



# Imagery Working Group

February 14, 2024

# Agenda

9:00 AM **Welcome & Introductions**

9:15 AM **Recap:** Takeaways from the Imagery Summit

9:30 AM **Imagery Working Group Tasks:**

- Charter? Roles (identify active members v. recipients of info)
- First tasks? Montana Imagery Plan and/or Imagery Repository Business Case

*Short break*

10:00 AM **Legislative Planning**

- Leg. important dates
- Repository
- State Imagery Program
- Imagery Needs Assessment
- Resource Requirements: What is the Ask?

10:30 AM **Imagery Inventory (who & what)**

- Existing Imagery Assets
- Specs, requirements, metadata

11:00 AM **Closing**

- Wrap Up
- Next Steps - Assignments - Future Meetings

# Recap: Key takeaways from the Imagery Summit, Dec. 12 – 13, 2023



**Multiple agencies have imagery. There is a need for a central repository or inventory**

-State, county, and city gov shared their needs and use cases for imagery

-There is significant interest in imagery across the state and many use cases



**Desire for technical sessions, such as raster analysis and imagery management**

-Desire to hear new applied, cutting-edge work



**Need to build a productive collaboration across agencies that use imagery**

- Imagery coordination



**Current statewide imagery (NAIP) does not meet all state needs, such as resolution and leaf-off**



**Lots of ground level support for an imagery program. Funding is the question.**

-Strong desire for one point, one payment contract and ability to readily buyup

-Need to identify potential collaborations, funding, and strategies for outreach

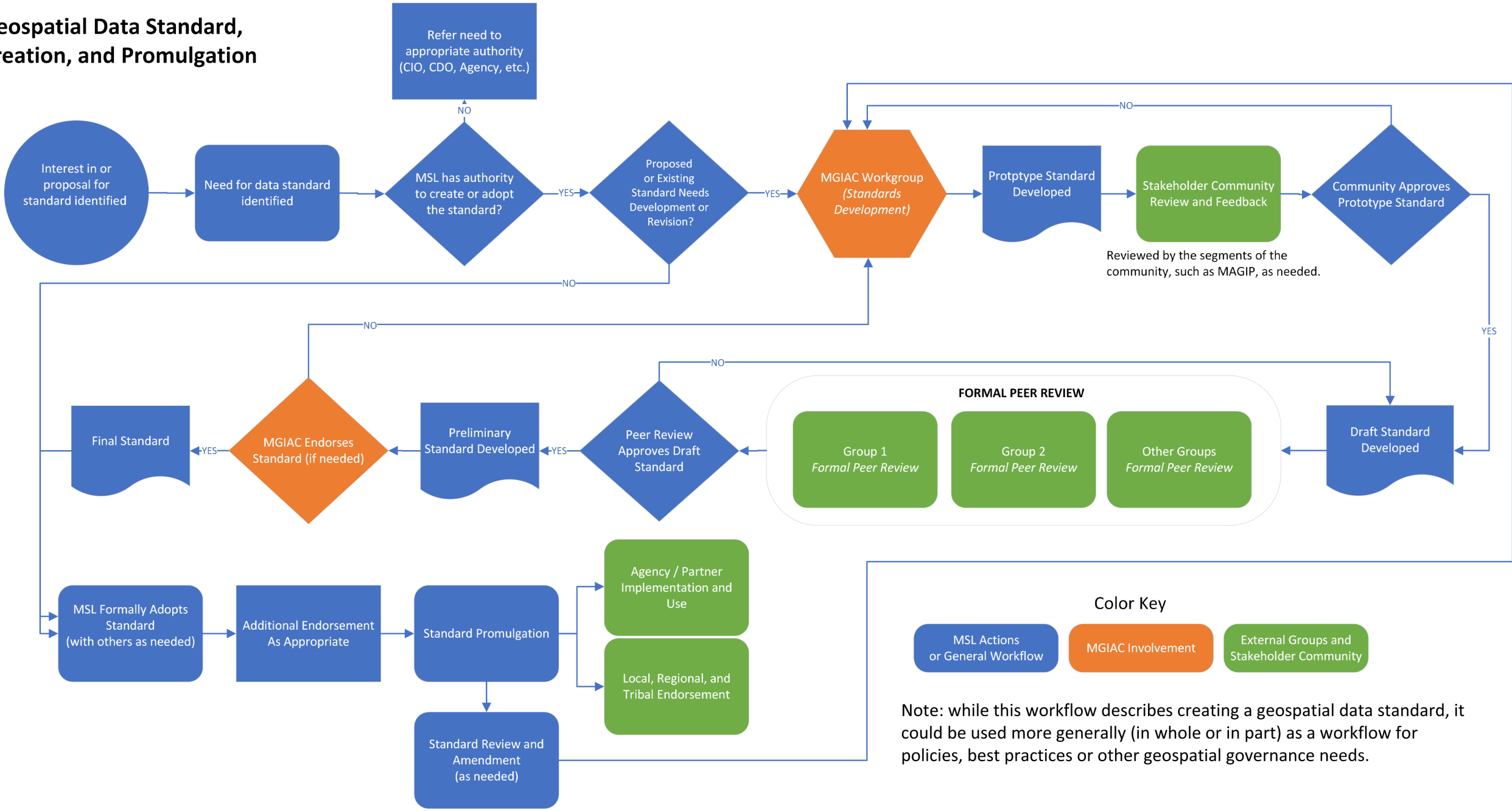
-Need to identify benefits realized in other states and other state imagery successes

# Imagery Working Group Tasks

- **Would a Charter be helpful?**
  - Clear purpose and first tasks
  - Meeting frequency
  - Resources
  - Members & Roles
  - Leadership Structure
  - Active Participants
  - Additional participants? Do we have the right people?
- **First Tasks (?) Inventory > Program > historic v current**
  - Inventory of existing State agency imagery and other imagery(?)
    - Digitized v georeferenced; L&C (Federal Lands Access Program)
  - Montana Imagery Plan and/or Imagery Repository Business Case (Needs)
  - Imagery as a service and issues with contracts
  - Historic imagery (USFS, NRCS) (where are the vaults and boxes?)
    - Mining claim digitization (MBMG)
  - Funding/grant opportunities list (example, CalFire, inland water NOAA)
    - Be ready when grants become available
    - Restoration efforts

[Draft Charter](#)

# Geospatial Data Standard, Creation, and Promulgation



# Active Members

Name	Organization	Role
Erin Fashoway	Montana State Library	<ul style="list-style-type: none"> <li>• Writing and reviewing best practices or a Montana Imagery Plan</li> <li>• Testing technical workflow</li> <li>• Writing and developing policies or standards</li> <li>• Represent your organization at stakeholder events</li> <li>• Providing expert testimony (written or oral presentation) to support imagery efforts</li> </ul>
Troy Blandford	Montana State Library	<ul style="list-style-type: none"> <li>• Writing and reviewing best practices or a Montana Imagery Plan</li> <li>• Testing technical workflow</li> <li>• Writing and developing policies or standards</li> <li>• Represent your organization at stakeholder events</li> <li>• Providing expert testimony (written or oral presentation) to support imagery efforts</li> </ul>
Mike Eidum	Dept. of Transportation	<ul style="list-style-type: none"> <li>• Writing and reviewing best practices or a Montana Imagery Plan</li> <li>• Testing technical workflow</li> <li>• Writing and developing policies or standards</li> <li>• Represent your organization at stakeholder events</li> <li>• Providing expert testimony (written or oral presentation) to support imagery efforts</li> </ul>
Robin Rude	Dept. of Revenue	<ul style="list-style-type: none"> <li>• Represent your organization at stakeholder events</li> <li>• Providing expert testimony (written or oral presentation) to support imagery efforts</li> <li>• Testing technical workflow</li> <li>• Writing and reviewing best practices or a Montana Imagery Plan</li> </ul>
Dorothy Friday	Eagleview	<ul style="list-style-type: none"> <li>• Represent your organization at stakeholder events;</li> </ul>
Jason Caldwell	Sanborn	<ul style="list-style-type: none"> <li>• Writing and reviewing best practices or a Montana Imagery Plan</li> <li>• Writing and developing policies or standards</li> </ul>
Melissa Christie	NV5	<ul style="list-style-type: none"> <li>• Writing and reviewing best practices or a Montana Imagery Plan</li> <li>• Providing expert testimony (written or oral presentation) to support imagery efforts</li> <li>• I can supply graphics for visualization of various image solutions like orthos, oblique, thermal imagery and color infrared.</li> <li>• Writing and developing policies or standards;</li> </ul>

# Imagery Repository Business Case

- Draft business case =>
- Imagery plans from other states to review(?)
  - Indiana Ortho-lidar Plan
  - Nebraska Imagery Business Plan
  - Washington Imagery Plan
  - Utah, Minnesota, Oregon, Alaska(?), Wyoming (?)
  - (And also sharing ours once complete)

## State Imagery Repository Business Case

Notes and draft items

**Scope**

Phase 1 development of a **Digital** State Imagery Repository and Service for purposes of Montana imagery storage, catalog, discovery, and potential interaction/analysis for citizens, businesses, universities, governmental and non-governmental entities. Phase 1 will include only non-sensitive, publicly accessible imagery collections of the following types:

Imagery types:

- Photo: tif, mrf, geotif, crf, lrc, jp2, jpg, sid
- Video: mj2, mjp2,
- LiDAR: las, laz
- Sonar: kmz
- Digital Terrain Models: tif, ascii
- Coverage Areas/Footprints (flight paths, lines, etc.): shp, kml, fgdb,

List of where imagery is currently published, image resolution, xyz accuracy

**Phase 1 Agencies: MSL, MDT, DNRC, DOR, DEQ**

**Out of Scope**

Physical imagery files (9x9; reels, etc.)  
Imagery access restricted by contract  
Interactive delivery of video content

**Goals & Objectives**

G1: Develop architectural requirements for repository.  
Obj. 1: system requirements document  
Obj. 2: evaluate vendor options (Esri, Hexagon, Google, Amazon or Azure cloud, etc.)  
Obj. 3: define what is imagery and priorities for including in repo

G2: Establish a primary common repository for state agency imagery files hosted by MSL.  
Obj. 1: repository has open access for public search and discovery  
Obj. 2: establish business model to support repository at MSL  
Obj. 3: evaluate level of effort for agency to move imagery files

G3: Develop a searchable catalog of imagery holdings with metadata describing imagery details including resolution and geolocalational rigor.  
Obj. 1:  
Obj. 2:

# Legislative Planning

## Key dates

- April 17<sup>th</sup> - State Library Commission starts executive planning
- April 30<sup>th</sup> - House Bill 10 requests (long-range information technology)
- June 6<sup>th</sup> - House Bill 2 requests (general state budget)



# Legislative Planning

Key content for the Imagery Working Group to develop:

1. List of the programs, related statute, or activities that depend on imagery
  - a) List of new or planned imagery business cases
    - Illustrate how new collections should be managed in an organized and standardized fashion
2. Inventory of where imagery currently resides and how it is requested/obtained
  - a) Illustrate need to create an inventory and repository
3. Clear description of the ask and a good estimate of costs
  - a) Upfront, one-time-only costs or largely ongoing funding
  - b) Local governments that have imagery programs, what is the cost and cost sharing opportunities
    - a) And cost savings of having an imagery repository (might be a good example with Billings and adjacent community); multiplier or economy of scale, flight planning tool?; time and effort on contracts and advantage of buyup and cooperative; consider difference in budget planning timing; budget complexities and moving money around
    - b) Ballpark for statewide 6”
4. Montana Imagery Plan and/or Imagery Repository Business Case

# Needs Assessment

- Identify critical activities/business uses for imagery
  - What are the requirements?
    - *Data accuracy/resolution*
    - *Refresh cycle/frequency*
    - *Geographic areas of interest*
    - *Ground conditions (leaf, flooding)*
  - What are the benefits realized or cost savings? (now and future, such as ½ foot imagery v. 3-inch imagery)
- Draft spreadsheet
- Examples from Elevation and Hydrography
  - Hydrography Requirements and Benefits Study
  - National Enhanced Elevation Assessment

# Existing Imagery Assets

- Inventory of what is available now
  - Who has imagery and what is it?
  - Is it made publicly available?
  - Means of dissemination
  - Would a central repository be preferred?
- Draft spreadsheet
- What are the important attributes/schema to include in the inventory?
  - Specs, accuracy, required fields, reports

# Next Steps & Assignments

- Documents
  - Finalize WG Charter – reachout to potential add. Members
    - **March 20 adopt it as a group**
  - Needs Assessment
    - Programs/Workflows Dependent on Imagery Data
    - **Time Goal – First draft March 20th**
  - Montana Imagery Inventory:
    - Where does Imagery Exist
    - How is it accessed/published
    - **Time Goal – First draft March 20th**
  - Benefits & Costs Document – Estimates & Savings
    - State Agency & Local Gov't Imagery Repository Hosting
    - Shared Flights / Cooperative Arrangements – Imagery Program
      - Understanding Budget Planning Cycles
    - **MSL can start to pull that in – April**
  - Imagery Plan Bare Bones & Timeline – **Outline April meeting** – incorporate white board documents
  - Imagery Repository Business Case – **March 20 Final Draft**

# Future Meetings

- **March 20, 2024** – 9:00 – 11:00 a – Virtual, [Zoom registration](#)
- **April 2024** – Billings, Montana – In coordination with MAGIP's Annual Conference – 2024 Big Sky GeoCon – *In-Person*
- **May 15, 2024** – 9:00-11:00 a – Hybrid in Helena, [Zoom registration](#)

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# Registered Participant List

**First Name Last Name**

Michael Gustafson  
Jamie Jisa  
Mike Eidum  
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Eric Spangenberg  
Jamie McFadden  
Meghan Burns  
Chad Addleman  
Dorothy Friday  
mark blevins  
Melissa Christie  
Jeremy Crowley  
Mike Snook  
Scott Faust  
Jim Kammerer  
Stephen Shirley  
Kristina Bouquet

# Zoom Chat Participant List

Michael Fashoway (MSL)  
Jeremy Crowley, University of Montana  
Mark Blevins, DEQ  
Mike Eidum - Montana Department of Transportation  
Steve Varro City of Kalispell Public Works Department  
Chad Addleman - Department of Revenue  
Stephen Shirley, Planner I, City of Helena  
Troy Blandford - Montana State Library  
Eric Spangenberg - Helena / Lewis & Clark County  
Melissa Christie, NV5 Geospatial  
Matt Trebesch, Montana State Library  
Tom Burnett, MSL Commissioner  
Erin Fashoway, Montana GIS Coordinator  
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