

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:**

2005/2006 Southwest Florida Water Management District (SWFWMD) Lidar: Peace River South (including Carter Creek)

1.2. Summary description of the data:

The Light Detection and Ranging (LiDAR) LAS dataset is a survey of select areas within Southwest Florida. These data

were produced for the Southwest Florida Water Management District (SWFWMD). Two SWFWMD datasets are included in this metadata

record; they are Peace River South and Carter Creek. The Carter Creek portion of this data is a small data set in the

northwestern part of Highlands County, which has been appended to the larger data set of Peace River South for ease of use

within the NOAA Office for Coastal Management (OCM) Lidar Data Retrieval Tool (LDART). Information that is specific to each data set

has been maintained.

PEACE RIVER SOUTH

The Peace River South LiDAR (P692) Survey project area consists of approximately 1,801 square miles and covers

Hardee and DeSoto Counties and portions of Highlands and Charlotte Counties. The LiDAR point cloud was flown at a density

sufficient to support a maximum final post spacing of 6 feet for unobscured areas. 3001 inc. acquired 445 flightlines between

February 11, 2005 and April 14, 2005. The data was divided into 5000' by 5000' foot cells that serve as the tiling scheme. The

Peace River South LiDAR Survey was collected under the guidance of a Professional Mapper/Surveyor.

CARTER CREEK

The Carter Creek LiDAR Survey project area consists of approximately 26 square miles and is located in northwestern

Highlands County. The LiDAR point cloud was flown at a density sufficient to support a maximum final post spacing of 4 feet for

unobscured areas. 3001 Inc. acquired 60 flightlines between February 6, 2006 and February 7, 2006. The data was divided into

5000' by 5000' foot cells that serve as the tiling scheme. The Carter Creek LiDAR Survey was collected under the guidance of a

Professional Mapper/Surveyor.

Original contact information:

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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:

2005-02-11 to 2006-02-07

1.5. Actual or planned geographic coverage of the data:

W: -82.095741, E: -81.370853, N: 27.648729, S: 26.768404

1.6. Type(s) of data:

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

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:

- 2005-01-01 00:00:00 - The ABGPS, inertial measurement unit (IMU), and raw scans are collected during the LiDAR aerial survey. The ABGPS monitors the xyz position of the sensor and the IMU monitors the orientation. During the aerial survey laser

pulses reflected from features on the ground surface are detected by the receiver optics and collected by the data logger. GPS locations are based on data collected by receivers on the aircraft and base stations on the ground. The ground base stations are placed no more than 35 km radius from the flight survey area. Process date for Carter Creek is 2006.

- 2005-01-01 00:00:00 - The ABGPS, IMU, and raw scans are integrated using proprietary software developed by the Leica Geosystems and delivered with the Leica ALS50 System. The resultant file is in a LAS binary file format. The LAS file version 1.0 format can be easily transferred from one file format to another. It is a binary file format that maintains information specific to the LiDAR data (return#, intensity value, xyz, etc.). The resultant points are produced in the State Plane Florida West coordinate system, with units in feet and referenced to the NAD83 horizontal datum and NAVD88 vertical datum. Process date for Carter Creek is 20060726.

- 2005-01-01 00:00:00 - The unedited data are classified to facilitate the application of the appropriate feature extraction filters. A combination of proprietary filters is applied as appropriate for the production of bare earth digital terrain models (DTMs). Interactive editing methods are applied to those areas where it is inappropriate or impossible to use the feature extraction filters, based upon the design criteria and/or limitations of the relevant filters. These same feature extraction filters are used to produce elevation height surfaces. Process date for Carter Creek is 20060802.

- 2006-01-01 00:00:00 - Filtered and edited data are subjected to rigorous QA/QC according to the 3001 Inc. Quality Control Plan and procedures. Very briefly, a series of quantitative and visual procedures are employed to validate the accuracy and consistency of the filtered and edited data. Ground control is established by 3001, Inc. and GPS-derived ground control points (GCPs) points in various areas of dominant and prescribed land cover. These points are coded according to land cover, surface material and ground control suitability. A suitable number of points are selected for calculation of a statistically significant accuracy assessment as per the requirements of the National Standard for Spatial Data Accuracy. A spatial proximity analysis is used to select edited lidar data points within a specified distance of the relevant GCPs. A search radius decision rule is applied with consideration of terrain complexity, cumulative error and adequate sample size. Accuracy validation and evaluation is accomplished using proprietary software to apply relevant statistical routines for calculation of Root Mean Square Error (RMSE) and the National Standard for Spatial Data Accuracy (NSSDA) according to Federal Geographic Data Committee (FGDC) specifications. Process date for Carter Creek is 20060807-20060914. Processing for Peace River South is 2005/2006.

- 2006-01-01 00:00:00 - The LiDAR mass points were delivered in American Society for Photogrammetry and Remote Sensing LAS 1.0 format. The header file for each dataset is complete as define by the LAS 1.0 specification. In addition the following fields are included: Flight Date Julian, Year, and Class. The LAS files do not include overlap. The data was classified as follows: Class 1 = Unclassified. This class

includes vegetation, buildings, noise etc. Class 2 = Ground Class 3 = Water The datasets were delivered in the Districts standard 5000' by 5000' tiling scheme. The tiles are contiguous and do not overlap. The tiles are suitable for seamless topographic data mosaics that include no "no data" areas. The names of the tiles are left padded with zeros as required to achieve a five character length and all files utilize the LAS file extension. The South Peace LiDAR Survey was filtered and edited using LiDAR profiles, aerial imagery, and stereo pairs that were created from LiDAR intensity images. The South Peace LiDAR datasets have gone through extensive QC procedures by 3001 and the Southwest Florida Water Management District. During the QC, 3001 used the following principals to guide their filtering, editing, and QC decisions: All of the data sets were reviewed and the breaklines were created using stereo pairs that were generated from the GeoCue LiDARgrammetry software. In addition, imagery was used during the editing / and breakline creation processes and during the final review of the data sets. If the imagery and the LiDAR did not agree, 3001 used the LiDAR profiles as a guide in areas where the profiles were adequate. In areas where the point density was not sufficient enough to use as a guide, 3001 relied on the imagery and created obstruction polygons. If an area changed between the Imagery acquisition and the LiDAR acquisition, 3001 followed the LiDAR as a guide. 3001 used the LiDAR and the imagery to create breaklines. In some instances, the breaklines do not reflect the imagery due to a significant amount of rain during acquisition. The following paragraph is from the South Peace metadata. "There was significant rain fall during the acquisition of the South Peace LiDAR survey. According to the gage at the USGS 02295637 Peace River at Zolfo Springs Florida, the gage height went from approximately 14.3 feet to 17.3 feet between February 28, 2005 and March 2, 2005. Between March 2, 2005 and March 4, 2005 the gage fell to about 15.1 feet. The changes in the channel are evident in the breaklines. In some areas there are sudden changes in the size of the channel as well as the elevation of the breaklines. Due to the inconsistencies in the channel we have created obscured polygons around the affected channels." In areas of dense vegetation the bare-earth surface may appear rough in nature. This is due to the scarcity of points in the area or the uneven nature of the ground. Quality Control Procedures were performed by different people and using different methods during the project. Due to this, there may be different interpretations of the bare-earth surface in areas of dense vegetation. The main difference in the surfaces is the amount of points that each editor removed from the profile to represent the ground. This does not mean that either editor was incorrect in their calculations; it means that some editors were able to describe the surface with less points. The process date for Peace River South is 2005/2006. The process date for Carter Creek for this step is 20060921.

- 2008-01-25 00:00:00 - The NOAA Office for Coastal Management (OCM) received the files in LAS format. The files contained Lidar intensity and elevation measurements. The data was in Florida State Plane Projection and NAVD88 vertical datum. OCM performed the following processing to the data to make it available within the LDART Retrieval Tool (LDART): 1. The data were converted from Florida State Plane

West coordinates to geographic coordinates. 2. The data were converted from NAVD88 (orthometric) heights to GRS80 (ellipsoid) heights using Geoid 99. 3. The LAS data were sorted by latitude and the headers were updated.

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:

- 1.6. Type(s) of data
- 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/50026>

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/dataviewer/#/lidar/search/where:ID=77>

<https://noaa-nos-coastal-lidar-pds.s3.amazonaws.com/laz/geoid18/77/index.html>

7.3. Data access methods or services offered:

This data can be obtained on-line at the following URL: <https://coast.noaa.gov/dataviewer;>

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.