

*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:**

Guam coral - Bomb radiocarbon record (1939-2000)

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

High-resolution radiocarbon ( $^{14}\text{C}$ ) analyses on a coral core extracted from Guam, a western tropical Pacific island, revealed a series of early bomb-produced  $^{14}\text{C}$  spikes. The typical marine bomb  $^{14}\text{C}$  signal—phase lagged and attenuated relative to atmospheric records—is present in the coral and is consistent with other regional coral records. However,  $^{14}\text{C}$  levels well above what can be attributed to air-sea diffusion alone punctuate this pattern. This anomaly was observed in other Indo-Pacific coral records, but the Guam record is unmatched in magnitude and temporal resolution. The Guam coral  $\delta^{14}\text{C}$  record provided three spikes in 1954–55, 1956–57, and 1958–59 that are superimposed on a normal  $^{14}\text{C}$  record. Relative to mean pre-bomb levels, the first peak rises an incredible  $\sim 700\text{‰}$  and remained elevated for  $\sim 1.2$  years. A follow up assay with finer resolution increased the peak by  $\sim 300\text{‰}$ . Subsequent spikes were less intense with a rise of  $\sim 35\text{‰}$  and  $\sim 70\text{‰}$ . Each can be linked to thermonuclear testing in the Pacific Proving Grounds at Bikini and Enewetak atolls in Operations Castle (1954), Redwing (1956), and Hardtack I (1958). These  $^{14}\text{C}$  signals can be explained by vaporization of coral reef material in the nuclear fireball, coupled with neutron activation of atmospheric nitrogen ( $^{14}\text{C}$  production), and subsequent absorption of  $^{14}\text{CO}_2$  to form particulate carbonates of close-in fallout. The lag time in reaching Guam and other coral records abroad was tied to ocean surface currents and modeling provided validation of  $^{14}\text{C}$  arrival observations.

### **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:**

1939 to 2000

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

Guam, US Territory

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

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

**2.2. Title:**

Metadata Contact

**2.3. Affiliation or facility:**

**2.4. E-mail address:**

**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:**

**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:

See publication: Andrews, A.H., R. Asami, Y. Iryu, D.R. Kobayashi, and F. Camacho. 2016. Bomb-produced radiocarbon in the western tropical Pacific Ocean—Guam coral reveals operation-specific signals from the Pacific Proving Grounds. *Journal of Geophysical Research – Oceans* 121: 6351-6366 ([dx.doi.org/10.1002/2016JC012043](https://doi.org/10.1002/2016JC012043))

**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):

Further QC after data entry.

## 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)
- 2.1. Point of Contact Name
- 2.4. Point of Contact Email
- 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/36758>

#### 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?

No

##### 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?

No

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

NA

#### 7.2. Name of organization of facility providing data access:

Pacific Islands Fisheries Science Center (PIFSC)

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

NCDC

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

<https://www.ncdc.noaa.gov/paleo/study/20346>

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

NA

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

None

##### 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)*

OTHER

**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:**

None

**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*

PIFSC ITS performs scheduled back-ups.

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

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