

DATA MANAGEMENT PLAN

The majority of the data produced during the course of this project will be geochemical analyses/data. The geochemical data (units) for isotopic measurements will be $\delta^{13}\text{C}$ (‰ VPDB), $\delta^{15}\text{N}$ (‰, air), $F^{14}\text{C}/14\text{C}$ (‰, conventional radiocarbon age). Elemental data will be normalized to calcium or a derivative (e.g., P/Ca, Li/Ca, Mg/Ca, Li/Mg) as well as absolute weight percent and amino acid mole percent.

Each coral-based geochemical data point will have associated with it a radial distance within the coral sample and, where appropriate, an estimated age. Sample descriptors (meta-data) will include latitude, longitude, depth and data.

PI-level and student data will be backed up to physically distinct media: e.g., hard drive, DVD, and cloud back-up services. UCSC's Light Isotope Facility has a routine back-up for all instrumental derived data.

To assure broad-based dissemination of the results and accessibility to final data the data-management plan utilizes complementary mechanisms for archival of results. The first mechanism is to include relevant data-tables in the peer-reviewed published results. Such data-tables may be part of the journal article or as a supplement (electronic or otherwise). The second mechanism is to archive the data in a public repository. Such data repositories provide a mechanism for public sharing of the data, and long-term storage oversight. NOAA's (NCEI) World Data Center for Paleoclimatology (National Climatic Data Center) provides a mechanism to archive and share the metadata and the stable isotope, minor element, and radiocarbon data produced in this study. Other databases in use, or coming through the pipeline that may be available for data archiving include the European PANGEA and NSF's implementation of Earth Cube.

The final mode of archival is through the GSR's PhD dissertation. All data including images (SEM or otherwise) will be part of the dissertation appendix. The dissertation, in addition to being available through the UCSC library, will be digitally filed with ProQuest/UMI.

Data will be released in accordance with NSF policy and timelines.