

*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:**

Water temperature data from Subsurface Temperature Recorders (STRs) deployed at coral reef sites in Timor-Leste from 2012 to 2014

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

Water temperature data were collected by the NOAA Coral Reef Ecosystem Program (CREP) using subsurface temperature recorders (STRs) deployed at fixed climate survey sites located on hard bottom shallow water (< 30 m) habitats in Timor-Leste. Climate sites were established by CREP to establish ecological baselines for climate change by measuring multiple features of the coral reef environment (in addition to the data described herein) over time.

These STRs or high-accuracy temperature loggers made by SeaBird Electronics (SBE) were deployed on the reef for a period of 2 years from October 2012 to October 2014, and the sample interval was set to one hour.

STRs aid in the monitoring of seawater temperature variability. These water temperature time series data for Timor-Leste, along with other data collected at the climate survey sites (water chemistry, calcification rates, invertebrate biodiversity, and benthic cover, all archived separately), can be used to help scientists assess and understand how coral reefs are responding to thermal stress that can lead to coral bleaching. The temperature data can be accessed online via the NOAA National Centers for Environmental Information (NCEI) Ocean Archive.

### **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:**

2012-10-15 to 2014-10-08

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

W: 125.013243, E: 127.312221, N: -8.224317, S: -8.853261

Extent of climate survey sites in Timor-Leste.

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

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

Annette M DesRochers

**2.2. Title:**

Metadata Contact

**2.3. Affiliation or facility:****2.4. E-mail address:**

annette.desrochers@noaa.gov

**2.5. Phone number:**

(808)725-5461

**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:**

Thomas Oliver

**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:

Water temperature data are collected using high-accuracy subsurface temperature recorders (STRs) made by SeaBird Electronics (model SBE 39). STRs were deployed on the reef for a period of 2 years at depths ranging from 4-25m at climate sites in Timor-Leste. At a few sites, multiple STRs were deployed along a depth transect (shallow, mid, and deep water depth between 4 and 25 m).

Process Steps:

- STRs are attached to a weighted mounting bracket and then strapped to solid substrate (attached dead coral or rock) at the benthos using cable ties by SCUBA divers. A GPS point is taken at the surface float which is positioned directly above the instrument during the dive. The depth of the instrument is taken by photographing a diver depth gauge next to the serial number of the instrument after installation.
- Upon recovery, a second waypoint and depth are taken in the same manner as the deployment before cutting the instrument free.
- Data are downloaded using the SeaBird SeaTerm program (saved as .ASC), and then post-processed using MATLAB (saved as .CDP). Data from when the instrument was turned on but not yet deployed were removed, and data from the period between removal and data download were also removed.
- Processed data files (.CDP), once quality controlled, are migrated into the PIFSC Oracle database by the CREP data management team. Data exports are provided via database views (saved queries) in a text-based format.

**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):**

The data is quality controlled by CREP personnel after the data is downloaded from the instrument, and again by CREP data management when the data are migrated to the Oracle database.

**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)

**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/46164>

**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:**

National Centers for Environmental Information - Silver Spring, Maryland (NCEI-MD)

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

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

<http://accession.nodc.noaa.gov/0168931>

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

Data can be accessed online via the NOAA National Centers for Environmental Information (NCEI) Ocean Archive.

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

Unknown

**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)*

NCEI\_MD

**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):**

Pacific Islands Fisheries Science Center - Honolulu, HI

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

Unknown

**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*

The data is captured in several locations: files stored on a laptop and backed up to an external drive by the user during the mission, and on the PIFSC network post mission before the data are imported into the PIFSC Oracle database. The PIFSC network and Oracle database are maintained and regularly backed up by PIFSC ITS.

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

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