

following *advisory* duties:

- (a) advise the state library about issues relating to the geographic information system and land information;
- (b) advise the state library on the priority of land information, including data layers, to be developed;
- (c) review the land information plan described in 90-1-404 and advise the state library on any element of the plan;
- (d) advise the state library on the development and management of the granting process described in 90-1-404(1)(e);
- (e) advise the state library on the management of and the distribution of funds in the account;
- (f) assist in identifying, evaluating, and prioritizing requests received from state agencies, local governments, and Indian tribal government entities to provide development of and maintenance of services relating to the GIS and land information;
- (g) promote coordination of programs, policies, technologies, and resources to maximize opportunities, minimize duplication of effort, and facilitate the documentation, distribution, and exchange of land information; and
- (h) advocate for the development of consistent policies, standards, and guidelines for land information.

Key Dates

The table below highlights the key MLIA dates set in Administrative Rule.

Date	Task
December 31, 2021	Land Information Plan for FY2023 Completed & Approved by MSL Commission
January 14, 2022	MLIA Grant Materials for FY2023 Published
March 1, 2022	Preliminary FY2023 MLIA Grant Application Review
February 15, 2022	FY2023 MLIA Grant Applications Due
April 6, 2022	MLIA Council Meeting
May 12, 2022	MLIA Council Meeting
May 15, 2022	MLIA Grant Applicants for FY2023 Prioritized for Funding
May 31, 2022	MLIA Grant Applicants for FY2023 Finalized & Approved by MSL Commission
June 16, 2022	MLIA Council Meeting
June 30, 2022	<ul style="list-style-type: none"> • End of State Fiscal Year 2022 • End of FY2022 Land Information Plan • FY2022 MLIA Grant Year Ends
July 1, 2022	<ul style="list-style-type: none"> • Start of State Fiscal Year 2023 • FY2023 Land Information Plan Begins • FY2023 MLIA Grant Year Begins
July 2022	MLIA Off-Cycle Grant Application Period
September 15, 2022	MLIA Council Meeting
November 1, 2022	Draft Land Information Plan for FY2024
November 17, 2022	MLIA Council Meeting
December 15, 2022	Land Information Plan for FY2024 Completed & Approved by MSL Commission
January 15, 2023	MLIA Grant Materials for FY2024 Published
February 15, 2023	MLIA Grant Applications for FY2024 Due
May 1, 2023	MLIA Grant Applicants for FY2024 Prioritized for Funding
May 15, 2023	MLIA Grant Applicants for FY2024 Finalized & Approved by MSL Commission
June 30, 2023	<ul style="list-style-type: none"> • End of State Fiscal Year 2023 • End of Land Information Plan FY2023 • FY2023 MLIA Grant Year Ends • Council Members 2-Year Terms End

Land Information Plan Outcomes

The FY2023 Land Information Plan sets the annual priorities for Council, the Montana Land Information Act Grant Program, the MSDI, and GIS Coordination, and for the successful use of reliable land information in the State of Montana.

The Montana Land Information Act establishes a Land Information Account that provides funding to the Montana State Library to support the Council, the Montana Land Information Act Grant Program, Montana’s Spatial Data Infrastructure or MSDI – the personnel, technology, standards, and policies that are used to guide the collection, maintenance and dissemination of the state’s land information, and GIS Coordination.

The management of Montana’s land information and the disbursement of the Land Information Account funds are guided by the overarching goals and priorities set forth in this Plan. Work to achieve these priorities will result in:

- The existence of a sustainable and collaborative Montana Spatial Data Infrastructure that is, in accordance with standards, consistently collected, accurately maintained, and disseminated.
- Improved quality and efficiency of critical business processes of stakeholders through the use of GIS technology and adoption of MSDI data layers.
- The promotion of the use of GIS across the state through funding, coordination, education, and outreach.

The Montana Spatial Data Infrastructure Framework

As detailed in the Montana Land Information Act section of this Plan, the MLIA was enacted to ensure that land information was consistently collected, accurately maintained, and made commonly available in a standardized format. The Montana Spatial Data Infrastructure provides that framework. The MSDI is composed of 15 geographic data themes. The themes, identified by the Council, serve as the critical base geographic data layers of Montana. Each MSDI Theme has a corresponding theme steward, or agencies/organizations responsible for collection, maintenance, dissemination, and promotion of the information defined under that theme. As stated in ARM 10.102.9102, “The MSDI can and does include data themes identified in the National Spatial Data Infrastructure and where collaborative opportunities exist, presents an opportunity to support framework data for the nation.” The 15 MSDI themes are as follows, themes that are also a part of the National Spatial Data Infrastructure are marked with an asterisk:

- Administrative Boundaries*
- Cadastral*
- Climate
- Elevation*
- Geographic Names*
- Geology
- Hydrography*
- Hydrologic Units
- Land Cover
- Mapping Control*
- Imagery*
- Soils
- Structures & Addresses*
- Transportation*
- Wetlands & Riparian

Developing, maintaining, standardizing, and disseminating each of these themes is a collaborative effort made possible through essential partnerships between the theme stewards and local, regional, tribal, state, and federal governments; universities; nonprofit; private sectors; and others. Collaboration and partnerships across all levels of government and other sectors are fundamental for MSDI Framework maintenance.

It is essential that the MSDI data is carefully collected and recorded using best practices that include:

- Collaboration and partnership to improve efficiency and reduce duplication of efforts,
- Consistency in data formats, and
- The presence of supporting information and references (referred to as metadata).

FY 2023 Land Information Plan Priorities

This section of the Land Information Plan establishes the priorities for the 2023 fiscal year. The successful development and maintenance of land information, referenced in these priorities, relies on the availability of appropriate funding and resources, and on collaboration and partnership across all levels of government and the private sector. These priorities provide general guidance for land information-related activities for each of the following:

- The Montana Land Information Advisory Council,
- The Montana Land Information Act (MLIA) Grant Program,
- Development, maintenance, and dissemination of Montana’s Spatial Data Infrastructure (MSDI), and
- GIS coordination necessary to support the MSDI and other associated land information.

Priorities for the Montana Land Information Advisory Council

1. Develop Policy Recommendations and Legislative Priorities to Support and Improve the MSDI Framework
 - a. Review information and recommendations provided by MSDI Framework Theme Stewards to determine theme status and needs, including:
 - i. Requirements for designation as an MSDI theme,
 - ii. Funding and staff support needs,
 - iii. Data collection, maintenance, and dissemination best practices, and
 - iv. Annual status reporting for each MSDI layer.
 - b. Identify key theme stakeholders and potential data contributors and funding partners.
 - c. Identify requirements of existing federal, state, local, and tribal statutes that rely on the use of MSDI for the preparation of reports, maps, permit applications, or associated compliance activities.
 - d. Prepare summary documents outlining the information collected in the preceding sections that can be used to educate and inform stakeholders, legislators, and potential funding partners.
2. Evaluate the MLIA Grant Program against previously established benchmarks and regularly review and revise benchmarks as needed.
3. Educate, support GIS Coordination, and foster advantageous relationships to promote understanding and use of GIS in Montana.

Priorities for Grants

The purpose of the Montana Land Information Act Grant Program is to assist state agencies, local governments, or Indian tribal governments with implementing the priorities of the Land Information Plan. Collaboration is extremely important, and the granting process gives preference to interagency or intergovernmental grant requests whenever multiple state agencies, local governments or agencies, or Indian tribal governments or tribal entities have collaborated together to meet a requirement of the Land Information Plan.

The grant priorities have been broken into priority tiers. Tier 1 Priorities align with Goals 1-3 of this Plan. Tier 2 Priorities are to assist local, tribal, and state governments with implementing GIS programs and data collection efforts in their government planning, business practices, and asset management.

Tier 1 Priorities

Create or update datasets and develop workflows for the purpose of continued participation in the Montana Spatial Data Infrastructure or other statewide data collection initiatives listed below:

- a. Develop GIS Information to Support Next Generation 9-1-1 (NG9-1-1) – Development of GIS data that are National Emergency Number Association (NENA) Standard Compliant
 - i. Boundaries – Development of the Public Safety Answering Point (PSAP) boundaries, Emergency Service Boundaries (law, fire, emergency medical services), and/or provisioning boundaries.

- ii. Addresses – Development of address data that are NENA standard compliant that can be integrated into the MSDI Structures and Addresses theme.
 - iii. Road Centerlines – Development of road centerline data that are NENA standard compliant and meet requirements for integration into the MSDI Transportation theme.
- b. Montana Spatial Data Infrastructure Improvement to Cadastral and Administrative Boundaries Themes
- i. Cadastral: Improvements to digital representation of Public Land Survey System (PLSS) for the purpose of improving accuracy of the MSDI Cadastral and Administrative Boundaries themes:
 - 1. Collecting new survey control data.
 - 2. Digitization and dissemination of documents related to PLSS corners.
 - ii. Administrative Boundaries: Development and enhancement of data layers recognized by the MSDI Administrative Boundaries theme.
- c. Integrating GIS into the Planning and Preparation for Geo-Enabled Elections
- i. Collaboration across local government to implement a single address point dataset that is NENA NG9-1-1 standard compliant and meets the needs of elections processes.
 - ii. Collaboration across local government to create and maintain essential election boundary datasets that meet MSDI Administrative Boundaries standards.

Tier 2 Priorities

Development of geographic information systems that support on-going government workflows and build GIS capacity:

- a. GIS Planning: Create a plan to assist potential MSDI partners for MLIA Grants to clearly identify their current GIS needs and to help them develop a realistic scope of work, budget, and schedule to achieve a project. The Montana State Library will make up to 4% of funds available for GIS Planning Project grants. These projects will help MSL partner with local governments to prepare grant partners.
- b. Development of base geographic data layers that are standardized, regularly maintained, and made publicly available to support information needs and support activities including, but not limited to, land use planning, infrastructure, and asset management.
- c. Support Geographic Information Systems for Public Safety, Emergency Management, Disaster & Emergency Services Operations, and Community Resilience[†] Planning. Support the creation, maintenance, and standardization of local, tribal, and state geographic information systems or geographic information to be used for planning, mitigation, and recovery in the event of man-made, natural, and/or economic hazards or challenges.

Priorities for the Montana Spatial Data Infrastructure

General MSDI Priorities

- Coordinate with stakeholders (e.g. local, tribal, regional, federal, university, private, nonprofit, and international national partners) on the development and maintenance of themes.
- Complete the regular maintenance of MSDI theme data layers. The schedule of maintenance may vary depending on themes.
- Publish all MSDI data, in compliance with adopted standards, to the Montana GIS Data List.
- Continue to develop the Montana spatial data archive collection, including annual MSDI entries.

[†] The Montana Department of Commerce’s Montana Ready Communities Initiative ([MRCI](#)) defines resilience as, “the ability of individuals, communities and systems to adapt and thrive in the face of adverse events and challenges.”

- Work with the non-MSL MSDI stewards to support data partners and identify staffing, funding, and coordination needs.
- Create a document outlining MSDI Stewardship.
- Complete a strategic planning project of all MSDI themes.
- Create a tool for reporting feedback on MSDI Data Layers.

MSDI Theme Specific Priorities – Stewarded by the Montana State Library

Administrative Boundaries

- a. Perform annual update of existing layers (including geometry and attribution updates and alignment to the CadNSDI).
- b. Participate in the U.S. Census Bureau’s programs including the Boundary and Annexation Survey and School District Review Program.
- c. Research NG9-1-1 boundaries (public safety answering point, law enforcement, emergency medical service, and fire districts).
- d. Continued collaboration with local government and the Secretary of State to prioritize the collection of election-related administrative boundaries and implement data best practices and workflows for geo-enabling elections.

Cadastral

- a. Migration of the CadNSDI to the new ArcGIS Pro Parcel Fabric platform.
- b. Update the Cadastral Application and related supporting data service.

Elevation

- a. Continued implementation of the Montana Lidar Plan.
- b. Collect, maintain, and disseminate lidar data and standard derived products in a central repository at the Montana State Library.

Geographic Names – Theme Under Review

- a. Implement Council’s recommendation for Geographic Names Theme Review to include Montana Geographic Names dataset.

Hydrography

- a. Transition from the Montana Hydrography Edit Request Viewer to the USGS NHD Markup Tool for receiving and tracking edit requests.
- b. Participate in national 3D Hydrography Program (3DHP) work groups and other initiatives.

Imagery

- a. Disseminate and host statewide imagery data and services, including 2021 NAIP.
- b. Collaborate with the Imagery Working Group & stakeholders to create an inventory of publicly available imagery datasets for the state of Montana.
- c. Represent Montana in national discussions regarding Imagery for the Nation and ensure availability of the data for Montanans.

Land Cover – Stewarded by MSL’s Natural Heritage Program

- a. Carry forward activities outlined in the adopted MSDI Land Cover Plan and work to extend the current plan.
- b. Automate Land Cover maintenance and update schedule.
- c. Continue outreach and coordination efforts through the MSDI Land Cover Working Group.

Mapping Control

- a. Work with stakeholders, specifically Montana state agencies, to obtain existing mapping and survey control.
- b. Coordinate best practice development with stakeholders, including county governments and the Montana Association of Registered Land Surveyor (MARLS).
- c. Develop web application to display mapping control and link to other entities that have information available.

Structures & Addresses

- a. Promote the use of NENA NG9-1-1 standard compliant address data that meet the needs of both 9-1-1 and elections management.
- b. Coordinate with addressing authorities to continue to collect address point datasets and focus efforts on areas with no address point data.
- c. Coordinate with addressing authorities to transition to structure-based address point placement.

Transportation

- a. Develop a statewide NG9-1-1 NENA standard compliant road centerline dataset.
- b. Research and identify possible data sharing partnerships with the Montana Department of Transportation, Bureau of Land Management, US Forest Service, and other stakeholders.

Wetland & Riparian – *Co-stewarded by MSL's Natural Heritage Program & the MT Dept. of Environmental Quality*

- a. Finish mapping modern statewide wetland and riparian layer in areas with outdated or incomplete mapping.
- b. Incorporate new value-added attributes and the corresponding metadata and routinely update modern wetland and riparian layer in areas with rapidly changing land-use.
- c. Compile a georeferenced photo and aerial imagery of wetland/riparian signatures dataset to assist in photo interpretation by mappers and understanding of the final product by end-users.

MSDI Theme Specific Priorities – Stewarded Outside of the Montana State Library

Climate – University of Montana's Climate Office

- a. Maintain existing data layers and also plan to add new layers that include the temperature and precipitation outputs from the Montana Climate Assessment.
- b. Perform analysis and update the Climate data layers. Existing layers are based upon the period from 1980 to 2010.
- c. Publish all MSDI Climate data, in compliance with standards, to the Montana GIS Data List.

Geology – Montana Bureau of Mines & Geology

- a. Continue geologic mapping in western Montana toward the goal of completing the state at the 1:100,000 scale.
- b. Implement the Geologic Mapping Schema (GeMS).
- c. Develop larger scale (i.e., 1:24,000) datasets for special focus areas or inclusion in the 1:100,000 scale dataset.

Hydrologic Units – US Dept. of Agriculture (USDA) Natural Resources Conservation Service (NRCS)

- a. The NRCS will continue to collaborate with the MSL and the U.S. Geological Survey (USGS) to review and incorporate Watershed Boundary Dataset (WBD) updates identified by the USGS and state partners.
- b. Transition to the USGS Markup Tool for receiving and tracking edit requests.

Soils – USDA Natural Resources Conservation Service

- a. Perform annual updates to the spatial and tabular data for soil survey areas prioritized by the NRCS' National Cooperative Soil Survey Program (NCSS).
- b. Incorporate the annually updated spatial and tabular Soil Survey Geographic Database (SSURGO) data into

the Montana Hydrologic Unit Code (HUC) Environment databases and Montana Site Reviewer ArcGIS online web mapping application.

- c. Update the MSL SSURGO Soils webpage.

GIS Coordination Priorities

Promote the Use of GIS in Montana

- a. Advocate for the use of MSDI data in state and local business processes, programs, and workflows.
- b. Attend relevant conferences and meetings including the Montana Association of Counties, Montana Association of Planners, Montana Association of Registered Land Surveyors (MARLS), Montana League of Cities & Towns, State IT Conference, Montana Association of Geographic Information Professionals, Tribal Transportation Planners Symposiums, the National States Geographic Information Council (NSGIC), Esri Senior Executive Seminar, and other meetings of subject matter experts.
- c. Preserve and improve relationships with MSDI data providers through support and local visits that foster knowledge transfer.
- d. Promote the use of Mobile GIS technology:
 - i. Improve field data collection efforts by integrating the use of GIS.
 - ii. Create new mapping applications that are optimized for mobile use.
 - iii. Explore the use of citizen science through mobile technology.

Explore New Technology and New State & Federal Partnerships

- a. Continued coordination and collaboration with local government stakeholders and the Montana Secretary of State's Office on geo-enabling Montana's elections, which includes the integration of the MSDI into election workflows.
- b. Continued coordination and collaboration with the Department of Health & Human Services on the COVID-19 Response mapping.
- c. Continued collaboration with the Montana Dept of Transportation and defined stakeholders to implement a Real Time Network (RTN) for the State of Montana.
 - i. Implement Montana RTN Business Plan/Model.
 - ii. Identify strategic areas for placement of new reference stations to support a statewide RTN.
 - iii. Promote the RTN to promote build-out and increase usage.
- d. Coordinate with the MSDI Elevation Working Group to continue to implement the Montana Lidar Plan.
 - i. Work with stakeholders in organizing resources for a unified Montana funding request through the Broad Agency Announcement (BAA) for the USGS' 3D Elevation Program (3DEP).

Promote Best Practices and Standards

- a. Engage stakeholder work groups to seek input on the priorities and best practices for data development.
- b. Support local data providers as they adopt appropriate data standards and data collection methodologies.
- c. Advocate for the use of MSDI data as a best practice.

Promote the Dissemination of GIS Data

- a. Identify data that does not currently exist or is not accessible within the Montana GIS Data List.
- b. Conduct ongoing maintenance data discovery through the Montana GIS Data List.
- c. Deliver data via download and web services.
- d. Explore emerging tools and investigate opportunities to partner and share information.

FY 2023 Land Information Plan Budget

In accordance with administrative rule, the final determination for available grant funds will be made at the end of March 2022. If additional funds are available, there may be an opportunity to further increase grant funding.

Montana Land Information FY2023 Budget	
Description	Allocated Funds
Personal & Indirect Costs	
Personal Services (estimate)	\$1,094,400.00
Agency Indirect Costs	\$176,600.00
<i>Personal & Indirect Costs Subtotal</i>	\$1,271,000.00
Operations	
Fixed Costs, General Operations*	\$125,000.00
MLIA Strategic Plan Priorities Implementation	\$40,000.00
Council	\$10,000.00
Land Cover MSDI Theme	\$20,000.00
MSDI Partner Training Program	\$50,000.00
<i>Operations Subtotal</i>	\$245,000.00
<i>*SITSD, Licensing, Travel, Training, & Outreach</i>	
MLIA Grant Funding	
	\$250,000.00
<i>Grants Subtotal</i>	\$ 250,000.00
<i>Totals</i>	\$ 1,766,000.00

HB2 - Special Land Information Act Budget FY2023 Biennium Appropriation - Montana RTN	
Description	Allocated Funds
Personal Services (estimate)	\$100,000.00
Operations	
Software, Outreach, Services, Fixed Costs, General Operations	\$362,500.00
<i>Total</i>	\$462,500.00

Conclusion

The purpose of the Montana Land Information Act is to develop a standardized method for collecting, maintaining, and disseminating land information. The Montana Spatial Data Infrastructure is the necessary framework for carrying out the intention of the Act. The MSDI Framework provides the basic geographic information needed by both the public and private sectors for program support, day-to-day activities, conducting business, planning for the future, and solving mission critical problems. The success of the Montana Spatial Data Infrastructure relies on having appropriate resources; standardized and accurately maintained information; and effective collaboration and coordination. The priorities defined in this plan are intended to help strengthen the MSDI and support the development of standardized land information spatial data for the State of Montana.

Appendix A – Montana Land Information Resources

Montana Lidar Plan: A Plan for Statewide Lidar Acquisition, Storage, and Distribution, June 2019, adopted by the Montana Land Information Advisory Council on June 13, 2019:

http://ftp.geoinfo.msl.mt.gov/documents/MSDI/ElevationWorkingGroup/LidarPlan_web/MT%20LIDAR%20PLAN-AccessibilityFormatted_June2019.pdf

State Fiscal Year 2022 Montana Land Information Plan, Effective July 1, 2021, to June 30, 2022:

http://docs.msl.mt.gov/Central_Services/Commission_Councils/Montana_Land_Information_Advisory_Council/Archive/2019/11/LandInformationPlanFY2022.pdf