

*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:**

2019 USACE NCMP Phase One Natural Color 8 Bit Imagery: Lake Superior, MI

**1.2. Summary description of the data:**

The mosaic image contained in this file is comprised of multiple true color (RGB) images that were collected by the Coastal Zone Mapping and Imaging Lidar (CZMIL) system along the shoreline of Michigan. CZMIL integrates a lidar sensor with topographic and bathymetric capabilities, a Phase One IXM- RS150F Digital camera, and a Itres' CASI-1500 hyperspectral imager on a single remote sensing platform for use in coastal mapping and charting activities. The PhaseOne camera imagery was collected at an altitude of 400m with a ground swath of 400m and delivered with a resolution of 5cm ground sample distance (GSD). Native PhaseOne imagery data is not generally in a format accessible to most Geographic Information Systems (GIS). Specialized in-house and commercial software packages process the imagery data into GIS-compatible products for visualization and further analysis. Horizontal positions, projected in Universal Transverse Mercator (UTM), are referenced to the North American Datum of 1983 (NAD83 2011). Vertical positions are referenced to the NAD83 ellipsoid. Individual image frames have been rectified and mosaicked into blocks commensurate with the collection blocks. Delivered data has been clipped to boundaries of Military Grid Reference System (MGRS). The data file naming convention is based on the year, project, area name, clip boundary, and product type. These file have been separated and delivered by JALBTCX collection blocks. An example file name is "2019\_NCMP\_MI\_Superior\_16TES6365\_RGB.tif", where 2019 is the year of data collection, NCMP\_MI is the Effort under which data were collected, Superior is the area of data collection, the associated MGRS grid, and "RGB" is the product type. In rare cases file names may include whether data was collected at a nominal range of high tide (HT) or low tide (LT). The supplementary files are of the same name.

**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:**

2019-07-13 to 2019-07-26

**1.5. Actual or planned geographic coverage of the data:**

W: -86.196, E: -84.262, N: 46.809, S: 46.319

**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:**

- 2020-01-01 00:00:00 - These data were collected using a PhaseOne iXU1000RS Digital Camera owned Teledyne Optech and on loan to the USACE Army Corps of Engineers Joint Airborne Lidar Bathymetry Technical Center of eXpertise (JALBTCX) and operated through contract with Woolpert, INC. The PhaseOne is a high quality, 100MP digital frame camera. All raw data streams were transferred to the office for downloading and processing. PhaseOne's COPE software was used to develop and in some cases color-balance the raw data into unrectified true color TIFF format images. All image timing, position and rotational information was stored in Exterior Orientation (EO) file. The EO file along with the developed JPG or TIFF images and CZMIL Lidar based DEM were ingested into SimActive Correlator 3D. " SimActive's Correlator3D™ software is a patented end-to-end photogrammetry solution for the generation of high-quality geospatial data from satellite and aerial imagery, including UAVs. Correlator3D™ performs aerial triangulation (AT) and produces dense digital surface models (DSM), digital terrain models (DTM), point clouds, orthomosaics and vectorized 3D features. Powered by GPU technology and multi-core CPUs, Correlator3D™ ensures matchless processing power to support rapid production of large datasets." Correlator 3D uses computer vision algorithms to refine the positional and rotational information of each frame relative to the surrounding frames. The result is a seamless, accurate, color balanced and tiled image mosaic. Tiles were generated from MGRS grids. The final mosaics were QA/QC ArcMAP with ground control points where available.

**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):**

These data have been developed from the best available sources. Although efforts have been made to ensure that the data are accurate and reliable, errors and variable conditions originating from physical sources used to develop the data may be reflected

in the data supplied. Users must be aware of these conditions and bear responsibility for the appropriate use of the information with respect to possible errors, scale, resolution, rectification, positional accuracy, development methodology, time period, environmental and climatic conditions and other circumstances specific to these data. The user is responsible for understanding the accuracy limitations of the data provided herein. The burden for determining fitness for use lies entirely with the user. The user should refer to the accompanying metadata notes for a description of the data and data development procedures.

## 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
- 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/65194>

### 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](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/#/imagery/search/where:ID=9348>

[https://coastalimagery.blob.core.windows.net/digitalcoast/LakeSuperiorMI\\_RGB\\_2019\\_9348/index.html](https://coastalimagery.blob.core.windows.net/digitalcoast/LakeSuperiorMI_RGB_2019_9348/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.*