

# Statewide Mapping Advisory Committee Meeting

## Minutes

Wednesday, January 13, 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 Tom Morgan, John Bridgers, Alice Wilson, John Farley, Sarah Wray, Sean McGuire, Stephen Dew, Hope Morgan, Kenneth Taylor, Camille Tyndall Watson, Cam McNutt, Jeff Essic, Joe Sewash, Jeff Brown, David Giordano, Tim Johnson, guest Tim Shortly, and on the phone Silvia Terziotti, Marcus Bryant, Steve Averett, Gary Thompson, and Tyrel Moore.

## Minutes

The committee approved the October 14, 2015 Minutes.

One of the working group reports preceded all other items to accommodate the schedule of Tom Morgan.

### *WORKING GROUP FOR SEAMLESS PARCELS*

Tom Morgan (Land Records Management Program), co-chair, reported that the Working Group for Seamless Parcels is working on an update of the core cadastral data content standard. In the first meeting of the group on this task, the group identified a need and opportunity to review the master schema of the NC Parcels Project. Some of the standard fields are not being populated in the NC Parcel Transformer (e.g., constituent pieces of the mailing address), some additional fields may be valuable, and some definitions could be clarified. Changes to the master schema will be minor. The working group will meet again on January 19.

Hope Morgan (NC Emergency Management) commented that she typically requests copies of county parcel data and other base geographic data in the first quarter of each year. The statewide NC Parcels has a maintenance plan that will solicit updates in the spring after new tax information is finalized by a county, usually in the first quarter. To avoid duplication, Ms. Morgan will state in her letter requesting data from each county that if the county will update its parcels for the NC Parcels Project, she will obtain copies of parcels from the Parcel Transformer (standardized). If a county plans to not share data again with the NC Parcels Project, she will ask for a copy of parcels and inform the NC Parcels Project team. Ms. Morgan updates her system with county data in preparation for the hurricane season. The team will follow up with Ms. Morgan,

## **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 Orthoimagery Program. The

Southern Piedmont and Mountains (2015) phase is scheduled to deliver imagery products to all 24 counties (Public Safety Answering Points (PSAP) and GIS coordinators) in a series of regional distribution meetings in last two weeks of January. Public release via NC OneMap is on schedule for the first week in February. The project team members—NCDOT Photogrammetry, NC Geodetic Survey, Land Records Management Program, and CGIA—have worked hard in recent weeks to meet the timetable for release.

Mr. Johnson described the need to re-fly, at the contractor's expense, a portion of one of the 2015 study areas. For technical reasons, some of the imagery did not meet state specifications for visual quality. The 2015 imagery in those locations will be delivered to PSAPs as part of a complete package and will be suitable for use in emergency communications and for other purposes. Imagery that did not fully meet the state standard for blur will be superseded by 2016 imagery in the same locations. Replacement products are expected in June 2016 and will be delivered to the PSAPs and integrated into NC OneMap.

For the coastal phase (2016), the project team selected four imagery contractors to cover four study areas comprising 27 counties. The selected contractors are Atlas Geographic, Spatial Data Consultants, Surdex, and The Sanborn Map Company. The Department of Information Technology signed a 9-year agreement with the US Marine Corps for permission to acquire orthoimagery within their boundaries. USMC will take delivery of imagery over installations and share the imagery with the local PSAPs (not the public). In addition to the Marine Corps areas, an agreement was reached with the Harvey Point installation for imagery acquisition without local government access to the imagery. Approvals to fly are in place, also, over installations of the US Air Force, Army, and Coast Guard. The target for 2016 flights to begin is February 1.

- *TRANSPORTATION*

John Farley (NCDOT) reported that the ROME Project (all public roads) is making final data corrections and will publish a dataset in March. He also described new legislation that requires NCDOT to drive every public road in the state and collect geometry and attributes. This task will take a large effort to complete by June. The attributes have some commonality with the ROME street centerlines and may affect what is managed in the ROME database. It may be a separate dataset and web service. NCDOT's Asset Management group is involved. This does not include private roads.

On the topic of geospatial data on bicycle and pedestrian trails, Mr. Farley reported that the grant-supported bicycle/pedestrian group in NCDOT is not well funded currently. A data model is established, and work continues but data remains incomplete. Alice Wilson (City of New Bern) pointed out the value of complete data, and Mr. Draughn confirmed his interest in improving the resource. Ms. Wilson offered to assist in organizing promotion through the Local Government Committee. Mr. Farley welcomed efforts of local governments and other state agencies to build the dataset.

- *CADASTRAL*

Jeff Brown (CGIA) and Tom Morgan (Working Group for Seamless Parcels) displayed a

status map showing 52 counties with parcel data updated since September in the NC Parcel Transformer. The other 48 counties have data transformed earlier in 2015. The Working Group is encouraging county data managers to use the tool on their own to keep data current in the Transformer. So far, 15 counties have registered with the Transformer to get log-in permission for self-service updates.

Accomplishments in 2015 included:

- 100 counties updated in the NC Parcel Transformer
- Automated process to refresh the NC OneMap Database and Geospatial Portal
- Continuous operation of the cloud application by the Carbon Project, Inc.
- Minor enhancements to the NC Parcel Transformer and the Master Schema
- User guides for updating their parcels in the Transformer
- Presentations to professionals in workshops and conferences
- Technical assistance from the Working Group for Seamless Parcels and CGIA
- Technical assistance from NC OneMap team
- Cost share from NCDOT and NCDA&CS

In 2016, the plan includes:

- Update 100 counties in the NC Parcel Transformer (spring and fall)
- Maintain statewide parcels in NC OneMap
- Operate and maintain the Transformer by the Carbon Project, Inc.
- Reach out to professionals in workshops and conferences
- Provide technical assistance from the Working Group for Seamless Parcels and CGIA and the NC OneMap team
- Continue to build stock of “do-it-yourself” counties
- Continue cost share from NCDOT and NCDA&CS and others if possible
- Find a solution for sustainable, full funding to operate and maintain statewide parcels

Mr. Morgan added a use case: John Bridgers has used statewide parcels as a valuable reference for quality review and reconciliation of annexation boundaries and municipal boundaries from jurisdictions in 42 counties.

- *ELEVATION*

Hope Morgan reported on North Carolina LiDAR. Phase 3 data will in final review by next week. The next step will be to create digital elevation models (DEM) by mid-February. March 1 is the goal for having all the Phase 3 (2015) data available in a new clip and ship application online. The clip and ship tool will have added functionality to enable download of DEMs, imagery and other floodplain program related GIS data by the end of March.

In 2016, the NC Floodplain Mapping Program is planning to do Phase 4 through a combination of funding sources. One option is to do a 20-county acquisition (instead of 24 counties). The outcome of the grant proposal to USGS has not been announced. The program is working on other options that could result in full-state/one-year or half-state/two-year collection of LiDAR using Geiger Photon technology for point density that

would attract private investment in acquisition. The deliverables will be the same no matter which technology is applied, but the underlying point density could be much greater than the first three phases. The configuration of counties for the 20-county option is to be determined.

- *HYDROGRAPHY*

Cam McNutt (NC Department of Environmental Quality (DEQ)) discussed stream attribution with USGS in November. The attribute for perennial versus intermittent stream has not been consistently populated in North Carolina. The vintage of a quad and inconsistent methods applied would explain variation in the values for that attribute from quad to quad. Given the lack of science, USGS recommended classifying named streams as perennial and unnamed tributaries as intermittent. Mr. McNutt prefers to not use that attribute, to simply have streams as in the western county streambed mapping project. No changes are expected soon for that attribute. Meanwhile, DEQ's capture of the 1:24,000-scale NHD streams will serve DEQ, to be discussed by the Stream Mapping Advisory Committee.

- *GEODETIC CONTROL*

Gary Thompson (NC Geodetic Survey) reported that he is working with Tim Johnson and Jeff Brown to finalize a charter for a new working group on the 2022 reference frame and implications for North Carolina. He has identified members with expertise in this subject.

- *GOVERNMENTAL UNITS*

Mr. Thompson reported that NC Geodetic Survey is working with 12 counties on county boundary surveys. He observed that the NC Parcels Project may have raised interest in improving county boundary representations. Regarding the re-establishment of the NC-SC state boundary, Mr. Thompson reported that Senate Bill 575 will be brought up in the short session. South Carolina begins its short session in January. NC Geodetic Survey is seeking approval to begin work on the NC-VA boundary.

Regarding municipal boundaries, John Farley reported no change in the efforts between NCDOT and the Department of the Secretary of State that will produce an improved statewide municipal boundaries dataset based on the Powell Bill dataset and the Boundary and Annexation Survey (BAS) and related requirements. Mr. Morgan added that the effort is waiting for completion of the Boundary Quality Assessment and Reconciliation Process (BQARP) so there will be data to share with municipalities for review and refinement. Under consideration are efforts to develop master schemas for other types of governmental boundaries—state, county, municipal, municipal corporation (e.g., water and sewer district, fire district)—to simplify data sharing related to taxation.

- *ADDRESSES*

Joe Sewash (CGIA) reported that the AddressNC team is tracking two national issues relevant to statewide mapping. The first is competing pilot projects on address data. The US Department of Transportation is working with Arizona and the Census Bureau is working with Arkansas. The two federal agencies have different interpretations of and fundamental disagreements about the National Geospatial Data Asset Management Plan

as it relates to development of a national address database. The pilots are scheduled to be completed by June. It will be the responsibility of the Federal Geographic Data Committee to determine a path for development and maintenance of a national address database.

The second issue is that in late 2014 the FindMe911 organization developed a roadmap with permission by the Federal Communications Commission (FCC). FindMe911.org is focused on improving the ability to find cellular handsets when users call 911 from interior locations. There are technologies and standards in progress to develop a database of commercial and public accessible Wi-Fi equipment and beacons so that a phone can figure out a location inside a building and pass that location to PSAPs or first responders. FindMe911 has worked with the FCC to limit this database to public safety activities. The National States Geographic Information Council (NSGIC) has worked for years to develop the position that address coordinates and address information are not protected information for terms of efficiency and reducing redundancy. The NSGIC Board has written to the National Emergency Numbering Association (NENA) and the National Association of State 911 Administrators and plans to meet with NENA officials in Washington DC in February.

## **Standards and Practices**

(Standards and practices are covered in working group reports this meeting).

## **Working Groups**

### *WORKING GROUP FOR ROADS AND TRANSPORTATION*

John Farley reported that he asked Erin Lesh, NCDOT, and Joe Sewash, CGIA, to co-chair the working group to take on an update of the state data content standard for street centerlines. Mr. Sewash is serving as co-chair temporarily until a local government member is established and ready to be a co-chair. Mr. Farley is identifying a core group of six to eight members to do the analysis and reach out to additional subject matter experts and stakeholders as needed. He is reaching out to Alex Rickard of Capital Area Metropolitan Planning Organization (colleague Tim Shortly is in attendance) as well as NCDOT's Chris Tilley for insight into the 2005 standard. The next step is to convene a group and clarify the goal, purpose and approach to review the standard and update as needed to serve as a core standard for street centerlines.

### *METADATA COMMITTEE*

Sarah Wray, chair, reported that the Metadata Committee has begun implementing its plan. In addition to committee volunteers and potential temporary staff assistance, NCDOT plans to engage an intern from NC Central University to assist with training, pending approval. The committee updated the template xml used for Esri editing and updated the Esri user guide, to be reviewed by the committee and published on the NCOneMap website soon. Upcoming tasks include meeting with State Archives to review the State and Local Government Metadata Profile from a data preservation perspective, reviewing the demo from GeoDiscover Alberta, Canada, building the curriculum for online and in-person training, planning logistics, and carrying out the

training. Also, Ms. Wray confirmed that the Metadata Committee will reach out to the Local Government Committee to review and test an updated user guides and templates.

In addition, the Namibia Statistics Agency sent an inquiry to NC OneMap about permission to use the NC profile as a template for geospatial metadata. After discussion and expressions willingness to share the metadata template, the committee approved a recommendation.

Voted: SMAC recommends to the Geographic Information Coordinating Council that North Carolina share its State and Local Government Metadata Profile template with the Namibia Statistics Agency.

CGIA will contact the Federal Geographic Data Committee to assure a coordinated response.

*STREAM MAPPING ADVISORY COMMITTEE*

Cam McNutt (NCDEQ) explained that the mandated review of all environmental rules, including those for the Division of Water Resources, have slowed the progress of the committee in 2015. Public review has been delayed, now scheduled for March.

The committee is working on business cases for detailed streams from the local government perspective. For a local government or other organization to get a new local stream map approved for application to water quality rules, there is not an established process. In the rules review, language in the Jordan Lake rules is proposed to be inserted in rules for all watersheds. As noted in previous SMAC meetings, the wording in the Jordan Lake rules implies approval by both the GICC and the Environmental Management Commission (EMC). The current wording:

(iii) Other maps approved by the Geographic Information Coordinating Council and by the Environmental Management Commission as more accurate than those identified in Sub-Item (3)(d)(i) and (3)(d)(ii) of this Rule. Other maps may be 15A NCAC 02B .0714 Draft last revised: 11/19/15 submitted to the Division for review and recommendation to the Environmental Management Commission. Prior to recommendation to the Environmental Management Commission, the Division shall issue a 30-calendar day public notice through the Division's Mailing List in accordance with 15A NCAC 02H 5 .0503. Division staff shall present recommendations including comments received during the public notice period to the Environmental Management Commission for a final decision. Maps approved under this Sub-Item shall not apply to projects that are existing and ongoing within the meaning of this Rule as set out in Item (6) of this Rule;

The Stream Mapping Advisory Committee proposes revised wording to clarify the roles of the GICC (technical/geospatial) and the EMC (policy/regulation):

(iii) A hydrography dataset developed using processes/methods approved by the Geographic Information Coordinating Council. Prior to approving a mapping process/method under this sub-division, the GICC shall assure that edits, deletions and additions to the hydrography dataset follow approved processes/methods. The EMC will

make a determination as to whether these rules shall apply to edits and additions to this hydrography dataset after a 30-day public notice and opportunity for comment. Hydrography developed by the approved mapping processes/methods under this sub-item shall not apply to projects that are existing and ongoing within the meaning of this Rule as set out in Item (6).

Separating scientific and regulatory roles would simplify approval and use of new stream data and enable EMC focus on how to apply stream data to rules and policies.

No action is required by SMAC at this time, but when the new water quality rules go out for public review, Mr. McNutt recommends the GICC submit a statement about this particular rule. Mr. Draughn will follow up with Mr. McNutt.

Also, the committee is considering a simpler data model for local resolution stream data in the context of a new USGS data model. Data maintenance is a prime consideration.

Meanwhile, the NC Division of Water Resources continues to produce new data representing headwater streams with support from NCDOT. The dataset is highly detailed and could be used for purposes within and outside of the Division. Mr. McNutt explained that the model is based in part on ecoregions west of the fault line. Hydrologic units intersecting NCDOT's Division 4 were the initial priority. The models may not be applicable in the coastal plain. The work is proceeding from the eastern piedmont to the mountains. The models are being applied using the first generation of LiDAR.

Ms. Morgan asked about the numerous water datasets created and used for different purposes by different agencies that could be considered within the hydrography framework data. She suggested benefits of having access to documented hydrography datasets with information about recommended use. Purposes for digital water datasets include analysis, modeling, engineering, permitting, and cartographic display with various representations suitable for those purposes. Consolidation to a single resource may be impractical given the range of purposes. A database inventory for water would have value, including information about each dataset – what it is, its proper use, and who hosts it.

Mr. Sewash explained that the development of use cases for stream data, in progress by the committee, will produce the information if agencies fully participate. A single dataset can satisfy some of the uses cases, but not all. There may be some site specific datasets that are not suitable for a statewide dataset. Local government data on streams and stormwater systems are important elements in a hydrography network as well. Understanding uses can guide a more valuable statewide dataset. Mr. Draughn asked that CGIA coordinate an effort to compile information, taking advantage of the work of the Stream Mapping Advisory Committee on use cases to inform a statewide dataset. Ms. Morgan offered to initiate a simple spreadsheet with a few fields, including intended purpose and primary users, to fill out for water datasets in use. This can focus on data creators for information as a starting point.

*NC BOARD ON GEOGRAPHIC NAMES*

Dr. Moore reported that the NC Board on Geographic Names (NCBGN) received two proposals on June 23, 2015 for naming unnamed streams “Spurr Creek” and “Winding Oak Creek” in Granville County. The USBGN currently is processing the “Spurr Creek” proposal because the petitioners have requested a commemorative naming of “Spurr Creek.” The file will remain incomplete until additional details associated with the petitioner’s request are received and reviewed by the USBGN and the NCBGN. The additional information is needed by the USBGN to meet 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.

The NCBGN also received petitions, via USBGN, to rename two objectionable or offensive names for features, “Negro Mountain” and “Negro Prong” in Transylvania County. These features, a summit and a stream, respectively, are located in the Pisgah National Forest.

The petitions for renaming the features focus on the life of Hiram Rhodes Revels (1827-1901) who was born in North Carolina and was the first black member of the U.S. Senate. He was born in Fayetteville, NC (225 mi. from summit) and lived during his youth in Lincolnton, NC (90 mi. away). These proposals also must comply with the USBGN's Commemorative Names Policy. The USBGN requests a recommendation from the NCBGN.

In discussion, the committee concluded that NCBGN needs more information about each of the two creeks in Granville County including details about the proposed Winding Oak Creek and if it is in the same petition as the proposed Spurr Creek. The committee also concluded that NCBGN needs more information from USBGN about findings concerning local opinion before SMAC approves the recommended renaming of the two features in the Pisgah National Forest to Revels Mountain and Revels Prong, respectively.

Voted: SMAC recommends to the NCBGN the adoption of commemorative naming of Revels Mountain and Revels Prong, on federal land in Transylvania County, subject to SMAC receiving confirmation that the USBGN has notified the county and the county has given an answer or opinion on the naming.

Dr. Moore will follow up with Mr. Draughn and CGIA with more information as soon as practical.

*ORTHOPHOTOGRAPHY PLANNING*

Gary Thompson reported that the working group heard quarterly updates on the Statewide Orthoimagery Program, the statewide LiDAR project, and the National Agriculture Imagery Program. The latter is likely to include acquisition of leaf-on 1-meter resolution imagery in summer 2016, with confirmation from the program pending.

The working group reviewed and discussed the plan for elevation products derived from



new LiDAR data, taking an approach to update the plan whenever more solutions are found for datasets and web services.

The working group also discussed unmanned aircraft systems to share information about requirements and rules. Also, Mr. Thompson continues to serve on the National Geospatial Advisory Committee (NGAC) and chairs the 3DEP subcommittee.

## **Regular Status Updates**

### *NATIONAL GEOSPATIAL PROGRAMS OFFICE*

Silvia Terziotti reported that USGS is providing another point of access for consumers of North Carolina LiDAR data. The Phase 1 LiDAR point cloud information is available for download from USGS ScienceBase or the National Map. New digital elevation models (DEMs) have been integrated into the National Elevation Data 10-, 30-, 90-meter elevation data products. She will talk to colleagues about integrating the new models into the USGS one-meter product. In response to a question from Ms. Morgan, Ms. Terziotti added that USGS 1-meter DEM will be hydro-flattened. She is producing a 1-meter DEM for Phase 2 and will share specifications to Ms. Morgan for Phase 3 processing.

A December meeting on Ele-Hydro products. The elevation and hydrography datasets will be merged to be horizontally and vertically aligned. Models are in place to develop an NHD-plus dataset at a 1:24,000-scale, to be published within three years. 3DEP may move toward collection of elevation and hydrography together.

Also, National Geospatial Programs (NGP) will be refocusing the role of the liaison. NGP approved a new liaison position for NC, SC and GA who would be the primary liaison, with Ms. Terziotti remaining in her Associate Liaison role though with more of a science role. The primary liaisons will transition from more science-based duties to working on coordination, contracting, and supporting states.

For SMAC members familiar with the National Hydrography Database, the lead USGS person, Jeff Simley, has retired. Al Rea will take on lead responsibility.

### *NC ONEMAP*

David Giordano reported updates and revisions to the content of the Geospatial Portal including quarterly updates from the NC Natural Heritage Program and quarterly metadata updates from NCDOT (for data hosted on NCDOT servers).

The NC OneMap team implemented scripts to automatically update the NC OneMap database from the NC Parcel Transformer and create parcel downloads (by county) and update parcel web services. Updates occur every weekend.

NC OneMap transferred 3.2 GB of geospatial data to State Archives in October, including statewide parcels.

**Work Plan Prioritization, In-Meeting Task Review, and Other Data or Mapping Items from the Group**

Mr. Draughn concluded that SMAC is progressing on its work plan, and tasks discussed today regarding hydrography data may be suitable for addition after more consideration.

Ms. Wilson brought a Local Government Committee issue to the attention of SMAC. Some local GIS practitioners have expressed a need to better understand the requirements and expectations of county boards of election and the State Board of Elections regarding voting district boundaries and digital geographic data. Consultations are to be scheduled.

**Adjourn** --The meeting adjourned at 3:30 PM.

**2016 SMAC Meeting Dates**

Wednesdays, to be confirmed

April 20

July 13

October 12