



North Carolina's Statewide Orthoimagery Program and Integrated WEB QC Tools

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Session Overview

- NC Statewide Orthoimagery Program Overview
- VOICE WEB Integrated QC Tools
- NC OneMap



Program/Project Overview



CGIA Background

- GeoSpatial Solutions for the citizens of NC
- Services Program – Projects Based state and local governments
- Coordination Program – outreach data sharing, informed decision-making, and cost efficiencies
- NC OneMap



The Client

- NC 911 Board
- 128 Primary Public Service Answering Points (PSAP)
- Different platforms, technology investment, budget
- One common focus
 - Emergency Response
 - Critical decision-making using the best available resources
- Next Gen 911



The Requirements



- Provide a common high resolution 6” pixel imagery base to 911 base-mapping interface(s) in 100 counties in North Carolina
- \$24M annually X 4 = \$96M
- Statewide effort \$14M -\$16M



The Requirements



Quality Focus

1. Enable early end-user quality review prior to product delivery
2. Rely on the Project Team to administer a Proactive approach to project delivery rather than engage in Reactive measures to quality issues



The Collaboration Team



- NC Geographic Information Coordinating Council



- NC DOT Photogrammetry Unit



- NC Secretary of State



- NC Geodetic Survey



Quality Issues Focus

- Seamlines



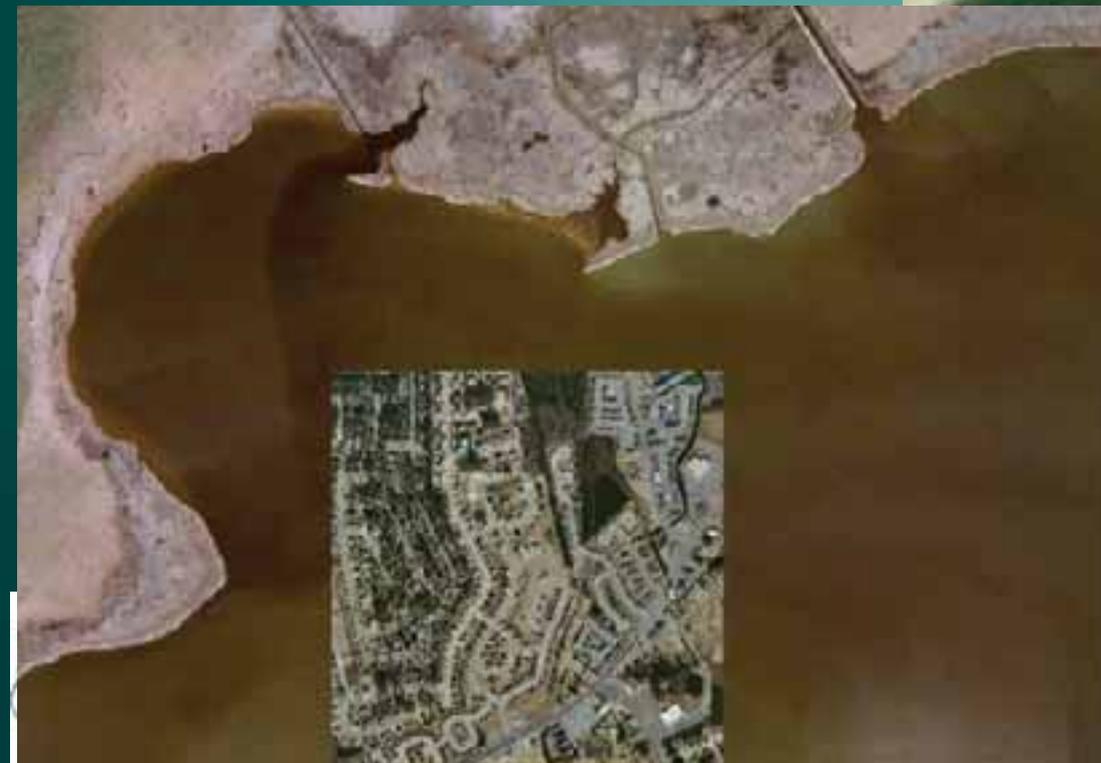
Quality Issues Focus

- Elevation



Quality Issues Focus

- ImageAnomalies

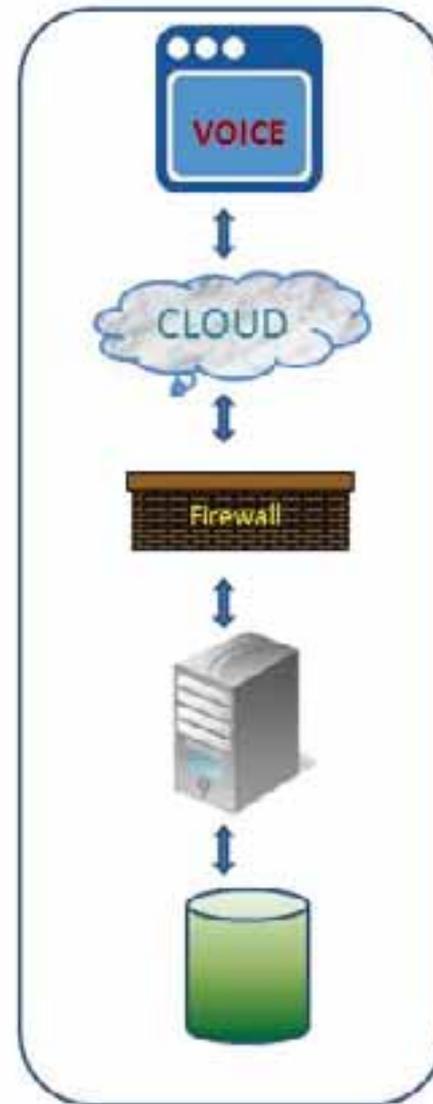


Data Review Tool

North Carolina **VOICE**[™] Virtual On-line Inspection,
Checking & Editing

VOICE

- VOICE is a cloud based QC/Data-dissemination solution powered by Photo Science
- Amazon EC2 Server
- Application Server
 - ESRI ArcGIS Server 10.1
 - Flex API
- Database Server
 - SQL Server 2008
 - ArcSDE 10.1
 - File Geodatabases



Application Server
Windows Server 2008 / IIS
ArcGIS Server 10
Image Server
FLEX API

Database Server
Windows Server 2008
SQL Server 2008
ArcSDE 10
File Geodatabase

VOICE

Loaded QC Integrated Package



VOICE Overview

Virtual Online Inspection Checking & Eding

- ✓ User Accounts
- ✓ Central
- ✓ Basemap
- ✓ Relevant data
- ✓ Pick tiles – Strategic
- ✓ Speed
- ✓ Tools
- ✓ Reporting



VOICE™ Virtual On-line Inspection, Checking, & Editing

Username

Password

Login

*Don't end up simply as another voice in the cloud.
When it comes to quality, our clients have a VOICE...and we're listening.*

VOICE is a cloud based quality assessment
and data-dissemination solution by **PHOTO SCIENCE**
Imagery Solutions

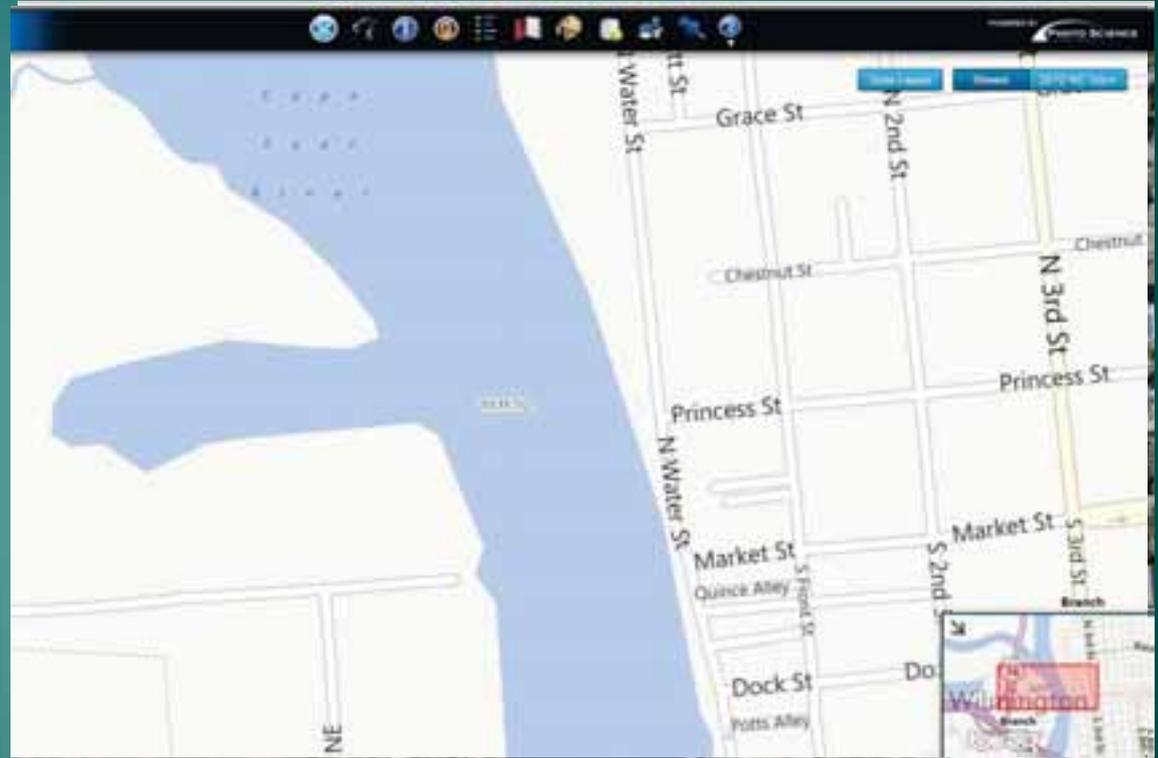
VOICE- Base Map Data

Imagery

- NC Statewide Ortho
 - 22 Cache Zoom Levels: 1:71 to 1:3M
 - Web Mapping Services (WMS)

Web Services

- BING Streets



VOICE- Vector Data

Reference

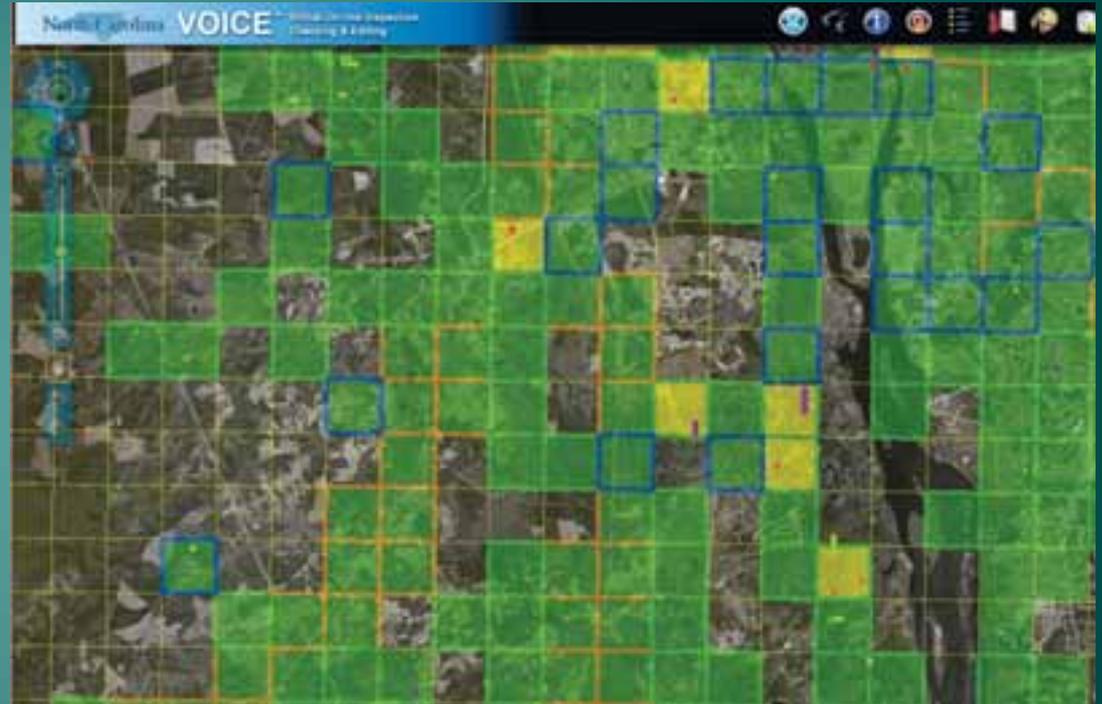
- Bridge Locations
- Dams
- NCDOT Construction History
- Railroads
- County Boundaries
- Municipal Boundaries
- Military Installations



VOICE- Vector Data

Project Specific

- NC 5K Tile Index
- Stereo Overlap
- Vendor Study Areas
- Seam Lines
- Review “Pick” Tiles: CGIA, NCDOT & County
- Issue Areas (Individual QC Calls)
- Vendor Tiles (Issue Count Status)



VOICE User Privileges

Administrator

- Make a call
- Update the status, and other attributes
- Export the issue image
- Delete a call

Image Reviewer

- Make a call

Vendor

- Update the status only

VOICE (Tools)

Search

Search layer: 2012 Coastal Tiles

Show: All

County: Beaufort

Imagename: 20566303

Search Clear



Dynamic Legend

orthomagery

Coastal County Boundaries

Issues

- Elevation Anomaly
- Image Anomaly
- Seamline Anomaly

Review

Update status of tile

Image Number: [input] [refresh] [magnifying glass]

Pass Tile - Review Complete: **Tile Pass**

Create a QC call

Select a call type and draw a rectangle around the area of concern

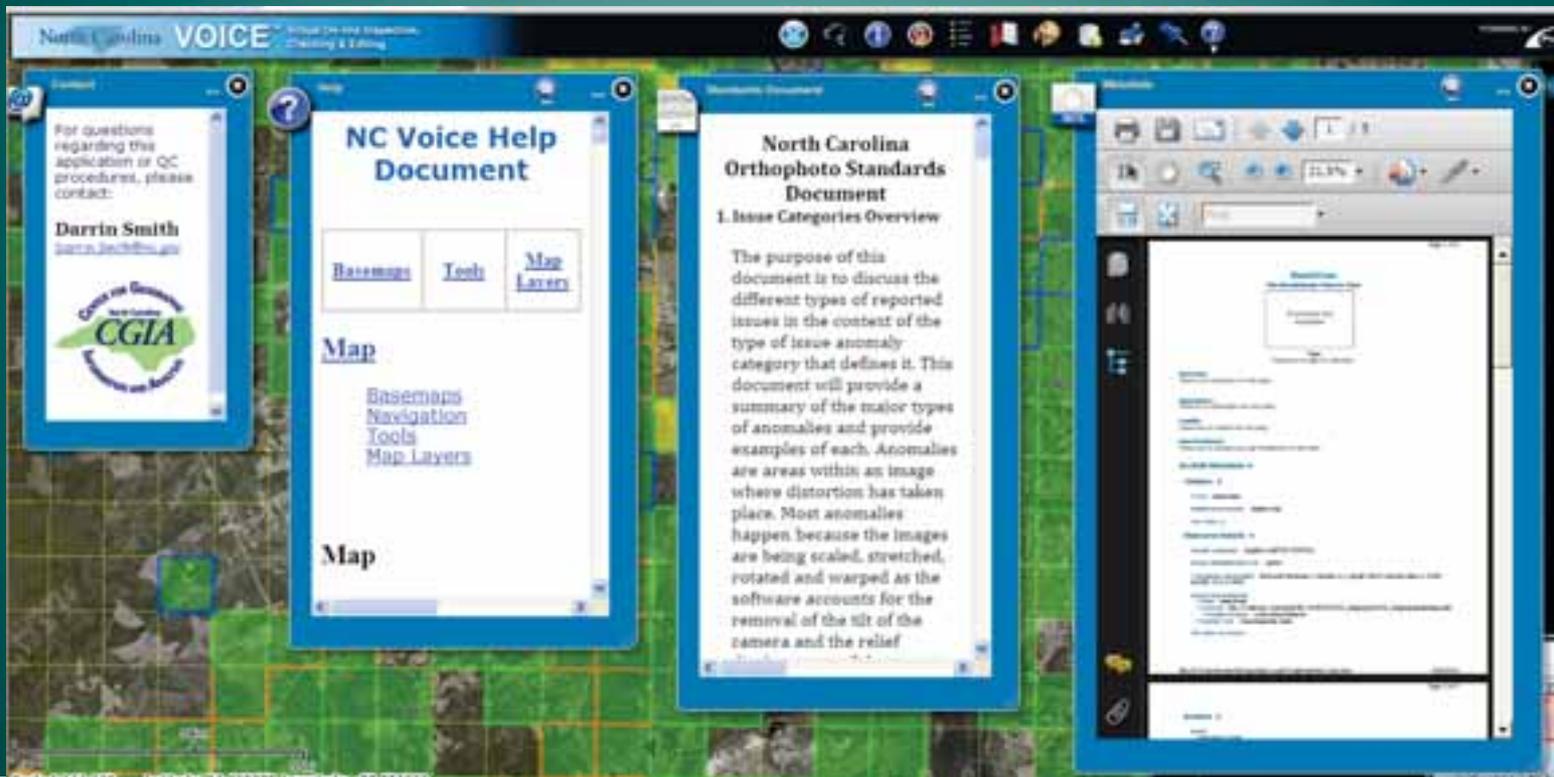
- Seamline Anomaly
- Elevation Anomaly
- Image Anomaly



Data Layers Streets 2012 NC Ortho

VOICE: On Line Help Interface

- ✓ Instructions Manual
- ✓ Standards Document
- ✓ Metadata
- ✓ CGIA Contact



VOICE

How To



1. Search with customized tools

The screenshot displays the North Carolina VOICE (Virtual On-line Inspection, Checking & Editing) web application. The interface includes a search panel on the left with the following fields: Search layer (2012 Coastal Tiles), Show (All), County (Beaufort), and Imagename (20500303). Below the search panel is a review panel with an 'Update status of tile' section containing an 'Image Number' field and a 'Review complete, no issues' button. A 'Create a QC call' section allows users to select an issue type (Seamline Anomaly, Elevation Anomaly, or Image Anomaly) and draw a rectangle around the area of concern. The main map area shows a grid of coastal tiles with various colored overlays representing different types of anomalies. A 'Dynamic Legend' panel on the right lists the legend items: orthoimagery, Coastal County Boundaries, Issues, Elevation Anomaly (red outline), Image Anomaly (green outline), and Seamline Anomaly (purple outline). The map also features a scale bar (0 to 40 km), a coordinate display (Latitude: 36.570754, Longitude: -76.515111), and an inset map of North Carolina showing the location of the current view.



2. Determine the issue type

The screenshot displays the North Carolina VOICE web application interface. The main map area shows an aerial view with a grid of colored rectangles (red, blue, green, yellow) overlaid on it. A red rectangle is highlighted in the lower-left quadrant, with a red arrow pointing to it from the 'Review' panel. The 'Review' panel is open, showing options for 'Update status of tile' and 'Create a QC call'. Under 'Create a QC call', there are three issue types: 'Seamline Anomaly' (purple square), 'Elevation Anomaly' (red square), and 'Image Anomaly' (green square). The 'Elevation Anomaly' option is selected, and a red arrow points from it to the red rectangle on the map. The 'Search' panel is also open, showing search criteria for '2012 Coastal Tiles' in 'Beaufort' county. The 'Dynamic Legend' panel is open, showing a legend for 'orthoimagery' with four categories: 'Coastal County Boundaries' (red square), 'Review Tiles CDIA' (blue square), 'Review Tiles County' (blue square), and 'Review Tiles NC DOT' (green square). The 'Data Layers' panel shows 'Streets' and '2012 NC Ortho' selected. The bottom of the screen displays the scale (1:77,774) and coordinates (Latitude: 35.610577, Longitude: -77.146272). An inset map in the bottom right shows the location of the main map area within the state of North Carolina, with a red rectangle indicating the area of interest near Beaufort and Washington.



3. Automated-User-defined attributes

The screenshot displays the North Carolina VOICE software interface. The main window features a satellite map with a grid overlay. Three panels are visible:

- Search Panel (top left):** Includes fields for "Search layer" (2012 Coastal Tiles), "Show" (All), "County" (Beaufort), and "Imagename" (20600303). Buttons for "Search" and "Clear" are present.
- Review Panel (bottom left):** Contains an "Update status of file" section with an "Image Number" field and a "Tile Pass" button. Below is a "Create a QC call" section with a legend for "Seamline Anomaly" (purple), "Elevation Anomaly" (orange), and "Image Anomaly" (green).
- Issue Details Panel (right):** A form with the following fields:
 - IssueID: 206
 - Employee Name: NCDOTC
 - User Name: dot user
 - Email: deary@nodot.gov
 - Organization: NCDOT
 - Phone: 818-707-7088
 - County: Pis
 - Scale: 4814
 - Image Name: 20504004
 - Issue Type: Image Anomaly
 - Sub Issue: Image Ghosting
 - Issue Description: Double Images
 - Issue Comments: (empty field)

At the bottom of the map, the scale is 1:72,724 and the coordinates are Latitude: 35.641553, Longitude: -77.222601.



4. Check Your Progress

Ann Arbor VOICE Virtual Online Inspection Tracking & Mapping

SEARCH

Search Layer: Ann Arbor FK Tile

Image Number: 82740200

Search Clear

Review

Update status of tile

Image Number: [input]

Review complete, no issues: **Tile Pass**

Create a DC call

Select an issue type and draw a rectangle around the area of concern

- Seamline Anomaly
- Elevation Anomaly
- Image Anomaly

0m 50m 100m

Center: 11.644, 43.000 Easting: 42.150000 Northing: 42.991227

FORCED BY PHOTO SCIENCE

Data Layers Orto 2012 Screens

- No issues
 - **GREEN**
- 1 or 2 Issues
 - **Yellow**
- 3 or more issues
 - **Red**

NC OneMap Geospatial Portal

- <http://data.nconemap.com>
- Data Discovery
- Image Services – 1995-2012
- Wealth of Map services and downloadable data



NC OneMap Geospatial Portal



GeoSpatial Portal

[Help](#) [About](#) [NC OneMap](#)

[HOME](#) [SEARCH](#) [BROWSE](#) [DOWNLOAD IMAGERY](#)

[MAP VIEWER](#)

Home

We've changed! The NC OneMap GeoSpatial Portal has added functionality that makes finding and using data easier than ever. Want to see the most recently added or updated items, view items alphabetically, and download larger areas of imagery for multiple years? Check, check, and check. **Watch the video** to see a demo of all the changes or visit the new **services page** to see a listing of map services we host.

Find Resource...

TUTORIAL VIDEOS



Most Recent Items...

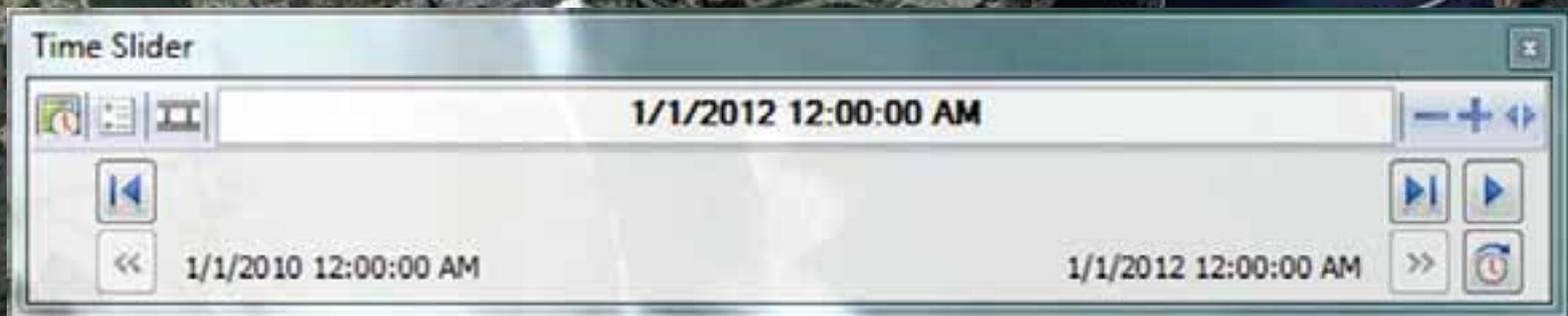
Expand results

- [NC Orthoimagery Latest Imagery Service - OGC WMS](#)
- [NC Orthoimagery Latest Imagery Service - ArcGIS Server](#)
- [1995-2012 NC Orthoimagery Time-Enabled Service - ArcGIS Server](#)
- [2012 North Carolina Digital Orthoimagery Service - OGC WMS](#)
- [2012 North Carolina Digital Orthoimagery Service - ArcGIS Server](#)

API: [GEORSS](#) [ATOM](#) [HTML](#) [FRAGMENT](#) [KML](#) [JSON](#) [CSV](#)

Vector and Imagery Services

- Imagery
 - Orthoimagery Standalone – Per Year
 - Orthoimagery All - 1995-2012
 - Orthoimagery Most Recent



- <http://services.nconemap.com/arcgis/rest/>

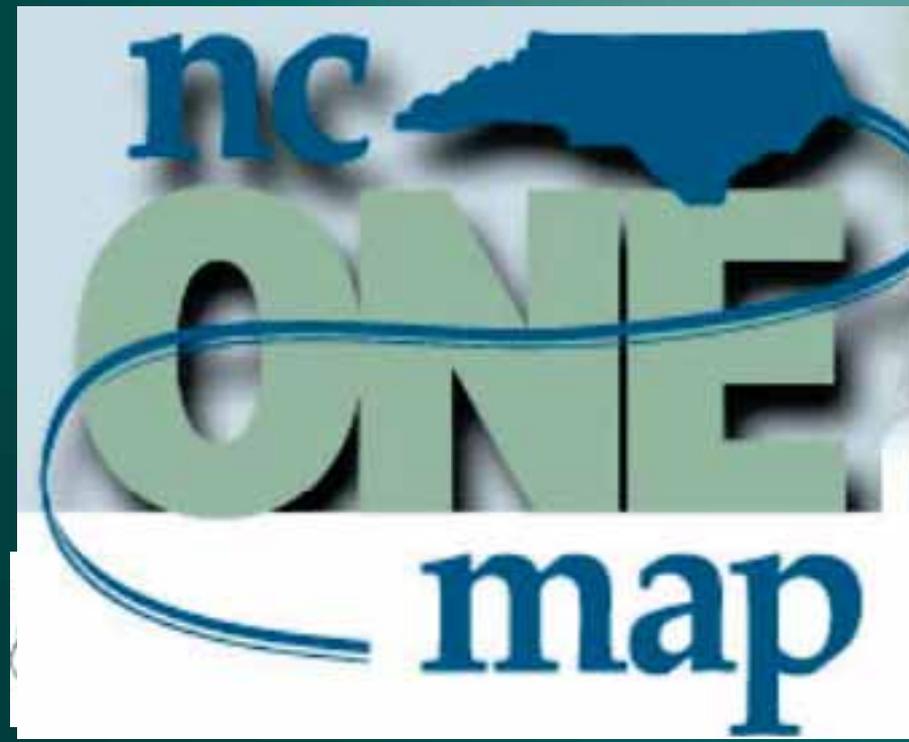
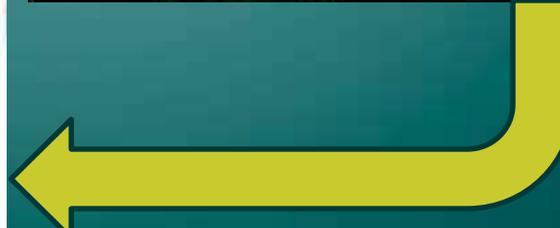
Download Multiple Years

- Red Light-Green Light
- Select a Year
- Preview the Coverage
- Email
- Download
- JPG Compression
- MRSID

The screenshot shows the NC OneMap Geospatial Portal interface. At the top, there is a navigation bar with links for HOME, SEARCH, BROWSE, DOWNLOAD IMAGERY, and MAP VIEWER. The main content area is titled "Select imagery for download" and includes a "Zoom in and select an area for download" section. This section features a map viewer with a green selection box over a building complex. A pop-up window titled "Select year(s) to download" is visible, showing checkboxes for 2010 and 2012, each with a "Preview" button. Below the map, there is an "Enter email address" section with a text input field containing "john.doe@email.com" and a "Download" button.



Client Satisfaction



CGIA Project Contact Info

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Questions?

