

Annual Report on Geospatial Information Systems Coordination

Submitted to the General Assembly in Accordance with CGS Sec. 4d-90

Prepared by the Office of Policy and Management

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Introduction

The Office of Policy and Management (OPM) functions as the Governor's staff agency. It plays a central role in state government, providing the information and analysis used to formulate public policy for the State and assisting State agencies and municipalities in implementing policy decisions on the Governor's behalf.

Pursuant to C.G.S. [Sec. 4d-90](#), OPM is responsible for statewide GIS coordination, including setting policies for the collection, management, and distribution of GIS data; setting standards for GIS data acquisition, management, and reporting; managing the creation and use of GIS applications within state agencies; and consulting with GIS stakeholders from municipalities, regional councils of governments (COGs), state agencies, and others.

A major milestone for GIS coordination was reached in 2022 with the launch of the GIS Office and the hiring of a state Geographic Information Officer (GIO). Pursuant to C.G.S. [Sec. 4d-91](#), OPM hired the State's first GIO, Alfredo Herrera, in December 2021. The GIO and GIS Office are situated within the [Data and Policy Analytics Division](#) within OPM, reporting directly to the Chief Data Officer, and coordinate GIS activities with the [Intergovernmental Policy and Planning Division](#) (IGPP) and others throughout OPM. In addition to the establishment of the GIS Office and GIO, C.G.S. [Sec. 4d-92](#) established the GIS Advisory Council with membership from several important stakeholder groups. Additionally, [C.G.S. Sec. 16-330b](#) established responsibilities for mapping broadband availability and adoption through the GIS Office, with a map to be published on December 1st of every year.

As required by C.G.S. Sec. 4d-90, OPM reports annually to the Planning and Development Committee on activities performed under such section. This report covers activities performed during the year beginning January 1, 2025, and ending December 31, 2025.

Special Activities Summary:

- The following staff continued to serve on national committees or groups:
 - Alfredo Herrera was elected by the group membership to serve on the [National Geospatial Information Council \(NSGIC\) board of directors](#).
 - Carl Zimmerman was appointed to serve on the [National Geospatial Advisory Committee](#).
- Completed and published the [2024-2025 Annual Update of the Connecticut Geospatial Strategic Plan \(2023-2028\)](#). This update contains a list of achievements for the GIS Office in the past year, a progress and status report, emerging topics and opportunities, and updated operational priorities.
- Continued to develop and expand the GIS data clearinghouse ([CT Geodata Portal](#)) to better serve the CT geospatial community by updating content to increase search engine optimization (SEO), adding new pages, producing written content, and improving the website's structure. The Geodata Portal has experienced consistent increases in traffic throughout the year, averaging 1,700 page views per day.
 - Staff regularly edited and updated information on the CT Geodata Portal, such as staff changes, rotating new and noteworthy items, adding relevant GIS community events to the calendar, etc.

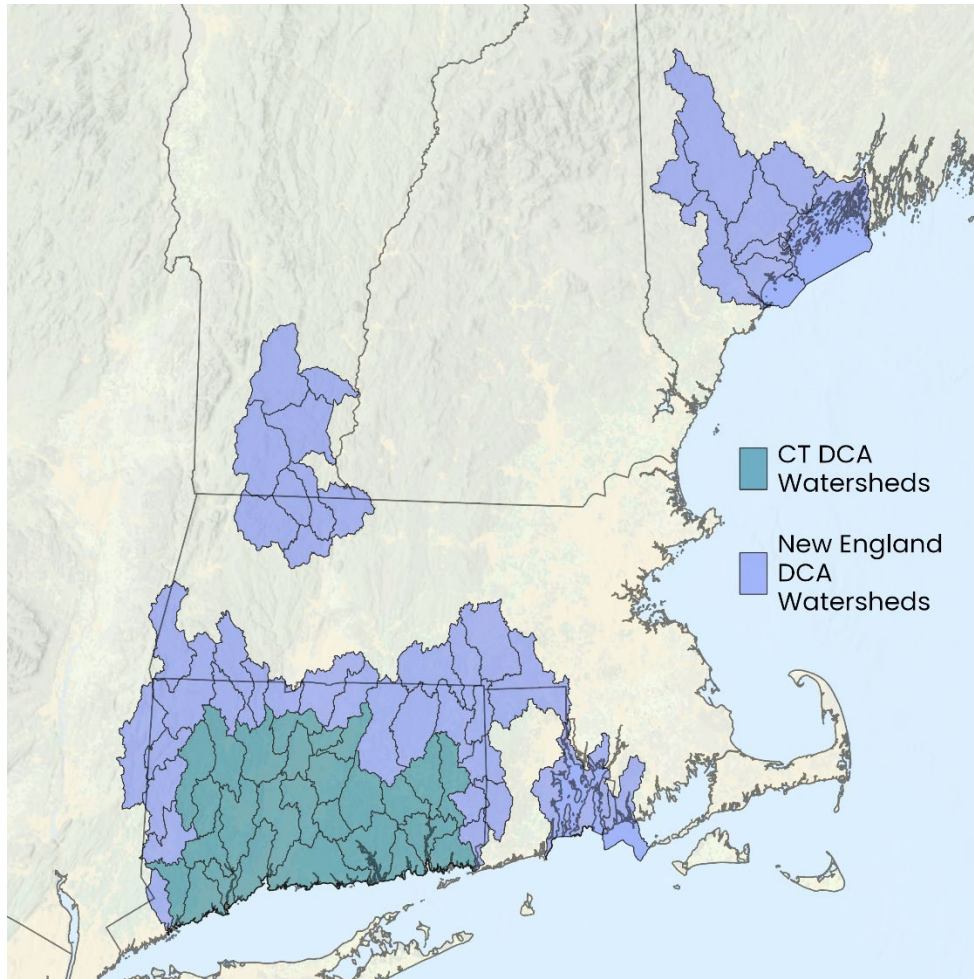
- Staff published the [Geodata Portal Publishing Guidelines](#) to promote consistent, high-quality data sharing on the CT Geodata Portal. The document provides clear instructions and standards for GIS professionals in state agencies and trusted partners.
- Created and published a new [Imagery](#) page that offers information about the collection and availability of state-wide imagery data.
- Received aerial imagery and LiDAR-derived elevation data for the entire state through a contract with Dewberry Engineers, Inc. The data acquisition period for this project occurred in the spring of 2023 with data processing and data deliveries completed in 2025. A contract amendment was completed in 2024 and executed in 2025 that saw the development of statewide impervious surface cover data depicted in 12 categories. To date, we have:
 - Created and run a quality assessment and control program for the LiDAR, Imagery, and GIS data acquisition.
 - Managed a statewide quality assurance/quality control (QA/QC) review process, including training of reviewers and design of a QA/QC review portal across a wide group of stakeholders across a variety of sectors.
 - Reviewed and updated building production methods with the vendor.
 - Acquired all deliverables: Imagery, LiDAR, Digital elevation products, buildings (2D and 3D), and 12 categories of impervious cover.
 - Distributed data to local universities, towns, and other stakeholders.
 - Created or updated data download and web mapping products.

- Published 3D building to the Geodata portal from the 2023 flight and created a Scene Layer for Public use - [scene available here](#).
- Published 2D building to the Geodata portal from the 2023 flight - [Feature Layer](#)
- Created a [2D/3D viewer](#) to interact with and showcase the 2D and 3D buildings from the 2023 flight
- Created Contours - [Tile](#) and [feature Layer](#), from the 2023 flight
- Collected and processed municipal digital parcel files and computer-aided mass appraisal (CAMA) files from Regional Councils of Government (COGs), as required annually by [CGS Sec. 7-100I](#).
 - The GIS Office developed the [GIS Data Submission Hub](#) to enable Councils of Governments (COGs) and verified users to upload parcel and CAMA data directly. The hub includes private and [public dashboards](#) to track collection progress and ensure data transparency, along with tools for data validation and instructional resources. The site is planned to expand to support data submission for additional topics, including addresses, bridges, and culverts. Presented at the spring conference of the Northeast Arc Users Group on the successes and lessons learned from building the site.
 - Continued improving the process of verifying and integrating the parcel and CAMA submissions to allow faster processing and process replication.

- Maintained high rates of submission and adherence to the schema of the CAMA standard through outreach to the COGs, municipalities, and their respective vendors.
- Updated [Connecticut's Statewide Parcel Dataset](#) with 2025 parcel and CAMA data from all 169 municipalities in CT.
- Consolidated multiple CAMA datasets into a unified [Dataset](#) published on the [Open Data Portal](#).
- Created and shared Parcel and CAMA analysis reports with COG representatives based on their 2025 submissions. These reports include quality assurance details for each member town, such as match rate calculations between GIS parcel data and the assessor's database.
- The GIS Office, together with UConn CLEAR, presented at a workshop hosted at the Annual School of Connecticut Assessors in July 2025. This presentation focused on state data and tools available for Assessors, as well as highlighting progress on the collection, maintenance, integration, and analysis of statewide Parcel and CAMA data.
- Continued the administration of a \$2 million grant program, funded by the American Rescue Plan Act (ARPA), to support Connecticut's Councils of Governments (COGs) in addressing parcel and CAMA data issues of their member towns.
 - The GIS Office held biweekly meetings at the beginning of the year to support the development of workplans and now continues holding

- monthly meetings to track progress and support COG representatives in the management of these funds.
- The COGs submitted a biannual report on July 1st, 2025, and are set to submit a second one by December 31st, 2025, to report on their grant activities undertaken by vendors or COG staff, progress towards the target completion dates, and any delays or obstacles encountered.
 - The GIS Office, in collaboration with CT DEEP's Land & Water Resources Division, led two successful applications (with acceptance as of December 9, 2025) to the United States Geological Service (USGS) 3D Hydrography (3DHP) Program. The first proposal consists of a collaboration with four (4) other New England States (Rhode Island, Massachusetts, Vermont, and Maine) and with permission to complete work in two (2) other states (New Hampshire and New York) to map hydrography along state boundaries (depicted in purple in Figure 1). The second proposal consists of mapping the hydrography in hydrologic units that are internal to the state of CT (depicted in green in Figure 1). This project will result in the update and complete mapping of Connecticut waters with high accuracy for the majority of the state of Connecticut. This work will enable modern 3D modeling and detailed flow tracing from rivers and streams to coastal areas in the state, in addition to identifying and depicting nearly all watercourses in the state.

Figure 1



- o Developed a mapping application titled [USA FY26 DCA HUC10 Selection Tool](#), which allows users to select one or more watersheds across the United States and view key attributes such as drainage area, land area, intersecting states, and estimated data acquisition costs under the USGS 3D Hydrography Program (3DHP) program. This tool is designed to support state-level planning and is used when preparing Data Collaboration Applications (DCA) for the 2026 cycle of the 3DHP program. NSGIC, of which CT is a member state, several other states,

and USGS, are planning to use this tool for planning and advocacy purposes.

- The [Connecticut Housing Data Hub](#) underwent a major overhaul and was publicly released as version 2.0 in 2025. Enhancements included a redesigned workflow for publishing and updating housing data, rebuilt maps, and an optimized dashboard layout to improve user experience. Annual and monthly updates to census, state, and realtor datasets were implemented to ensure data accuracy and timeliness. Additionally, the project's [GitHub repositories](#) were made publicly accessible, providing Python scripts for automated data extraction, aggregation, calculation, and spatialization. Engagement continued with stakeholders interested in leveraging these resources and developing comparable dashboards.
- Continued to publish issues of the [GIS Office Newsletter](#) after each meeting of the GIS Advisory Council Meeting. The Newsletters aim to provide the greater CT GIS community with updates and a line of communication directly from the GIS Office. New issues of the newsletter will continue to be published after every GIS Advisory Council meeting.
- Completed and published the [2024-2025 Annual Update of the Connecticut Geospatial Strategic Plan \(2023-2028\)](#). This update contains a list of achievements for the GIS Office in the past year, a progress and status report, emerging topics and opportunities, and updated operational priorities.

General Activities Summary:

The following GIS activities were conducted by OPM in 2025:

- Convened the Geographic Information Systems (GIS) Advisory Council, established pursuant to CGS Sec. 4d-92, on a bimonthly basis. The Advisory Council workgroups continued their work on the following:
 - Statewide Aerial Imagery and LiDAR data acquisition
 - GIS Clearinghouse Recommendations
 - Parcel Drafting Standards
 - Municipal parcel data and CAMA report (the GIS Advisory Council adopted this workgroup in the October 2022 meeting)
 - Strategic Plan Development
- Participated as a regular member of the National States Geographic Information Council (NSGIC) activities, contributing to the NSGIC community through regular communications with GIS leaders from other states and presenting on broadband mapping activities.
 - Presented at the midyear and annual meetings, as well as virtual and in-person GIO Academy sessions on a variety of different topics.
 - Alfredo Herrera continues to serve on the Board of Directors and as co-chair of the Council of Councils working group.
- Attended and presented at quarterly meetings of the [CT GIS Network](#), the GIO functions as an ex officio member, and Ashley Benitez as a member-at-large on the 18-member [Steering Committee](#). The GIO also gave a "[State of the State](#)" presentation for the CT GIS Network at their GIS Day Event on November 19, 2025.

- Continued to maintain and update a homepage for the GIS Office and GIS Advisory Council to facilitate the finding of important information regarding the office and its activities.
- Published an article titled [Adjacent Color Mapping](#), which explains a map symbology technique for improving clarity and differentiation in mapping. This work was also presented at the spring conference of the Northeast Arc Users Group.
- Served on the Data Analysis and Technology Advisory (DATA) Board.
- Continued to coordinate with the University of Connecticut for hosting imagery and elevation data on [Connecticut Environmental Conditions Online](#) (CT ECO), and collaborated with CT Center for Land Use Education and Research (CLEAR) on creating and presenting a [webinar series](#) to educate stakeholders on GIS resources and related topics. Webinar topics presented in 2025 include:
 - An Introduction to Broadband Data in Connecticut ([link](#))
 - Free and Open Source GIS Tools ([Part 1](#), [Part 2](#))
 - What's New at the CT GIS Office & Fall Series Preview ([link](#))
 - A three-part webinar series on mapping water in Connecticut:
 - Mapping Water in Connecticut, Part I: An Introduction ([link](#))
 - Regional Stormwater Mapping Support: From MS4 to SB9 (PA 25-33) (Part 2, Mapping Water in CT) ([link](#))
 - The 3D Hydrography Program: Modernizing the Nation's Water Data Infrastructure (Part 3, Mapping Water in CT) ([link](#))
 - Connecticut's Lidar and Orthoimagery Revisited ([link](#))

- Statewide vegetation and tree raster datasets were delivered as the result of work completed by Durga Joshi, a UConn PhD candidate who served as an intern in 2024. The project utilized the 2023 statewide elevation data to develop downstream products, with a primary focus on tree and canopy metrics. Methods and findings were shared with stakeholders through a UConn CLEAR webinar titled [*The Rise of GeoAI: Transforming CT's High-Resolution Remote Sensing Datasets into GIS-ready Products.*](#)
- Published an article titled [*Developing Dynamic GIS Applications*](#) exploring a hybrid approach to building dynamic GIS applications. It shares insights on balancing performance, usability, and design tradeoffs when developing interactive mapping tools.
- Drafted CT GIS Accessibility Guidelines to provide state agencies and GIS professionals with best practices for creating accessible GIS products that support ADA compliance and adhere to WCAG 2.1 AA standards, following review with DAS Statewide Digital Accessibility lead, internal collaborators, and the CT GIS Advisory Council. The GIS Office expects to publish this in early 2026.
- Made a [GitHub repository](#) publicly available that contains tools for working with raster data, including a script for building virtual raster tiles to streamline raster processing workflows.
- Previously, the 2022 CAMA data were made public as COG-by-COG files. This year, the GIS Office consolidated historical [2022 CAMA data](#) to ensure that a statewide dataset is archived and more easily accessible. Many stakeholders rely on historical CAMA for retrospective analysis and decision-making.

- The GIS Office has conducted the following activities related to Addresses and Addressing:
 - The GIS Office has continued working towards the development of a Master Address Dataset for the state by coordinating and requesting data from several stakeholders from both public and private entities.
 - Collaborated with UConn's M.S. Data Science Applied Capstone students and delineated goals for them to complete in support of the development of a methodology to evaluate, validate, and assign confidence scores to addresses from different sources.
 - Presented an initial workplan for the development of a Master Address Dataset at Connecticut's GIS Day on November 19, 2025, for stakeholder feedback.
 - The GIS Office is developing guidance to state agencies on the proper collection and formatting of location addresses for state administrative data.
- The GIS Office has conducted the following activities related to Broadband Mapping:
 - Completed two successful data requests to Internet Service Providers (ISPs) for data on availability and adoption in April and September in accordance with [C.G.S. Sec. 16-330b](#).
 - Conducted individual meetings with ISP representatives to gather their feedback on the data submission process.
 - Updated adoption and availability maps available at [Connecticut Broadband Mapping Hub](#).

- Continued supporting DEEP's Broadband Office in their project planning by maintaining biweekly data meetings, providing GIS data training, presenting in collective broadband roundtables, transmitting data submitted by ISPs, and sharing data analyses conducted by our office.
- Supported the Office of Consumer Counsel on legal proceedings by sharing and discussing analyses of ISP-submitted data.
- Actively participated in monthly Broadband Huddle to coordinate and discuss broadband efforts in the state with sister agencies such as DAS/BITS, DEEP, OCC.
- Presented [An Introduction to Broadband Data in Connecticut](#) through UConn's CLEAR's hosted webinars, an overview of the broadband data collected and hosted by this office.
- Alfredo Herrera Presented [Broadband Mapping in Connecticut: Measuring and Tracking Access and Adoption](#) at the Esri User Conference, July 2025.

Created materials and engaged with several Agencies to encourage the use of GIS data and analysis, and provided a variety of consulting and solutions:

- Department of Administrative Services
 - Developed a mapping application for the [School Construction Grants Program](#) as part of a collaborative effort with the Department of Administrative Services. The application is [embedded within a larger data story](#) and visually presents school

grant data to support understanding of the program and its associated projects.

- Developed a map to display the [Capitol Area System](#) heating and cooling loop in Hartford. The mapping application can be found [here](#).
- Department of Energy and Environmental Protection
 - Continued to support the GreenerGov initiative by updating a map highlighting key state-led initiatives on sustainable projects, which can be found at the [GreenerGov CT Reporting Dashboard](#).
- Department of Consumer Protection
 - Continued GIS training and support to DCP's Drug Control Division.
- Continued support to Connecticut's Social Equity Council efforts related to [Disproportionately Impacted Areas](#) and community reinvestment.
- Updated and shared internal coding and data resources, such as geocoding tools, with agencies that requested them.
- Presented on [Using State Sustainability and Resilience Data](#) during Connecticut's second annual [Sustainability and Resiliency Week](#).
 - During Connecticut's Sustainability & Resiliency Week, the Data and Policy Analytics division presented *Using State Sustainability and Resilience Data*. In this presentation, DAPA highlighted ways to access state data on sustainability and resilience, through the state's open data and GIS transparency efforts.

- Each state agency is tasked with developing a Sustainability Performance Plan (SPP) that lists the necessary actions, milestones, and responsible parties to achieve the sustainability goals and targets set by Executive Order 1. Sustainability Performance Plans are prepared and submitted by Senior Sustainability Officers of each Executive Branch agency and voluntarily participating agencies. The GIS Office supports DEEP in project reporting by maintaining and updating a map to highlight and sort through selected projects across the state.

Regional, State, and Federal Coordination

- The GIS Office leads the state coordination for the yearly collection of Parcel and CAMA through a working group comprised of town, private, regional, and state representatives.
- In collaboration with DEEP, the GIS Office coordinates a Water Resource Data Workgroup.
- The GIS Office leads a state-level GIS Emergency Management working group.
- Shares information and guidance on the use and management of GIS data in the state in Quarterly Agency Data Officers' meetings.
- Active participation in the Parcels & Land Records Interest Group organized by NSGIC.
- Coordinated with data stewards and completed Geospatial Maturity Assessments developed by NSGIC on the topics of Parcel and Land Records, NG9-1-1, Addressing, orthoimagery (leaf-off and leaf-on), transportation, geodetic control, and administrative/governmental units.

- Commenced coordination for regional presentations with each Council of Governments (COG), engaging directly with town representatives to share available GIS resources and discussing recent mandates containing GIS data components.
- The GIS Office is mapping all state-owned and leased properties for a State Vulnerability Assessment of State Government Assets as directed by [Executive Order 21-3, Section 11](#), which directs the Greener Gov Steering Committee co-chairs (Office of Policy and Management, Department of Administrative Services, Department of Energy and Environmental Protection) in cooperation with the Department of Emergency Services and Public Protection, to assess the vulnerability of state government assets and operations to the impacts of climate change and to create a list of priority assets and infrastructure for climate resilience projects for each agency.
- The GIS Office participated in the Request for Proposals (RFP) review committee will serve on CT DEEP's Mapping Advisory Committee for the updating and implementation of an existing Environmental Justice (EJ) Screening Tool, and the creation a Cumulative Impacts Tool to guide permitting decisions as required by the amendments to [C.G.S. section 22a-20a\(f\)\(3\) enacted in 2023 through Public Act 23-202](#).

Other

- Coordinated the transmission of Imagery and LiDAR-derived products to sister agencies, including vegetation-related layers to DEEP's Office of Urban Forestry.

- Responded to multiple data-related questions from members of the public, local governments, private companies, reporters, and non-profit organizations, etc.
- Submitted testimony on [SB 1382](#), An Act Concerning School Mapping Data Services, making observations about the geospatial implications of the raised bill.
- The GIS Office was named as a resource also in legislation on housing ([PA 25-1](#)), to create an inventory of developable land, and legislation on climate resiliency ([PA 25-33](#)) to collect data on culverts and bridges, and from municipal and regional planning efforts.

