

MAINE GEOLIBRARY AND MASSGIS JOINT PRE-PROPOSAL

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(This proposal does not contain any sensitive or proprietary information)

EXECUTIVE SUMMARY

The Maine GeoLibrary and MassGIS are jointly proposing a project with an area totaling 5,900 square miles in both states with an estimated total cost of \$1,715,000. The project areas in Maine and Massachusetts, respectively, are 2,900 and 3,090 square miles. In Maine, state agencies and the state NRCS office will fund 50% of the total cost, with the remainder being requested from the USGS. In Massachusetts, a state agency and the state NRCS office will fund 62% of the total cost, with the remainder being requested from the USGS.

The Maine Geolibrary and the Maine Office of GIS (MeGIS) have partnered successfully with the USGS and with other state and federal agencies on multiple occasions to collect LiDAR data meeting USGS QL3 or QL2 data standards. Similarly, MassGIS has a long history of partnerships with the USGS, typically also partnering with state and/or local government partners, on LiDAR acquisition.

PRIOR EXPERIENCE

Both the Geolibrary and MassGIS have significant experience specifying and procuring elevation data acquired using LiDAR. In Maine, the GeoLibrary and MeGIS have coordinated and participated in three LiDAR acquisitions since 2010. The first acquisition was a unique partnership, led by Maine, involving

the six northeastern states from New York to Maine developed in response to a USGS RFP for LiDAR data acquisition using ARRA stimulus funding. This acquisition succeeded in leveraging \$1,310,000 of additional investment against an ARRA contribution of \$1,410,550 from other sources and provided additional data valued at \$2,472,000 for a total project value of \$5, 192,550. The project added 17,283 square miles of LiDAR QL3 or better data to the national elevation data set.

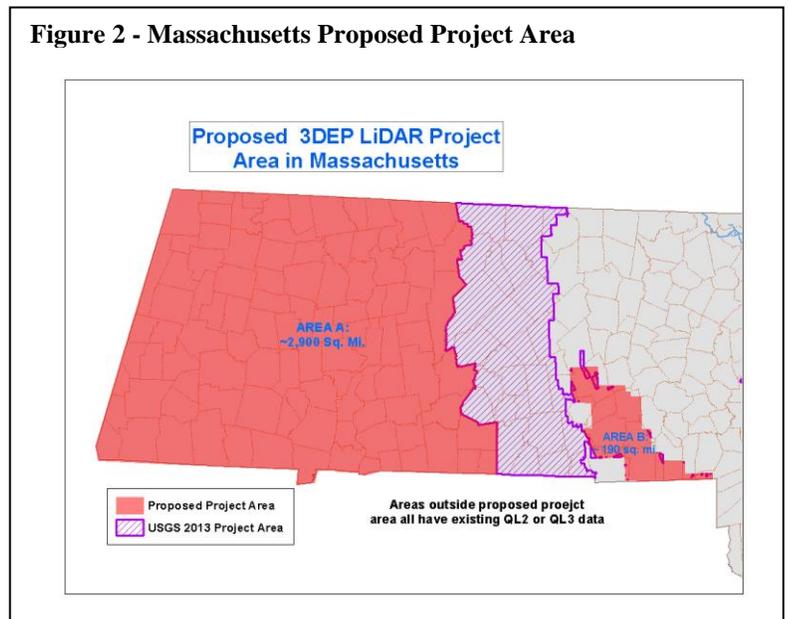
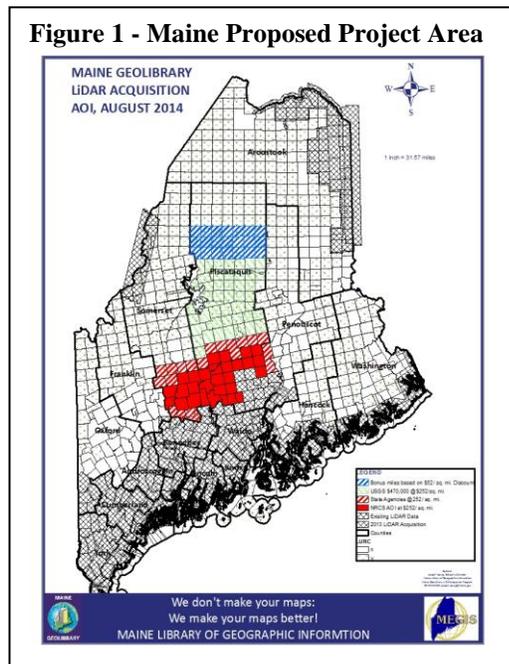
In 2012 the GeoLibrary and MeGIS assembled a partnership of four state agencies and two federal agencies to partner with the USGS and acquire over 2,200 square miles of LiDAR QL3 data in central and Northern Maine. The Geolibary and MeGIS managed the entire project including QA and QC review of the data prior to delivering to the USGS. This project leveraged over \$340,000 to match a \$60,000 commitment from the USGS.

In 2013 the GeoLibrary Board and MeGIS developed a third coalition of partners to acquire an additional 2,200 square miles of USGS QL2 data completing data sets for the counties of Cumberland, York and Kennebec. These partners include three state agencies and two federal agencies in addition to the USGS. In this project the GeoLibrary was successful in assisting the USGS in negotiating a more favorable unit cost on data acquisition reducing an estimate of over \$300/ mi.² to just \$252/ mi.²

In Massachusetts, MassGIS also has experience with several LiDAR project. In 2002, with USGS funding, MassGIS successfully completed a USGS-funded Boston area LiDAR acquisition, a project that had what was for the time a technologically ambitious specification not only for the elevation data products but also for the derivative building footprints and 3-D building models. Also, as described above, MassGIS was a partner in the successful 2010 Northeast ARRA project, including adding \$100,000 of state funding to the project. In addition, for the 2013/2014 post-Hurricane Sandy Boston-area LiDAR project, MassGIS brokered cost-sharing by 16 communities and buy-ups by six others.

PROPOSED PROJECT

With this project, both states are continuing and expanding upon previous LiDAR project partnerships like the ones detailed above. For this proposed partnership with the USGS, the Maine GeoLibrary and MassGIS, along with state and federal partners, are submitting a project area totaling 5,900 square miles comprised of a 2,900 square mile area in Maine (see Figure 1) and a 3,090 square mile area in Massachusetts (See Figure 2). The proposed project would be for LiDAR-derived elevation data complying with the National Enhanced Elevation Assessment (NEEA) Quality Level Two (QL2) specification. Note that the project in Maine is for an area not currently covered with LiDAR data, and in Massachusetts would complete statewide LiDAR-derived elevation data for the entire state at the QL2 or QL3 specification, all acquired between 2010 and 2015.



For the Maine portion of the project, the GeoLibrary has assembled a broad partnership of state and federal agencies (see Table 1). The Maine portion of the proposed project is valued at \$940,000 dollars

with firm state and federal agency commitments of \$370,000, and a tentative commitment of \$100,000 from the Maine Department of Transportation. USGS funding requested for the Maine portion of this project is \$370,000. Similarly, MassGIS will partner with other agencies for a project with an estimated value of \$775,000, with state and federal contributions totaling \$600,000. The requested USGS funding for the Massachusetts portion of the project is \$175,000. Table 1 summarizes the proposed project funding sources and amounts. The states would prefer that the USGS provide QA/QC services for this project.

Table 1: Proposed Funding and Sources

AGENCY	COMMITMENT
DHHS Drinking Water Program	\$15,000
Maine Emergency Management Agency	\$30,000
Maine Bureau of Geology	\$15,000
USDA-NRCS (Maine Office)	\$200,000
Maine Department of Environmental Protection*	\$10,000
Maine Department of Transportation*	\$100,000
Maine Sub-Total	\$370,000
Executive Office of Energy and Environmental Affairs**	\$300,000
USDA-NRCS (Massachusetts Office)	\$300,000
Massachusetts Sub-Total	\$600,000
USGS MATCHING FUNDS	\$545,000
TOTAL PROJECT FUNDING	\$1,515,000

* Tentative ** Contribution could be as high as \$400,000

PROJECT COST AND ACQUISITION ASSUMPTIONS

The cost assumptions in this proposal are based on both the GeoLibrary's and MassGIS' experience participating in and managing or facilitating LiDAR contracts and projects over the past four years. The GeoLibrary has worked with two national contractors Photo Science and Woolpert, Inc. and gained substantial knowledge of the data acquisition process and pricing structures. The GeoLibrary currently has a contract with Woolpert Inc. to provide geospatial data acquisition services and intends to use this contract vehicle for acquiring LiDAR data for the Maine portion of the project. The GeoLibrary is confident that it will be able to negotiate an acquisition price of less than \$250/ mi.². However, project cost estimates in this proposal were developed using the more conservative \$250/ mi.² price. Based on the more conservative cost figure, the GeoLibrary and MassGIS propose acquiring 6,850 square miles of

QL2 data, assuming the maximum USGS matching contribution from the USGS. Final pricing will depend upon the number of square miles to be acquired and the difficulty of the acquisition due to topography and land cover in the area of interest. USDA-NRCS funds from both states will be funneled to the GeoLibrary via the existing agreement between the Maine NRCS office and the GeoLibrary. MassGIS would contribute its state agency funds via a Joint Funding Agreement (JFA) with the USGS.

SCHEDULE FOR DATA ACQUISITION AND DELIVERABLES

The GeoLibrary and MassGIS propose acquiring this data during the fall of 2014 or spring of 2015 with delivery of processed data to the USGS for approval by December 31, 2015. Products delivered to the USGS will meet or exceed the specifications for USGS version 1.0 requirements regarding timing, schedule and data collection specifications. These deliverables will be provided without use restrictions once approved and accepted by the USGS.