## Data Management Plan

The proposed work will be performed by researchers from the Florida Institute of Technology and the Scripps Institution of Oceanography. The PIs have previously collaborated on oceanographic and biological experimentation and data analysis. The principal data products will consist of two classes of information: (1) time series of temperature, salinity, density, and light and nutrient fields at multiple sites in Pacific Panamá; and (2) results from coring and biological sampling, which will consist of data on the species composition and taphonomic condition of coral assemblages; and radioisotope, stable-isotope and other geochemical data derived from the reef-cores and the living reef communities. Data and oceanographic results will be analyzed using MATLAB® software, and ecological, paleoecological, and geochemical data will be analyzed with the statistical packages SPSS® and R.

Data sharing will comply with all NSF and OCE policies. All raw and processed data will be made available for access and sharing and will be deposited in an approved permanent repository as soon as reasonably possible and not later than two years after collection. Following NSF guidelines, all data will be deposited with the Biological and Chemical Oceanography Data Management Office (BCO−DMO; www.bcodmo.org/) as a permanent repository. The PIs are familiar with the data reporting and inventory methods associated with BCO−DMO and will contact their project office to discuss the best way of integrating data with their reporting system. Oceanographic time series and hydrographic data will also be deposited with and shared via the National Ocean Data Center (NODC; www.nodc.noaa.gov/). Paleoclimatological data will be deposited with and shared through NOAA's Paleoclimatology database (www.ncdc.noaa.gov/paleo/).

During field work all electronic data will be preserved on multiple on-site backups in the form of redundant hard drives. Following field work, the data will be copied to additional RAID hard-drive storage at Florida Tech, Scripps, and off-site backups. Original laboratory and field notebooks and information pertaining to the design and application of the instrumentation and experimental design will be secured by the PIs in their campus offices or laboratories. Scanned electronic copies of the laboratory and field notebooks will backed up as described above for other electronic data. If requested, access to the raw, unprocessed, data records will be provided via contact with the PIs. During Years 2 and 3, the data will be analyzed and results prepared for presentation and sharing in journals and at conferences.

This project will not involve the acquisition of either vertebrate or human-subjects data. The data acquired and preserved in the context of this proposal will be further governed by Florida Tech's and the University of California's policies pertaining to intellectual property, record retention, and data management, as referenced by the Florida Tech Faculty Handbook (www.fit.edu/registrar/faculty-handbook.php#policy_4362) and the California Digital Library (www.cdlib.org/services/uc3/datamanagement/).

We do not anticipate any significant intellectual-property issues involved with the acquisition of the data. In the event that discoveries or inventions are made in direct connection with these data, access to the data will be granted upon request once appropriate invention disclosures and/or provisional patent filings are made via Florida Tech (www.fit.edu/registrar/facultyhandbook.php#policy_4362) or the Technology Transfer Office of the University of California, San Diego (invent.ucsd.edu/faculty/policies.shtml).