North Carolina
Geographic Information Coordinating Council

Minutes
August 8, 2012

PRESENT

Chair, Dr. Lee Mandell. Members: Michael Brown (for David Hoyle), Ron Brown (for Bliss Kite), Marc Burris, James Caldwell, John Dorman (for Reuben Young), Ryan Draughn, Dianne Enright, Jeff Essic (for Hugh Devine), John Farley, John Gillis, Derek Graham, Sarah Koonts, Elaine Marshall, Tim Muhs (Dan Madding), Doug Newcomb (for Linda Rimer), Anne Payne, Alex Rankin, Alex Rickard, Hunter Robinson, Allan Sandoval, Latonia Strickland (for Rebecca Troutman), Richard Taylor, Jonathan Womer, Saundra Williams and Ron York

Staff: Tim Johnson, CGIA

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 May 9, 2012 meeting were approved with no changes.

Chair Announcements

The House of Representatives made two three-year appointments to the GICC. They are Jay Bissett, who was reappointed, and Stan Duncan, Henderson County Assessor and President of the NC Association of Assessing Officers, which represents an important stakeholder community. Dr. Mandell expressed his appreciation to Jeremy Poss, Chatham County, for his four years of service on the GICC.

There are three other new members. Alex Rickard, Planning Director for the Eastern Carolina Council, will serve on the Council as the chair of the Local Government Committee (LGC). Dr. Mandell expressed his appreciation to Julie Stamper, who served four years on the Council as the chair of the LGC. Certificates of appreciation will be sent to Ms. Stamper and Mr. Poss.

At the last meeting, Dr. Mandell appointed a representative from State Archives to serve as an advisory member on the Council. He welcomed Sarah Koonts, Director of the Division of Archives and Records, NC Department of Cultural Resources, noting that the agency's role as it relates to the preservation of geospatial data is integral to the mission of the Council.

He also announced his appointment of Marc Burris, Director of Information Technology Services for the NC State Board of Elections, as an advisory member on the Council. He welcomed Mr. Burris to his first meeting. Dr. Mandell reminded the members that advisory members can do everything except make motions and vote and expects them to fully participate in the Council's activities.

Dr. Mandell recognized two award winners. The NC Department of Transportation, Information Technology Division, received a Special Achievement in GIS Award for outstanding use of GIS technology at the 2012 Esri International Users Conference. NCDOT was recognized for two projects: the Spatial Data Viewer, which provides access to maps, image services, map services and datasets across the enterprise and the Multi-User Geodatabase for sharing GIS data. John Farley gave a presentation on the Spatial Data Viewer at the May, 2010 GICC meeting. Esri said that NCDOT stood out from more than 100,000 others.

The Society of American Archivists gave its Preservation Publication Award to the Geospatial Multistate Archive and Preservation Partnership (GeoMAPP) Project for its publication "Best Practices for Archival Processing for Geospatial Datasets," published on the GeoMAPP website in November 2011. The publication provides a detailed and practical guide to the geospatial archival processing workflow. The authors include Kelly Eubank, NC Division of Archives and Records, and Joe Sewash and Alec Bethune, CGIA. The GeoMAPP project was presented to the GICC at its February, 2012 meeting. The members gave the award winners a rousing round of applause.

Status and Discussion of Priorities Before the Council

Legislative Session Summary

Dr. Mandell reported that the legislative session did not go as hoped. He reminded the members that Senate Bill 851, the Boards and Commissions Efficiency Act of 2012, was introduced. It addressed many of the state's boards and commissions, including the GICC, and proposed to change the membership and reporting structure of the Council. He thanked everyone who spoke in opposition to the bill. The bill did not get out of committee during this year's session. It is unclear whether it will be reintroduced in 2013.

The GICC had requested revisions in the statutory language that established the GICC to conform the language to changes that were adopted by the General Assembly in 2009. The GICC also requested two additional seats on the Council, the Executive Director of the E911 Board and a representative of the NC Board of Elections. These requests were not controversial but the General Assembly chose not to take action on these requests during the short session.

The House version of the budget maintained the current funding level for CGIA but the Senate budget reduced CGIA's Coordination Program budget (provided through the IT Fund), which supports the GICC and NC OneMap, by 23%, approximately $137,000. Unfortunately, on this item the Senate version of the budget prevailed in conference. Over the last two fiscal years, CGIA's budget has been cut by almost 38%.

The budget cuts will require that CGIA's work priorities be carefully assessed. The cuts also highlight the need for long-term, stable funding sources. The General Assembly's Fiscal Research Division directed that CGIA rely to a greater extent on overhead from the Services

Program receipt revenues to support Coordination Program initiatives. Dr. Mandell pointed out that the appropriation to support the CGIA Coordination Program that the General Assembly agreed to four years ago in response the statewide GIS Study was designed to reduce the dependence on the Services Program receipts because it is an unsustainable funding method. Continually raising Services Program rates, to generate the necessary overhead, results in a less competitive rate structure, fewer projects and lower receipts. He reminded the members that overhead from professional services is already supporting the infrastructure for NC OneMap. The appropriations only supported the Coordination Program staff. The GICC needs to reinforce the understanding that this funding model is unsustainable. The Management and Operations Committee (M&O) will continue to look at additional sources of revenue.

Dr. Mandell reported on two other legislative changes. The General Assembly decided to increase the terms of the House and Senate appointments from one year to three years, the same as the Governor's appointments. The statute for Information Technology Services (including CGIA) was changed to clarify the authority to provide GIS services for a fee.

Dr. Mandell once again plans to advance the Council's legislative agenda at a meeting this fall with the Joint Legislative Oversight Committee on Information Technology.

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 it has been a busy quarter for data updates to the NC OneMap Geospatial Portal. Regular quarterly updates included Public Mountain Trout Waters from the Wildlife Resources Commission; Significant Natural Heritage Areas, Natural Element Occurrences, and Managed Areas from the Department of Environment and Natural Resources (DENR) Natural Heritage Program; Geodetic Control Points from NC Geodetic Survey; and Primary and Secondary Road Routes and Arcs, Road Characteristics, and NC Multimodal Investment Network Tier Designations from NCDOT.

New datasets now available on the Geospatial Portal include Boating Access Areas from the Wildlife Resources Commission and Active Permitted Landfills, Brownfields Agreement Sites, Inactive Hazardous Sites, Manufactured Gas Plant Sites, Dry-cleaning Solvent Clean-up Act Program Sites, Pre-Regulatory Landfill Sites and Hazardous Waste Sites from the DENR Division of Waste Management. He noted that the Active Permitted Landfills dataset is especially welcome as it replaces a layer that was very old.

Mr. Giordano reported on upcoming activities. The team is very close to completing the effort to add historical imagery to the Geospatial Portal, using an Esri-based, map service source. The historical imagery will include a time enablement component or "time-slider," that enables viewers to slide forward and backward through time. This is the same functionality that was provided when the Hurricane Irene viewer was released.

The team will provide near real-time status of map services. Currently the only way to tell if a map service is live is to open the service or try to preview the map service in the Data Explorer. This new capability will provide the status of the map service right next to the title of the service. The goal is to finalize the latest upgrades to the Geospatial Portal by the end of the calendar year.

Presentation: "National Enhanced Elevation Assessment"
(see NEEA PPT file at GICC website - http://ncgicc.net/Meetings/tabid/138/Default.aspx)

Tim Johnson introduced Dr. David Maune, Senior Project Manager with Dewberry for major geospatial projects with US Geological Survey, National Oceanic and Atmospheric Administration, Corps of Engineers and others. He is the principal author of "Digital Elevation Model Technologies and Applications: The DEM Users Manual", published by ASPRS. He is a an ASPRS Fellow and charter member of the National Geospatial Advisory Committee. Earlier he served as the Director of the US Army Topographic Engineering Center.

Dr. Maune is the Project Manager and principal author for the National Enhanced Elevation Assessment (NEEA), performed by Dewberry in collaboration with the US Geological Survey. The goals of the NEEA are to:

- Assess national requirements for improved elevation data from technologies such as LiDAR (Light Detection and Ranging) and IFSAR (Interferometric Synthetic Aperture Radar).
- Assess the benefits and costs of meeting these requirements.
- Evaluate multiple national program implementation scenarios.

The project team predefined 27 business uses for elevation data covering a variety of application areas. Survey responders were asked to define requirements for enhanced elevation data in support of mission critical activities.

Elevation data requirements and benefits were determined by a a combination of a survey, a workshop, and interviews involving 34 federal agencies, all 50 states (with local input) and 13 non-government organizations. The process validated 458 functional activities, which were then used in the benefit/cost analyses to generate conservative estimates of benefits. The results for the 27 business uses were combined in a geodatabase for purpose of cost-benefit analysis.

Five different NEEA quality levels were established. The first four levels are based on using LiDAR data at different contour intervals and horizontal post spacing. Quality Level 5, based on DEMs from IFSAR, represents the lowest accuracy. The study also considered five time frames for update frequency requirements: annually, 2-3 years, 4-5 years, 6-10 years and more than 10 years. Respondents were also allowed to choose event driven updates in which elevation data is needed after an event in addition to data from prior to an event.

In doing the cost benefits, the functional activities were assessed in terms of the five quality levels and the five update frequencies. A total of 25 potential combinations were applied to each of the 458 functional activities.

The process included an assessment of quantitative and qualitative benefits. These included:

- Operational benefits (internal to organization, e.g., efficiency and productivity)
- Customer service benefits (newer/better/cheaper products and services)
- Other benefits (strategic, societal and environmental)

Whenever possible, the benefits were captured in dollars. He emphasized the difficulty of estimating dollar benefits.

Dr. Maune showed some examples of the expected benefits for North Carolina's requirements, including very large dollar benefits in the "flood risk management business use" in the event driven category. For the "natural resources conservation business use," the North Carolina estimated significant benefits for Quality Level 1 at an update frequency of 2-3 years. For the "sea level rise business use," North Carolina estimated moderate benefits for Quality Level 2 and an annual update frequency.

The team calculated benefits for a Conservative Benefits Analysis and what Dr. Maune called a Potential Benefits Analysis. Many activities included un-quantified benefits; only 48% of the functional activities were accompanied with dollar benefits.

After running the Conservative Benefits Analysis for all of the 458 functional activities, flood risk management showed the greatest benefits in dollars - $295M annually. The total for the 27 business uses is $1.18B annually. The Potential Benefits Analysis showed significant higher benefits, in the range of $13B annually. The potential benefits were heavily affected by future uses of LiDAR.

Precision agriculture is another business use that projects large potential dollar benefits, over $2B annually. The largest benefits will accrue from land navigation and safety. Car manufactures anticipate, starting in 2014, introducing cars with 3D road centerline data and automatic transmission and cruise control that will automatically downshift and up-shift based on upcoming slopes and curves. The projection is a 4% saving in gas mileage.

The next step was to compute costs. Dr. Maune reiterated that in doing the cost benefits, the functional activities were assessed in terms of the five quality levels and the five update frequencies.

The results show a negative benefit/cost for all scenarios involving an annual update frequency. That option will likely not be supported. The 4-5 year update frequencies provide the highest net benefits. The 6-10 year update frequencies provide the highest benefit/cost ratios. Quality Level 2 on a 6-10 year update frequency offers the highest benefit/cost ratio.

The study also completed a LiDAR inventory for the nation. Dating back to 1996, LiDAR data is available for about 28% of the nation. Most of the historic LiDAR data coverage for the nation falls into Quality Level 3 with the exception of some small areas of Quality Level 1 in the Pacific Northwest. Most of the remaining National Elevation Data is 30-50 years old and 10-meter resolution. North Carolina has complete statewide coverage at Quality Level 3.

Ideally, what is needed is standardized LiDAR for 100% of the 49 states, 100% IFSAR coverage for Alaska, and improved elevation derivatives to ensure nationwide contours; digital surface models; hillshades; breaklines; slope, aspect, curvature, etc.

The team considered four nationwide implementation scenarios (quality levels and update cycles) that consider full lifecycle costs, not just data costs.

- Scenario 1 – QL 3, 25 years (lowest cost, closest to status quo)
- Scenario 2 – QL 1/2/3, 8 years (mixed QL, highest net benefit to feds)
- Scenario 3 – QL 2, 8 years (uniform QL with high net benefits & B/C ratio)
- Scenario 4 – QL 1/2/3/5, 8 years (mixed QL, highest net benefits & B/C ratio)

The final report of the National Enhanced Elevation Assessment is available at http://www.dewberry.com/Consultants/GeospatialMapping/FinalReport-NationalEnhancedElevationAssessment

Dr. Maune noted that some potential benefits were not considered. He cited the Open Topography Portal, which makes LiDAR data available to the public. The most common user is a traditional 'mom and pop" land survey firm, which use the data to generate topographic surveys for parcels to meet requirements for building permits. He noted that general purpose topographic mapping applications were not measured in the assessment of user requirements. Therefore, many of the benefits are undercounted in the assessment.

For a national 3-D Elevation Program (3DEP), USGS recommended Scenario 3, Quality Level 2 for 49 states and IFSAR for Alaska with an acquisition period of eight years. The average annual costs are $149M. The average annual benefits are $690M for a benefit/cost ratio of 4.7-to-1. Under this scenario, 58% of the total possible benefits would be satisfied. The proposed 3DEP funding strategy, cooperatively executed by USGS, would include the following components.

- A coalition of Federal agencies will commit funding annually to a national program (in rank order of benefits): NRCS, USACE, DISDI (Defense Installation Spatial Data Infrastructure), USGS, NOAA, FEMA, EPA, USFS, FAA, and NGA
- States and other partner agencies will be invited to participate to provide the balance of program cost.
- Collection priorities will be based on coalition partner agency needs.
- Partners may buy up to higher quality level (Quality Level 1).
- Acquisition cycle will scale with funding.

The National Geospatial Advisory Council made the following recommendation at its April 18, 2012 meeting:

The NGAC endorses a national elevation program (i.e., 3D Elevation Program, or 3DEP) as described in the National Enhanced Elevation Assessment conducted by the U.S. Geological Survey (USGS). The NGAC encourages the USGS, the Department of the Interior, and Federal partner agencies to refine, adopt, and implement this program in partnership with other levels of government, academia, and the private sector.

At the conclusion of the presentation, John Dorman asked why Oregon, Texas and Illinois showed such high benefits. Dr. Maune couldn't be sure without reviewing the data. He believes that for Oregon, the high benefits stemmed from forest resource applications, in Texas from flood risk management, and in Illinois from agriculture and precision farming.

Mr. Johnson asked about the plans for implementing the program. Dr. Maune replied that the finding money in federal agency budgets will be the key to getting the program off the ground. He acknowledged that the future is uncertain.

Mr. Johnson invited Gary Merrill, USGS Liaison for North Carolina and South Carolina, to comment. Mr. Merrill explained that complete nationwide 3D elevation data is the driver for many critical uses. He reported that USGS intends to introduce the recommendations in a budget submission to Congress in Fiscal Year 2014, but acknowledged that progress may be slow. The

important point is that all federal agencies are on board with the elevation program. He will keep NC updated on progress.

Mr. Johnson thanked Dr. Maune for joining the meeting remotely and for his fine report.

Presentation: "Integrating Street Centerlines: Grant Project Report"
(see PPT file at GICC website - http://ncgicc.net/Meetings/tabid/138/Default.aspx)

Dr. Mandell introduced Alex Rickard, co-chair of the Working Group for Roads and Transportation (WGRT). Mr. Rickard said the WGRT recognized four years ago that NCDOT faced some challenges in developing a statewide street centerline file. In North Carolina, counties maintain digital street centerlines datasets. To create an integrated statewide dataset, NCDOT has to collect centerline data from 100 counties and then translate those centerline files into a consistent common format. Next, the local roads data must be combined with the existing system of NCDOT state roads.

NCDOT essentially accomplished this, building the Integrated Statewide Road Network over a two-year period. The challenge is to maintain it on a quarterly basis, not by replicating the original process each quarter but by simply adding new roads that were built or repaired in the last quarter.

The WGRT first researched efforts in other states, including South Carolina, Virginia, Washington, Alabama, Ohio, and New York. The research revealed several approaches. In some states, agencies responsible for street centerlines were linked to the state DOT through a geodatabase. This approach is effective but complicated and very expensive. A second approach involved requirements dictated by the state DOT, in states where DOT is responsible for all road construction. If counties want roads built, they are required to submit data in a specified format. This approach is very efficient but Mr. Rickard, as the new LGC chair, said this approach will not work in North Carolina. The effort would be onerous for the counties and NCDOT does not have the authority to require that each county adopt the same format.

An exchange standard has existed in North Carolina for several years. The idea behind an exchange standard is to define a common format for certain attributes. Local government agencies may manage their own data using their own format but, when sharing the data, are encouraged to provide metadata and to convert the attributes to the common format defined in the exchange format. The problem is that no tool exists that enables local governments to translate their data to the exchange format.

The WGRT project, funded by a Federal Geographic Data Committee (FGDC) grant, has developed a web-based program, or translator tool, that allows counties to upload their local centerline file and translate the attributes to a common format.

Mr. Rickard demonstrated the Beta test version of the translator tool. On Friday, release 2 will go live, with some added functionalities. The tool converts and loads the local attributes into a standardized attribute table that conforms to the draft NC Community Street Centerline Data Exchange Standard. He emphasized that the majority of the counties have the data, but just in slightly different formats – field names, text fields versus integer fields, and so on. The tool recognizes the differences between the local format and the state standard. A color coded scheme

indicates to the user whether an attribute field is mandatory in the state standard, optional, or mandatory if available, similar to the metadata standard.

The great advantage to using a translator tool is that counties are able to manage their data to fit their own requirements, retaining their own field names, while NCDOT is able to obtain standardized data that meets their requirements.

Furthermore, the tool has the capability of detecting changes. The second time a county uploads the local street centerline file – the system compares it with what was uploaded previously and only incorporates the features that have been edited. In this manner NCDOT can more efficiently maintain the statewide dataset.

To date, 25 counties participating in the project have loaded their street centerline data. Mr. Rickard has determined that it takes him about 30 minutes to set up the exchange process for a county. Most of the work involves studying and understanding the local attribute data. At this point most counties are done. The tool automatically outputs a shapefile in the 'Master Schema' (defined by the mandatory elements in the draft NC Community Street Centerline Data Exchange Standard).

Some counties are easier than others. He recognized Gene Hume, Buncombe County GIS Coordinator, and Janet Lowe, the county's former GIS Coordinator, for a schema that passed through the translation process extremely fast.

In October, Mr. Rickard plans to repeat the process to update the data for each county. He demonstrated a function in the tool that enables him to open a new job, browse to find the county's street centerline shape file and then run the process. The user does not have to interactively review the data at this stage as the schema 'mapping' process only needs to be done once for each county. Instead, the tool compares the new street centerline file to what was loaded previously, recognizes the changes in the geometry or attributes and uploads only the changes. This will be incredibly valuable to NCDOT in maintaining their statewide street centerline file

The custodian agency that will manage the process in the future is not yet identified.

A frequent question from local governments is: will the results benefit local governments? Mr. Rickard's answer is "maybe." When a county dataset is run through the translator, one output is an error report. It will include items such as misspellings. So the error report will help counties with quality control of their own data.

The primary beneficiary of the project is obviously NCDOT because it will help NCDOT maintain a statewide dataset. Ultimately this product will benefit local governments and citizens in terms of more efficient planning and implementation of local road projects. In addition, the statewide street centerline may eliminate the need for 100 counties to provide their street centerline data directly to the US Census Bureau, eliminating a duplication of effort, both for the counties and the Census Bureau.

Mr. Rickard believes there will be additional benefits. He explained that the System Administration Tool enables the administrator to manage groups of related geospatial data. The

tool can be adapted to enable the exchange and transformation of other framework data such as parcel data or address data.

The Working Group for Seamless Parcels' EPA project may be able to build on the WGRT translator to use it to ingest county parcel data. He envisions an automated process by which the web-based tool can simply obtain county parcel data directly from the county's data download site.

A statewide parcel dataset will benefit local governments in other areas, including economic development and business recruitment. For address points, as with the street centerlines, a statewide address dataset will minimize or eliminate the need for the Census Bureau to contact 100 county GIS coordinators to acquire their address data. The benefits may include a more accurate census and a more equitable distribution of federal funds to local governments.

Anne Payne mentioned another benefit to local governments. She noted that Wake County needs street centerlines outside the county lines to support emergency management response, especially for the Shearon Harris Nuclear Power Plant and the RDU Airport. Emergency response does not stop at the county lines and Wake County harvests street centerline data from adjacent counties. Mr. Rickard said that the same benefit applies to utility companies, which provide services across county boundaries.

Doug Newcomb asked how the translator tool deals with a situation where a county changes it internal data format. Mr. Rickard said that the subsequent, automated update of a county's data will simply not work. If a county changes their local schema, adding new attributes, changing the name of an attribute, or changing the attribute from text to integer, then the update will corrupt the relationship between the county schema and the statewide schema. In this case, a new translation – or mapping of the county attributes to the statewide standard - will be required, which will take about 30 minutes.

Marc Burris asked if the intent is to make this tool available to counties and NCDOT or will other entities that need centerline data be able to take advantage of the tool. Mr. Rickard said that the primary purpose of the project is to take local data and convert the data to the state standard, basically for the benefit of NCDOT. A secondary benefit, for example, is for Craven County to access Pamlico, Carteret and Lenoir county data and convert it to the Craven County format. This is possible but not the focus of the project. It would require additional time for the user to add the Craven County schema as the standard.

Dr. Mandell thanked Mr. Rickard and the WGRT for their progress on this longstanding effort.

Update: Coastal Orthoimagery 2012 and Eastern Piedmont 2013 Projects
(see PPT file at GICC website - http://ncgicc.net/Meetings/tabid/138/Default.aspx)

Mr. Johnson described the accomplishments since the Council met in May.

- The project team participated in three NC Property Mappers Association workshops, led by the Secretary of State's Office, to promote awareness of the project and an overview of VOICE (Virtual Online Inspection, Checking, & Editing). The workshops were in Wilmington, New Bern and Edenton. The goal was to educate county staff on their role in the quality review of the data.

- The project team also conducted a workshop with the contractors to finalize delivery guidelines, schedules and specifications.
- The contractors and the project team finalized the VOICE review tool.
- In July, webinars were held to train the PSAP and GIS reviewers in the 25 counties on the use of VOICE.
- Imagery for eight counties was delivered to the VOICE provider.

The delivery schedule is in place. Imagery for four counties will be available for review each week, one from each contractor team. Mr. Johnson displayed the schedule. The data are first delivered to CGIA and the NCDOT Photogrammetry Unit for review with a one-week lag before the data is made available to the county for review. Counties will have 30 days to review the data and comment through the VOICE application. CGIA and the state team will review the comments and confirm that they adhere to the review rules.

Mr. Johnson showed an example screenshot of the VOICE quality review tool. The imagery is accessible over the Internet. NCDOT will review 25% of the tiles in each county. The county PSAPs and GIS Coordinators will review an additional 25% of the tiles and CGIA will review 5% of the tiles. The reviewers will identify problems within each tile and document the problems online. The issues will be added to a database at which point CGIA will determine if the problem requires a fix by the contractor. The VOICE tool represents a time-saving improvement over the process used in the 2010 statewide project.

Gates, Hertford, Bertie, Martin, and Pitt counties and the northern portion of Beaufort County in the northern half of the coastal plain and Onslow and Pender counties in the southern coastal plain have been provided to the VOICE service provider as of today. By the end of September all 25 counties will be provided to VOICE. The goal is to complete the county reviews by November 2. The next step will be to finalize corrections to the data based on the review.

Final delivery to the counties will be in the January-February time frame. Counties will have the opportunity for a final review, which will occur over a 60-day period in February and into March. The expectation is that problems addressed in the first review cycle will be resolved with minimal if any corrections needed during the 60-day window.

Mr. Johnson reported progress on the 2013 Eastern Piedmont Orthophotography project, Phase 2 of the four-year project. On May 18 the NC 911 Board approved funding for Phase 2. The 25-county area is approximately 30% larger than the coastal region. It includes Fort Bragg, Seymour Johnson Air Force Base and the Raleigh-Durham-Chapel Hill metropolitan area, a National Geospatial Intelligence Agency (NGA) designated urban area. He reported that the project may receive a small cost share contribution from NGA.

Accomplishments to date on Phase 2 include signing an agreement with the NC 911 Board and negotiating the flight rules with Fort Bragg. Fort Bragg will allow flights over the base but access to the data will be restricted to the E911 centers in the counties around Fort Bragg. The next steps are to:

- Sign agreements with NCDOT Photogrammetry Unit and NC Geodetic Survey.
- Begin outreach to PSAPs and county GIS offices.
- Plan and conduct the Qualifications-Based Selection process.
- Negotiate flight rules with Seymour Johnson AFB.

Dr. Mandell expressed his appreciation to staff for the progress to date. He believes that the team learned a great deal from the 2010 statewide project and has implemented a much improved process. He noted that while much of the work is being done by the CGIA Services Program, Mr. Johnson and others on the Coordination Program staff devote significant time in support of the project. He noted that this is the highest priority project and expressed his appreciation once again to Richard Taylor and the NC 911 Board.

Committee Reports

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

Management and Operations Committee (M&O). Dr. Mandell expanded on his legislative update regarding changes to the legislation related to the GICC and CGIA. The General Assembly decided to increase the terms of the House and Senate appointments from one year to three years (SB443) and the statute for Information Technology Services (including CGIA) was changed to clarify the authority to provide GIS services for a fee. These actions necessitate changes to the GICC bylaws. The revised bylaws were distributed to the GICC members before the meeting. Since these are technical changes, the edits to the bylaws do not require a vote. However, Dr. Mandell invited comments or objections. There being none, the GICC bylaws are revised as proposed.

Decision #1: The Management & Operations Committee revisions to the GICC bylaws were adopted.

Dr. Mandell asked Jeff Brown to give an update on the EPA grant. Mr. Brown reported that in July EPA decided that the grant that was awarded to DENR could be transferred to another state agency. Mary Penny Thompson, DENR Chief Deputy Secretary, and Randy Moody, DENR IT Director, worked with Mr. Johnson and Mr. Brown to prepare a formal request to EPA. CGIA and the Office of Information Technology Services (ITS) have accepted responsibility for administering the grant and managing the project in collaboration with the NCDOT GIS Unit, the Land Records Management Office in the Secretary of State's Office, and the Working Group for Seamless Parcels, co-chaired by Tom Morgan and Pam Carver.

The ITS Project Management Office will assist in the procurement process for a contractor for the application development and will keep the project on track under the ITS guidelines. CGIA submitted the required forms to EPA and ITS compiled the necessary grant information for the Office of State Budget and Management. The next step is EPA approval of the grant transfer. Ms. Payne asked if we anticipate approval by EPA. Mr. Brown said EPA was anxious to receive the forms and that EPA Region 4 is enthusiastic about the new plans. Ms. Payne recalled that there was some question about the availability of the money. Mr. Johnson reported that the grant contact for EPA Region IV, Rock Taber, indicated that the full grant amount is still available.

Dr. Mandell said that the progress on the WGRT street centerline progress is exciting because the translator tool may be able to be adopted in some form for the WGSP project. The effort may have more of a head start than previously thought. He noted that by CGIA accepting the management responsibility, the staff will assume an extra burden. Staff priorities may need to be reassessed.

Mr. Rickard mentioned another benefit of the WGRT project. A street centerline standard has been in place in North Carolina for many years. Local governments have been encouraged to adopt those attributes and domains within the standard. When the project team demonstrated the translator tool to the participating counties, the local staff realized that there are a lot of attributes that they do not maintain. When the data comes out of the translator, there are a lot of blank fields. The county GIS staff recognized that it will not be hard to add these attributes to their data and that tracking these attributes will be of great benefit. Mr. Rickard believes that local governments will begin to incorporate those extra attributes into their street centerline files and suggests that the same thing may occur in the parcel project.

Continuing the M&O report, Dr. Mandell said the M&O continues to discuss the challenge of finding revenue to support NC OneMap and CGIA. The committee has not given up on finding a revenue stream through the General Assembly. There have been suggestions on generating revenue from users of NC OneMap. One of the basic core principles of NC OneMap is that the data will be free. The M&O will explore how state agencies may be generating revenue through value-added applications.

NC OneMap Governance Committee. Dr. Mandell reported that the committee received valuable feedback from Alex Rankin on the value of NC OneMap to the private sector. The focus for years has been on providing data to government agencies. There is anecdotal evidence that private sector firms are major users of NC OneMap. The Governance Committee wants to explore how to enhance NC OneMap to support the business sector. Learning how the private sector uses NC OneMap and improving it to the benefit of business will help the Council make headway with the General Assembly.

Staff sought the advice of the Council's private sector members on how to reach out to the private sector to document their use of NC OneMap and recommendations on how to improve this resource to the benefit of the business sector. Dr. Mandell thanked Mr. Rankin, Jay Bissett, John Gillis, Kelly Laughton, Richard Taylor and Ron York for their input. Staff is revising the first draft of survey to private sector users, based on the Council members' suggestions. The survey will be submitted to the membership of various private sector organizations over the next few weeks. Dr. Mandell noted the survey will also serve to publicize the value of NC OneMap for businesses that may not be aware of this resource.

The Governance Committee has revised the NC OneMap Accountability Measures, adopted previously by the GICC. The revised document, which was distributed to Council members before the meeting, now includes what is in essence metadata or background information for each of the accountability measures.

Decision #2: The Council approved a motion to adopt the revised NC OneMap Accountability Measures.

Dr. Mandell said that unfortunately this may be one of the tasks that move to the back burner because of other priorities on which the staff needs to focus.

Local Government Committee (LGC). Alex Rickard, new chair of the LGC, echoed Dr. Mandell's earlier comments thanking Julie Stamper for her long service as LGC chair. He regrets

that Ms. Stamper is not here in person to be recognized. Ms. Stamper will continue to serve on the LGC.

He reported that the LGC met on May 23 and received a presentation on the NC OneMap Data Explorer. The LGC also received a report from Matt Duvall on the revived Stream Mapping Advisory Committee. The LGC is prepared to identify local government representatives to support the committee's work.

Mr. Rickard reminded the members that the LGC solicited responses to the Addressing survey in the spring. Sixty-three local government GIS contacts responded – 51% of the total responses.

There are three local government representatives on the new Metadata Committee, including the chair. The LGC will also identify candidates for the SMAC's census committee once it is underway.

***Federal Interagency Committee (FIC*).** Doug Newcomb, vice-chair of the FIC, reported that the FIC Executive Committee met on July 30. The main topic of discussion was the work of a FIC subcommittee to create an updated federal lands ownership data layer. The subcommittee considered various options for acquiring the data. One option is to use county parcel data as a source but the subcommittee concluded that this approach is not currently practical. The subcommittee recently discovered that the USGS Gap Analysis Program has created a Protected Areas Database for the nation that includes federal owned lands and will consider whether this source can be used to update the data layer in the future. In the meantime, Mr. Newcomb reported that the subcommittee created a new dataset, extracted from public sources of federal lands ownership. He was reluctant to specify a date but expects that version 1of the new federal lands ownership dataset will be released to NC OneMap in the near future.

The FIC is delighted that the SMAC accepted its recommendation to revive the Stream Mapping Advisory Committee. FIC member Matt Duvall, Natural Resources Conservation Service (NRCS), will chair the subcommittee.

Statewide Mapping Advisory Committee (SMAC). Ryan Draughn, new chair of the SMAC, expressed his appreciation to Anne Payne for her 3 ½ years of service as the SMAC chair. The SMAC met on July 11.

Mr. Draughn is pleased to announce the formation of the *ad-hoc* Metadata Committee. Steve Averett, GIS Director for Orange County, agreed to chair the committee. He recognized Mr. Averett, who is in attendance. Dr. Mandell thanked Mr. Averett for accepting this important job. Ms. Lynda Wayne, a contractor to the FGDC whose primary work focus is metadata, has agreed to serve as an advisor to the committee. Mr. Draughn explained the committee is classified as an *ad-hoc* committee because its tenure will be limited to completing its charge. The charge to the committee is to recommend ways to expand and improve geospatial metadata in North Carolina that are both efficient for the data producer and beneficial for data users in discovery and access to valuable geospatial data.

The committee members include Dr. Tim Mulrooney, NC Central University, who did his PhD dissertation on metadata; Carter Vickery, Wake County GIS; Jeff Essic, NCSU Libraries; Rachel Trent, NC Division of Archives and Records; Doug Newcomb, US Fish & Wildlife Service

representing the FIC; Drew Fioranelli, City of Asheboro; Don Kovasckitz, Lee County and City of Sanford; Sarah Wray, NCDOT; and David Giordano, CGIA. One or two more may be added.

The SMAC has adopted a work plan for 2012-2013.

Working Group for Seamless Parcels (WGSP). Jeff Brown reported earlier in the meeting on the status of the EPA grant. Mr. Brown reported on an action item from the February GICC meeting. CGIA reviewed efforts by other states to create and manage statewide cadastral data to assess their approach on an effort that North Carolina is trying to accomplish. Staff first reviewed the survey results of the Geospatial Maturity Assessment by the National States Geographic Information Council to identify the states that had made progress on developing a statewide parcel dataset. Mr. Brown then conducted a review of websites for these states. Three states stood out for their success in this area. Montana, Utah and Arkansas have achieved the most success in integrating local parcel data into a publicly accessible dataset.

The key ingredients in those states were a legislative mandate, state grants to local governments, funding for state maintenance and/or the availability of statewide property tax systems. Mr. Brown cited Montana as the leader. Montana collects tax parcels on a monthly basis and extracts items from the State's Computer-Aided Mass Appraisal (CAMA) system to get the legal description, area, land access, owner, physical address and mailing address. They do not publish property value information. Montana funds the integration and maintenance with a portion of the document recordation fee under the Montana Land Information Act.

Nine other states, including North Carolina, are at various stages of developing a statewide parcel dataset. A total of 12 states have achieved some success or are working toward a statewide dataset. Thirty-eight states do not appear to have a program in place.

Working Group for Roads and Transportation (WGRT). Alex Rickard, co-chair of the WGRT, reported earlier in the meeting on the work of the WGRT. He said that the FGDC grant that is supporting the work to build the translator will expire in October. He expects to submit a final report to FGDC at that time. As he reported earlier, 25 counties have submitted street centerline data to the translator. He will report at the November GICC meeting on the results of the updates and changes by these 25 counties.

He met today with Jim Caldwell and the GIS coordinators for the Regional Councils and the Regional and Metropolitan Planning Organizations. They are excited about recruiting more counties to use the translator. He said his goal for the November GICC meeting is to report that 25 additional counties are on board.

Working Group for Orthophotography Planning (WGOP). Gary Thompson, chair of the WGOP, said that the committee met on July 9 and received an update on the coastal orthoimagery project.

Mr. Thompson gave a report to the WGOP on the adjustment to the geodetic control network, NAD 1983 (2011). The adjustment has been completed and published. The WGOP will work to encourage local governments to move to NAD 1983 (2011) once the transformation software is updated and released. National Geodetic Survey is working with vendors to develop the software. He expressed hope that software patches to do the transformation will be available by the end of the year or sooner.

The WGOP also discussed the GPS data collection standard that the GICC last updated in 2006. Given changes in technology since then, the WGOP formally recommended that the SMAC review the standard.

Mr. Thompson serves on the National Geospatial Advisory Committee. As Dr. Maune reported, the NGAC was asked to provide advice to USGS on the National Enhanced Elevation Assessment. Mr. Thompson is chairing a NGAC subcommittee that will recommend ways in which USGS can engage the non-traditional users of elevation data and seek the support from these users for the funding request that will go to Congress in 2014.

State Government GIS Users Committee (SGUC). John Farley, chair of SGUC, reported that the SGUC Executive Committee met on August 7. The SGUC Executive Committee revised the 2012-2013 work plan.

The committee discussed the deployment of the Esri ArcGIS Online for Organizations application for the state. Dianne Enright will oversee the effort. The NC Wildlife Resources Commission is publishing services using this application.

Some SGUC members who attended the Esri International User Conference July 23-27 in San Diego presented their observations on new developments. The SGUC continues to work with ITS on the cost breakdown for state agencies for Esri licenses under the Enterprise License Agreement.

The SMAC also discussed the need to update the GPS standard. He noted that the current standard explicitly prohibits the use of GPS technology that NCDOT currently uses. He noted that 4 years ago devices using the technology were not prevalent. He also would like to ensure that surveying standards currently used at NCDOT are in line with other state users. Dr. Mandell asked if the SMAC and WGOP will cooperate on the review of the GPS standard. Mr. Farley said yes.

The SMAC general meeting will be on August 23.

Technical Advisory Committee (TAC). Dianne Enright, reporting on behalf of TAC chair Colleen Sharpe, said the TAC has not met since the last GICC meeting but will meet on September 5. The topics of discussion will be the NC OneMap infrastructure, the TAC work plan for 2012-2013, and enhancements to the NC OneMap Data Explorer.

GICC Member Announcements

Dr. Mandell welcomed Jonathan Womer, the State CIO, who is in attendance today.

Mr. Johnson reported that the 2013 NC GIS Conference, scheduled for February 7-8 in Raleigh, is right around the corner and planning is well underway. He announced that the registration rates and exhibits rates will be unchanged from 2011. Registration for attendees will be $125 and for students, $25. Exhibit booths will be $1,100 for the first booth and $650 for additional booths. He is excited that the conference is able to hold the line on costs, to the benefit of local and state agencies.

The GIS Conference website is live and has a link to the Sheraton hotel, which is offering a rate of $99, which is $26 less than the hotel rate for the 2011 conference. Carolina URISA will offer workshops on February 6. Details of the workshops offerings and rates will be announced this fall.

Anne Payne, co-chair of the Program Committee, reported that the committee has been hard at work since May. The committee is focusing on four major topic areas – Data, Applications, Technology and GIS in the Enterprise. Emails went out to the various list servs in the state and to GICC members two weeks ago requesting suggestions for presentations or speakers. She encouraged members to submit their suggestions by going to the Survey Monkey link in the email or by contacting her.

Jim Caldwell said he met this morning with the Association of Regional Councils GIS users group. The group elected officers. Scott Miller, Western Piedmont COG, will serve as Chair, Alex Rickard as Vice-Chair and Jon Beck, Land of Sky Regional Council, as Secretary.

Elaine Marshall, Secretary of State, announced that the Office of the Secretary of State has been recognized in two areas for work related to the Council's activities. The National Association of Secretaries of State (NASS) meeting was held in Puerto Rico in July. The NC Secretary of State's Office received a NASS Idea Award. North Carolina was the only winner in the Business Sector category. The award was for electronic commerce, specifically the initiatives for electronic notarization and the infrastructure for recording surveys.

The Triangle Business Journal named Secretary Marshall as one of the 100 most influential people in business in the triangle area. The award recognized the Secretary of State's work in electronic commerce. Secretary Marshall said that the award should have gone to the Office of the Secretary of State rather than her. She cited Tom Morgan and Ozie Stallworth, who provided the vision and leadership in this area. The members gave Secretary Marshall a rousing round of applause.

ADJOURNMENT

There being no other business, the meeting was adjourned. The next meeting will be November 15, 2012 from 1:00-3:00 pm at the Department of Public Instruction Board Room, Room 755, 301 N. Wilmington Street, Raleigh. *Note that the meeting is on Thursday, rather than the usual Wednesday, to avoid conflict with National GIS Day on November 14.*

PowerPoint presentations and reports are on the Council Website: http://ncgicc.net/Meetings/tabid/138/Default.aspx. Click on "GICC Meetings." Presentations and documents presented during the meeting are available in a Zip file for easy download.