

Statewide Mapping Advisory Committee Meeting

Minutes

Wednesday, July 20, 2016; 1:30 PM – 3:30 PM

NC League of Municipalities

Executive Board Room, David E. Reynolds Building, 308 W. Jones St., Raleigh, NC

Welcome/Introductions – Ryan Draughn, Chair, called the meeting to order and welcomed Alice Wilson, Marcus Bryant, John Bridgers, Gary Thompson, Cam McNutt, Jeff Essic, Joe Sewash, Tim Johnson, David Giordano, Jeff Brown, and on the phone Silvia Terziotti, Jennifer Runyon (US Board on Geographic Names), Kenneth Taylor, and Kelly Eubank.

Minutes

The committee approved the April 20, 2016 Minutes as submitted.

Framework+ Datasets

Ryan called on members to report on opportunities, development, maintenance, and issues for Geospatial Framework datasets for North Carolina.

- *ORTHOIMAGERY*

Tim Johnson (CGIA) provided a brief status report on the Statewide Orthoimagery Program.

The project team is closing out the Southern Piedmont and Mountains (2015). The re-flights in the Sandhills region covering about 60 percent of the contractor's study area were successfully processed, re-reviewed, and delivered to Public Safety Answering Points (PSAPs) and GIS coordinators. The closeout with Fort Bragg and Camp Mackall is complete. Imagery in the re-flight locations has been updated on NC OneMap. A final report to the NC 911 Board will conclude the phase.

For the Coastal phase (2016), quality control is about to begin. CGIA will hold training sessions for the online quality control tool on July 21 and 26. Starting August 1 and continuing into early November, four to five counties begin the visual quality control process each week and continue for up to 60 days. Mr. Johnson displayed the schedule showing the sequence of groups of counties. Also, CGIA is coordinating the delivery of imagery captured over installations of the US Marine Corps for their quality review; final delivery of that imagery will be to the Marine Corps only. One difference for this phase: horizontal quality control, managed by Gary Thompson, will take place earlier in the project schedule for the most efficient delivery of products in January.

The NC 911 Board approved the Eastern Piedmont phase (2017). This region now includes Moore, Richmond, and Scotland counties to enable flights over Fort Bragg and Camp Mackall to occur entirely in one phase. A new agreement with Fort Bragg is in progress. Contracts for the project—CGIA (with NC911 Board) and NCDOT Photogrammetry and NC Geodetic Survey (with CGIA)—are under review and expected

to be approved this month. The Qualifications-Based Selection (QBS) process will begin in the fall. As usual, flights will begin in February.

- *TRANSPORTATION*

John Farley (NCDOT) was not able to attend today. A report is postponed until the next meeting.

- *CADASTRAL*

Jeff Brown and John Bridgers (Working Group for Seamless Parcels) reported that 89 counties have updated their parcel datasets in 2016 in the NC Parcel Transformer. The other 11 counties have data transformed in 2015. Accomplishments for the fiscal year just ended include continuous operation of the cloud application by the Carbon Project, Inc.; technical assistance from the Working Group for Seamless Parcels/CGIA/NC OneMap team; cost share from NCDOT, NCDA&CS and CGIA; and presentations including land records workshops.

The Working Group's outreach to county data managers has encouraged self-service use of the Transformer to keep data current. So far, 35 counties have registered with the Transformer to get log-in permission, upload data, and transform it to the state standard.

The plan for this fiscal year is to update all 100 counties in the NC Parcel Transformer in fall and spring, maintain statewide parcels in NC OneMap, operate and maintain the Transformer (The Carbon Project, Inc.), provide technical assistance, continue to improve population of priority data fields, and find a solution for sustainable, full funding to operate and maintain statewide parcels. Regarding population of fields, an analysis of statewide parcels this spring found that nearly all counties provide values for property identification number, owner name, mailing address, land value, building value, and total assessed value, deed book and page, and site address. Some priority fields, particularly parcel land use, type of ownership, and number of structures, need many more counties to include those fields in their source data to support applications related to land conservation, environmental analysis, emergency management, and others.

Mr. Bridgers added that the statewide collection and integration enables more complete and timely answers to questions from public officials about regional or statewide land ownership or other property information that would be difficult to assemble on an ad hoc basis. Mr. McNutt pointed out, where counties fully populate the fields in the statewide parcels dataset, the Department of Environmental Quality saves time, money and effort in looking at land restoration, conservation, and regulatory issues.

- *ELEVATION*

Gary Thompson reported on behalf of Hope Morgan (Department of Public Safety) on North Carolina LiDAR. Phase 4 of the 5-phase, 4-year statewide project got a late start and acquired LiDAR points for about 45 percent of the region before leaves emerged. The remainder of Phase 4 will be collected beginning in late November/early December and Phase 5 will be collected in the winter during leaf-off conditions as well. It will take about a year to process and deliver LiDAR points for Phase 5. LiDAR data, and derived

digital elevation models used in orthoimagery processing, is planned to be available ahead of the orthoimagery phases so that the new elevation data can be applied.

Data for Phases 4 and 5 are being collected using a Geiger Mode sensor, and will be delivered as 8 points per square meter (contractors are acquiring 30 points per square meter; compared to 2 points per meter for Phases 1-3). Using data from a pilot area, the department has worked with a vendor to fine tune the data processing. In the mountains, the Geiger Mode sensor's circular motion will be better suited to the steep slopes, require fewer passes of the sensor to mitigate shadows, and will be easier to plan.

Phase 5 is expected to have three funding sources: NCDOT and NC Floodplain Mapping Program have committed funds, and the project will apply for USGS 3DEP funding. The area of Phase 5 is about equal to each of the other phases.

- *HYDROGRAPHY*

Cam McNutt (NC Department of Environmental Quality (DEQ)) reported that the Division of Water Resources (DWR) work unit that does headwater stream mapping funded by NCDOT is making progress. He displayed a status map. He will prepare a more in-depth presentation in October to describe the modeling, data collection, and calibrating that produces headwater stream data. This dataset does not go down into valleys and the modeling approach, based in part on elevation data, is not suitable in the coastal plain and other flat areas. The digital elevation models are based on the older LiDAR data; future modeling may be able to take advantage of the newer LiDAR data. The headwater stream dataset will be one of multiple representations of streams that need to be integrated and resolved, a topic for the Stream Mapping Advisory Committee (report below).

- *GEODETIC CONTROL*

Gary Thompson (NC Geodetic Survey) reported that the new working group on the 2022 Reference Frame will meet on July 25 to begin assessing implications for North Carolina and working on recommendations.

- *GOVERNMENTAL UNITS*

Regarding the state boundary, the impact legislation passed in North Carolina and South Carolina. See [Session Law 2016-23](#). The process is complete in South Carolina. Administrative work remains in North Carolina involving the approvals by the Boundary Commission, the Governor and the Council of State. Changes in property taxes begin in January 2017. The process is underway with Virginia.

Mr. Thompson reported that NC Geodetic Survey is working with 12 counties on county boundary surveys. Lenoir and Greene are the closest to resolution.

Regarding municipal boundaries, John Bridgers reported that the Department of the Secretary of State is still working on a comprehensive set of statewide municipal boundaries. Work includes reconciling differences between county datasets, annexations recorded with the Secretary of State, and Census datasets. NCDOT is collaborating. Mr.

Draughn invited Mr. Bridgers to inform him if follow up by the NC League of Municipalities is needed for particular jurisdictions.

Regarding data content for municipal boundary datasets, Alice Wilson asked if Mr. Bridgers would be willing to consult with the Metadata Committee's task group on municipal boundaries and he agreed. He noted that annexations that are not recorded with the Secretary of State or a county register of deeds will not be recognized by the Census Bureau. Municipal boundaries that are not up to date have implications for fair distribution of public funds. The department tracks de-annexations also.

Ms. Wilson added that the Local Government Committee is looking at ways local government GIS data managers can better support local boards of election and the State Board of Elections in terms of understanding expectations and needs for geospatial representations of boundaries for precincts and voting districts and pointing voters to the right voting locations.

- *ADDRESSES*

Joe Sewash (CGIA) reported that *AddressNC* received programmatic funding in the recently passed budget. The project team is working on a draft charter and a project management plan. John Correllus will be the executive sponsor and there will be a steering committee. Luis Carrasco, CGIA, will be the project manager. In the first year, the three-part focus of the project will be (1) outreach and support to local governments for context and engagement, (2) aggregation of local address data and quality control on the state side, and (3) the project will be working off a services based model. It is not simply about compiling the dataset, but also making the data available through services such as geocoding, reverse geocoding, address verification and validation for data entry applications, tabular database support and standards to support data analytics, return mail registry, and US Postal Service intelligent mail barcodes. There are opportunities for efficiencies for state and local governments. The Office of State Budget and Management and the Department of Information Technology were instrumental in getting *AddressNC* into the budget.

Mr. Sewash will be working closely with Bob Coats on preparations for 2020 Census. Also, he is looking to outreach to local governments and putting together a workflow that will enable local governments to participate with their data, and enable the Census Bureau to integrate local address data before the Local Update of Census Addresses (LUCA) process in 2018, so that data coming from the Census for LUCA will align with data that local governments work with on a day to day basis.

On the national front, the Federal Geographic Data Committee's Executive Committee has recognized addresses as the eighth theme in the National Geospatial Data Asset Catalogue. Co-leads will be the US Department of Transportation and the Census Bureau in the US Department of Commerce. They will develop a National Address Database (NAD) which will take advantage of state initiatives like *AddressNC* to assemble a national database. The National States Geographic Information Council (NSGIC) is engaging the Federal Communications Commission (FCC) to be able to support the

National Emergency Address Database (NEAD) that will be developed by telecommunication carriers to use Wi-Fi triangulation barometric sensors in devices and beacon technology to identify indoor locations of 911 calls. The FCC has supported an industry position that NEAD should be protected and used only for emergency response. NSGIC's position is, with the advancement of the address layer in the National Geospatial Data Asset Catalog and development of NAD, there should not be duplication of effort and there should be agreement between NAD and what NEAD is developing for sub-addresses in building interiors.

Ms. Wilson reported that she brought New Bern's addressing issue, described at the last SMAC meeting, to the Local Government Committee for discussion.

In response to a question, Mr. Sewash observed that *AddressNC* will go through a fresh requirements analysis and may not adopt the same fields and field headings as the version published in 2014. The nature of the project is different in the context of a services based model. For example, to support reduction of returned mail and achievement of substantial cost savings, there may be additional fields required by local government partners. Mr. Sewash will work on ways to offer digital services to local government partners as incentives to keep local source data flowing into the system. As pointed out by Mr. Johnson, funding this time is for updating and maintaining *AddressNC*. This is not another one-time update to address data as in 2009 and 2014. Also, providing value to local data partners is a key element in sustaining the quality of *AddressNC*.

Work Plan Prioritization and Other Data or Mapping Items from the Group

- *WORK PLAN ITEMS for 2016-2017*

With reference to the Work Plan for the fiscal year just completed, Mr. Draughn facilitated a discussion of items. The update will be available on the GICC website on the SMAC page. SMAC approved the Work Plan with changes identified in the meeting.

- *NEXT GENERATION 9-1-1*

Joe Sewash gave an overview of NextGen911 activities. The driving force behind NextGen911 is a change in telecommunications infrastructure from twisted pair and Centralized Automatic Message Accounting (CAMA) trunks to Internet Protocol (IP)-based telephony. AT&T and Century Link will stop provisioning CAMA trunks in 2018 and completely transition to IP-based by 2020. For GIS, the process of call routing will transition from referencing a master street address guide (MSAG)—table—to a GIS. For any call, when the telecommunication provider hands off a call to a secure IP network, there will be a coordinate in the IP package representing the location of the call. That will be applied to a map of public safety answering point (PSAP) geographic extents to determine the PSAP connection for the call. GIS will be a full player in NextGen911.

The challenge for the GIS community is standards. The National Emergency Numbering Association (NENA) is charged with developing standards. It has worked on a GIS standard and schema for seven years; it has just completed an all-committee review and

will conduct a public review. The goal for distribution of the standard is the second quarter of 2017. To stay on top of this, NC 911 Board has a NextGen911 Planning Committee that is working with the draft schema for understanding and preparation. Quality control goes to a whole new level to make sure the transition from tabular-based to GIS-based call routing goes smoothly. Complicating factors in NextGen911 planning include mutual aid relationships between jurisdictions for call answering and back-up. NextGen911 requires statewide datasets which means a lot of work will be required to align boundaries and address ranges across jurisdictions. The update cycle for datasets are measured in hours according to NENA standards; updating statewide datasets needs to be on the order of once or twice a week. The draft standard categorizes datasets as “required” (centerlines with address ranges, PSAP boundaries, and emergency service boundaries), “highly recommended” (address points, structures, landmarks, ancillary navigation, municipal boundaries, county boundaries and other boundaries), and “recommended” (cell towers, railroads, mile markers, and hydrography).

In North Carolina, coordination of work on NextGen911 with work in progress on municipal and county boundaries will be important, including integration of resolved boundaries in local government data maintenance.

The GIS working group in the NextGen911 Committee put out a survey to PSAP and county and municipal data providers to obtain information about who maintains particular datasets. The response rate was about 65 percent. Respondents identified street centerlines, address points, parcels, and governmental unit boundaries as datasets with enterprise uses. These datasets are managed in different local departments (e.g., GIS, planning, tax administration, etc.). The NC911 Board needs to be able to have local governments point the Board to the authoritative sources for datasets. Respondents expressed concerns about the quality of GIS data and staffing resources. The survey results are intended to inform the NC 911 Board in the evolution of NextGen911.

Standards and Practices

John Bridgers confirmed that the parcel standard revision for parcel data content as approved by SMAC has been under review by the GICC and is scheduled for a vote at the August 10 meeting of the Council. Regarding practices, the “Best Practice Manual for Digital Cadastral Base Mapping in North Carolina” edited by Tom Morgan is complete and available [online](#) from the Land Records Management Program.

Working Groups

WORKING GROUP FOR ROADS AND TRANSPORTATION

No report.

METADATA COMMITTEE

Jeff Brown reported on behalf of Sarah Wray, chair, who was not available today. Since the last SMAC meeting, task groups have met to identify data theme-specific metadata elements and develop metadata templates to provide a head start for data managers who apply the State and Local Government Metadata Profile. A draft guide for using a

template for parcel data in the most common software (ArcGIS) is under review. Also, the City of Greensboro is ready to assist the committee in testing materials.

Training materials are taking shape in preparation for workshops in Carolina Beach (NC Arc User Group, September 27) and Greensboro (NC Property Mappers Association October 4, and tentatively the City of Greensboro in early October). Planning is underway for a hands-on session for state users in November (with Dan Madding coordinating a venue).

Outreach by Sarah Wray and Lynda Wayne has included a presentation to FOSS4G (May 3) and an upcoming presentation at URISA GIS-Pro in Toronto (November 2) in collaboration with GeoDiscover Alberta.

Lynda and Jeff Brown met with Sarah Sheldon and Stephanie Osbourn of the City of Asheville to review metadata opportunities, especially for web services and open data. Next steps are a kickoff meeting with the NC Central University graduate research student whose work begins August 1st, more work on templates and workflows, more detail on training materials, minor edits to the table of required elements in the Profile, and a committee meeting in August.

STREAM MAPPING ADVISORY COMMITTEE

Cam McNutt (NCDEQ) reported that the StreamMAC is meeting monthly and he and Joe Sewash are meeting regularly to do planning. In brief, the upcoming tasks are:

- (1) Develop a set of hydrography requirements, needs, and desires from potential users, to be finished in the first quarter of 2017. The approach is to look at what is available, weaknesses and strengths, and set minimum requirements and specifications for geometry, attributes and documentation. Considering the regulatory role of streams, changes to datasets need documentation and oversight. The requirements document for hydrography includes background, strategy, overview, specifications, costs, recommendations, and next steps.
- (2) Stream naming issues will be reviewed and issued as a paper.
- (3) Learn more about the headwater streams dataset from the development team and look for ways to integrate that into a hydrography dataset.
- (4) Look at all stream mapping datasets and determine a way to put together the geometry and how to document those on a path to getting a consistent well documented statewide dataset.

He added that the hydrography task group in the Metadata Committee finds it difficult to create a template for hydrography at this time, and the metadata will be part of the overall process of the StreamMAC. More detail for SMAC will be forthcoming.

Mr. McNutt clarified that the USGS analysis of [hydrography requirements and benefits](#) will be a base document for StreamMAC in its work, but he expects more specific requirements to be identified by the committee.

NC BOARD ON GEOGRAPHIC NAMES

Mr. Draughn welcomed Jennifer (Jenny) Runyon, US Geological Survey, Research Staff, US Board on Geographic Names (USBGN), to the meeting. He acknowledged that SMAC is in the process of clarifying procedures for the NC Board on Geographic Names (NCBGN), and SMAC members and Ms. Runyon have reviewed a draft document that combines procedures for review of geographic naming petitions and communication. Members of the NCBGN submitted comments. Mr. Draughn expressed his appreciation for Ms. Runyon's participation today and welcomed her comments.

Ms. Runyon suggested streamlining some of the statements in order to separate new name proposals from name change proposals. She recommended distinguishing between proposals received by the USBGN and forwarded to NCBGN for input and proposals initiated by NCBGN. Is it the intention of NCBGN to identify a name to change and go to a county to initiate a proposal for a name change? Are there three tracks: (1) new name proposals for un-named features, (2) name change proposals of any kind, and a subset (3) name change proposals for features that have derogatory names? Is NC intending to be both reactive and proactive?

Mr. Draughn clarified that SMAC is not intending to initiate proactive name changes. There have been instances where legislation directed the Geographic Information Coordinating Council to take action related to specific derogatory feature names, but that is not the normal process. SMAC is trying to clarify and improve the normal reactive review process and related communication.

Ms. Runyon advised revising the document's section about the GICC notifying SMAC to notify the county. When approached with a question or request relating to a name change, she recommended answering questions and assisting with an application through USBGN to start the process. USBGN is reactive case by case. USBGN does not un-name a feature, but requires proposal of a new replacement name. She observed that nearly all naming requests in North Carolina have come through USBGN and been sent to NCBGN for comment; seldom does a request come directly to the State. Mr. Johnson confirmed that legislative directives in 2003 and 2013 were the only times that the State had to be proactive. He explained the intention to be prepared to follow the right procedures if a naming request came to the NCBGN directly to be sure it got into the USBGN process. NCBGN is not prepared to accept applications for name changes; forms to initiate the process are hosted online by USBGN. With the exception of three or four states, other states choose to direct inquiries to USBGN. Nationwide, almost all proposals come directly to USBGN. Search engines tend to list USBGN at or near the top of results. For those direct proposals related to features in North Carolina, USBGN contacts NCBGN for input. USBGN also contacts the county where a feature is located, federal agencies, and tribal governments depending on the location.

Mr. Draughn confirmed that SMAC concurs with that approach and parts of the plan can be edited to clarify that NCBGN is not proactive unless directed by the State to act on a specific name. He requested that SMAC (Ryan Draughn, Chair, and Tim Johnson, David

Giordano, and Jeff Brown of CGIA as staff) be copied on correspondence with the NCBGN to aid in timely communication and awareness of sensitive naming issues if any.

Ms. Runyon observed that Dr. Moore has been very responsive, often on the phone, and that petitioners can become impatient during a review process that necessarily takes time where boards and committees meet on a quarterly basis.

Regarding derogatory names, Ms. Runyon suggested a review of the 2003 legislation to assure that no current names in the Geographic Names Information System (GNIS) are in conflict with the directive.

Among NCBGN member comments, Cam McNutt suggested that the NCBGN be modified so that NCBGN is not in the position of deciding what is a derogatory name. The charge of NCBGN would be to consider all new names and re-naming proposals in the USBGN process.

Dr. Moore's report via email commented on USBGN actions to name three unnamed streams: "Fox Creek" in Buncombe County, referenced on the USBGN Review List 423 (approved by SMAC on April 20, 2016); "Spurr Creek" and "Winding Oak Creek," both in Granville County, as posted on the USBGN Review List 421. The USBGN has processed details related to the petitioner's request for a Commemorative naming of "Spurr Creek." The additional details required of the petitioner have been received and reviewed by the USBGN and the NCBGN. The additional information was needed by the USBGN to meet Federal requirements which stipulate that: 1) at least five years have elapsed since the death of the person for whom the feature is proposed to be named, and, 2) it can be demonstrated that the family has played an historically significant role in the area. Locative details for the three streams are posted on the USBGN Review Lists 421 and 423 to include USBGN decisions made on 5 May 2016.

Dr. Moore's report confirmed that the Transylvania County Clerk yielded a Local Opinion offered on April 25 by Mike Hawkins, Chair, of the Transylvania County Commission in support of the petitions to rename the features now named Revels Mountain and Revels Prong in Transylvania County. Mr. Draughn observed that SMAC approved the new names on January 13, 2016 subject to USBGN receipt of local opinion which is now complete.

Voted: SMAC accepts Dr. Moore's notification of positive local opinion, meeting the condition of SMAC's January 13th approval of the name changes for Revels Mountain and Revels Prong in Transylvania County.

Ms. Runyon will put SMAC's approval on the USBGN agenda for August 11, 2016.

Regarding Fox Creek, Spurr Creek and Winding Oak Creek, Ms. Runyon reported all three were approved by USBGN on May 5, 2016 and are in GNIS. Mr. Draughn will contact Dr. Moore to discuss today's items. He thanked Ms. Runyon for her informative comments and suggestions.

ORTHOPHOTOGRAPHY PLANNING

Gary Thompson reported that the working group met last week. The only new agenda item pertained to the new FAA rules for unmanned aircraft systems (UAS) that go into effect August 29. The committee decided that he and Jeff Brown would go through the plan for derived elevation products and estimate the level of efforts needed to meet requirements for products for which no agency volunteered to produce. National Agriculture Imagery Program (NAIP) imagery is being flown this summer in North Carolina.

In response to an observation by Ms. Wilson that UAS vendors were numerous at the Esri International User Conference, Mr. Thompson advised that imagery collected by UAS are subject to photogrammetry standards even in small areas. Ground control is essential. He emphasized that local governments are not exempt from FAA rules and North Carolina regulations. FAA rules require a knowledge test and North Carolina requires a permit. The NCDOT Aviation Division is the source of information and permitting in the state. The only public entities with permission to fly UAS currently are the Next Generation Air Transportation (NGAT) office at NC State University, the NC Department of Public Safety, and the Corolla Fire Department.

Tim Johnson and Gary Thompson will work with Kyle Snyder to develop a session for the 2017 NC GIS Conference on the topic of UAS.

Regular Status Updates

NATIONAL GEOSPATIAL PROGRAMS OFFICE

Silvia Terziotti reported that the Broad Agency Announcement (BAA) for LiDAR is coming up and there will be two national webinars to describe the process and expectations on August 11, 3:00-4:30 and August 15, 1:00-2:30. She will forward more information when it is issued and she will know more about her specific role soon.

She also described the upcoming Federal Interagency Committee's general meeting (August 25 at noon at USGS in Raleigh) that will focus on different methods of creating land cover products by federal agencies (NOAA, EPA, USDA, and USFWS) from different sources. She invited others who are interested in land cover to join the session.

NC ONEMAP

David Giordano reported updated datasets to the NC OneMap Geospatial Portal. Regarding 2015 imagery, he explained that downloadable imagery tiles from the 2015 collection are now offered in MrSID format, not TIFF with JPG compression as previously. The same download function is used through NC OneMap. Uncompressed TIFF format is available only offline by request. He added that NC OneMap consumers may now download countywide imagery as compressed mosaic files, county by county, by searching on "mosaic" and selecting "download/open" and selecting a county for the latest available year.

Mr. Giordano added that CGIA now offers a single geodatabase (2 GB) containing

statewide parcels to meet consumer needs for a compilation from which to select records of interest across the state, instead of downloading 100 counties to get a full collection. Search for parcels and see “Download” and “details” and follow the download link to another page, and scroll to NC_Parcels_fgdb.zip.

Adjourn --The meeting adjourned at 3:25 PM.

Note: Via email on 8/5/16, the SMAC approved the NC BGN recommendations to rename Fox Creek in Buncombe County, and Spurr Creek and Winding Oak Creek both in Granville County.

2016 SMAC Meeting Dates
Wednesday, October 12