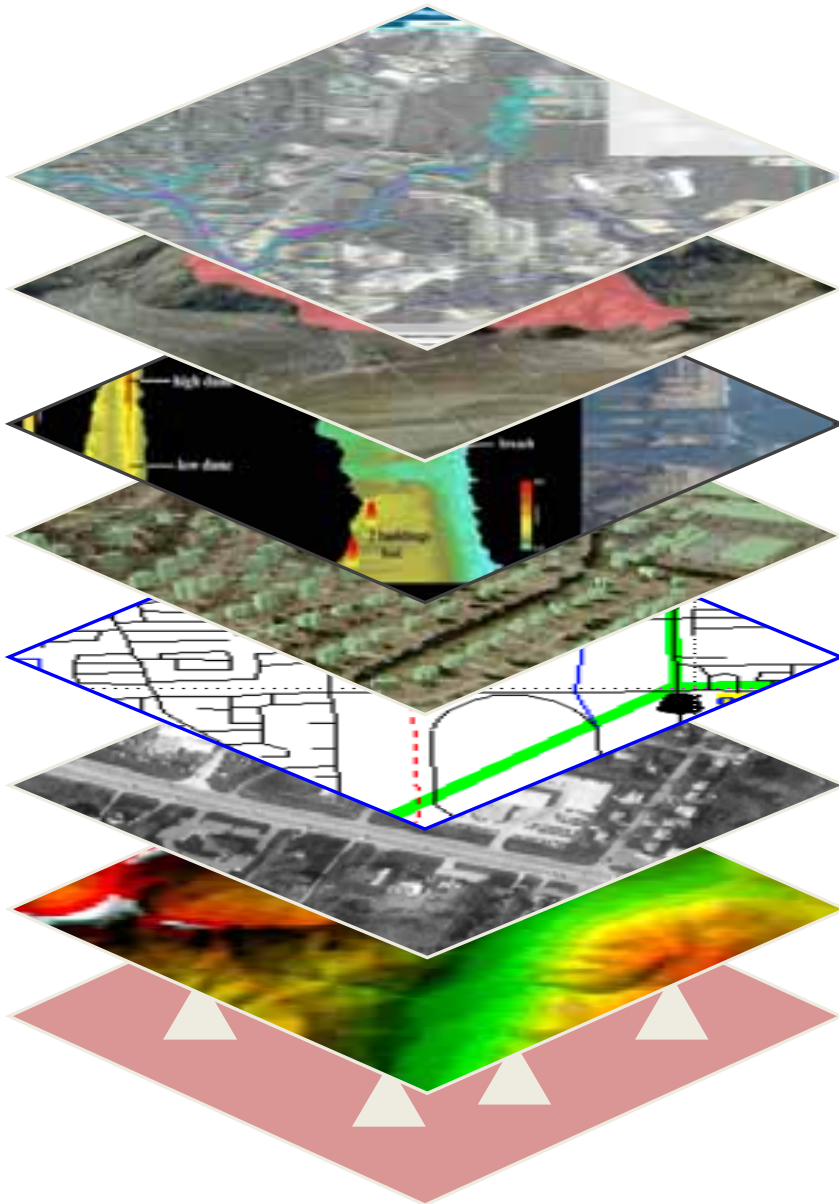
WHY DOES NC HAVE LIDAR

- Highly accurate elevation data is used with field data to analyze flood hazards to delineate floodplain boundaries
- Floodplain boundaries and elevations are on the Flood Insurance Rate Maps
- ***Very important for:***
 - ***Prevention of loss of life and property***
 - ***Mortgages***
 - ***Disaster response funding***

WHY DOES NC HAVE LIDAR

- Cost
 - Less expensive for a statewide data collection when compared to traditional methods
- Denser data points
- Extended benefits for future
 - Orthophotography
 - Survey
- Data in forested and vegetated areas

NC LIDAR USES (EXAMPLES)



Special Flood Hazard Areas

Fire Studies

Land Change Studies

Buildings / Structures

Transportation

Aerial Imagery

Elevation

Geodetic Control

LIDAR DATA AVAILABLE FROM NC

- Bare earth mass points
 - x,y,z ascii zip file
- Digital Elevation Models
 - 20' DEM (ascii ESRI GRID)
 - 50' Hydro-correct DEM (ascii ESRI GRID)
 - *No 50' hydro in Lumber basin*
- Multiple return datasets
- Intensity imagery (*phases 2 & 3*)

ADDITIONAL LIDAR DATA AVAILABLE

- All return dataset- points file that contain all information collected. Includes
 - Vegetation
 - Buildings
 - Structures (bridges)
- Recent LAS conversion
 - All return tiled
 - BE converted to LAS

OTHER LIDAR DATA STUDIED

- Craven County- 2007
- Randolph County- 2007
- Mecklenburg County- 2007

The Question?

**When do you need new
LiDAR?**

How do you know?

BASIS FOR CHANGE

Determined basic features that could determine change of the terrain

- Population Change
 - More or less people*
- Population Density
 - Where are the people in relation to one another*
- Construction
 - Road*
 - Building*
- Storms
- Erosion

Analysis

IMAGERY REMOVED FOR FILE SIZE

CONCLUSIONS

Stating of the obvious:

- **The larger the population in a condensed area the more change there will be to the terrain**
 - Larger communities will need data well before smaller communities
- **Local and State officials will know of areas that have had great change**
 - Large earth moving projects are tracked. Having a running list from those changes will make justifying LiDAR easier
 - Make a list of those you need
 - DOT's
 - Local Planners
 - Permitting offices
 - Land Records
 - Coastal divisions
- These are also the groups that will need the information when it is collected. Work together.

CONCLUSIONS

NC Plan of action:

- Our main use for LiDAR is Floodplain mapping.
 - We would like to test for need when planning for the counties that will be studied for engineering work
 - This way we will be informed even if funding may not be available as to the state of our LiDAR in that area and the possible need for collection.