NC OneMap
Geospatial Data for Decisions

NC Criminal Justice Information Network

October 13, 2011

Topics

- "The Geospatial Landscape"
- Statewide Orthoimagery
- Evolution of Tools to Discover and Access Data
- Next Steps

Geospatial Investment

- 100 counties have invested in data and systems
- Most provide access to data via Internet
- Data meets local needs for decision making
- Sharing between local and state

Geographic Information Coordinating Council (GICC)

- Statutory, policy body created by General Assembly in 2001
- Article 76, §143-725 thru 143-727
- 33 members
- Public and private sector representation
- CGIA serves as technical staff
- CGIA is leading NC OneMap implementation

NCGICC

GICC Mission

"Improve the quality, access, cost-effectiveness and utility of North Carolina's geographic information and promote geographic information as a strategic resource for the State."

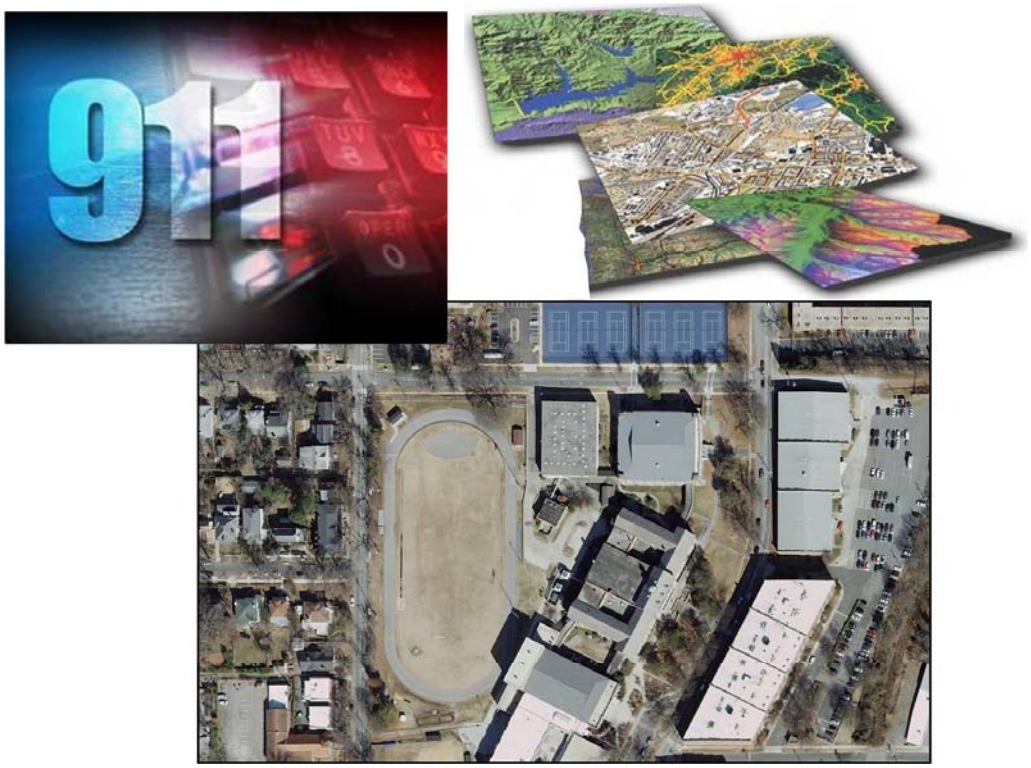
NC OneMap Vision and Implementation

- Achieve statewide GIS data resource
- Developed through consensus
- Data documented through metadata
- Share data between local, state, and federal agencies
- Develop ways to share cost of data creation
- Support decisions throughout public sector

NC OneMap Data Layers

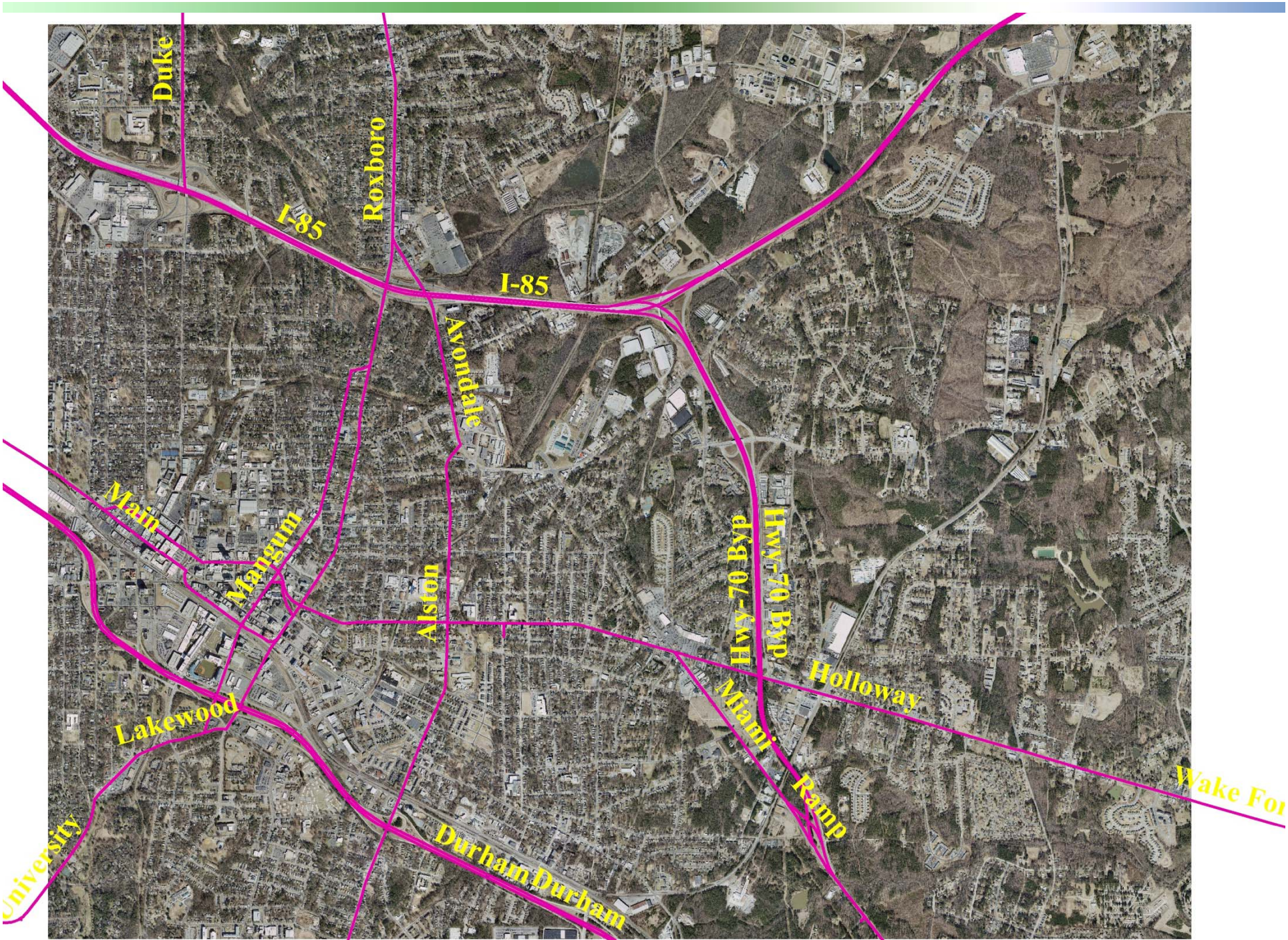
- Orthoimagery
- Elevation
- Roads
- Parcel boundaries
- Address points
- City and county boundaries
- Rivers and streams
- Law enforcement locations
- Correctional institutions
- Flood hazard zones
- Emergency shelters
- Fire stations
- Hospitals
- *plus many others …*

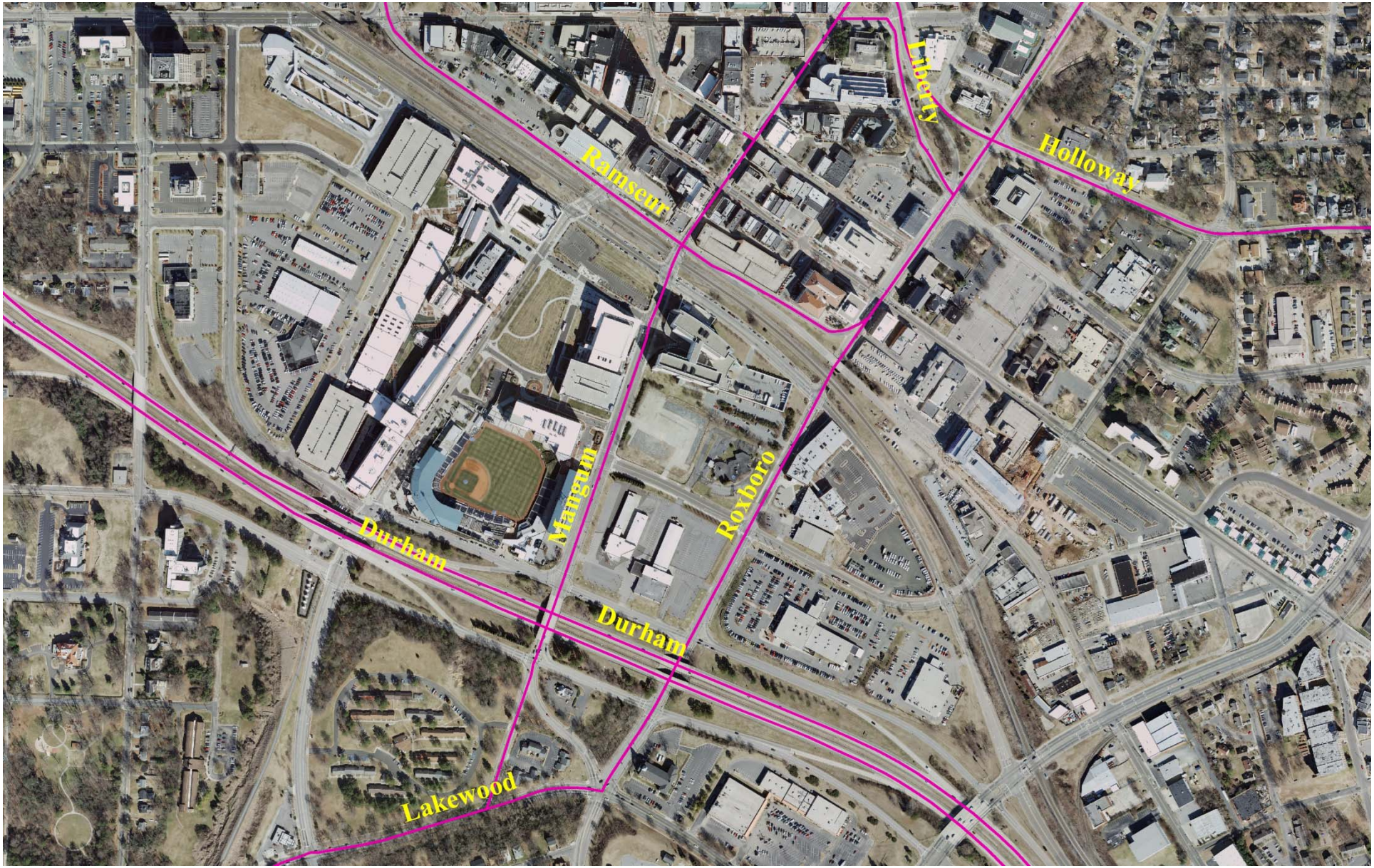
Statewide Orthoimagery 2010



Project In Brief

- City of Durham
- Funded by 911 Board
- $12.3 million grant
- 100 counties
- Flights – early 2010
- Imagery to counties – spring 2011
- 59,000 "tiles"
- 6-inch ground resolution


Duke
Roxboro
I-85
I-85
Avondale
Main
Mangum
Alston
Hwy-70 Byp
Hwy-70 Byp
Holloway
Miami
Ramp
Lakewood
Durham
Durham
University
Wake For



1:4,800 scale from GIS

nc ONE map
Geographic Data Serving A Statewide Community

1:2,400 scale from GIS

nc ONE map
Geographic Data Serving A Statewide Community

1:1,200 scale from GIS

1:480 scale from GIS

etteville
son
Martin Luther King Jr
Grove
NC-Hwy
I-95
I-95
Eastern
I-95 Bus
I-95 Bus
I95
NC-87 NC-87
Cedar Creek
Fayetteville

1:12,000 scale from GIS

nc ONE map
Geographic Data Serving A Statewide Community

1:1,200 scale from GIS

nc ONE map
Geographic Data Serving A Statewide Community

1:600 scale from GIS

NC-304
Vandemere
Main
NC-55

1:2,400 scale from GIS

1:1,200 scale from GIS

nc ONE map
Geographic Data Serving A Statewide Community

1:600 scale from GIS

nc ONE map
Geographic Data Serving A Statewide Community

1:1,200 scale from GIS

Distributing Imagery Products

Geospatial & Technology Management Office

Contractors

CGIA

Approve for release

City of Durham, Emergency Communications

NC 911 Board

Counties 1 – 100 GIS and 911 operations

NC OneMap

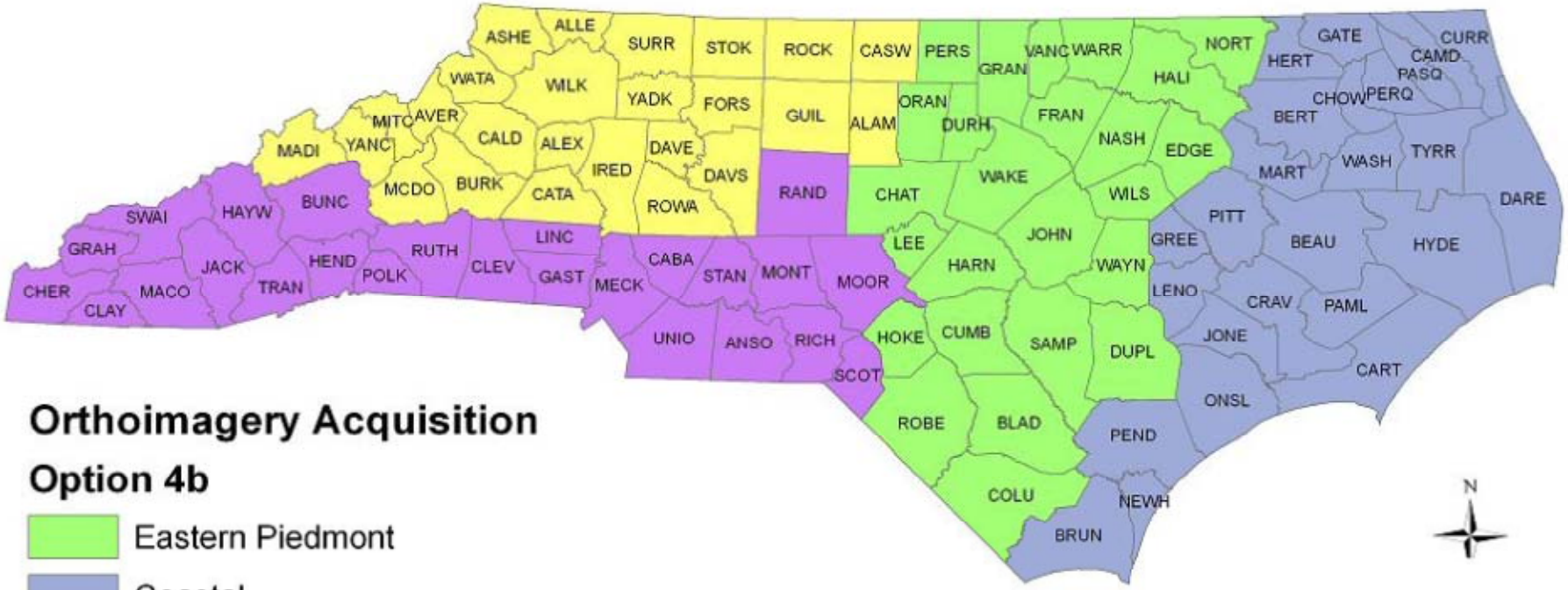
Imagery server (map services)

Storage

FTP download

State and Federal Data Sharing Partners

Statewide Digital Orthoimagery, Option 4b: State Divided in Fourths with Mountains and Western Piedmont Split North and South



Orthoimagery Acquisition

Option 4b

- Eastern Piedmont
- Coastal
- Western-North
- Western-South

0 25 50 100 Miles

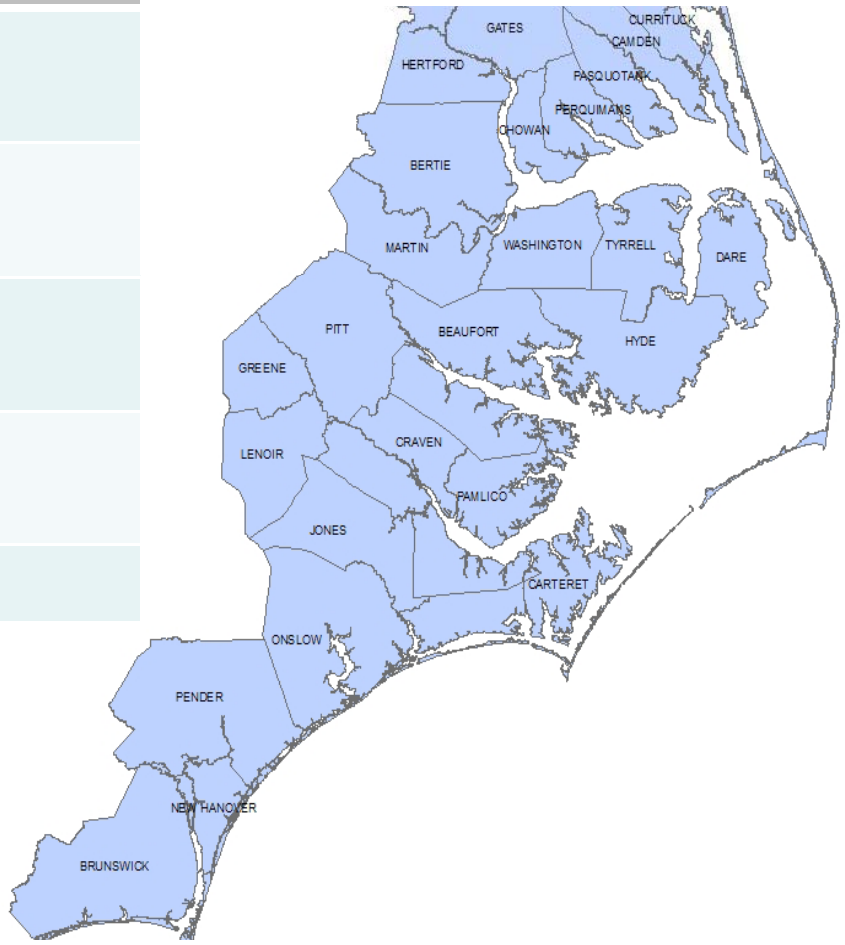
Sources: NC Center for Geographic Information and Analysis and the Working Group for Orthophotography Planning, Statewide Mapping Advisory Committee.

October 4, 2010

NCGICC

2012 Coastal Orthoimagery Flights

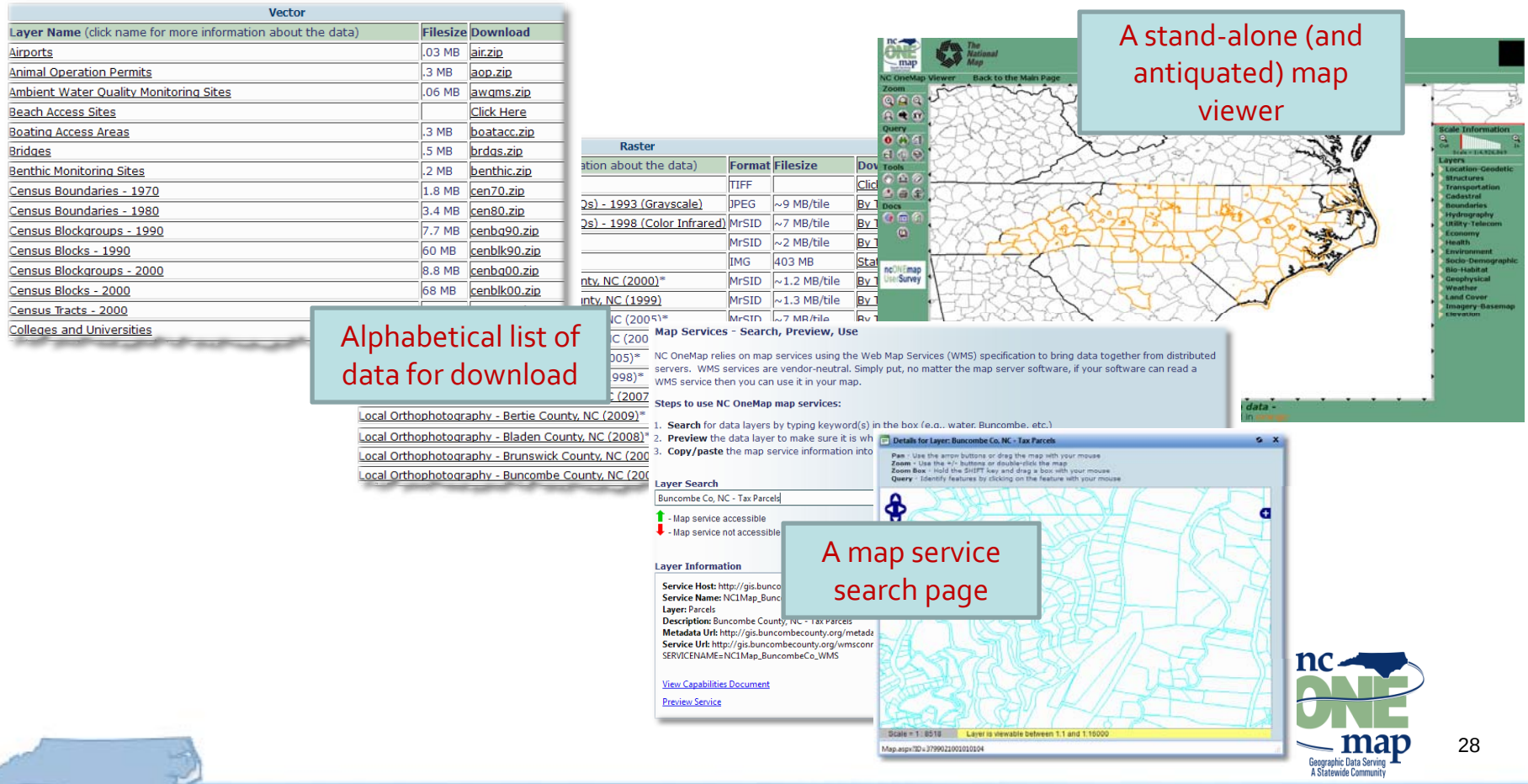
Coastal (Aug 2011 – Aug 2013)	
Project Begin	Aug 2011
Flight Acquisition	Jan – Feb 2012
Production/ Delivery	Nov 2012 – Feb 2013
Project End	Aug 2013
Cost	$3,541,341



NC OneMap Geospatial Portal

Emerging NC OneMap

A bunch of disparate parts

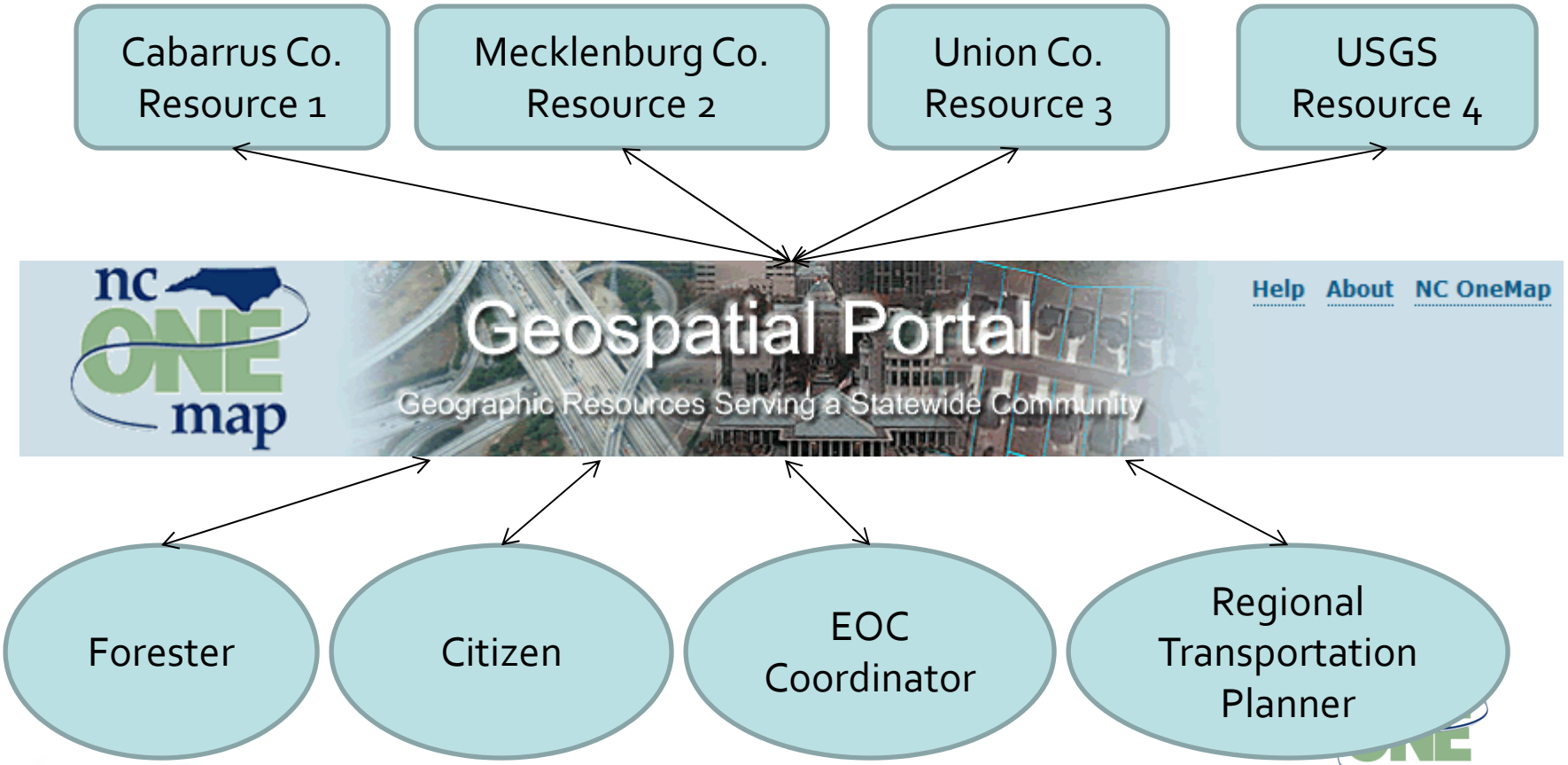


NC OneMap Refresh Project
November 2010

- Identify enhancements that can be achieved in the short term by NC OneMap staff
- Implement enhancements
- Specify requirements for system enhancements
- Identify funding sources for priority investments

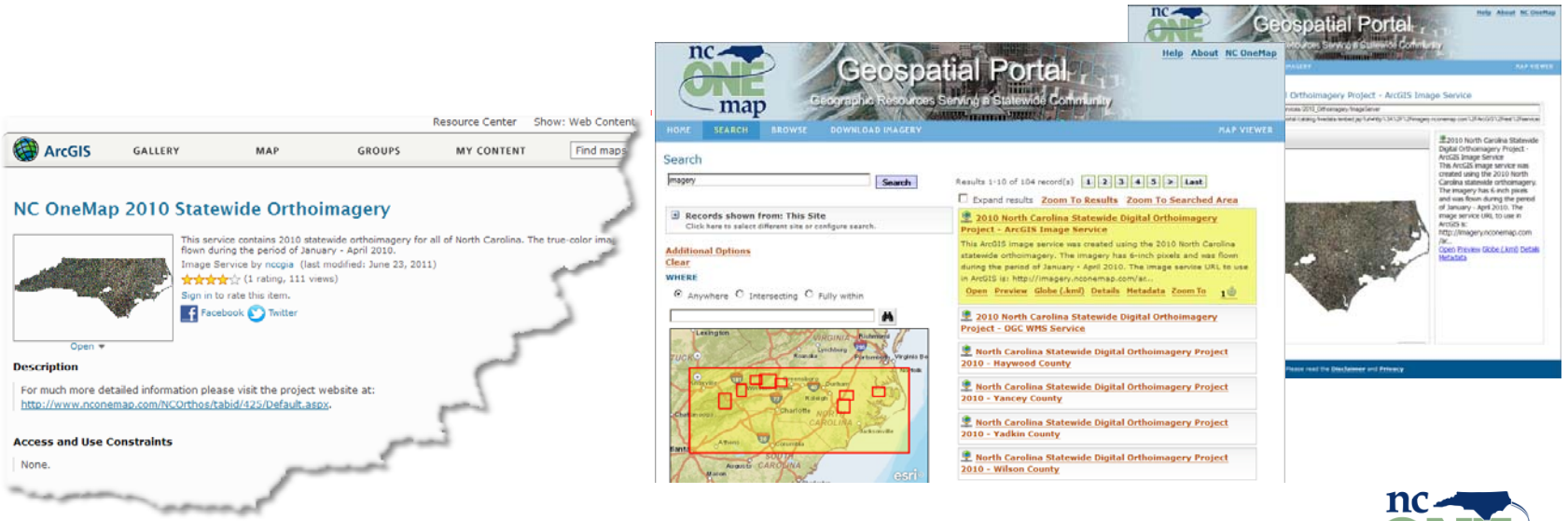
NC OneMap Geospatial Portal

Def: Presenting information from diverse resources in a unified way



Discovering NC Data

- NC OneMap Geospatial Portal: data.nconemap.com – search for i.e., "imagery"
- ArcGIS.com – search for "NCOneMap imagery"



Geospatial Portal

Access NC Geospatial Data

- Download
  - Imagery and all vector data on CGIA servers
- Web Map / Image Services
  - Imagery, all CGIA data, and other published map services

nc ONE map

Geospatial Portal

Geographic Resources Serving a Statewide Community

Help About NC OneMap

HOME SEARCH BROWSE DOWNLOAD IMAGERY MAP VIEWER

Home

The NC OneMap GeoPortal makes it easy to discover and use geospatial information.

Find Resource

Search

Featured Resource

North Carolina 2010 Orthoimagery

High-resolution, true color orthoimagery is now available statewide. Use as a high-performance **image service** or **download** a group of images.

Read the **FAQ**.

Tutorial Videos

Introduction

Discovering Resources - Using ESRI Based Services in ArcGIS

Discovering Resources - Using WMS and WFS Services

Discovering Resources - Using a Browser

Geospatial Portal

Tutorial Videos

Search

Search

Records shown from: This Site
Click here to select different site or configure search.

Additional Options
Clear

WHERE

Anywhere Intersecting Fully within

Search

River Basins

Search

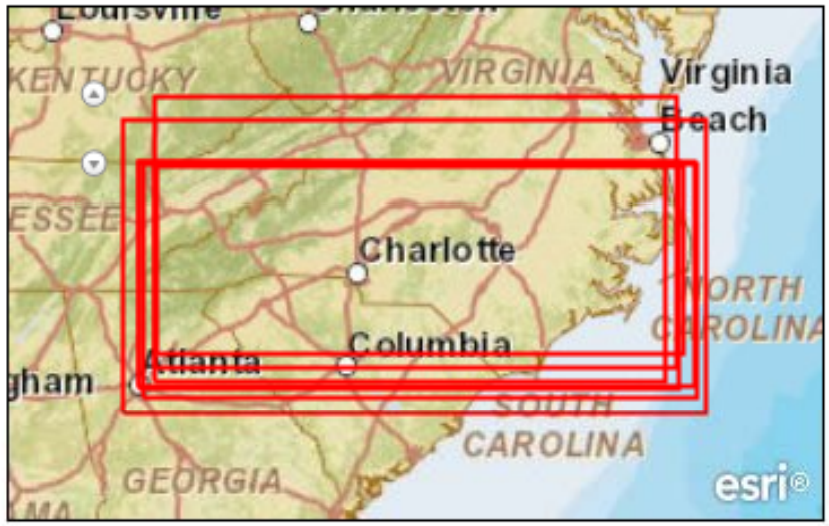
Records shown from: This Site
Click here to select different site or configure search.

Additional Options

Clear

WHERE

Anywhere Intersecting Fully within



Results 1-7 of 7 record(s)

Expand results Zoom To Results Zoom To Searched Area

- River Basins - ArcGIS Map Service
- USGS Stream Gages
- Ecosystem Enhancement Program Targeted Local Watersheds
- Ecosystem Enhancement Program Local Watershed Plans
- County Boundary (North Carolina)
- Surface Water Intakes
- 12-Digit Hydrologic Units

See results through REST API: GEORSS ATOM HTML FRAGMENT KML JSON

Search

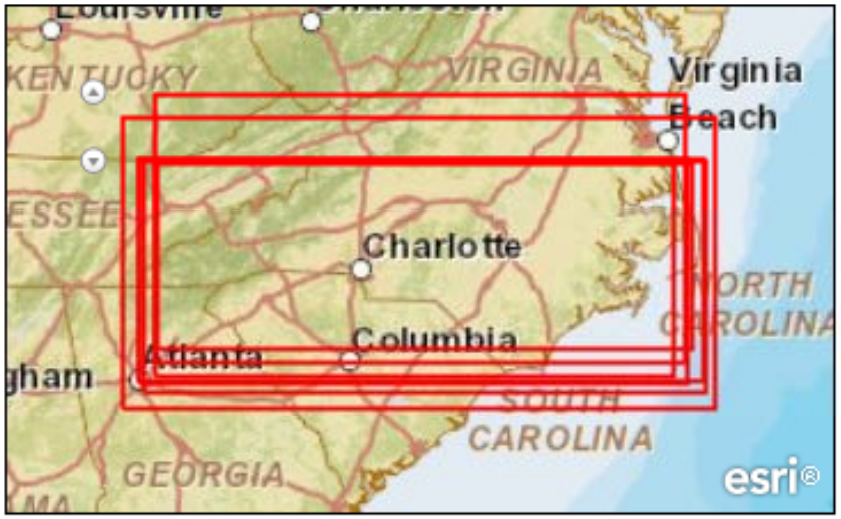
River Basins | Search

Records shown from: This Site
Click here to select different site or configure search.

Additional Options
Clear

WHERE

Anywhere | Intersecting | Fully within



Results 1-7 of 7 record(s)

Expand results | Zoom To Results | Zoom To Searched Area

River Basins - ArcGIS Map Service

North Carolina river basins created from 12-digit hydrologic units - from NC OneMap.

Service Info | Preview | Globe (.kml) | ArcGIS (.nmf) | ArcGIS (.lyr) | Add To Map | Details | Metadata XML | Zoom To

USGS Stream Gages

Ecosystem Enhancement Program Targeted Local Watersheds

Ecosystem Enhancement Program Local Watershed Plans

County Boundary (North Carolina)

Surface Water Intakes

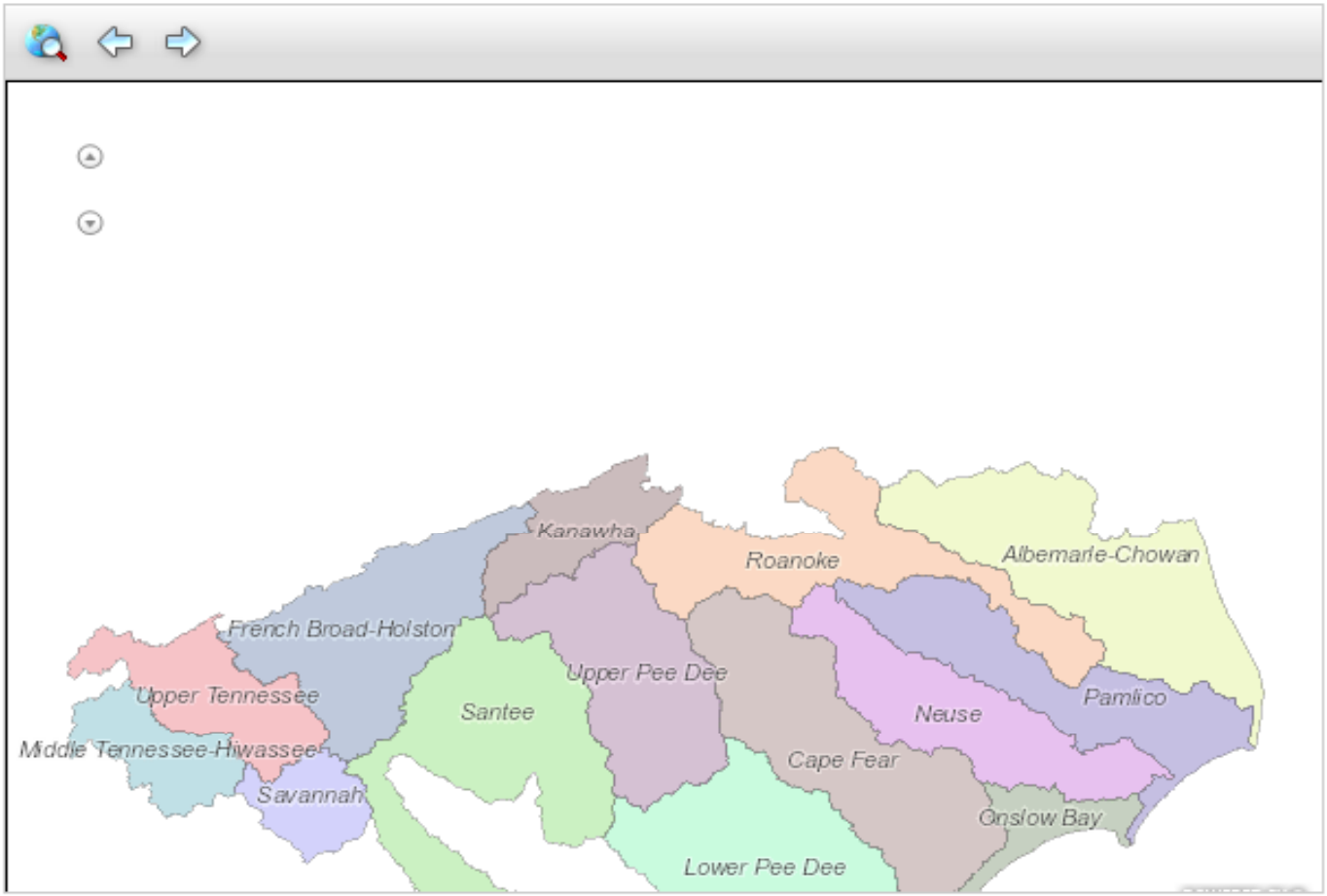
12-Digit Hydrologic Units

See results through REST API: GEORSS | ATOM | HTML | FRAGMENT | KML | JSON

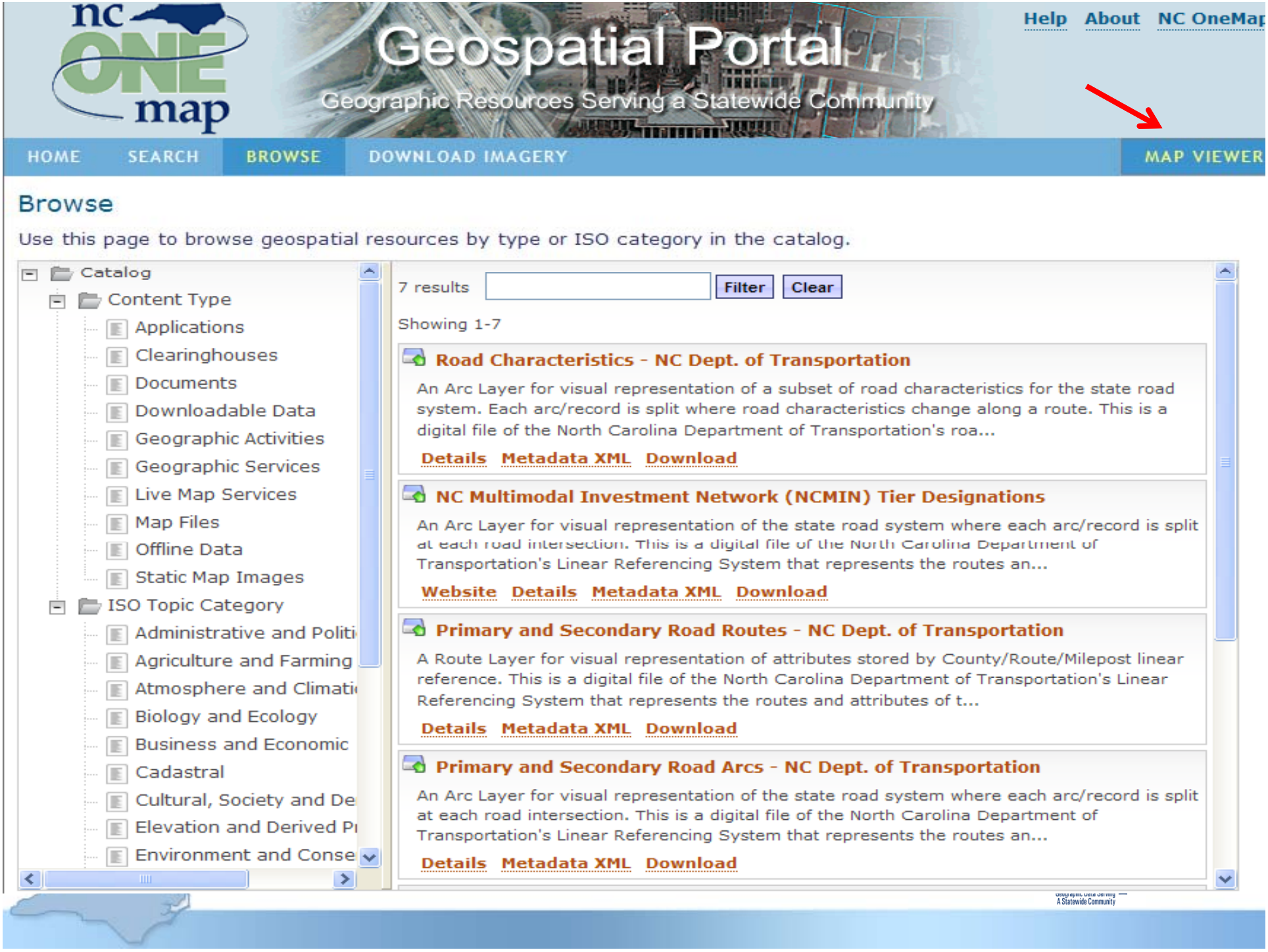
Details **Review** **Relationships** **Preview**

River Basins - ArcGIS Map Service

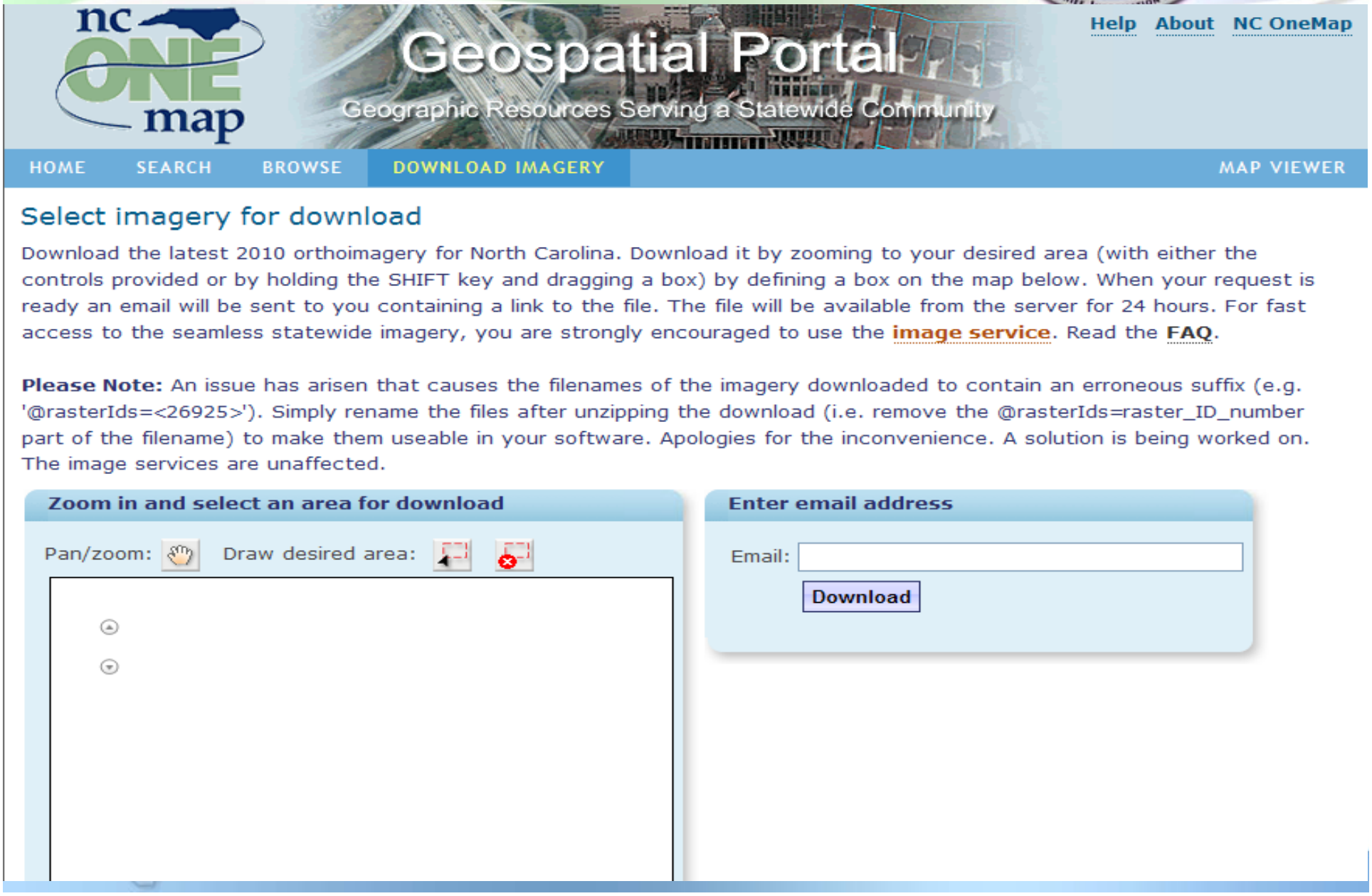
URL:	http://149.168.87.13/ArcGIS/rest/services/NC1Map_RiverBasins/MapServer
Embed:	<iframe src="http://data.nconemap.com/geoportal/catalog/livedata/embed.jsp?url=http%3A%2F%2F149.168.87.13%2FArcGIS%



River Basins - ArcGIS Map Service
North Carolina river basins created from 12-digit hydrologic units - from NC OneMap.
Service Info Preview Globe (.kml) ArcGIS (.nmf) ArcGIS (.lyr) Add To Map Details Metadata XML


nc ONE map
Geospatial Portal
Geographic Resources Serving a Statewide Community
Help
About
NC OneMap
HOME
SEARCH
BROWSE
DOWNLOAD IMAGERY
MAP VIEWER
Browse
Use this page to browse geospatial resources by type or ISO category in the catalog.
Catalog
Content Type
Applications
Clearinghouses
Documents
Downloadable Data
Geographic Activities
Geographic Services
Live Map Services
Map Files
Offline Data
Static Map Images
ISO Topic Category
Administrative and Politi
Agriculture and Farming
Atmosphere and Climati
Biology and Ecology
Business and Economic
Cadastral
Cultural, Society and De
Elevation and Derived P
Environment and Conse
7 results
Filter
Clear
Showing 1-7
Road Characteristics - NC Dept. of Transportation
An Arc Layer for visual representation of a subset of road characteristics for the state road system. Each arc/record is split where road characteristics change along a route. This is a digital file of the North Carolina Department of Transportation's roa...
Details
Metadata XML
Download
NC Multimodal Investment Network (NCMIN) Tier Designations
An Arc Layer for visual representation of the state road system where each arc/record is split at each road intersection. This is a digital file of the North Carolina Department of Transportation's Linear Referencing System that represents the routes an...
Website
Details
Metadata XML
Download
Primary and Secondary Road Routes - NC Dept. of Transportation
A Route Layer for visual representation of attributes stored by County/Route/Milepost linear reference. This is a digital file of the North Carolina Department of Transportation's Linear Referencing System that represents the routes and attributes of t...
Details
Metadata XML
Download
Primary and Secondary Road Arcs - NC Dept. of Transportation
An Arc Layer for visual representation of the state road system where each arc/record is split at each road intersection. This is a digital file of the North Carolina Department of Transportation's Linear Referencing System that represents the routes an...
Details
Metadata XML
Download

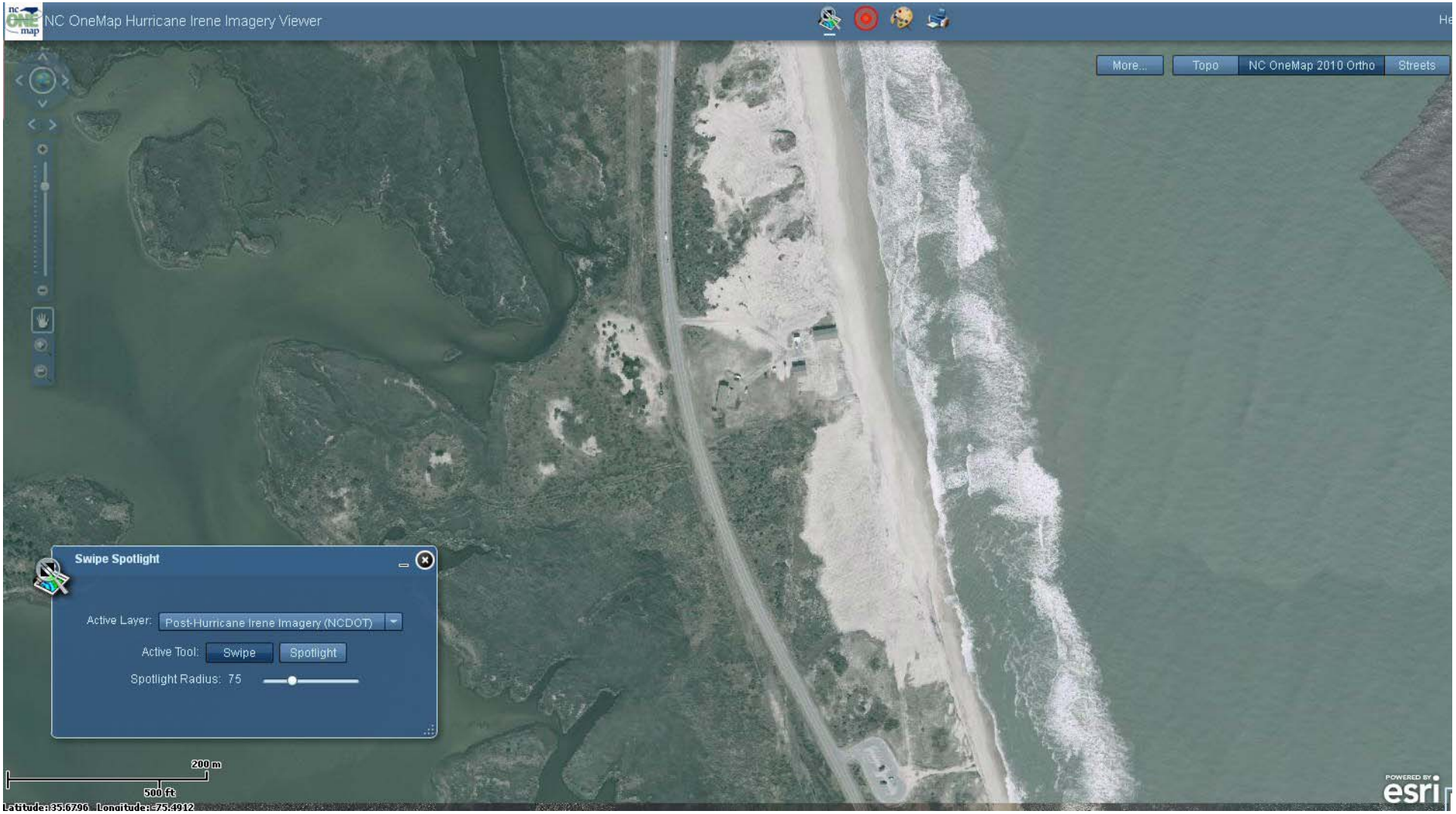
Geospatial Portal Download



Using the Geospatial Portal to Support a Current Issue

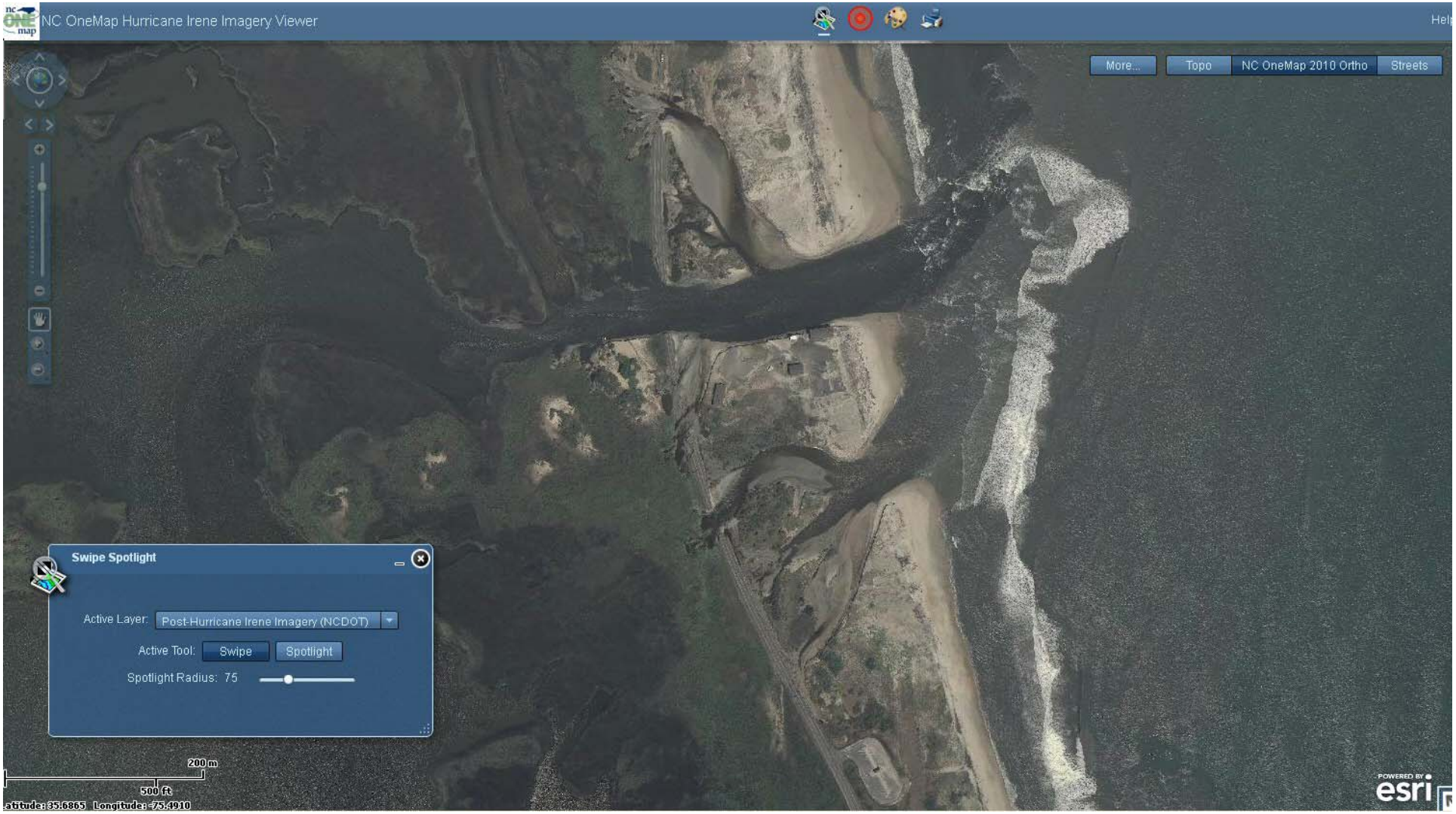
Hurricane Irene

- NCDOT and NOAA flights (8/28 and 8/29)
- New image services to the NC OneMap Geospatial Portal: search on “Irene”
- App to view "before and after." The URL is: data.nconemap.com/geoportal/hurricane_irene/index.html



January 2010, Outer Banks near Rodanthe, NC

18S VE 562490

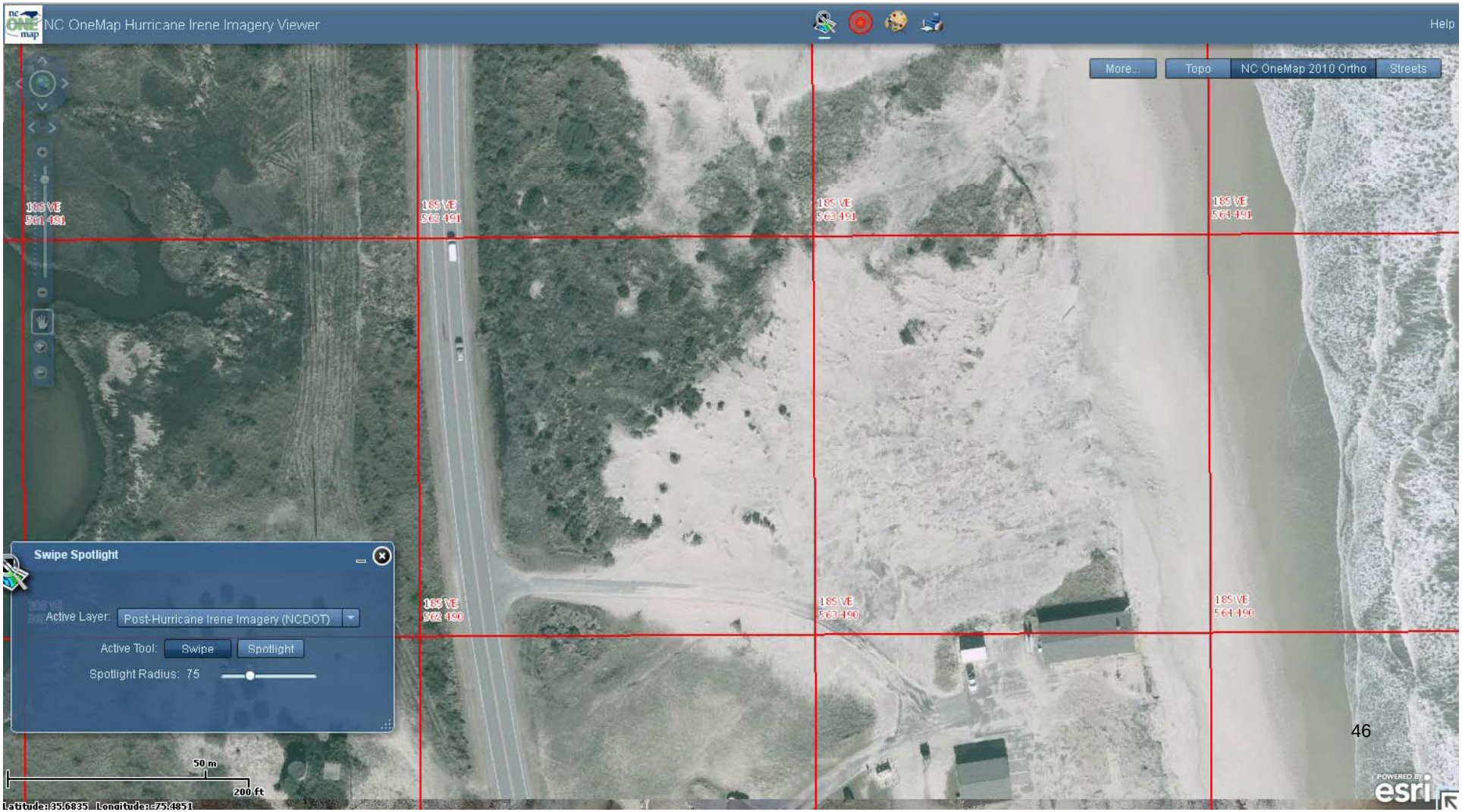


August 28, 2011, Post Irene

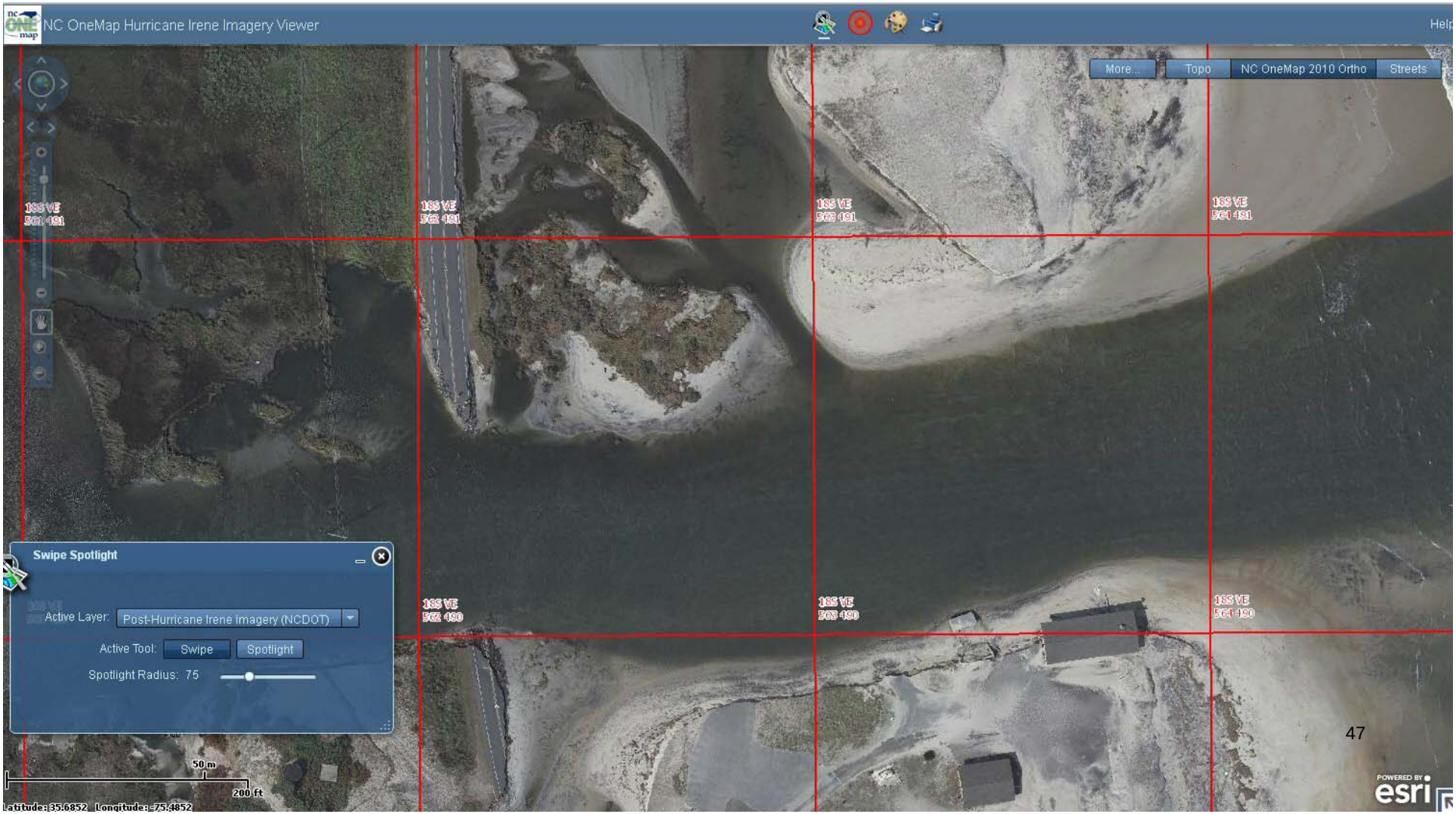
18S VE 562490

Before and After Irene

Detail - Before



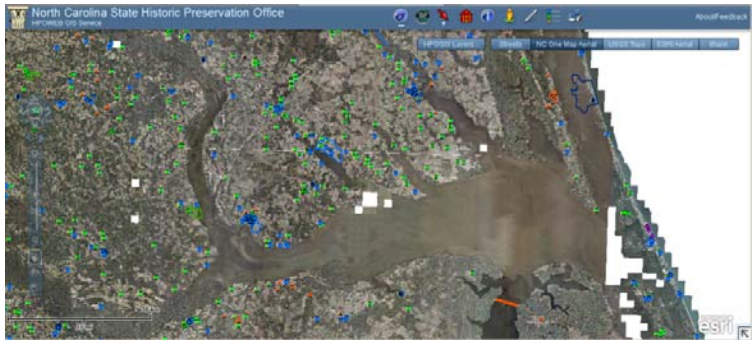
Detail - After

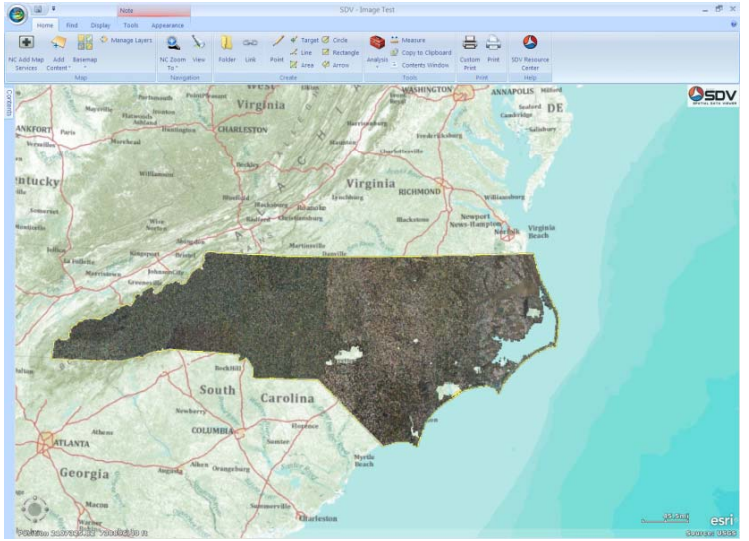


Geospatial Portal

2010 Image Service Uses

- NC Dept. of Transportation
  - Cost savings
- NC Historic Preservation Office
- City of Asheville
- Cherokee County





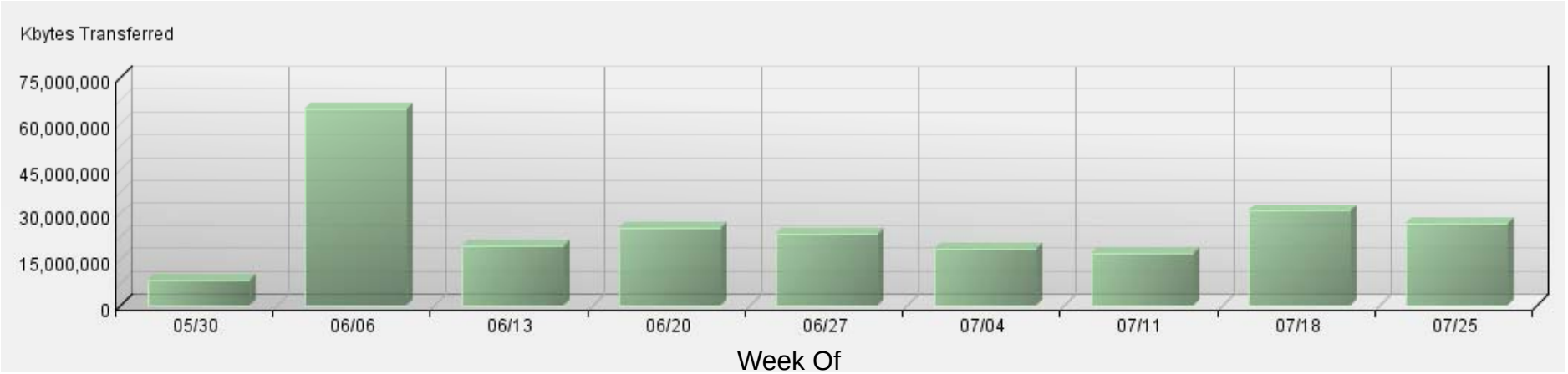
nc ONE map
Geographic Data Serving A Statewide Community

Geospatial Portal

Usage Statistics

Data Transferred

(in Kilobytes)

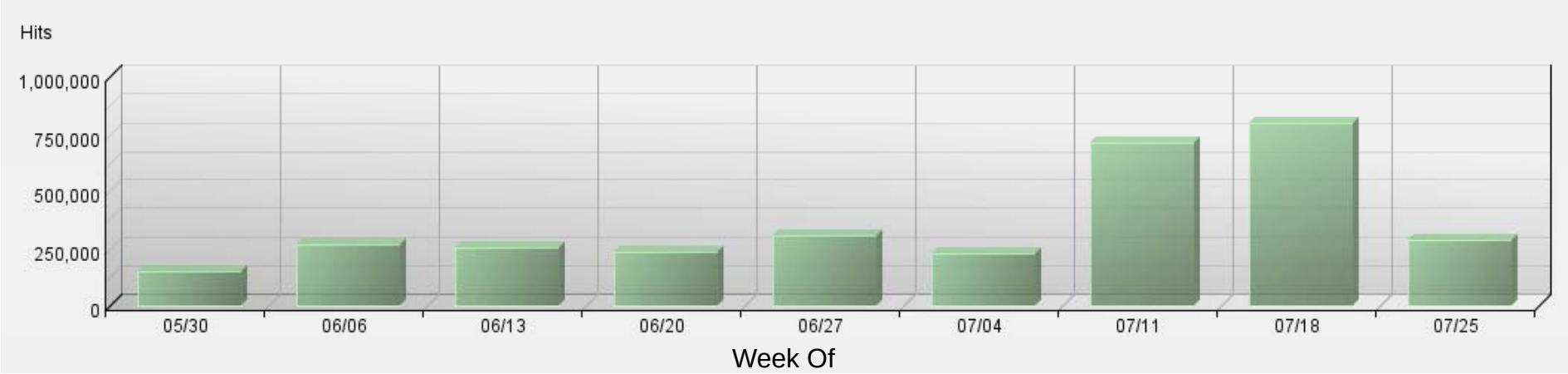


Total is approximately 224GB (99.1% being from ZIP files). There were 1,131 imagery ZIP files downloaded during the reporting period.

Geospatial Portal

2010 Image Service Usage Statistics

Image Service Hits



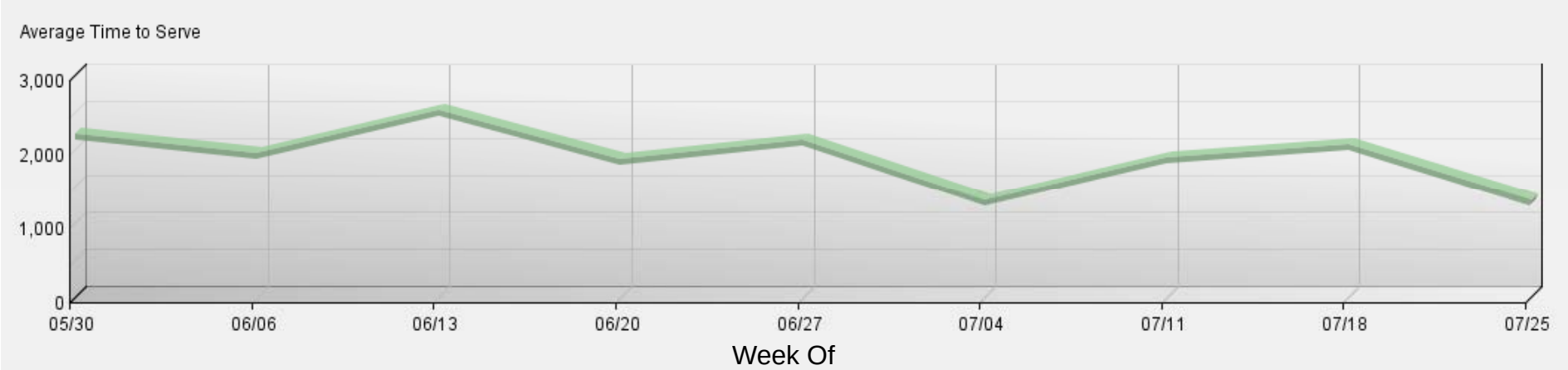
Every zoom in, zoom out, pan on the map counts as a hit.

Geospatial Portal

2010 Image Service Usage Statistics

Average Time to Serve Pages

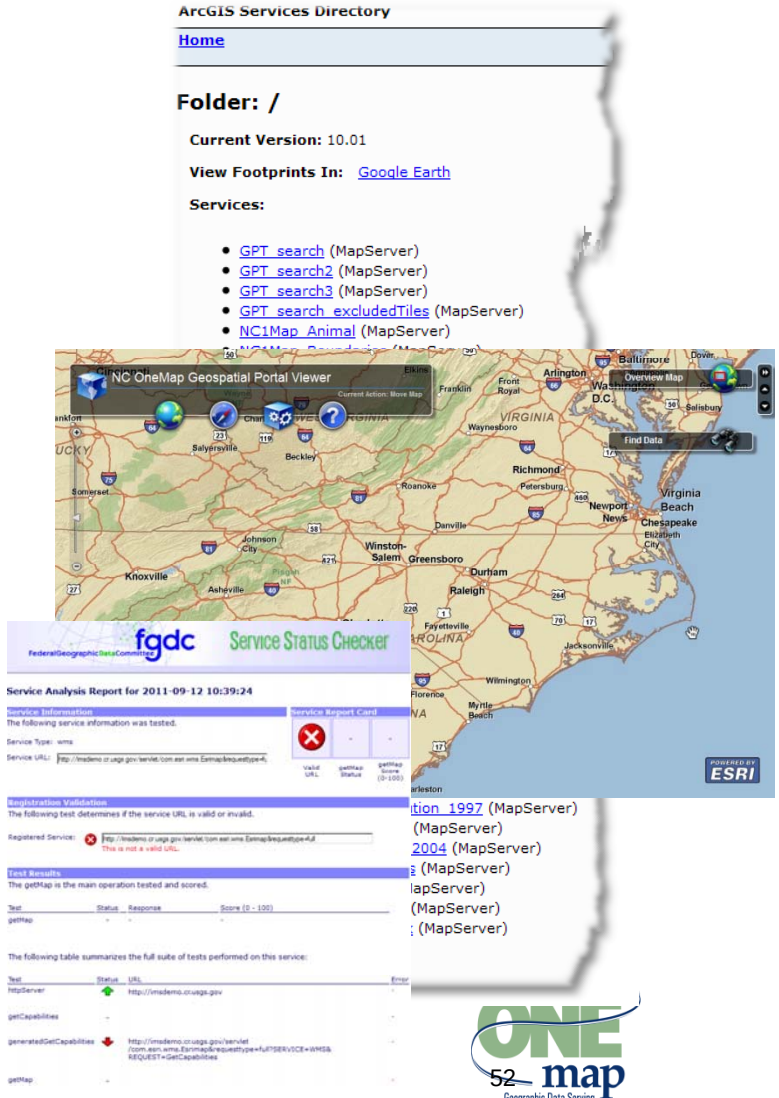
(in milliseconds)



Time it takes for the server to process the request and return the image back to the user.

Next Steps

- Consolidate data logically into map services
- Create a new map viewer
- Auto-notification of partner-maintained map services



"In the Future…"

Driven by NC geospatial community. What do users desire/need?

Questions/Comments?

Tim Johnson
CGIA Director
tim.johnson@nc.gov

Jeff Brown
CGIA Coordination Program Manager
jeff.brown@nc.gov

www.nconemap.com
data.nconemap.com