

NGDA Dataset Report

Official NGDA Title: High Resolution Orthoimagery

Metadata Record Title: USGS High Resolution Orthoimagery Collection - Current - National Geospatial Data Asset (NGDA) High Resolution Orthoimagery

A-16 NGDA Theme: Imagery

Executive NGDA Theme Champion(s):

Name: Jerry Johnston

Agency: DOI

Email: jerry_johnston@ios.doi.gov

Name: Stephen Lowe

Agency: DOA

Email: stephen.lowe@ocio.usda.gov

Theme Lead(s):

Name: Bob Pierce

Agency: USGS

Email: rrpierce@usgs.gov

Name: Shirley Hall

Agency: USDA

Email: shirley.hall@wdc.usda.gov

Dataset Manager(s):

Name: Bob Pierce

Agency: USGS

Email: rrpierce@usgs.gov

Metadata:

Registration Status: Complete

Registered on 12/17/2014

GeoPlatform Link*: <https://www.geoplatform.gov/node/243/949b7c71-6913-45f1-85b9-2a4a3dd6e2bc>

Data.gov Metadata Link*: <http://catalog.data.gov/harvest/object/0d2f27c9-f4d7-44a5-813b-7ee2f6b395cd/html>

*If the metadata has been updated and reharvested after publication of this report, the link may no longer be valid. The dataset may be searched for manually in Data.gov or GeoPlatform.gov.

NGDA Lifecycle Maturity Assessment (LMA) Report

Time Frame:

Baseline assessment responses include dataset activities from 2000 to 2015. HRO data will no longer be collected or served after FY2016.

LMA Submission:

Status: Complete

Date: 10/8/2015

Extension Requested: No

LMA Reviewer(s):

Supervisor: Bob Davis

Theme Lead: Did not review

Executive Champion: Did not review

SAOGI*: Did not review

Other: Did not review

LMA Verifier:

Name: Larry (Bob) Davis

Email: Irdavis@usgs.gov

Attachments:

To get access to any attachments referenced in the report, email the LMA Help Desk at NGDA_LMA_help@fgdc.gov. Please use the subject "Dataset Report Attachment(s)" and indicate the associated official NGDA title.

*Senior Agency Official for Geospatial Information (SAOGI)

Lifecycle Maturity Assessment (LMA) Summary

Overall Maturity:

Optimized; Established

General Questions: 100%

Optimized; Established

Stage 4 - Access: 100%

Optimized; Established

Stage 1 - Define/Plan: 100%

Optimized; Established

Stage 5 - Maintain: 100%

Optimized; Established

Stage 2 - Inventory/Evaluate: 100%

Optimized; Established

Stage 6 - Use/Evaluate: 100%

Optimized; Established

Stage 3 - Obtain: 83%

Mature; Consistent

Stage 7 - Archive: 100%

Optimized; Established

NGDA Dataset Maturity Definitions:

How To Calculate Maturity: https://www.geoplatform.gov/sites/default/files/How_to_Calculate_Maturity.pdf

Maturity	Maturity Characteristics for All Lifecycle Stages
Optimized; Established Rank = 5	Dataset meets virtually all business needs of all users. The dataset is considered authoritative by owners and secondary users. It is curated across all stages of the approved lifecycle. Future needs are defined on a regular basis and resources for addressing both current and future business requirements are available.
Mature; Consistent Rank = 4	Dataset meets all the business needs of the primary owner and most of the secondary users. The dataset is curated and used as authoritative by the primary owner. Dataset is used widely by secondary users actively engaged in sustaining the dataset. Future needs are identified and steps are planned to address these. All stages are supported and reviewed on a recurring basis. The dataset is well managed in relation to the approved lifecycle.
Managed; Predictable Rank = 3	Dataset meets a significant number of the business needs of the primary owner and is widely used as an authoritative resource by secondary users. Benchmark activities are occurring in at least four of the approved lifecycle stages. Management practices in relation to the approved lifecycle is moderate but consistent. Dataset is integrating changing business requirements in lifecycle stages impacting overall maturity.
Transition; Transformation Rank = 2	Dataset meets business needs of the primary owner and has moderate use by secondary users. Benchmark activities are occurring in at least three stages. Efforts to integrate funding, include partners, and obtain data are not supported in a sustained manner. Management practices in relation to the stages of the approved lifecycle is limited.
Planned; Initial Development Rank = 1	Dataset limited in meeting business needs of the primary owner. Benchmark activities in the approved lifecycle are just starting to consider secondary uses, partnerships are forming to support additional dataset uses. Dataset development is in a very early stage. Minimal or limited management against the benchmarks in the approved lifecycle.
No Activity Rank = no activity	Dataset meets project or local business needs of the primary owner, secondary or additional uses or users were not considered, not recognized as an authoritative data or is part of a similar dataset. Not managed to any of the benchmarks in the approved lifecycle.

General Questions for All Stages

1) Is there a recurring process to obtain funding for all lifecycle stages of this dataset?

Answer: Funding support is part of agency budget on a recurring basis, funding is consistent and tied to business processes, and supports all lifecycle stages.

Justification Comment:

Attachment(s): 0

Yes. There has been funding support FY2000 to FY2015 as part of agency budget. However, the USGS/NGP Strategic Plan 2012-2017 identified high resolution orthoimagery (HRO, imagery with resolution <1M) as a “maintenance investment” meaning that USGS/NGP intends to maintain current coverage by obtaining data from other organizations and suppliers with a minimum investment of Program resources.” After conferring with Program partners and faced with sequestration and other program cuts, in 2014, USGS/NGP has conducted an orderly shutdown of HRO program and services. HRO data will no longer be collected or served after FY2016.

Justification Comment:

Over the past several years there has been significant change in NGP’s involvement in imagery data, from role of producer to being one of many agency consumers high resolution imagery. The NGP Strategic Plan 2012-2017 identifies high resolution orthoimagery as a “maintenance investment” meaning that NGP intends to “maintain current coverage by obtaining data from other organizations and suppliers with a minimum investment of Program resources.” Since that time NGP has been reducing its investment in orthoimagery and other maintenance layers in order to focus on its primary layers of elevation and hydrography.

2) Is there a process in place to ensure that open government and transparency guidelines are followed in all lifecycle stages for this dataset?

Answer: Process is published as appropriate with respect to sensitivity requirements, process is transparent, published appropriately.

Justification Comment:

Attachment(s): 0

Process for HRO served/published as appropriate with respect to sensitivity requirements, process is transparent, published appropriately. HRO data will no longer be collected or served after FY2016.

Justification Comment:

Management of this dataset follows all scientific data management per the USGS.

For more detail see: Digital Orthoimagery Base Specification V1.0 in

Chapter 5 of Section B, U.S. Geological Survey Standards

Book 11, Collection and Delineation of Spatial Data located at <http://pubs.usgs.gov/tm/11/b5/pdf/tm11-B5.pdf>

3) Are there processes and tools in place so that staff are sufficiently knowledgeable to ensure a continuity of the dataset for all stages of the lifecycle, especially during staffing transitions?

Answer: Processes and tools to ensure dataset continuity are in place and implemented for all lifecycle stages.

Justification Comment:

Attachment(s): 0

Yes, from 2000-2015 there were tools in place to ensure a continuity of the dataset for all stages of the lifecycle. However, after 2016, HRO data will no longer be collected or served.

STAGE 1 - Define/Plan

4) Are user and business requirements defined and formalized?

Answer: A recurring process is in place, including defining new partner and stakeholder business needs as they arise, and is fully implemented.

Justification Comment:

Attachment(s): 0

During 2000-2015, the USGS/NGP/NGTOC Orthoimagery unit provided quality assessment for high resolution imagery data to complete the termination of NGTOC's involvement in the High Resolution Orthoimagery Program. During FY16, resources will be available to complete obligations for imagery review that have been identified in programmatic guidance established during the previous fiscal year. It is anticipated that no NGTOC beyond the close of FY16.

During 2000-2015, the Orthoimagery program at EROS processed High Resolution information received from NGP sources and create standard products. These data were compressed and placed in a zip file within the Tiled Data Distribution System for delivery.

High Resolution Orthoimagery (urban areas, state and local, and special event imagery obtained by the USGS will be appropriately compressed and ingested to the ArcGIS Mosaic Data Service hosting platforms for visualization. All data will be archived to NARA specifications as required by NGP. High Resolution Orthoimagery will be made available thru The National Map outlined in the Delivery Requirements as a compressed product for visualization and as a zipped tiled compressed standard product for delivery. The anticipated data volumes are 10-15 Terabytes of High Resolution Orthoimagery (already received or arriving in FY15).

The High Resolution ingest component of the EDC imagery program will be subject to termination in FY17.

The USGS/NGP Strategic Plan 2012-2017 identified high resolution orthoimagery (HRO) as a "maintenance investment" meaning that USGS/NGP intends to maintain current coverage by obtaining data from other organizations and suppliers with a minimum investment of Program resources." This effort leveraged the resources of multiple partners to achieve significant cost savings through economies of scale while meeting imagery requirements beyond the basic needs of the Federal government. The HRO maintenance program focused on partnerships with Federal, State, and local agencies to leverage resources and expand collection coverage.

HRO data will no longer be collected or served after FY2016.

Justification Comment:

For more detail see: Digital Orthoimagery Base Specification V1.0 in Chapter 5 of Section B, U.S. Geological Survey Standards Book 11, Collection and Delineation of Spatial Data Located at <http://pubs.usgs.gov/tm/11/b5/pdf/tm11-B5.pdf>

5) How are partners/stakeholders involved in the requirements collection process?

Answer: A recurring process is in place, including defining new partner and stakeholder business needs as they arise, and is fully implemented.

Justification Comment:

Attachment(s): 0

The HRO maintenance program focused on partnerships with Federal, State, and local agencies to leverage resources and expand collection coverage. But, as of FY2015 no more are partners/stakeholders are involved. The requirements collection

process was defunded as of FY2015.

An orthoimagery “Fact Sheet” provides more information and is available at:
<http://pubs.usgs.gov/fs/2009/3055/>

Additional Comment:

Partners/stakeholders were involved in the requirements collection process through FY2014. The USGS/NGP Strategic Plan 2012-2017 identified orthoimagery as a “maintenance investment” meaning that USGS/NGP intends to maintain current coverage by obtaining data from other organizations and suppliers with a minimum investment of Program resources.” HRO data will no longer be collected or served after FY2016.

6) Is there a quality assurance process for the dataset?

Answer: Quality assurance published as appropriate with respect sensitivity requirements.

Justification Comment:

Attachment(s): 0

Yes, there was a Quality assurance for HRO.

For detail see: Digital Orthoimagery Base Specification V1.0 in Chapter 5 of Section B, U.S. Geological Survey Standards Book 11, Collection and Delineation of Spatial Data Located at [At http://pubs.usgs.gov/tm/11/b5/pdf/tm11-B5.pdf](http://pubs.usgs.gov/tm/11/b5/pdf/tm11-B5.pdf)

7) Is there a process to evaluate the sensitivity, privacy, and confidentiality of this dataset?

Answer: Sensitivity, privacy, and confidentiality evaluations fully implemented, reviewed and updated on a recurring basis.

Justification Comment:

Attachment(s): 0

From 2000-2015 there was a process in place to evaluate the sensitivity, privacy, and confidentiality of this dataset. The data has been served on a public website.

HRO data will no longer be collected or served after FY2016.

8) Are defined data standards used in collecting, processing, and/or rendering the data?

Answer: Standards fully implemented documented and published as appropriate.

Justification Comment:

Attachment(s): 0

USGS had data standards in place for High Resolution Orthoimagery (HRO). For detail see: Digital Orthoimagery Base Specification V1.0 in Chapter 5 of Section B, U.S. Geological Survey Standards Book 11, Collection and Delineation of Spatial Data located at <http://pubs.usgs.gov/tm/11/b5/pdf/tm11-B5.pdf>

For additional detail see: Standards for Digital Orthophotos, Part 1 & Part 2: Digital Orthoimagery (revised), [GI_FrameworkDataStandard_Part2_DigitalOrthoimagery_rev2014](http://nationalmap.gov/standards/doqstds.html). At <http://nationalmap.gov/standards/doqstds.html>

Part 1, Digital orthoimagery (revised) of the Geographic Information Framework Data Content Standard supports exchange of orthoimagery data. It provides a base on which to collect, register, and integrate digital orthoimagery data.

Part 2 specifies data content and logical structure for description and interchange of digital

orthoimagery; provides guidelines for acquisition and processing of imagery; specifies documentation of those acquisition and processing steps; focuses on images sensed in the visible to near infrared portion of the electromagnetic spectrum; stresses complete and accurate reporting of information relating to quality control and standards employed in testing orthoimagery data; and includes a data dictionary based on its conceptual schema.

STAGE 2 - Inventory/Evaluate

9) Is there a process for determining if data necessary to meet requirements already exist from other sources (either within or outside the agency) before collecting or acquiring new data?

Answer: Process for determining appropriate data is being reused fully implemented, reviewed, and updated on a regular basis.

Justification Comment:

Attachment(s): 0

The NGP Strategic Plan 2012-2017 identifies orthoimagery as a “maintenance investment” meaning that NGP intends to “maintain current coverage by obtaining data from other organizations and suppliers with a minimum investment of Program resources.”

STAGE 3 - Obtain

10) Is there a process for obtaining data in relation to this dataset?

Answer: Process is fully implemented, reviewed and updated on a regular basis.

Justification Comment:

Attachment(s): 0

HRO datasets were provided by States and regional agencies to USGS through the USGS National Map Liaisons. These datasets were QA'd and reformatted and served to the public.

During 2000-2015, the USGS/NGP/NGTOC Orthoimagery unit provided quality assessment for high resolution imagery data to complete the termination of NGTOC’s involvement in the High Resolution Orthoimagery Program. During FY16, resources will be available to complete obligations for imagery review that have been identified in programmatic guidance established during the previous fiscal year. It is anticipated that no NGTOC beyond the close of FY16.

During 2000-2015, the Orthoimagery program at EROS processed High Resolution information received from NGP sources and create standard products. These data were compressed and placed in a zip file within the Tiled Data Distribution System for delivery.

High Resolution Orthoimagery (urban areas, state and local, and special event imagery obtained by the USGS will be appropriately compressed and ingested to the ArcGIS Mosaic Data Service hosting platforms for visualization. All data will be archived to NARA specifications as required by NGP. High Resolution Orthoimagery will be made available thru The National Map outlined in the Delivery Requirements as a compressed product for visualization and as a zipped tiled compressed standard product for delivery. The anticipated data volumes are 10-15 Terabytes of High Resolution Orthoimagery (already received or arriving in FY15).

The High Resolution ingest component of the EDC imagery program will be subject to termination in FY17.

11) Is the metadata in a FGDC endorsed geospatial metadata standard?

Answer: Metadata is available in a format endorsed by the FGDC, it fully describes the dataset and provides all the information required to make the dataset discoverable, accessible, and usable.

Justification Comment:

Attachment(s): 0

Metadata is available in a format endorsed by the FGDC, it fully describes the dataset and provides all the information required to make the dataset discoverable, accessible, and usable.

Project metadata describing the orthoimage production process and tile level metadata for each image

file was developed as a deliverable. Federal Geographic Data Committee (FGDC) compliant metadata was provided in extensible markup language (.xml) format for each orthorectified image file.

Additional Comment:

Metadata for the dataset fully describes the dataset and how to use it. Keyword tags and associated information has been entered and to make it discoverable via Data.gov, GeoPlatform.gov, and other catalogs.

For more detail see: Digital Orthoimagery Base Specification V1.0 in Chapter 5 of Section B, U.S. Geological Survey Standards Book 11, Collection and Delineation of Spatial Data Located at <http://pubs.usgs.gov/tm/11/b5/pdf/tm11-B5.pdf>

12) How complete is the geographic coverage as defined in the requirements for the dataset?

Part 1 Answer: Business requirements for cyclic updates identified and a process is in place.

Part 2 Answer: Dataset is presently less than 25% complete based on current requirement.

Justification Comment:

Attachment(s): 0

A high resolution imagery list and status map is available at: <http://nationalmap.gov/ortho.html#data>

Additional Comment:

Existing HRO data will no longer be served after FY2016.

STAGE 4 - Access

13) Do you have a process for providing users access to the data in an open digital machine readable format?

Answer: User access process is fully implemented, data is available, process is reviewed and updated on a recurring basis.

Justification Comment:

Attachment(s): 0

View and download access is currently available on the USGS National Map Viewer. Further information and data download are available at: <http://nationalmap.gov/viewer.html>. User access process is fully implemented, data is available, process is reviewed and updated on a recurring basis.

Justification Comment:

High Resolution Orthoimagery will be made available thru The National Map outlined in the Delivery Requirements as a compressed product for visualization and as a zipped tiled compressed standard product for delivery. The anticipated data volumes are 10-15 Terabytes of High Resolution Orthoimagery (already received or arriving in FY15).

The High Resolution ingest component of the EDC imagery program will be subject to termination in FY17.

STAGE 5 - Maintain

14) Is there a maintenance process for updating and storing the dataset?

Answer: Dataset maintenance process is fully implemented and processes are reviewed and periodically updated.

Justification Comment:

Attachment(s): 0

View and download access is currently available on the USGS National Map Viewer. Further

information and data download are available at: <http://nationalmap.gov/viewer.html>. User access process is fully implemented, data is available, process is reviewed and updated on a recurring basis.

HRO data will no longer be collected or served after FY2016.

Justification Comment:

High Resolution Orthoimagery will be made available thru The National Map outlined in the Delivery Requirements as a compressed product for visualization and as a zipped tiled compressed standard product for delivery. The anticipated data volumes are 10-15 Terabytes of High Resolution Orthoimagery (already received or arriving in FY15).

The High Resolution ingest component of the EDC imagery program will be subject to termination in FY17.

15) Is there an error correction process as part of dataset maintenance?

Answer: Error correction process includes user notification, process reviewed on a recurring basis.

Justification Comment:

Attachment(s): 0

A mature Error correction process was established for the HRO datasets.

For detail see:

Digital Orthoimagery Base Specification V1.0 in Chapter 5 of Section B, U.S. Geological Survey Standards Book 11, Collection and Delineation of Spatial Data Located at <http://pubs.usgs.gov/tm/11/b5/pdf/tm11-B5.pdf>

Additional Comment:

For additional detail see: Standards for Digital Orthophotos, Part 1 & Part 2: Digital Orthoimagery (revised), [GI_FrameworkDataStandard_Part2_DigitalOrthoimagery_rev2014](http://nationalmap.gov/standards/doqstds.html). At <http://nationalmap.gov/standards/doqstds.html>

Part 1, Digital orthoimagery (revised) of the Geographic Information Framework Data Content Standard supports exchange of orthoimagery data. It provides a base on which to collect, register, and integrate digital orthoimagery data.

Part 2 specifies data content and logical structure for description and interchange of digital orthoimagery; provides guidelines for acquisition and processing of imagery; specifies documentation of those acquisition and processing steps; focuses on images sensed in the visible to near infrared portion of the electromagnetic spectrum; stresses complete and accurate reporting of information relating to quality control and standards employed in testing orthoimagery data; and includes a data dictionary based on its conceptual schema.

STAGE 6 - Use/Evaluate

16) Is there a process to determine if the dataset meets user needs?

Answer: Process is fully implemented and repeated on a recurring basis.

Justification Comment:

Attachment(s): 0

Several process were in place during the timeframe of the HRO program. 1-ft leaf-off orthoimagery over 133 urban areas are acquired by the USGS in partnership with the National Geospatial-Intelligence Agency (NGA) and State and local governments under the Homeland Security Infrastructure Program (HSIP). This program initially was

created to collect imagery and other geospatial data layers over densely populated urban areas for homeland security and emergency operation purposes, but has expanded beyond its Federal scope to become one of the primary mechanisms available to Federal, State, and local governments and organizations for partnering to collect high-resolution imagery. This effort leverages the resources of multiple partners to achieve significant cost savings through economies of scale while meeting imagery requirements beyond the basic needs of the Federal government. Both maintenance programs focus on partnerships with Federal, State, and local agencies to leverage resources and expand collection coverage.

Additional Comment:

An orthoimagery "Fact Sheet" provides more information and is available at:
<http://pubs.usgs.gov/fs/2009/3055/>

17) Is there a process to provide users information on how to access and properly use the dataset?

Answer: Process is fully implemented supporting access and proper use, process is reviewed on a recurring basis.

Justification Comment:

Attachment(s): 0

The users information on how to access and properly use the dataset is available as part of the metadata.

Sample uses are provided at: <http://nationalmap.gov/ortho.html#data>

An orthoimagery "Fact Sheet" provides more information and is available at:
<http://pubs.usgs.gov/fs/2009/3055/>

18) Are the business processes and management practices assessed to meet changing technology?

Answer: Assessment process is fully implemented for taking advantage of changing technology, process is reviewed on a recurring basis.

Justification Comment:

Attachment(s): 0

Business processes and management practices are assessed to meet changing technology each year during program review and planning.

STAGE 7 - Archive

19) Is there an archiving process for the dataset?

Answer: Archival and disposition processes are fully implemented.

Justification Comment:

Attachment(s): 0

Yes. All data will be archived to NARA specifications as required by USGS/NGP. USGS continues to address/update the process for archiving. EROS (EDC) in the past has been designated as an official "archive" for imagery data.

Justification Comment:

Remotely sensed data is archived at EDC as the archive data repository.