

*Imagery Working Group*

Business Plan Update

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*A GIS Council Working Group Presentation*

**Imagery Working Group**

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- Mike Schonlau – City of Omaha/Douglas County**
- Eric Herbert – Sarpy County**
- Jeff McReynolds – City of Lincoln/Lancaster County**
- Rose Braun – Nebraska Department of Roads**
- Ed Kelley - Nebraska Department of Roads**
- Rob Christian - Nebraska Department of Roads**
- Michael Niedermeyer - Nebraska Department of Roads**
- Les Howard – UNL Conservation and Survey Division**
- James Langtry – USGS**
- Josh Lear – Department of Natural Resources**
- Rebecca Groshens - Department of Natural Resources**
- Amy Wright – Department of Natural Resources**
- Tim Cielocha – Nebraska Public Power District**
- Billie Jo Smith – USDA FSA**
- Nathan Watermeier - OCIO**

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## Needs Identified in Strategic Plan

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- The 2012 Strategic Plan identified the #1 Goal to *“facilitate the creation, maintenance, analysis, and publishing of quality geospatial data”*
- Imagery is defined as one of the *priority* Nebraska Spatial Data Infrastructure (NESDI) layers.
- Develop business plans for creation, maintenance, and distribution of NESDI layers.

Imagery: To put in place a recurring program that can periodically re-fly the state to make current imagery available

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## Program Goals

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- **Develop a Statewide Imagery Program for Nebraska that consist of the following components**
  - Digitizing guidelines
  - Acquisition guidelines
  - Acquisition opportunities
  - Data sharing
  - Statewide coverage

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## **Program Objectives**

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1. Define imagery program management team and what it is comprised of and where it will be located (administratively and physically) - current this Working Group is supporting this function
2. Identify pertinent stakeholders and gather core requirements and stakeholder expectations
3. Identify a set of standards that will meet the majority of these requirements and expectations in the most cost-effective manner
4. Establish geodetic control considerations
5. Identify a standard products (Color, Color-IR, B/W, Oblique, High Res (4-8"), Low Res (12"+))
6. Develop scenarios for completing imagery coverage for the state
7. Identify, evaluate, data collection providers

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## **Program Objectives**

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8. Request program cost estimates from solution/data providers (RFI)
9. Identify data stewards and responsibilities including storage and management strategies
10. Develop budget and assess fiscal funding cycles among stakeholders to address cash flow requirements
11. Market the business plan
12. Identify and pursue program funding source(s) and encumber funds.
13. Implement the acquisition project
14. Publish and share data through NebraskaMAP
15. Incorporate aspects of program into overall technical assistance and education outreach plans
16. Conduct program evaluation annually and make necessary programmatic adjustments

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## Why an Imagery Program?

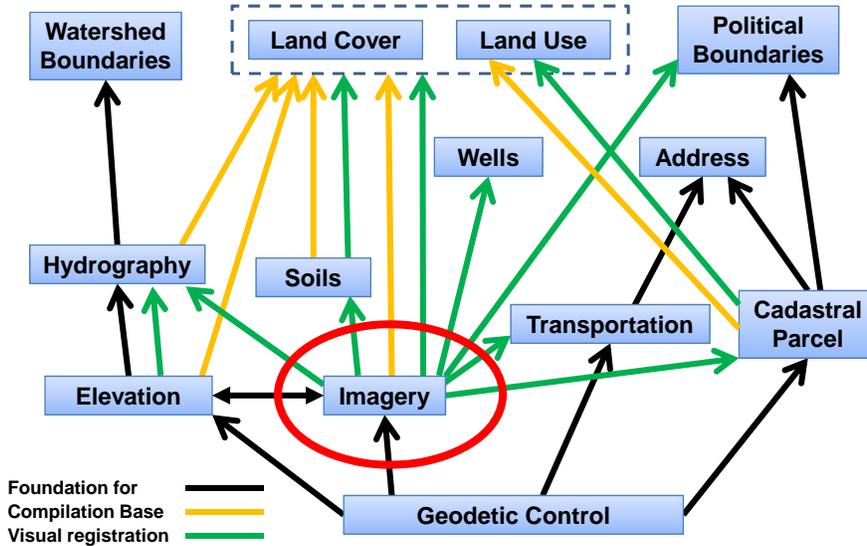
### Common question from those paying the bills...

*Why do we need to pay for data when it is available to us free?*

- **Referential Imagery vs. Authoritative Imagery**
  - Referential imagery (Google earth, imagery products distorted from ground control)
  - Authoritative imagery has specific mathematical and geometric properties necessary for creation of other geospatial by-products

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## NESDI Relationships – Visual Registration



## Why an Imagery Program?

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- **Context and intended application of current imagery services do not meet all our needs.** Example: NAIP flown with “leaf-on” and does not assist with other applications necessary with “leaf-off” applications.
- **Uncertainty of the continuation of programs such as USDA NAIP.** Need to have a plan in place in case we get to a point we have no updated imagery.

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## Perceived Benefits and Justification

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- **Need for an authoritative imagery database with geodetic control that we can rely on for other visual registration and compilation of data sets.**
- **Benefits are many...**
  - Product that everyone recognizes and can associate with in assisting them with business needs
  - Improved consistency of imagery products, confidence and reliability in quality imagery data for visual registration of geospatial by-products
  - Standardized formats for storage and distribution
  - Elimination of potential duplicative data collection projects
  - Broad distribution to support state spatial data needs
  - Improved taxpayer satisfaction through partnership effort to reduce costs on collective imagery
  - Planned program helps budget and local planning expectations and timelines

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## Requirements

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### Current Structure

- Rely on local-driven projects to meet specific application requirements:
  - Nebraska-Iowa Regional Orthoimagery Consortium (NIROC)
  - Central Nebraska Consortium
    - Eight Cities and 2 Counties
  - USDA-FSA NAIP Program

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## Requirements

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### Planned Structure

- Digitizing guidelines
- Acquisition guidelines
- Acquisition opportunities
- Data sharing
- Statewide coverage

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## Implementation Plan

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### Implementation plan follows outline of objectives for the program.

1. Define imagery program management team
2. Identify pertinent stakeholders and gather core requirements
3. Conduct Survey
4. Identify standards Establish geodetic control considerations
5. Identify a standard products (Color, Color-IR, B/W, Oblique, High Res (4-8"), Low Res (12"+))
6. Develop scenarios for completing imagery coverage for the state
7. Identify, evaluate, data collection providers
8. Request program cost estimates from solution/data providers (RFI)
9. Identify data stewards and responsibilities
10. Develop budget and assess fiscal funding cycles
11. Market the business plan
12. Identify and pursue program funding source(s) and encumber funds.
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## Specific Tasks Started

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- **Identify objectives**
- **Assess and gather research on several topics:**
  - Digitizing guidelines
  - Best practices for imagery management and sharing (imagery as a web service, caching imagery, data storage) [Cached Map Services](#)
  - [2012 Cached NAIP Imagery](#)
  - Evaluate other state imagery programs
  - Minimum imagery specifications
  - Imagery program framework and components needed for Nebraska
- **NIROC** – [Project map](#)
- **Identify stakeholders**
- **Develop survey**

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## Costs, Resource Allocation, and ROI

- **Starting with survey to assess stakeholders and needs to pertain metric costs.**
- **Many states have imagery programs. Costs differ for various reasons.** Buy-up features and other processing costs.
  - Michigan - \$28/sq mile for base 4-band, additional costs for buy-ups
  - Indiana - \$126/sq mile - \$4.7 million one time for 4-band
  - Florida - \$8 million/year – benefits back of \$32 million/year

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## Technical Assistance / Education Outreach

- **Current need for education to primary decision makers on benefits and needs of an imagery program.**
  - Considerations for developing education pieces such as fact sheets and targeted presentations
  - Concern of sending out survey to decision makers if they are unsure of what they really need
- **Preparations for GIS LIS Association Symposium in Kearney, April 16-18**

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## Relationships among other Business Plans

- **Imagery program provides Authoritative data and will coincide with all working group business plans.**
  - Visual registration and QA/QC for several NESDI layers
    - Land Records - placement of parcels and respect to other land features
    - Street Centerlines - buildings for addressing
    - Elevation - ability to generate 3D visual representations for future applications
  - Data sharing and access
    - NebraskaMAP – platform to disseminate and acquire imagery product data through web services

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## Questions for Discussion

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