# NC OneMap: Building the Statewide Geospatial Data Resource

Jeffrey Brown
Center for Geographic Information and Analysis
November 17, 2004

# NC OneMap is …

- free, statewide data resource
- distributed network of servers
- Internet-based map viewer
- decision support tool with geospatial data as the hub

# *NC OneMap is …*

- resource for technical and management staff in federal, state, and local agencies
- geospatial data discovery tool for the public
- NC's contribution to the *National Map*

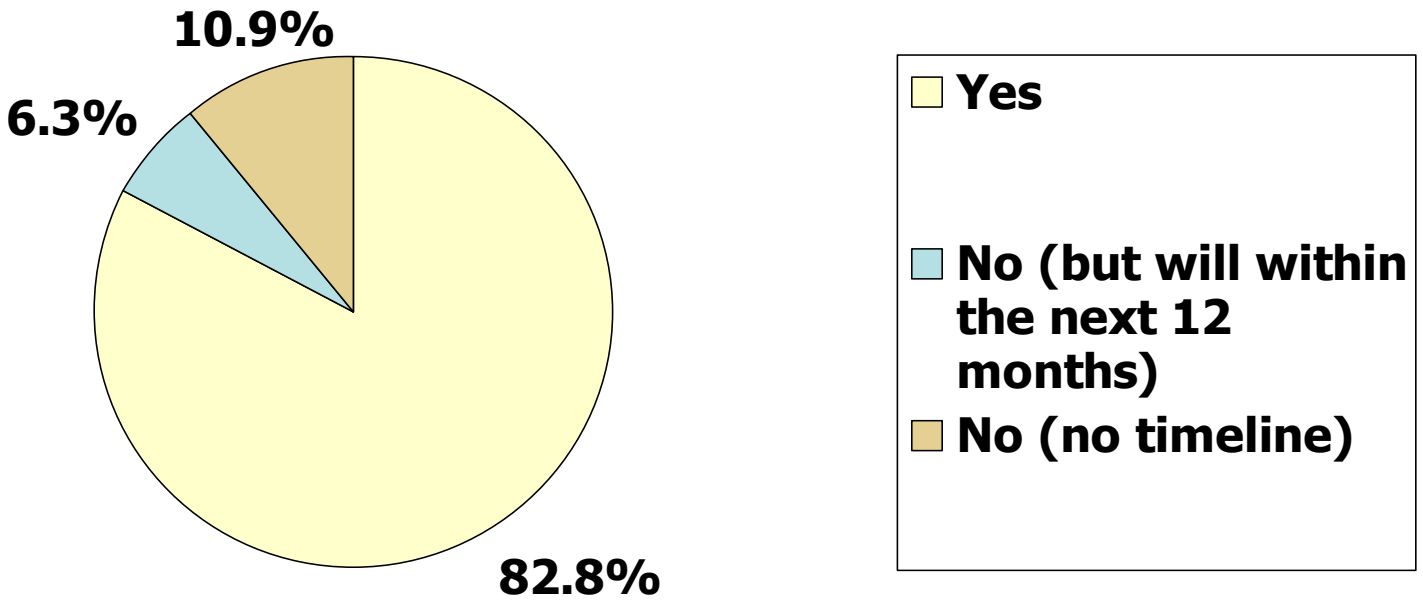
# Geographic Information Coordinating Council

- Gen. Stat. §143-725
- GIS policy group
- 33 members
- Local, regional, state, and federal participation
- Advises the Governor and General Assembly

# Data Inventory

- Data, web mapping, applications
- Display and update online
- Local government inventory
- State survey underway

# Local Governments Who Create/ Update/Integrate/Distribute GIS Data




*Estimated $162M investment has been made at the local level*

# Requirements

- Interviews
- Data
- Functionality
- Direction for Release One Development

# Summary of Requirements

- Easy to Use Viewing – Cross Jurisdictional
- Address Locator; Zoom To Tools; Router
- Metadata
- Print
- Download
- Overview Map

# Summary of Requirements

- Buffer
- Impact Area
- Search From Point
- Supporting Data
- Design Elements: Data Groupings, Avoid Clutter; Avoid Animation; Base Layer Default Strategy

# *Involvement*

- Core Team
- Community GIS Coordinators
- City/County Managers
- Private Sector
- USGS, CGIA, State Agencies, Regions
- Years of Partnering on NSDI

# Results, and work in progress

- June 30 release and ongoing updates
- 48 Communities today, 92 interested
- 30 Counties, 14 Cities/Towns, 4 COGS
- 185 data layers from state & local

# Results, and work in progress

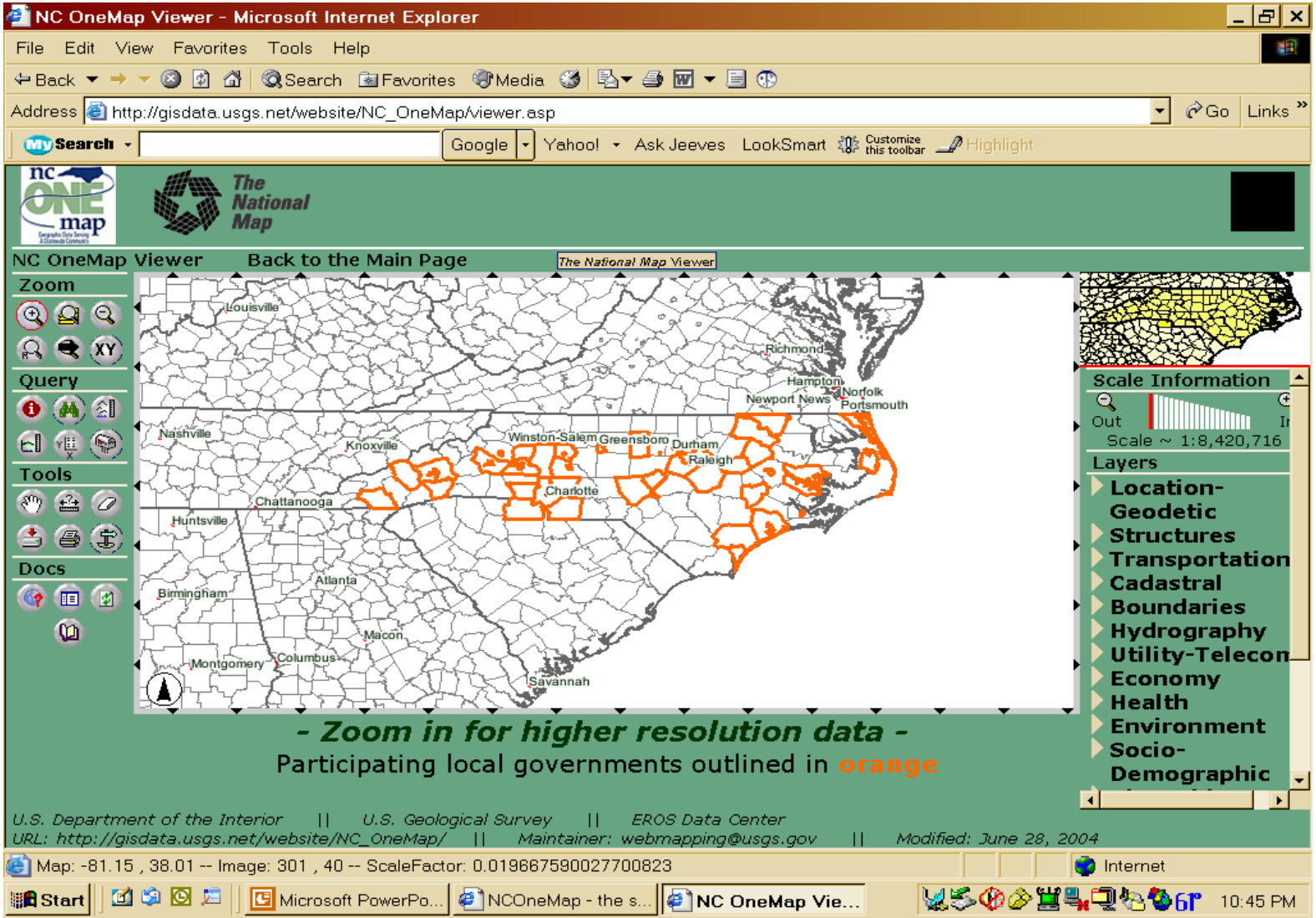
- Cost of local aerials on NC OneMap today is $4.5 million
- Federal, state and private streaming
- 18 Functions
- Distributed network, distributed Services

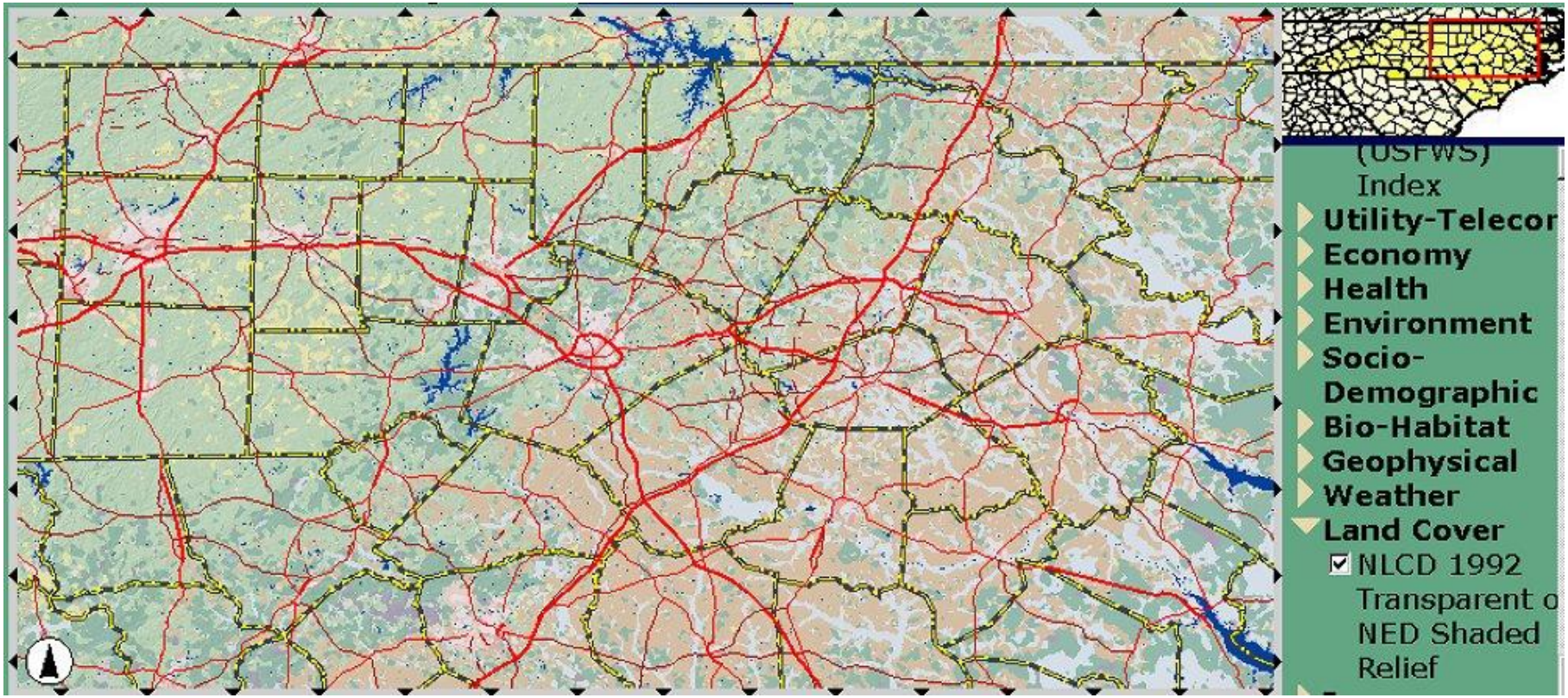
# How does NC OneMap work?

- Map viewer for web browser
- High speed Internet
- Geospatial backbone: Open GIS protocols enabling multiple servers to serve maps to the viewer
- Culture:  data sharing, standards, consistency, maintenance, metadata

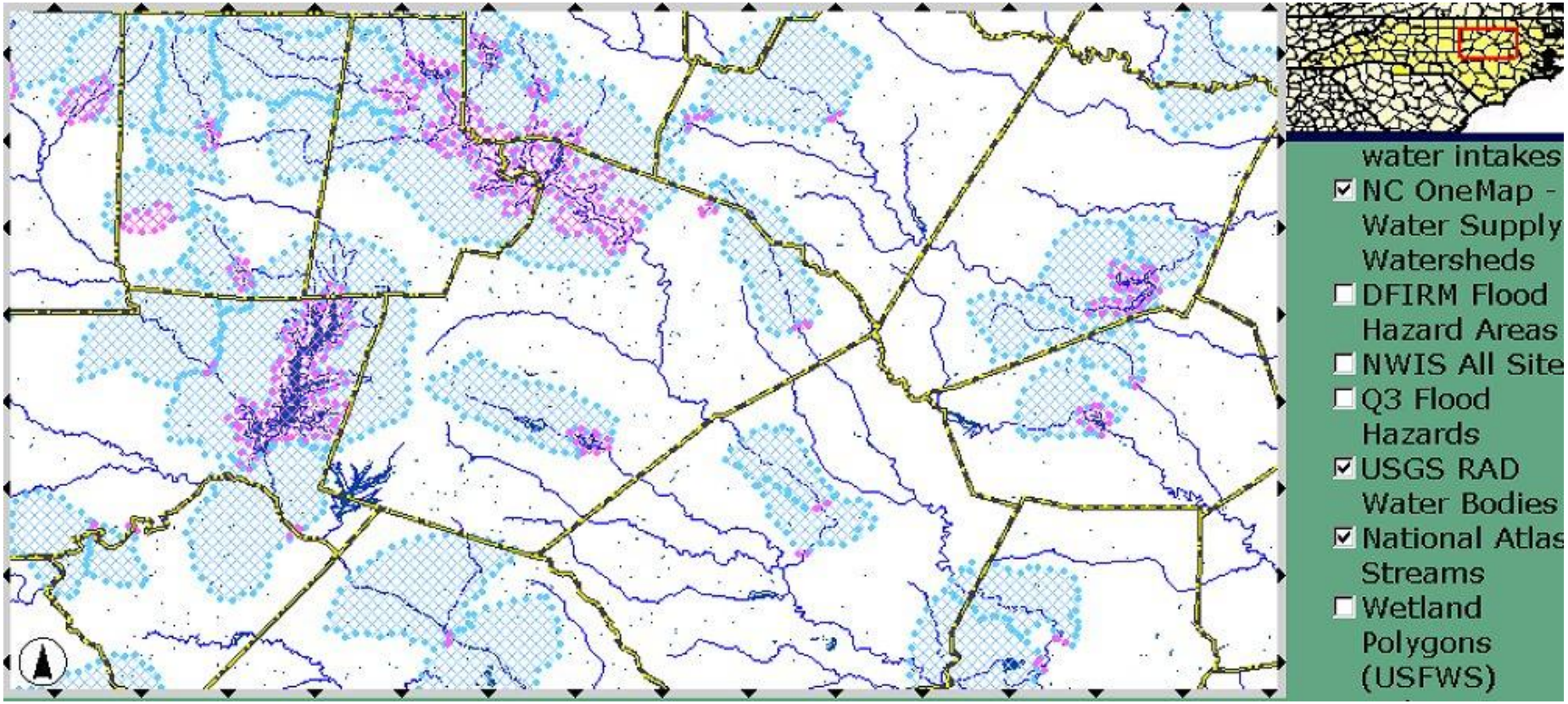
# www.nconemap.net

# NC OneMap Viewer

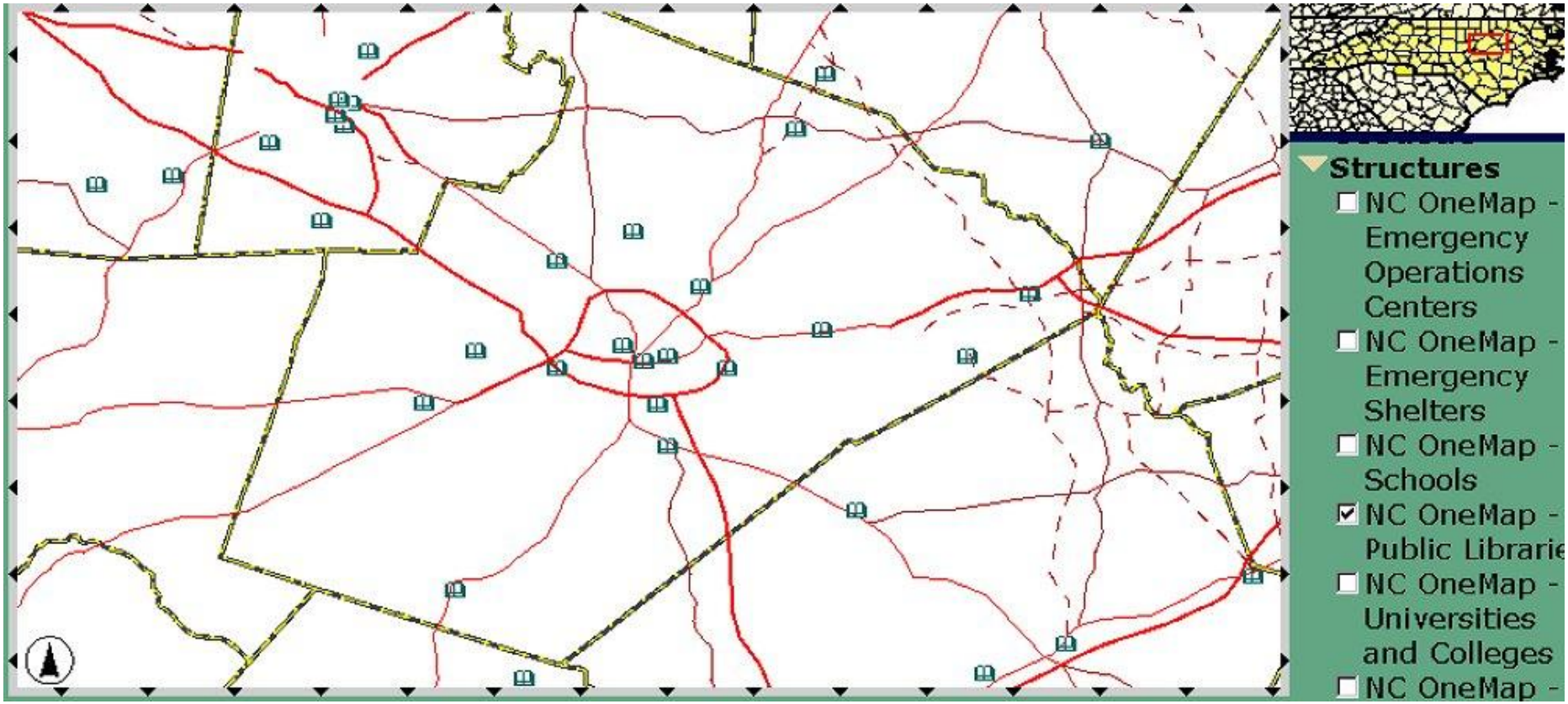




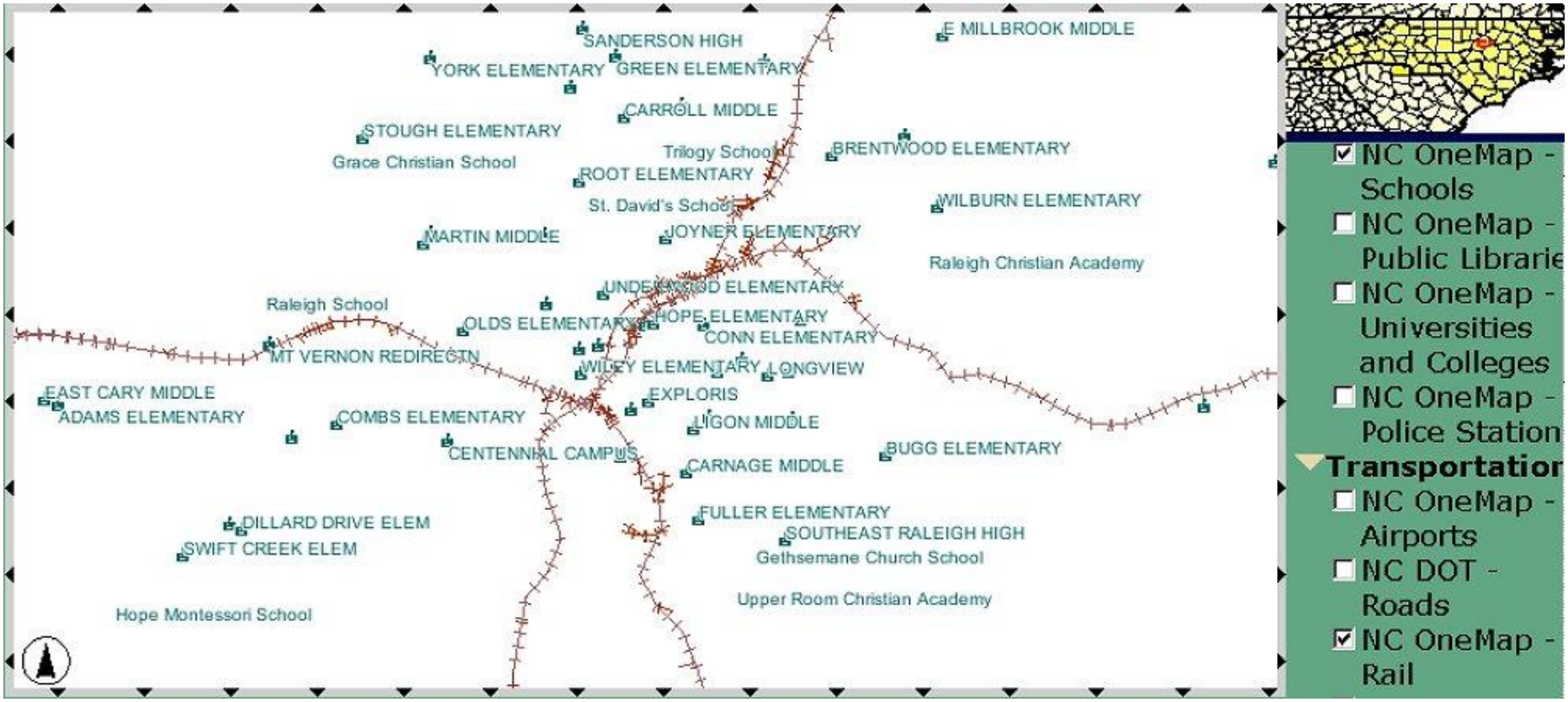

Zoom to a region and display federal data: land cover and roads



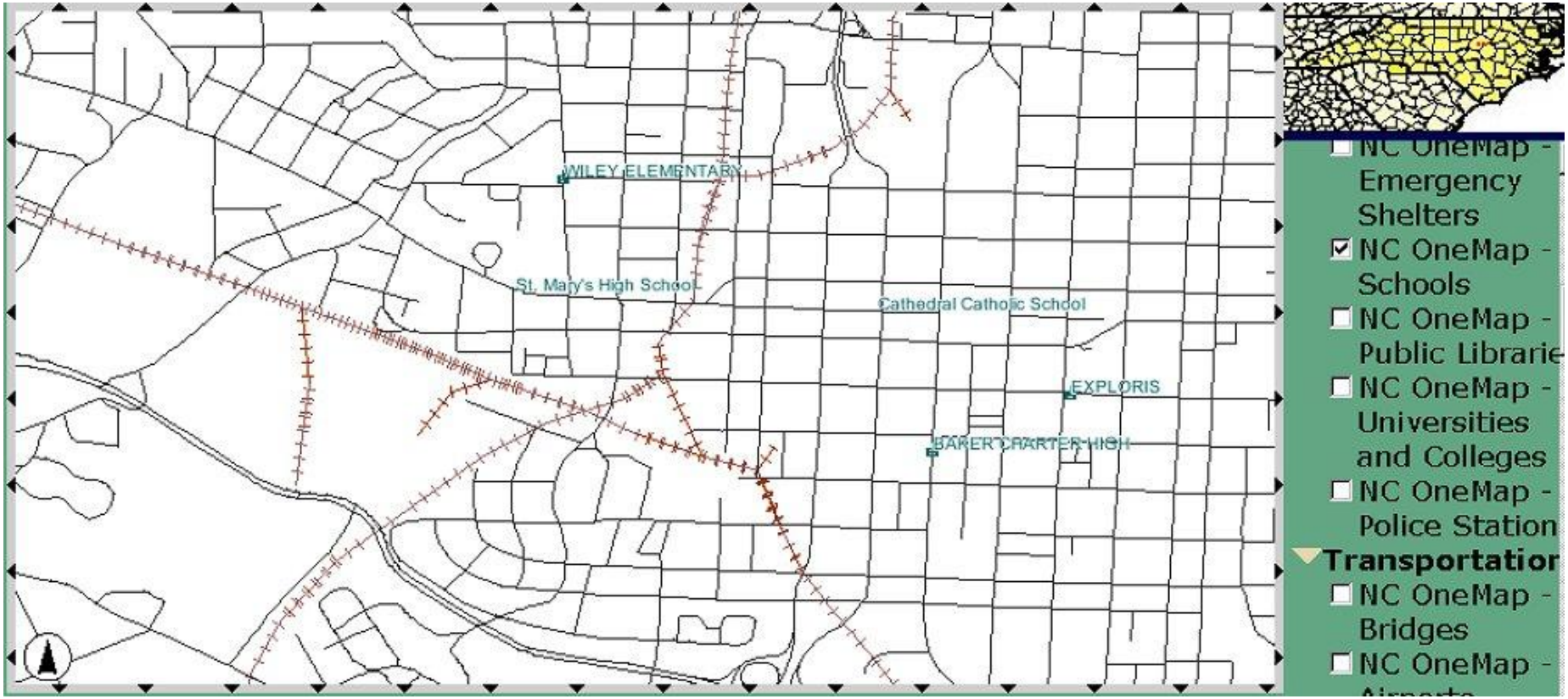

Zoom to a set of counties and display water supply watersheds




Zoom to a county and display sites and major roads (Wake County)




Zoom within a county and display labeled points and a reference theme




Zoom to a neighborhood and display local streets (Wake County)

Zoom to a site and display imagery (Wake County)

NC OneMap Viewer - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites Media

Address http://gisdata.usgs.net/website/NC_OneMap/viewer.asp Go Links

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nc ONE map

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Health
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Socio-Demographic
Bio-Habitat
Geophysical
Weather
Land Cover
Imagery-Basemap
Buncombe Co, NC Orthophotos (199
Urban Area Mosaic

U.S. Department of the Interior || U.S. Geological Survey || EROS Data Center
URL: http://gisdata.usgs.net/website/NC_OneMap/ || Maintainer: webmapping@usgs.gov || Modified: June 28, 2004

Map: -82.54 , 35.58 -- Image: 653 , 31 -- ScaleFactor: 0.000008081690260287858

Internet

Tax parcels and imagery, Nags Head

High resolution imagery served from Mecklenburg County

## Contents


- Welcome
- Internet Mapping
- NC OneMap Viewer
  - Map Viewer
  - Application Tools
- Layer Specification
- Additional Information


Copyright 2004, NC OneMap

# NC OneMap Application Tools

### Navigation Tools:

- Zoom In
- Zoom to Full Extent
- Zoom Out
- Zoom to Region or Area
- Zoom to Previous Extent
- Zoom to a Point

### Identify and Query Tools:

- Identify
- Geographical Place Search
- Elevation Profile
- Elevation Query
- US National Grid Query
- Address Finder Query

### Other Tools:

- Pan
- Measure
- Clear
- Extract
- Create PDF Image
- Route Finder Query

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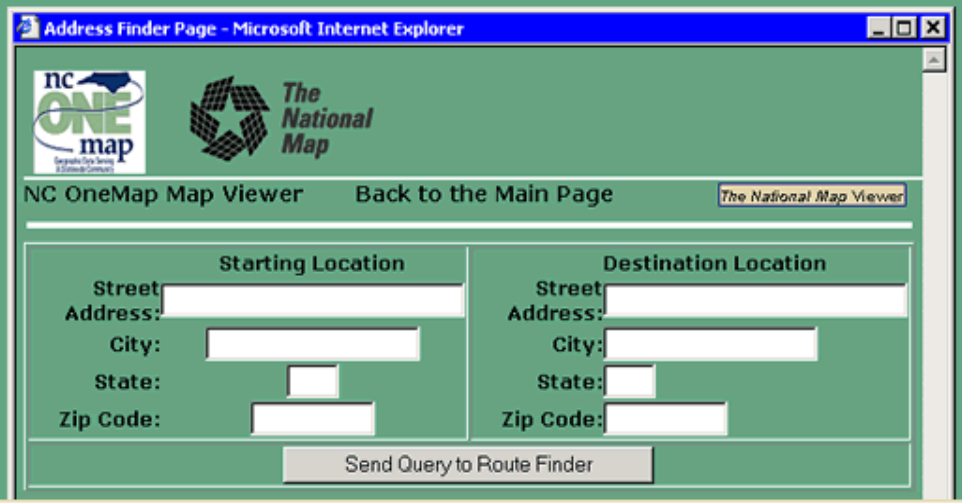
# NC OneMap Application Tools

## Route Finder Query Tool:

This tool was designed to provide destination information through an online mapping image and a set of driving directions. This tool is also useful in pinpointing locations and assembling a specific route.

Steps:

1. Click on the tool. The interface below will appear in a new window.



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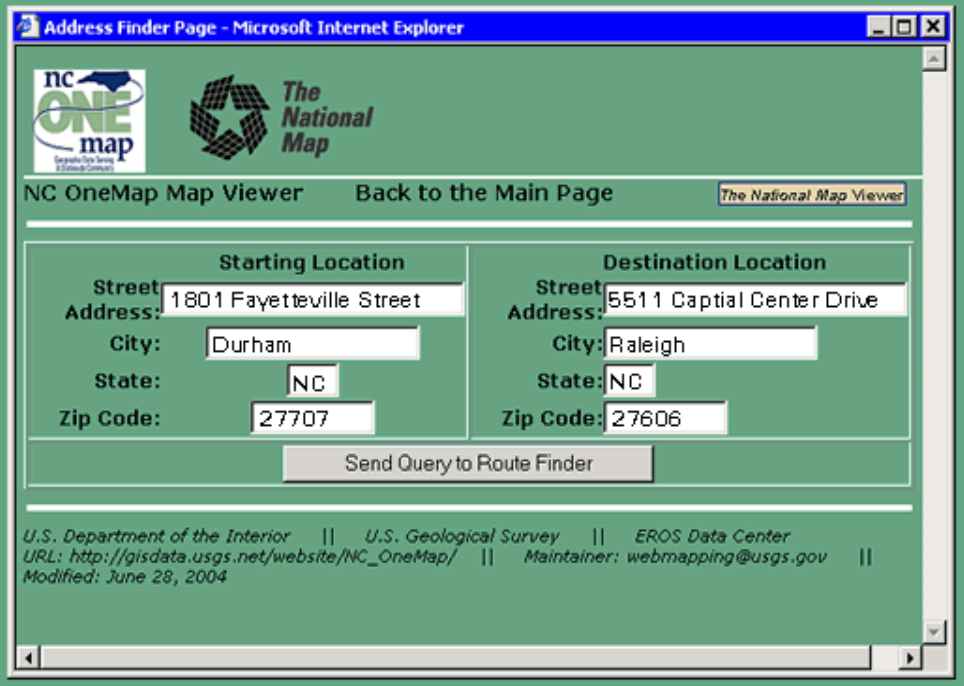
# NC OneMap Application Tools

2. Enter a full address for the starting and destination locations. See example below:




3. Click 'Send Query to Route Finder' when you have finished.

The web form will display the route map along with maneuvering directions. See the the image below for a full route from the starting point to the destination

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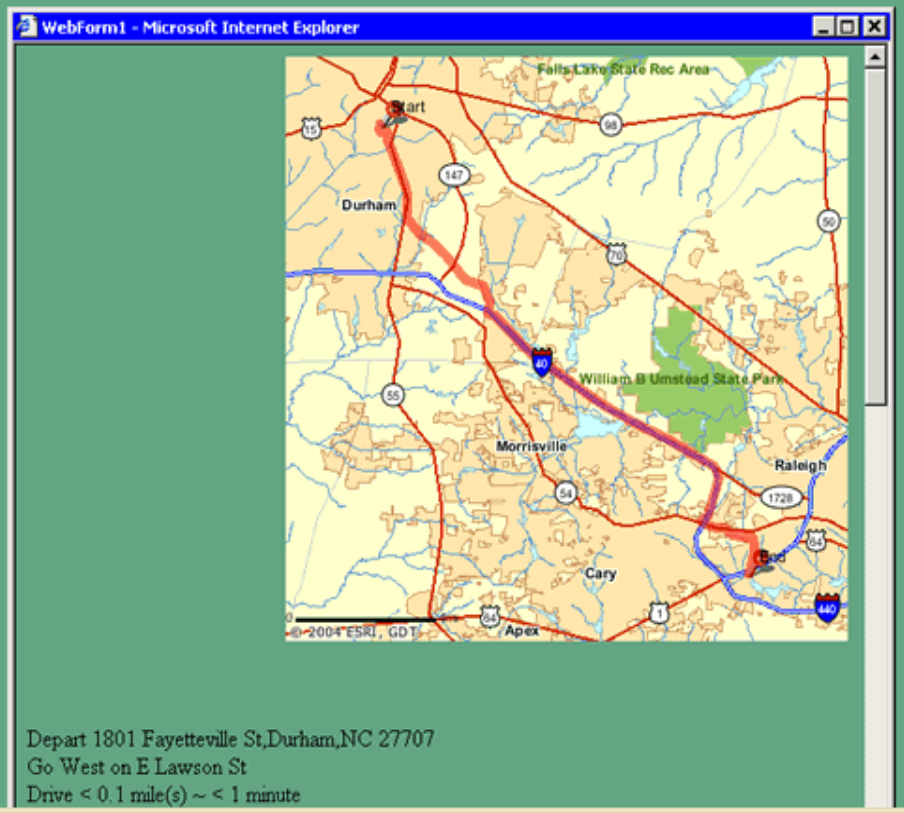
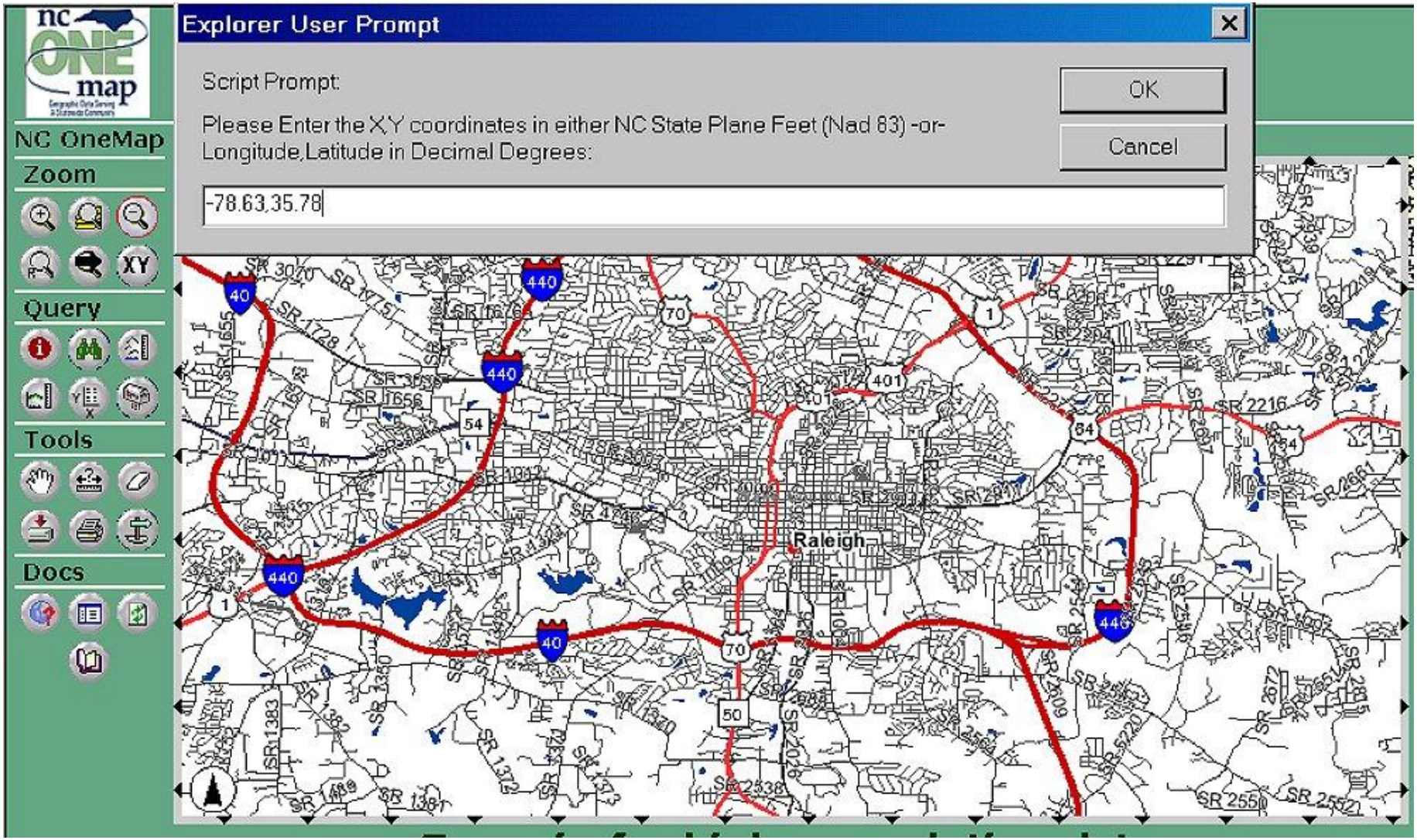
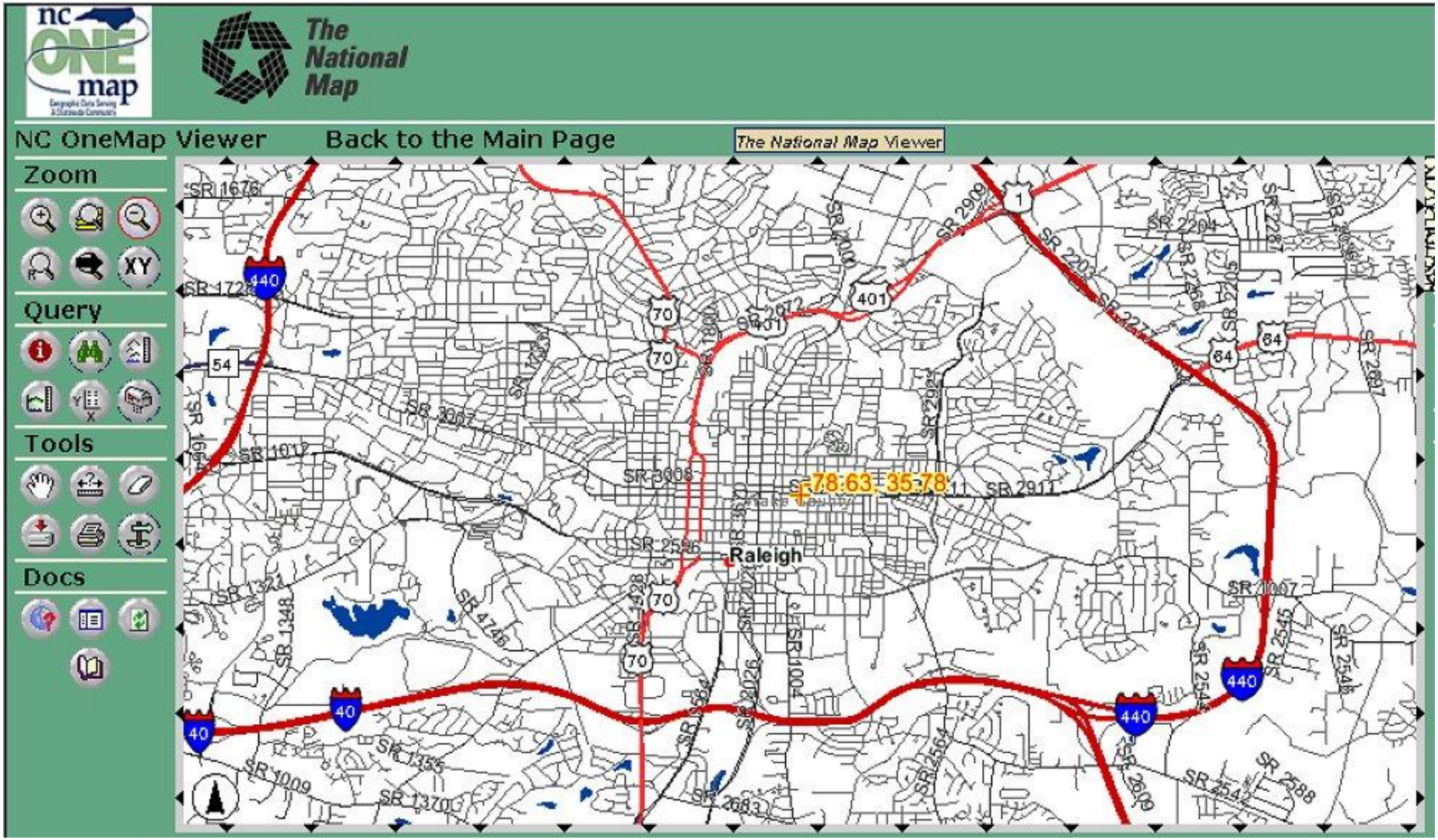





Zoom to a Point tool request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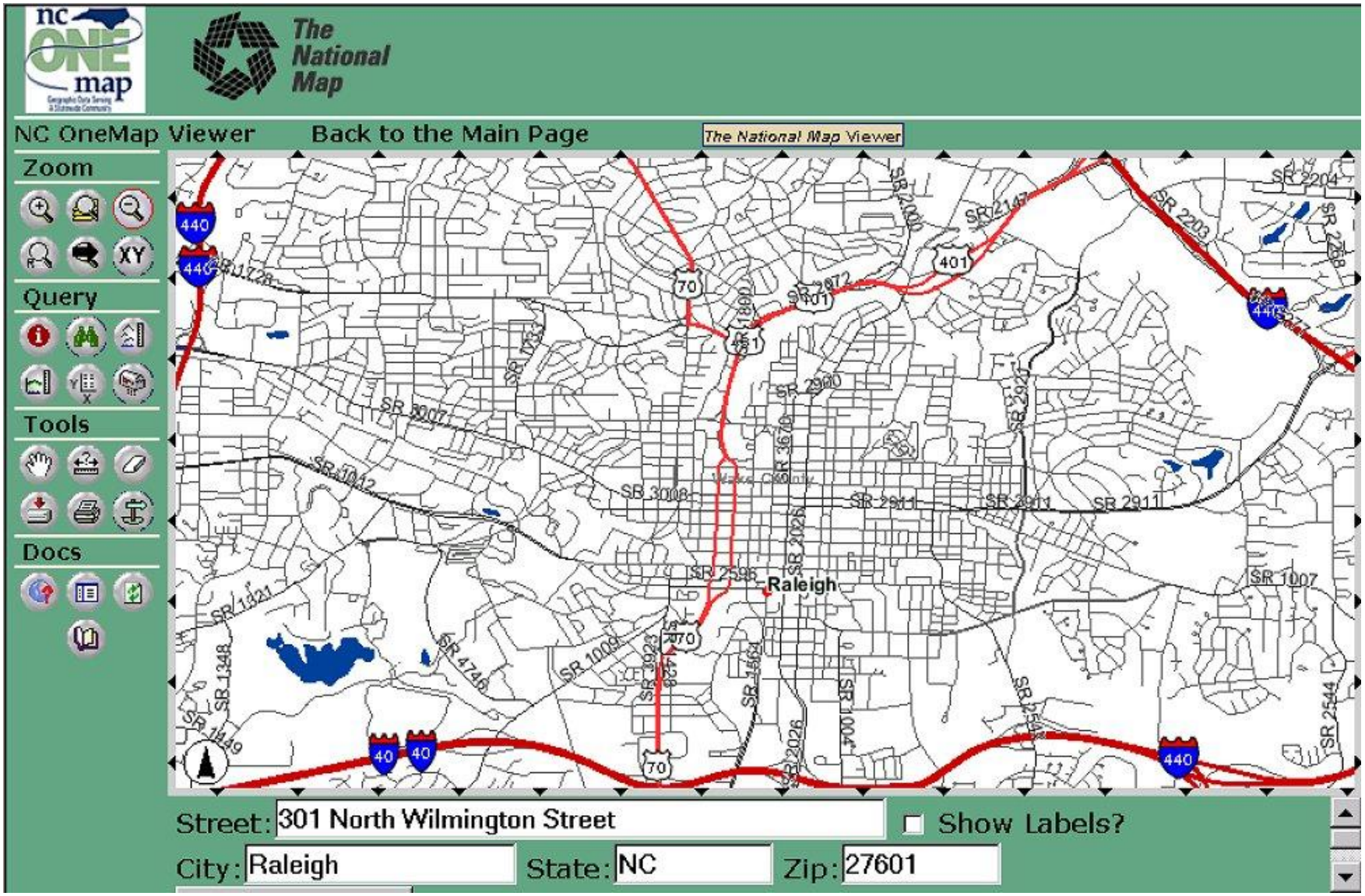
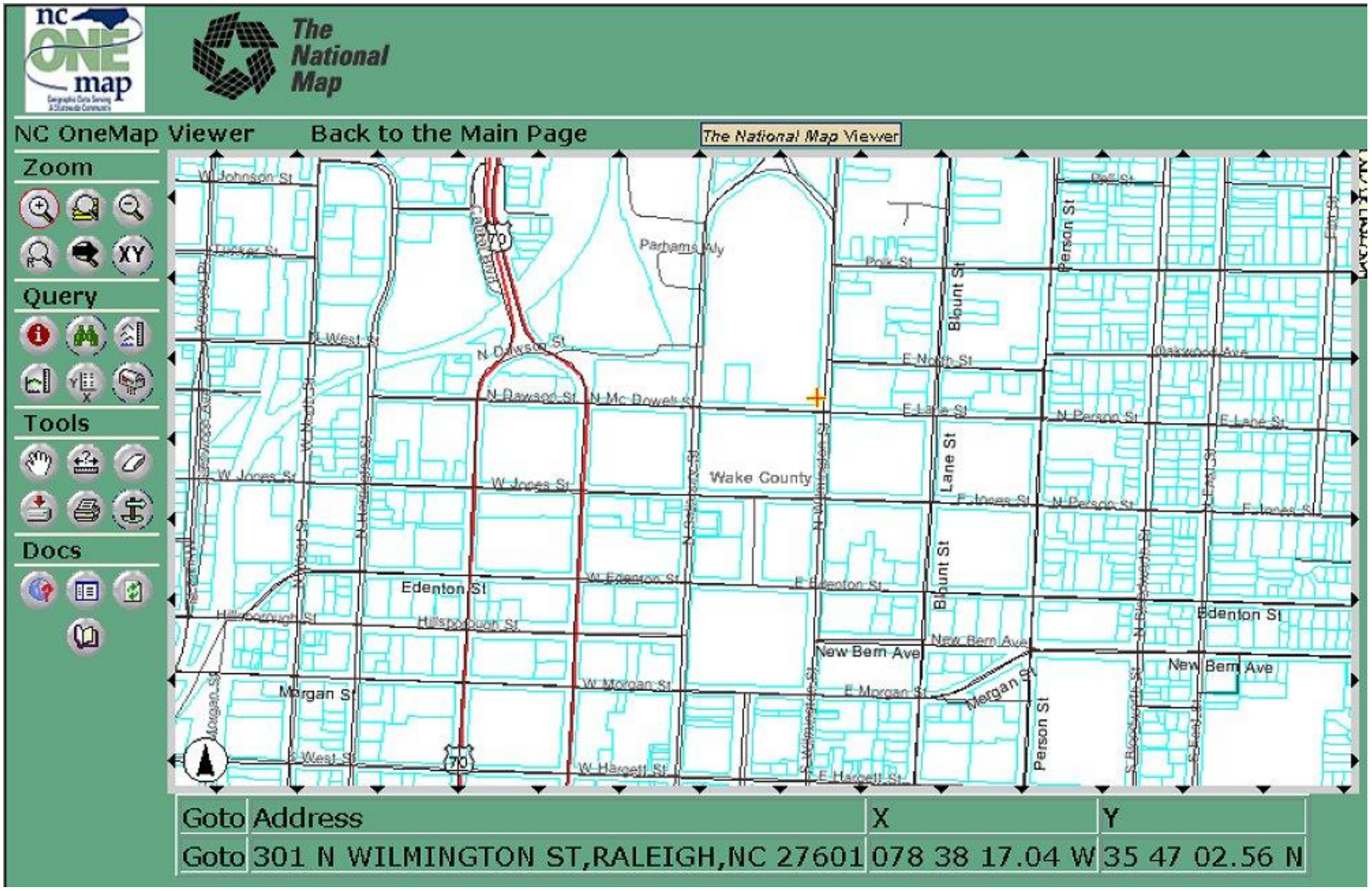
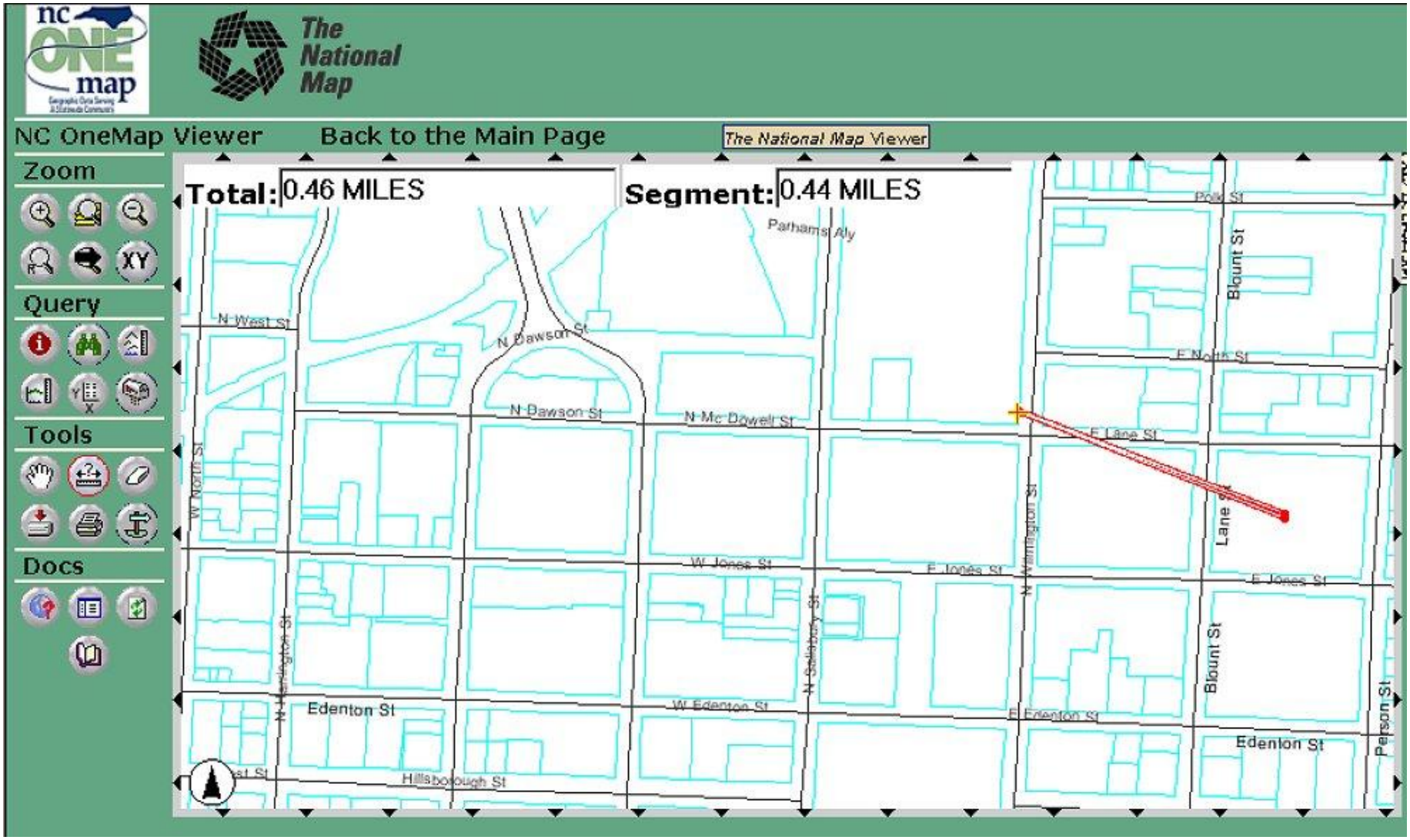



Address Lookup tool request




Address Lookup tool result




Measure tool result

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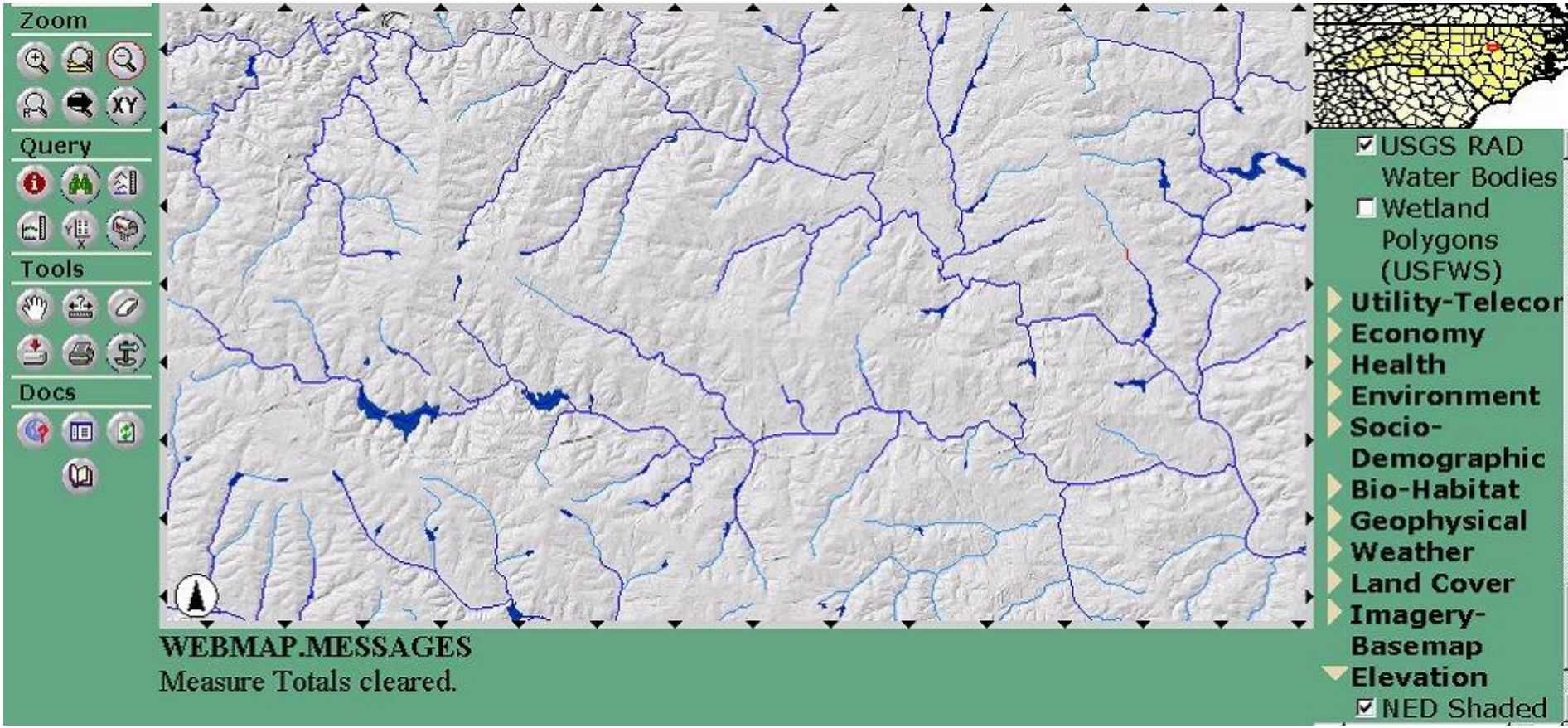
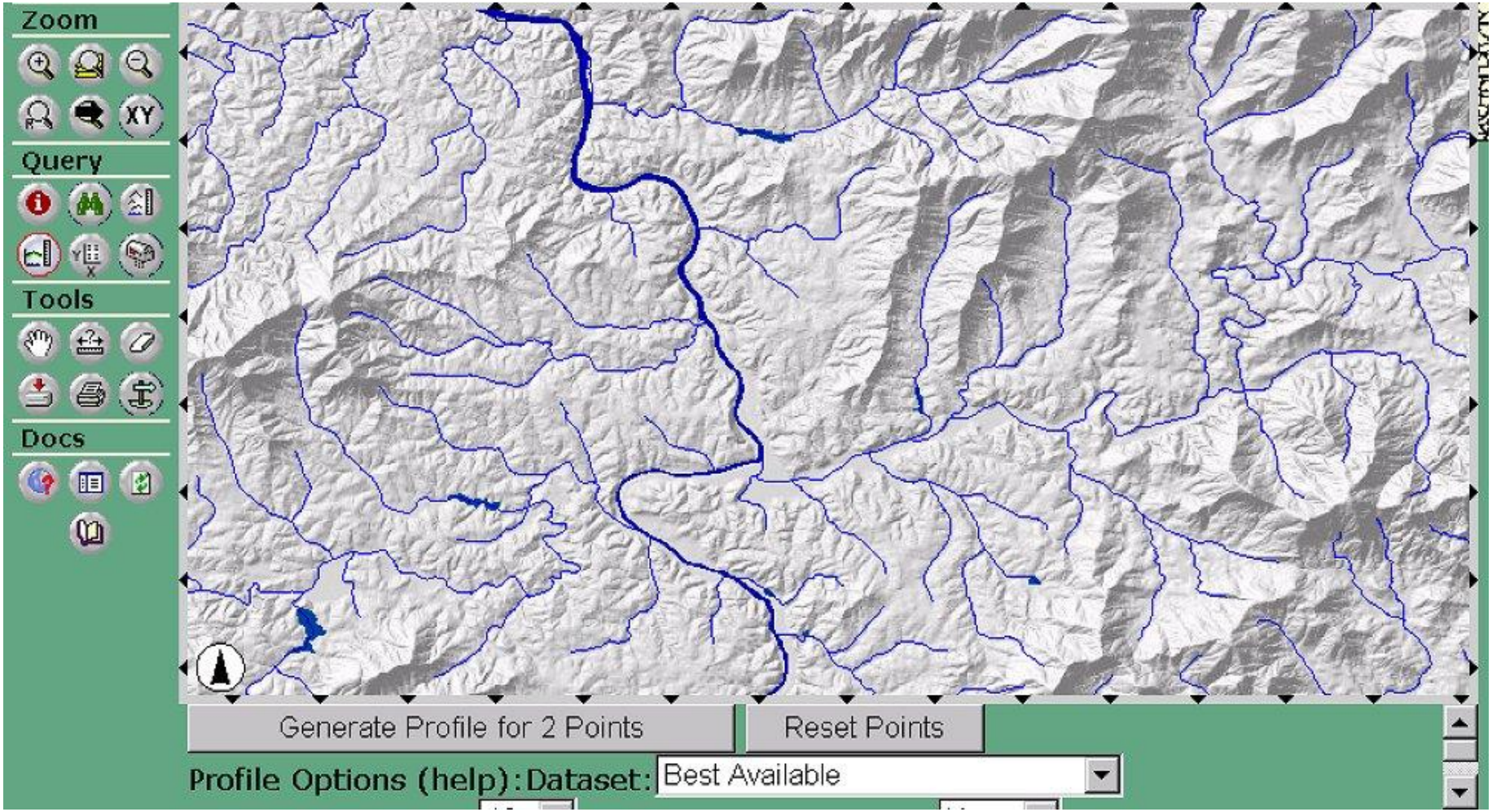
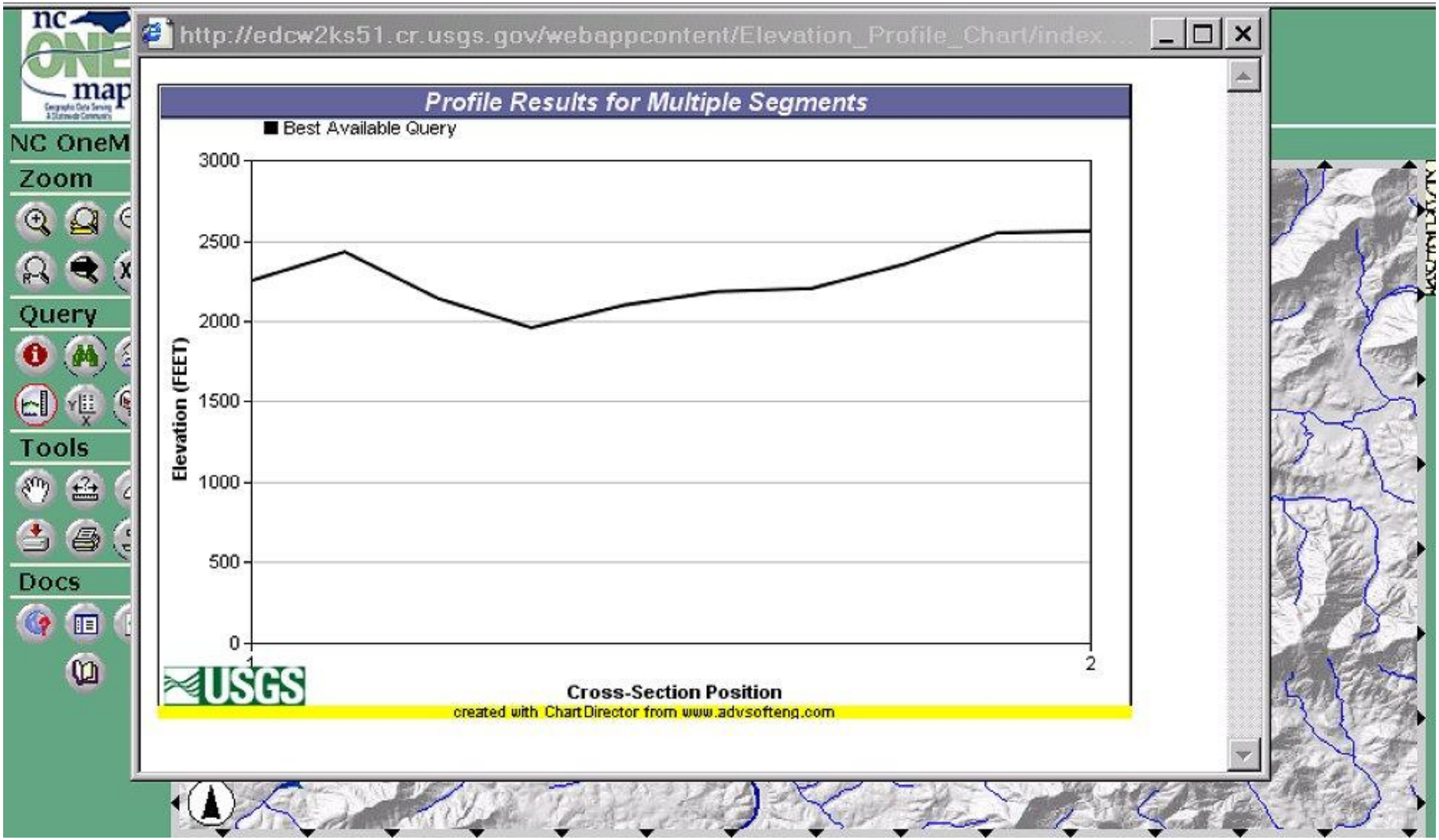
NC OneMap - Emergency Shelters
NC OneMap - Schools
NC OneMap - Public Libraries
NC OneMap - Universities and Colleges
NC OneMap - Police Station
Transportation
Cadastral
Boundaries
Hydrography
Utility-Telecom
Economy
Health
Goto | Address | X | Y
Goto | 5400 ETTA BURKE CT,RALEIGH,NC 27606 | 078 43 00.74 W | 35 47 18.03 N
U.S. Department of the Interior || U.S. Geological Survey || EROS Data Center
URL: http://gisdata.usgs.net/website/NC_OneMap/ || Maintainer: webmapping@usgs.gov || Modified: June 28, 2004



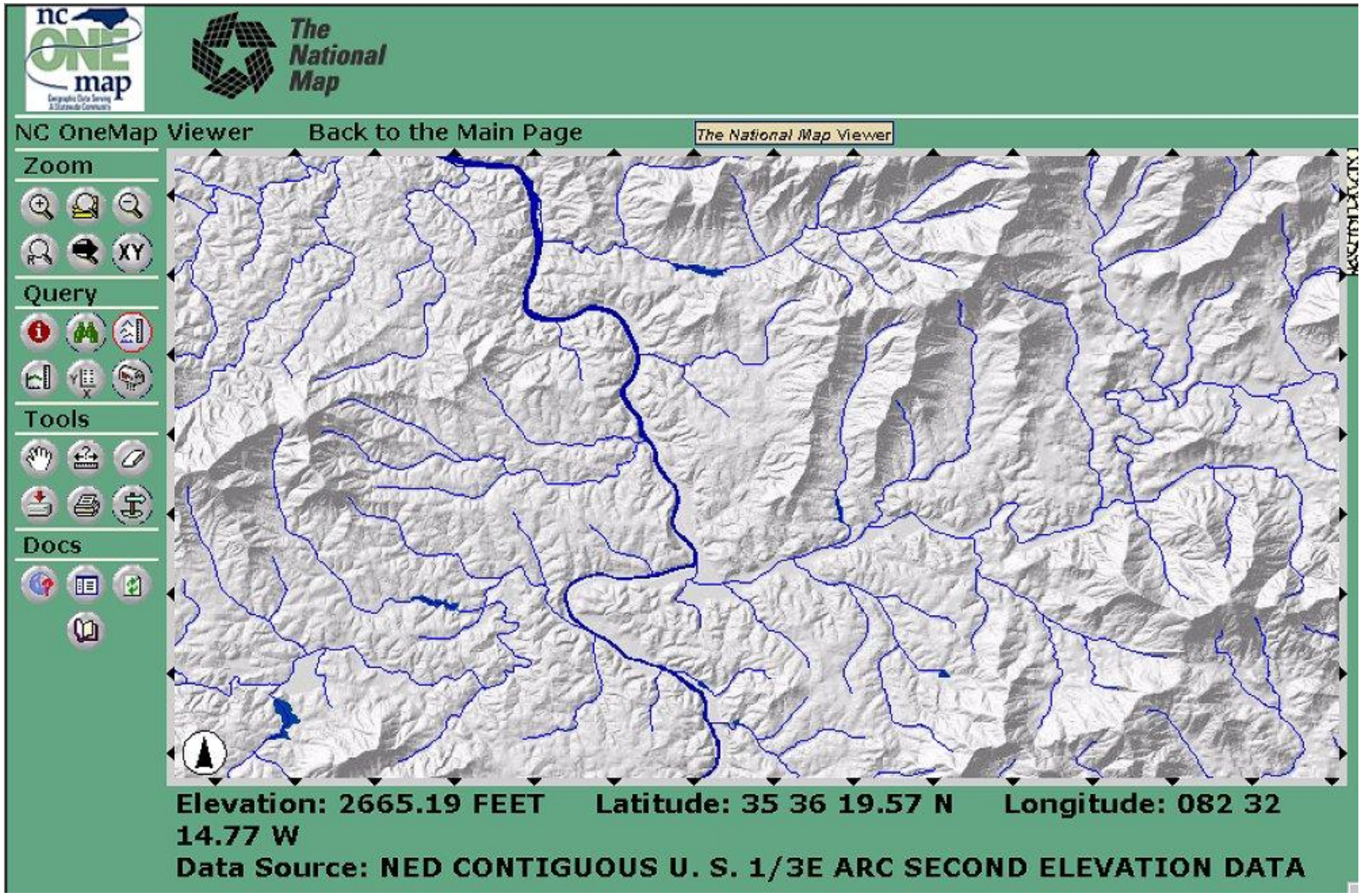

Asheville region with shaded relief and major streams



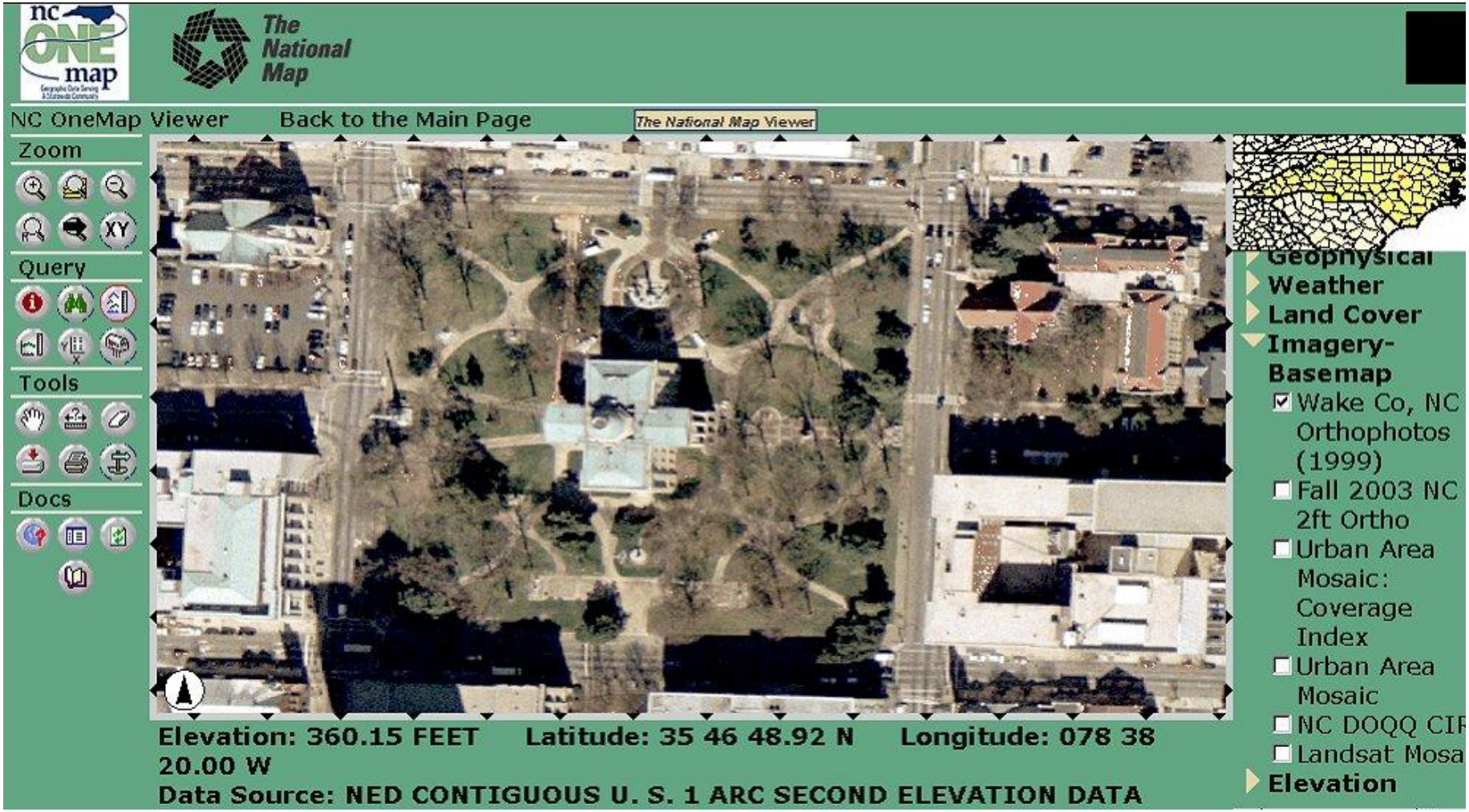

Elevation Profile tool request



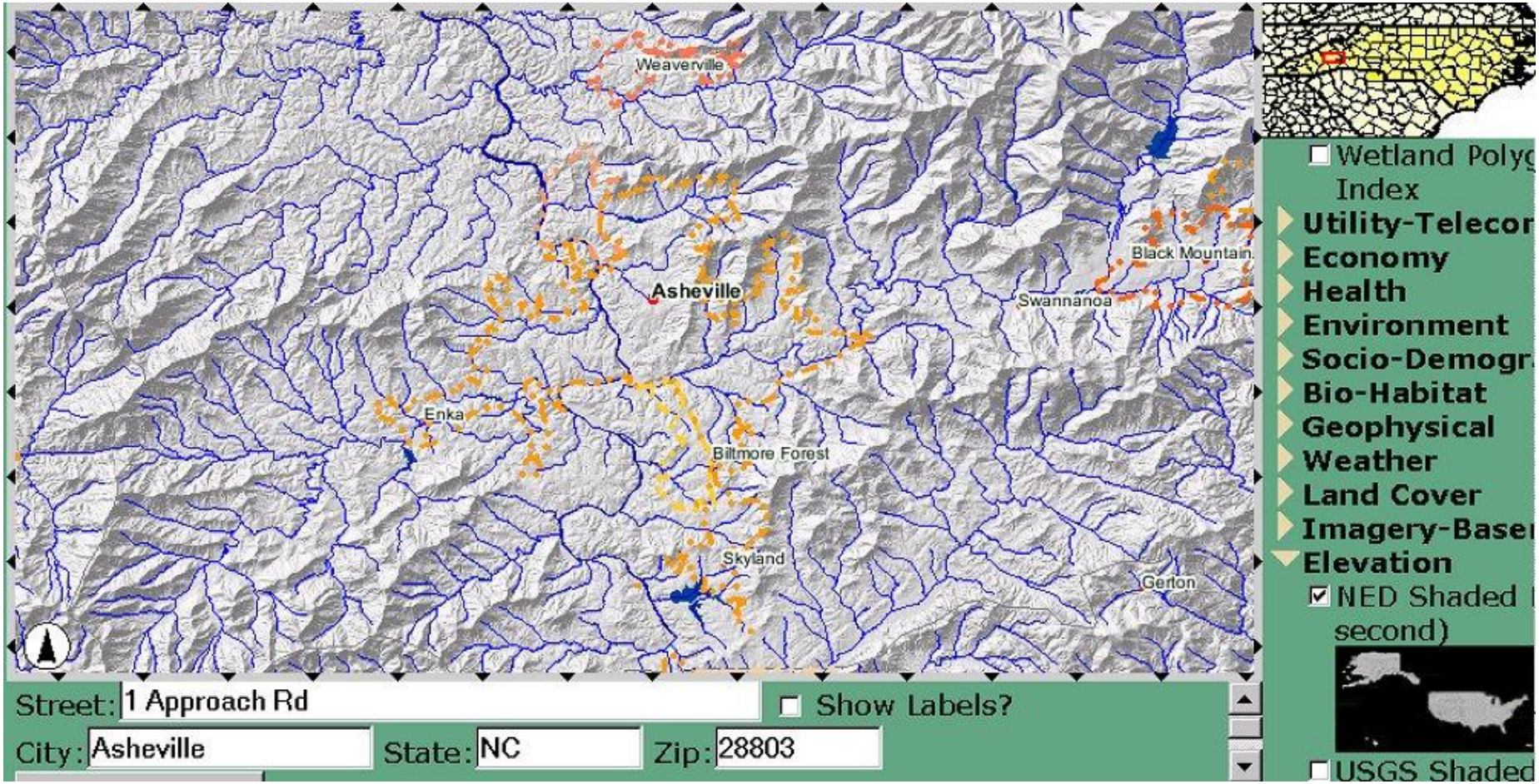

Elevation Profile tool result



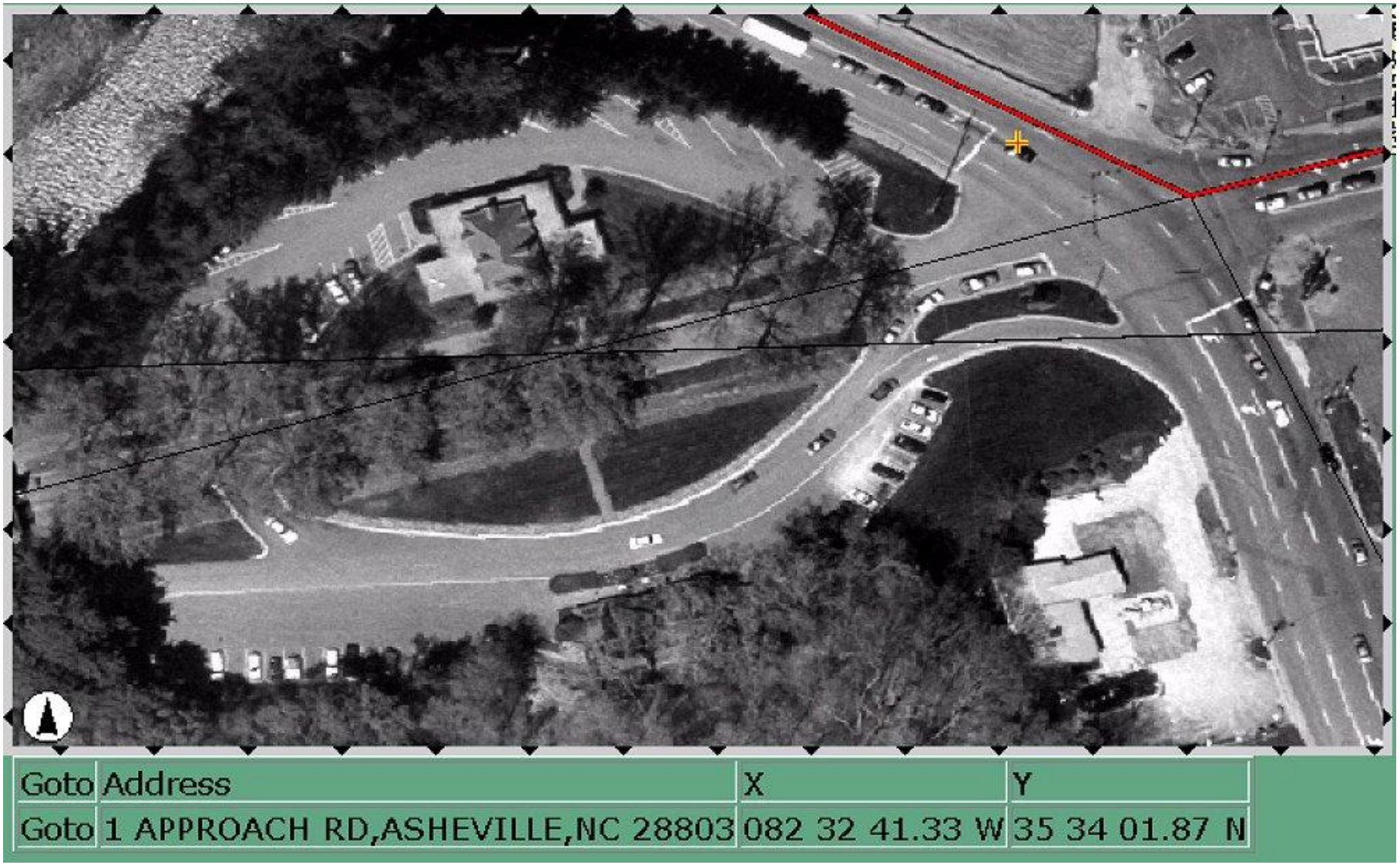

Elevation Query tool result



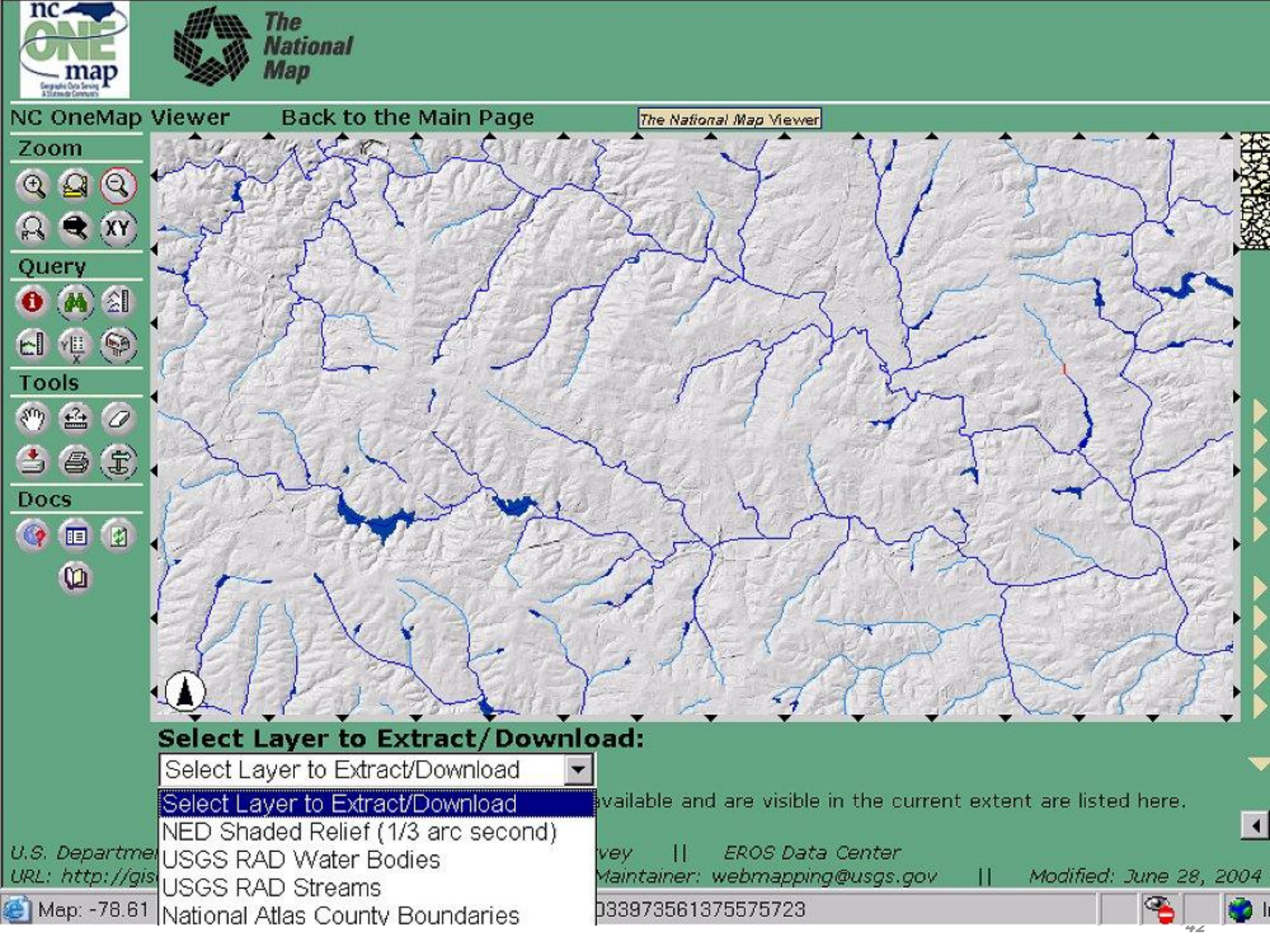

Elevation Query tool result – Old Capitol Building




Address Lookup tool




Address Lookup tool result – Biltmore Estate entrance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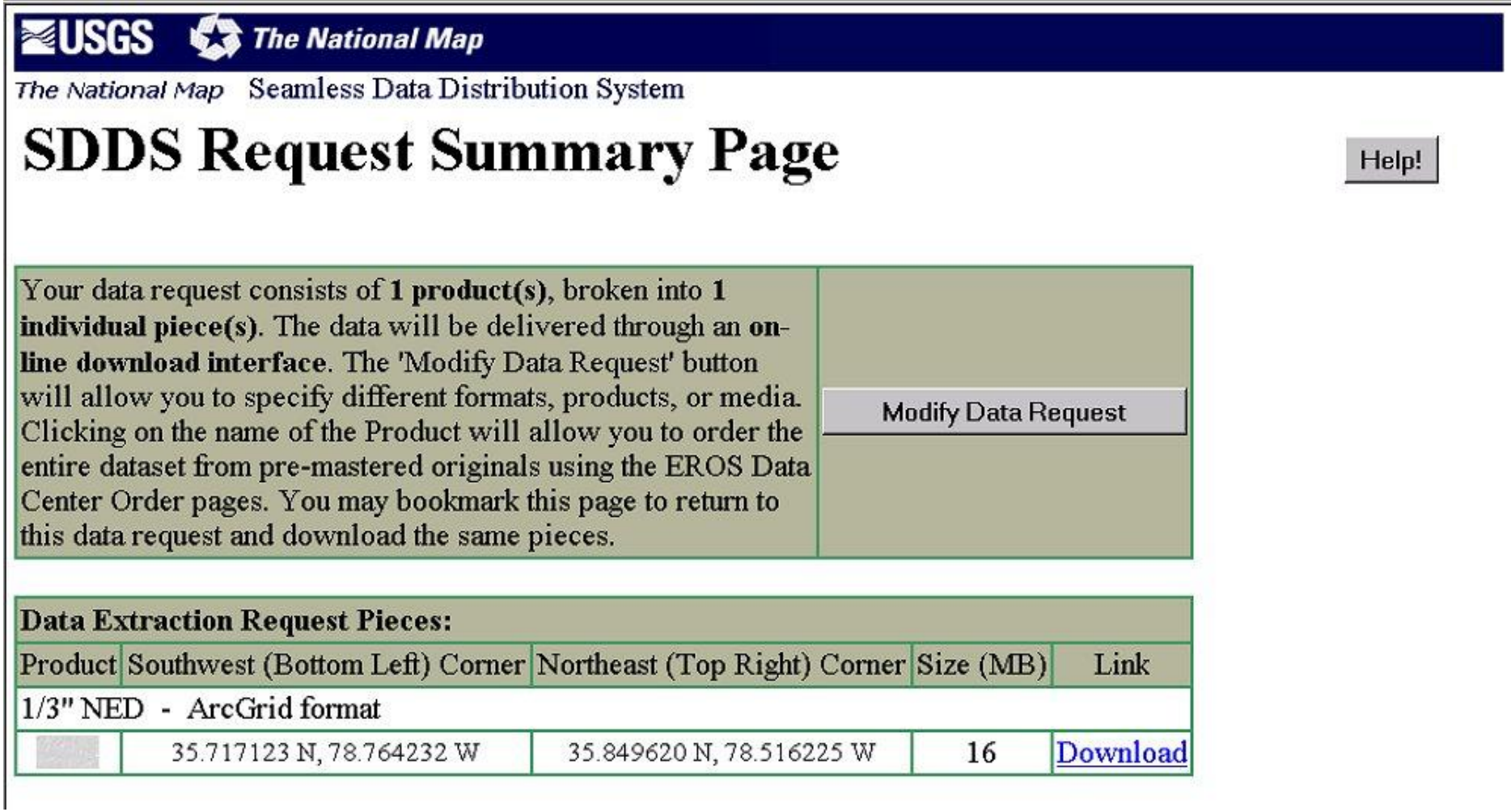
Select Layer to Extract/Download
Select Layer to Extract/Download
NED Shaded Relief (1/3 arc second)
USGS RAD Water Bodies
USGS RAD Streams
National Atlas County Boundaries
available and are visible in the current extent are listed here.
EROS Data Center
Modified: June 28, 2004
Map: -78.61



USGS The National Map

The National Map Seamless Data Distribution System

# SDDS Request Summary Page

Help!

| | |
|---|---|
| Your data request consists of **1 product(s)**, broken into **1 individual piece(s)**. The data will be delivered through an **on-line download interface**. The 'Modify Data Request' button will allow you to specify different formats, products, or media. Clicking on the name of the Product will allow you to order the entire dataset from pre-mastered originals using the EROS Data Center Order pages. You may bookmark this page to return to this data request and download the same pieces. | Modify Data Request |

**Data Extraction Request Pieces:**

| Product | Southwest (Bottom Left) Corner | Northeast (Top Right) Corner | Size (MB) | Link |
|---|---|---|---|---|
| 1/3" NED - ArcGrid format | | | | |
| | 35.717123 N, 78.764232 W | 35.849620 N, 78.516225 W | 16 | Download |

Data Extract tool request summary

# Goals of Strategic Plan

- Establish NC OneMap foundation
- Capture the major investments needed
- Identify needs for maintenance of the resource
  - Data
  - Infrastructure: hardware, software, applications, system hosting services, staff

# Benefits of NC OneMap

- Cost savings in data collection through regional and statewide approaches
- Data consistency across jurisdictions
- Much easier access to data for addressing local, regional, and statewide issues

NC OneMap Viewer - Microsoft Internet Explorer

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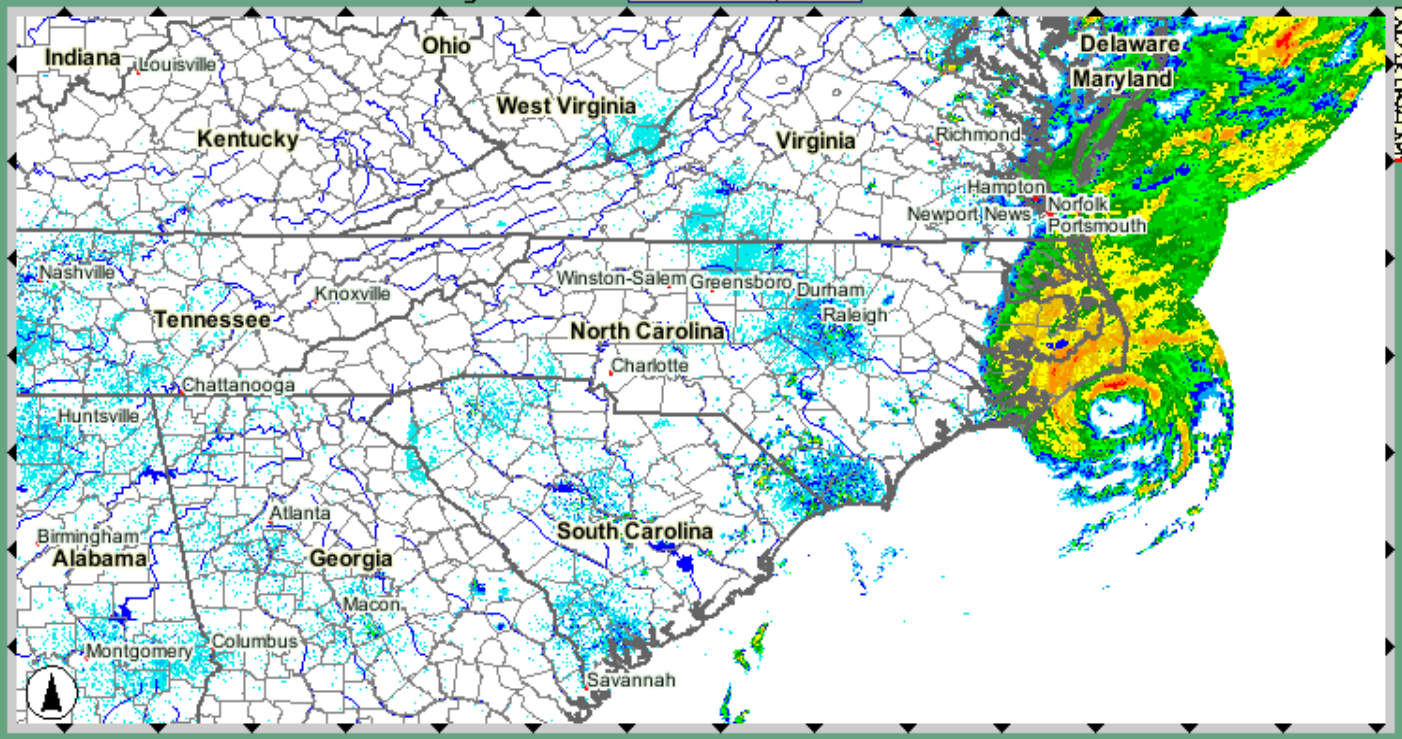

Location-Geodetic
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Hydrography
Utility-Telecom
Economy
Health
Environment
Socio-Demographic
Bio-Habitat
Geophysical
Weather
NEXRAD US Base Reflectivity Composite
Land Cover
Imagery-Basemap
Elevation

*- Zoom in for higher resolution data -*

*U.S. Department of the Interior || U.S. Geological Survey || EROS Data Center*
*URL: http://gisdata.usgs.net/website/NC_OneMap/ || Maintainer: webmapping@usgs.gov || Modified: June 28, 2004*

Map: -74.47 , 31.76 -- Image: 643 , 361 -- ScaleFactor: 0.01950549450549451

Internet

# *Benefits of NC OneMap*

- More efficient use of finite staff resources across all governments

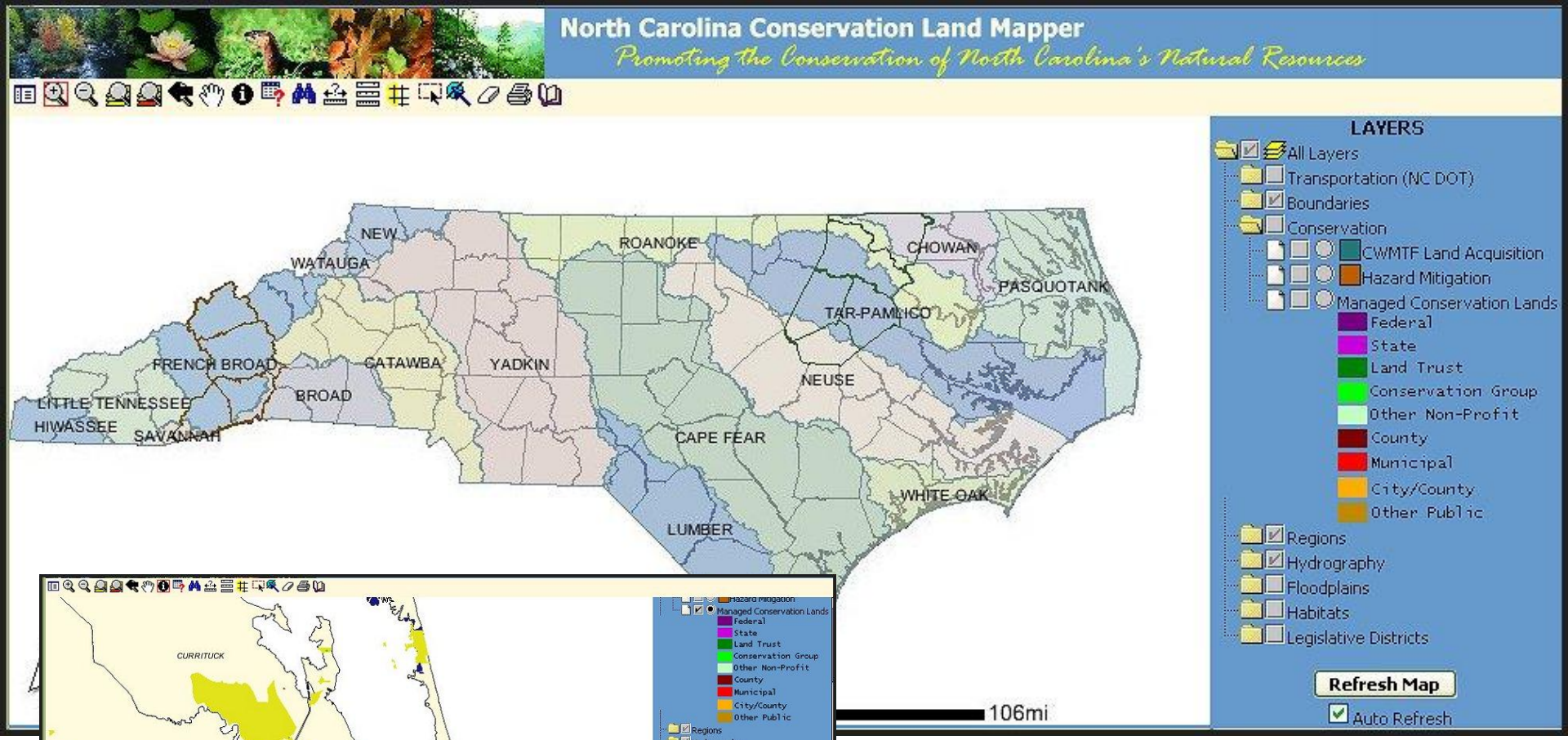
- Better, more consistent products from an integrated data resource

# NC OneMap

- Showcase what is available
- Expose what is missing
- Framework for custom map viewers

# What About APNEP?

- Approach 1:  Add more data to NC OneMap
- Approach 2: Create a "topical viewer" that features selected themes, derived data and custom functions


North Carolina Conservation Land Mapper
Promoting the Conservation of North Carolina's Natural Resources
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All Layers
Transportation (NC DOT)
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Conservation
CWMTF Land Acquisition
Hazard Mitigation
Managed Conservation Lands
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CATAWBA
YADKIN
NEUSE
BROAD
LITTLE TENNESSEE
HIWASSEE
SAVANNAH
CAPE FEAR
WHITE OAK
LUMBER
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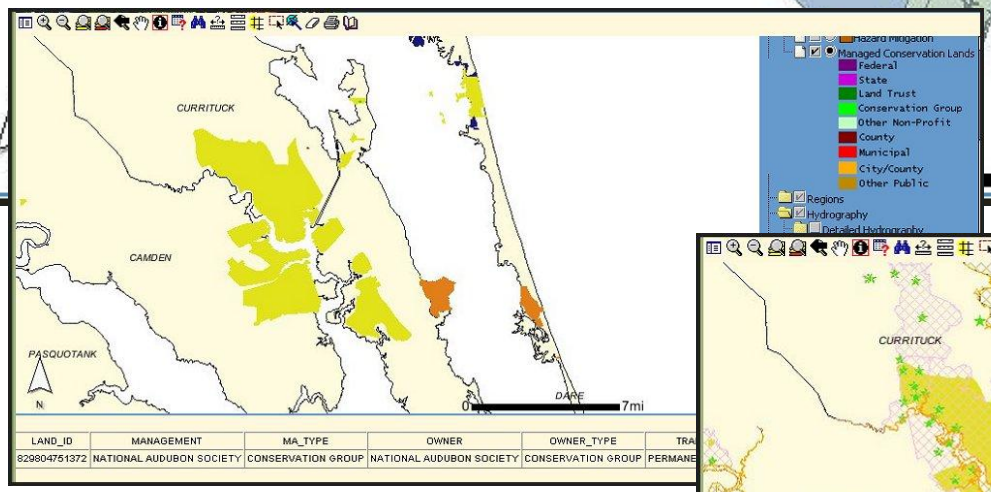
CURRITUCK
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NATIONAL AUDUBON SOCIETY
CONSERVATION GROUP

CURRITUCK
CAMDEN
PASQUOTANK
DARE
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7mi
Floodplains
Habitats
Legislative Districts
Refresh Map
Auto Refresh

# What are the topics?

- Shoreline
- Land cover
- Impervious surface
- Projects
- Others _____

# *Who are the users?*

- Coastal managers
- Conservation organizations
- Public policy and advocacy
- Research and analysis
- Others: _____

# What are the common questions and requests?

- Where are water quality improvement opportunities?
- Where are conservation opportunities?
- Where is development planned or most likely to occur?
- Others_____

# Thank you!

jeffrey.p.brown@ncmail.net
919-733-2090

www.nconemap.net