

MINUTES

Statewide Mapping Advisory Committee Meeting

Wednesday, April 14, 2021, 1:30 – 3:30 PM

Cisco WebEx Virtual Meeting

Welcome/Introductions

In attendance: Paul Badr (Chair), Richard Greene, Alice Wilson, Cam McNutt, Erin Lesh, Gary Thompson, Jamie Patrick-Burns, John Bridgers, Jeff Essic, John Lay, Marcus Bryant, Melanie Williams, Rich Elkins, Bob Coats, Sarah Wray, Sean McGuire, Silvia Terziotti, Stan Duncan, Steve Averett, Christian Vose, Tim Johnson, Ben Shelton, Colleen Kiley, Matt McLamb, David Giordano

Minutes from the January 20th, 2021 meeting were approved with a correction brought forward by Gary Thompson: under the Geodetic Control report the observation collection of Priority A monuments is 65% complete, not 85%. With the modification the minutes were approved.

Framework+ Datasets

Orthoimagery

Ben Shelton displayed the current 4-year imagery acquisition cycle, as shown in Figure 1. The 2021 project area (26 counties) was flown this spring and is 100% complete. Also highlighted in the presentation was how the color infra-red imagery was leveraged during the acquisition season.

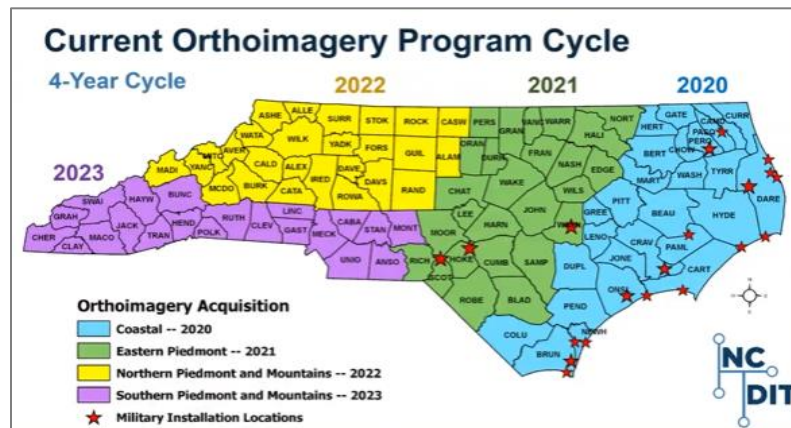


Figure 1. 4-year imagery acquisition cycle.

infra-red imagery was leveraged during the acquisition season. In this case the data aided in the discovery and assessment of flooded areas in the project - areas that could quickly be identified as needing to be re-flown.

Ben and the project team had a workshop with all the 2021 project vendors on March 31. Image radiometry samples were submitted along the borders of each vendor's study area to ensure consistent radiometry throughout the project area. With slight modifications the radiometry

was approved. The vendors are now performing the orthorectification, aerotriangulation, and post-processing. The imagery production will last until June, at which point the online quality control phase will start (VOICE). Final delivery of the data to CGIA will be in October. CGIA will create the MrSID image products and deliver the product to the PSAPs and counties in November.

The team went before the 911 Board recently to seek approval of the 2022 Northern Piedmont and Mountains project area. Funding was approved. The 2022 study area is shown in Figure 2. Imagery collection for some of the mountain tiles is different than those in the piedmont and coastal plain in that the minimum sun angle is 38° and

3-D flight planning must be done based on the elevation to maintain a consistent GSD. True orthoimagery is being produced for the cities of Greensboro and Winston-Salem - “building lean” is removed from the imagery.

Even though the 2022 acquisition timeline is later than those projects in the piedmont and coastal plain, the project team hopes to keep the same delivery schedule (November 2022) because of anticipated efficiencies gained by using the NC OneMap Amazon Web Services (AWS) architecture to perform image validation, processing, and product creation.

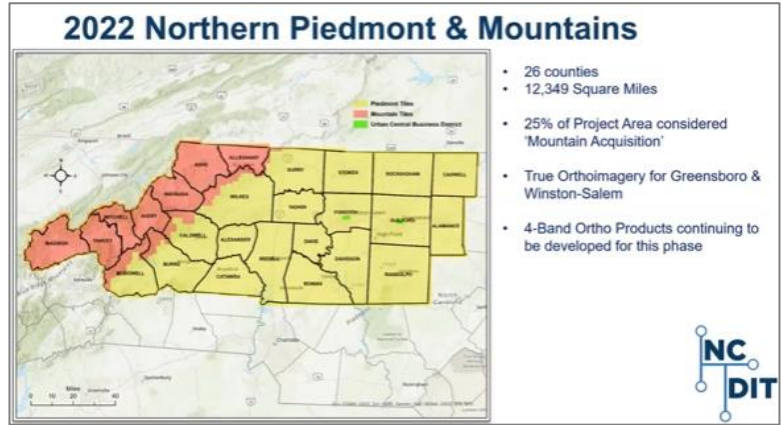


Figure 2. 2022 Northern Piedmont and Mountains project area.

Cadastral

John Bridgers reported that since January 1, 2021 there have been 67 counties that have updated their parcels and uploaded the data to the transformer. Of those 67 that have updated, 5 have done so in April (Q2). Two counties have updated 3 times, and 8 counties have updated twice.

Elevation

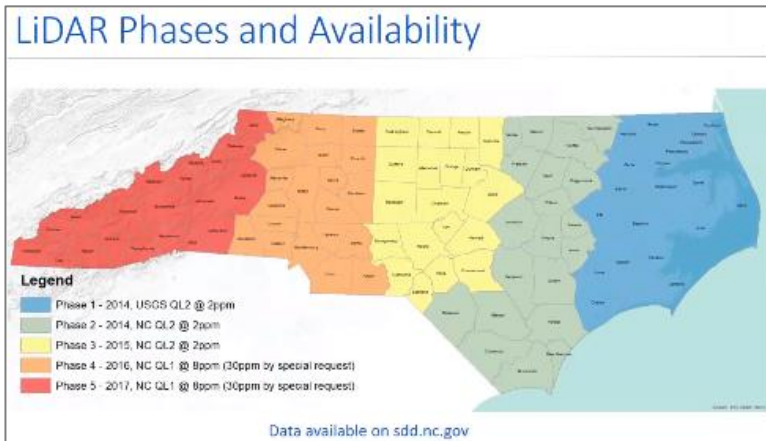


Figure 3. LiDAR phases and data availability.

John Lay presented the status of the LiDAR acquisition and what is available for use. Phase 1 was flown by USGS in 2014 and Phase 2 captured by NCDPS in the same year. Phase 3 was captured by NCDPS in 2015. Phases 1-3 are QL2. Figure 3 summarizes the phases and what type of LiDAR is available for each. Geiger-mode LiDAR was used to collect phases 4 and 5.

New LiDAR was collected by USGS for phases 1 and 2 in 2020. The data are QL1 and 8 points per square meter (ppm). Topobathy was also collected along the coast (QL1 and 8ppm also). NCDPS collected LiDAR at 8ppm in response to the Sparta (Alleghany County) earthquake.

Digital Elevation Model (DEM) data is available for the 5 phases as well. The DEMs in phases 1, 3, 4, and 5 are hydro-enforced. NCDPS is going back to phase 2 and creating hydro-enforced DEMs for this area. At the same time, all phases will have DEMs at 3.125, 5, 10, 20, and 50 feet - achieving consistency across the state. See Figure 4 for more information. Data are available in ASCII, IMG, and TIF formats, however from this point forward only TIF format will be available, as this format has a smaller file size and does not need an additional file to store projection information.

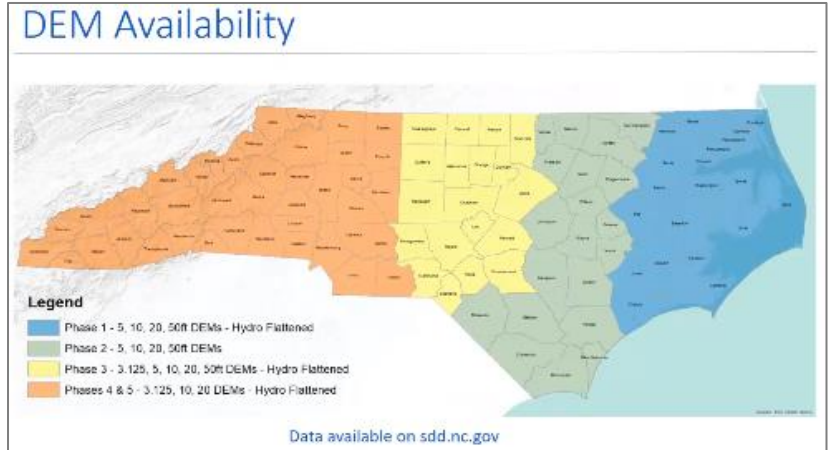


Figure 4. DEM availability across the state.

Contours are being created as a derived product. The 1 ft. contours are complete except for Henderson County. The contours (and DEMs) will need to be approved by the NC Geodetic Survey. Another derived product is building footprints. While new buildings have been discovered (approximately 1 million more) there currently is no funding to verify the extracted features are indeed buildings and not misclassified vegetation. Money is also needed to conflate risk attribute information to the verified features.

Hydrography

Cam McNutt reported that DEQ has not done much geometry editing on their display dataset but have been updating the classification and water quality assessment attributes. He hopes this data will be updated in June depending on the speed at which EPA approves it.

Geodetic Control

Gary Thompson informed the SMAC that the datum changes have been delayed until 2024. The National Geodetic

Survey and the surveying society have accepted the proposed NC state plane coordinate system.

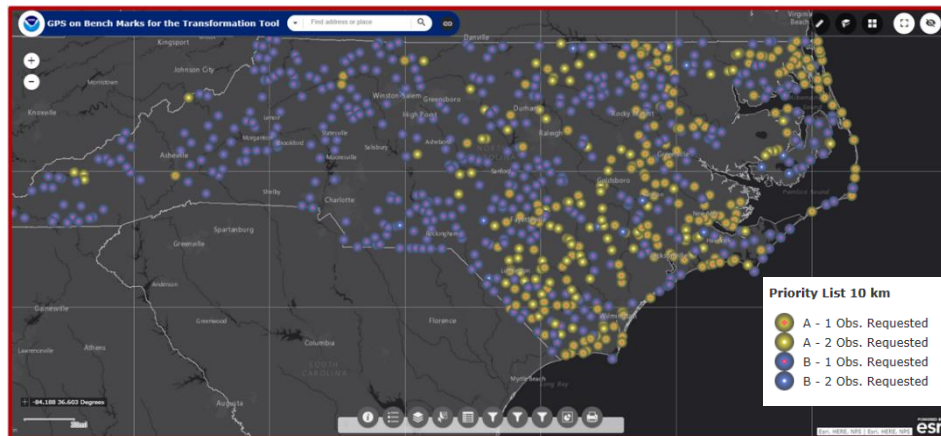


Figure 5. Benchmark status as of 3/31/21.

NCGS has been recording observations on GPS benchmarks to aid in the development of transformation parameters for the new vertical datum. Figure 5 benchmark status at the end of March 2021.

Administrative/Governmental Units

County Boundaries:

Gary said there has been a lot of requests for surveyed county boundaries, especially from the private sector. Current boundaries being surveyed are Mitchell - Yancey, Bladen - Columbus - Brunswick, McDowell - Mitchell, Granville - Franklin, Polk - Rutherford, Chowan - Perquimans, Harnett - Johnston, Montgomery - Richmond, Burke - McDowell, Montgomery - Randolph, Columbus Robeson, and Jackson - Transylvania. These counties are complete and NCGS is working with the counties to reach a final resolution: Hoke - Robeson, Cabarrus - Rowan, Union - Mecklenburg, Cumberland - Harnett, Davie - Yadkin, and Jackson - Macon. Gary and his team continue to work with Virginia to try to establish a boundary commission for counties along the state border.

Municipal Boundaries:

Powell Bill updates were performed in Q1 (February 15, 2021), as well as value-added data to county boundaries.

Transportation

Sarah Wray said NCDOTs Q1 framework transportation data was updated February 15, 2021. The Q2 update will be May 10, 2021. These updates include the data for road centerlines (with major asset data by segment), rail network (crossings and stations), and bridges.

At the last meeting Sarah spoke about the Roadway Centerline GIS Data Requirements. She reminded the SMAC the goals are to understand the current needs for DOT road centerline data and to ensure the centerlines support federal and state statutes, mandates, and reporting requirements.

Interviews with NCDOT stakeholders are complete and the use case documentation has begun. The findings will be presented to the SMAC, to include local government feedback collected.

DOT has also begun an intersection inventory. The basic goals are the same as the road centerline inventory. It is in the requirements stage. This was initially driven by traffic safety requirements and MIRE (Model Inventory of Roadway Elements).

Addresses

Matt McLamb briefed the SMAC on the AddressNC project. In Q1 2021 the steering committee meetings concluded and the drafting of the AddressNC Data Standard began. The standard will be finalized and sent to the SMAC in May to give the committee enough time for review and hopefully approve it at the July meeting. From there it will be sent to the GICC for adoption.

In Q2 the project team will begin data and tool prototyping. Also important in Q2 is the NG911 Data Governance Policy. It is the hope this will be finalized in this quarter. It is an important document because it is the NG911 data that will feed into AddressNC and other statewide data purposes.

The project goal is to have the final data product and tools tested and released in Q4 2021 or very early in 2022.

Working Groups

Hydrography Working Group

Cam reported that the working group met twice since the last SMAC meeting. What has come into focus is that there are a lot of moving parts related to the hydrography dataset - multiple departments and multiple workflows, some of which are solid, and others still materializing. There will be smaller, more frequent meetings to just evaluate all the different aspects and moving parts of the project. In particular, comparing the ATLAS hydro version 2 data and the NHD. As far as the actual hydrography data, the group will receive the next version of the data in June for review.

Colleen Kiley, John Derry, and Cam are assembling a data schema that can be shared with local governments that will include all the required data - from DEQ DWQ, Marine Fisheries, and USACE. The purpose is to see if this data meets the local government needs and requirements. Cam will also meet with DEQ management to determine the development of the data and how it impacts their business.

Finally, Cam is developing a detailed plan for the remainder of the year so the group can keep organized the different programs and processes ongoing. He will provide a more thorough update on this plan, and show some of the actual data geometry at the next SMAC meeting.

Orthoimagery and Elevation

Gary informed the SMAC that the working group met this past Monday. They received updates from Ben on the ortho project, Christian Vose on agriculture imagery, John Lay on statewide contour generation. The group also discussed new UAV rules and reminded everyone that there is a test site established with DOT in Butner.

NC Board on Geographic Names

Cam presented the names discussed at the April 6 NCBGN meeting. The NCBGN recommended the SMAC approve these three features all in the Asheville area, named as Bacoate Branch, Haith Branch, and Masters Branch. All are having water quality restoration and protection plans being developed. The NCBGNs recommendation to the SMAC is to approve these three names. **The SMAC approved the names Bacoate Branch, Haith Branch, and Masters Branch.**

The next name presented for approval was a water fall to be named Crystal Falls. It is along Graveyard Creek in Mitchell County. Cam said this feature has been named as such, locally, for a long time. The NCBGN recommendation to the SMAC is to approve the name. **The SMAC approved the name Crystal Falls.**

Cam then presented the name Alexander Run for an unnamed tributary of Walnut Creek in Wake County. The proposed name is to honor former Governor Nathaniel Alexander, and Alexander Prodoehl whose family has continued to visit the stream in his memory. The City of Raleigh and Wake County have opposed the name citing:

- The proposal does not include supporting information that demonstrates that either the individual proposed as being commemorated by the stream naming has had either direct or long-term association with the feature, or has made significant contributions to the area, community, or NC.
- The proposal does not include supporting information that demonstrates that there is significant local support for the naming, either in the form of a petition, supporting letters, or other evidence.
- Governor Nathaniel Alexander has been found to have had associations and a history that may be offensive to some residents (a slave-owner and a soldier with possible interactions with local Cherokees during a period of land-takings).

The NCBGN recommendation to the SMAC was to not approve this name for the reasons mentioned by Raleigh and Wake County. **The SMAC voted to not approve the name Alexander Run.** Cam added that this stream has been included as a focus area in the Walnut Creek Watershed Action Plan, and through his water quality work at DEQ knows the stakeholders in the area. Cam said he will reach out to them to possibly propose a new name for this stream.

The next feature discussed is connected to Crystal Falls. It is a proposal to change Graveyard Creek to Crystal Falls Creek. The NCBGN discussed that the feature may be called Graveyard Creek intentionally because of the possibility of a graveyard in the vicinity. The NCBGN contacted a historic cemetery specialist at the NC Office of State Archaeology, and it was determined there is a cemetery up the ridge in this watershed. The cemetery is not very well documented but there are also archaeological sites in the area. The NCBGN was reluctant to recommend renaming the feature for these reasons, as well as the fact that it historically has been called Graveyard Creek with numerous references to that name. The NCBGN was therefore neutral to the renaming. **The SMAC voted no opinion (neutral) on renaming Graveyard Creek to Crystal Falls Creek.**

The last name discussed was the proposal to rename Negro Hill to Hellbender Summit. The NCBGN determined the proposed name does not have a local appeal and that local feedback would have been helpful. "Hellbender" is not very well known outside of biological circles in North Carolina. While the NCBGN members unanimously would like the name to be changed, their recommendation to the SMAC is to have no opinion (neutral) on the name change to Hellbender Summit. **The SMAC agreed the name should be changed but voted no opinion (neutral) on the rename to Hellbender Summit.**

Working Group for Municipal Boundaries

John Bridgers reported the working group is going to meet after today's SMAC meeting. The US Census Bureau BAS has an initial deadline of March 1st. John and Bob Coats receive a list of communities (cities and counties) that have not responded to the survey. So far there are 71 on this list.

Working Group for Roads and Transportation

Erin Lesh indicated she would like to reconvene the working group to update the data content standard for roads. The reason for this is that the NG911 project has come up with additional roadway standards that are not included 2018 NC content standard. Erin and David will work to get the group back together.

2022 Reference Frame Working Group

Gary covered this topic earlier in the meeting.

Metadata Committee

Sarah told the SMAC she presented on metadata at the 2021 NCGIS Conference. She mentioned she received a lot of good feedback as a result of the presentation and also some attendees volunteered to be on the working group.

Sarah said she and staff have built a Microsoft Teams collaboration site, begun building a documentation repository on the site, and are taking an inventory of all the content. The working group charter has been updated and is currently in draft form.

Next steps are to add the working group members to the Teams site, finalize the charter, and review the current documentation and see if any updates are needed.

AddressNC

Matt share all there is to report earlier in the meeting.

Regular Status Updates

USGS/National Geospatial Programs Office

Silvia Terziotti reported that John and Gary already discussed LiDAR collection earlier in the meeting. The other thing worth mentioning is the 3D Nation Elevation Subcommittee. Gary was the champion for NC. It is an inventory of federal elevation and bathymetry needs by governments in NC. It is very close to being finalized.

USGS continues to participate with NSGIC on elevation and elevation-derived hydrography. Topobathy will be distributed in the same mechanism, however there are a few improvements being rolled out. One is the ability to upload a shapefile of a study area and receive data for that area, rather than obtaining the data tile by tile or by a rectangle. It will be available through both USGS and NOAA.

NC OneMap

David Giordano reported that CGIA has hit a snag in the NC OneMap infrastructure move to AWS. CGIA is consulting with Esri. The issue has to do with the scaling in and out of GIS machines and the associated software licensing.

NextGen 911

Matt told the SMAC that out of 115 primary PSAPs across the state there are 76 that are i3 Ready. This means that the match rate of their data is 98% or greater and they have no critical errors across the required data layers. The remaining 39 are moving to that goal. The NextGen 911 team is in constant contact with the agencies. They are either working on the data themselves, CGIA is assisting, or they are using a 3rd party to accomplish the data preparation.

Other Business

None.

In-meeting Task Review

Action items captured during in the meeting include:

- Update the minutes from the January 20, 2021 SMAC meeting as mentioned on page 1.
- Matt to work with David to distribute the AddressNC schema standard to the SMAC in May for their next meeting in July.
- Cam to display hydrography geometry and discuss content issues and management of the data at the July SMAC meeting.
- David to inform the USBGN of the SMAC decisions on feature names.
- Erin and David to reconvene the WGRT to update the road centerline content standard.

Adjourn