

*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:**

Nutrient and water chemistry data of Aua Reef in American Samoa from samples collected along a water quality gradient between 2022-09-13 to 2022-09-23

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

The data described here are from water samples collected during NOAA Pacific Islands Fisheries Science Center (PIFSC), Ecosystem Sciences Division (ESD) led fly-in Mission to Aua, American Samoa from September 8-29, 2022. Five seawater samples were collected at each site, with a total of 18 sites established across a locally known water quality gradient. The seawater samples were processed in the field, then sent to the University of Hawaii at Manoa's SOEST S-Lab to be analyzed for water chemistry and nutrients. This water quality and chemistry data includes chlorophyll-a, dissolved nitrogen, nitrate, nitrite ammonia, dissolved phosphorus, phosphate, silicate, total suspended solids, and seawater pH.

The analysis of water samples was one of several surveys conducted at the same sites across Aua reef in September 2022. Other surveys are described separately and accessible under 'Related Items' and include surveys of coral demography, benthic imagery/benthic cover, CTD casts, non-coral communities, and coral demography.

The project was funded by NOAA CRCP under project number 31303. Samples were collected by NOAA divers Bernardo Vargas-Angel, Joy Smith, and Juliette Verstaen.

**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:**

2022-09-13 to 2022-09-23

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

W: -170.669, E: -170.665, N: -14.2717, S: -14.2881

Water samples collected along water quality gradient near Aua village in Pago Pago harbour

**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:**

Lori H Luers

**2.2. Title:**

Metadata Contact

**2.3. Affiliation or facility:**

**2.4. E-mail address:**

lori.luers@noaa.gov

**2.5. Phone number:**

**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:**

Joy Smith

**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:

PIFSC Ecosystem Sciences Division (ESD) assembles water chemistry information from discrete seawater samples analyzed for pH. The carbonate system is influenced by seawater salinity, temperature, pressure, and the dissolved nutrients silicate (SiO<sub>4</sub><sup>4-</sup>) and phosphate (PO<sub>4</sub><sup>3-</sup>). All carbonate system collection and measurement methodologies follow the protocols accepted by the greater scientific community and outlined in Dicks et al. (2007). Sites were selected randomly along a water quality gradient established by local knowledge.

Process Steps:

- Water samples collected in the field and analyzed by SOEST.
- Discrete water samples are collected according to the established protocol. Borosilicate bottles were rinsed and filled from bottom, leaving a minimal amount of headspace while making sure no bubbles were introduced. Then 0.2 ml of saturated HgCl<sub>2</sub> solution was added.
- PIFSC ESD collects co-located salinity, temperature, and pressure values by deploying a CTD in concert with every discrete seawater sample collection. Salinity, temperature, and pressure values are used from the same depth as sample collection.
- Water samples were measured for pH using hand-held YSI that had been calibrated with buffers (pH 4, 7, 10).
- All data is archived with NCEI.

**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 NOAA PIFSC Ecosystem Sciences Division (ESD) personnel after the data is downloaded from the instruments, prior to and after the data are migrated to the PIFSC enterprise Oracle database, and once again when the data are submitted to the NOAA National Centers for Environmental Information.

## 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/68095>

**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:**

NOAA National Centers for Environmental Information (NCEI)

**7.2.1. If data hosting service is needed, please indicate:****7.2.2. URL of data access service, if known:**

<https://accession.nodc.noaa.gov/0282182>

**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 the PIFSC network. The PIFSC network is 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.*