MINUTES
GEOGRAPHIC INFORMATION COORDINATING COUNCIL
February 18, 2004

PRESENT

Chair, Dempsey Benton. Members: Tim Brewer (for Martin Lancaster), Bob Brinson, Carol Burroughs (for Carmen Hooker-Odom), John Correllus (for James Fain), Rodger Durham (for Bryan Beatty), Dianne Enright, Jeff Essic (for Hugh Devine), Terry Ellis, Derek Graham (for Mike Ward), Tom Gray, Jay Heavner, Kevin Higgins, Reggie Hinton (for Norris Tolson), Susan Johnson, Chris Kannan (for Jerry Ryan), Tim Lesser, Lee Mandell, Elaine Marshall, Joe McKinney, Carlton Myrick (for Gwynn Swinson), Tom Newsome, Stephen Puckett, Forrest Robson (for Lyndo Tippett), Rebecca Troutman, Charlotte Turpin, Chris Wease, Mike Wilkins, David Wray (for Britt Cobb)

PROCEEDINGS

A meeting of the Geographic Information Coordinating Council was held on February 18, 2004 in the Board Room of the Department of Public Instruction in Raleigh, North Carolina. Chair Dempsey Benton called the meeting to order. The Minutes of the November 19, 2003 meeting were approved.

Status and Discussion of Priorities Before Council

Priority #1—NC OneMap.
Tim Johnson, Council staff, reviewed the timeline and progress on the 14 steps in the implementation plan for **NC OneMap**. Activity for this period included work on the following steps:

1) Identify initial data themes to serve on **NC OneMap**—Staff will be able to prioritize effort on data layers and provide cost analysis as soon as the data inventory is closed.

2) Finalize data content standards for those themes—This is a long process but several key standards are moving forward through Council committees for final action, including orthophotography, transportation and cadastral.

3) Identify early partners—The data inventory has provided key information concerning participation readiness among local governments.

4) Reach community data sharing agreements with partners—There are issues with connectivity at local government nodes for 24/7 participation in **NC OneMap**. Funding is needed to assist them.

5) Conduct an outreach campaign to seek statewide participation—The **NC OneMap** Service Mark has been registered with the Secretary of State. A brochure is being designed and numerous professional meetings have been identified for presenting this year.

Concerning the actual **NC OneMap** viewer and web site, staff are initiating long-term planning for hosting **NC OneMap**.

13) Prepare and present cost projections for statewide **NC OneMap**—Staff has prepared initial cost projections for short-term and long-term operation of NC OneMap.

14) Seek funding for full implementation of **NC OneMap**—Staff is pursuing several actions related to multiple funding opportunities for 2004 and beyond.

Mr. Johnson said work will continue on all steps of the Implementation Plan. He asked Council members to recommend people who can work as part of the design and development team for the **NC OneMap** application.

Priority #2—Data Inventory

Report on the Inventory: David Giordano, staff, reminded the Council that the data inventory was sent via email to all 100 counties and 141 cities in October. At this time 87 cities and 79 counties have responded. He summarized the results showing response distribution through maps, pie charts and bar graphs. Mr. Giordano said the applications most commonly used by local government were GIS mapping, and planning and community development. Eighty-two percent of respondents indicated that they create, update, integrate and distribute GIS data. Within local governments, most GIS data (70%) is managed centrally with the remainder using a distributed system among departments. The dominant GIS software in use by North Carolina local governments is the ESRI suite of products.

The overwhelming majority of local governments use the State Plane coordinate system and the U.S. Survey Foot as the unit of measurement. Very few local governments (26% of respondents) create FGDC compliant metadata, which was the content standard the Council adopted in 1996. The CD was the media local governments used most for distribution of data, followed by floppy disks. On the question of charging for their data, 52% of respondents said they do charge a fee. Thirty percent said they restrict access to data, which could also mean they restrict access to specific data sets rather than all data, and almost half of the respondents indicated they restrict redistribution of their data.

On the question of Internet access, the responses were about evenly split between those governments that provide it and those that do not. The governments that do provide Internet access to GIS data are potential **NC OneMap** partners in the initial implementation. Almost three-quarters of respondents said they restrict download of data.

Respondents were confused by the question pertaining to the creation of digital orthophotography. Some misinterpreted the question and thought it was asking if the county itself did the work, whereas orthophotography is normally contracted to an outside vendor. That misinterpretation resulted in only 43% saying they did create orthophotography: CGIA staff know that is incorrect. An additional finding was that 66% knew they used the Land Records Management Program orthophoto specifications, but one-third were not sure. As to the frequency of updating orthophotography, a pie chart showed that there is significant inconsistency across the state, but this is understandable since 34% indicated schedules were dictated by the availability of local funds.

The primary local government data layers captured routinely include street centerlines (61%) and road names (more than 90%), cadastral (61%), and zoning (about 85%). Only 23% produce local

surface water data and most rely on state sources for their surface water and watershed data. Those that do map their own stream data associate very few attributes to the streams. The types of political boundaries each local government captures in a GIS vary widely across jurisdictions as do transportation and emergency/public safety types of data. Fire districts were the most common throughout, (approximately 65%). Almost half of the respondents do include local schools in their GIS.

Mr. Giordano said the data inventory results were cross-walked with the handout: "NC OneMap Implementation: Initial Data Layers to Serve." The result indicates that the Framework data layers were produced at a high level by most city and county governments. (Note: The powerpoint presentation is available on the Council web site: www.cgia.state.nc.us/gicc).

Analysis: Zsolt Nagy said staff were pleased that there had been a good response, but the work is not complete until we account for the missing 21 counties. Initial analysis shows a weakness in using the metadata content standard to document data holdings across the state, a taxpayer investment that exceeds $150 million. He said that CGIA has conducted metadata training and workshops around the state as project and grant money became available, but a more sustained program is needed. Dr. Mandell mentioned that eight counties do not currently have an operational GIS, but according to the survey, 30 organizations, including cities, said they do not produce GIS data.

NC OneMap participation should be offered first to those 61 governments that already offer Internet web-mapping. And the **NC OneMap** design team should consider relevant applications and tools that will add value for participation by local governments, for example a map viewer to locate industrial sites. Another area of concern is that the local government digital orthophotography is a mixture of many timeframes and not updated on a regular basis. The state should identify organizational models to structure a regional approach to bring more cohesion to this statewide resource. Mr. Essic asked how staff intend to fix the orthophotography question since it is a recognized problem. Mr. Nagy said the survey report had to use the actual responses as provided, but the responses will be adjusted based on additional information from North Carolina Geodetic Survey and from the Department of Agriculture. Also, new information indicates that 18 counties will be flying orthophotography this season.

Mr. Johnson said staff will complete the inventory so we can present results to the General Assembly and request funding for **NC OneMap**. Chris Wease asked about frequency of future data inventory surveys. Mr. Nagy said the implementation team is looking at new web technology that would allow users to log on and update their own inventory as needed. This is part of a national effort. Until that is ready, the Council can rely on the Survey Monkey tool.

Mr. Wease asked what staff see as the maximum challenge to implementing **NC OneMap**. Mr. Nagy responded that policy issues concerning access to data and technology, since many governments do not have web-mapping on the Internet, are key issues. There is still a problem with band width in many areas. More outreach is essential to achieve a common understanding. Dr. Mandell cautioned that there are cost-share implications with local government that host an **NC OneMap** portal that should be considered.

Mr. Benton said that the Council has a work task to consider an approach for regional orthophotography updates.

Priority #3—Data Content Standards

1) Rex Minneman presented a draft of the revised Digital Orthophotography standard. He said that although the data inventory survey reflected that two-thirds of the respondents were unsure they were using the Land Records Management Program standard, actually most counties do use the older standard. He said the main changes in the revised standard include the photo-scale and that it can be enlarged only six times. The photo scales supported by the new standard are 1-inch = 400 feet; 1-inch = 200 feet; and 1-inch = 100 feet. Another change relates to the mosaicing of individual photos that requires a 60% overlap instead of the former 80% overlap. This allows using two film images to make one orthophoto versus the older standard requiring one film image for each orthophoto. This change provides a lower cost for the county and no decrease in quality because changes in technology have made better resolution possible. He also advised that current orthophoto procedures eliminate tonal variations from photo to photo which is a vast improvement. Pixel resolution is 1-foot for 400-scale photograph versus a 2-foot pixel resolution in the past. This helps the image stay together as it is enlarged.

The newer photography is 100 megabytes in size per orthophoto, but there are many software programs available to compress that image. The orthophotography producers are required to create metadata and each orthophoto contains a subset of metadata in its header to identify that specific image. The 18 counties scheduled to fly their photography in the next few months will be using the draft standard. Ms. Troutman was concerned that local governments had the opportunity to review this standard. Mr. Minneman said the standard has been presented to the North Carolina Property Mappers Association and to the Statewide Mapping Advisory (SMAC) Committee and now is ready for review by the user committees.

Action #1: The SMAC to refer the draft Digital Orthophoto standard to the Local Government Committee for review and comment so it can be brought back to the Council in May.

Ms. Troutman wanted to make sure the Information Resource Management Commission (IRMC) also was in the procedural loop for all data content standards.

Action #2: Staff to contact IRMC and follow process for their review/adoption of data content standards as adopted by the Council.

2) Forrest Robson said the Transportation standard will include 22 attributes for road features. The committee is continuing to work on both the topology and geometry. When that work is finished, the standard will return to the SMAC for review.

3) Zsolt Nagy reported that 12 parcel data users, including the energy and timber sectors, have been interviewed to determine their actual needs relative to the proposed Cadastral standard. In addition, a case study of how parcel data was used post-Hurricane Isabel will be available as a white paper in May. Dr. Mandell asked that the Council receive copies in advance of the meeting.

Priority #4—Access and Distribution

Susan Johnson reported that the Homeland Security Committee of the Federal Geographic Data Committee would meet on February 24. That meeting should result in a final version of a

process chart that can be used by decision-makers for considering the restriction of data. She will bring that product to the next Council meeting. Ms. Johnson also commented that the **NC OneMap** data inventory results indicate 30% of respondents have restrictions on GIS data access.

Presentation: Sharing Data and How to Get What You Don't Pay For

Paula Gee Davis, UNC-Chapel Hill Facilities Management, and Janet Jackson, formerly with Orange Water and Sewer Authority (OWASA), jointly discussed local government partnerships in their area that includes Orange County, the towns, the Orange Water and Sewer Authority, and the University of North Carolina at Chapel Hill. Each partner contributes part of the geographic data they all use and cost-shares for countywide orthophotography (1998: black and white; 2003: true color). The 2003 orthophotography used the draft Digital Orthophoto standard and allows the jurisdictions to capture planimetric data, buildings, tree mass, and streets. Sharing data allows better planning for capital development among all agencies. Ms. Jackson gave one example of coordinating street repaving with the plans to add a water main in the same area. Another example of data sharing involved mapping UNC irrigation wells to ensure compliance with town watering restrictions during droughts.

It took more than a year of planning to implement the street addressing database that is used by all three municipalities and Orange County. Street centerlines have allowed them to geocode all trouble spots. The entire county cadastral is updated via CD each month. The OWASA GIS has printed out map books for employees responsible for the precise application of wastewater treatment sludge on fields. Ms. Davis mentioned that the hydrography data and watersheds available from the Center for Geographic Information and Analysis through the *BasinPro* CD product has been an invaluable data resource because of the metadata provided. Orange County constructed a data dictionary, but no metadata has been created. She mentioned that since the terrorist attack on September 11, 2001, there are increasing concerns about data warehousing and finding a central location for current data.

Committee Reports

Local Government Committee (LGC). Joe McKinney reported for Kelly Laughton that the committee met February 10. Mr. McKinney said that a letter was sent to North Carolina Board of Examiners for Engineers and Land Surveyors thanking them for their November 19, 2003 presentation and reminding them that the LGC wanted to serve on their NCEES Model Law review committee. The LGC will continue discussion on whether to bring a recommendation to the Council concerning the removal of metric measurement and the adoption of the U.S. Survey foot as the standard. He said **NC OneMap** outreach is working. Councils of Government have asked the Center for Geographic Information and Analysis to meet with them and provide workshops at their regional meetings to educate their constituencies about **NC OneMap**. He said the LGC expects to work with the Institute of Government as an information link to local governments on the public records law relative to providing and charging for GIS data.

State Government GIS Users Committee (SGUC). Dianne Enright reported that the SGUC met in January and heard presentations from Sarah Wray on the Floodplain Mapping Program and the

use of imagery post-Hurricane Isabel, and EarthData, a vendor of orthophotography and imaging products. Gary Thompson presented and there was an update on North Carolina's work on the National Hydrography Dataset. A subcommittee will investigate establishing a state license for ESRI GIS software products. Council member John Correllus was selected to serve as SGUC vice chair.

***Federal Interagency Committee (FIC*)**. Chris Kannan reported for Jerry Ryan that there is interest in the open source (non-proprietary) Minnesota Map Server for use in *The National Map*. The next FIC meeting will be hosted by the US Census. The LIDAR work group is planning a LIDAR symposium hosted by US Geological Survey and NC State University, through Dr. Hugh Devine.

GIS Technical Advisory Committee (GIS TAC). Susan Johnson said that **NC OneMap** needs to declare U.S. Survey feet or meters as the standard for data storage. She noted that 96% of local government survey respondents indicated their unit of measurement was U.S. Survey feet. She said the GIS TAC will assist CGIA in writing the technical documents and requirements document for life cycle costs to meet the needs of **NC OneMap** over time.

Statewide Mapping Advisory Committee (SMAC). Zsolt Nagy said the SMAC met in January. Discussion included the topics of the National Hydrography Dataset, the collection of orthophotography for a 12-16 county area, and the follow-up to the Offensive Place Names legislation. Letters were sent to all counties affected and county managers were telephoned to alert them to this requirement. The SMAC will develop a formal procedure on how to address offensive names in the future.

Gary Thompson reported on the Orthophotography Implementation Planning committee which is to help local governments with orthophotography and find funding sources. He said an inventory was conducted to find out which counties were planning to fly photography this current season: 18 indicated they were. The inventory will be repeated every year. Rodger Durham said that counties achieve thousands of dollars in savings on processing their orthophotography when they use the LIDAR elevation data provided from the state's Floodplain Mapping Program. Ms. Troutman asked if Mr. Durham could send her information substantiating that claim.

Management and Operations Committee. Tim Johnson said that committee created an action list for pursuing **NC OneMap** funding. The first action called for scheduling a meeting with the Director of the NC Division of Emergency Management to discuss a proposal submitted to Secretary Bryan Beatty, Department of Crime Control and Public Safety, as part of the "State Homeland Security Strategy 2004-06." **NC OneMap** was specifically cited in that work document and CGIA proposed a budget that included metadata creation for local governments, development of a data inventory software application ($54,000), and a regional cost-sharing approach to acquisition of local digital orthophotography ($1,900,000).

The second action involves vetting the **NC OneMap** primary data list with all stakeholders in state government to see where data interests intersect and data creation could be cost-shared. The third action is to produce statewide data acquisition and development cost estimates based on results of the data inventory. CGIA completed a task to produce an estimated budget for the initial **NC OneMap** software application ($84,000) and provision of technical assistance to link

local governments ($76,000). Outreach to participating communities about costs relative to participation in **NC OneMap** is on-going.

Action 6 requires CGIA to budget the one-time **NC OneMap** start-up costs to present to the General Assembly in the 2004 session and show cost savings and return on investment. That research is being conducted along with building the case for state agencies to include a **NC OneMap** cost-share in their budgets (action 7). Action 8, documenting CGIA's existing computer resources and planned modifications, has been completed.

The last two action items are to schedule briefing times with both the Joint Select Committee on Information Technology and with the Governor's Office congressional liaisons in Washington, DC. Mr. Johnson asked the Council to support these funding initiatives.

Action #3: Council authorized CGIA to pursue funding opportunities in the context of the "Summary of Actions" document provided to the Council.

GIS Certification Institute (GISCI)

Anne Payne, Wake County GIS Coordinator, and Urban and Regional Information Systems Association (URISA) board member, presented the new certification program for GIS professionals. A group has worked since 1998 on establishing the competencies that could qualify GIS workers as professionals. Ms. Payne said this is not licensure which implies the need to protect the public, but rather a carefully considered and weighted group of educational attainment, professional experience and contributions to the GIS profession that protects a body of knowledge. The Certification is voluntary, collaborative and requires adherence to a code of ethics. The Certification is point-based (150 points required) and self-documented. It considers skill sets and requires, at minimum, 4-years of 100-percent GIS experience.

The program, although developed by URISA, is endorsed by other professional associations and will exist independently as an Institute so no membership is required. The GIS Certification Institute has been established as a 501 (c)(6) trade association, and wants to be the certification source for GIS professionals. Ms. Payne said the GISCI is governed by a Board of Directors, expects to have multilateral participation from government and the private sector, and hopes to establish a scholarship fund in the future. When a candidate submits their application for review, the last thing required is for the successful candidate to sign the GIS Code of Ethics. More than 100 applications have been received since GISCI's inauguration a few months ago, and 65 GIS professionals have been certified.

Susan Johnson mentioned that in the State of Oregon's coordinating council formally endorsed the GISCI. This Council could consider a similar action after the user committees have the opportunity to review the program. Dr. Mandell asked about the size of the potential certification pool in North Carolina. Ms. Payne said they estimate about 100 people would qualify. She mentioned there is a $250 application cost.

Action #4: LGC, FIC, SGUC to review the GIS Certification Program and report to the May Council meeting with their recommendations.

OTHER BUSINESS

Mr. Johnson mentioned in was National Surveyor's Week, by Governor's Proclamation. Mr. Benton thanked Secretary Beatty for including **NC OneMap** in the "State Homeland Security Strategy 204-2006" funding proposal. He also mentioned that he would like to see the SMAC committees complete their work on their standards, vet them with the various user groups and bring them forward for Council action.

ADJOURNMENT

There being no other business, the meeting was adjourned. The next meeting will be held May 20, 2004, 1:00-3:00 pm at the Department of Public Instruction Board Room, Room 755, 301 N. Wilmington Street, Raleigh.

All PowerPoint presentations and reports are on the Council Web site: www.cgia.state.nc.us/gicc, then click on "Meetings." The individual "Presentation" icons follow the Agenda and Minutes.