North Carolina
Geographic Information Coordinating Council

Minutes
November 9, 2011

PRESENT

Chair, Dr. Lee Mandell. Members: Bob Brinson (Vice Chair), James Caldwell, Bob Coats (for Sarah Porper), Hugh Devine, John Dorman (for Reuben Young), Ryan Draughn, Dianne Enright, John Farley, Jerry Fralick, John Gillis, Derek Graham, Bliss Kite, Chris Koltyk, Dan Madding, Elaine Marshall, Anne Payne, Drew Pilant (for Linda Rimer), Jeremy Poss, Alex Rankin, Hunter Robinson, Allan Sandoval, Colleen Sharpe, Mary Penny Thompson, Rebecca Troutman, Bill Wilkes (for David Hoyle), Saundra Williams and 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 Dr. Lee Mandell called the meeting to order. Dr. Mandell noted that the meeting will be recorded to facilitate the preparation of the minutes and asked that everyone speak into the microphones.

The minutes of the August 10, 2011 meeting were approved with no changes.

Dr. Mandell welcomed one new member. Hunter Robinson, Chief Information Officer for the NC Office of the State Auditor, was appointed by the Governor as representative of an at-large state agency. Dr. Mandell announced that he had reappointed Bob Brinson as Vice Chair.

Dr. Mandell reported that Wake County and the City of Raleigh won Urban and Regional Information Systems' (URISA) Exemplary Systems in Government, Distinguished System Award in the Enterprise Systems Category at the 2011 URISA conference for "iMAPS: Using Collaboration and Technology to Color Outside the Organization Lines." Dr. Mandell congratulated GICC members Anne Payne and Colleen Sharpe and expressed his pleasure at a North Carolina organization receiving national recognition.

Tim Johnson recognized Steve Strader, the US Geological Survey Liaison to North Carolina. Mr. Strader will be retiring at the end of December. Mr. Strader has made a tremendous difference in North Carolina through his active support of GICC initiatives and NC OneMap. He was instrumental in securing orthoimagery cost share funds for 63 counties since 2005 with a total value of over $1.2M. His support extends beyond the orthoimagery work and into the area of hydrography and North Carolina's efforts to lead the implementation of a high resolution stream mapping effort in support of the National Hydrography Dataset. Mr. Strader has also supported numerous successful grant proposals to the Federal Geographic Data Committee to support coordination activities in North

Carolina. Just this week, he assisted in acquiring $175,000 to continue the National Hydrography Dataset work. Mr. Johnson said that Mr. Strader truly defines the meaning of a partner, both personally and as a representative of USGS. Mr. Strader listens, understands and, most importantly, acts, working quietly and effectively, recognizing that the goals of the GICC and NC OneMap are important to the nation.

Dr. Mandell and Mr. Johnson presented Mr. Strader with a plaque that reads "This is presented to Steve Strader in recognition of his distinguished and devoted service to North Carolina's GIS community and the goals of NC OneMap by the Geographic Information Coordinating Council on November 9, 2011." Council members gave Mr. Strader a round of applause.

Mr. Strader said that is has been a pleasure and an honor to work with the Council and its committees and working groups for almost eight years. He acknowledged that not every goal has been reached but said the Council has made great progress in its goal to build an effective National Spatial Data Infrastructure to support North Carolina. He thanked the members for their help, friendship and guidance and looks forward to seeing everyone at the 2013 NC GIS conference.

Dr. Mandell informed the members of a change in the GICC meeting dates for 2012. Because GIS Day 2012 falls on November 14, the GICC meeting will be moved to Thursday, November 15.

Status and Discussion of Priorities Before the Council

Priority #1: Adoption of NC OneMap Governance Committee Bylaws

Dr. Mandell reminded the members that the GICC approved the creation of the NC OneMap Governance Committee. Draft bylaws for the committee were distributed to the members before the meeting. Dr. Mandell asked if the members had any comments.

DECISION #1 A motion was made and approved to adopt the NC OneMap Governance Committee bylaws.

Priority #2: Adoption of Amended GICC Bylaws

Dr. Mandell said that GICC bylaws need to be amended to acknowledge the existence of the NC OneMap Governance Committee. In addition, a section was added that defines NC OneMap in the context of the GICC bylaws. Draft GICC bylaws were distributed to the members before the meeting. Dr. Mandell asked if the members had any comments.

DECISION #2 A motion was made and approved to adopt the amended NC GICC bylaws.

Priority #3: GICC Annual Report

The 2012 GICC Annual report was distributed to the members prior to the meeting. Dr. Mandell said that he continues to be impressed with the amount of work that the Council is able to accomplish, particularly in light of diminishing financial resources. He said that the Council will again seek funding from the General Assembly but in the meantime the GIS community and staff continue to make progress with available resources. Dr. Mandell expressed his optimism that the Council will be able to accomplish a great deal in 2012, especially in terms of revitalization of

NC OneMap. Over the next two Council meetings he expects to see tangible expressions of changes in NC OneMap.

Dr. Mandell reported that on November 17 he and Mr. Johnson will meet with Representative Tillis, the Speaker of the House, and possibly several other representatives from the IT Oversight Committee. They will present this report and seek funding or at least recognition that NC OneMap is worthy of funding down the road, if not the in short session then in the 2013 long session. He opined that there is very good evidence that the Council is making a difference and needs funding to continue doing so.

Secretary Marshall asked which appropriations committee has authority in this area. Dr. Mandell replied the House Appropriations Subcommittee on General Government.

Priority #4: NC OneMap Implementation
(see NC OneMap implementation file at GICC website - http://ncgicc.net/Meetings/tabid/138/Default.aspx)

David Giordano, NC OneMap Database Administrator, reported that data updates to NC OneMap included NC DOT road information, Natural Heritage Element Occurrences, Significant Natural Heritage Areas, and Conservation Tax Credit Properties. Additions to the NC OneMap holdings are Boating Access Areas from the Wildlife Resources Commission; the 2010 NC Statewide Orthophotography Index, at the request of many users; and the USGS GeoPDF Topo maps. He noted that the GeoPDF files have geographic capabilities that enable users to turn layers on and off.

On the technical side, Mr. Giordano reported that the 2010 orthoimagery is complete. Final updates resulting from the local government review and edits are now available both as an image services and for download. Staff also completed a Geospatial Portal upgrade.

Work in progress includes consolidating existing map services. Vector datasets are being grouped into logical categories, such as environment, education, health, etc. This effort is about 90 percent complete. The team is also migrating historical imagery to the Geospatial Portal and adding the data as image services. This effort is about 85 percent complete.

The team is building a conceptual iteration of the new NC OneMap viewer and plans to demonstrate the first iteration at the November 22 TAC meeting.

After the first of the year, the team will integrate the NC OneMap checker service into the Geospatial Portal.

Dr. Mandell reminded the members that staff are taking an agile development approach, which means a prototype will be available for review and assessment. The final product will emerge after a number of iterations. Dr. Mandell asked if a version, one reflecting several iterations, will be available for demonstration at the February Council meeting. Mr. Giordano said yes. Dr. Mandell thanked Mr. Giordano and Brett Spivey, NC OneMap Applications Programmer.

National States Geographic Information Council Annual Meeting Report

Mr. Johnson attended the National States Geographic Information Council (NSGIC) annual meeting in Boise, Idaho in September. He explained that NSGIC is the organization of state GIS directors. NSGIC has been existence for about 20 years and North Carolina and CGIA were among the charter members. NSGIC provides a forum for states to influence GIS coordination activities at the federal level. Thirty-three states were represented at the September meeting, slightly smaller than usual probably due to budget issues. There were more than 200 attendees, about two-thirds from state and local government.

He mentioned several themes at the meeting that reflect concerns or issues at a national level, most of which resonate in North Carolina. Next Generation 911 received significant attention at the meeting, particularly in regard to how the GIS community can be a part of Next Generation 911 through building and sharing data. He noted that in a number of states, the 911 Board Executive Director is not a member on the state's coordinating body or council. North Carolina is one of the few. Dr. Mandell reminded the members that one of the legislative goals is to have the NC 911 Board Executive Director designated as a permanent member of the GICC.

Mr. Johnson said that geospatial data – orthoimagery, street centerlines, addresses, parcels and more – will be a critical component of Next Generation 911.

There was an important presentation by the Census Bureau describing their plans between now and the 2020 census including keeping addresses updated on an annual basis. This will involve collaboration with state and local agencies. Pilot projects will support this effort but funding arrangements are not defined. The goal is not to wait until the end of the decade to update the address database.

The meeting included a report on the National Enhanced Elevation Assessment, which Mr. Strader led in North Carolina. This involves the development of requirements for developing a national level elevation dataset.

Finally, there was discussion on various data themes than Mr. Johnson describes as "fill-in-the-blank for the Nation." The first is Imagery for the Nation. He reported that about a dozen states are involved in acquiring statewide imagery. A resolution of 6" pixels, which is the resolution of the 2010 NC orthoimagery, is becoming more common, reflecting the recognition of the need for higher resolution imagery. An effort is underway to develop a national contract for imagery. Whether this approach will work for North Carolina will require study. State and local agencies would have to give up some things to participate.

Addresses for the Nation was another topic, reflecting the need for the Census Bureau, Next Generation 911 and others to have better address data. Mr. Johnson noted that Title 13 will be an issue in data sharing. Title 13 is the national law that guarantees the confidentiality of census information and restricts the release of certain data.

The final data theme is Transportation for the Nation. The US Department of Transportation has prepared a strategic plan that calls for a street centerline dataset for the nation. No business plan is in place as yet. Mr. Johnson will acquire a copy of the strategic plan and share it with the Council.

ACTION #1 Acquire and share with Council members the "Transportation for the Nation" strategic plan for developing a nationwide street centerline dataset.

Mr. Johnson reported on a NSGIC initiative to prepare a Geospatial Maturity Assessment. This project will assess the extent and value of geospatial assets and capabilities within each state. CGIA completed the NSGIC survey for North Carolina with support from Council members. The results will allow comparisons between states and document innovative initiatives across the country. In a sense, it will provide a scorecard for North Carolina to see how well it stacks up against other states. A summary will be released soon, which Mr. Johnson will share with Council members.

ACTION #2 Acquire and share with Council members the results of the NSGIC Geospatial Maturity Assessment.

Dr. Mandell asked if other states are looking at acquiring imagery at greater than 6" resolution. Mr. Johnson replied that it varies state by state. In some cases local governments have "buy-up" options to acquire higher resolution imagery. For the Imagery for the Nation program, there may be "buy-up" options to 3" pixels. Dr. Mandell asked how this affected storage requirements. Mr. Johnson said it would have a significant impact. Dr. Mandell said that many organizations would like higher resolution for one purpose or another but there are hidden costs. Mr. Johnson noted that the 2010 orthoimagery involved 18 terabytes of data although not all of that is stored online.

Presentation: "Responding to Hurricane Irene"
(see PPT files at GICC website - http://ncgicc.net/Meetings/tabid/138/Default.aspx)

Dr. Mandell said that Hurricane Irene provided a challenge and an opportunity for North Carolina agencies and officials to cooperate to respond in an effective and efficient manner to a natural disaster. There were lessons learned from the response to Hurricane Irene that will allow jurisdictions to cooperate in an even more effective manner in the future.

Dr. Mandell introduced Jeff Brown, CGIA Coordination Program Manager, to moderate the presentation.

Mr. Brown said that investments in geospatial technology, tools and techniques generate benefits for public and private users. One of the strengths in North Carolina's public sector is being prepared to respond to natural hazards. Today's presentation will feature representatives from local, state and federal agencies that applied GIS and data to save time, money and even lives. He introduced Alice Wilson, GIS Coordinator for the City of New Bern in Craven County.

City of New Bern

Ms. Wilson reported that in preparation for the hurricane's landfall, the town secured all servers and data at a Craven County building located outside of New Bern, which was fortunate because the building in which the City IT department offices are located was flooded and had its windows blown out. The City also had to scramble to acquire temporary Esri licenses/ key codes and set up GIS stations in the county Emergency Operations Center.

Almost one-third of New Bern was flooded so the staff printed numerous maps to support response efforts. The team downloaded data from numerous sources. Ms. Wilson commented that Irene was her 4th hurricane in her tenure at the City of New Bern and noted that more and more data are available from various sources, including NOAA, NC OneMap and Esri.

On Sunday morning, the day after the hurricane passed through, damage assessment and response began. Eight assessment teams of building assessors, planners and fire personnel made a tour of the city to assess the damage. Fourteen structures were completely destroyed. Ms. Wilson showed pictures of storm damage and flooded areas.

The first step was to map the structural damage. She showed a map of damaged structures. The initial assessment identified almost 500 structures that were damaged, 322 with minor damage, 158 with major damage and 14 totally destroyed. More were identified later. Using the maps, the City dispatched crews to provide assistance.

The storm brought 15 inches of rain and the storm surge flooded more than one-third of the city. She displayed a map that showed the previously mapped flood hazard area. She reported that with the exception of two structures, every building that was flooded was within the flood hazard area.

The next step was to assess the cost of the damage so that the City could initiate requests to FEMA for assistance. Building and property assessments from the GIS property dataset were combined with the map of the damaged structures to generate an initial estimate of storm damage – more than $12M. Two structures suffered damage estimated at more than $1M each.

GIS played an important role in supporting response. Wind and falling trees took down thousands of power lines. Ninety percent of the power company customers were without power immediately after the storm. GIS was used to organize and route utility crews, many from around the country who were unfamiliar with the streets. The effort focused initially on the most populous areas, which were delineated on the maps. Crews used Service Maps that were created prior to the storm as well as damage assessment maps generated after the storm. Power was restored to most customers within 2-3 days although it took eight days to get all customers back online. GIS was also used to route crews - more than 100 people from ten different companies - to clear debris from right-of-ways.

Another post-hurricane effort involved the use of real time kinematic GPS satellite navigation to map the extent of the flooding. The data will be valuable in helping neighborhoods prepare for future storm surge events.

In summary, Ms. Wilson emphasized the value of increasingly available GIS data for preparation and response to hurricanes.

Dare County

Jeff Brown reported on behalf of Greg Ball, Dare County GIS Coordinator, who was unable to attend. Mr. Ball's motto is "Know Before You Go." Evacuation preparation and assignment of road clearance responsibility are two critical pre-hurricane tasks. Dare County maintains up-to-date maps for use at a moment's notice.

Dare County's GIS office maintains a map book of residents with special needs during a hurricane evacuation. A sample of the map book from Kill Devil Hills shows the home locations of residents, anonymous for this presentation, although the maps show the actual names for local authorities. Colored symbols indicate whether the person is expected to evacuate, go to a family member's residence, or stay. The maps enable Emergency Medical Services to assist residents in evacuating in a timely way. These maps are consulted throughout the evacuation process and Mr. Ball notes that paper maps are still invaluable for emergency responders in the field.

When a hurricane is imminent, the Dare County GIS Office prints maps that display all roads color coded to show State maintained roads, locally maintained public and private roads. Storm recovery, including clearing debris from roads, is more efficient when it is clear which roads need attention and where they are. And the maps clarify responsibility for road clearance and for reimbursement by FEMA. Funds from FEMA go directly to Dare County for locally maintained and private roads.

US Geological Survey

Silvia Terziotti, USGS Raleigh, reported on the USGS Water Science Center role in response to Hurricane Irene in North Carolina.

As part of the Water Science Center's mission, staff collect hydrologic information that details flooding events, including high-flow discharge measurements, flood stage data, high water marks, and storm-tide data. Once Irene was predicted to come ashore in North Carolina, personnel from various states were mobilized to install storm surge sensors in advance of the storm and then to collect post-storm data. Twenty-four two-person crews installed sensors during the two days before landfall. A GPS location is recorded for each sensor and photos are collected to provide a pre-storm reference. Forty-three sensors were installed; one was lost in the storm.

Ms. Terziotti noted that even though GPS was used to locate the sensors, the accuracy was not perfect and the 2010 imagery was invaluable in locating the sensors after the storm passed.

The resulting data were entered into the USGS Storm Tide Mapper web interface. She displayed a map of New Bern, which suffered significant damage. Two sensors and a stream gauge were able to provide excellent data, including barometric pressure and water level information.

Following the storm, staff collected 128 high water marks. USGS received support from the NC Floodplain Mapping Program, which provided a grid map of potential damage to structures. The map was used to target the collection of high water marks. The data were provided to USGS personnel in three different ways – on Google Maps, on Google Earth and on hard copy maps in the event that cell phone and internet service were not available.

The data, including stream gauge, storm surge and high water marks, are all loaded to the USGS Hurricane Irene viewer at http://wim.usgs.gov/stormtidemapper/stormtidemapper.html#. Raw data files, charts and photos can be downloaded from the site.

USGS also compared the actual high water marks to a modeled inundation surface. The results showed a good correlation between the model and the results from the field collection.

John Farley asked how soon after the storm the data were published and if the data were published as web services. Ms. Terziotti said that the data were on the web site within about 48 hours. There has been discussion about publishing the data as web services but she does not believe it happened.

NC Department of Transportation

John Farley said that response to Hurricane Irene actually began with a tornado that occurred in the Raleigh area a couple of months before. Technology used in that event was applied to hurricane response, specifically sharing of imagery. NC DOT was able to acquire post-hurricane imagery and, working with CGIA, to provide the imagery as an image service for users in North Carolina and the rest of the world.

Mr. Farley demonstrated imagery for the washed-out bridge at Rodanthe, flown immediately after the hurricane, and imagery for the same area from September 8 and 28. He noted that these images represent limited samples as DOT acquired imagery on many other dates. Imagery was collected almost daily for what DOT referred to as "hot spots," Rodanthe, Pea Island and Hatteras. DOT was able to publish the imagery to its Spatial Data Viewer for use by DOT staff within 24 hours after the plane landed.

DOT had to move quickly to repair Highway 12 and to construct a bridge over the breach at Rodanthe. As the bridge was being constructed, temporary ferry service was provided. It was necessary to build an operational picture both in the field and in Raleigh to organize and deploy resources. He emphasized the value of sharing pictures rather than textual descriptions of the situation on the ground. In addition to the aerial imagery, DOT staff submitted still camera pictures, some from smart phones, which were distributed through DOT's Spatial Data Viewer. Management expanded on these efforts by including maps of equipment and staging locations to maximize response.

DOT also utilizes a Traffic Information Management System (TIMS). Any event that impacts traffic infrastructure is entered into TIMS, which is used to track and map the status of the situation. In this way, the operational picture for all DOT traffic issues, not simply emergency events, are available to management and staff at any time of day.

Center for Geographic Information and Analysis

David Giordano said that he would be displaying some of the same images of Highway 12 that Mr. Farley showed. Mr. Farley noted that this is a good thing. The source is the same and that is the goal – for everyone to share the same data and to avoid duplication of data acquisition.

Mr. Giordano said that initial DOT flights were on August 28 and 29 with subsequent high-resolution flights for hot-spots over the course of September. NC OneMap staff responded promptly to create the image service and an application to view the imagery through the Geospatial Portal by searching on keyword "Irene." The application supports viewing before and after in time-lapse fashion. Users can go directly to the Irene viewer (data.nconemap.com/geoportal/hurricane_irene/index.html) or go the Geospatial Portal and search on Irene.

Mr. Giordano then demonstrated images of Rodanthe from the 2010 imagery and then the new inlet that was opened by Hurricane Irene from DOT's post-hurricane imagery. He also demonstrated images showing the new DOT bridge under construction. He demonstrated the use of time-lapse, before and after images to assess damages, including several houses that disappeared and piers that were damaged. He reported that imagery from September 30 and October 14 were recently added to the image service and the Irene viewer.

Mr. Giordano showed statistics on the Geospatial Portal server hits. There was an increase from 553,000 pre-Irene hits per week to 768,000 post-Irene hits per week, up about 38 percent.

Unrelated to Hurricane Irene, he reported on general usage of the Geospatial Portal image service by Buncombe, Cherokee and Davie counties, the City of Asheville and the State Historic Preservation Office. DOT is using the image service to support 500 internal users through its Spatial Data Viewer. A number of private sector firms are also utilizing the Geospatial Portal's image service, including Progress Energy, which supports over 300 users through its intranet.

NC Department of Agriculture & Consumer Services (NC DA&CS)

Dan Madding said that NC DA&CS used GIS to do pre-storm analysis using a wide variety of datasets. He expressed his appreciation to NOAA for providing a program called HURREVAC (hurricane evacuation), a computer program that enables government emergency managers to track hurricanes and assist in decision-making for their communities. DA&CS uses a database that tracks crop producers, food firms, and meat and poultry facilities to conduct an analysis of how many facilities are projected to be affected by the hurricane. He demonstrated final landfall analysis maps showing food producers that were affected by power outages and by hurricane force (75 mph) winds.

The NC Forest Service, recently moved to DA&CS, conducted helicopter aerial assessment for forest damage. Two crews flew the area over two days using Digital Aerial Sketchmappers (US Forest Service).
A modeled damage surface for the survey area was created using Inverse Distance Weighting. Acreages for each damage class were calculated for the counties in the survey area and then compared to forest inventory and current timber market values to estimate the value of the damaged timber. Over 270,000 acres of forest land are estimated to have been damaged by Hurricane Irene.

DA&CS, through a contractual arrangement, uses GIS to support the Office of Emergency Medical Services to generate a report on the number of medical facilities affected by hurricane force winds.

Mr. Madding said that the Speaker Tillis and other legislators used a Forest Service helicopter to conduct a visual assessment of the damaged areas. Mr. Madding generated a navigation map based on wind data and damage report data to direct this flight.

DA&CS also used crop statistics data to generate maps, by county, of crops still in the field when the hurricane struck.

DA&CS manages a multi-hazard threat database. Information from this database was combined with maps of damage areas, storm surge areas and areas affected by power outages hurricane force winds to identify food firms and facilities that will need to be inspected after the hurricane.

NC Division of Emergency Management (NCEM)

John Dorman said that NCEM is involved in pre-storm planning as well as response and recovery. NCEM manages the Web EOC application, which is the software application for the crisis information management system, which includes a web application. Mr. Dorman said he would not demonstrate the Web EOC but rather focus on one application that has been built on a lot of the data that has been collected. Once hurricane land fall was predicted and a storm surge was likely, NCEM sought to identify which properties would be flooded, not on the ground but in the livable space.

As he has reported previously to the GICC, NCEM had mapped 5.2M building footprints across the state. Information about the buildings includes first floor elevation, foundation type and roof type for the buildings over 8,000 square feet in all 20 coastal counties. NOAA provided projected storm surge models. Unfortunately, the elevation does not reflect that actual location on the ground. The LiDAR data is necessary to correct the elevation.

NCEM used LiDAR data, roads and other framework data, the building locations and their associated attributes, and the NOAA storm surge model data to predict water depth by county and by property. NCEM can then determine whether a landowner will need to be evacuated.

Mr. Dorman thanked USGS for collecting high water marks and was happy to report that the projected high water marks were within about a half foot of the actual high water marks. He demonstrated a map that shows, by county, those structures flooded by three feet or more. In Hyde County, 2,835 structures were flooded by three feet or more demonstrating that Hurricane Irene was truly a surge event. Emergency personnel were able to use the maps that showed projected flooding of structures to plan evacuation and to inform their response. This was just one of the important applications that utilized GIS.

Other data were also important. Maps of the extent of the hurricane were overlaid on data from other state agencies, such as dams, hospitals and gas stations to calculate the total number of these facilities within the hurricane's wind swath.

Dr. Mandell thanked and commended the presenters and congratulated Mr. Giordano and Mr. Spivey for their quick response in providing the post-hurricane imagery through NC OneMap. He noted that he was able to display the viewer at the NC Digital Government Summit. Speaker Tillis, who was seated next to him, was impressed. Later Dr. Mandell tested the "swipe" feature to move between the 2010 imagery and the post-hurricane imagery. He reported being impressed with the digital registration. Features from the two versions of imagery were dead-on. He also commended coordination by state agencies in terms of avoiding duplication of flights.

Secretary Marshall described the presentation as "awesome." She noted that oftentimes information of this type is not well communicated to the General Assembly. She said that the presentation included a number of "Wow" factors. If the content could be reduced to a 10-minute presentation that could be shown to General Assembly members and staff, Secretary Marshall

feels that it could be a very effective communications tool for decision-makers and budget-writers.

Mr. Farley and other GICC members offered assistance in editing the presentation. Dr. Mandell repeated that he and Mr. Johnson will meet with Speaker Tillis on November 17 and will refer to the Hurricane Irene activities in that discussion. Ms. Troutman suggested that the Senate Select Committee on Emergency Response would be another receptive audience. Mr. Farley said that a shorter presentation could be shopped around to a number of places. Alex Rankin agreed. He said that the legislators obviously need to receive this information but it is also valuable to the public, which could generate support for the Council's initiatives if they are aware of the impact of GIS on hurricane preparation and response. The presentation would be of interest to the surveying and engineering community. Members need professional development hours as part of continuing education and a variation of this presentation would qualify. This community would benefit from the information and a presentation to this group would help generate support from the surveying and engineering community. Public support is important and information about how GIS is used in emergency response can help generate public support.

Secretary Marshall suggested the State Fair and the Dixie Classic Fair in Winston-Salem as other possible venues. She said that it is important for the public and land owners to know of the State's efforts in response to natural disasters and critical weather events.

Hunter Robinson asked if there is a process by which the GICC or state agencies do a "lessons learned" survey to the public after an event like Hurricane Irene. Mr. Farley said that DOT gets feedback through its website but he does not believe it is published external to the agency. Mr. Robinson said that the real support model can come from the public. He suggested a survey to identify gaps in information that affected the public. Mr. Rankin suggested something as simple as a Survey Monkey tool asking for response from those affected by Hurricane Irene. Mr. Robinson said this is exactly what he is talking about, saying the results can provide valuable information that can sway a legislator on the value of something because tax payers are the real recipients of the value.

Dr. Mandell reminded the members that for many years the primary audience of NC OneMap has been the GIS professional community. One of the goals of the NC OneMap revitalization effort is to make it more user friendly for the general public. He thanked Mr. Robinson and Mr. Rankin for their valuable suggestions. He suggested that a new NC OneMap platform with content that is useful to the public will be a big step forward. It is not available yet but work continues. Since the General Assembly does not meet again until May, there is time to develop a more integrated platform that provides a one-stop source of information for the public.

ACTION #3 Edit and shorten the "Responding to Hurricane Irene" presentation for possible presentations to General Assembly committees, members and staff. Explore opportunities for giving the presentation to other groups.

Update Statewide Orthophotography Project
(see file at GICC website - http://ncgicc.net/Meetings/tabid/138/Default.aspx)

Mr. Johnson reported that the final report for the 2010 project is complete. The report is quite long and not included in the members' packet but, as noted in the agenda, the report can be found on the NC OneMap web site or here:
http://www.nconemap.com/Portals/7/documents/StatewideOrthoimagery2010_Final%20Report.pdf

The report goes into significant detail about the 2010 statewide project. Each member of the team contributed to the writing of the report so procedures can be improved in future projects.

Looking ahead, to the 2012-15 time frame, the NC 911 Board has agreed to fund the first phase of the four-year plan. The 911 Board will consider subsequent phases on an annual basis. Mr. Johnson displayed a map of the four-year plan and highlighted the 25 coastal counties that will be flown in early 2012. The goal will be to get approval for the 2013 acquisition in the spring of 2012 and follow that pattern in succeeding years. In this way, the project team will know 9-10 months in advance and can avoid the rushed planning that complicated preparation for the 2010 statewide project.

The 2012 project will cover 25 counties, approximately 13,000 square miles and over 14,000 tiles. The project will use the same standards and will include four levels of quality review, beginning with the contractors and ending with final review by the State.

The project team starts with the NC 911 Board. The DOT Photogrammetry Unit will provide advice on all photogrammetric work. NC Geodetic Survey will manage horizontal control, as it did in 2010. The Secretary of State's Office provides the standard for acquisition and creation of orthoimagery. CGIA will manage the project. Finally, a number of private contractors, who will handle the acquisition and processing, will be named at a later date.

Mr. Johnson reported that the project kicked off in early September with an informational meeting for interested contractors. Several days later the Request for Qualifications (RFQ) was released. The project will follow a Qualifications-Based Selection (QBS) selection process to select qualified contractors. Proposals were submitted on October 12 and the project team is currently reviewing ten very strong proposals. Evaluation will be completed soon.

The coastal plain will be divided into 3-5 subareas, which will be assigned to various contractors. The project team will do groundwork with the military bases located in the coastal plain in December. Negotiations of the contracts will occur as soon as the contractors are selected and flights will begin after the first of the year.

Rebecca Troutman asked about the composition of the project's oversight team and whether local governments will be represented on the team. She noted that the 2010 grant was made to Durham County so there was significant local government involvement in the overall project planning. Orthoimagery is important to local governments for tax mapping.

Mr. Johnson said that he neglected to mention the Working Group for Orthophoto Planning (WGOP), a subcommittee of the SMAC. The WGOP has local government representation, including LGC representative Jerry Simmons from Pender County, which is in the coastal plain.

Ms. Troutman asked if anyone from the tax community is involved. Since they are primary users of the orthoimagery, she wondered if they could provide an important perspective. Mr. Johnson said that he and Jeff Brown will be presenting at the NC Association of Assessing Officers Conference in New Bern on November 10 and will have an opportunity to get their participation. Ms. Troutman suggested that he ask for volunteers. Dr. Mandell said that the team is still identifying critical stakeholders and this will be a continuing effort.

ACTION #4 Staff to seek participation on the WGOP from the Association of Assessing Officers as planning continues for 2012 orthoimagery acquisition.

Committee Reports

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

Management and Operations Committee (M&O). Dr. Mandell reported that the M&O is tackling two items. One is that staff are working on improving participation in NC OneMap. One of the barriers for participation is the requirement for metadata. Improving the metadata creation and acquisition process is one goal.

A second item is the EPA grant to DENR to develop a translation tool to support the development of a statewide parcel database. Dr. Mandell brought the members up-to-date on the history and recent developments. The project is called INCLUDE for Integrated Cadastral Land Use Data Exchange for the State of North Carolina and the Eastern Band of Cherokee Indians. EPA awarded the grant to DENR. Other partners on the grant are the Secretary of State's Land Records Management Program, the NC Property Mappers Association and the SMAC's Working Group on Seamless Parcels (WGSP).

Success of the project is important because parcel data is a fundamental data layer and developing an integrated statewide dataset is a major goal of NC OneMap. Twenty-five counties signed on to participate in the development of the translation tool. EPA is providing $500,000 in funding and the WGSP and participating counties have already invested considerable energy into this project so it is important that the project does not fail.

Mr. Mandell reported that unfortunately there are problems. The grant was awarded to DENR in April 2009. A primary goal was to develop an open source GIS translation tool for integrating parcel data from the 25 counties. The plan was to use the funding to hire a private sector contractor to develop the data exchange software tool. The project was anticipated to be a proof-of-concept effort, which EPA would then apply nationally.

Finding a contractor proved difficult. The EPA approved contractor submitted a quote much higher than the grant amount. DENR was given permission to seek a contractor at a more reasonable cost. DENR was granted permission by EPA to pursue this.. As part of the in-kind match requirements of the grant, DENR planned to use a DENR staff person to manage and support the project. Unfortunately, that person's position was eliminated in June 2011 as part of the recent state budget cuts. DENR is looking for help from other agencies to manage the grant and help meet the in-kind match requirements to keep the project going.

CGIA was asked to consider accepting that responsibility. Mr. Johnson and CGIA staff reviewed the 170-page scope of work.. On August 17, CGIA declined to accept the role of managing the grant because of lack of open source software expertise and the lack of sufficient funding to successfully complete the grant – on time, on budget and with the desired software tool in place and maintainable. Dr. Mandell pointed out that the original scope of work listed 17 different open source software tools.

At the September M&O meeting, DOT agreed to consider accepting responsibility for the grant. However, DOT management concluded that it did not have sufficient funds and staff to successfully complete the grant and handle ongoing maintenance and expenses. DOT's internal estimate for completing the scope of work was $750,000 to $1M, or $250,000 to $500,000 more than the grant award. Mr. Farley confirmed this estimate.

At its October meeting, the M&O considered the option of seeking clarification from EPA on the requirement that the tool be developed using open source software. If the open source requirement was eliminated, it could reduce the cost of developing and implementing the tool and make the project goals more achievable.

The M&O is seeking DENR's opinion but has had difficulty reaching the appropriate person. Dr. Linda Rimer, the federal representative to the GICC and an EPA staff person, approached EPA contacts in Washington and at Region 4 in Atlanta. Dr. Rimer received preliminary information that EPA expressed a willingness to meet and discuss changes to the scope of work. Sarah Porper, GICC member representing the NC Office of State Budget and Management, suggested a meeting with the State CIO before reaching out to DENR again and before meeting with EPA to ensure that the M&O representatives knew exactly what issues to raise with EPA. Dr. Mandell, Mr. Johnson and Ms. Porper met with Jerry Fralick and George Bakolia. Mr. Fralick is attempting to get a copy of the contract from DENR. The scope of work is available but the contract is not. Reviewing the contract is necessary for the M&O to understand how much flexibility there may be within EPA to change the scope of work to place less emphasis on an open source solution and more on an Esri solution, which would meet the needs of most North Carolina counties.

Dr. Mandell said that the M&O is still waiting on a copy of the contract from DENR. The M&O strongly believes that the work is worth doing, an important goal for the State of North Carolina. The M&O also believes that the State should not take on a project that will fail and as configured right now, the project funds are not sufficient to successfully complete the project. Mr. Farley again pointed out that while the additional required funds was a major factor in DOT's decision, the lack of on-going maintenance funds in the grant was another factor in the decision. He said that DOT Secretary Conti has expressed his support for this effort and may still be able to contribute funds. Dr. Mandell asked if the money would be for development or maintenance purposes. Mr. Farley said development although he could ask for maintenance funds. DOT spends approximately $50,000 annually on parcels. There is a case for investing in a two-year effort to avoid spending that money annually. He believes there is a lot of support for the project across the community that can be brought together to make this a successful project.

Dr. Mandell said that the first hurdle is the development of the tool. Maintenance is not an issue until the tool is developed. He agreed that there are a number of agencies that have a financial interest in having an integrated statewide parcel data layer. Many of these agencies could save money and perhaps some of those savings can be used to support on-going operations and maintenance.

Dr. Mandell said that if EPA were to agree to allow the use of proprietary rather than open source software to develop the tool as long as the tool functions as proposed to support data exchange and the creation of a seamless database, then the project becomes more feasible. In that case, CGIA has agreed to take a second look to determine if it has the resources to manage the project.

Secretary Marshall asked if there are other pilot projects like this in the country. Ms. Payne said there are a couple of projects – one in Manitoba and one in Indiana - that propose to develop seamless parcels but they are very different in their approach and their methodology. She said that there are many differences but the main difference is that these other projects are looking to build on line work with few identifiers while the NC project seeks to include many more attributes, which complicates the effort. She added that these two projects involve the use of Esri software.

Secretary Marshall asked if we are waiting on EPA or DENR to get a copy of the contract. Dr. Mandell said DENR. Secretary Marshall asked if there is a timeline in which the opportunity to leverage this grant will expire. Dr. Mandell said yes but he did not know what it is. EPA has indicated that they want to get this grant off their books but have not said when. Secretary Marshall asked if there is a possibility of renegotiating the contract once we have the original contract in hand. Dr. Mandell said that based on preliminary indications from EPA through Dr. Rimer, the answer is yes.

Dr. Mandell said that the outcome may boil down to two questions. Is the use of open source software to build the translation tool, which might make it easier to transfer the project results to other states, an important goal of the project? Or is the use of open source software simply part of the scope of work to achieve the goals? If open source software is not a critical goal, then renegotiation seems possible. He said that the team is uncomfortable going to EPA without understanding exactly what is in the contract.

Mary Penny Thompson said that DENR lost its Special Projects Coordinator and was stripped of almost its entire GIS infrastructure in the latest budget cuts. She is uncertain to whom the request for the contract was made but said that the request had not been escalated to her. She said that she had only received the request today. She said that the conversation today seems to indicate that DENR has dropped the ball and she said this is not true from her perspective. She indicated that she has been responsive to everyone who has called about this project. DENR supports the project. It is not a lack of willingness or commitment on DENR's part but a lack of resources.

Dan Madding said that if EPA is the grantor and DENR the grantee, then who passed responsibility to the M&O to decide who will implement the contract. Ms. Thompson replied that DENR reached out to CGIA for assistance to find an agency willing to manage the project. Otherwise DENR will be forced to return the grant because it does not have the capacity to complete the scope of work. Ms. Thompson noted that DENR lost its in-kind match and felt that if another agency could bring resources to make it viable, the grant could be saved. So DENR reached out to the M&O to leverage additional resources. Mr. Madding asked if DENR was able to find another agency to take over the grant. Ms. Thompson said no. She said that she had lowered the priority on the grant once CGIA's letter recommended that no other agency assume responsibility for the grant. The letter addressed a number of circumstances – the scope of work not being fully funded, maintenance issues, lack of open source expertise and so forth – and concluded that the grant was probably not viable for any agency.

Dr. Mandell agreed that the grant is probably not viable if EPA insists on an open source solution. Mr. Johnson said the M&O began to explore the issue at Ms. Thompson's request because an integrated parcel data base is something of value to everyone and if there is a way to salvage the grant everyone will benefit. He said that at this point the M&O needs the contract and the criteria by which the contract was selected for an award. The criteria will help determine whether open source is critical to the award.

Mr. Farley said that North Carolina has been wrestling with this challenge for a long time – how to develop an automated process for exchanging parcel data from local government to state government and back. He acknowledged the work that Tom Morgan has done is engaging local governments to collaborate on this effort and if the project fails the biggest loss may be the failure to take advantage of the relationships that Mr. Morgan has forged with local governments. This may be worse than losing the $500,000.

Dr. Mandell agreed and said Mr. Farley has stated precisely why the M&O had not given up. Mr. Farley said that the money and the technology are important but the relationships with local governments may be more important because partnerships extend to more than just parcels. A successful seamless parcel project can translate into similar arrangements for statewide street centerlines and everything else the GICC does. There is much more riding on this project than just a seamless statewide parcel dataset.

Mr. Dorman noted that the Floodplain Mapping Project is focusing on structure risk and the parcel data are very important in that assessment. He suggested that the upfront cost of building the tool may be less than the maintenance costs. He expressed concerns that changes at the local level in parcel attributes may require the tool to be changed. He emphasized the results must not impose a burden on counties. He suggested that until there is a standard that all 100 counties agree to, there will be an issue with maintenance.

Dr. Mandell said his understanding is that the translation tool will be able to handle the differences in database design by the 100 counties. Ms. Payne agreed and said that thanks to the efforts of Mr. Morgan and the NC Property Mappers Association, 25 counties have signed on as partners to the project which reflects local government buy-in. Mr. Farley said that originally even more counties signed on but the number was reduced to make the pilot test more manageable. Chris Koltyk said that the proposed tool will translate data from multiple counties into a database that all can use. However, he does feel that the adoption by counties of common standards is important. Until county governments use common standards, a statewide database will simply reflect differences across 100 counties. He also said that resolving disputes about county boundaries will be important.

Dr. Mandell said the WGSP will need to address Mr. Koltyk's concerns. Currently, the important item is to salvage and successfully complete the EPA funded project.

NC OneMap Governance Committee. Dr. Mandell said the NC OneMap Governance Committee has prepared a set of NC OneMap accountability measures. This is a major initiative of the committee. He received two comments from members on the draft document. Neither was substantive and mainly address wording. He acknowledged that this effort is the first cut and there is a long way to go to make the measures operational. The committee will need to set targets and begin to measure the goals. He encouraged Council members to submit substantive comments.

Jeremy Poss commented on Goal 2.2 that NC OneMap be available 24 hours per day/seven days a week and the measures for assessing those goals. He suggested that planned outages and unplanned outages be tracked separately. Dr. Mandell agreed and said the committee will address this issue. On behalf of the FIC, Drew Pilant asked about complying with Open Geospatial Consortium (OGC) standards. Dr. Mandell said the committee tried not to incorporate references to standards in the accountability measures. Measure 1.3a cites the FGDC metadata standard. Otherwise the measures only include reference to GICC adopted standards. Ms. Payne suggested that the SMAC may need to address the OGC standard.

Dr. Mandell emphasized that the accountability measures are not the same that Mr. Johnson may use to assess NC OneMap from an operational consideration. He expressed concern that the proposed measures may be too detailed but that may become apparent as they are tested. As changes are made, the committee will inform the GICC.

DECISION #3 A motion was made and approved to adopt the NC OneMap Accountability Measures.

Local Government Committee (LGC). Mr. Koltyk reported on behalf of Julie Stamper, chair of the LGC. He said that the LGC appointed Tobin Bradley, Mecklenburg County, to replace Alex Rickard as the LGC representative to the TAC.

He said that the LGC reached out to the local government community, encouraging members to write a letter on the LightSquared issue. He believes that more than a dozen letters were submitted.

***Federal Interagency Committee (FIC*).** Drew Pilant reported on behalf of Dr. Rimer, chair of the FIC. The FIC committee is developing recommendations on how to update the federal land ownership data layer. The percent of all land in North Carolina that is owned by the federal government was reported incorrectly at the last GICC meeting. The current estimate is 8.2 percent.

Ms. Troutman asked if there is a map of federal lands on the FIC web page. She said a map would be very useful. Mr. Pilant said a map will have to wait until the committee completes its work.

The FIC general meeting was on August 31 and included a presentation on the Geospatial Portal and two presentations on coastal projects involving implementation of climate change adaptation strategies.

The FIC appointed Doug Newcomb, US Fish & Wildlife Service, to replace Dr. Pilant as the FIC representative to the TAC.

Statewide Mapping Advisory Committee (SMAC). Anne Payne, chair of the SMAC, reported that the Committee met on October 12. Mr. Johnson reported on GICC and M&O activities and there were reports by the SGUC, the LGC and the FIC. Since the EPA grant has been discussed in great detail already, there will be no report by the Working Group for Seamless Parcels. She invited Mr. Morgan to report on the Working Group for Standards and the Census ad hoc working group.

Mr. Morgan said the Census working group has not met yet. He noted that the Boundary and Annexation Survey (BAS) section of the Census Bureau will hold 4 workshops across North Carolina

in December on procedures for municipalities to submit a BAS. The workshops will be in Waynesville, Greensboro, Charlotte and Wilmington. Ms. Payne noted that the Census working group decided to delay a meeting until after the BAS workshops.

Working Group for Standards. Mr. Morgan said the LiDAR standard is undergoing its final review. The comment period is open through November. It will then be presented to the SMAC, which will determine whether to present it to the GICC for recommendation that the Secretary of State's office adopt it as a standard under the base mapping section of the Land Records standard.

Mr. Morgan reviewed the plan of action for the Working Group for Standards. The plan was reported and can be reviewed in GICC's August 2011 meeting minutes. The working group met and before reviewing individual standards, decided to review several topics that affect all standards. Topics included 1) the GIS industry movement from content standards to data models; 2) the public records law; 3) confidentiality laws; and 4) the FGDC perspective on standards.

The next meeting will be on November 15. Kelly Eubank, NC State Archives, will report on the public records law, including required documentation of any public database and confidentiality as defined in the public records law. A subsequent meeting is tentatively scheduled for December 6, subject to the availability of presenters. The topics will be 1) content standards vs. data models; and 2) FGDC guidelines for providing appropriate access to geospatial data in response to security concerns.

Working Group for Orthophotography Planning. Gary Thompson, chair of the WGOP, said that the committee has been assisting Mr. Morgan in the review of the LiDAR standard. The WGOP is also providing advice on the 2012 orthoimagery project.

The LightSquared issue continues to be a hot topic. There have been at least three congressional hearings on the topic. The FCC has required that additional testing be done. Mr. Thompson noted that the testing focuses mainly on cell phone type devices, which is not the key concern of the GPS and GIS communities. The key concern is on the high-end mapping and survey grade receivers, which LightSquared claims only make up 0.5% of the users even though this 0.5% of the users represent over 90% of the use. He mentioned that Javad, a GPS manufacturer, has signed an agreement with LightSquared. Javad claims it has developed an antenna that has a filter that will remove the interference from LightSquared's ground based transmitters. But Javad is only one manufacturer. He noted that NC Geodetic Survey has over 100 GPS transmitters and the cost to replace them would be astronomical. He said that Mr. Rankin's company would face the same dilemma.

LightSquared has announced that to be competitive, the issue needs to be resolved in 2012. Some resolution is expected in early 2012.

Ms. Payne expressed her appreciation to Mr. Koltyk and the LGC for getting involved. She encouraged members to visit the "Save Our GPS" website. Mr. Thompson said that members of the NC congressional delegation are on the committees that are dealing with this issue. The legislators' names can be found on the website.

Working Group for Roads and Transportation. Ms. Payne reported on behalf of the WGRT co-chairs. The WGRT is reviewing a vendor proposal to develop a web-based geo-synchronization tool for the statewide centerline project. The proposed completion date is April 2012.

Regarding railroads, the DOT Railroad Division has agreed to take ownership of the digital railroad layer. There will be a meeting on November 15 to include representatives of the NC Railroad Company, the Secretary of State's Office and NC DOT.

NC Board on Geographic Names. The NC BGN submitted four requests for name changes to the US BGN, which subsequently approved the requests. There are two pending requests for stream names in Ashe County and there will be some requests in Wake County as well.

Ms. Payne reported on the status of the Water and Sewer Standard. James Armstrong, LGC representative to the SMAC, had been tasked by the Lumber River Council of Governments to apply the standard to work for the COG and recognized that the standard adopted by the GICC in 1997 needed to be undated. An ad hoc committee, including eight members from local government, developed recommendations for revising the standard. An outcome of this effort was the recognition of the need for a best practices document to complement a content standard. A standard would be relatively permanent and reviewed only on an irregular basis. A best practices document would guide the use of the standard and could be updated without formal approval of the Council. The practices document will be posted to the GICC and NC OneMap web sites and include examples of layer files, metadata samples, topology rules, sample shape files – useful tools that local governments can use when developing their utility datasets.

Ms. Payne acknowledged and thanked Mr. Armstrong for his persistence in seeing the process through. She also recognized Jim Perry, Executive Director of the Lumber River COG, who was instrumental in working to get the standard revised and adopted. Mr. Johnson noted that Mr. Perry is a former Council member.

Ms. Payne requested that the Council adopt the revised standard.

DECISION #4 A motion was made and approved to adopt the Geographic Data Content Standard for Water Distribution and Sanitary Sewer Systems, Version 3.1.

Ms. Payne expressed her appreciation to Steve Strader for his dedicated service on the SMAC, both as the official representative of USGS and the National Geospatial Program Office and, until recently, the unofficial representative of the FIC. At the URISA Conference, she attended a lot of sessions about state level collaboration with local governments and almost without exception speakers mentioned how much USGS liaisons contributed to state and local collaboration. Ms. Payne is happy to say that this has certainly been the case with Mr. Strader in North Carolina.

State Government GIS Users Committee (SGUC). John Farley missed the November 3 SGUC meeting and he asked Dianne Enright to report for him. Ms. Enright said the state representative for Esri gave a very informative presentation on new features in the next release of ArcGIS. There was also an excellent presentation on GIS Professional certification, covering the value of the certification, which the GICC supports; how to apply for the certification; and how to promote it in North Carolina to make it meaningful for Human Resource managers in state agencies.

Hope Morgan from the Floodplain Mapping Program gave a very informative demonstration on application development on an iPad and how to use tablets for mapping in the field.

Technical Advisory Committee (TAC). Colleen Sharpe, chair of the TAC, said the committee met on August 23 and approved the TAC work plan for 2012. The committee reviewed and confirmed the NC OneMap requirements that can be accomplished without funding. The TAC also approved an agile project development approach for a new NC OneMap viewer. The TAC looks forward to seeing the first iteration of the new viewer at its November 22 meeting.

The TAC also discussed archiving activities and the regular archival procedures for NC OneMap datasets and the implications for state and local governments. The TAC plans to explore this issue in more detail. The first step will to receive a briefing from Ms. Eubank on current archiving activities.

GICC Member Announcements

Ms. Sharpe announced that GIS Day is November 16. The City of Raleigh, Wake County and the SGUC will host a GIS Day event at the Raleigh City Museum from 9:00 AM to 3:00 PM. She is very excited about the new location and the posters that have been registered so far and invited everyone to attend. Ms. Payne echoed Ms. Sharpe's remarks and encouraged anyone who had not registered a poster to contact Ms. Enright or Ms. Sharpe. Ms. Sharpe suggested that today's presentation – "Responding to Hurricane Irene" – would be appropriate.

Jim Caldwell reported that the NC Association of Regional Councils of Government's Executive Directors are working on a major initiative called NC Tomorrow, which will be completed in the coming year. He will report on it in more detail at a later meeting. Mr. Caldwell also announced that the Regional Councils' GIS Users Group plans to form an organization to coordinate GIS activities across the regional councils.

Allan Sandoval announced that the NC Department of Commerce's Economic Development Intelligence System has been rebranded as Access NC. New servers were installed last week, which has improved the speed of the application. A mobile application for iPhones and iPads was also launched.

Dr. Mandell reminded the members that the November 2012 meeting has been moved from November 14 to November 15.

ADJOURNMENT

There being no other business, the meeting was adjourned. The next meeting will be February 9, 2012 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 Website: www.ncgicc.org . Click on "GICC Meetings." Presentations and documents presented during the meeting are available in a Zip file for easy download.