

Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed

1.1. Name of the Data, data collection Project, or data-producing Program:

2016 Connecticut NAIP Digital Ortho Photo Imagery

1.2. Summary description of the data:

This data set contains imagery from the National Agriculture Imagery Program (NAIP). The NAIP program is administered by USDA FSA and has been established to support two main FSA strategic goals centered on agricultural production.

These are, increase stewardship of America's natural resources while enhancing the environment, and to ensure commodities are procured and distributed effectively and efficiently to increase food security. The NAIP program supports these goals by acquiring and providing ortho imagery that has been collected during the agricultural growing season in the U.S. The NAIP ortho imagery is tailored to meet FSA requirements and is a fundamental tool used to support FSA farm and conservation programs. Ortho imagery provides an effective, intuitive means of communication about farm program administration between FSA and stakeholders.

New technology and innovation is identified by fostering and maintaining a relationship with vendors and government partners, and by keeping pace with the broader geospatial community. As a result of these efforts the NAIP program

provides three main products: DOQQ tiles, Compressed County Mosaics (CCM), and Seamline shape files. The Contract specifications for NAIP imagery have changed over time reflecting agency requirements and improving technologies. These changes include image resolution, horizontal accuracy, coverage area, and number of bands. In general, flying seasons are established by FSA and are targeted for peak crop growing conditions. The NAIP acquisition cycle is based on a minimum 3 year refresh of base ortho imagery. The tiling format of the NAIP imagery is based on a 3.75' x 3.75' quarter quadrangle with a 300 pixel buffer on all four sides. NAIP quarter quads are formatted to the UTM coordinate system using the North American Datum of 1983. NAIP imagery may contain as much as 10% cloud cover per tile.

Original contact information:

Contact Org: Aerial Photography Field Office (APFO)

Phone: 801-844-2922

Email: apfo.sales@slc.usda.gov

1.3. Is this a one-time data collection, or an ongoing series of measurements?

One-time data collection

1.4. Actual or planned temporal coverage of the data:

2016-07-19

1.5. Actual or planned geographic coverage of the data:

W: -73.765, E: -71.678, N: 42.097, S: 40.922

1.6. Type(s) of data:

(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)

Image (digital)

1.7. Data collection method(s):

(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

1.8. If data are from a NOAA Observing System of Record, indicate name of system:**1.8.1. If data are from another observing system, please specify:****2. Point of Contact for this Data Management Plan (author or maintainer)****2.1. Name:**

NOAA Office for Coastal Management (NOAA/OCM)

2.2. Title:

Metadata Contact

2.3. Affiliation or facility:

NOAA Office for Coastal Management (NOAA/OCM)

2.4. E-mail address:

coastal.info@noaa.gov

2.5. Phone number:

(843) 740-1202

3. Responsible Party for Data Management

Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:**3.2. Title:**

Data Steward

4. Resources

Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?**4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):****5. Data Lineage and Quality**

NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible

(describe or provide URL of description):

Process Steps:

- 2016-09-14 00:00:00 - DOQQ Production Process Description USDA FSA APFO
 NAIP Program 2016 State: Connecticut The imagery was collected
 using the following digital sensors: Leica ADS-100 (Serial Number 10548)
 Leica ADS-100 (Serial Number 10547) with Flight and Sensor Control
 Management System (FCMS) firmware 4.54. Cameras are calibrated
 radiometrically and geometrically by the manufacturer and are all certified
 by the USGS. Collection was performed using a combination of the
 following twin-engine aircraft: Turbines flying at 16,500 ft above mean
 terrain (tail number: C441 N441CJ) (tail number: C441 N441MD) ((tail
 number: PA31 N73TM) With these flying heights, there is a 23% sidelap,
 giving the collected data nominal ground sampling distance of 0.40
 meters at 16,500. Based-upon the CCD Array configuration present in
 the ADS digital sensor, imagery for each flight line is 20,000-pixels in width.
 Red, Green, Blue, Near-Infrared and Panchromatic image bands were
 collected. The ADS 100 has the following band specifications: Red
 619-651 Green 525-585 Blue 435-495 Near Infrared 808-882
 all values are in nanometers Collected data was downloaded to
 portable hard drives and shipped to the processing facility daily. Raw flight
 data was extracted from external data drives using XPro software.
 Airborne GPS / IMU data was post-processed using INYS, PosPac and/or
 TerraPos software and reviewed to ensure sufficient accuracy for project
 requirements. Using Inpho software, planar rectified images were
 generated from the collected data for use in image quality review. The
 planar rectified images were generated at five meter resolution using a two
 standard deviation histogram stretch. Factors considered during this review
 included but were not limited to the presence of smoke and/or cloud
 cover, contrails, light conditions, sun glint and any sensor or hardware-
 related issues that potentially could result in faulty data. When necessary,
 image strips identified as not meeting image quality specifications were re-
 flown to obtain suitable imagery. Aero triangulation blocks were
 defined primarily by order of acquisition and consisted of four to seventeen
 strips. Image tie points providing the observations for the least squares
 bundle adjustment were selected from the images using an auto correlation
 algorithm. Photogrammetric control points consisted of photo identifiable
 control points, collected using GPS field survey techniques. The control
 points were loaded in to a softcopy workstation and measured in the
 acquired image strips. A least squares bundle adjustment of image pass
 points, control points and the ABGPS was performed to develop an aero
 triangulation solution for each block using Pictovera software.
 Upon final bundle adjustment, the triangulated strips were ortho-rectified to
 the digital elevation model (DEM) The most recent USGS 10 meter DEMs were
 used in the rectification process. Positional accuracy was
 reviewed in the rectified imagery by visually verifying the horizontal

positioning of the known photo-identifiable survey locations using ArcGIS software. The red, green, blue, and infrared bands were combined to generate a final orth

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

6. Data Documentation

The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?

No

6.1.1. If metadata are non-existent or non-compliant, please explain:

Missing/invalid information:

- 1.7. Data collection method(s)
- 3.1. Responsible Party for Data Management
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.3. Data access methods or services offered
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

6.2. Name of organization or facility providing metadata hosting:

NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:

<https://www.fisheries.noaa.gov/inport/item/49528>

6.4. Process for producing and maintaining metadata

(describe or provide URL of description):

Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

7. Data Access

NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:

NOAA Office for Coastal Management (NOAA/OCM)

7.2.1. If data hosting service is needed, please indicate:

7.2.2. URL of data access service, if known:

<https://coast.noaa.gov/dataregistry/>

<https://coast.noaa.gov/dataviewer/#/imagery/search/where:ID=8398>

https://coastalimagery.blob.core.windows.net/digitalcoast/CT_NAIP_2016_8398/index.html

7.3. Data access methods or services offered:

7.4. Approximate delay between data collection and dissemination:

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

8. Data Preservation and Protection

The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to

identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:

(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):

Office for Coastal Management - Charleston, SC

8.3. Approximate delay between data collection and submission to an archive facility:

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection

9. Additional Line Office or Staff Office Questions

Line and Staff Offices may extend this template by inserting additional questions in this section.