



North Carolina
Geographic Information Coordinating Council

Minutes
February 8, 2012

PRESENT

Chair, Dr. Lee Mandell. Members: Jay Bissett, Michael Brown (for David Hoyle), James Caldwell, John Cox, Hugh Devine, John Dorman (for Reuben Young), Ryan Draughn, Dianne Enright, John Farley, Jerry Fralick, John Gillis, Derek Graham, Bliss Kite, Chris Koltyk, Kelly Laughton, Yongjun Lei (for Allan Sandoval), Dan Madding, Tom Morgan (for Elaine Marshall), Anne Payne, Alex Rankin, Linda Rimer, Hunter Robinson, Colleen Sharpe, Julie Stamper, Latonia Strickland (for Rebecca Troutman), Richard Taylor, Mary Penny Thompson, 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 November 9, 2011 meeting were approved with no changes.

There were no announcements from the Chair.

Status and Discussion of Priorities Before the Council

Legislative Agenda

Dr. Mandell recalled that at the November 2010 meeting he alerted the members to a policy shift regarding funding, recognizing that funding for GICC initiatives and NC OneMap is very vulnerable to loss of appropriations especially in a period of tight budgets. Six months later, the CGIA budget was cut by 19%. The M&O prepared a policy recommendation, which Dr. Mandell presented to the GICC at that same meeting, to search for alternative funding sources for CGIA and NC OneMap. The intent was to seek funding that is not tied to the uncertainties of appropriations and is long term.

Dr. Mandell opined that the funding situation is a serious matter. Since CGIA is funded through the state Information Technology (IT) Fund and since every year the General Assembly carefully reviews that fund, current funding is not stable and at risk. Should CGIA disappear, he believes

that the Council may no longer be viable. He acknowledged the level and extent of the support and work by CGIA staff to the operation of the Council, in addition to managing NC OneMap.

At the November 2010 meeting of the Joint Legislative Oversight Committee on Information Technology, Dr. Mandell made the case for the need for stable, long term funding for CGIA and NC OneMap. One proposal at that time was to increase fees to the Register of Deeds and direct those fees to CGIA. Even at that point, prior to the change in legislative ruling parties following the 2010 elections, it was clear that the idea of raising taxes was not going to be approved. Unfortunately, that leaves a zero sum game – taking funding from existing sources for CGIA means another group loses funding.

The M&O spent time looking for alternative funding sources, recognizing that the source needed to be independent of the State budget, stable and long term but also that there exist a link between the funding sources and the benefits of NC OneMap and Council initiatives. The objective was to link the funding source to groups that benefit from the availability of geospatial data while trying to minimize the impact on other agencies. One idea was to consider the State Excise Tax on real estate conveyances because the fee is paid by statewide groups that benefit from improved access to high quality geospatial data and the coordination initiatives – groups like realtors, homebuilders, and developers as well as the general public.

This year, Dr. Mandell again presented a four-part legislative agenda to the Joint Legislative Oversight Committee on IT. The committee is almost entirely different, with only two members remaining from 2010. The first part is a holdover from HB 152 in the previous year, dealing with changes to the enabling legislation and additions of permanent members to the Council membership, including the Executive Director of the NC 911 Board and representative of the State Board of Elections. The second and third parts of the strategy relate to funding for CGIA and NC OneMap.

The second part relates to HB 89, which included about \$950,000 for a two-year NC OneMap revitalization project. In the interim, many of the revitalization tasks have been completed by CGIA staff, with the help of some funding from the ortho project and some recent technology developments. This year's proposal to the Oversight committee seeks \$247,000 to support NC OneMap. The third part of the proposal is to restore the funds that CGIA lost in the cuts to this year's IT fund. When CGIA was first moved to State CIO's office, the CGIA Coordination Program budget was \$740,000 with a staff of nine. Now the budget is \$600,000 with a staff of five. These cuts have affected current responsibilities and certainly prevented CGIA from taking on additional tasks that have been proposed.

The fourth part was to seek a small proportion – 2½% - of the State Excise Tax on real estate conveyances. This proposal has raised a lot of controversy. Dr. Mandell and Tim Johnson met with Representative Avila, co-chair of the Joint Legislative Oversight Committee on IT to assess the committee's response to the proposal. Based on Representative Avila's comments, it seemed clear to Dr. Mandell that the fourth part of the proposal is likely dead. For that reason, Dr. Mandell formally requested that the fourth part be withdrawn from the legislative agenda. He asked that it be replaced with a statement of support, similar to the statement issued by the committee in 2010, saying that CGIA should have a long term stable, independent funding source without mention of a strategy for achieving this outcome.

Representative Avila does not have an issue with the first part of the proposal, that of changing the enabling legislation and adding to Council's membership. The problem is that it is not eligible for consideration in the short session because it did not pass in the previous long session. There may be a special provision that can deal with this issue.

Representative Avila is not optimistic about the second and third parts, both related to funding. This year's budget will again be tough and there is no interest by the legislature in generating additional revenue. The items remain on the table and will be discussed.

Regarding the controversy about seeking a portion of the State Excise Tax revenues, Dr. Mandell acknowledged that he probably misfocused the efforts in trying to sell this approach to the legislature and lost sight of the impact that this would have on GICC member agencies. He stands corrected regarding an email when he indicated that the proposal would affect one Council agency. That was incorrect and he apologized for his error.

Having withdrawn that proposal, the Council is still faced with the challenge of identifying a viable strategy for funding CGIA and NC OneMap into the future. Dr. Mandell proposed that a working group, which can include any member who would like to participate, identify a funding source that is independent of appropriations, has growth potential and is linked to groups that benefit from NC OneMap and the GICC initiatives and acceptable to all the Council members.

Dr. Mandell asked for volunteers to participate on the working group. Mary Penny Thompson and Kelly Laughton volunteered.

Dr. Mandell again emphasized that he has long term concerns about the viability of CGIA and the GICC if the members cannot identify new funding model. He acknowledged the NC 911 Board and Richard Taylor for its support of the statewide imagery program. Funding appears to be secure for the next four years for this initiative.

Linda Rimer offered her help in assessing the problem. She suggested an outreach effort to develop a communications strategy and to identify champions and those who benefit from the initiatives, to whom the General Assembly will listen so that it is just not the GICC asking for funding.

Dr. Mandell agreed that the GICC needs two strategies. He suggested that defining what the GICC is asking people to support must come before identifying champions and seeking their active support.

John Dorman noted that executive branch agencies typically go through the Governor's Office for new funding. Proposing strategies that do not go through the Governor's budget office goes against the organizational structure of executive branch agencies. Dr. Mandell said that coming up with ideas that the members can rally around is the first step, followed by determining an approach, which could include working through the Governor's budget process. He noted that using the Governor's budget has not been successful in the past. The history of the GICC has been to go directly to the legislature whether to pass the original enabling statutes, to transfer CGIA to the Office of the State CIO and to acquire the funding through the IT Fund.

Mr. Dorman agreed that the GICC is an independent board but noted that CGIA is an executive branch agency. Dr. Mandell said that the Office of State Budget and Management is represented on the M&O and has been involved in the strategy discussions and has not suggested going through the Governor's budget process.

Hunter Robinson asked if the Council has explicitly defined the value proposition of NC OneMap and the GICC's initiatives for the people who will be purchasing it. He compared the effort to acquire funding to any marketing challenge of selling something to a customer. Clearly communicating the value proposition is how you get the customer to buy or in this case provide funding. He said that he is new to the Council but would be glad to participate in the task of defining the message.

Dr. Mandell said that CGIA staff have prepared talking points outlining the benefits of NC OneMap to the users, including the private sector and the general public. He again suggested that the first priority is to identify a funding strategy, one that can be acceptable both to the legislature and the members of the Council. Then the Council can finalize and implement a plan for communicating and educating potential supporters on the rationale for funding.

He reported that Representative Avila and Speaker Tillis asked about selling data. Dr. Mandell replied that selling data goes contrary to the long established principles of NC OneMap. He also said that geospatial data is something that tax payers have already paid for and citizens should have access to the data for free. Selling data violates the current public records law. However, he noted that the issue of charging for government services, not just GIS data, is going to come up given the interest in the concept of running government more like a business. He acknowledged that adding value to the data and charging for that added value is something that could be considered. He also reported to Representative Avila that some other states have considered selling advertizing on state web sites. That idea was immediately rejected.

Dr. Mandell said that a big concern is that these ideas still do not represent a long term, stable funding source in an amount sufficient to support CGIA and NC OneMap. He noted, and Mr. Johnson confirmed, that many of the costs of operating NC OneMap still come from revenue through the CGIA Professional Services Program. The costs of operating NC OneMap are not now fully being covered by state appropriations.

John Farley agreed with Mr. Robinson that it is important to confirm the value proposition in addition to identifying the funding sources. Having the value proposition may help identify which funding sources make most sense to target. Mr. Robinson believes it is a question of strategy. If the members truly believe in the value and can make the case to funding sources with enthusiasm and logic and a solid message, then the recipients of the message, even if unable to provide funding, will share that message with other potential funding sources. Good salesmanship and marketing and enthusiasm will make each subsequent opportunity more likely to be successful.

Dr. Rimer mentioned that the Interagency Leadership Team made an effort to build a business case for why North Carolina needs world class GIS data layers. The effort has not resulted in new funds but there are efforts underway related to transportation projects to demonstrate how the use of GIS can create time savings by reducing the number of options that need to be considered in detail.

Dr. Mandell said the discussion is useful. Every opportunity to reach out to the legislature and other funding source is potentially valuable. Eventually it will be important to identify a potential funding source and then identify a strategy and action plan to make the case.

Mary Penny Thompson said that she was at the heart of the controversy by looking to protect funds that go to her department rather than considering whether the funds should be used to support the Council's initiatives. She said that the State Excise Tax funds relate to DENR's core mission. If the Council can link GIS to an agency's core mission, there is a better chance for success. She has found it difficult to justify funds for IT unless they can be linked to the agency's core mission. Proposing improved infrastructure by itself has not been successful. She has had the most success by linking technology to mapping streams or mapping wetlands or addressing climate change, all core missions of the department.

Ms. Thompson suggested looking at agency funding and noted the example of the NC 911 Board, where the investment in orthoimagery supports their core mission. She also mentioned the opportunity of using year-end money from appropriations and cited the example of acquiring leaf-on orthoimagery with year-end money a few years ago. She acknowledged that it is difficult to count on year-end money.

Mr. Robinson agreed that linking funding requests to core missions, especially when done with vitality and enthusiasm, is important. Strategic planning is very important but demonstrating commitment and enthusiasm improves the chance for success.

Mr. Farley said that the M&O and other committees have struggled with the issue of how to make the case for the Council's initiatives. He believes that two issues make the effort difficult. First, it is very difficult for committees to demonstrate vitality. For most members, the work of the Council, while valuable, is a secondary part of their job. Maintaining a level of vitality is extremely difficult. A second is focusing resources on the work of the committees, again given that the committee work is really a part time job. Mr. Farley noted that the discussion today is not new. Everything mentioned today has been discussed in previous meetings over the years. He suggested that Mr. Robinson has articulated the challenges very well and as a new member had identified the core issues that the Council has struggled with for many years.

Dr. Mandell said that a work group to address this issue does not have to consist exclusively of GICC members and asked for everyone to think of others who could participate.

Alex Rankin suggested that perhaps by focusing the strategy too narrowly on the state government budget mechanism, the GICC may be missing the alliances and cooperation in the private sector that may help bring the vitality that is needed. In the surveying community, the engineering community, the photogrammetry community, there is a large universe of informed consumers that have a vested interest in this issue. He suggested that the Council meet with this segment of users and identify the alliances and collaborations. In this way the Council may be able to bring together a group that can exert more influence on the legislature and the agencies around the table to find a solution. He suggested that initially the solution may be piecemeal and not represent a long term solution but the challenge is to get through the next few years after which, hopefully, the economy and the funding situation will improve and new options will exist.

Mr. Robinson said if you demonstrate value repeatedly, funding will continue. Dr. Mandell suggested that demonstrating the value has been hampered by not having an updated NC OneMap. Delivering statewide orthoimagery through the Geospatial Portal has been a big step and staff are making progress on providing new tools. He believes that a revitalized NC OneMap is very close and that will help demonstrate the value and generate the excitement needed.

Mr. Dorman still strongly believes that data should be provided free of charge to the public. However, he said there is a growing interest in a term called “freemium.” The concept is providing basic data for free but adding value to create premium data. He believes that applications could be developed that enables users, such as surveyors and others, to more easily access or use data and who may be willing to pay for the use of that application and the added value to the data. He suggested that the budget mechanism may not be the best approach and that providing data to the customer in a form that best meets their needs may be an alternative approach.

Dr. Mandell does not want to prejudge any idea for finding new funding and a value added charge is on the table. But he noted that resources are required to develop applications. Once again it may be a “chicken or the egg” problem. It may be a tough sell to ask for funding to develop applications that may then generate revenue. Mr. Robinson suggested that creativity in identifying solutions is important. Dr. Mandell thanked everyone for their suggestions and suggested that Mr. Rankin, Mr. Dorman and Mr. Robinson may be good candidates for the working group.

John Gillis mentioned a television show called Shark Tank. The basic premise of the show is that someone has an idea for a tool or product for which funding is needed to create and market the product. Entrepreneurs compete for the opportunity to fund the best ideas. He suggested that a current problem is many government agencies are working independently to use GIS and the GICC is attempting to coordinate these efforts to save money. He agrees with Mr. Robinson that the key to success is demonstrating the value proposition to the people who have the money. He acknowledges that the “chicken and the egg” issue is a challenge. The GICC members need to make the case with passion to convince legislators and individual state agencies and the public users of the data of the need to dedicate internal funds to support the Council’s work.

ACTION #1 The M&O will explore the possibility of convening a working group to assess potential funding sources and strategies for seeking alternative funding mechanisms.

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 shellfish growing areas from the DENR Division of Marine Fisheries, gamelands from the Wildlife Resources Commission and county boundaries, noting that NC Geodetic Survey is now the official custodian of this dataset. Two new releases are the 2010 orthoimagery project flight lines, at the request of users, and gas stations from the Department of Agriculture and Consumer Services.

The new NC OneMap viewer, called Data Explorer, is nearing release. The TAC will review the next version during the week of February 17-24 and provide feedback by the end of that week. The NC OneMap technical team will consider the recommendations of the TAC and make modifications, if possible, during the period February 27-March 1. The official release is scheduled for March 2.

The existing viewer, built on antiquated technology, will disappear. Mr. Giordano displayed several screen shots showing the current design of the Data Explorer. The map is the primary focus and will take up most of the screen, unlike the older version. A series of buttons along the top will allow users to search for and discover data, much in the way a user would use the Geospatial Portal. The search results will be exactly the same.

There is also a button titled Add External Service, providing access to a map service that is not in the Geospatial Portal. The user can then add a dataset to the map viewer showing data from the Data Explorer. Another button allows the user to switch the Data Explorer base map. There are a series of six base maps.

A detail button allows the users to see 1) the listing of the map services that are being shown; or 2) the legend. In the lower left of the map view, a box shows the coordinate values as the cursor is moved, a scale bar and the current projection of the data.

Several tasks remain including an “identify” function to display attributes of features by clicking on the map; a “print” function that creates a basic map with scale bar, legend, title, etc. for the current view; and a “help” tool. He believes that the Data Explorer will be much more intuitive than the previous viewer and suspects that many users will not need the “help” tool. Mr. Giordano reminded the members that the new viewer is being developed using the Agile project management approach so some of these tasks may not be complete before the Mar 2 release but should be available soon thereafter.

National States Geographic Information Council, Geospatial Maturity Assessment

(see NC OneMap implementation file at GICC website - <http://ncgicc.net/Meetings/tabid/138/Default.aspx>)

Mr. Johnson reported on the results of the National States Geographic Information Council (NSGIC) Geospatial Maturity Assessment, conducted in the fall of 2011 and released early this year. He noted that several of the Council members participated in preparing North Carolina’s response to the survey. The assessment addressed the activities of coordinating councils, such as the GICC, staffing for coordination activities, funding for staff and data, and the completeness of critical datasets within each state. Mr. Johnson presented a series of slides showing a snapshot of the results.

Forty-four states and the District of Columbia responded to the survey. Thirty-nine of the states have a coordinating council, created either through legislation or executive order. The need for coordinating councils has obviously taken root across the country.

The survey asked states to identify key goals and challenges. Funding was by far the most frequently mentioned challenge, listed by 38 of the 44 states. The survey responses mentioned problems with cutbacks and uncertain budgets, the need for sustainable funding and alternative funding sources, and the lack of a statewide approach to funding.

Many of the questions provided a range for responders. Mr. Johnson noted that not all of the 44 states answered every question. For the question indicating the number of full time staff under the state's coordinating body, North Carolina reported 10-14. Another question asked if the staffing level is adequate and 74% of the states that responded to this question, including North Carolina, indicated that staffing levels are not adequate to accomplish the mission of the coordinating body.

Another question asked states to identify alternative funding sources, other than state appropriations and federal grants, that support coordination initiatives and staffing or data development. Twenty states responded to this question. The most common alternative funding sources are 911 fees (14 of 20 responders); property transfer fees (7 of 20) and assessment on state agencies (7 of 20). A number of states use several sources of alternative funding. He displayed a map showing the states that use alternative funding sources and the number for each state. Four states use five or six alternative funding sources. Nine states, including North Carolina with 911 fees, have access to a single alternative funding source.

In addition to the lack of funding, a number of states listed goals or challenges that are similar to those in North Carolina. These include 1) the need to encourage data sharing and to construct data portals to enable data discovery and access; 2) the need to improve outreach and education on coordination initiatives; and 3) the goal of developing statewide datasets for critical data layers. Goals related to statewide data development included progress on parcels, streets, addresses, orthoimagery and elevation.

A series of slides focused on the seven framework data layers and completion status. "Completion" refers to statewide coverage for that layer. In North Carolina, statewide datasets are complete for orthoimagery, governmental boundaries, elevation and geodetic control. The datasets for which North Carolina needs to make the most progress are parcels and streets. The seventh framework dataset, hydrography, is complete in North Carolina at the 1:24,000 scale but that scale does not meet the needs of many of the state's users. Mr. Johnson said that North Carolina really needs to achieve a local resolution scale that was accomplished for the counties in western North Carolina during the project that was completed several years ago.

Many of the states do not have a program for developing a statewide parcel dataset. Mr. Johnson defined a program as standards have been defined, funding has been identified and progress is underway. Eight states report 95-100% completion of a statewide parcels dataset.

North Carolina measures up well for orthophotography, thanks to NC 911 funding. There has been some progress on street centerlines with support from DOT. Governmental boundaries are in good shape thanks to collaboration among DOT, NC Geodetic Survey in DENR and the Secretary of State's Office. Elevation data is complete thanks to the work of the Floodplain Mapping Program. For geodetic control, North Carolina is one of 12 states that has complete coverage.

In conclusion,

- The coordination structure in North Carolina is relatively mature and vital.

- Status of framework datasets are comparable to other states, with improvements needed. While North Carolina has not solved all the problems, neither has any other state.
- Twenty-one states utilize funding mechanisms other than state appropriations and federal funds to support coordination activities including data development. North Carolina is wise to consider alternative funding sources. The most common mechanisms are 911 fees, property transfer fees and assessments on state agencies.

John Dorman asked if the assessment identified those states that have complete parcel data and remarked that it would be nice to know how they accomplished this.

ACTION #2 CGIA will identify states that have experienced success in developing a statewide parcel dataset.

Presentation: "Archiving Geospatial Data: Results from the Completed GeoMAPP Project"
(see PPT files at GICC website - <http://ncgicc.net/Meetings/tabid/138/Default.aspx>)

Dr. Mandell introduced Alec Bethune, CGIA, and Kelly Eubank, North Carolina State Archives, to present the results of the Geospatial Multistate Archival and Preservation Project (GeoMAPP). Mr. Bethune reported that CGIA and NC State Archives led a four year, multi-state project to explore methods for preserving at-risk geospatial data.

The GeoMAPP project was funded by the Library of Congress. It began in 2007 and was completed in December 2011. Partners included GIS staff and archivists from Kentucky, Montana and Utah along with active participation from information partners in 14 other states who participated in project meetings. Library of Congress and National Records and Archives Administration staff were active participants in the effort.

Why preserve geospatial data and what prompted the Library of Congress to sponsor the effort? The Library of Congress believes that digital geospatial data is at-risk of being lost. This is particularly true for very large datasets, such as orthoimagery. For datasets that change regularly, often daily, snapshots are often not preserved. Public agencies have invested significant dollars to develop geospatial data and the data are public records so there is a legal mandate to preserve the data. Access to historic snapshots of data enables change analysis and other research. The cost of reproducing historic data can be cost-prohibitive or, in the case of data such as imagery, impossible.

The project initially focused on improving access to data and moving content to archives. A second focus was business planning, which is relevant to the GICC's discussion on funding. If there are challenges to acquire funding for data development, then finding funds to preserve geospatial data is even further down the list of priorities. Making a strong case for preserving data is critical and, as Mr. Robinson noted, documenting the value of historic data is key. The project team took a metric based approach to assign costs and benefits for preserving data. The process involved technical explorations into the mechanics of preserving data, including assessment of file formats, metadata, data packaging, storage solutions, data transfer best practices and long term preservation techniques.

Project deliverables (see <http://www.geomapp.net/>) included interim and final reports documenting the interim processes, technical white papers and business planning tools.

Ms. Eubank reminded the members that “data backup” is a means to save and recover current records but backup is not archiving. Neither is copying data to external media or hard drives. True archiving means formally preserving important data permanently in a trusted digital repository involving a series of active management preservation steps taken on the data, not only to preserve the data but to make it accessible.

The project team has actively collaborated with the GICC over the course of the project. In 2007 the GICC’s Archival and Long-term Access *ad hoc* Committee issued a report that was very beneficial and helped inform the project team’s efforts. The project team contributed ortho tile file naming guidance to the Ortho Working Group for inclusion in the state Ortho Standards. She mentioned that NC State Archives will meet with DOT tomorrow to discuss scanning historic aerial imagery and a tile naming scheme is already in place. NC State Archives will also participate on the SMAC’s Working Group for Standards.

Ms. Eubank reported on geochiving efforts in North Carolina over the course of the project. Several demonstration data transfers have been completed, including current and historic datasets maintained by CGIA. State Archives also worked with Mecklenburg County and the City of Charlotte. These efforts help estimate growth needs. Over 500 datasets have been transferred to State Archives and a Storage Area Network (SAN) has been established to store the data.

State Archives provides access to a listing of the data through an online catalog called MARS (<http://mars.archives.ncdcr.gov>), a database of archival holdings. Users cannot download the data from MARS but a limited number of datasets can be downloaded from a tool called ContentDM (<http://digital.ncdcr.gov>). The remaining datasets will be available soon. ContentDM was built for images but also enables access to other types of datasets online. The metadata record is provided as an html file so that users can assess whether a dataset meets their needs. Mr. Bethune noted that there are also geospatial PDF files so that users can get a snapshot and preview the dataset.

Mr. Bethune reported that the team summarized the geochiving process lifecycle into nine key steps. They are: establish key relationships, inventory, data appraisal, data preparation, transfer, ingest, preservation, access, and business planning for sustainability. The steps are cyclical. For example, business planning can come into play during several steps, such as appraisal when deciding what data to preserve.

Building a team and establishing relationships is critical. It would be impossible for the GIS specialists to accomplish the process alone. Data developers, archivists and IT specialists all play important roles in the process and in developing the work flows. Using a phased approach and conducting pilot efforts are recommended.

The pre-transfer assessment involves an inventory (perhaps using the Inventory Tool developed during GeoMAPP), developing a repeatable process to appraise GIS data, and creating formal preservation policies for GIS data (GIS records retention schedules). The next steps involve moving, preserving and making content accessible. The project team recognized the value of leveraging existing work flows within a GIS shop, requiring accepted GIS metadata standards, and using existing logical and consistent file naming conventions. The idea is that archiving simply becomes another step in the data production lifecycle.

Justifying the investment is a challenge. Storing the data may be costly and the process does not stop once the data is initially preserved. Archivists must actively manage the data to ensure it does not get corrupted over time and that technology developments do not prevent access to the data. Assessing the value of the data and calculating the costs of managing the data are part of the process. The project team developed a tool kit for business planning and assessing cost and benefits.

Ms. Eubank discussed the next steps following the end of the grant and the demonstration project. NC State Archives plans to continue preserving geospatial data. The first step is to develop a NC OneMap records retention schedule. State Archives will engage local and state government GIS data creators, expand access to archived NC geospatial data and expand storage capacities. Another step will be to continue the ongoing engagement with the informational state partners that supported the project and the National Digital Stewardship Alliance at the Library of Congress.

Moving from demonstration to production, State Archives will initiate a formal process for geoarchiving. This will include a retention schedule, continued involvement with the GICC and its work groups, implementing the business case documents and encouraging discussion about preservation funding during project planning, such as the statewide ortho project.

Once the schedule is in place, data will be transferred to the state archives when it is no longer current. It will not involve storing active data that are provided through NC OneMap. The idea is that NC OneMap will be the one-stop shop for active data and State Archives will provide access to historic data. Data will likely be transferred two to three times a year. Superseded orthoimagery would be transferred after new imagery is flown.

State Archives has dedicated storage networks, both in Raleigh and in the ITS Western Data Center and in December 2011 purchased a storage cluster with 36 TB of capacity. Ms. Eubank expects to assign a staff person to help support geospatial archiving as part of their job duties. CGIA has agreed that the NC OneMap Database Administrator will continue to support the preparation and transfer of NC OneMap data to be preserved per the new records retention schedule.

Ms. Eubank hopes that the GICC will recognize the Department of Cultural Resources as a geospatial participant and will endorse the geoarchiving practices. NC State Archives plans to continue participating in GICC initiatives through its committees and support of NC OneMap. Ms. Eubank thanked the GICC for its support of the project. She said that North Carolina was able to do this project because of the support of the GICC and opined that no other could have led this project.

Mr. Robinson asked how the team determines the return on investment. Ms. Eubank referred to the example of the Sustainable Sandhills project, which involved identifying conservation opportunities in the context of growth and change in the region. The models developed during this project are replicable but if the historic data are not available, the costs to recreate the data would be enormous. Mr. Bethune said that the business process involves identifying use cases in which temporal or superseded data are critical to the work flow and then calculating the costs to replicate the data or lost opportunity costs by not having access to historic data. He acknowledged that it is difficult to assign a numeric value to the costs but it is possible to calculate the costs of creating the datasets initially and the costs of replicating them if they are lost. He noted that working with other states through the partnerships was beneficial in developing tools for calculating costs.

Mr. Robinson noted that State Archives has 36 TB of storage capacity and asked if the team has estimated the capacity that will be needed in the next five years. Ms. Eubank replied yes, this is one of the tools in the business case template. Ms. Bethune noted that the business plan has not been fully executed for the State of North Carolina. A lot of thought went into developing the tools but they were not complete until the end of the project. In response to a question about funding, he noted that while the project was primarily funded by the Library of Congress, some funding support was also provided by State Archives through the Archiving and Management fee. Ongoing support will come largely from CGIA's contributions to future archiving and from the State Archives programs.

Dr. Mandell thanked the presenters and said that the M&O will consider the requests to endorse the recommended archiving practices. The GICC needs time to absorb today's presentation. He noted that the GICC has made a commitment to archiving through previous activities of the SMAC.

ACTION #3 The M&O will consider the request by Ms. Eubank that the GICC endorse geoarchiving practices.

Update, Coastal Orthoimagery 2012 Project

(see PPT files at GICC website - <http://ncgicc.net/Meetings/tabid/138/Default.aspx>)

Mr. Johnson reported the project is moving quickly. The Council adopted the Business Plan for Orthoimagery and the project team is executing that plan for the coastal region. The 25-county area was divided into four project subareas. As a result of the evaluation completed in November, four contractor teams have been assigned to the subareas. Each team will acquire, process and deliver imagery for between four and eight counties. Area 1 in the north is assigned to Atlas Geographic Data, a North Carolina firm headquartered in Wilmington. Area 2 between the Albemarle and Pamlico Sounds is assigned to Surdex, a firm located in Missouri. Area 3 is the responsibility of Photo Science from Kentucky. The southernmost area, Area 4, is assigned to Spatial Data Consultants, a North Carolina firm headquartered in High Point, NC.

A pre-proposal workshop was held on December 1 to share information with the four contractor teams. Contracts were negotiated during December and January. Project kickoff was on January 26. The contractors have produced flight plans, which have been reviewed by the project team that includes the DOT Photogrammetry Unit, NC Geodetic Survey in DENR, the Secretary of State's Office and CGIA.

Each of the areas includes some military installations. The project team has been coordinating with the military branches to make sure that all are in agreement with the plans. He noted that there are more military facilities on the coast than anywhere else in the state. The team worked through the Governor's Military Liaison to identify military points of contact and engaged those contacts to seek approval to fly over the military installations. The outcomes were permission granted to fly, no permission to fly, or permission to fly but not collect data over the base.

There was a breakthrough with Harvey Point, which did not permit overflights during the 2010 project. This created a problem because the contractors were unable to fly close enough to the facility to acquire imagery for residential areas along the boundary of the installation. The project team, along with the Perquimans County 911 Director, was able to convince Harvey Point to provide approval to fly but not retain imagery within their boundary.

The flight paths have been approved. Flights will begin February 15 and will continue through March. The project team and the contractors will hold weekly meeting to review weekly status reports. The team is being proactive about coordinating with the county PSAP contacts and GIS coordinators. This coordination is important because the QA/QC process will be streamlined for the 2012 project. There will be an online tool that will allow the county representatives to review the orthophoto images and identify problems that need to be fixed based on a set of criteria. The project team anticipates that the early review process will accelerate the delivery of final data.

Mr. Johnson displayed a slide with project timelines. The product distribution period is scheduled for January/February 2013. However, the goal is to accelerate the delivery to late fall of 2012 through more efficient data review. The final review cycle will probably be reduced to 60 days rather than the 90 days that were allowed in the 2010 project because of the involvement of the county representatives earlier in the process.

The project team is already planning for the next acquisition phase in 2013. This involves estimating costs and schedules for the Phase 2 area and working with the NC 911 Board to get funding approval, hopefully by late spring of 2012. Mr. Johnson reported that Darrin Smith is the project manager, supported by Mr. Johnson, Mr. Bethune and other members of the CGIA Professional Services Program as needed.

Ryan Draughn asked if the delivery mechanism will be the same as in 2010. Mr. Johnson replied that the data will likely be delivered in person on portable hard drives.

Dr. Mandell expressed his excitement about the project and recognized that the team incorporated lessons learned from the 2010 project and are working to streamline the process. He said that everyone will be very happy if the team is able to achieve an accelerated delivery.

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 continues to work on saving the EPA funded project to develop a translation tool to support the development of a statewide parcel database. He asked Tom Morgan for an update.

Mr. Morgan reported on several challenges including moving from an open source solution to an Esri-based tool; identifying agencies and people outside of DENR that will do the work, and selecting a sole source contractor. EPA has agreed to these changes. However, because the project was awarded as part of a competitive grant process, EPA cannot transfer the grant from DENR, the original recipient, to another agency.

Ms. Thompson continued the report and reminded the members that one problem facing DENR is to find a project manager since DENR lost the projected IT project manager in the 2011 budget cuts. DENR's Natural Heritage Trust Fund may have leeway to bring on an IT project manager to support the grant. She reported that she is 90% positive that this can be accomplished unless unknown hurdles arise. DENR will be happy to accept the grant and is supportive of the effort to develop a seamless parcel database that will support environmental applications as well as many other uses.

Dr. Mandell said that this is marvelous news. He praised everyone for working through the problems. He suspects there will be more players involved than originally envisioned and believes that as a result the project will have a higher likelihood of success.

NC OneMap Governance Committee. Dr. Mandell said the NC OneMap Governance Committee is working on a business plan for NC OneMap. He anticipates sharing the results of that work in the near future. A second priority is refining the accountability measures that were presented to the Council previously.

Local Government Committee (LGC). Julie Stamper, chair of the LGC, reported that the LGC met on December 7. Two topics of discussion were the LightSquared issue, which will be discussed during the SMAC report, and the seamless parcel project. Jeff Brown, CGIA Coordination Program Manager, led a discussion on the creation or lack of creation of metadata by local governments and how the LGC might encourage local governments to create metadata.

The LGC will meet on February 22 and the agenda will include a presentation by Richard Taylor about Next Gen 911.

Federal Interagency Committee (FIC). Dr. Rimer, chair of the FIC, reported that the FIC Executive Committee (EC) met on February 2. She welcomed two new members of the FIC EC, Tom Colson, National Park Service, and Matt Duvall, Natural Resources Conservation Service. She noted that Mr. Duvall had been active on the EC previously but just returned from one-year assignment in Afghanistan.

She announced that Gary Merrill will replace Steve Strader as USGS liaison to North Carolina. Mr. Merrill is based in Columbia, SC and will actually serve as liaison to both North Carolina and South Carolina. She spoke with Mr. Merrill and encouraged him to attend meetings of the FIC, the SMAC and the GICC if possible. It is unfortunate that North Carolina has to share a liaison with another state. However, Silvia Terziotti with USGS in Raleigh, who serves as the FIC representative to the SMAC, will devote 25% of her time to supporting Mr. Merrill in this role.

The next general FIC meeting will be April 26 at an undetermined location in the eastern part of the state.

Most of the discussion at the February 2 FIC EC meeting was focused on the federal land ownership data layer. In the spring of 2011, the FIC was asked to coordinate an effort to update the federal land ownership layer for NC OneMap. The FIC EC established a subcommittee to explore the issue, chaired by Tom Colson and including Mark Endries, US Fish & Wildlife Service, and Susan Pulsipher, who is based at Ft. Bragg.

The subcommittee has prepared a preliminary report. The FIC EC will share the report with the full FIC to seek comments after which the FIC will likely consult with the SMAC. She hopes to present the report to the GICC in May. Dr. Rimer said that the process is a wonderful example of what is so valuable about the GICC. The federal agencies have the opportunity to collaborate with their state partners on issues of concern and value to all.

Statewide Mapping Advisory Committee (SMAC). Anne Payne, chair of the SMAC, reported that the Committee met on January 11.

Working Group for Standards. Ms. Payne reported that the Working Group for Standards presented the final draft of the LiDAR standard. The standard underwent a thorough review by many of the stakeholders, including the photogrammetry community.

By way of background, LiDAR is an acronym for Light Detection and Ranging and is a technology for developing digital elevation data and other products that are useful to the GIS community. The process involves the transmission of thousands laser pulses from an airplane to the earth. The pulses bounce back and the angle and speed of return are measured, which enables the determination of elevation and slope. The data can be processed to remove vegetation and then determine the bare earth elevation measurement. In recent years, LiDAR has replaced traditional photogrammetric techniques for determining elevation. The new process is more cost effective and more accurate than earlier technologies. The accurate digital elevation models are of great value in producing orthophotos and other mapping products.

The first major use of LiDAR in North Carolina was to support the mapping of flood zones in 2001 by the Floodplain Mapping Program. Since then, many others have benefited from the data and used the elevation data for other purposes. Mr. Payne thanked the Floodplain Mapping Program.

The need for a LiDAR standard became evident as local governments and others look to acquire new LiDAR data and update elevation layers. She singled out Mr. Morgan and Gary Thompson, among many others, for their work on developing the standard. The draft standard is already being used. Durham County is using it to help develop a contract for LiDAR acquisition and the states of Mississippi and West Virginia are also using it.

Ms. Payne said the SMAC recommends that the GICC 1) endorse the North Carolina Technical Specifications for LiDAR Base Mapping; and 2) recommend the adoption of the standard by the Secretary of State.

Dr. Mandell noted that this standard has gone through a very substantial process of vetting by professionals and experts in the field.

DECISION #1 A motion to endorse the LiDAR standard and to recommend its adoption by the Secretary of State was approved.

Mr. Morgan reported on additional activities by the Working Group for Standards. The working group received a presentation from the Federal Geographic Data Committee (FGDC) on their procedures for developing and adopting standards. A presentation from Ms. Eubank on security issues is planned after which the working group will begin to address its charges and assess which standards need to be reviewed.

Working Group for Seamless Parcels. The report was given as part of the M&O Committee report.

Working Group for Roads and Transportation. Alex Rickard, co-chair of the WGRT, reported that the Eastern Carolina Council (ECC) received a FGDC CAP grant to build a data translator tool for street centerline data. The original plan was to collaborate with the Working Group for Seamless Parcels but the delays with that effort necessitated that the WGRT proceed independently. ECC signed a contract with The Carbon Project to build the translator. It will be web-based, free to local

governments and easy to use. Essentially the translator will accept street centerlines from counties, manipulate the attributes, and convert the centerlines to a format consistent with the State Centerline Exchange Standard. DOT will then be able to incorporate the data into existing work flows or create improved work flows to create a statewide data layer and link the local line work with DOT's linear referencing system.

WGRT will continue to track the work of the WGSP and has several committee members from the NC Property Mappers Association who are knowledgeable about parcel data. Mr. Rickard fully expects that the tool developed by the WGRT will be of value for the EPA grant work. Mr. Morgan expects that the EPA grant may also engage The Carbon Project and the proposed scope of work will incorporate the work of the WGRT.

The WGRT is convening a small technical review committee that will work with the contractor. The project timeline is six months. Mr. Rickard hopes to give the GICC an update on progress in May and then demonstrate the results at the August GICC meeting. At that time he hopes that he will show 25 counties converted to the state standard. Dr. Mandell said the GICC will hold him to that schedule.

Continuing the WGRT report, Mr. Farley reported that the DOT Rail Division has agreed to take responsibility for a statewide railroad layer. The plan is to update and expand the railroad inventory for North Carolina. Ms. Payne expressed her appreciation to DOT for taking the first step on the railroad layer.

Working Group for Orthophotography Planning. Gary Thompson, chair of the WGOP, said that the committee met on January 9 and received an update on the coastal orthoimagery project. The WGOP continues to advise the project team. The working group also provided comments on the LiDAR standard.

Mr. Thompson reported that the geodetic control network is being readjusted by the National Geodetic Survey. NAD83 2011 was scheduled to be released at the end of January but will be delayed until the end of April. A missing component has been a transformation tool between the various adjustments. The Director of the National Geodetic Survey notified Mr. Thompson that a transformation tool for 2001 to 2007 and for 2007 to 2011 will be released in the near future.

The LightSquared issue continues to be a hot topic. The last test did confirm that the LightSquared signal does interfere with GPS, as was demonstrated in all previous tests. LightSquared has petitioned the FCC for a ruling that basically admits interference but says that GPS users should not expect non-interference. LightSquared should not be financially responsible if their network interferes with GPS. LightSquared also accused the FCC of rigging the test in favor of GPS manufacturers.

The FCC released a public notice about the petition. Mr. Thompson met with attorneys at DOT to draft a letter from DOT in opposition to granting the petition. He reported that the National Geodetic Survey annually assesses the financial benefits of GPS. An independent study that assessed the benefits of the North Carolina calculated \$46M in benefits to North Carolina residents.

Mr. Thompson encouraged members to submit comments. The comment period is open until February 27.

Mr. Thompsons reported that he serves on the National Geospatial Advisory Committee and that he briefed that committee on the current situation related to LightSquared.

Ms. Payne asked whether the Department of Defense had weighed in on the subject. Mr. Thompson replied that in its appropriations bill, the Department of Defense reported that if LightSquared installed a system that interferes with their equipment, then LightSquared would have to pay the Department of Defense to replace all their GPS receivers. He also noted that the FAA is implementing the next generation navigation system, which is GPS-based, and the LightSquared signal would impact that system as well.

Dr. Mandell asked if it would be helpful for the GICC to submit a letter. Mr. Thompson replied yes and said he would forward a copy of the draft letter to Mr. Johnson if agencies want to use it as a template.

Dr. Mandell asked if anyone objected to the GICC opposing LightSquared's petition to the FCC. Mr. Rankin referred to NC Geodetic Survey continuously operating reference stations and the \$46M economic value of the network. He described the network as a fifth utility, one that supports engineering, forestry, precision agriculture, dam monitoring, and the collection of accurate GIS data. Protecting this network is critical and necessary to continue to build an accurate and useful GIS database.

Bliss Kite asked that the Utility Commission be recused from being a part of the letter opposing the petition because the Utility Commission regulates the telephone companies. The LightSquared issue has not come before the commission. Mr. Taylor said that LightSquared is a wireless company and that wireless does not come before the Utility Commission. Dr. Mandell suggested that Ms. Kite discuss the issue with the commission's attorneys. He noted that not every member of the Council needs to submit a letter.

ACTION #4 The GICC will prepare a letter opposing LightSquared's petition to the FCC.

Post Meeting Update – On February 15, the “Federal Communications Commission revoked a waiver that would have allowed LightSquared to turn on its network. The FCC on Wednesday plans to issue a public proposal that would bar LightSquared from launching its service “indefinitely.”

Continuing the SMAC report, Ms. Payne said that the NC Board on Geographic Names has one pending request for a stream name change in Ashe County and expects to make a recommendation in March.

She reported that she and Mr. Johnson were invited to the USGS southeast region liaison meeting in Raleigh recently and briefed the group on the activities of the Council. They had an opportunity to meet Mr. Merrill. She encouraged him to attend the SMAC meetings since he will be a member by virtue of his appointment as the USGS liaison to North Carolina. He indicated that he will try to attend both SMAC and GICC meetings in the future.

State Government GIS Users Committee (SGUC). John Farley, chair of the SGUC, reported that the Executive Committee (EC) met on January 26. The EC discussed emergency response related to geospatial data in the aftermath of Hurricane Irene. The SGUC wants to build on the ground

that was gained by collaborating to acquire and distribute data following that emergency. The SMAC members plan to be more proactive and be prepared in advance of disasters.

The EC welcomed a new member, Anna Stefanowicz with the NC Wildlife Resources Commission.

The EC discussed the work of the WGRT and the WGSP. There was also discussion of cloud technology, which DOT is investigating and in which DOT may consider investing. There is a lot of interest by state agencies in using cloud technology services that may offset costs. DOT has also initiated discussions with Esri about the impact of using cloud technology on the Enterprise License Agreements and license pricing. There is the potential for modifying the existing ELA.

The next SGUC general meeting will be on February 16.

Dr. Mandell encouraged the SGUC members to put procedures in place prior to emergencies to ensure and even improve the kind of collaboration that occurred following Hurricane Irene. Acquiring and distributing the post-hurricane imagery on NC OneMap made a big difference in the response. Mr. Farley noted that improvements in technology in recent years enabled the response.

Technical Advisory Committee (TAC). Colleen Sharpe, chair of the TAC, said the committee met on November 22 and December 21. The TAC welcomed two new members, Tobin Bradley from Mecklenburg County, representing the LGC, and Doug Newcomb from the US Fish & Wildlife, representing the FIC. The TAC is working with CGIA staff to review the requirements for NC OneMap, using GAP analysis to assess the requirements against the functionalities that are or will be part of the Geospatial Portal and the new viewer. The TAC identified the requirements that need to be completed for the first version of the viewer, called the Data Explorer. As Mr. Giordano reported, the TAC will be testing the next version in late February.

The TAC also discussed the issue of state plane coordinates in meters versus feet. The TAC recommended that the standard use state plane feet. Most agencies collect the data in feet but the current standard is to use meters and CGIA staff have to re-project the data before releasing it on NC OneMap. CGIA staff are now working to convert NC OneMap data to feet. The TAC referred the issue to the SMAC for additional discussion.

Dr. Mandell asked if a standard establishes the use of meters or feet. Ms. Payne responded that it was a Statement of Direction, passed in 2005, that makes feet an alternative to meters. Dr. Mandell suggested that this may not necessitate changing a standard since the use of feet is allowed under the Statement of Direction. Ms. Payne agreed but believes that the TAC is suggesting that the statement may need to be stronger. CGIA has been following the recommendations in the Statement of Directions and re-projecting all data to meters. The SMAC will address this issue.

GICC Member Announcements

Mr. Johnson reported that in the last legislative session the e-NC Authority was moved to the Department of Commerce and now exists as “NC Broadband” in the department. NC Broadband has a grant from the National Telecommunications and Information Administration to accomplish

broadband mapping updates across the state and CGIA is a subcontractor to that project. The kickoff meeting occurred yesterday. A couple of goals are to consider best practices for addressing and to update the statewide Master Address Database. This will be a multi-year effort. The best practices piece will be the first task. Joe Sewash, CGIA Professional Services Program Manager, with support Alec Bethune, will head up this effort. The project will need to engage the LGC as the project will include a statewide survey of addressing practices.

Mr. Dorman asked if the broadband mapping will include infrastructure and will the data be public. Mr. Johnson reported that this will be a continuation of what Jane Patterson reported in her presentation to the GICC last year. Mr. Johnson replied that he is not familiar with the agreements with the telecommunications providers. The address data will be public data but he was unsure if the infrastructure data will be public. He said that Angie Bailey is the contact at the Department of Commerce who would know more about the agreements with the telecommunications providers.

Mr. Johnson also reported that just this week he has received approval to hold the 2013 NC GIS Conference. The venue has been selected but he cannot yet share the location. He reported that Charlotte, Greensboro, Raleigh and Winston-Salem were the cities considered for the conference. The conference will be held exactly one year from this week.

ADJOURNMENT

There being no other business, the meeting was adjourned. The next meeting will be May 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: <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.