

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:

2012 Multispectral Color Orthophotography at .30m GSD, UTM z2S projection, GeoTIFF file format for American Samoa.

1.2. Summary description of the data:

The 2012 American Samoa aerial photography project produced 1' (.30m) GSD multispectral digital orthoimagery for approximately 85 square miles of the American Samoa islands of Tutuila, Aunu'u, Ofu, Olosega, and Ta'u. An orthoimage is remotely sensed image data in which displacement of features in the image caused by terrain relief and sensor orientation have been mathematically removed, thus it combines the image characteristics of a photograph with the geometric qualities of a map.

Original contact information:

Contact Name: Mike Duncan

Contact Org: United States Geological Survey

Phone: 573-308-3579

Email: e-mail: jduncan@usgs.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:

2012-08-02 to 2012-08-03

1.5. Actual or planned geographic coverage of the data:

W: -170.851644, E: -169.405585, N: -14.147592, S: -14.382132

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:

- 2012-01-01 00:00:00 - Sixty-five (65) photo identifiable control locations were selected and surveyed to adequately cover the entire state. Details of each point can be found in the full control report. Accuracies of 10cm or better (horizontally and vertically) were required. | Source Produced: Georeferenced Aerial Imagery
- 2012-01-01 00:00:00 - New digital aerial imagery was obtained in the spring of 2012 using a large format Microsoft Vexcel Ultracam equipped with Airborne GPS/IMU. A total of 22 flight lines with 671 frames were collected in multispectral (RGB and NIR) 12 bits per band format. The imagery was acquired with a 100.5 mm focal length at an altitude of 9,000' above mean terrain, to yield a raw pixel resolution of 1' (.30 m) suitable for photogrammetric mapping and orthophoto production. The 'leaf condition' was not a concern but imagery was collected in the summer of 2012 under conditions free from flooding and excessive soil moisture. Within populated areas, no more than 5% clouds, cloud shadows, smoke, and haze are permitted. In the uninhabited areas of the islands 10% of clouds, cloud shadows, smoke, and haze may exist. There is no tide coordination. The sun angle threshold was 30 degrees. To ensure complete coverage, photography was collected for all tiles that intersected the islands of American Samoa (Tutuila, Aunnu'u, Ofu, Olosega, and Ta'u). Orthoimages were visually inspected for completeness to ensure that no gaps or image misplacements exist within and between adjacent images. | Source Produced: Raw Aerial Imagery
- 2012-01-01 00:00:00 - Imagery and AGPS/IMU data is downloaded from the hard drive on the plane to the hard drive on the ground. AGPS/IMU mission data is processed together with continuously collected ground-based CORS GPS base station data in forward and reverse directions. This precisely determines the aerial camera's position and orientation in the terrain (project) coordinate system and allows for correct orientation of the imagery. | Source Produced: Exterior Orientation File
- 2012-01-01 00:00:00 - The EOFFILE, raw frames, and control points were input into ISAT in order to complete the SoftCopy Aerotriangulation, described in ATSOL source contribution, and assembled into a block. A second degree block adjustment is run along with the full least squares bundle adjustment. Once the last set of blunders and adjustments are complete, a final block bundle adjustment is run to produce the final solution. The final adjustment of the block is accomplished by using a rigorous simultaneous least squares bundle adjustment. The general procedure is to remove all blunders from the data using automatic blunder detection. The bundle adjustment is then run with minimal ground control to test the photogrammetric measurements for consistency. Next, the full ground control data set, including ABGPS data, is added to the adjustment. The horizontal control is then tightened and the effect on the vertical control and the photogrammetric

residuals are inspected. The final adjustment makes sure that all of the measurements are in balance with each other and properly represent the actual conditions. | Source Produced: Stereo Imagery (Citation: Raw Aerial Imagery) - 2012-01-01 00:00:00 - The rectification process required as input a digital elevation model (LiDAR_DEM), imagery (IMG1) and soft copy aerotriangulation solution (ATSOL). The orthorectified imagery was produced using Intergraph Orthopro software. It used ImageStation Photogrammetric Manager (ISPM) for photogrammetry project setup, file management, and importing triangulation data from a user defined ASCII file (ATSOL). The ortho project records all the operations, including all the parameters that are defined through the OrthoPro workflow, such as the project area coordinates, pixel size, rotation angle, ISPM project and its unorthorectified source images, product areas (TLDEF) orthorectification settings, seamlines and so on. The results are single frame images that have yet to be mosaicked into manageable tiled orthos. The single frame orthos were checked for accuracy against the surveyed ground control before further image editing. - 2012-01-01 00:00:00 - Orthorectified imagery was mosaicked, locally color-balanced and cut to the tile definition boundaries (TLDEF) using Intergraph Orthopro software. Tiled orthophotos then went through a rigorous manual QC process to evaluate for remaining hotspots (sun reflectance over water), tone quality, color balance and the feathering area along seamlines. Any imperfections at this point were manually edited. Clouds and cloud shadows were attempted to be minimized by using alternate views from adjoining frames. The tiled images were then converted to the required file format (GeoTIFF) and transferred to external hard drives for delivery to USGS. | Source Produced: Tiled Orthophoto

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
- 7.4. 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/49496>

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:**

<https://coast.noaa.gov/dataviewer>. This data set is dynamically generated based on user-specified parameters.;

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.