



North Carolina
Geographic Information Coordinating Council

**2005 Annual Report to the Governor
and the North Carolina General Assembly**

June 30, 2005

Submitted to:

*Governor Michael F. Easley
and
The Joint Legislative Commission on Governmental Operations*

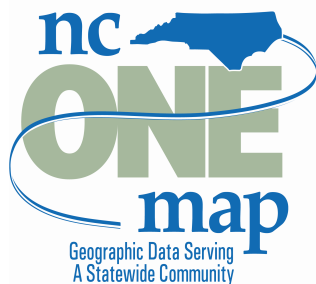
NC Geographic Information Coordinating Council
Annual Report to the Governor and North Carolina General Assembly
June 2005

The NC Geographic Information Coordinating Council (Article 76, §143-725 through 143-727) met four times in this reporting period: August 18, 2004, November 10, 2004, February 9, 2005, and May 11, 2005.

I. Implementing NC OneMapSM

Throughout this year the Council maintained a focus on the development and operational structure of **NC OneMap**, which is a comprehensive and integrated statewide data resource available through an Internet web mapping service (visit www.nconemap.net). The Council adopted this initiative to give geographic data users both within and outside of government a statewide framework of geographic information that are used in the daily business processes of government to help us understand and communicate complex interrelationships. The best data, whether provided by local, state, or federal government agencies will be accessible on the Internet to everyone 24/7 and will be free to search, discover, view and use. Through **NC OneMap**, citizens, government agencies, and emergency operations can take the availability of comprehensive geographic information for granted.

NC OneMap achieves the Council's desired policy goal of local/state/federal government cooperation with resulting cost-efficiencies through coordination. Geographic data is developed once, and shared through an Internet map viewer that seeks out and combines data from numerous "partner" government servers across the state and "appears" as a seamless map to the user. Although the Council has identified priority data categories that can be provided by various participants, every agency retains full control of their data and chooses what they offer through **NC OneMap**.



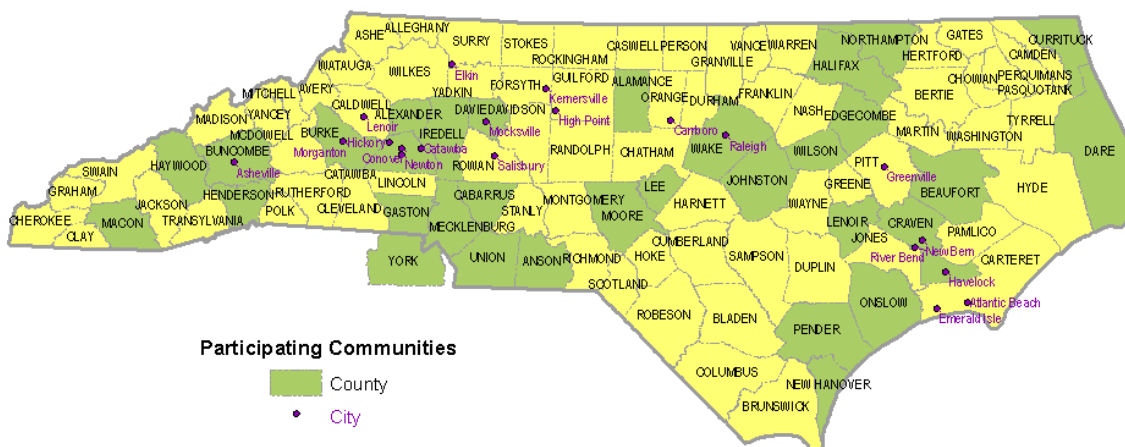
The **NC OneMap** Implementation Plan was adopted in August 2003. Work in FY05 involved increasing the number of local government connections to the web service and developing a long-term financing strategy. Fifty-four local communities across North Carolina are now connected and are serving more than 200 data layers in combination with federal and state agencies. More than 1.2 million maps were rendered through this service in February 2005. Through a partnership with U.S. Geological Survey in *The National Map* effort, the **NC OneMap** web service

continues to be hosted through the Earth Resources Observation Systems Data Center facility in Sioux Falls, South Dakota. The goal for FY06 is for the Center for Geographic Information and Analysis (CGIA), staff agency to the Council, to transition as the responsible host for the entire **NC OneMap** day-to-day operation.

Financing NC OneMap. There is no current revenue source for **NC OneMap**. The Council, however, endorsed the **NC OneMap** Strategic Plan and Financing Strategy which budgeted the two cost components: Capital Investment, and Operations and Maintenance. The Capital Investment component includes data creation/ acquisition and infrastructure costs. It includes necessary hardware/software infrastructure for the North Carolina host, and costs to connect local governments to the free web service: the FY05 budget estimation was \$438,000. The largest item under Capital Investment is the commitment to data acquisition. High-resolution county-level orthophotography (digital aerial photography) is the foundation data set for thousands of government mapping and analysis applications. Historically, local governments have paid to generate this data, but local funding uncertainties have resulted in significant age gaps in the data, especially in economically distressed counties. The cost of statewide digital orthophotography acquisition on a four-year renewal cycle is estimated at \$2.5 million each year for one-quarter of the state. Other critical data sets, such as cadastral (parcel ownership), streets, building footprints and elevation should be current and available for all counties. The estimated total cost of data acquisition for FY05 was \$28.6 million, which included \$21.3 million already committed through the Floodplain Mapping Program for flood hazard zone mapping and LIDAR elevation data acquisition in the western portion of the state, leaving a \$7 million shortfall.

The Operations and Maintenance component includes both data and infrastructure maintenance. These are the costs associated with updating data and metadata (critical source information about the data) and annual hardware/software maintenance agreements. It included CGIA staff positions related to database management, application development and system management. The total cost for Operations and Maintenance for FY05 was estimated to be \$1.6 million.

The Governor’s FY06 budget requested funding for one appropriated project manager position (\$60,000) to prepare a detailed business case and work plan and a nonrecurring appropriation of \$500,000 for contractual services. The contractual services will focus on database design, connections to additional communities, and preparing the system infrastructure for NC OneMap. Staff briefed the Joint Appropriations Subcommittee on Natural and Economic Resources and



Counties and Cities Connected to NC OneMap 2004-2005

demonstrated the power and functionality of **NC OneMap**. The FY06 state budget has not been approved at the time of this report. The departments of Crime Control and Public Safety and Environment and Natural Resources allocated funding to connect 35 additional local governments during Spring 2005. The USGS contributed \$800,000 to LIDAR collection, and \$200,000 to a multi-county aerial photography project.

Federal Grant Awards. The national visibility of **NC OneMap** has resulted in several grant opportunities. The Federal Geographic Data Committee awarded a National Spatial Data Infrastructure Cooperative Grant to the Land of Sky Council of Governments to lead a consortium (Western Piedmont Council of Governments and Northwest Piedmont Council of Governments) that will connect 29 local governments to **NC OneMap** and *The National Map*. The project targets local governments that want to participate but do not have their own Internet mapping web sites, and will rely on services provided by their regional Council of Governments. It is anticipated that 82 new data layers will be served through this shared arrangement.

The Library of Congress awarded a competitive grant to NC State University Libraries in partnership with the Center for Geographic Information and Analysis to find solutions for managing the collection and preservation of digital geospatial data resources from state and local government agencies. This was one of two grants awarded nationally involving geospatial data. **NC OneMap** was a prominent factor in this award because of the availability of local government data. It also addresses the Council's directive that "historic and temporal data will be maintained and available." The three-year grant will focus on archival issues, including data content standards, digital rights management, streaming data, and secondary gathering and harvesting of data.

Data Access and Security Concerns. The Council thoroughly reviewed the federal "Guidelines for Providing Appropriate Access to Geospatial Data in Response to Safety Concerns" which was drafted by the Homeland Security Working Group of the Federal Geographic Data Committee. It is pending full federal approval. The decision matrix presented in the Guidelines can be used by state and local governments to determine what data can or can not be made public based on its uniqueness (not found anywhere else) and usefulness to a terrorist selecting a target, planning or executing an attack. Generally, most spatial data produced by local and state governments and available to the public through the Internet would not meet the above criteria. The critical role of spatial data as an economic engine today and the benefits of making data public must be carefully weighed against a limited impact to security.

II. Stream Mapping of North Carolina

The Studies Act of 2004 (Senate Bill 1152) directed the Council and the Department of Environment and Natural Resources (DENR) to develop and recommend a plan to improve the mapping and digital representation of surface waters in the state, including intermittent and perennial streams (see www.cgia.state.nc.us/streammap/#plan). The Council's Statewide Mapping Advisory Committee (SMAC) convened a working group of 60 local/state/federal government stakeholders from the business and environmental management communities. The working group established a level of accuracy and level of detail to ensure that the resulting data

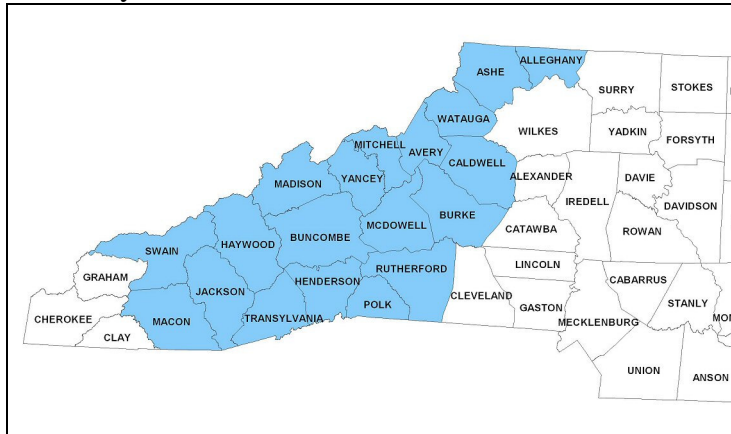
would meet critical needs while correcting current data deficiencies from inaccurate, incomplete, or outdated source materials. For example, it was estimated that 50% of all points statewide where a perennial stream changes to an intermittent stream have not been characterized by any type of stream feature on USGS topographical maps, which were used to create the state's current digital surface waters data set. Other problems include missing water body features, such as lakes and ponds, a lack of uniformity across jurisdictions, and insufficient detail about the upper reaches of watersheds. It was agreed that the full data should be available on **NC OneMap**. The "Implementation Plan to Improve the Mapping and Digital Representation of Surface Waters in North Carolina" was presented to the General Assembly on January 13, 2005 and included mapping specifications, costs, and schedules.

Phases I and II of the stream mapping work would complete the 1:24,000-scale base digital data for the state using the National Hydrography Dataset and would incorporate the NC Floodplain Mapping LIDAR elevation breaklines into the database, leveraging taxpayer investments. The budget includes the design of the geodatabase and software tools, and recommends continuing public outreach and education about the expanded resource. The proposed funding for the two years is \$3.18 million. If work begins concurrently to extend the dataset down to a 20-acre drainage area (Phase III) using local government orthophotography, more detailed information on stream headwaters and intermittent streams can be captured. That cost for Phase III in years 1 and 2 is estimated at \$3.36 million. Phase IV would further enhance and extend the dataset to a 6-acre drainage area that would capture almost 95% of intermittent and perennial streams in North Carolina. It is estimated that this level of detail would meet the majority of the study's requirements in the most cost-effective manner. Phase V covers maintenance of the data over time. The anticipated cost for all five phases for five years was estimated at \$16.2 million.

Economies and Efficiencies. Inaccurate stream mapping costs public decision makers because they have to invest staff time and resources to verify information. Various state agencies anticipate substantial annual savings with the completion of this accurate stream mapping resource. The NC Ecosystem Enhancement Program (NCEEP) foresees a huge benefit in both estimating the linear feat of streams that need restoration, and identifying stream mitigation credits. NCEEP estimates that if the new map data were to produce just a two percent increase in staff efficiency during the next three years, they could provide approximately an additional 30,000 linear feet of stream mitigation credits (valued at \$6.15 million) to meet NC Department of Transportation needs. The NC Division of Coastal Management concludes that more accurate stream mapping would save them almost \$24,000 annually in permit review calculations of coastal wetland impacts. The NC Wildlife Resources Commission stipulates that environmental permit review time would be reduced by a total of 686 hours each year. And local governments expect large benefits, too. For instance, the City of Durham forecasts it would save \$216,000 per year in staff time in the permit approval process. The development community also stands to benefit from data that accurately depicts streams since it could substantially reduce the number of site visits needed to develop plans and permit applications.

Hurricane Recovery Act, Session Law 2005-1. This session law provided financial assistance to areas of the state ravaged by the 2004 hurricane season. One of the areas hardest hit by flooding and landslides was the 19-county area in the west that was declared a federal disaster area: Alleghany, Ashe, Avery, Buncombe, Burke, Caldwell, Haywood, Henderson, Jackson, Macon,

Madison, McDowell, Mitchell, Polk, Rutherford, Swain, Transylvania, Watauga, and Yancey. The law provides for the mapping of flood plains, landslide hazard zones, and streambeds for the 19-county area. On behalf of the Council, the Center for Geographic Information and Analysis



will manage the stream mapping project for completion within two years. The digital maps will provide detailed stream data down to the 6-acre drainage level and will be annotated to show areas of significant actual or potential stream bank erosion as specified in the legislation. Key resources for this project are the recently acquired LIDAR elevation data for the affected counties and new digital orthophotography for some of them.

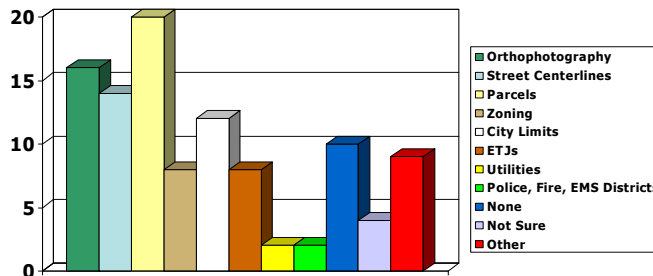
III. State Government Data Inventory

A state government geographic data inventory was conducted as a follow-up to the local government geographic data inventory the preceding year. Sixteen departments in state government were contacted to locate GIS usage within 67 divisions and sections. Of that initial list, 78 % responded to the survey, a much lower response rate compared to the local government inventory. Forty-four of 56 respondents reported that their agency does produce GIS data, or data with a spatial component, such as a street address or latitude/longitude. Most use ESRI software with a heavy database reliance on Microsoft Access and Excel, as well as Oracle and SQL Server. Sixteen agencies purchase licensed data, such as street centerlines, zip codes and imagery. One of the most compelling findings was the number of state agencies (20 of 42 respondents) that request GIS information from local governments on a routine basis.



What data do you request from city and county GIS offices?

(42 respondents - multiple selections allowed)



In the future, the burden on 100 county governments of filling these multiple data requests can be reduced by using **NC OneMap** as the vehicle for finding/viewing/getting data. As more local governments participate and allow specific data sets to be downloaded, state and federal agencies can grab the data “live” as they need it for their work. Of the 42 state respondents, 12 have on-line Internet mapping and 21 would like to participate in data sharing on **NC OneMap**.

Council staff was asked to reopen the survey because of the disappointing response rate. Staff was asked to complete the information gaps as well as review state government web sites for geographic data resources that might have been missed in the initial telephone contacts. Work is continuing to complete the second stage and discover existing state data. The survey will be summarized and results compiled on the NC OneMap web page www.NCOneMap.net for easy access and use.

IV. Other Active Issues

High Resolution Digital Aerial Imagery (orthophotography)

Digital orthophotography, which is aerial photography that is rectified to adjust for the curvature of the earth and is used in a geographic information system, is one of the most important local government data resources. This locally acquired and maintained orthophotography is a key resource to **NC OneMap** and to numerous state agency applications from Floodplain Mapping to Emergency Management to the Multi-Hazard Threat program to environmental management. Because of funding issues, some counties are unable to re-fly this imagery in a timely fashion, and several economically distressed counties have never collected any digital photography. The **NC OneMap** Implementation Plan recognizes the importance of this foundation data set and budgeted out a four-year renewal cycle that would refresh this photography in one-quarter of the state each year with a combination of state, local and federal funds.

There are large achievable savings when a contiguous jurisdiction containing many counties is flown and processed at the same time. The savings are in flight time and boundary overlaps that must occur when an individual contract stops at a county line. Additionally, there is approximately a \$40,000 per county savings when LIDAR elevation data is used in tandem with the orthophotography process. These proven economies led the Centralina Council of Governments to create a consortium of 12 counties. The consortium received some state and federal financial support, and achieved more cost-savings through the use of the state’s geodetic control network. This successful regional cooperation is a model for other regions, and 10 western counties involved in landslide hazard mapping will also consider a regional cost share for next winter’s flying season. The Floodplain Mapping Program completed the LIDAR elevation for 17 western counties and also flew orthophotography for 15 counties: Swain and Madison counties were not completed because of snow, but will be reflown later.

The Council’s “Statement of Direction for High Resolution Digital Aerial Imagery” commits the Council to exploit every “...appropriate opportunity to share costs, negotiate in-kind services, or seek resources of member organizations, federal partners, and others for joint

development of high resolution aerial imagery with local government.” This directive was key to the Centralina Council of Governments initiative and to a new U.S. Geological Survey and National Geospatial Programs Office \$200,000 cost share for digital orthophotography in urban and metropolitan counties. Twelve counties (Alexander, Burke, Cabarrus, Catawba, Durham, Gaston, Iredell, Johnston, Lincoln, Mecklenburg, Richmond, and Wake) participated in this cost share, managed by CGIA on behalf of the Council. The orthophotography from both the consortium and USGS cost share will be available through **NC OneMap**.

Through efforts of the North Carolina congressional delegation, the Federal Fiscal Year 2005 (FFY 05) Omnibus Appropriations Bill included a \$2.5 million “soft earmark” to help fifteen economically disadvantaged counties complete new orthophotography. Since the bill passed, contributions from the Floodplain Mapping Program through another earmark from USGS and individual county contributions has resulted in orthophoto projects that cover five of the original counties. An action to award the remaining amount needed (\$1.9 million), is still pending as of the date of this report.

Standards Adopted

Digital Orthophotography Standard. This existing standard was revised to meet current technology and to add the use of digital sensors (cameras) to the traditional methods of using aerial cameras and film for the capture of images. The revisions accommodated advances in horizontal and vertical accuracies and digital mapping standards. The revised standard requires metadata to be incorporated in the delivered product. The Council adopted this standard in August 2004.

Parcel Data Content Guidelines, Version 1. These guidelines were developed to standardize a core set of attributes about land parcels that is used for publication and distribution of cadastral information by local government data producers. This core data is intended to provide sufficient information to support integrating basic land parcel information across jurisdictional boundaries and answering fundamental questions for business processes that require parcel information. The Council adopted this standard in May 2005.

Geographic Data Content Standard for Transportation: Roads, Version 1. This content standard applies to digital roads data developed by the NC Department of Transportation. It models the road infrastructure as a component of the entire transportation system, consisting of public ways with perhaps a number of carriageways that may either be paved or unpaved. Core non-graphic attributes for the transportation content include the state route number (where applicable), address component information, maintenance provider, zip code, service class and county. The Council adopted this standard in May 2005 with an understanding that version 2 will address additional local government concerns, such as matching state road numbers to local government road names.

Clarification of G.S. 89-C Relative to Land Surveyors and Local Government GIS

A Council *ad hoc* committee was charged with studying the National Council of Examiners for Engineering and Surveying (NCEES) model law relative to the convergence of local government GIS with surveying law and report their conclusions to the Council. The

NCEES model law group examines and adopts model legislation relative to the engineering and surveying professions that is then considered by individual state legislatures. The committee's report recommended that North Carolina adopt the model law with two wording changes. The report will be forwarded to the North Carolina Board of Engineers and Land Surveyors for consideration along with the development of administrative rules to clarify what is and what is not the practice of surveying as it pertains to GIS.

Partnership with US Board on Geographic Names

The Council, representing the State of North Carolina, became an officially recognized partner with the US Board on Geographic Names. The resolution acknowledged the Geographic Names Information System (GNIS) as the official repository for North Carolina's geographic place names. The Council's Statewide Mapping Advisory Committee has the authority to review submissions and recommend geographic feature and place names to the federal government GNIS. The Statewide Mapping Advisory Committee concluded its work under Session law 2003-211 which provided for the abrogation of offensive geographic place-names. All features previously known by an offensive name were renamed with the cooperation of local governments, approved by the Council, and officially submitted to the US Board on Geographic Names.

Statewide Enterprise License for GIS Software

The Council, through the State Government GIS Users Group committee, concluded discussions with the Office of State Budget, Office of Information Technology Services (OITS), and Environmental Systems Research Institute (ESRI) regarding an enterprise license for this software. ESRI software is the predominant GIS software in use by state government agencies. The agreement will cover new purchases, upgrades and annual maintenance. The final arrangements are pending at OITS and will result in substantial savings to the state.

GIS Professional Certification Program

The Council endorsed the GIS Professional Certification Program established and administered by the GIS Certification Institute. The professional qualifications for GISP certification include education, work experience and service to the profession. The Council was the first state bodies to actively endorse the program, although it did express two concerns regarding applicant privacy and the maintenance of reasonable application fees. The GIS Certification Institute is considering that input. North Carolina currently leads the nation with 65 people who have met the qualifications and earned the title of GISP.

V. Outreach

LIDAR Workshop—August 4, 2004

The Council's Federal Interagency Committee and Statewide Mapping Advisory Committee's LIDAR workgroup organized a workshop at North Carolina State University. It was free to anyone interested in LIDAR applications using the recently collected elevation data (the field-verified elevation accuracy is plus/minus 20

centimeters). Pre-registration exceeded room capacity and the workshop was moved to larger quarters to accommodate the 100 participants. Attendees learned how to get this free data, the technical realities of working with LIDAR data, and how to use it within their applications.

GISLiveNC—November 17, 2004

GIS Day is an international activity, now in its sixth year, which seeks to build awareness about how geography and GIS technology work to solve problems. North Carolina, led by a GIS consortium that included the Department of Public Instruction, the Center for Geographic Information and Analysis (on behalf of the Council), NC State University, NC A&T University, numerous state and local government agencies, and teachers, held an online, interactive two-way video conference. The program focused on a disaster scenario: Hurricane Zeus that challenged student teams to engage in inquiry-based problem-solving to research, design and then role-play how emergency response teams in their communities might respond to a threat of a Category 3 hurricane. Data was available through **NC OneMap**. Additional presentations included a variety of government presenters on topics as diverse as Climate Change and GIS, Public Health and GIS, Using GPS, and GIS Careers.

2005 North Carolina Geographic Information Systems Conference



The largest venue for presenting information about **NC OneMap**, Council priorities and activities is the biennial North Carolina GIS conference organized by an executive committee composed of the Center for Geographic Information and Analysis and volunteers from local government and professional associations. The conference attracted almost 900 participants for the two-day event, March 3-4. The North Carolina conference is one of the largest in the nation.

The Council awards the prestigious Herb Stout Award for Innovative Use of GIS by a Local Government. The 2005 winner was the City of Charlotte for the “Charlotte Area Transit System Web Trip Planning” application.

Professional Meetings and Events

The Council and the **NC OneMap** initiative were promoted in numerous venues. Staff exhibited **NC OneMap** at the NC Property Mappers Association (NCPMA) fall conference, the NC League of Municipalities annual conference and the NC Science Teachers Association fall conference. Staff presented **NC OneMap** at meetings of the NCPMA, NC Local Government Information Systems Association, NC ArcInfo Users Group, NC Chapter of the American Planning Association, the Applied Visualization Conference, Southeast Association of Tax Assessors, High Country Council of Governments, Centralina Council of Governments, Regional GIS Framework Committee, Carolina URISA, Foothills Area Users Network, the Wildlife Resources Commission, and One North Carolina Naturally regional conference.

On the national front, staff was invited to present at the annual Environmental Systems Research Institute conference in San Diego, the National States Geographic Information Council annual conference, International Urban and Regional Information Systems Association conference, USGS headquarters, and the National Digital Orthophotography Program meeting in Asheville. Staff made **NC OneMap** presentations at conferences in the states of South Carolina, Delaware, and Wisconsin.

VI. 2005-2006 Proposed Activities

NC OneMap Work Plan (subject to funding availability)

- Connect 50 new local governments.
- Transition the NC OneMap service from USGS to CGIA.
- Enhance the web-service functionality for ease-of-use.
- Develop a web-based tool for governments to update their data inventory.
- Develop and adopt standards for governmental unit boundaries.
- Continue to assist local governments in data documentation (metadata).
- Resolve data access/restriction issues for local and state government data.
- Develop resources for 24/7 capability.
- Develop a plan and resources for disaster recovery.
- Continue general outreach activities.
- Seek funding to fully implement the five-year funding plan to ensure the long-term success of **NC OneMap** as the key resource available to and shared by all government agencies to fulfill their distinct needs.

Stream Mapping Work Plan

- Begin development of new stream mapping for the 19 counties named in the Hurricane Recovery Act of 2005. [Completion is targeted for April 2007.]
- Seek funding to fully implement the stream mapping plan statewide.

Collaborate with NC Board of Engineers and Land Surveyors

- Resolve issues on changes to GS 89-C based on local government GIS concerns and the Model Law as adopted by the National Council of Examiners for Engineering and Surveying (NCEES).

Appendices

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15	C. List of Counties and Cities Connected to NC OneMap

Appendix A: 2005 Geographic Information Coordinating Council Members

2005 Member	Title and Organization	Appointing Authority
Chair, Dempsey Benton 1601 Mail Service Center Raleigh, NC 27699-1601	Chief Deputy <i>Environment and Natural Resources</i> 919/715-0183	Governor's Appointment
C. Ronald Aycock PO Box 1488 Raleigh, NC 27602-1488	Executive Director <i>NC Assoc. of County Commissioners</i> 919/715-2893	Executive Office <i>Designee—Rebecca Troutman</i> 919/733-1065
George Bakolia 4101 Mail Service Center Raleigh, NC 27699-4101	State Chief Information Officer <i>Information Technology Services</i> 919/981-2680	Executive Office <i>Designee—Michael Fenton</i> 919/981-5520
Bryan Beatty 4701 Mail Service Center Raleigh, NC 27699-4701	Secretary <i>Crime Control and Public Safety</i> 919/733-2126	Executive Office
Bob Brinson 2020 Yonkers Road Raleigh, NC 27604	Director Criminal Justice Info Network <i>Correction</i> 919/716-3500	Governor's Appointment
Dr. Molly Broad PO Box 2688 Chapel Hill, NC 27515-2688	President <i>UNC-Office of the President</i>	Executive Office <i>Designee—Dr. Hugh Devine</i> NCSU 919/515-3682
Rodney Bunch PO Box 39 Elizabeth City, NC 27907	Assistant County Manager <i>Pasquotank County</i> 704/694-2796	Governor's Appointment <i>(County Government)</i>
Jean Crews-Klein 4021 Carya Drive Raleigh, NC 27610	Vice Pres. Business & Natural Resources <i>NC Rural Economic Development Center</i> 919/250-4314	NC Senate
Terry Ellis PO Box 1373 Smithfield, NC 27577	GIS Technology Director <i>Johnston County</i> 919/989-5147	NC House of Representatives
Dianne Enright 1908 Mail Service Center Raleigh, NC 27699-1908	Geographic Analysis Unit Mgr. <i>State Center for Health Statistics</i> 919/715-4473	Appointed by GICC Chair <i>Chair, State Government</i> <i>GIS Users Committee</i>
Jim Fain 4301 Mail Service Center Raleigh, NC 27699-4301	Secretary <i>Commerce</i> 919/733-3449	Executive Office <i>Designee—John Correllus</i> 919/715-2358

2005 Member	Title and Organization	Appointing Authority
Thomas Gray PO Box 1000 Manteo, NC 27954	Information Technology Director <i>Dare County</i> 252/475-5840	NC Senate
Dr. Rita Hagevik 1601 E. Market Street Greensboro, NC 27411	Assistant Professor of Science Education <i>NC A&T University</i> 336/334-7907	Governor's Appointment
Ellis Hankins PO Box 3069 Raleigh, NC 27602	Executive Director <i>NC League of Municipalities</i> 919/715-4000	Executive Office <i>Designee—Dr. Lee Mandell</i> 919/715-3933
Kevin Higgins 6201 Fairview Road, #400 Charlotte, NC 28210	Project Engineer <i>Watershed Concepts</i> 704/643-0108	NC House of Representatives
Bill Holman 1651 Mail Service Center Raleigh, NC 27699-1651	Executive Director <i>Clean Water Management Trust Fund</i> 919/716-0056	Governor's Appointment <i>(At Large State Agency)</i>
Carmen Hooker Odom 2001 Mail Service Center Raleigh, NC 27699-2001	Secretary <i>Health and Human Services</i> 919/733-4534	Executive Office <i>Designee—Sandra Trivett</i> 919/733-4534
Susan Johnson 600 E. Fourth Street, 9th Fl. Charlotte, NC 28202	Key Business Executive <i>City of Charlotte</i> 704/336-6252	Governor's Appointment <i>(Municipal Government)</i>
Martin Lancaster 5001 Mail Service Center Raleigh, NC 27699-5001	President <i>NC Community College System</i> 919/807-7100	Executive Office <i>Designee—Eldon Meacham</i> 919/807-7114
Kelly Laughton 200 N. Grove St., #386 Hendersonville, NC 28792	IT Director <i>Henderson County</i> 828/698-5150	Local Government Committee Chair, elected
Timothy Lesser 100 E. First Street, Suite 520 Winston-Salem, NC 27102	Senior GIS Analyst <i>City of Winston-Salem Information Sys</i> 336/747-7082	NC Senate
Elaine F. Marshall PO Box 29622 Raleigh, NC 27626-0622	Secretary of State <i>Office of Secretary of State</i> 919/807-2008	Executive Office
David McCoy 20320 Mail Service Center Raleigh, NC 27699-0320	State Budget Officer <i>Office of State Budget and Management</i> 919/733-7061	Executive Office <i>Designee—Jonathan Womer</i> 919/733-7061

2005 Member	Title and Organization	Appointing Authority
Joe McKinney 25 Heritage Drive Asheville, NC 28806	Executive Director <i>Land of Sky Regional Council</i> 828/251-6622	Governor's Appointment <i>(Lead Regional Organization)</i>
Anne Payne PO Box 550 Raleigh, NC 27603	GIS Database Administrator <i>Wake County</i> 919/856-6383	NC House of Representatives
Stephen Puckett 5518 Highway 55 Durham, NC 27713	NC Society of Surveyors <i>SD Puckett and Associates</i>	Governor's Appointment
Bill Ross 1601 Mail Service Center Raleigh, NC 27699-1601	Secretary <i>Environment and Natural Resources</i> 919/715-4102	Executive Office
Gerald L. Ryan 3916 Sunset Ridge Road Raleigh, NC 27607	District Chief <i>USGS NC Water Science Center</i> 919/571-4044	Governor's Appointment <i>(Federal Government)</i>
JoAnne Sanford 4325 Mail Service Center Raleigh, NC 27699-4325	Chair <i>NC Public Utilities Commission</i> 919/733-4249	Executive Office <i>Designee—Bliss Kite</i> 919/733-0854
Gwynn Swinson 1301 Mail Service Center Raleigh, NC 27699-1301	Secretary <i>Administration</i> 919/807-2425	Executive Office <i>Designee—Carlton Myrick</i> 919/807-2341
Lyndo Tippet 1501 Mail Service Center Raleigh, NC 27699-1501	Secretary <i>Transportation</i> 919/733-2520	Executive Office <i>Designee—Forrest Robson</i> 919/212-6001
E. Norris Tolson 4501 Mail Service Center Raleigh, NC 27699-4501	Secretary <i>Revenue</i> 919/733-7211	Executive Office
Steve Troxler 2 W. Edenton Street Raleigh, NC 27611	Commissioner of Agriculture <i>Agriculture and Consumer Services</i> 919/733-7125	Executive Office <i>Designee—David Wray</i> 919/807-4344
Vacant 301 N. Wilmington Street Raleigh, NC 27601	State Superintendent <i>Public Instruction</i> 919/807-3430	Executive Office <i>Designee—Derek Graham</i> 919/807-3571

Appendix B: NC Geographic Information Coordinating Council Establishing Authority and Precedent

The North Carolina Geographic Information Coordinating Council was established by Senate Bill 895 in August 2001 and was incorporated in the General Statutes as Article 76, §143-725 through 143-727.

The purpose of the Council is to develop policies regarding the utilization of geographic information, geographic information systems (GIS), and other related technologies. The Council is responsible for the following:

- Strategic planning,
- Resolution of policy and technology issues,
- Coordination, direction, and oversight of State, local, and private GIS efforts, and
- Advising the Governor, the General Assembly, and the State's Chief Information Officer as to needed directions, responsibilities, and funding regarding geographic information.

The Council is charged with statewide geographic information coordination and fosters cooperation among State, federal, tribal, and local government agencies; academic institutions; and the private sector in order to improve the quality, access, cost-effectiveness and utility of North Carolina's geographic information and to promote geographic information as a statewide strategic resource.

Precedent. Prior to the enactment of legislation, the North Carolina Geographic Information Coordinating Council existed through Executive Orders issued by Governor James G. Martin and Governor James B. Hunt Jr. Executive Order No. 147 by Governor James G. Martin first established the Council in July 1991. Governor James B. Hunt Jr. issued Executive Order No. 16 in May 1993 that remained in effect until 2001.

Staff to the Council. The Center for Geographic Information and Analysis (CGIA), located in the Department of Environment and Natural Resources and formerly attached to the Office of the Governor, staffs the Council. CGIA manages and distributes digital geographic information about North Carolina maintained by numerous State and local government agencies. It operates a service bureau, a statewide data clearinghouse, provides Internet access to State geographic information, and is responsible for web development and hosting of **NC OneMap**.



***Appendix C: Local Governments Connected to NC OneMap
as of 6/30/2005***

Counties

Alamance
Alexander
Anson
Beaufort
Buncombe
Burke
Cabarrus
Catawba
Currituck
Dare
Davie
Edgecombe
Gaston
Halifax
Haywood
Henderson
Iredell
Johnston
Lee
Lenoir
Macon
Mecklenburg
Moore
New Hanover
Northampton
Onslow
Pender
Union
Wake
Wilson
York County, South Carolina (adjacent to Mecklenburg County)

Cities and Towns

Asheville
Atlantic Beach
Carrboro
Catawba
Conover
Elkin
Emerald Isle
Greenville
Havelock
Hickory
High Point
Kernersville
Lenoir
Mocksville
Morganton
New Bern
Newton
Raleigh
River Bend
Salisbury

Councils of Governments

Eastern Carolina COG
Northwest Piedmont COG
Unifour MPO
Upper Coastal Plain COG
Western Piedmont COG

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