### Leveraging Resources through Partnerships



A Case Study of a Distributed Web Mapping Service

## Overview

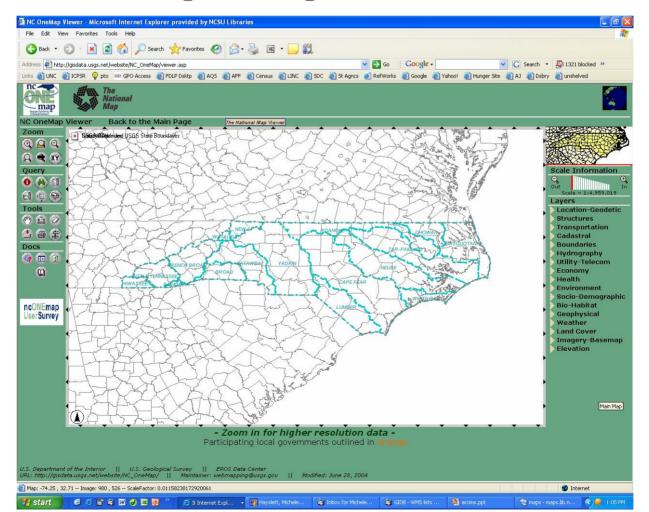
- Technical Set-up
- Partners
- Content (including metadata)
- Implementation issues

# Technical Setup in brief

- Open Geospatial Consortium (OGC)
  - Web Map Service (WMS) protocol
- Prevalence of WMSs Naval Research Lab/Mapping Branch project claims 1,506 services in its catalog with 300,000 layers

# In Partnership with...

NC OneMap - Component of the National Map



# NC OneMap Content

- Contributed by local, state & federal agencies and institutions.
  - Boundaries
  - Structures
  - Transportation
  - Cadastral
  - Hydrography
  - utility/telecom
  - Economy
  - Health

- Environment
- Sociodemographic
- Biohabitat
- Geophysical
- Weather
- Landcover
- Imagery
- Elevation

## Sociodemographic - No content

- Options
  - State
  - Census most convenient (already in GIS format); most requested
  - ACS anticipate future demand since will be available every year

# Choosing Variables

 Useful for economic planning but choice complicated by

Limited space

Very general - expect feedback

# Choosing Geographies

- Want people to be able to aggregate but each has to be included as a separate layer, just like the variables
- Concluded that would include boundary layers for most frequently used geographies and only present data for smallest geographies

# Opportunity for Libraries

- Currency vs. archived GIS data
- Local/Mission-specific data
- Cooperate with existing services

## Implementation Issues

- Required close cooperation between tech,
  mapping and data professionals
  - Overall process who does what
  - Standards –metadata; symbolization; naming
  - Set-up of server and servlet
  - Set-up and creation of IMS files
  - Troubleshooting problems

#### Resources

- NC OneMap (portal for NCSU's pilot WMS)
  - http://www.nconemap.org/Click on Launch to use the Map Viewer
- GIDB OpenGIS Web Services ("catalog" of existing WMSs)
  - http://columbo.nrlssc.navy.mil/ogcwms/servlet/WMS Servlet
- Minnesota MapServer (open source software)
  - http://mapserver.gis.umn.edu/

## Application Software

■ ArcIMS 9.1

 ArcIMS 9.1 WMS Connector – enables serving ArcIMS content as WMS source

### Server Software

- Apache 2.0.48 web server
- Tomcat 5.0.28 servlet engine with mod\_jk2
- JSDK 1.4.2
- Internet Explorer 6 or higher (for ArcMap server)
- MDAC 2.5 or higher (for ArcMap server)

### Metadata – Functional vs. Content

#### Capabilities file

#### **Function**

- How to connect
- Requests supported
- Style layer descriptors
- Max scale

#### Content

- Source of layers;when created;purpose; originalfilename
- Use constraints
- Whom to contact for more data and help

## Metadata for Variable Layers

- Geographic summary level at which aggregated
- Statistical method by which data is classed (Natural breaks, Jenks)
- From which summary file it came & related caveats
- If data is joined, *its* source