

## Data Management Plan

### Data, metadata, backup, data access, and archiving

In this project, data will be generated based on the analyses of 42 coral cores from the Bermuda coral reef platform. Coral density, extension and calcification rates will be reported in conjunction with geochemical analyses of  $^{18}\text{O}$ ,  $^{13}\text{C}$ , Ca, Sr, Cd, Mg, Ba, and U. The data retrieved from CT scans, isotope, and trace metal analyses are automatically stored as electronic files locally. We will ensure to consolidate these datasets as soon as possible under a given project folder that is backed up on a daily basis. Computers are backed up daily to local or external servers. As an additional backup, project specific data will be stored to a shared Dropbox account, which will allow for easy sharing and joint data analyses between the project participants. Laboratory notebooks and information pertaining to the design and application of the instrumentation and experiments will be secured in the PI's office or laboratory. Any detailed laboratory methods and computer codes will additionally be digitized and backed up to the local or external servers to consistently manage the data processing for this project. If requested, access to the raw, unprocessed, data records will be provided at any time of the project. Following rigorous quality assurance (QA) and quality control (QC), data will be analyzed and results shared in journals and at conferences. Relevant datasets collected as part of this project are intended to be submitted to and archived with the Biological and Chemical Oceanography Data Management Office (BCO- DMO). The data that we anticipate to submit to BCO-DMO are summarized in Tables 1-3.

Overall, we will do our best to adhere to the data management policies of the NSF Division of Ocean Sciences, and to practice data sharing consistent with University of California, UC San Diego, and research partners' policies governing intellectual property, copyright and the dissemination of research products.

**Table 1. Overview data**

Core #	Coral species	Site name	Lat/Long	Depth (m)	Date of collection	Length (cm)	No. of Growth bands	Period (19XX-2016)	Comments
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**Table 2. CT scan data**

Core #	Depth of collection	Time interval of growth	Extension ( $\text{cm yr}^{-1}$ )	Density ( $\text{g cm}^{-3}$ )	Calcification rate ( $\text{g cm}^{-2}$ )	Raw CT density (Hounsfield units)	Comments
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**Table 3. Geochemical data**

Core #	Depth of collection	Time interval of growth	$^{18}\text{O}$ (per mille)	$^{13}\text{C}$ (per mille)	Ca	Sr	Cd	Mg	Ba	U	Comments
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