

OR Shelf Buoy (CB-06) Ocean Acidification Data

Please provide the following information and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

NANOOS DMP: <https://www.nanoos.org/documents/certification/DMP/2023/NANOOS-DMP.pdf>

The primary data product of this effort is the in situ, surface-ocean suite of measurements associated with the M_{Ap}CO₂ system, which include the xCO₂ of sea-equilibrated air, sea surface temperature and salinity, air pressure, and, with ancillary sensors, sea surface pH, O₂, and chlorophyll fluorescence. These systems are maintained and delivered by Dr. Adrienne Sutton's team at NOAA-PMEL, and their data are broadcast in near-real-time via satellite telemetry to PMEL. The PMEL team recovers the stored data upon receipt of the instruments following deployment, QC's the delayed-mode data, archives the data at NCEI, and incorporates the data into data products.

Dr. Sutton's data management plan is described in *Sustained Ocean Acidification Data Management, Quality Control, Access, and Products* project (Co-Is: Sutton, Alin, Cross) in PMEL's FY2021–FY2023 NOAA Ocean Acidification Observing Network Sustained Investment Workplan. The data access policy is described at www.pmel.noaa.gov/co2/story/Buoys+and+Autonomous+Systems. Hales has access to the near real-time data on the PMEL servers, but does not perform any further data QA/QC or dissemination.

1. General Description of Data to be Managed

1.1. Name of the Data, data collection Project, or data-producing Program:

PMEL Carbon Program

1.2. Summary description of the data:

In situ sea-surface suite of measurements associated with the M_{Ap}CO₂ system, which include the xCO₂ of sea-equilibrated air, xCO₂ of air, sea surface temperature and salinity, air pressure, and, with ancillary sensors, seasurface pH, O₂, and chlorophyll fluorescence. Data are recorded as time-series, with measurements collected every three hours.

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

Ongoing

1.4. Actual or planned temporal coverage of the data:

Persistent time-series monitoring, as sea conditions, vessel and instrument availability allow.

1.5. Actual or planned geographic coverage of the data:

Fixed location, 6 nautical miles W of Cape Arago, location 43° 18' N, 124° 32' W.

1.6. Type(s) of data:

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

Digital numeric data. Flat files of t, a(t), b(t), c(t), d(t)...

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.)

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Moored buoy

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: Adrienne Sutton

2.2. Title: Oceanographer

2.3. Affiliation or facility: NOAA-PMEL

2.4. E-mail address: adrienne.sutton@noaa.gov

2.5. Phone number: (206) 526-6879

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: Adrienne Sutton

3.2. Position Title: Oceanographer

3.3. Name of current Position holder:

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"): 20%

5. Data Lineage and Quality

NOAA has issued Information Quality Guidelines¹ 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*):

Sustained Ocean Acidification Data Management, Quality Control, Access, and Products project (Co-Is: Sutton, Alin, Cross) in PMEL's FY2021–FY2023 NOAA Ocean Acidification Observing Network Sustained Investment Workplan

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: N/A

5.2. Quality control procedures employed (*describe or provide URL of description*):

Sustained Ocean Acidification Data Management, Quality Control, Access, and Products project (Co-Is: Sutton, Alin, Cross) in PMEL's FY2021–FY2023 NOAA Ocean Acidification Observing Network Sustained Investment Workplan, also see Sutton et al. 2014 (doi.org/10.5194/essd-6-353-2014) and 2016 (doi.org/10.5194/bg-13-5065-2016)

¹ http://www.cio.noaa.gov/services_programs/IQ_Guidelines_030414.html

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6. Data Documentation

The EDMC Data Documentation Procedural Directive² 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? Yes

6.1.1. If metadata are non-existent or non-compliant, please explain:

6.2. Name of organization or facility providing metadata hosting: PMEL Carbon Group

6.2.1. If service is needed for metadata hosting, please indicate: No

6.3. URL of metadata folder or data catalog, if known:

www.ncei.noaa.gov/data/oceans/ncei/ocads/metadata/0190840.html

6.4. Process for producing and maintaining metadata (*describe or provide URL of description*):

Sustained Ocean Acidification Data Management, Quality Control, Access, and Products project (Co-Is: Sutton, Alin, Cross) in PMEL's FY2021–FY2023 NOAA Ocean Acidification Observing Network Sustained Investment Workplan

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 Directive³ 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? N/A

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure: N/A

7.2. Name of organization of facility providing data access: PMEL Carbon Group and NANOOS

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

7.2.2. URL of data access service, if known:

www.pmel.noaa.gov/co2/story/Buoys+and+Autonomous+Systems

<https://nvs.nanoos.org/Explorer?snapshot=d0e90aecba25e4de27c9040649d32>

7.3. Data access methods or services offered:

7.4. Approximate delay between data collection and dissemination:

None, for near-real time data. Within 1-year for QA/QC products.

² <https://www.nosc.noaa.gov/EDMC/PD.DD.php>

³ Data Access Directive currently in review; URL to be added.

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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 NODC, NCDC, NGDC, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

www.ncei.noaa.gov/access/ocean-carbon-acidification-data-system/oceans/Moorings/CB-06_125W_43N.html

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):

www.pmel.noaa.gov/co2/story/Buoys+and+Autonomous+Systems

8.3. Approximate delay between data collection and submission to an archive facility: Same as 7.4

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:

Redundant archival in offline storage at NOAA-PMEL and NCEI

9. Additional Line Office or Staff Office Questions

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