

**North Carolina Geographic  
Information Coordinating Council**

**2021 Annual Report**

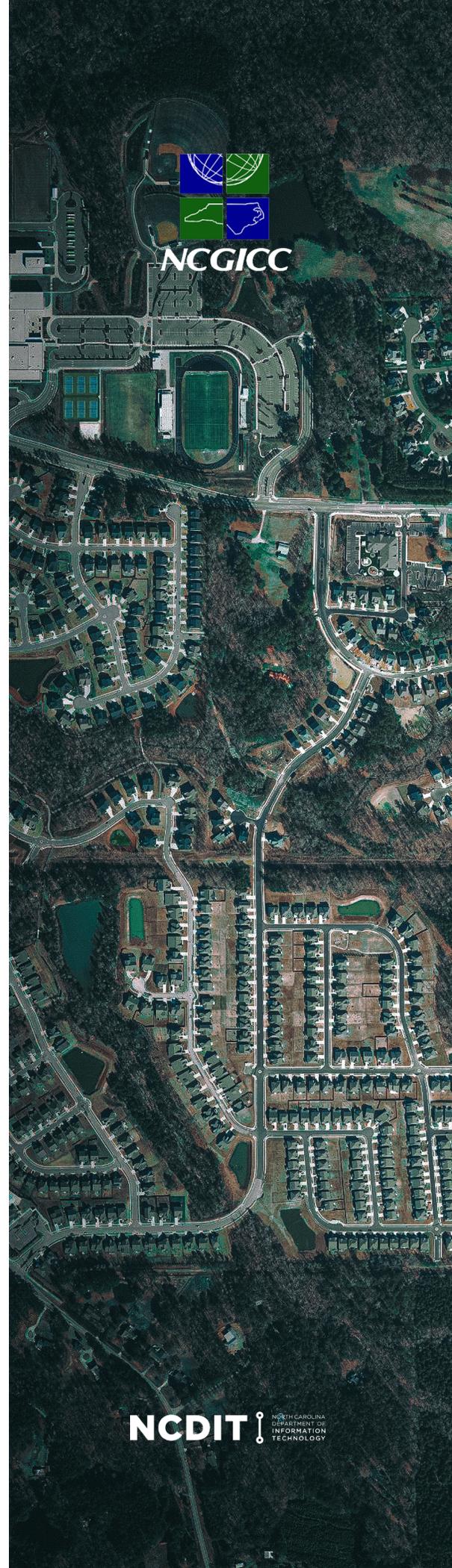
**Presented to:**

**Roy Cooper  
Governor**

**Joint Legislative Commission on Governmental Operations**

**James Weaver  
State Chief Information Officer and Secretary  
NC Department of Information Technology**

**Hope Morgan  
Chair  
NC Geographic Information Coordinating Council**



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## Executive Summary

The North Carolina Geographic Information Coordinating Council (GICC) was established by the N.C. General Assembly in August 2001 and is supported by the N.C. Department of Information Technology (NCDIT). The N.C. Center for Geographic Information and Analysis (CGIA), housed within NCDIT's Government Data Analytics Center (GDAC), staffs the council.

North Carolina General Statute (N.C.G.S.) §143B-1421(g) requires the council to report annually to the Governor and the Joint Legislative Commission on Governmental Operations. The council submits this report to share its strategic focus on data-driven collaboration, outline priorities and challenges, and update the Governor and the Commission on its Fiscal Year 2020-2021 accomplishments.

Over its thirty-year history, the GICC has coordinated groundbreaking GIS framework datasets and served as a model for other states' programs. NC OneMap, the state's geospatial data sharing portal, was recognized with a [special achievement award](#) from ESRI at its annual conference. The CGIA team was selected for this honor from more than 300,000 eligible candidates for its innovative application of mapping and analytics technology, as well as thoughtful leadership in the fields of geospatial open data delivery and location analytics.

The state's mature GIS programs supported rapid response to the COVID-19 pandemic in areas such as COVID-19 testing and vaccine siting, school lunch programs, and broadband access. Council coordination for important framework datasets such as orthophotography, seamless parcels, road networks, and addresses form the backbone of spatial analytics that support state, local, and private initiatives. These mature datasets, supported by the work of the council, provide immense value to public and private programs.

The council coordinates to continuously improve data and services while supporting the citizens and governments in North Carolina. Council committees reviewed tools and initiatives that support more flexible response to and faster recovery from natural disasters and unexpected disturbances. Geospatial data is a powerful tool for regional planning, damage assessment, and mitigation, and the council continues to coordinate projects that support a healthy North Carolina economy, environment, and community. Support for Next Generation 911, a review of infrastructure data availability and security, and an update to AddressNC data are just a few examples of council coordinated projects that support a resilient North Carolina.

The council's work involves not only data and analytic tools, but also the state's GIS community. It is the dedicated GIS community that volunteer for council working groups and create successful projects. The NC GIS Conference was held virtually February 17-19, 2021 and attracted 786 attendees to learn from one another and hear about GICC initiatives. Support for these GIS users includes a migration to cloud hosting for NC OneMap to ensure that GIS

resources are always available and meet user needs. The GICC's leadership and forward thinking support a strong GIS community, and Fiscal Year 2020-2021 continued these successful efforts.

## Introduction

The N.C. Geographic Information Coordinating Council was established by the N.C. General Assembly in August 2001 and is supported by the N.C. Department of Information Technology (NCDIT). The N.C. Center for Geographic Information and Analysis (CGIA), housed within NCDIT's Government Data Analytics Center (GDAC), staffs the council.

The council is the state's central point for geospatial collaboration and mapping and supports local and state geospatial programs and services. The council serves to improve the quality, access and cost-effectiveness of geospatial resources for state, federal, local, academic and private organizations while promoting the value of geographic information.

North Carolina General Statute (N.C.G.S.) §143B-1421(g) requires the council to report annually to the Governor and the Joint Legislative Commission on Governmental Operations. The council submits this report to share its strategic focus on data-driven collaboration, outline priorities and challenges, and update the Governor and the Commission on its Fiscal Year 2020-2021 accomplishments.

## About the Council

The council meets quarterly to consider policies, issues and initiatives. Council meeting dates for FY 20-21 were: August 12, 2020; November 4, 2020; February 10, 2021; and May 19, 2021. Alex Rankin, of CESI Civil-Geotechnical-Surveying, chaired the council during this fiscal year. (Note: Hope Morgan was named by Governor Cooper as chair of the council in November 2021.)



Figure 1: GICC Members are appointed by a range of organizations to represent the entire GIS community in North Carolina.

The council is composed of a broad set of stakeholders representing perspectives from local, state and federal government, higher education and private business. The council’s collaboration promotes better decision-making across all sectors in North Carolina. The council has three user-oriented standing committees: the Local Government Committee (LGC), the State Government GIS Users Committee (SGUC), and the Federal Interagency Committee (FIC). Two technical committees, the GIS Technical Advisory Committee (TAC) and the Statewide Mapping Advisory Committee (SMAC), address policy, guidance and technical issues in collaboration with the user-oriented committees. Chairs of all five standing committees as well as the council chair and council representative from the Office of State Budget and Management compose the Management and Operations Committee (M&O), which handles the council’s business in between quarterly meetings. In addition to 36 council members, more than 50 individuals contribute to committees and ad hoc working groups.

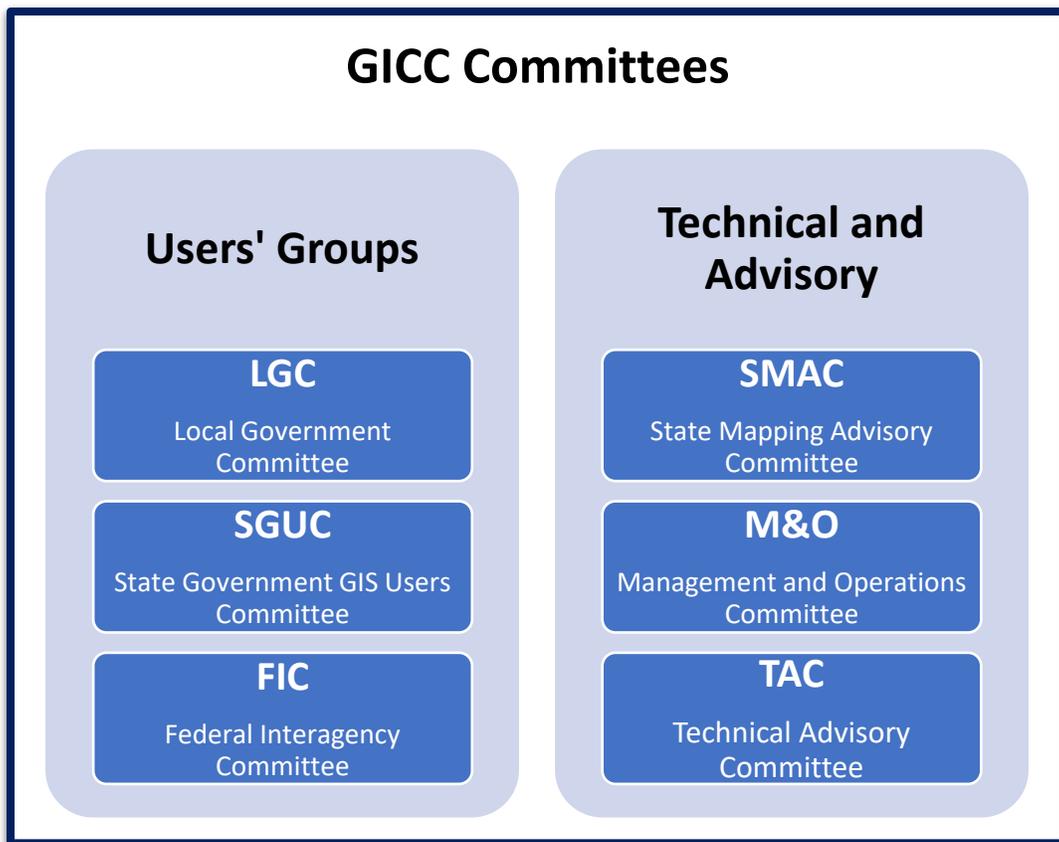


Figure 2: The Council and Statutory Committees

Committee members, the state’s geographic information systems (GIS) community, and the public used the council’s website ([it.nc.gov/gicc](http://it.nc.gov/gicc)) and *NC OneMap* ([nconemap.gov](http://nconemap.gov)) websites to keep current on initiatives, meetings, opportunities and news about both entities.

## What is GIS?

GIS, or Geographic Information Systems, is a network of feature locations, feature information, software, databases, servers, mobile collection devices, sensors and analysis tools that support planning and decision-making. Often, GIS is understood as maps, but what is missing from that simplified definition of GIS is the power of location-based, data-driven decision support.

Every day, drivers use applications like Google Maps to find the fastest route to their destination. Within this decision support tool are important layers derived from state and local data such as addresses and road centerlines, feeds from public sources such as N.C. Department of Transportation road closures, and real-time location data from millions of users that indicate road congestion. Combined, these data allow a driver to avoid traffic jams, route around a closure and arrive at the correct address. Because of the critical importance of GIS to government functions as well as the private sector reliance on accurate, well-maintained data, the council must include a wide range of stakeholders in its committees and working groups to ensure that geographic data produced in North Carolina meets the needs of our citizens. These local, state, federal, private sector and education stakeholders drive the data-driven collaboration necessary to meet the needs of North Carolinians now and in the future.

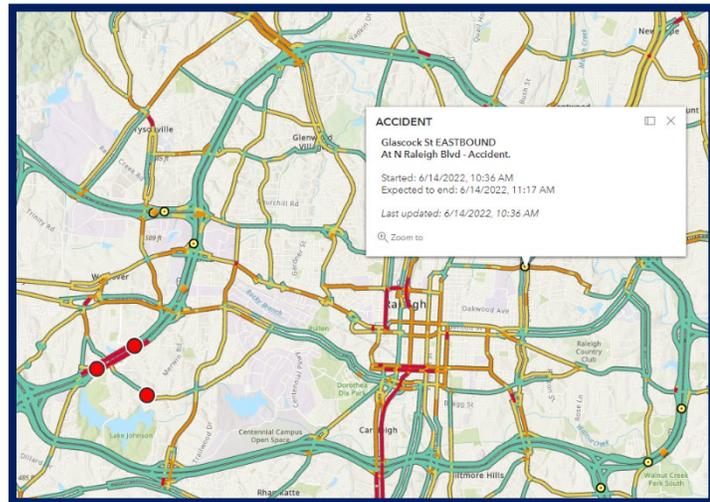


Figure 3: Live traffic maps rely on multiple base layers and real time sensor data.

## Fiscal Year 2020-2021: Council Highlights

### Introduction

The council met virtually through this fiscal year due to the effects of the COVID-19 pandemic, and the importance of geospatial data and analysis to pandemic response and community resiliency were topics discussed by the council and its committees. COVID-19 changed the way the council operated, but through this time, the geospatial community demonstrated its ability to effectively work remotely and respond to the ongoing pandemic.

## COVID Response – Spanning the Digital Divide

Geospatial data is big data, and there was once a time when remote work would have crippled GIS project progress because networks simply could not handle transferring the size of the data. Most NC agencies share data through NC OneMap, a cloud-based tool for data sharing. The existing state GIS infrastructure includes access to cloud-based data storage, data analysis tools, dashboards for sharing real-time data, and mobile tools for remote data collection. State agencies were poised pre-pandemic to switch to remote GIS work with little interruption. Local government contributions to projects such as the NC Parcels project only enhance the ability of NC spatial data users to access critical local information from a single platform.

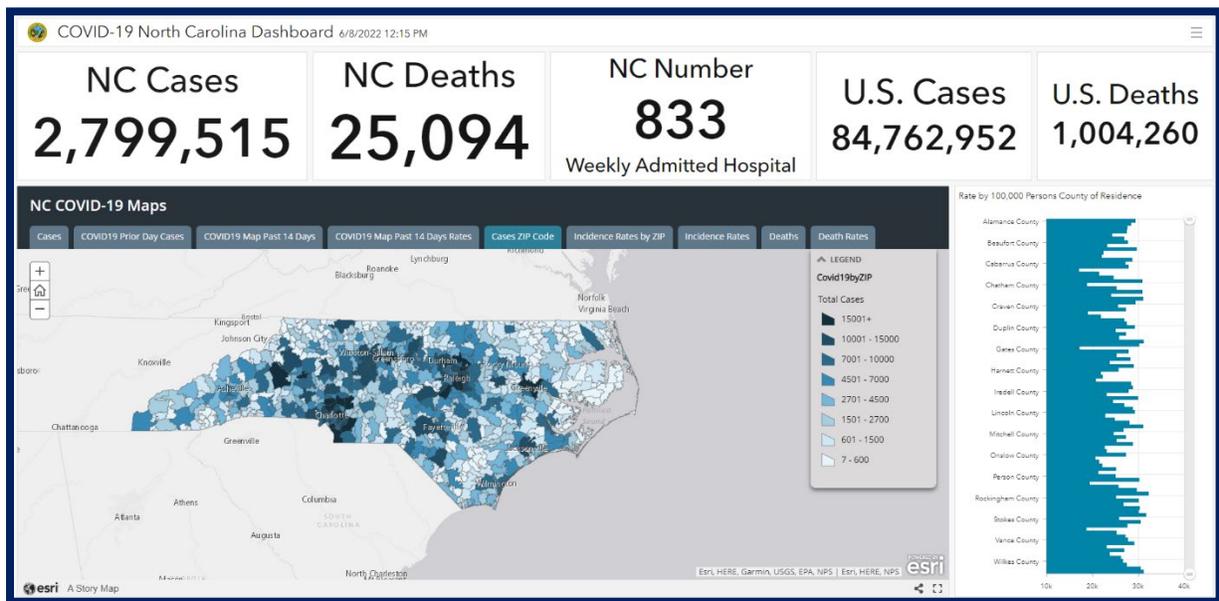


Figure 4: NC DHHS COVID-19 Case dashboard

The N.C. Department of Health and Human Services (DHHS) integrated GIS into its COVID-19 response, and DHHS Council member Dianne Enright discussed the importance of geospatial data and analysis in her spring presentation to the council. DHHS produced a series of [daily maps](#) to relay COVID-19 metrics including testing and cases by county and zip code. Using census data to identify [socially vulnerable populations](#), with two or more chronic conditions, testing site locations, and case metrics, DHHS opened new testing centers and vaccination sites where gaps existed to target communities in need.

COVID-19 highlighted the need for expanded broadband access. Lack of adequate internet access became a barrier to learning for many North Carolina schoolchildren. Existing Federal Communications Commission (FCC) reporting of broadband providers and speeds at the zip code level does not adequately portray the availability and quality of broadband service. The NCDIT Division of Broadband and Digital Equity worked closely with CGIA to utilize [NC OneMap](#)

[resources](#) to share data and tools, including broadband surveys, project planning and grant online mapping resources. Broadband survey data is a critical tool to assist in local, county and state broadband planning activities to understand where projects and funding are most needed. The data and applications used for the broadband grants are all located in a central location for easy access and download for use by governmental organizations, broadband providers and citizens to more efficiently coordinate efforts aimed at expanding broadband access.

Figure 5: The Broadband Project page on NC OneMap hosts data and tools to support broadband expansion.

## Resiliency

The GICC and its working groups devoted time during the spring and summer of 2021 to resiliency topics. Resiliency is a term that has many meanings. For some, it may mean the ability of a community to quickly recover from a natural disaster; it may mean the ability of a natural system to absorb an induced change with little loss of function; and to others, it may mean the ability of a website to scale automatically to handle times of high web traffic. The GICC and its committees reviewed the role of geospatial data and applications in increasing resiliency in the context of multiple definitions of the term. The powerful analytical tools and modeling capabilities of GIS can support a range of resiliency planning efforts, and committees reviewed current projects to learn from successes and identify areas where data improvements or new tools are needed.

Local governments facing frequent natural disasters are planning for more resilient communities and seeking tools and resources that will allow them to spend limited funds in areas that will make the most impact. The LGC devoted a quarterly meeting to resiliency presentations that included emerging research from council member Joanne Halls, PhD, and her department at UNC Wilmington. The North Carolina Office of Recovery and Resiliency presented their efforts to streamline recovery and mitigation projects and discussed the need for improved building footprint data and address data.

The FIC devoted its spring meeting to a review of resiliency tools, including the integration of wildfire and stream gage data, sea level rise models to estimate the impacts on wildlife habitat, and the National Oceanic and Atmospheric Administration (NOAA) efforts to support community resilience through the [Digital Coast](#), a suite of tools, data and resources that can be used by states, counties and local communities.

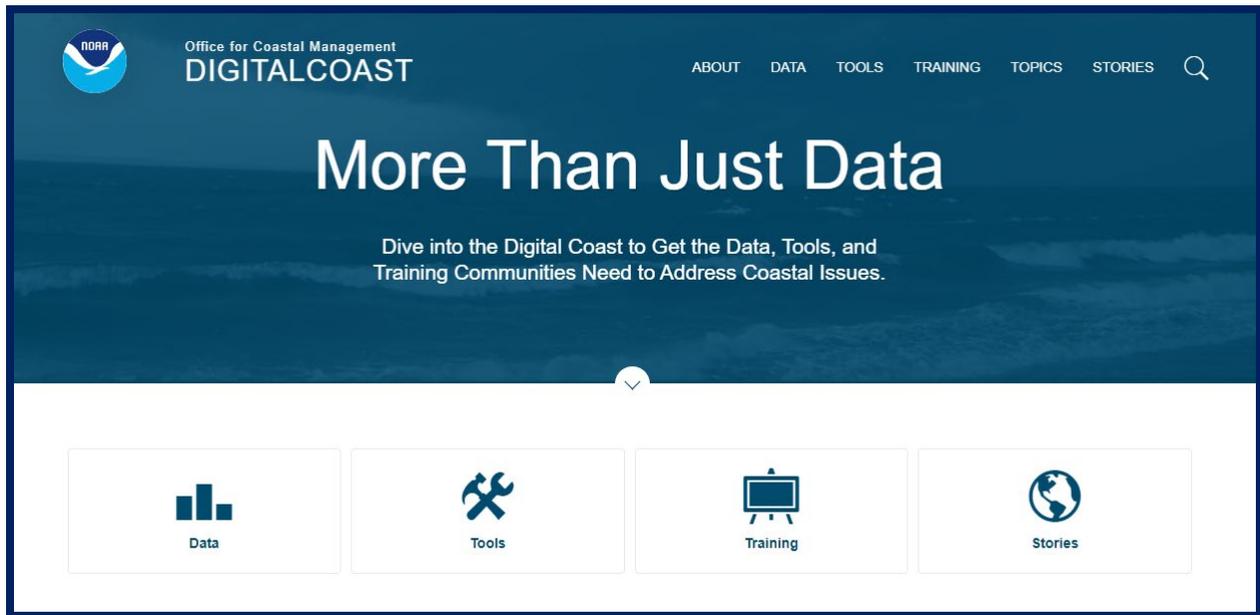


Figure 6: NOAA's Digital Coast website hosts a suite of tools and data to support community resiliency efforts. Through the FIC, the GICC coordinates information sharing about these valuable resources.

GIS data is critical data in emergency response. The 911 Board recognized the need for current, accurate orthophotography-base data in its decision to fund the NC Orthophotography Program. The council continued its support of the North Carolina 911 Board and council member Pokey Harris to develop datasets needed to transition to “Next Generation 911” (NG911). An excellent example of data-driven collaboration, the project brings together stakeholders from local Public Safety Answering Points (PSAPs), municipalities, counties and state agencies to support more efficient and effective emergency response. Council

coordination has concentrated on framework statewide datasets that support NG911, including roads, address, emergency service boundaries and orthoimagery.

Support for NG911 includes assisting local PSAPs with preparation of their data for migration onto the internet-based Emergency Services Internet Protocol (IP) Network (ESInet). The [“i3” standard](#) refers to the NG911 system architecture defined by the National Emergency Number Association (NENA), which standardizes the structure and design of functional elements making up the set of software services, databases, network elements and interfaces needed to process multi-media emergency calls and data for NG911. Data is considered i3 ready once all critical errors have been resolved and the telephone company’s Automatic Location Identification (ALI) database (list of landline phone numbers and their associated addresses) matches against the road centerline dataset with a match rate of 98 percent or greater. By June of 2021, 95 of 115 PSAPs were i3 ready. An important dataset produced from this effort is addresses, which will be a priority in the coming fiscal year.

### NC GIS Conference

For the first time in its more than 30-year history, the [NC GIS Conference](#) was held virtually. The conference is held biennially and provides an important opportunity for learning, professional development and networking. With this spirit in mind, the NC GIS Conference Committee planned virtual opportunities for networking through special interest group meetings, vendor interaction through individual participant/vendor meetings and multiple tracks of presentations.



Figure 7: The NC GIS Conference attracted national attendance, a benefit of the online format.

The conference was held February 17-19, 2021 and attracted 786 attendees and 30 vendors. Benefits of the virtual conference included providing an opportunity for those inside and outside of the state to attend a conference without the added cost of travel and at a reduced conference fee. The 72 presentations included a joint keynote address by Executive Director of the 911 Board Pokey Harris, who also serves as a council member, and Jeff Sural, director of the NC Broadband Infrastructure Office. Each shared the importance of geospatial data and tools to their business functions on behalf of all North Carolinians.

### **Infrastructure: Exploring Opportunities Through Collaboration**

Infrastructure availability was investigated by the Technical Advisory Committee's Infrastructure Working Group (IWG). Council members brought issues surrounding data distribution, availability and security to the attention of the council. The TAC was assigned the task of investigating the issues surrounding data sharing and security. The availability and quality of infrastructure data has an impact on a wide range of disciplines, so the IWG gathered stakeholders from rural, developing, and metropolitan counties and cities as well as private developers, utilities, transportation professionals and land managers. The IWG's information gathering process was inclusive of most committees of the GICC, as the IWG actively sought use cases from the LGC, SGUC, and FIC. The LGC assisted in additional ways through member surveys to provide data-sharing information and examples of data sharing agreements and data disclaimers.

The IWG reported frequently to the M&O, the GICC and users' committees on progress and to seek feedback and support for the information gathering process. The IWG will deliver a preliminary report in FY 21-22 to the council on this important topic.

### **Strategic Direction for the Council for Data-Driven Collaboration**

The GICC reviews its strategic direction and priorities every two years and adjusts goals to reflect current needs. The process began during the 2020-2021 fiscal year, and final goals were adopted in August at the first meeting of 2021-2022 fiscal year. Each committee also reviewed its bylaws to maintain consistency between committees, align with goals, and reflect current committee practices.

## **Goal 1. Improve and/or expand statewide geospatial data**

### **1.1. Promote free and open discovery of and access to geospatial data created and maintained by local governments.**

Lead: Local Government Committee

Status: Local government data distribution policies vary from open data access to offline copies by request. Data-sharing partnerships, including NG 911 and NC Parcels promote open sharing of consistent statewide data, including addresses, roads and emergency response boundaries.

### **1.2. Find solutions for consumers to discover and gain access to public geospatial datasets that local governments currently withhold from public access for concern about homeland security.**

Leads: Local Government Committee and Technical Advisory Committee

Status: Local and private data-sharing policies vary. The TAC and LGC researched federal, local and public utility policies, reviewed business needs and value versus risk, defined geospatial datasets (e.g., corridors, easements, service areas) and their appropriate uses and disclaimers, and started a conversation with local data managers

### **1.3. Continue to support initiatives that compile and maintain statewide geospatial datasets that are priority data themes of the council.**

Lead: Statewide Mapping Advisory Committee

Status: Priority statewide datasets available to the public include NC Roads, NC Parcels, Statewide Orthoimagery, county and municipal boundaries, LiDAR elevation, surface waters and geodetic control. Important progress was made in support of NG911 and municipal boundaries.

### **1.4. Find solutions to make data-sharing local-to-state more efficient to meet the needs of multiple statewide datasets and not place undue burden on local geospatial data managers.**

Lead: Statewide Mapping Advisory Committee

Status: NC Roads and NC Parcels have achieved full participation by local governments, but others use a variety of processes at different times. The Municipal Boundary Working Group led an effort to reduce boundary reporting, and the NG911 project will support the AddressNC update and maintenance.

**1.5. Request all state agencies to make the council’s priority geospatial datasets discoverable and accessible through the NC OneMap Geospatial Portal.**

Lead: State Government GIS Users Committee

Status: Most, but not all, priority datasets are discoverable and accessible through the first-stop state geospatial data portal. The SGUC and CGIA work continuously to identify new data services that can be made available through NC OneMap.

**1.6. Promote geospatial metadata for standard documentation.**

Lead: Statewide Mapping Advisory Committee

Status: Metadata standard is in place, training materials are prepared and implementation in more GIS operations will add value

**Goal 2. Support applications of geospatial data**

**2.1. Support creation of services that publish results through online applications that include address validation, from single requests to batch processing.**

Lead: Statewide Mapping Advisory Committee

Status: Ongoing initiative -NG911 data will contribute to AddressNC data maintenance.

**2.2 Support other applications that derive business value from geospatial data assets and analytics.**

Lead: State Government GIS Users Committee

Status: Ongoing initiative - NG911 data will contribute to AddressNC analytic tools including geocoding, a valuable tool used for mapping lists of addresses.

**Goal 3. Collaborate for more integration of geospatial data in information technology for expanded benefits**

**3.1. Identify opportunities to collaborate on GIS solutions in state departments and divisions not directly represented on the council to add value to state business processes.**

Lead: State Government GIS Users Committee

Status: Negotiated and implemented a Statewide Enterprise License Agreement for GIS software available to all state agencies. Held 22 GIS training classes covering a range of topics for state employees.

## Goal 4. Collaborate with all parts of the GIS community in North Carolina

### 4.1. Identify opportunities to collaborate on geospatial data and technical solutions on a regional basis, engaging councils of government.

Lead: Local Government Committee

Status: Ongoing efforts: Representatives participate on SMAC and working groups to identify opportunities for regional solutions

### 4.2. Reach out to jurisdictions with the least resources to find ways to add value with geospatial data and applications.

Lead: Local Government Committee

Status: Ongoing effort to identify jurisdictions in need, priority business needs and data needs, and practical ways to assist; engage professional organizations in outreach and solutions

## Accomplishments 2020-2021

### Collaboration for Data Governance and Consistency

#### Address NC Steering Committee

The AddressNC Steering Committee began work on a data development and governance document for the planned update to the AddressNC dataset. The dataset, originally developed in 2009 and updated through a grant in 2014, was funded for a new update through a legislative appropriation in 2018. The GICC exists to reduce duplication of effort and encourage collaboration on statewide data production. The council's support of the NC 911 Board and its development of datasets needed to transition to NG911 included addresses. NG911 addresses presented an opportunity to collaborate on a single project that would result in continuously updated NG911 addresses compiled by the AddressNC project. The AddressNC steering committee worked on stakeholder-driven [data standards](#) and developed plans for data delivery and address tools that will support important functions such as voter location and emergency response.



Figure 8: The NC Seamless Parcels Program provides a statewide parcel layer with standardized attributes used across the GIS community for statewide analytics. Address points added through a collaboration with the NG911 Program add value.

### Working Group for Seamless Parcels

The NC Parcels data layer is a success story in local to state collaboration. The layer compiles countywide parcel data from all 100 NC counties into a single layer that is delivered through NC OneMap. The layer reduces work for local governments and provides data users with a more efficient and up-to-date data layer for analysis. The Working Group for Seamless Parcels (WGSP) of the SMAC met to review attributes (data submitted for each individual parcel feature) to determine which attributes were fully populated, and which attributes were critical for data users. Through a series of surveys of data users and data producers, the working group assessed which attributes should be deemed required and what burden would be placed on data producers to fully populate required attributes.

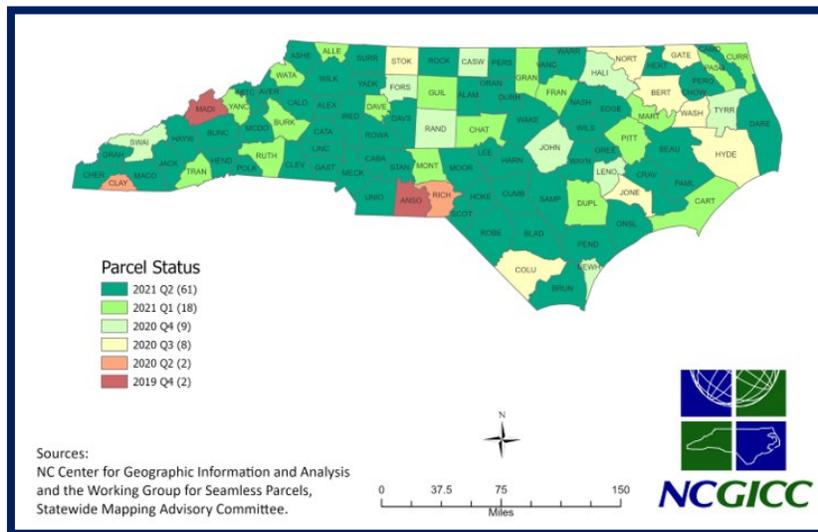


Figure 9: Quarter 2 2021 Seamless Parcels Project Update Status. Counties are encouraged to upload updates quarterly.

## Collaboration for Public Access to Geographic Information

### NC OneMap Cloud Migration

NC OneMap is the primary clearinghouse for geospatial data, and as such, it is heavily used. During emergency events such as Hurricane Florence, [NC OneMap](#) becomes a critical resource to support emergency response and traffic to the site can spike. During hurricane events, web traffic to NC OneMap increased to levels that degraded site performance. To provide elasticity, ensure a consistent experience and protect this vital source of important GIS data, CGIA began an effort to migrate NC OneMap to the Amazon Web Services cloud that will allow the site to fully support emergency planning and response during disaster events. This migration will continue into the following fiscal year, as the CGIA team optimizes services for cloud computing.

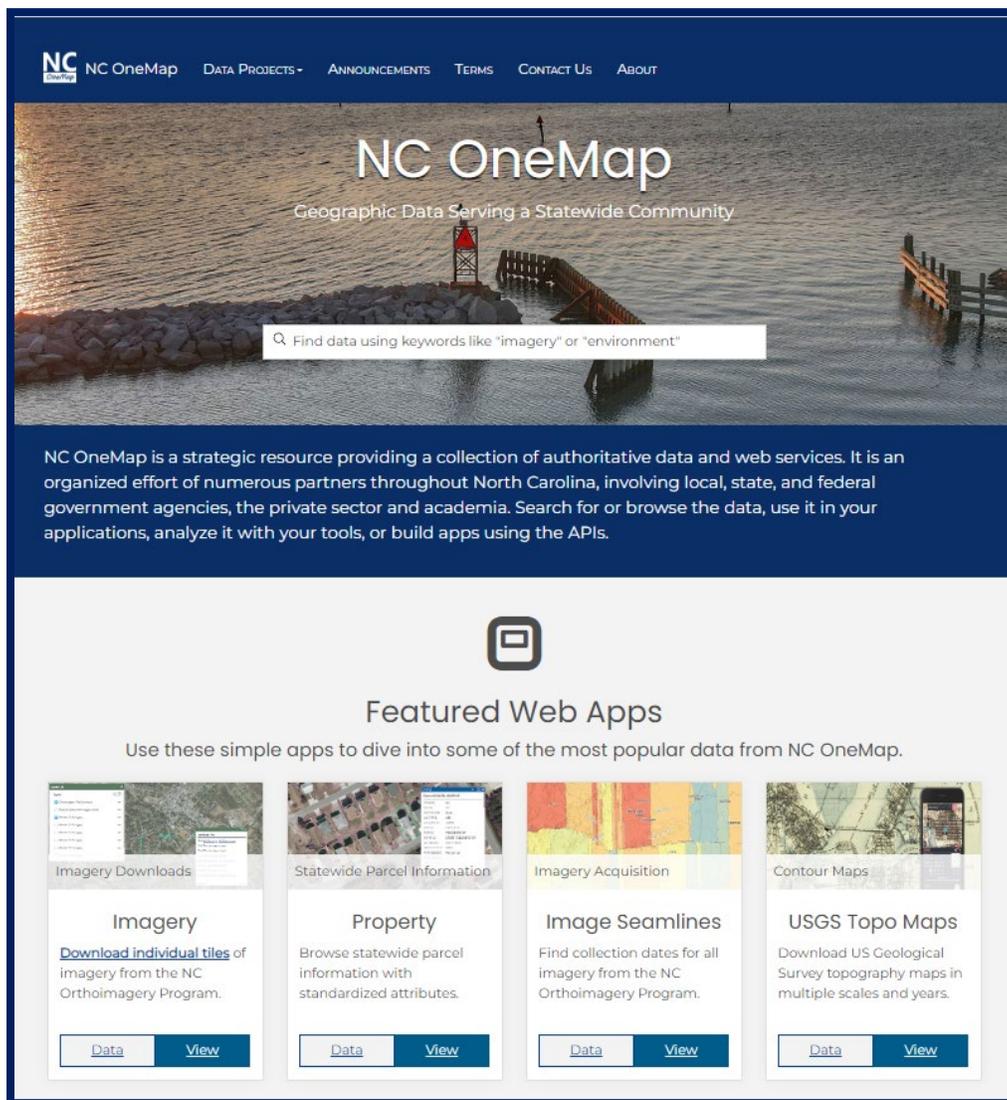


Figure 10: The NC OneMap website provides the GIS Community with a simple to use interface for finding geospatial data and tools from many sources.

## TAC Infrastructure Working Group

The TAC Infrastructure Working Group began its investigation into the availability of infrastructure data by discussing the types of infrastructure the group would review. Five categories were identified for concentration:

- Water/Sewer
- Stormwater
- Electric
- Natural Gas
- Telecommunications

While transportation is one of the main categories of infrastructure, the group felt this category was readily available and had a maintenance plan in place. Therefore, the group reviewed the data layers produced for each category and began investigating the sharing practice around each. The IWG collaborated with the SGUC, LGC, and FIC to solicit use cases for both data providers and data users.

The IWG work reveals the complexity of infrastructure data sharing, and the group will continue its investigations into the next fiscal year.

## Collaboration for Land Information

### Orthoimagery Program

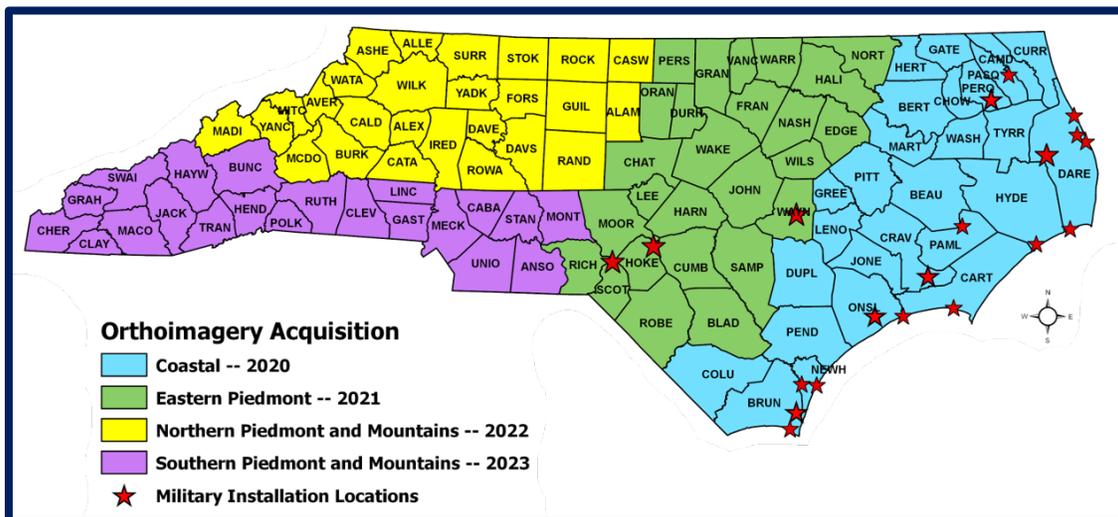


Figure 11: Four-year phased Orthoimagery Program Map

The Statewide Orthoimagery program, funded by the NC 911 Board, delivers a consistent and current visual reference for emergency communications, and serves as a foundational layer for most online mapping in the state. The program updates a quarter of the state's counties each

year on a rotating basis with high-resolution, consistent and accurate orthoimagery. The imagery is available to state, local, federal and regional government agencies, as well as the private sector, the academic community, and private citizens as map services and downloadable files from NC OneMap.



*Figure 12: Coastal golf community next to salt marsh. Photo on the left is CIR imagery, and the right is true color imagery.*

In FY20-21, the coastal counties collected in early 2020 were delivered in the last half of the year. The eastern piedmont and coastal plain areas were collected in early 2021. The delivery of the coastal plain project area marked the first delivery of imagery that includes the addition of a color infrared (CIR) product. Because the internal cell structure of healthy plants reflects the near infrared wavelength, CIR imagery is useful in monitoring plant and crop health. The current orthoimagery program continues to provide a high-quality product to support emergency response and communications at a substantial savings when compared to previous collection methods and serves as a model to other states.

## Intergovernmental Collaboration for Efficiency

### 2020 Census Updates and Assistance

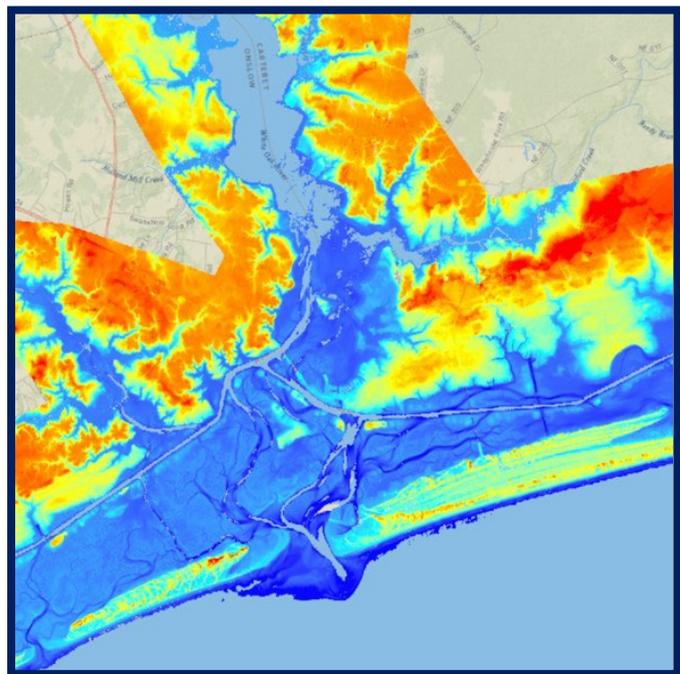
COVID-19 delayed 2020 Census product releases, and council member Bob Coats, the Governor's Census Liaison, kept the council and its committees updated on Census progress. The first results, released in April 2021, included only the state population for apportionment of the U.S. House of Representatives. Mr. Coats provided updated estimates for data releases as well as information on ways local governments could prepare to review their Census results when released. Because redistricting data was released so late, it was important for local governments to be fully prepared for the redistricting process.

### NOAA Land Cover Pilot

Through the FIC, the National Oceanic and Atmospheric Administration (NOAA) provided North Carolina with updates on a [new high-resolution land cover and change product](#) planned for U.S. coastal areas. A pilot of this program was conducted in Brunswick and New Hanover counties. The new tool is produced from National Agriculture Imagery Program (NAIP) imagery and supplemental data such as LiDAR. The 1-meter resolution product will contain six categories of land cover: impervious surface, bare, grass, shrub, forest and water. The product has the potential for applications in land cover change analysis and updated wetlands mapping. The state continues to coordinate with NOAA to monitor the progress of this program.

### Elevation Data

Elevation data including high-quality updates of the coastal plain and bathymetric data for near shore areas of Pamlico Sound and the Outer Banks were collected in the previous fiscal year by the U.S. Geological Survey (USGS). Due to COVID-19-related delays, the data was not made available during this fiscal year as expected. The FIC and the Working Group for Orthoimagery and Elevation (part of the Statewide Mapping Advisory Committee) were updated on project progress for this important dataset and coordinate data distribution.



*Figure 8: Topobathymetric data was collected to capture the underwater ground elevation of the nearshore areas of the North Carolina coast.*

Light Detection and Ranging (LiDAR) data is a 3D scanning technique that uses light pulses to map elevation. Essential to the production of accurate flood risk models, the N.C. Floodplain Mapping Program has been using LiDAR data to more accurately depict flooding risk for residents and emergency response. This data is used during flooding events to warn residents of impending flooding and target evacuations. The N.C. Department of Transportation uses the data to determine which roads may overtop during flooding. LiDAR data has saved lives.

The newly collected LiDAR data provides a more accurate representation of the ground surface and features such as roads, buildings and vegetation. When it becomes available to the public, North Carolina will have approximately 80 percent of the state mapped with higher-quality LiDAR, leaving only the central Piedmont, including the Triangle and Triad, still to be mapped with higher-quality data. Due to the rapid development in these areas, it will be important to collect updated high-quality data, but an ongoing funding source is not available. Partnerships and funding sources will continue to be a focus as stakeholders seek to fill this data gap.



*Figure 14: Example of LiDAR point data that has been colorized using NC orthophotography. In this 3D image, notice that LiDAR technology captures not only buildings and vegetation but utilities such as power lines shown in the left forefront. Data visualization developed by ESRI.*

## Hydrography Working Group

The Hydrography Working Group (HWG) worked with FIC member and USGS liaison Silvia Terziotti to review new [USGS specifications](#) for elevation derived hydrography (EDH) in relation to how it might affect North Carolina's ability to contribute hydrography data to the federal hydrography layer. EDH is a hydrography layer that is produced using elevation data such as LiDAR and that contains elevation information for each feature. The USGS EDH data is created using 3D Elevation Program (3DEP) data, creating a value-added product that has the benefit of improved accuracy and wider applications. The USGS program is in its infancy with ongoing pilots, so HWG concentrated this fiscal year on understanding the technical requirements to create a plan that would allow NC to contribute the elevation-derived data it is producing.

A subset of HWG members also began participating in a working group hosted by the [National States Geographic Information Council](#) (NSGIC). NSGIC is providing feedback on the EDH specifications and working with the USGS to better understand the specifications and how the new model will affect state hydrography data in the future. Focus for the coming year will be on developing a data model and a plan for North Carolina and USGS data integration.

## Sharing Information and Knowledge

### ESRI Special Achievement Award

The council continues to be a national leader, as evidenced by awards and recognition of its initiatives. NC OneMap was recognized with a [special achievement award](#) from ESRI at its annual conference. The CGIA team was selected for this honor from more than 300,000 eligible candidates for its innovative application of mapping and analytics technology, as well as thoughtful leadership in the fields of geospatial open data delivery and location analytics. NC OneMap is a collaboration serving state and local data to support the GIS community.

### ESRI Enterprise License Agreement

During FY20-21, the SGUC in coordination with NCDIT, renegotiated the ESRI Enterprise License Agreement (ELA), the primary mechanism used by state government agencies to access GIS software and applications. The ELA cost is apportioned to each agency based on the resources it uses, but this percentage-of-use funding model makes it very difficult for each agency to determine their exact yearly ELA cost during negotiations because a change in any other agency's order affects the percentage paid by all other agencies. At one time,



Figure 15: Training benefits state agencies through building new skills and fuller utilization of ELA resources.

the ELA was paid by a single statewide fund, and the consensus among SGUC members is that GIS would be more widely implemented and effective if the current funding model were changed back to the prior model.

The state realizes various benefits from the ELA including a discounted price for software, complementary passes to conferences for professional development and training credits to be used for continuing education. These conference passes and training credits help state employees with a GIS Professional Certification maintain their certification. During the spring of 2021, CGIA and the SGUC organized 22 group classes with ELA credits, training 161 employees from 16 agencies.

### **Professional Meetings**

In addition to the NC GIS Conference, CGIA support staff participated in other professional meetings to share GICC activities and initiatives. At the NC ArcGIS Users Group (NCAUG) annual meeting, CGIA staff presented on two GICC initiatives, [NG911 collaboration](#) and the [Working Group for Enhanced Emergency Response](#). The LGC hosted a [panel discussion](#) on the committee, GICC working groups and local government participation in the GICC. GICC member Gary Thompson also presented on the important topic of the [retirement of the US Survey Foot and new datum](#). The NCAUG hosts symposiums throughout the year and CGIA staff presented an update on the Seamless Parcels project.

North Carolina also participates in the work of NSGIC, the national organization of state government GIS leaders from across the country. It is a forum for sharing proven approaches to implementation of geospatial data, learning from each other on policy issues and providing a united voice of the states supporting implementation of the Geospatial Data Act (GDA). The GDA was enacted by Congress in October 2018 (reference [P.L. 115-254, Section 751-759](#)). Tim Johnson completed his service on the NSGIC Board of Directors but continues to serve on NSGIC committees/working groups. North Carolina contributed its statewide successes and challenges through NSGIC midyear and annual conferences in September 2020 and March 2021, respectively, as well as through ongoing discussions with other states. Matthew McLamb and Anna Verrill gave a virtual presentation at the February 2021 midyear conference titled “North Carolina’s Next Generation 911 Deployment: The GIS Process”.

GICC members have a responsibility to communicate council initiatives to their member organizations and professional networks, so much of the council outreach occurs within professional circles and is reflected in the range of interested stakeholders that participate in working groups and assist the GICC committees in information gathering through surveys and outreach. Fostering a positive environment for collaboration and feedback promotes participation and project successes. The GIS community within North Carolina is talented and

driven, and their ideas, vision and participation drive GICC initiatives that support the entire community.

## **Future Priorities**

The council's priorities for the future remain centered around data-driven collaboration and continual improvement of access to data products. Fiscal year 2021-22 priorities cover adoption of new federal standards, Census support, emergency coordination and improving access to data that will save time, money and lives.

### **Data Improvement**

- Centralize municipal boundary data into an authoritative source and pilot a maintenance process
- Continue support for the collection and dissemination of vital orthophotography and elevation datasets
- Update of AddressNC address point database
- Improve Seamless Parcel attribute consistency
- Evaluate the feasibility of increased coverage and availability of infrastructure data layers.

### **Community Coordination**

- Update NC OneMap to enhance data access and GIS community engagement
- Provide information and support to communities as they respond to 2020 Census data releases.
- Complete NG911 data compilation.

### **Standards Development**

- Develop standards for statewide hydrography and evaluate methods for more accurate stream data.
- Update NC Metadata standards documentation and tools to reflect changes in federal metadata standards and improve metadata adoption.
- Develop a business plan for building footprint updates.

For more information about the council, including the latest meeting information and contact information for council members and staff, please visit the website at [it.nc.gov/gicc](https://it.nc.gov/gicc) .