MINUTES
GEOGRAPHIC INFORMATION COORDINATING COUNCIL
May 17, 2006

PRESENT

Chair, Dempsey Benton. Members: Jon Beck (for Joe McKinney), Bob Brinson, Rodney Bunch, John Correllus (for James Fain), Dianne Enright, Jeff Essic (for Dr. Hugh Devine), Derek Graham, Tom Gray, Reggie Hinton, Bill Holman, Susan Johnson, Bliss Kite, Kelly Laughton, Dan Madding (for Britt Cobb), Dr. Lee Mandell, Herb McKim, Rex Minneman (for Elaine Marshall), Anne Payne, Mark Prakke (for Carmen Hooker-Odom), Stephen Puckett, Gerald Ryan, L.C. Smith (for Lyndo Tippett), Richard Taylor, Jonathan Womer, David Wray (for Steve Troxler), Sarah Wray (for Bryan Beatty), Ron York

PROCEEDINGS

A meeting of the Geographic Information Coordinating Council was held 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 February 15, 2006 meeting were approved. Mr. Benton introduced two new members who were appointed by the Speaker of the House, Herb McKim, President of McKim and Creed, a design, engineering and surveying firm; and Ron York, Atlas Landbase Manager for Duke Energy Power Delivery. Anne Payne was reappointed to another term. Mr. Benton asked all members to introduce themselves and state their organizational affiliation, noting that introductions reinforce the diversity of representation on the Council.

Status and Discussion of Priorities Before Council

Priority #1—NC OneMap Implementation
Tim Johnson said that the Center for Geographic Information and Analysis (CGIA) was charged to develop an outreach plan concerning the "Guidelines for Providing Appropriate Access to Geospatial Data in Response to Security Concerns" adopted by the Council. He said the Management and Operations Committee will meet to refine what needs to be communicated and the best means of communication to each group. It is anticipated that a relevant exercise for applying the "access decision tree" might be on a subset of the NC OneMap 37 key-layer list. Workshops with relevant materials are anticipated this summer.

Recent NC OneMap connections include Brunswick County, City of Greenville, and Mount Airy. Communities soon to be connected include City of Winston-Salem, Durham (city and county), Carteret County, Richmond County, Rutherford County, and Watauga County.

2006-07 Budget Request. CGIA submitted an expansion request for $300,000 for NC OneMap. The request called for increasing the number of connections and providing assistance to local governments for metadata creation and other connection support. Funds were detailed for two staff positions to focus on NC OneMap technical operations including database administration and application development. There were also funds requested to address some of the architecture needs to ensure redundancy, disaster recovery and other requirements for 24 x 7 operation. The

Department of Environment and Natural Resources forwarded this request as a high priority in the Department's request to the Office of State Budget and Management. Unfortunately, the budget request was not included in the Governor's budget issued last week. Bill Holman asked if any Council members had feedback from the Governor's Office about concerns we can address before we submit a proposal again. Mr. Benton said he will follow up with the Office of State Budget and Management after the current legislative session is completed.

Action #1: The Council Chair will consult with the Office of State Budget and Management on funding opportunities for NC OneMap.

NC OneMap Business Case Grant. CGIA received a $50,000 grant award from the Federal Geographic Data Committee to develop a "Business Plan to Sustain NC OneMap." The grant period began in March and will consider the business case and return on investment, which is important for securing state funding

Priority #2—Stream Mapping Status Report
Joe Sewash said Phase I, which includes 19 counties in the western portion of the state, is on schedule for completion in the spring of 2007. This initial portion was funded through the Hurricane Recovery Act of 2005. CGIA is developing a map viewer for the data and will have a project website up my mid-summer to provide access to data products and project documentation.

Phase II represents 24% of the state prioritized by business cases and base-data availability. An Expansion Budget proposal was forwarded as a high priority from the Department of Environment and Natural Resources, but was not included in the Governor's budget. Phase II is divided into three units: Unit 1 includes portions of the Cape Fear, Neuse, Roanoke and Yadkin river basins; Unit 2 includes portions of the Broad and Catawba river basins, and Unit 3 is the White Oak sub-basin, a pilot coastal study area. Stakeholders have met and been briefed on the project's progress since summer 2005. The Stream Mapping program data captures between two and three times the number and amount of streams represented on existing USGS topographic maps (1:24,000-scale), some of which were created in 1941. Mr. Sewash said that existing reach codes assigned to 1:24,000 scale stream segments in the National Hydrographic Dataset (NHD) are carried forward to the new data set providing a path forward for stakeholders currently using the NHD dataset. He showed an example of the use of LIDAR overlaid with local government orthophotography, which when combined helped to detect the headwater further up the watershed than previously mapped. The Stream Mapping project is producing a better, more accurate product. Mr. Benton said a primary reason for this project is that so many topographic maps that provide stream information are aged back in the 1940s. He said that legal challenges require more accurate maps for some of the regulatory responsibilities of the Department of Environment and Natural Resources.

Priority #3—North Carolina Geographic Data Inventory
Diana Hales remarked that the Council has directed CGIA to conduct data inventories on a regular basis. The last statewide inventory of local government and state government data occurred in 2003. The new *Ramona* tool (Random Access Metadata tool for Online National Assessments) is part of a national inventory effort that was developed and promoted by the National States Geographic Information Council. The tool is user friendly, maintains a rolodex of user contact information, and provides access to easy-to-understand status maps that need only a second mouse click to get instant contact information for each data layer.

The inventory was launched to 100 counties and 150 municipalities in April. More than 121 registered users have signed up on the North Carolina web site, including academics, local, state and federal agencies, and private businesses. Eighty-one local governments have filled out the survey: 50 counties and 31 cities and towns. To date, 35 counties and 7 cities have entered information about their orthophotography.

The inventory collects information in five categories: User Profile, My Geography, System Profile, Directory, and Data Layers (Framework and Other Data). Results are displayed in Status Maps on the opening page. Anyone can view a status map generated from responses on each individual data layer. The Directory feature provides a searchable rolodex that can return queries by alphabetical listings, type of organization, a specific county or city, or even application area. Ms. Hales said this is a great feature that will be useful for both data providers and data users. She also noted that you do not have to be a registered user to access the inventory and view the status maps and other information.

Enhancements are planned and should be released shortly. States will be able to add custom questions; for sub-state region project areas will be able to use bounding coordinates; and there will be a read-only capability for authorized agencies to see detailed responses. The state government inventory will be launched in June.

Ms. Kelly Laughton said the Local Government Committee assisted by activating the "LGC Alert" system to member organizations to encourage participation in the *Ramona* inventory. Anne Payne expressed the concern that local governments frequently receive requests from multiple national agencies about data holdings. She asked if these entities, for example, U.S. Geological Survey, Geospatial One-Stop, and the National States Geographic Information Council could integrate their inventory efforts better.

Presentation: Mapping Powerhouses on the Internet

Mr. Tom Barclay, a researcher with Microsoft Corporation, was the lead in the development of TerraServer, a large geospatial database containing high-resolution imagery of the United States provided by USGS. He said that when TerraServer was introduced in the late 1990s during the Internet bubble, they thought it might run about 18 months. It continues to have 100,000 users a day. It does not generate revenue, but the only costs were the development and server. He said MapQuest stopped serving imagery because of the costs to collect it, but then Google figured out how to make money from its service, even though the American public complains when information is not free. The Google search is done textually.

In the last year Microsoft has joined the new wave and is displaying various things graphically. For it to sustain itself, Microsoft must work cooperatively with others. He said that Microsoft mapping will not compete with GIS vendors, such as ESRI, because Microsoft is a "presentation" of GIS. Instead, Microsoft is considering what people want to see on a quick map: Items such as imagery and other pictures of where people work and play (ex. hotels).

The Internet is about textual search on the web. He said storage is practically free and Microsoft stores all textual material, which means it can be inventoried. He said Microsoft stores 10 copies of replicate data, these are not backups. Acquisition of imagery by governments costs lots of

dollars. Google and Microsoft's TerraServer both get orthophotography from government providers; this is information in the public domain.

Mr. Barclay said the North Carolina is a leader in information technology and that he understands the difficulty of finding funds to collect new orthophotography. He said Microsoft will promote NC OneMap and all data providers affiliated with that initiative both in formal and informal ways. TerraServer USA and Digital Earth host public domain data and web services. Although these services are meant for consumers, he gave an example of first responders needing TerraServer data after Hurricane Katrina because other government services were unavailable. He advised the Council that you can not anticipate where your data will be used: Data needs to be available constantly from multiple sources. Ms. Laughton asked about the update frequency. Mr. Barclay said every month they do a 4 terabyte update, either national or international, for Terra Server.

Dr. Mandell asked if Microsoft could help with the North Carolina budget shortfall for NC OneMap. Mr. Barclay responded that Microsoft just bought Vexcel, a camera company, and NC OneMap funding might be worth a discussion. Mr. Benton asked if Microsoft could finance data layers that need to be created. Mr. Barclay said if it promoted the work of TerraServer, they could be helpful.

Action #2: Council staff to seek cooperative opportunities to fund appropriate aspects of NC OneMap.

Committee Reports

All Council committee representatives reported on their group's activities.

Statewide Mapping Advisory Committee (SMAC). Bill Holman reported that the Committee met on April 19 with 18 people attending. The SMAC heard reports from the user committees and there was discussion about federal awards and US Geological Survey (USGS) budget process as well as a presentation on a Watershed Evaluation Tool developed by USGS-Water Resources Division. There was discussion of the US Department of Agriculture cost-share for leaf-on photography this coming summer. Mr. Holman advised the Council of a final report from the US Board on Geographic Names that accepted all but one name change recommended by this Council as required by the 2003 Offensive Names legislation. The one feature that remains unresolved has to do with whether or not the feature actually exists today. That feature was a bay and as a result of recent changes to the shorelines, it may no longer exist. The US Board on Geographic Names will investigate further.

Global Positioning System Standard. Gary Thompson reported that the Council subcommittees responded on the draft GPS Standard with good comments. There are a few small corrections to be made. He said the new technology section would require changes in the standard on an annual basis. He said state agencies still need to use mapping grade GPS, but that some enhanced recreational grade GPS receivers combined with OPUS (Online Positioning User Service) could be an alternative. OPUS-GIS is a GIS version of the successful OPUS developed by the National Geodetic Survey. Mr. David Wray said the NC Department of Agriculture and Consumer Services uses 200 recreational grade receivers to capture farm boundaries. Upgrades to mapping-grade GPS units will take time because of funding issues. Mr. Thompson said that OPUS-GIS is a solution that would allow recreational grade units to receive differential corrections on line, so

they would achieve good quality data with their units. Ms. Payne said the standard included an excellent decision-tree to help agencies select the right equipment for their job.

Action #3: The Council adopted the Global Position System standard, version 3, with the provision that the corrections are incorporated.

Orthophotography. Mr. Thompson said the Orthophotography Work Group met twice relating to imagery opportunities. Mr. Nagy said the federal funding realized for winter 2005-06 allowed 12 counties to participate in a cost-share. The imagery for Gaston County has been delivered. The imagery for the other 11 counties will be delivered by September. The money was disbursed on behalf of the Council. In addition, 17 counties were flown statewide during the winter 2005 season through the Floodplain Mapping Program. He mentioned that it is still taking 12-15 months for the final imagery product to be delivered from the vendors.

The National Geospatial Intelligence Agency and US Geological Survey intend to cost-share more than $500,000 for up to 30-counties for the winter 2006-07. The counties are included in the piedmont crescent and some coastal areas like Hyde County. Mr. Nagy said he expects an early June agreement with USGS and to draft contracts this summer. The team is seeking firm commitments from 24 counties and is holding meetings around the state. Some western counties are also possible. The Council has endorsed "Imagery for the Nation" and this is a first step in the desired plan to refresh all of North Carolina local imagery every four years.

National Agriculture Imagery Program (NAIP). Mr. David Wray, representing the North Carolina Department of Agriculture and Consumer Services, said the federal Farm Service Agency conducts the NAIP program and will fly a true-color orthophotography product at 1- to 2-meter resolution this summer. Sanborn has been selected as the vendor and will use an analog camera, therefore will not be able to also capture color infrared at the same time. The photography will be delivered in September. The Department of Agriculture has an FTP site that currently has 2004 and 2005 NAIP photography available.

Working Group for Roads and Transportation. Mr. LC Smith said the focus of the group is to facilitate the sharing of roads data between regional planning organizations, local governments, state agencies and the public. He said their goal is more than the acquisition and distribution of local road data. The intention is to put together a roads framework and facilitate maintenance of the data through the agreements among state and local agencies. Their objectives are to identify incentives for local governments, use the *Ramona* survey tool, collaborate with NC OneMap for data distribution, and collaborate with NC OneMap to establish a central server at NC Department of Transportation or the Center for Geographic Information and Analysis. Mr. Benton wished this effort well.

State Government GIS Users Committee (SGUC). Dianne Enright reported that the SGUC met in April and heard presentations on the *Ramona* inventory tool and from Pictometry, a company specializing in oblique imagery. She asked members to pay their discounted ESRI training costs to the Office of Information Technology Services for training sessions attended. Ms. Enright will review the training program with ESRI and OITS. The Enterprise Agreement is for 5 years.

Dr. Mandell asked if the future of the ESRI Enterprise License Agreement contract is at risk. He heard a department CIO question the need for this agreement because the state has another

agreement with SAS that might also include a geospatial component in that software. Mr. John Correllus said the Department of Commerce is doing a project involving SAS and ESRI, and they are working closely together. It appears that the SAS contract does not conflict with the ESRI contract. Ms. Laughton wanted to clarify that local government employees can not attend ESRI training at the Office of Information Technology Services in Raleigh, but can attend training at the Charlotte ESRI office, or put together an on-site training session still at a discounted price under the state's enterprise agreement.

Mr. Dan Madding said that although the ESRI software is free to state government agency users, each agency has to pay for any training services it uses.

Local Government Committee (LGC). Kelly Laughton said Steve Morris from NC State University Libraries presented to their group about the on-going Library of Congress grant to NCSU and CGIA on the collection and preservation of at-risk digital geospatial data. The LGC was glad to review and comment on the GPS standard, and participate in the Ramona data inventory.

She mentioned the continuing burden of data requests counties received from multiple state agencies, and that the LGC will present the Council with a formal action request in the August meeting. Mr. Benton asked what specific data was being requested from local governments. Ms. Laughton replied it was the parcel data because it can not be downloaded from the web in many counties. Mr. Madding said he used to request parcels from counties and asked if they could put it on their FTP site, however some counties do not want data redistributed. He suggested that the Working Group for Road and Transportation could be the single collection point and then redistribute from there to state agencies. Audience member Alex Rickard, from Eastern Carolina Council of Governments, offered that a COG could also serve a collection function. His COG is working to get authorization from all represented counties to collect data every month. The COGs might be a good option for data collection.

***Federal Interagency Committee (FIC*).** Jerry Ryan said the FIC had not met, but the next meeting will be July.

GIS Technical Advisory Committee (GIS TAC). Susan Johnson said there were no major projects underway, but she would poll chairs of the user committees to discuss the adoption of a national grid. That is a potential work topic for the GIS TAC.

Management and Operations Committee (M&O). Tim Johnson said the committee will meet to discuss the communications plan for the dissemination of the access guidelines for geospatial data.

<u>Presentation: Landslide Mapping in North Carolina.</u>

Mr. Tyler Clark, the Chief Geologist and Geological Survey Manager for the NC Geological Survey, spoke about the landslide mapping effort in the mountains. This new program is combining various products, such as LIDAR elevation data and orthophotography, to create images that can be used to identify old landslides and large or small initiation zones. The legislative funding for the project resulted from damage produced by Hurricanes Frances and Ivan in September 2004 that hit the western area with heavy rains. He mentioned that landslide debris flows commonly end up in a fan at the bottom of the slope. Mr. Clark reviewed the history

of major western hurricanes. There have been 9 major events from1876 to 2004 that produced landslides; however, there were double hurricanes in 1916, 1940, and 2004.

The threshold rain event for landslides appears to be 5-inches of rain within a 24-hour period. Rainfall is not the same at all elevations, and is more at the higher elevations. In 2004 during Frances and Ivan there were 15+ inches of rain that helped to produce 130 slope movements resulting in 5 fatalities; 27 homes were destroyed. He said the Peeks Creek area of interest shows that this latest landslide was the fourth debris flow in that same area.

The Division did not employ a landslide specialist prior to this event. The Landslide Mapping project is targeted to the 19 westernmost counties, with Macon County as the first to be completed. Individual county landslide maps are being prepared to show low-, moderate-, and high-risk landslide areas. These maps will be available to local and state government. Some counties will use the maps to develop rules relating to permits for building on slopes. He said public outreach is essential to local and civic organizations, county planners for zoning issues, and to partner with stakeholders.

Buncombe and Watauga counties will be available next year because they will have LIDAR and post-hurricane orthophotography available. The landslide group has identified "red flag maps" of areas that need site studies.

The NC Geological Survey is building a Stability Index Mapping database of slope movements, and slope movement deposits, along with other attributes. Besides LIDAR elevation data they are using digital soil data and geology mapping. Mr. Clark said that LIDAR is powerful for geologists to identify old landslide deposits, and, unfortunately they have seen new communities developed on these deposits. He cautioned that you do not need a hurricane for a landslide, just a big, slow-moving storm that produces a lot of rain.

He said the lessons learned about possible landslide risk include slopes greater than 30%, 5-inches of rain in 24 hours, or back-to-back storms, antecedent moisture, orographic lifting, forest fires and changes in soils.

Other Business

NC Wireless E-911 Board. Mr. Richard Taylor said that the Request for Information to solicit a statewide 911 plan to share GIS across the state has produced the information needed so that a Request for Proposal will be developed at the next meeting of the E-911 Board.

Interagency Leadership Team GIS Initiative. Mr. Benton said that the Interagency Leadership Team is composed of senior executives from cabinet departments and federal agencies to address transportation, economic development and environmental issues. Members from the Department of Transportation, Department of Environment and Natural Resources, Department of Commerce, Department of Cultural Resources, NC Wildlife Resources Commission, US Army Corps of Engineers, Federal Highway Administration, US Fish and Wildlife Service, National Marine Fisheries Service and the Environmental Protection Agency met to review the areas of common mission. The priority is an enhanced GIS based on the respective positions from each agency. A listing of the necessary data layers and their costs is in the handout, "Interagency Leadership Team: Enhancing and Managing a Shared Database, Summary Report," as well as

details on the cost-benefits and strong return on investment that the enhanced data sets will provide to each department. Mr. Benton said the report is being shared with others as they seek funding opportunities.

Dr. Mandell asked if the Council should take action. Mr. Benton said he will be presenting to the Board of Transportation in a few weeks, and other relevant people.

Action #4: The Council endorsed the recommendations for funding contained in the "Interagency Leadership Team: Enhancing and Managing a Shared GIS Database."

Office of State Budget and Management (OSBM) Infrastructure Study. Dr. Lee Mandell discussed the OSBM Management Study: "Collection, Managing, and Providing Infrastructure Data" that was prepared as directed by Session Law 2005-276. Dr. Mandell said the study defined what the term infrastructure included, the best methods for collecting, managing and providing access to this information, and how data about infrastructure helps communities become economically viable. The report noted that NC OneMap was ideal for disseminating North Carolina's infrastructure data through geospatial datasets, and CGIA was named as the lead agency for coordinating the collection and management of infrastructure datasets. This report was presented to the Legislature on the opening day of the short session.

Ms. Sarah Wray said the Department of Homeland Security through its National Infrastructure Protection Plan already defines infrastructure and a framework for integrating infrastructure information. The Department of Crime Control and Public Safety is required to carry that plan forward. Data dissemination is part of the plan.

Action #5: The Council endorsed the recommendations contained in the Office of State Budget and Management Study: "Collection, Managing, and Providing Infrastructure Data."

Floodplain Mapping Program. Ms. Sarah Wray reported the last two western counties, Madison and Ashe, have been flown for 6-inch true-color aerial imagery, resulting in huge data sets. In Phase III, LIDAR for Graham and Swain counties is waiting on third-party quality control results. LIDAR for the state will be complete when Buncombe and Polk counties are finished in the month of June. Ms. Wray showed a status map of the digital flood insurance rate maps (DFIRMs) that are in various stages of production and delivery, or already in the public domain. The Federal Emergency Management Agency (FEMA) has provided money to complete the mapping for the Watauga and Chowan river basins. Funding is pending from FEMA for the New River basin and the northern counties of the Yadkin Basin.

ADJOURNMENT

There being no other business, the meeting was adjourned. The next meeting will be August 16, 2006 from 1:00-3:00 pm at the Department of Public Instruction Board Room, Room 755, 301 N. Wilmington Street, Raleigh.

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.