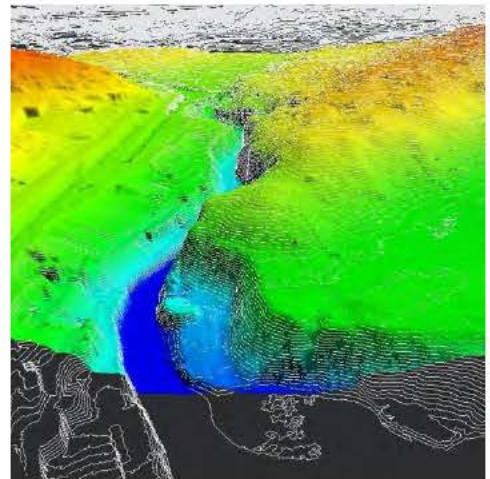
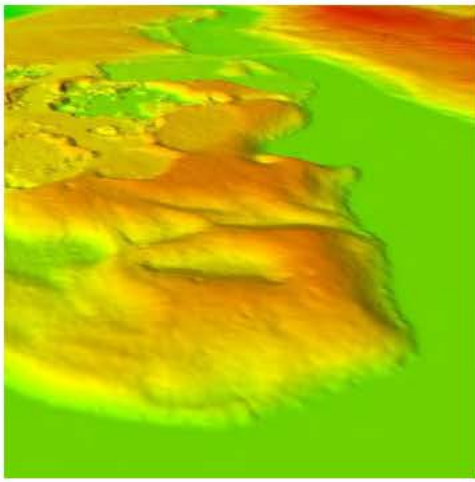


# MAINE STATE LEGISLATURE

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**2023 ANNUAL REPORT**  
**MAINE LIBRARY OF GEOGRAPHIC INFORMATION**

**TO THE JOINT STANDING COMMITTEES OF:**  
**ENVIRONMENT & NATURAL RESOURCES AND STATE & LOCAL GOVERNMENT**  
**131ST LEGISLATURE – SECOND SESSION**



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**THIS REPORT WAS PREPARED FOR THE LIBRARY OF GEOGRAPHIC INFORMATION  
WITH SUPPORT FROM THE MAINE OFFICE OF GIS, OFFICE OF INFORMATION  
TECHNOLOGY, & DEPARTMENT OF ADMINISTRATIVE AND FINANCIAL SERVICES**



## HISTORY AND MISSION STATEMENT

In 2001, the Legislature instructed the State Planning Office to convene what came to be known as the Resolve 23 Steering Committee (Committee) to study the use of Geographic Information Systems (GIS) in statewide strategic planning. The Committee developed a needs assessment – the conclusion of which recommended the creation of the Maine GeoLibrary, its method of governance, and strategic focus. The Legislature and Governor concurred, and the [Maine Library of Geographic Information Act 5 M.R.S.A. Section 2001](#) et. Seq. became effective April 2002. The Maine Library of Geographic Information (“GeoLibrary” or “Board”) was established as a partnership of public and private stakeholders with the following guidance of purpose and duties, to:

1. Operate a coordinated, cost-effective electronic gateway providing access to data custodians’ public geographic information,
2. Establish and maintain standards, rules, and policies for non-state data custodians’ geographic information,
3. Reduce redundancies in the creation, verification, and maintenance of public geographic information and to enhance its utility for complex analyses,
4. Set priorities and authorize the expenditure of State funds,
5. Promote innovative uses of geographic information,
6. Enter partnerships to promote the purposes of the legislation,
7. Hear and resolve disputes that may arise between data custodians or with respect to information to be placed in the Maine Library of Geographic Information, enforcement of geographic information GeoLibrary standards, rules or policies or other related matters,
8. Conduct studies relating to the coordination, development, and use of statewide geographic information,
9. Report annually by January 1st to the joint standing committees of the Legislature having jurisdiction over natural resources matters, and state and local government matters, and.
10. Develop appropriate internal services to facilitate generalized access for and use of data by governmental agencies and the public.

### A MESSAGE FROM THE GEOLIBRARY BOARD CHAIR:

2023 has been a year of new beginnings. As a board, we pursued our planning goals, bringing new data programs to fruition, and welcomed a new Executive Director. The GIS & data needs are growing across the state, becoming ever more integral at the local, regional, and state levels. We remain dedicated to serving the state of Maine and furthering accessibility to this resource. 2024 promises to offer some exciting opportunities. We thank you for your commitment to making this capacity consistently and widely available.

Leticia vanVuuren

Chair of the Board, Maine Library of Geospatial information





## EXECUTIVE SUMMARY

This report includes GeoLibrary activities from January 1, 2023 through December 2023.

The report covers services, strategic planning, data, finances, and personnel.

The GeoLibrary plays a key coordination role in the development and use of geospatial data for the State of Maine.

Currently, more than 20 terrabytes of data are stored in our systems. For this period in our enterprise environment there were a total of 301,901,364 map draws. (a map draw is one request to a specific data set to redraw the screen for any reason)

The GeoLibrary Board has taken ownership of the Strategic Plan developed by the Timmons Group in November of 2022. To make strategic planning a routine part of our activities, a new 24-month planning calendar is being developed.

Our data acquisition program continues to be robust, with year-over-year deliveries of large, high-value data sets. Necessary system and workflow enhancements are underway in order to continue supporting these multi-use projects and deliver the derivative data sets they generate for public access and use.

The GeoLibrary appreciates the funding and additional positions provided in the First Special Session of the 131st Legislature. Over a sustained period, these resources will provide us with much-needed support for platform improvements, sponsorships of activities, and outreach to stakeholders heretofore unachievable.

There continue to be three openings on the Board. Two new members were added, and one resigned, giving us a steady state of participation. The Executive Director role changed hands in late June. We will be soliciting new members this year.

Respectfully Submitted

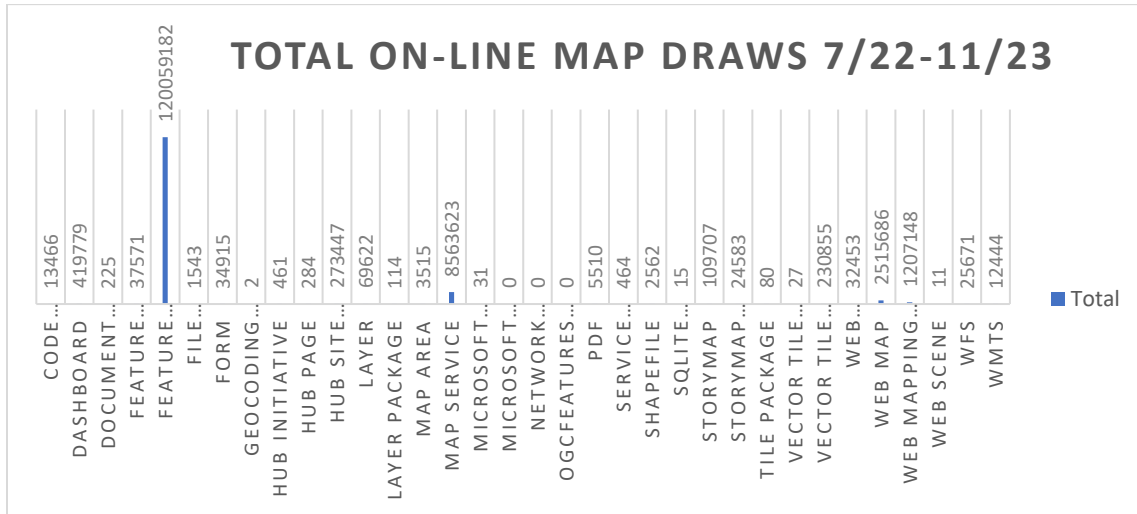
Jay Clark  
Executive Director  
Maine Library of Geospatial Information



## SERVICES

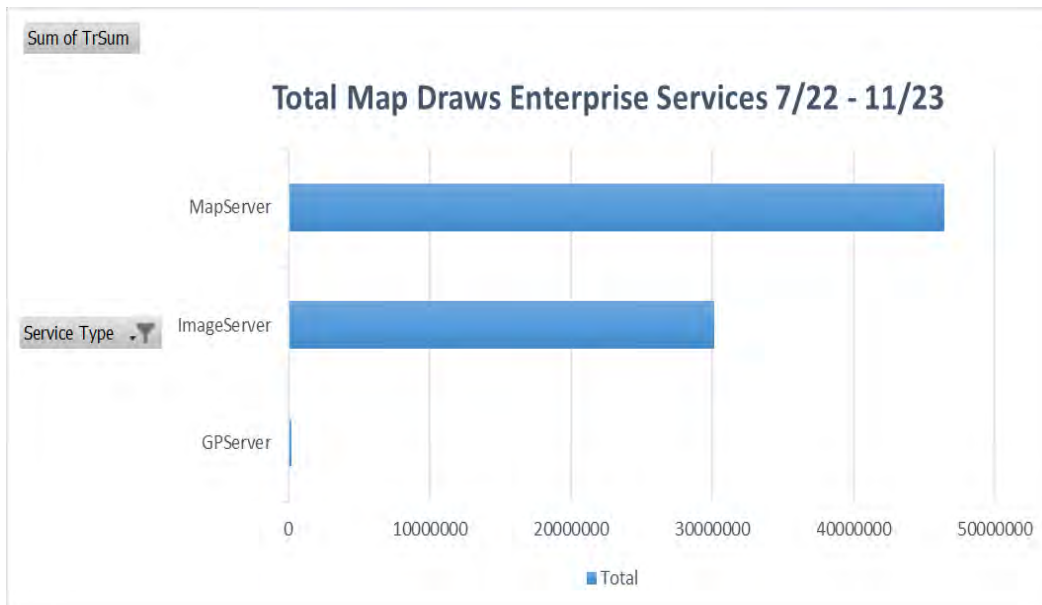
The Library of Geospatial Information hosts of 20 terabytes of data. These data are divided into 23,000 online maps and 2700 enterprise services.

### ONLINE MAPS



Online Maps are published through mapping software and created by MeGIS and State Agencies as well as contributed by outside sources.

### ENTERPRISE DATA



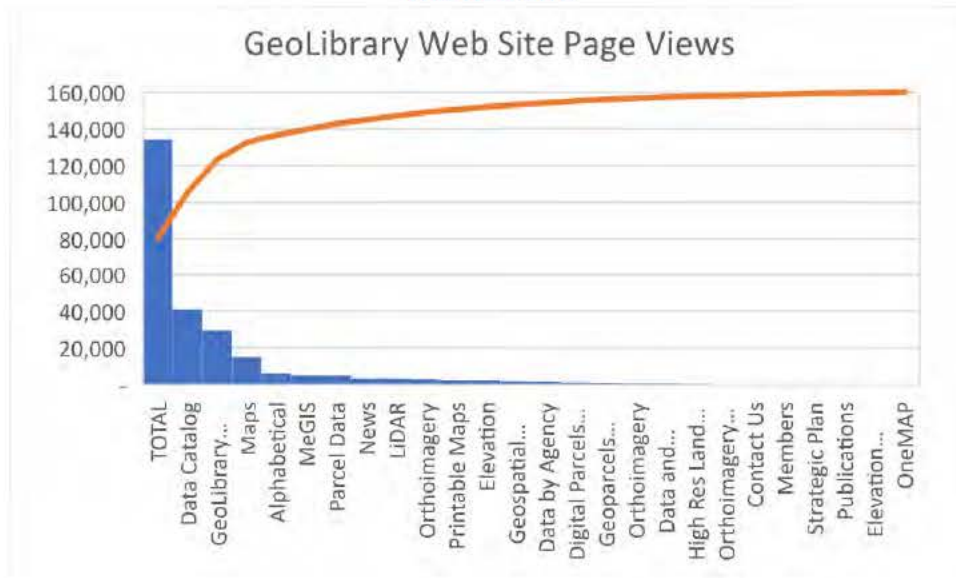
Enterprise data are large data sets like Aerial Imagery and LiDAR procured for general use.



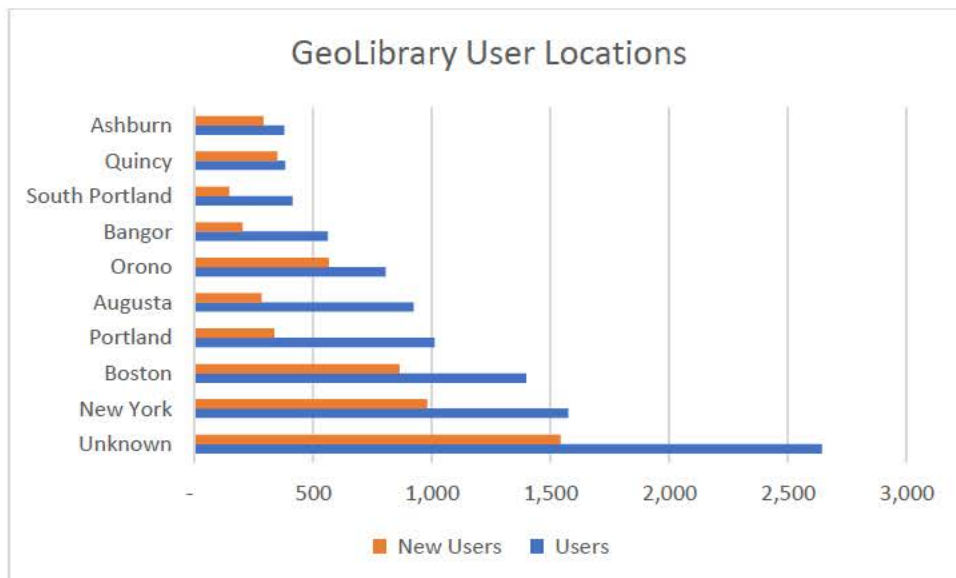
# MAINE GEOLIBRARY

Both data collections are made available through the GeoLibrary Data Catalog found at [www.maine.gov/geolibary](http://www.maine.gov/geolibary) <https://www.maine.gov/geolib/catalog.html>

## THE WEB SITE



The number of page views of public use on the web site. We average 370 hits per day.



This chart shows the locations of users by repeat and new users. Many users are out of state.

The GeoLibrary provides a wealth of data to State Operations and the Public. Items 1 – 5 in our Mission Statement above are embodied in these statistics and reflected in the data provided in the services on our web site.



Consistent with our Strategic Plan, and partially funded by the new legislative funding, we anticipate improvements in our ability to collect and serve geospatial data over the next fiscal year.

## STRATEGIC PLAN

There are five key recommendations that the Board will be working to implement in FY2024.

1. Enhance the GeoLibrary Board's legislative mandate.
  - a. A revised statement of the Maine Library of Geographic Information Board purpose and duties (defined in §2003. Paragraph 1) that better reflects the current and near-term mission, goals, and objectives of the GeoLibrary.
  - b. The addition of staff functions to §2003. Paragraph 4 required to meet operational, and stakeholder needs identified during this project.
  - c. Expanding funding sources and use of accounts defined in §2006. Paragraph 2.
2. Enhance stakeholder outreach.
  - a. Initiate a regularly planned outreach cycle to provide more frequent feedback on successes and needs of the stakeholder community in relationship to the GeoLibrary mission.
3. Pursue sustainable funding for the GeoLibrary.
  - a. Work to develop a sustainable funding source that will provide a foundation for operations staffing, project development and matching funds for grant applications.
4. Develop a data acquisition and maintenance plan for high priority data layers.
  - a. Define future project plans for developing and maintaining high use geospatial data.
5. Enhance geospatial data hosting and access.
  - a. Develop an updated GeoLibrary Portal that enables equitable access to geospatial content develop by the GeoLibrary, Maine state agencies, and guides user to content provided by authoritative third parties such as the U.S. Geological Survey.





# MAINE GEOLIBRARY

A plan without a schedule is a fantasy. The GeoLibrary Board is committed to making Strategic Planning a yearly activity. We are working to implement the five recommendations above in a disciplined manner as a continuous improvement process. Please see the scheduled activities below in 2 charts. The first shows FY 2023-24 activities, and the second shows a status as of December 2023.

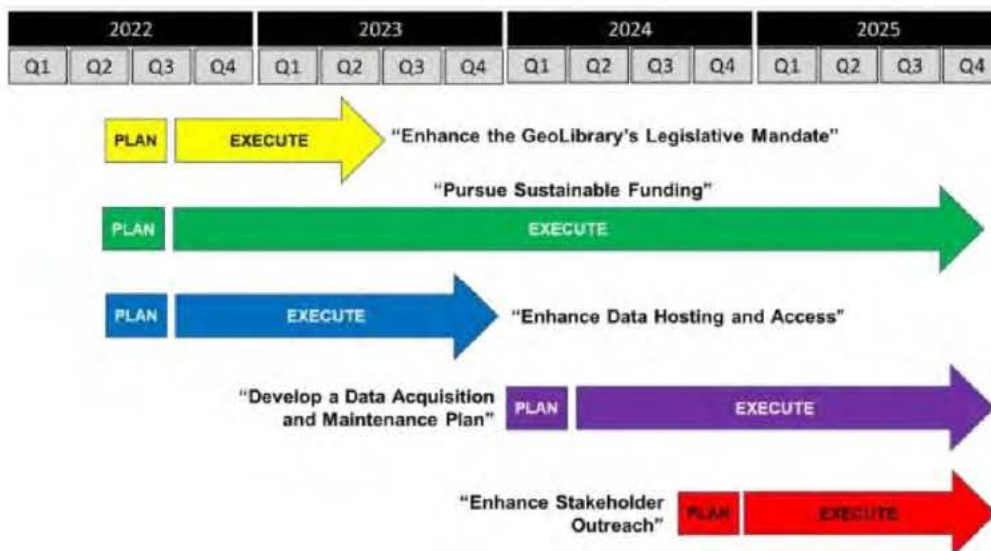
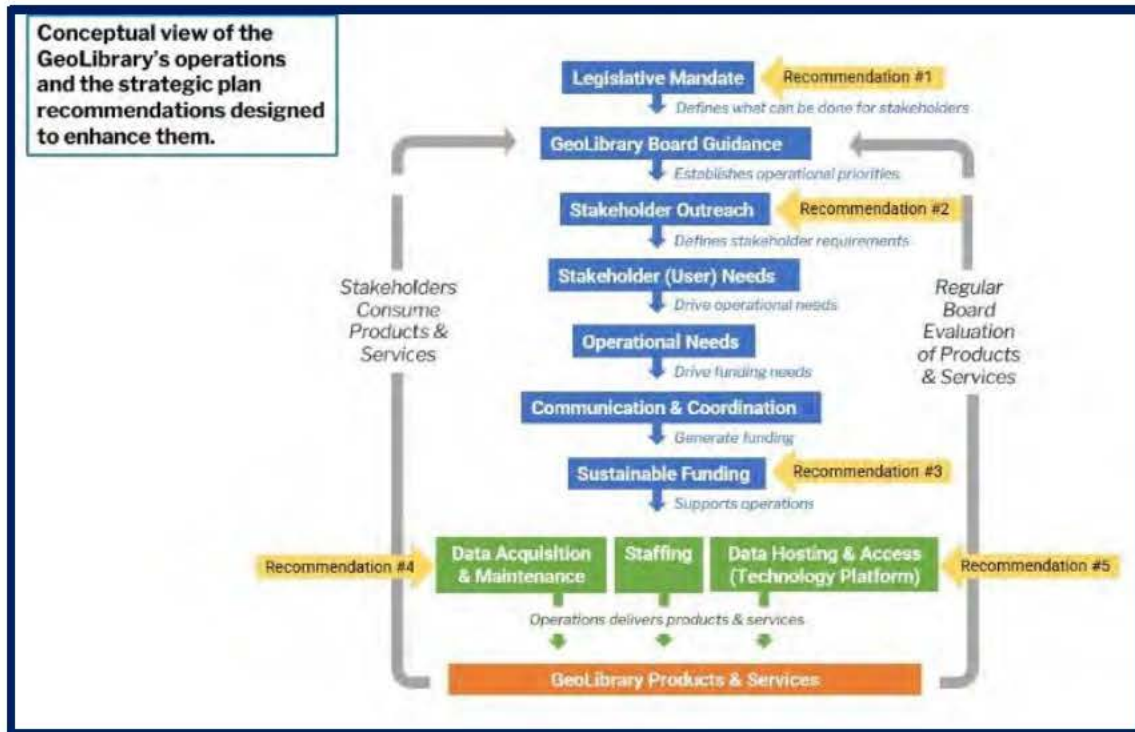
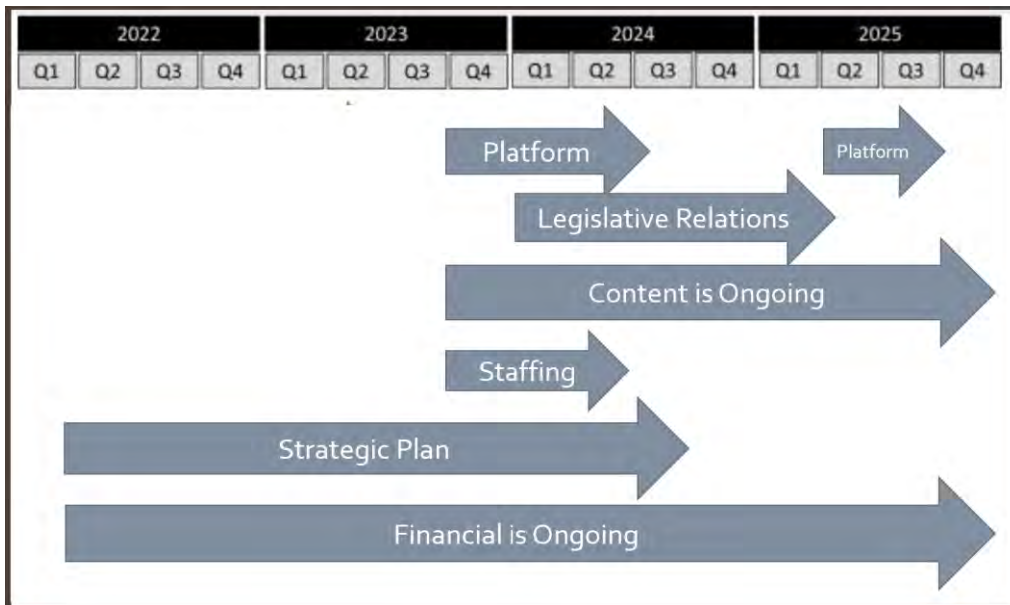


Figure 3 - Proposed timeline for undertaking the five (5) key strategic recommendations presented in this plan.

Strategic Plan Implementation as initially suggested in the Timmons report for FY 2023-24



Realignment of strategic planning to best leverage new funding and staffing coming fully online for FY 2024-25.

Platform enhancements on the underlying integrated GIS infrastructure are underway now. MEGIS will continue to work with the other DAFS/MaineIT service centers to enhance and maintain other components of the total architecture for GeoLibrary delivery. Platform delivery is part of our continuous improvement strategy.

To enhance legislative knowledge and understanding of the value proposition of the Geolibrary and related services, the Board would like to appear before any committee interested in hearing about the GeoLibrary. We will offer to meet and discuss the GeoLibrary in depth with legislative members during the session each year.

Content acquisition and development of statewide geospatial content are ongoing as they are the core of our program. The FY 2024-25 budget funding will enable us to transition from the previous data acquisition programs first defined in FY 2011-12 into the next generation of these programs for future years. Enthusiasm and the need for these programs to enable users at levels down to the local communities remains high for the foreseeable future.

Commencing in January 2024, we will fill new positions provided by legislative funding during the last session. The expanded staffing will be leveraged to execute the tasks necessary to advance the strategic enhancements outlined in the plan adopted from the Timmons recommendations.

We use a two-year calendar to manage the Board’s planning activities.



# MAINE GEOLIBRARY

Task	Status	Owner	Assigned	Anticipated Start Date	Anticipated End Date	Actual Start Date	Actual End Date	Estimated Cost	Actual Cost
Board Planning on Next Fiscal Year	Not Started	LeticiaV	JayC	11/15/2023	12/1/2023	11/15/2023	12/1/2023		
November '23/Board Meeting	Not Started	LeticiaV	JayC	11/23/2023	11/23/2023	11/23/2023	11/23/2023		
Board Report to Legislature	Not Started	LeticiaV	JayC	11/01/2023	12/1/2023	11/24/2023			
Legislative Communications on Board Plans	Not Started	LeticiaV	JayC	1/1/2024	2/1/2024				
January Board Meeting	Not Started	LeticiaV	JayC	1/1/2024					
Planning for 2026 - 2027 Biennial Cycle	Not Started	BrianG	ClarenceY & JayC	2/1/2024	3/1/2024				
February Board Meeting	Not Started	LeticiaV	JayC	2/1/2024					
Data Store Inventory	Not Started	ClarenceY	AviR	3/1/2024	4/1/2024				
March Board Meeting	Not Started	LeticiaV	JayC	March Meeting					
Feedback from Custodians	Not Started	ClarenceY	EmilyP	3/1/2024	4/1/2024				
Prepare Content Report	Not Started	JayC	JayC	4/1/2024	4/15/2024				
April Meeting	Not Started	LeticiaV	JayC	April Meeting					
Board Meeting On Content	Not Started	LeticiaV	JayC	May Meeting					
New Project Requirements	Not Started	ClarenceY	MeGIS	5/1/2024	7/30/2024				
Gap Analysis and Recommendations for Action	Not Started	JayC	ClarenceY	1-Aug	9/15/2024				
Report to Library Board	Not Started	LeticiaV	JayC	Sept Meeting	Sept Meeting				
Cost and Impact Analysis	Not Started	JayC	ClarenceY	10/1/2024	11/1/2024				
Preliminary Budget Proposal	Not Started	JayC	BrianG	11/1/2024	11/15/2024				
Budget Proposal To Board & Approval	Not Started	LeticiaV	JayC	Nov '24 Meeting	Nov '24 Meeting				
Board Report to Legislature	Not Started	LeticiaV	JayC	11/1/2024	12/1/2024				
Data Store Inventory	Not Started	ClarenceY	AviR	12/1/2024	1/15/2025				
Feedback from Custodians	Not Started	ClarenceY	EmilyP	2/1/2025	3/15/2024				
Prepare Content Report	Not Started	JayC	JayC	3/15/2024	April 15/24				
Board Meeting On Content	Not Started	LeticiaV	JayC	April Meeting	April Meeting				
New Project Requirements	Not Started	ClarenceY	MeGIS	5/1/2024	8/1/2024			\$575	\$125
Gap Analysis and Recommendations for Action	Not Started	JayC	ClarenceY	5/1/2024	8/1/2024			\$1,750	
Report to Library Board	Not Started	LeticiaV	JayC	6/15/2024	6/15/2024			\$925	\$250
Cost and Impact Analysis	Not Started	JayC	ClarenceY	7/1/2024	8/1/2024			\$2,000	\$1,840
Preliminary Budget Proposal	Not Started	JayC	BrianG	8/15/2024	9/15/2024			\$1,450	
Budget Proposal To Board & Approval	Not Started	LeticiaV	JayC	9/15/2024	9/15/2024			\$3,000	\$3,200
Project Planning	Not Started	ClarenceY	JayC	9/1/2024	10/1/2024			\$500	
Planning Report to Board & Approval	Not Started	LeticiaV	JayC	10/15/2024	11/15/2024				

## 2 YEAR PLANNING CALENDAR

The GeoLibrary is committed to an ongoing strategic planning process to enhance and improve our mission of providing geospatial data to the citizens of Maine.



## DATA

The GeoLibrary has a two-fold responsibility for data.

- 1.) To Define, Manage, and Host a platform portal that can enable custodians to serve data to geospatial data users.
- 2.) To coordinate, collaborate, and acquire new geospatial data sets that are deemed high value to service community stakeholders by authoritative providers and public users.

The execution of these responsibilities is in fact a collaborative effort of three state level groups.

1. The Maine GeoLibrary Board
2. The Maine Office of GIS (MeGIS)
3. State Agencies that create and are custodians of Department centric geospatial content.

The Maine GeoLibrary acts as a coordinating and leadership body and seeks funding and collaboration opportunities to partner on projects that result in the delivery of geospatial content that is applicable to multiple uses. Once acquired, MeGIS becomes the steward of the data on behalf of the Maine GeoLibrary Board. MeGIS provides deep technical support and management between these three partner entities. The GeoLibrary cannot fully function as a simple website delivered as a stand-alone entity and must be understood as a part of this integrated delivery system used by these partners.

This three-way partnership is the cornerstone execution strategy for our Data Mission.

## DATA ACQUISITION

The GeoLibrary geospatial data program is supported by State and Local funding, Grant Partnerships, and Private Contributions to fund data access. Our strategy is to provide cost effective access to geographic data through partnerships.

Our largest funding partner is the Federal Government. The most expensive data sets are LiDAR (light detection and ranging) collections. These would be very difficult to fund without the Federal Government. They are desirous for collecting high quality data to produce 3D maps through the 3DEP (3D Elevation Program). The GeoLibrary is pleased to have received confirmation of our latest Partnership request with the USGS on a project scheduled for FY 2024-25.



# MAINE GEOLIBRARY

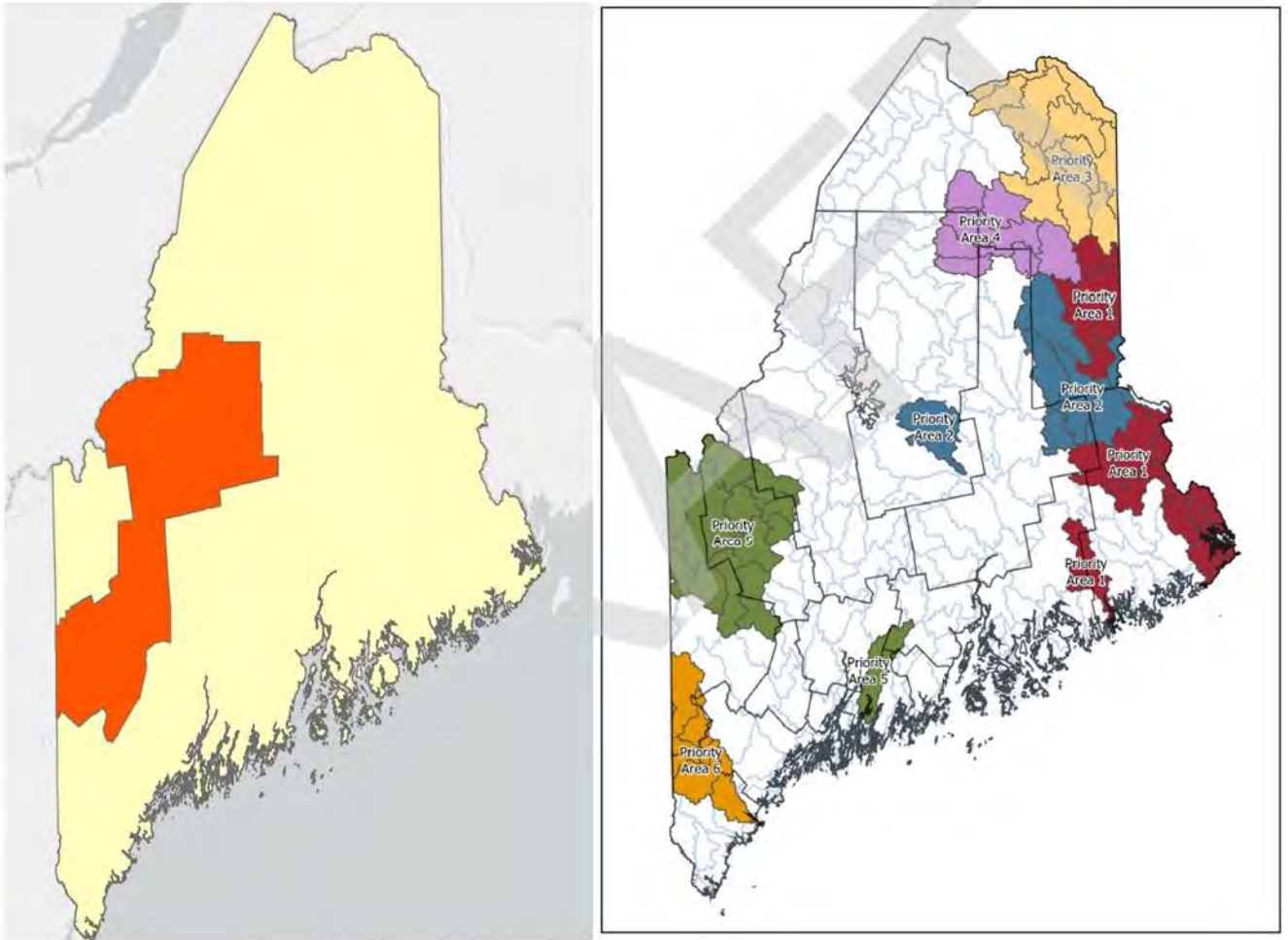
Project Approach		Total Estimated Project Cost (From Previous Page)		\$914,656.81		
Funding Partner(s)						
Name(s)	Type (Federal or Non-Federal)	Proposed Total Contribution	If Project Approach = GPSC, 6% Assessment	Amount to Lidar Data Acquisition and Validation	Certainty of Contribution (Guaranteed or Pending)	If Funding is 'Pending' (i.e., Not Yet Guaranteed); Note Date (MMM YYYY) when Funding Decision will be Final
Maine Geolibary		\$495,000.00	\$28,018.87	\$466,981.13		
		\$0.00	\$ 0.00	\$ 0.00		
		\$0.00	\$ 0.00	\$ 0.00		
		\$0.00	\$ 0.00	\$ 0.00		
		\$0.00	\$ 0.00	\$ 0.00		
		\$0.00	\$ 0.00	\$ 0.00		
Funding Partner Totals (From Above)				\$466,981.13	51%	% Cost Share for 3DEP Base Data
Funds Requested from 3DEP				\$447,675.68	49%	% Cost Share for 3DEP Base Data
Total Combined DCA Contributions			Federal	\$447,675.68	49%	% Cost Share for 3DEP Base Data
			Nonfederal	\$466,981.13	51%	% Cost Share for 3DEP Base Data

This represents an investment of ~ \$468K into our data collection efforts.





## LIDAR DATA (3DEP) AND 3D HYDROGRAPHY PROGRAM (3DHP)



6/20/2023

3DEP Collection area for 2024 and 3DHP Derivative Product Planning for 2024.

This area represents 5053 square miles and is being produced at a rate that has not changed in 7 years (\$181.00 per sq/mi) This is a high value partnership agreement. It is the only data acquisition we have undertaken thus far in FY 2024-25. It also should be noted that the USGS has decided to provide extra funding to increase the LiDAR to Quality Level 1 (8 points per square meter), which is an in-kind contribution of millions of dollars in data value.

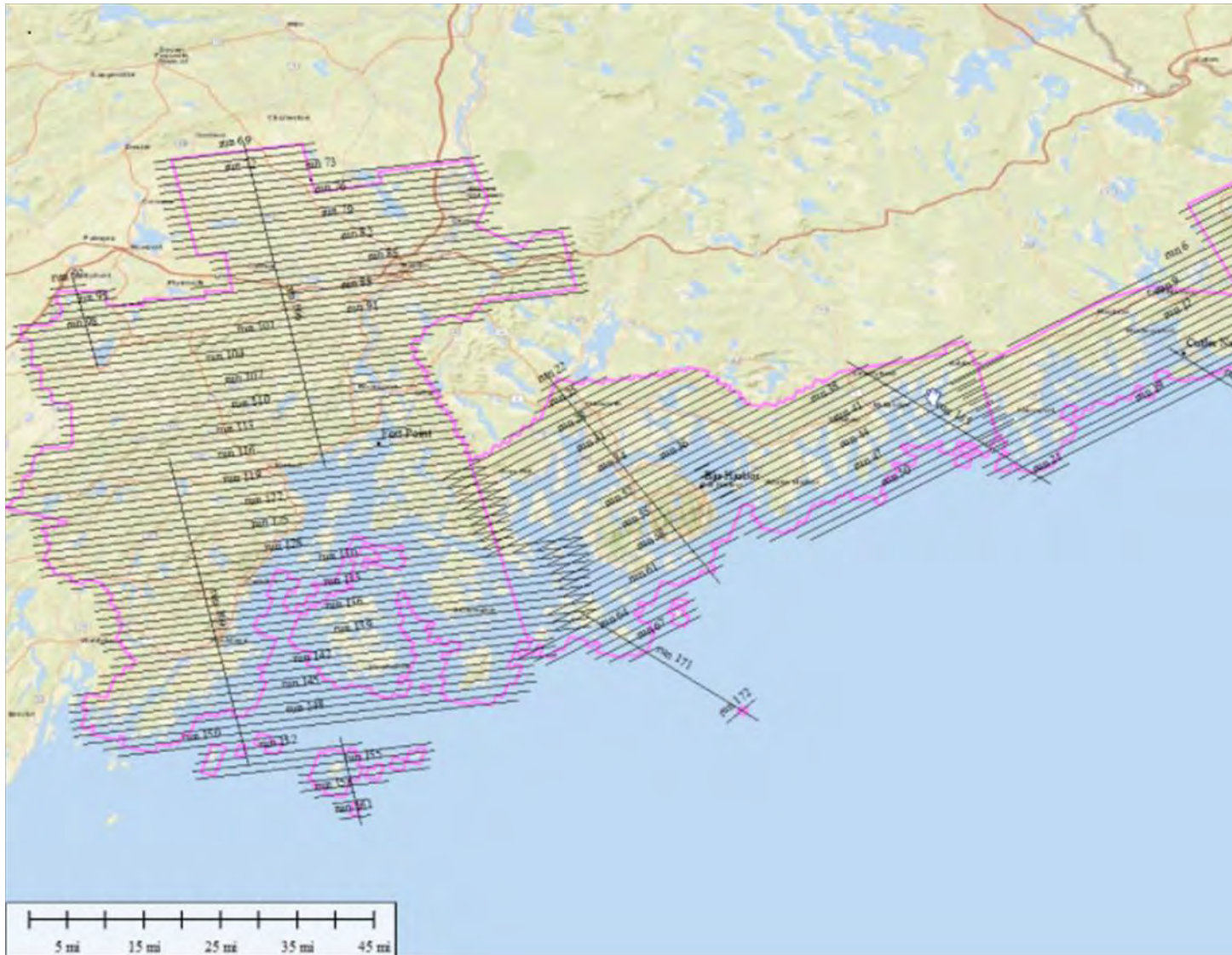
It should be noted that these data collection efforts are multiyear projects. For LiDAR and Orthophotography, considering requirements of weather and canopy (leaf on or leaf off) it can take 2 to 3 years between contract and delivery. For that reason, we are reporting collections across multiple years.

Most, but not all outstanding data that was contracted in FY 2022-23 is described below.



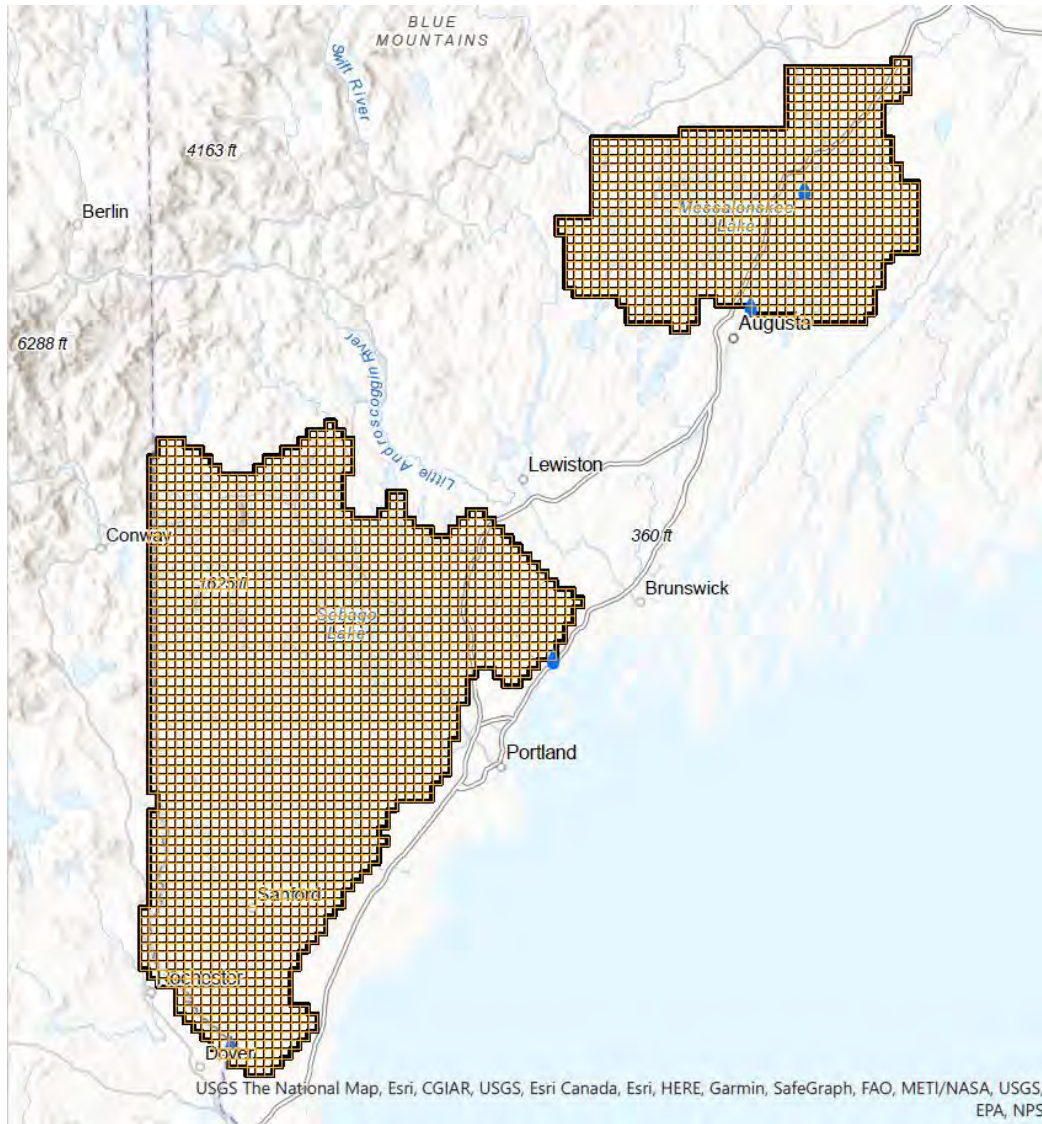
## LIDAR

The United States Geological Survey (USGS) approved and partially funded the acquisition of over 2000 square miles of LiDAR to replace outdated information along the Southern portions of Maine. The contractor was successful in acquiring the entire dataset, along with capturing the remaining rollover portion from the 2021 LiDAR project. Data captured during this project was received by MEGIS in 2023.



2021 Mid Coast and Down East LiDAR Delivered September 2023



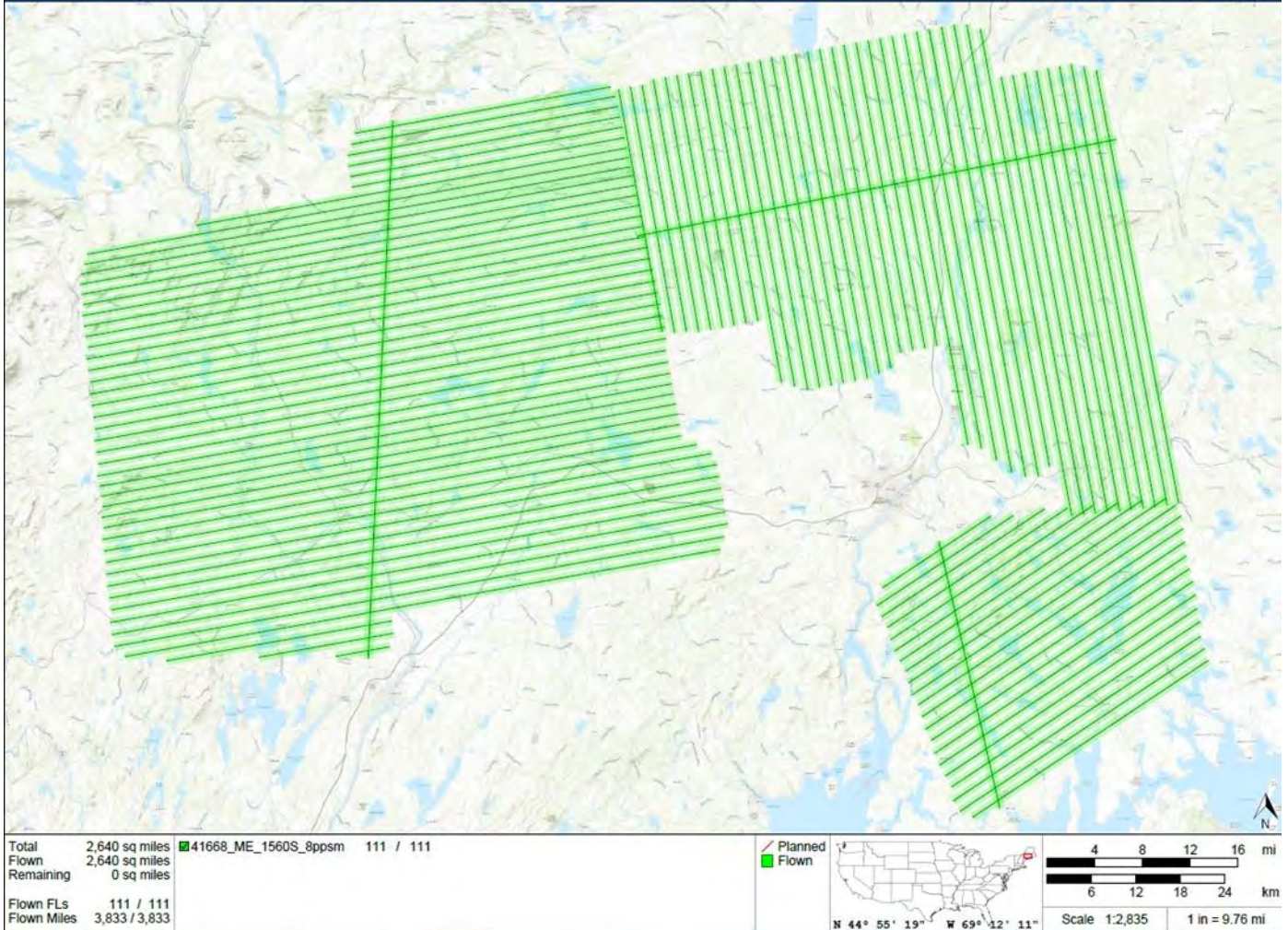


2022 South Central Lidar is available to the public.



ME MidCentral B23 (5/16/2023) - 100.0% Acquired

NV5 GEOSPATIAL



Mid Central LiDAR has been acquired (May 2023) and will be moving into production.

Aerial based collection projects can have a long window from collection to delivery. A typical project will collect data during a spring season when conditions are best, and work will continue to produce the mapping and other products from this work for the next year. Maintaining a consistent surface model statewide is challenging because of the production times. We are in a 5–8-year rotation cycle for LiDAR collection areas. The new area collected this year was last collected in 2016.

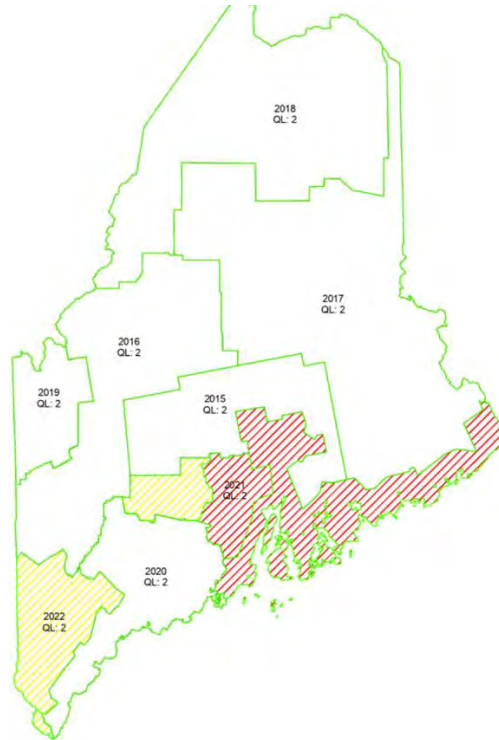
The map below illustrates the year-over-year collection plan for Maine.

The collection planned for 2024 would not be possible without the funding assistance the Legislature provided the GeoLibrary. The requirement that data from our geospatial reserve fund be matched by other parties makes these collections smaller and more difficult to achieve. Unlike Orthophotography, which may have local buy-in options, LiDAR is mostly used for





derivative products like analysis and contours. Local governments are not usually able to invest the funds needed for this core base level data. Legislative support by way of General Fund monies makes LiDAR collections possible at a more efficient rate by enabling us to provide matching funds required to partner on the USGS based projects.



Lidar Collection Areas by Year

## ORTHOIMAGERY

The GeoLibrary continues to support the plan of base mapping orthoimagery in multiple counties in Maine. Imagery products can be collected from satellites, aircraft, drones and vans. Typically, these images have been captured by aircraft only, as licensing limitations and technical challenges in the past made it difficult to utilize the other platforms.

We intend to take a close look at the other platforms as part of the transition from the old 10-year program launched in 2011-2012. We are particularly interested in the possibility of high-resolution satellite as companies are beginning to offer different ideas about licensing the imagery, to see if cost and production can provide options to areas that were challenged to fund in the previous aerial-based program. We prefer to work at the county level, with participating communities “buying up” coverage based on higher resolution imagery capture. There is still great and wide interest for the cost sharing that can be developed this way at the local level.

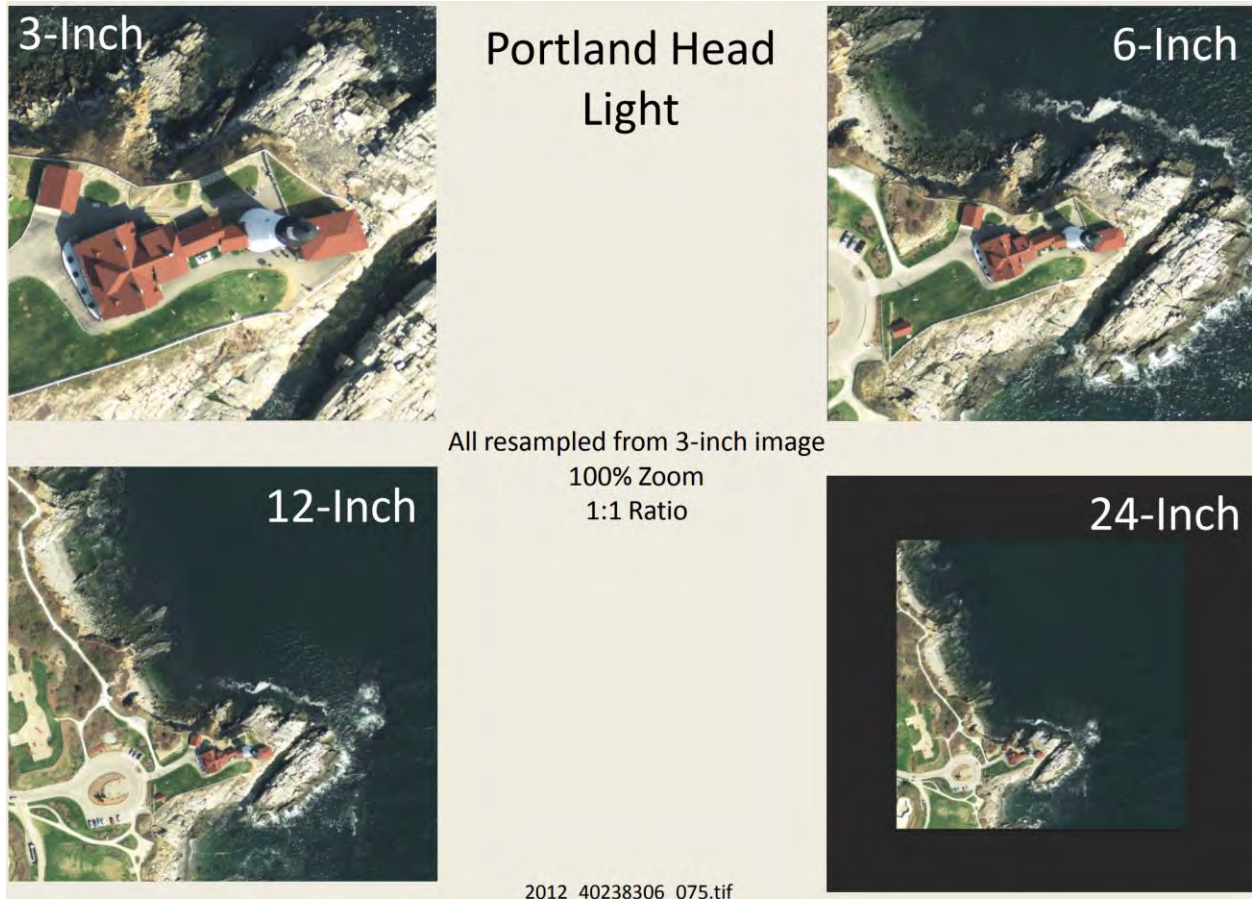
An illustration of various imagery resolutions is shown below. Historically we have seen four base resolutions for imagery capture. These distances represent the measured distance value of one image pixel. Typically, a collection of nine pixels in a 3x3 array, is required for feature recognition.

A 3-inch pixel image can display a 9” object that can be recognized by a human making a derivative product from the imagery. Derivative products are the principal use of imagery and LiDAR.



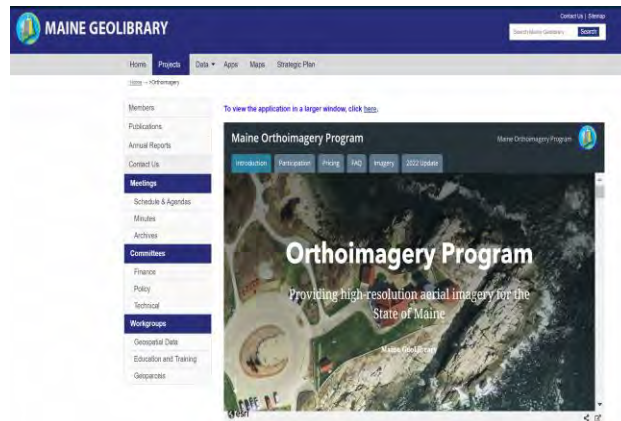


The Geolibary would like to make 12” pixels the default imagery standard, as opposed to the past when it has been 24”. Doing this will provide the opportunity for potentially using satellite imagery and making changes to our offering. Using satellite data may shrink the collection time for the full State from 8 years to 2 years. To make these changes will require a level of authentication in the system that is not yet developed in order to meet licensing obligations for satellite service subscriptions. This illustrates the interdependencies between the platform and the data. Significant changes take time and technical work.



## Illustration of Interpretability in Aerial Image Resolution

An interactive “Story Map” is located on the GeoLibrary’s website which provides more detail regarding the historical orthoimagery base mapping efforts.



<http://www.maine.gov/geolib/programs/ortho/index.html>

## LAND COVER AND IMPERVIOUS SURFACES

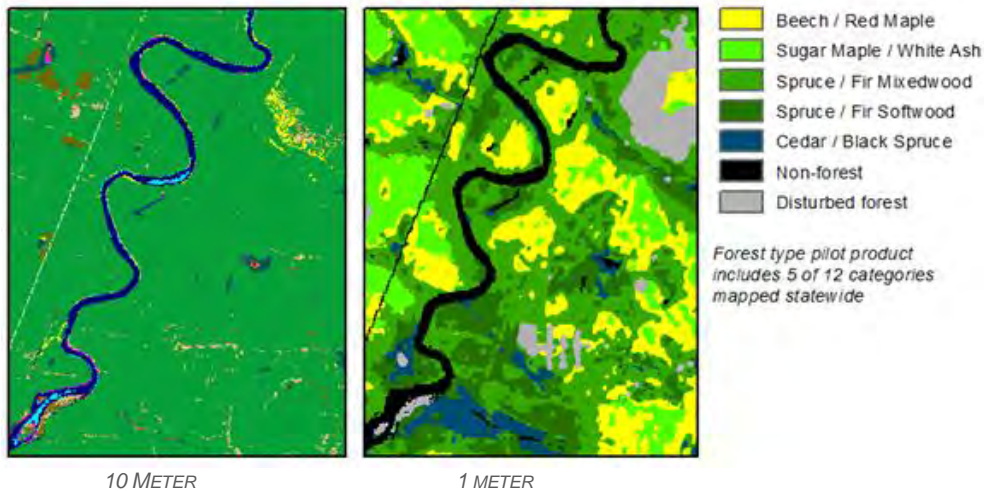
High-resolution land cover and impervious surface data provides critical information for tracking changes to our environment.

Urban community planning for stormwater runoff and retention, oil and hazardous spill responders, Fisheries and Wildlife professionals identifying prime habitat for the state's aquatic and land species, require resolution 1-meter landcover data. In addition, with a regular refresh rate, this data will provide important insights regarding the effects of climate change. See the image below for a comparison of older and current land cover resolutions.

The GeoLibrary is partnering in and collaborating on three land cover projects:

1. a comprehensive, statewide 1-meter land cover map (released in late Sept 2023),
2. a statewide 10-meter forestry type map (being developed by University of Maine), and
3. a statewide 10-meter forest biomass and carbon density map (also being developed by University of Maine).

Contracting with NOAA and the University was completed in the spring 2022 and the projects officially started prior to the end of FY 2022-23. This project is a cooperative partnership between NOAA, The University of Maine, MaineDOT, Maine DEP, the Cooperative Forestry Research Unit, The Nature Conservancy, and the Maine GeoLibrary.



The image above shows the difference between 10 meter and 1 meter land cover data. As with aerial imagery, pixel resolution matters. The landcover data is derived from imagery, and once the raster land cover data is extracted as a raster, it is then further refined into derivative vector products that can be used in digital mapping systems.

The full raster coverage for Maine was released in September of 2023 with the derivative vector products to be released in early spring of 2024. Land cover data is used to track urban growth as well as wild land conditions. To be effective it will need to be recollected in sequence with new aerial imagery. The Geolibary will continue to support this effort.

## PARCEL DATA PROGRAM

GIS data representing land ownership in the form of parcel polygons is one of the most sought data items by geospatial content users in many business, research, and private interests. This data is a visual representation of land ownership and records related to location. The National States Geographic Information Council grades the member states on 5 state led data themes every two years. In 2021 Maine's overall program grade was assessed as B. The one item that was evaluated as below average in our state's Geographic core data program was the parcel mapping.

The State of Maine does not have a unified set of digital parcel data, commonly understood as a Parcel Fabric. Over the last decade VT, NH, and MA have all moved to support the creation and maintenance of a parcel fabric data set. The Board believes that Maine should catch up to our neighbors. Completing a comprehensive and current digital parcel fabric in Maine will represent a significant value to the community of stakeholders inside and outside of State service.

Having access to community parcel maps in a digital format is an important resource to state and local government, first responders, real estate buyers and sellers, development interests, timber interests, insurance companies and everyone else that cares about land stewardship. The GeoLibrary has collected data from many communities through volunteer participation. This program is laudable in its efforts and yet doesn't answer the real need.





## MAINE GEOLIBRARY

The State of Maine needs a sustainably funded program to create standards and support implementation of a uniformly built and managed parcel fabric. The experience of our neighboring states and others across the nation proves that the value to the communities and service sectors is worth the investment required.



An image of the parcel fabric, literally a woven surface of parcel boundaries. There are geometric point features located at the center of each parcel polygon to store information. A fully formed digital system is used by communities and their assessors to manage property records. Local updates are made to the combined statewide database on a quarterly basis. The success of the system is realized through a collaborative effort with locals on the data maintenance process creating standardized data records. A similar successful model exists now in Maine for the collection and management of E911 address data sets created to support emergency service dispatch but used for multiple location-based processes by connecting this data to other resources.

The GeoLibrary maintains a parcel viewer on our web site that allows access to the Parcel data that MeGIS, Maine Revenue Services, and Maine Land Use Planning Commission have assembled over the last decade. There are many gaps in this data that can primarily be categorized as a large group of smaller organized communities across the state with limited or no resources to do this work on their own.



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- Geoparcels

### Digital Parcels Project

To view the application in a larger window, click [here](#).



## Digital Parcel Data for Maine

<https://maine.maps.arcgis.com/apps/webappviewer/index.html?id=28e35c8fcf514d2685357b78bdd0b246>

This page on our web site gets more hits than any other data landing page. Because of the inconsistent data management of the voluntary contributions, many users write in with questions and requests that we cannot answer or fulfill.

Should the Legislature consider funding for this effort, the GeoLibrary Board will be pleased to take part in a committee that reviews the value of developing a program that standardizes, builds, and maintains a parcel fabric for the State of Maine. A successful statewide program requires funding support that can offset the costs for communities to participate by providing needs-based grant support as well as encouragement from the Legislative and Executive branches. Just as the Legislature was prescient enough to fund the creation of the GeoLibrary, so it should authorize enabling legislation for a seamless parcel fabric in Maine.



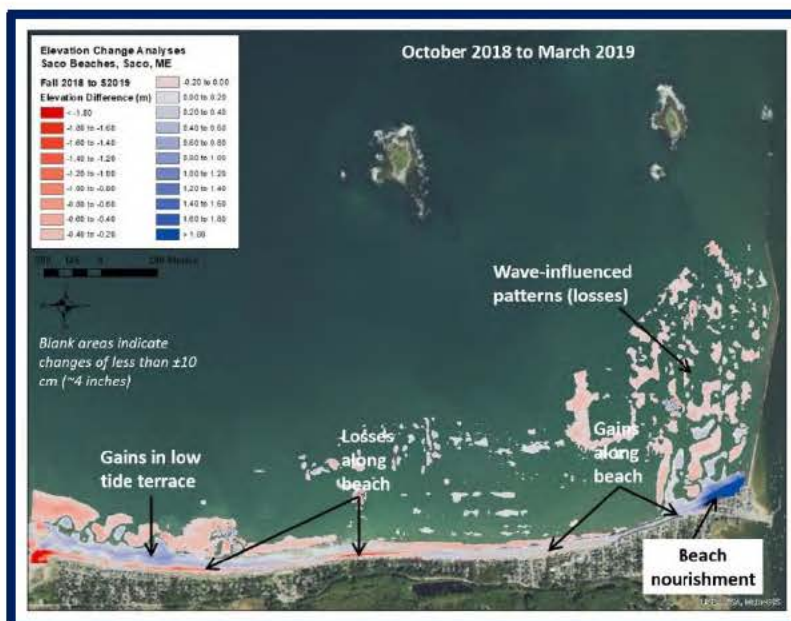


## BATHYMETRY

Bathymetry data is an important component for navigation, transportation planning and development, monitoring and promoting healthy fisheries, and analyzing climate change. Near and offshore high-resolution data is needed for a better understanding of Maine's fisheries, support to aquaculture, and impacts climate change on Maine's future development.

Current bathymetry data is an eclectic mix of data acquired from numerous independent studies and is of varying accuracies. New consistent high-resolution data is needed to complete studies of the land-sea boundary.

Better bathymetry will contribute to improved navigation, provide an understanding of fisheries habitat, support aquaculture, and more accurately forecast the impacts of future seasonal and storm flooding. This data is especially important to the state's tidal areas including the river systems with measurable heads-of-tide.



This image shows how LiDAR Bathymetry starts where the sea meets the land. Maine has the 4<sup>th</sup> longest coastline in the United States. There is a need to develop a transitional data set that connects the land-based elevation data to the coastal waterway bathymetry by collection of data within the tidal areas.

Partners for acquiring elevation and bathymetry include the USGS, NOAA, USDA, state agencies, the University of Maine, Non-Profit Organizations, the Bureau of Ocean Energy Management, counties, communities, and private enterprise. This data is one of several geospatial datasets that supports scientific analysis and modeling that when combined with other geospatial data such as landcover completes a comprehensive inventory of conditions critical to assess the effects of climate change on coastal community states like Maine.



# MAINE GEOLIBRARY

In closing the Data section, we reiterate that much of the data the Board is developing and hosting now was not on the horizon when the GeoLibrary was founded. The world of geospatial content and delivery systems have become more complex and the volumes magnitudes larger as systems for delivering and consuming the items grew more sophisticated. The data itself has not become more expensive to generate. To the contrary these data are commoditized and are overall less expensive to gather than ever before. Today's challenges center in updating our technical platform and enhancing our staff capacity to manage several multi-year project programs. As we work to modernize the GeoLibrary infrastructure and service capability, we are also transitioning into an era of new funding and planning.

The challenges we embrace today are orders of magnitude more complex than anticipated by the GeoLibrary's founders. We are grateful to them for their foresight, and the structure we have. The GeoLibrary team continues to successfully provide coordination and services to the citizens of Maine at levels ahead of many contemporaries in other states.

The Board will be setting priorities for FY 2024-25 and beyond in the first quarter of 2024. We are deeply appreciative for the continued funding from the Legislature that will be key to the outcomes of this next year's work and beyond. By providing general fund dollars and additional positions to the GeoLibrary and to MeGIS you have enabled our collective teams to dramatically enhance our operations. We are hopeful that this funding will continue to grow in future budgets as we adapt to meet Maine's future needs.

## FINANCIAL STATUS

General Government Service Center  
OIT Finance Group

**State Fiscal Year 2023 Cash Flow**  
As of 6/30/2023

	A	B	C	D	E
	Cash Balance Projection	Vendor	Agreement	End Date	Amount
1	<b>OSR Revenue</b>				
2	Beginning Cash Available (7/1/2022)				\$ 1,897,755.89
3	Total Revenue				\$ 54,375.00
4	Total Expenses				
5	Contract Liability	TIMMONS GROUP INC	Consulting		\$ (12,778.75)
6	Contract Liability	UNIVERSITY OF MAINE SYSTEM	Landcover and Carbon Mapping		\$ (105,000.00)
7	Contract Liability	US GEOLOGICAL SURVEY	Mid-Coast Mapping		\$ (100,375.00)
8	Contract Liability	US GEOLOGICAL SURVEY	Southcentral Mapping		\$ (170,375.00)
9	Contract Liability	WOOLPERT, INC.	Orthoimagery		\$ (398,022.36)
10	Administrative Charge	SOM			\$ (259.17)
11	<b>Cash Balance at Yearend (6/30/2023)</b>				<b>\$ 1,165,320.61</b>
<b>Notes:</b>					
1. This report is based on actual Cash Flow					

The GeoLibrary is successful in building partnerships and leveraging funding from cooperating partners to finance our operations. The Legislature is a key partner in that effort. The GeoLibrary maintains a positive balance in its Geospatial Reserve Fund. This balance results from good fiscal control, strategic planning, and engaging partners by providing community outreach.

Adding the new Legislative funding allows us much more flexibility in our planning and if continued over future years will result in a more effective Library of Geospatial Information.



## BOARD AND STAFF

CURRENT TO DECEMBER 2023

Board NOTE: Seat 3 was eliminated by Legislature

Seat	Member	Term Ends	Representing	Appointed By
1	<b>Sharon Horne</b> Executive Director of Enterprise Shared Services, DAFS (207) 624 9925 <a href="mailto:Sharon.Horne@maine.gov">Sharon.Horne@maine.gov</a>	Permanent	Dept. of Administrative and Financial Services (DAFS)	DAFS Commissioner
2	<b>Brian Guerrette</b> Enterprise Shared Services Department of Administrative and Financial Services (207) 624-3335 <a href="mailto:Brian.Guerrette@maine.gov">Brian.Guerrette@maine.gov</a>	Permanent	State CIO	State Chief Information Officer
4	<b>Nate Kane*</b> Dept of Transportation (207) 624-3297 <a href="mailto:Nate.Kane@maine.gov">Nate.Kane@maine.gov</a>	8/14/25	Governor	State GIS Functions
5	<b>Vinton Valentine</b> University of Southern Maine (207) 228-8455 <a href="mailto:vinton.valentine@maine.edu">vinton.valentine@maine.edu</a>	6/22/2025	University of Maine Chancellor	University of Maine System
6	<b>Greg Copeland</b> GIS Manager, City of Biddeford (207) 710-6666 <a href="mailto:Gregory.Copeland@Biddefordmaine.org">Gregory.Copeland@Biddefordmaine.org</a>	1/25/2025	Senate President	Municipal Government
7	<b>VACANT</b>		House Speaker	Municipal Government
8	<b>Leticia vanVuuren CHAIR</b> Knox County EMA (207) 594-5155 <a href="mailto:vanvuuren@knoxcountymaine.gov">vanvuuren@knoxcountymaine.gov</a>	10/28/2025	House Speaker	Statewide Association of Regional Councils
9	Walter Anderson Private Citizen <a href="mailto:apatite30@gmail.com">apatite30@gmail.com</a> (207) 232-8131	8/14/2025	Governor	Statewide Association of Counties
10	<b>Vacant</b>		Senate President	Real Estate and Development Interests
11	<b>Sarah Haggerty</b> Maine Audubon (207) 781-2330 x225 <a href="mailto:shaggerty@maineaudubon.org">shaggerty@maineaudubon.org</a>	6/17/2023	House Speaker	Environmental Interests
12	<b>VACANT</b>		Governor	Utility Interests
13	<b>Aaron Weston</b> Cartographics Associates, Inc. (207) 944-5898 <a href="mailto:aweston@cai-tech.com">aweston@cai-tech.com</a>	9/21/2025	Senate President	GIS Vendors
14	<b>Patrick Cunningham</b> Blue Marble Geographics (207) 622-4622 <a href="mailto:patrickc@bluemarblegeo.com">patrickc@bluemarblegeo.com</a>	1/30/2025	House Speaker	GIS Vendors



# MAINE GEOLIBRARY




15	Mal Carey Newcastle ME (207) 586-5008 <a href="mailto:malcarey@tidewater.net">malcarey@tidewater.net</a>	4/28/2022	Senate President	Public
16	Maria Jacques* Maine PUC (207) 287-6083 <a href="mailto:Maria.Jacques@maine.gov">Maria.Jacques@maine.gov</a>	9/12/2021	Governor	State GIS Functions

## GEOLIBRARY STAFFING





The Department of Administration and Financial Services provides staffing support for the GeoLibrary both in day-to-day operations staffing and extended support for contracting, budgeting, administrative assistance, and other DAFS personnel support. Operations staffing in 2023 was provided through the Maine Office of GIS (MeGIS) with appropriated staffing levels of 1.5 full time equivalency. In 2024, this operations staffing will be enhanced by the addition of a full-time director of special projects and a GIS systems analyst position that will be focused on the GeoLibrary mission work. These additions will bring staffing support of the GeoLibrary to 3 FTE.

## COMMITTEES




### FINANCE COMMITTEE, WITH RESPONSIBILITY FOR:

-  budget oversight,
-  recommending budget or other financial actions to the GeoLibrary for approval,
-  primary interaction with outside entities on financial issues.

### POLICY COMMITTEE, WITH RESPONSIBILITY FOR:

-  policy oversight,
-  recommending policy adoptions and amendments to the GeoLibrary,
-  memorializing approved GeoLibrary policies,
-  primary interaction with external entities on policy issues.

### TECHNICAL COMMITTEE, WITH RESPONSIBILITY FOR:

-  advising the GeoLibrary on all technical matters,
-  oversight of all GeoLibrary projects,
-  primary interaction with outside entities on technical issues.

## WORKGROUPS

We are currently working with the Maine Dept of Environmental Protection to start a working group on updating the National Wetlands Inventory data in Maine. This will be an ongoing program for several years. The Board supports collaborations among stakeholders that will utilize the relationships and resources developed in working with our Federal State and Local government partners to enhance the geospatial content for Maine.





## RECOMMENDATIONS

FY 2023 marks a transition period for several Maine GeoLibrary programs. REFERENCE TRANSITION BETWEEN OLD AND NEW PROGRAMS...

The Legislative funding will be crucial to the long-term stability of future work as we establish protocols for deploying the funds into multi-year projects. As we develop teaming agreements, funds are pooled with stakeholder's resources and applied as the match for grant funding to develop data products such as orthoimagery, landcover mapping, elevation data, parcel mapping, and environmental data to name a few. This foundational infrastructure supports state agency services, economic development, scientific studies, emergency services statewide, and every industry supporting Maine's citizens.

The GeoLibrary is grateful for the funding and additional positions provided by the Legislature in the FY 2024-25 budget. We are working to apply these funds into our existing operations as well as increasing outreach to stakeholders. As we amplify these efforts by collaborating on projects between the GeoLibrary and the Maine State Agency's leveraging the funds provide for that purpose through DAFS general fund and coordinated by MeGIS, the value proposition to State services will increase. Your continued funding of these efforts in future budgets will ensure we maximize the return on these investments.

To that end we have two recommendations relating to the GeoLibrary that will lead us into that future.

1

**Continue to support the Maine GeoLibrary Board's efforts to implement the strategic plan adopted in 2022 and revised in 2023.**

The Maine Library of Geographic Information is the logical vehicle to accomplish the data acquisition components of the most common statewide geospatial data and to assist in developing accessibility and collaboration resources. The GeoLibrary has partnered in projects this past decade resulting with a complete statewide coverage of elevation and imagery data that plays a critical role in many community-based programs and businesses across the region. The GeoLibrary will utilize the staff and resources provided by Legislative funding to enhance our holdings and services

2

**Support the deployment of a modern web portal that enhances access to the GeoLibrary contents for all users.**

The GeoLibrary web portal provides access to authoritative geospatial content developed by data custodians at the Maine GeoLibrary, the Maine Office of GIS and other Maine State agencies, Maine communities and our Federal Agency partners. In addition to being a point of download for some data, a modern GeoLibrary provides access to content in the form of data and map services, connections to web applications and links to trusted third party sites. With consistent staffing and funding we will be able to focus on modernizing the website and proactively collaborating with communities to provide better access to their content.



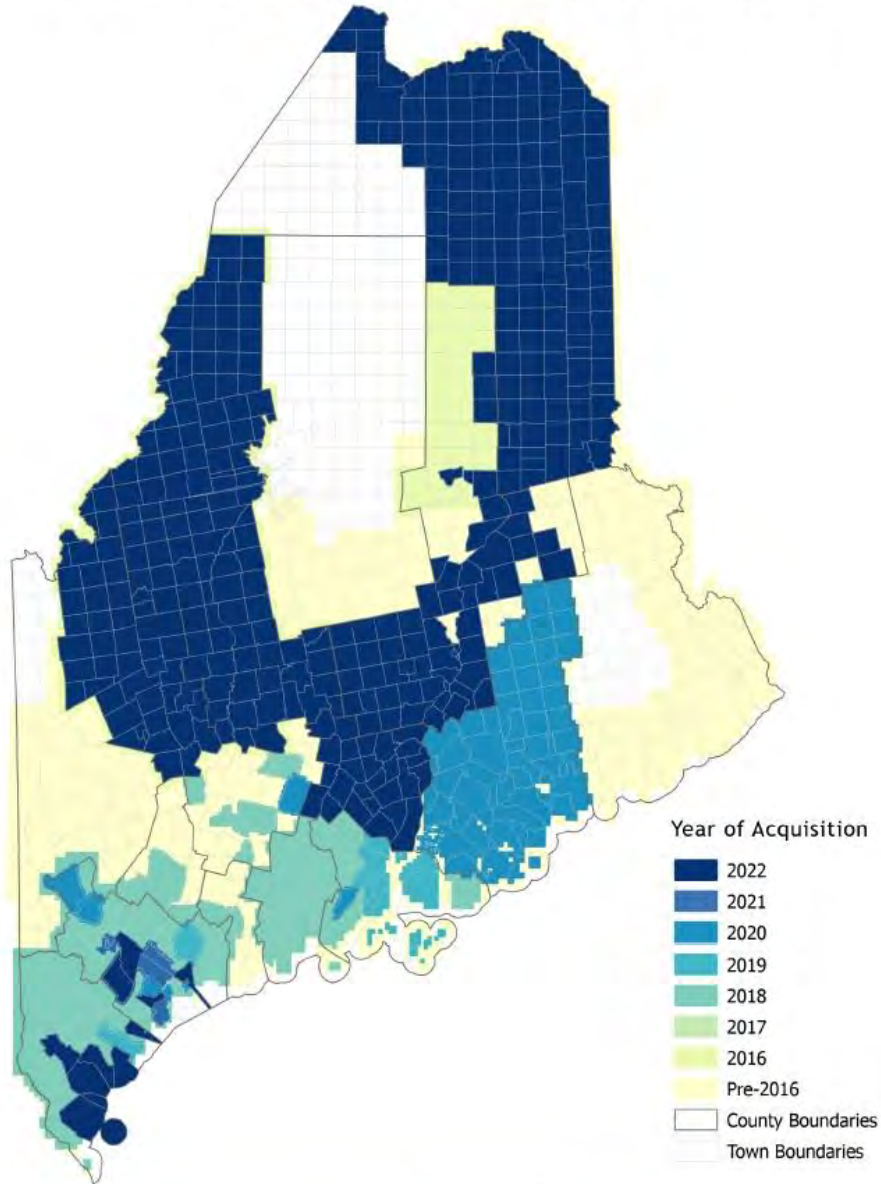


## APPENDIXES

### APPENDIX A: DATA ACQUISITION PROGRESS MAPS

Orthoimagery (as of 6/30/2023)

## Maine GeoLibrary Orthoimagery Project



Data Sources: Maine GeoLibrary; Maine Office of Geographic Information Systems



# Maine GeoLibrary

### Contact Information

Email: [GeolibaryBoard.OIT@maine.gov](mailto:GeolibaryBoard.OIT@maine.gov)

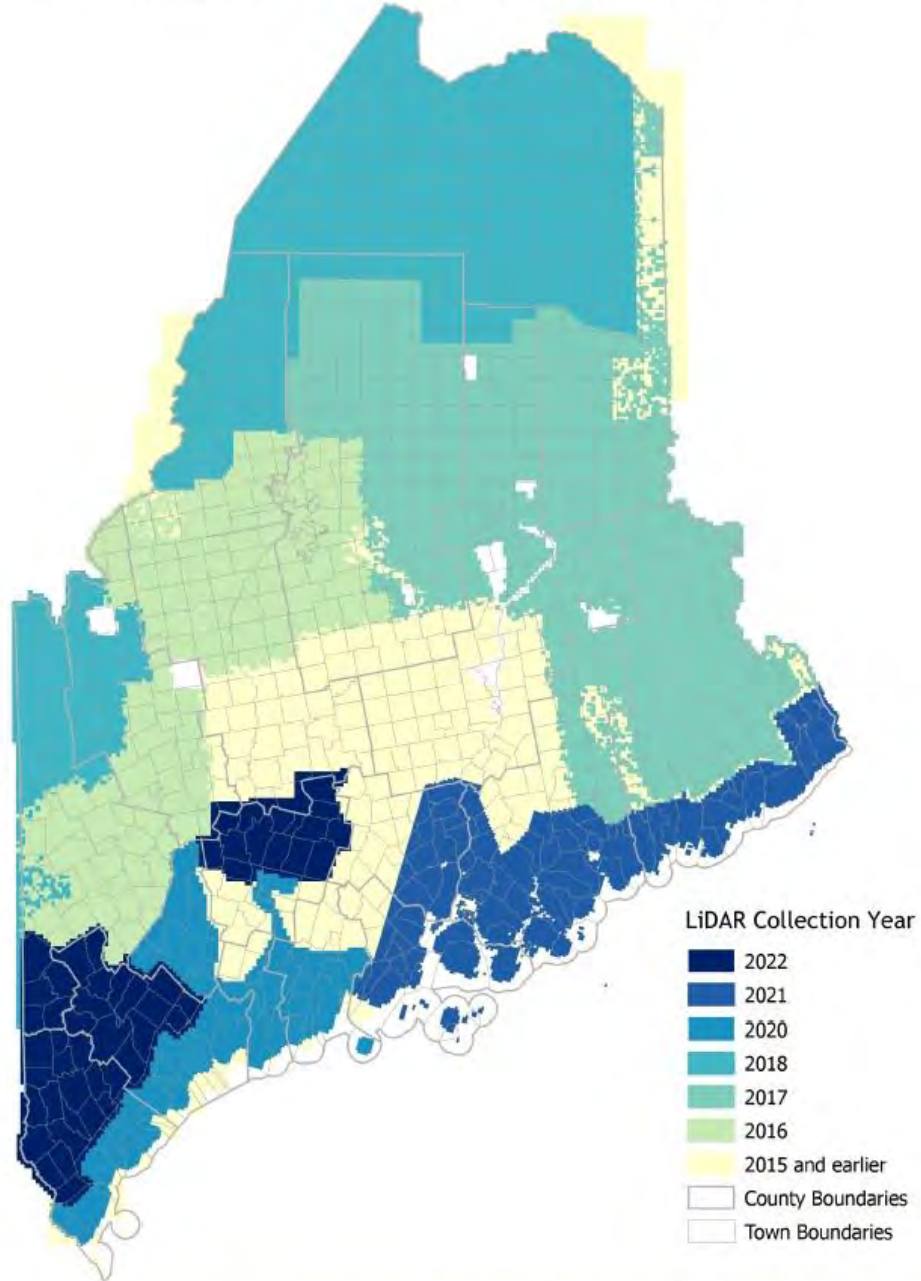
Web: <https://www.maine.gov/geolib/index.html>

Map produced by the Maine Office of GIS



LiDAR (as of 6/30/2023)

## Maine GeoLibrary LiDAR Project



Data Sources: Maine GeoLibrary; Maine Office of Geographic Information Systems



# Maine GeoLibrary

### Contact Information

Email: [Geoliboard.OIT@maine.gov](mailto:Geoliboard.OIT@maine.gov)

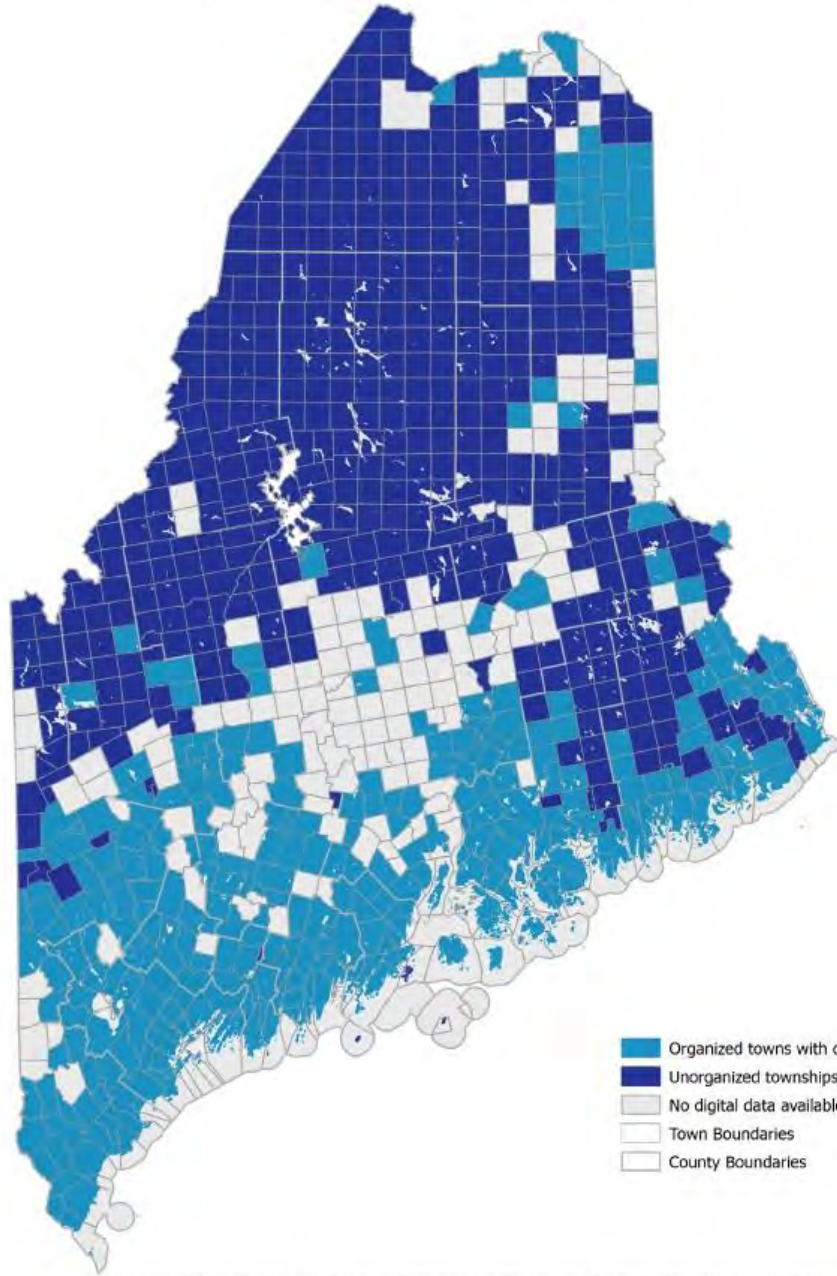
Web: <https://www.maine.gov/geolib/index.html>

Map produced by the Maine Office of GIS



PARCELS (AS OF 6/30/2023)

## Maine Parcel Data



- Organized towns with digital data
- Unorganized townships with digital data
- No digital data available
- Town Boundaries
- County Boundaries

Data Sources: Maine Revenue Service; Maine Geological Survey; Maine GeoLibrary; Maine Office of Geographic Information Systems



# Maine GeoLibrary

### Contact Information

Email: [GeolibaryBoard.OIT@maine.gov](mailto:GeolibaryBoard.OIT@maine.gov)

Web: <https://www.maine.gov/geolib/index.html>

Map produced by the Maine Office of GIS





## APPENDIX B: ACRONYMS & DEFINITIONS

Term	Description
<b>Board</b>	Board of Directors for the Maine Library of Geographic Information
<b>CIO</b>	Chief Information Officer for the state
<b>ESCB</b>	Emergency Services Communications Bureau
<b>FEMA</b>	Federal Emergency Management Agency
<b>FGDC</b>	Federal Geographic Data Committee, sets metadata standards
<b>GeoLibrary</b>	Common name for Maine Library of Geographic Information
<b>GIS</b>	Geographic Information System
<b>HUC</b>	Hydrologic Unit Code
<b>LiDAR</b>	Light Detection and Ranging, a remote sensing system used to collect topographic and other data
<b>MDIFW</b>	Maine Department of Inland Fisheries and Wildlife
<b>MDOT</b>	Maine Department of Transportation
<b>MEMA</b>	Maine Emergency Management Agency
<b>MeGIS</b>	Maine Office of GIS
<b>MEGUG</b>	Maine GIS Users Group
<b>MPUC</b>	Maine Public Utilities Commission
<b>NGA</b>	National Geospatial-Intelligence Agency
<b>NGO</b>	Non-Government Organization
<b>NG911</b>	Next Generation 911
<b>NHD</b>	National Hydrography Dataset
<b>NMDC</b>	Northern Maine Development Commission
<b>NOAA</b>	National Oceanic and Atmospheric Administration
<b>NRCS</b>	Natural Resources Conservation Service
<b>NSDI</b>	National Spatial Data Infrastructure, a consortium to promote the sharing of geospatial data and standards
<b>OGC</b>	Open Geospatial Consortium, a non-profit international organization that develops standards for geospatial and location-based services
<b>OIT</b>	Office of Information Technology
<b>Orthoimagery</b>	Aerial imagery corrected to represent the earth's surface, having been adjusted for <a href="#">topographic relief</a> , <a href="#">lens distortion</a> , and <a href="#">camera tilt</a> so that it can be used as an accurate base map
<b>Resolve 23</b>	Legislative committee that drafted the plan that resulted in the GeoLibrary
<b>USDA</b>	United States Department of Agriculture
<b>USGS</b>	United States Geological Survey

THIS REPORT WAS PREPARED FOR THE LIBRARY OF GEOGRAPHIC INFORMATION WITH SUPPORT FROM THE MAINE OFFICE OF GIS, OFFICE OF INFORMATION TECHNOLOGY, AND DEPARTMENT OF ADMINISTRATIVE AND FINANCIAL SERVICES