

*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:**

National Geospatial Data Asset (NGDA) Continuously Operating Reference Stations (CORS)

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

The National Geodetic Survey (NGS), an office of NOAA's National Ocean Service, manages a network of Continuously Operating Reference Stations (CORS) that provide Global Navigation Satellite System (GNSS) data consisting of carrier phase and code range measurements in support of three dimensional positioning, meteorology, space weather, and geophysical applications throughout the United States, its territories, and a few foreign countries.

Surveyors, GIS users, engineers, scientists, and the public at large that collect GPS or GNSS data can use CORS data to improve the precision of their positions. CORS enhanced post-processed coordinates approach a few centimeters relative to the National Spatial Reference System, both horizontally and vertically.

The CORS network is a multi-purpose cooperative endeavor involving government, academic, and private organizations. The sites are independently owned and operated. Each agency shares their data with NGS, and NGS in turn analyzes and distributes the data free of charge. As of August 2018, the CORS network provides data from more than 2,000 active sites. CORS data holdings to include decommissioned stations, comes to a total of 2,718 sites. These sites are contributed by over 230 different organizations, and the network continues to expand.

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

Ongoing series of measurements

### **1.4. Actual or planned temporal coverage of the data:**

1994-04-21 to Present

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

W: -180, E: 180, N: 90, S: -90

### **1.6. Type(s) of data:**

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

**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.)*

Instrument: Global Positioning System

Platform: Global Positioning System

Physical Collection / Fishing Gear: Global Positioning System

**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:**

NGS Communications and Outreach Branch

**2.2. Title:**

Metadata Contact

**2.3. Affiliation or facility:**

NGS Communications and Outreach Branch

**2.4. E-mail address:**

ngs.infocenter@noaa.gov

**2.5. Phone number:**

(301) 713-3242

**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?**

Yes

**4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):**

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):*

Lineage Statement:

CORS data is processed at an hourly or daily cadence, dependent a particular stations' retrieval frequency. Hourly data is deleted one day after daily file is created.

Process Steps:

- GPS or GNSS data that are received in either binary or Receiver INdependent EXchange (RINEX) format, and are processed by NGS into a compressed daily RINEX formatted file. Other files made available include navigation/ephemeris, station logs, NGS coordinates and may include other observations, such as meteorological files.
- RINEX data is posted online at the at-sampling rate for a period of 30 days, at both NGS CORS facilities.
- At-sampling daily RINEX data is concurrently staged at NCEI for archive.
- After 30 days, CORS at-sampling daily RINEX data (when available) is archived.
- After 30 days, NGS online daily RINEX data are decimated to a 30-second sampling rate.

**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):**

NGS defines thresholds during processing.

**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:

- 3.1. Responsible Party for Data Management

**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/39662>

**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?**

Yes

**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:**

NGS Communications and Outreach Branch

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

**7.2.2. URL of data access service, if known:**

<https://geodesy.noaa.gov/CORS/data.shtml>

**7.3. Data access methods or services offered:**

<https://www.ngs.noaa.gov/CORS/>

<https://geodesy.noaa.gov/CORS/>

ftp://geodesy.noaa.gov/cors/

https://alt.ngs.noaa.gov/CORS

ftp://alt.ngs.noaa.gov/cors/

https://geodesy.noaa.gov/UFCORS/

https://www.ngs.noaa.gov/CORS/standard1.shtml

#### **7.4. Approximate delay between data collection and dissemination:**

30 days for RINEX

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

NGS makes every effort to archive missing data.

### **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)*

NCEI-CO

##### **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):**

National Geodetic Survey - Silver Spring, MD

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

30 days for RINEX

#### **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*

NGS CORS dataset is ingested at two geographically separate and independent facilities, providing Continuity of Operations (COOP). RINEX data is held and staged at the National Centers for Environmental Information (NCEI) for 30 days. NGS is allowed to make changes to that data holding at NCEI within the 30 day window. NCEI transfers data for archive to NOAA's Comprehensive Large Array-data Stewardship System (CLASS) after the 30 day period. NGS is the authority on the CORS data set, and can replace or remove archived files at its discretion.

**9. Additional Line Office or Staff Office Questions**

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