

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:**

Connecticut Coastal Airborne ADS40 Digital Imagery Acquisition and Natural Color and Color Infrared Orthophoto Production collected in September 2004

1.2. Summary description of the data:

The NOAA Office for Coastal Management purchased digital ADS40 imagery and digital elevation models of the Connecticut coastline in 2004. The Coastal Connecticut project area is comprised of approximately 930 square miles. A total of 244 orthos (122 natural color and 122 color infrared) were produced to cover this area. Aerial imagery was collected in panchromatic, Red, Green, Blue and Near Infrared which yielded a natural color and false color infrared version of the completed digital orthophotography. In addition to producing the digital ortho imagery a first surface (reflective surface) elevation data set was produced. Imagery was collected at an approximate altitude of 15,750 feet above mean terrain.

Original contact information:

Contact Name: Harold Rempel

Contact Org: EarthData International, Inc.

Title: Director of Program Management

Phone: 301-948-8550

Email: hrempel@earthdata.com

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:

2004-09-20, 2004-09-22

1.5. Actual or planned geographic coverage of the data:

W: -73.811097, E: -71.755583, N: 41.658672, S: 40.911606

1.6. Type(s) of data:

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

- 2004-12-23 00:00:00 - Source Imagery - ADS40 Digital Camera Imagery. Control - Airborne GPS/IMU supplemented with photo identifiable field control
Aerotriangulation - X software package Elevation Model - X software package
Radiometric Balancing - X software package and COTS Software (PhotoShop).
Orthorectification - X software package. Mosaic - X software package and Z/I
Imaging OrthoPro software package. The following section describes the X digital image production sequence. This is a mature, stable workflow and incorporates all production components into an integrated series of tools to accomplish photogrammetric mensuration, aerotriangulation, elevation model development, ortho production and finishing. Production processes are fully documented in accordance with ISO9001 mandates. The following is a step-by-step description of the X workflow to develop digital orthophoto quarter quads to. Step 1 The unprocessed ADS40 data and accompanying GPS and IMU data for one or more sorties was downloaded from the portable hard disks and checked to verify that no files were corrupted and that all data could be downloaded. Digital aerial imagery that was used for this project includes the Red, Green, Blue, Near Infrared channels as well as the S1 pan, S2 pan and nadir green channels. Sample segments of the imagery were inspected in an uncorrected state to verify the integrity of each data sortie. Step 2 The GPS/IMU parameters for each sortie were optimized using the ground control points and the error calibration map. The horizontal and vertical positions of all ground control points in the block were observed in each channel (R, G,B, IR, R, G, S1 Pan, S2 Pan). Step 3 Aerotriangulation was accomplished using the CLB tool that is a component of the X process.

- 2004-12-23 00:00:00 - The ground control, GPS and IMU information were ingested and tie points between strips were identified. Normally, only 3 tie points are needed between adjacent flight lines. Step 4 CLB produces a bundle adjustment for each data sortie. The results of the adjustment were verified through the development of a sub-sampled panchromatic mosaic for the data sortie. The mosaic was corrected using the aerotriangulation points only. This mosaic was inspected by the photogrammetric technician to identify any gross errors in the adjustment as well as the identification of any voids or image quality problems. Step 5 Using several tools that are part of the ISTAR workflow, a digital surface model (DSM) is correlated at a post spacing of 2 meters depending on terrain and land cover. The ISTAR correlation algorithm computes the X,Y,Z value for each DSM post utilizing every stereo angle that is available. A series of DSM files are created for acquisition

block, one for each stereo look angle. A mosaic is then created from the separate DSM files where the best vertical value for each posting is selected from all look angles compared against the aerotriangulation adjustment which is incorporated into the mosaic. Company X will then edit the surface to the level required to support the orthophoto production. Step 6 The digital imagery for each acquisition sortie was differentially rectified to produce digital orthophoto mosaics in natural color and false color infrared renditions at a resolution of 0.50-meter per pixel. The orthophoto mosaics were inspected for accuracy issues that fall in the following categories - - Aerotriangulation related - DSM related Accuracy issues were investigated through review and correction of the DEM or triangulation adjustment. Once the imagery passed quality control review, final radiometric adjustments were performed to create a uniform overall appearance. The final DOQQ tiles were organized for nominal 3.75 by 3.75 minute areas corresponding to the USGS quarter quad boundaries and were clipped out with the specified overage of a minimum of 30 meters beyond the quarter quad boundaries. Imagery was output in the following formats - 24-bit natural color GeoTIFF images 24-bit false color infrared GeoTIFF images Step 7 The completed digital orthophotos were checked for image quality. Minor artifacts were corrected using Adobe Photoshop in an interactive editing session. Digital files were assigned final names based on the National Grid. Step 8 Project level metadata describing the orthophoto production process was developed to support the task.

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/48415>

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:

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.