DATA MANAGEMENT PLAN

1. Field Data

Data and metadata (Table 1) collected through this project will be published in a timely fashion through the Biological and Chemical Oceanography Data Management Office (BCO-DMO) located at the Woods Hole Oceanographic Institution (WHOI), compliant with the requirements of the Division of Ocean Sciences Data and Sample Policy.

Table 1. Summary of the data to be collected.

	Measurements	PI and Institution
Field carbonate system and oceanographic data (US)	• Bottle samples DIC, TA, pH, non-carbonate alkalinity and nutrients • Underway measurements of pCO_2, DIC, pH • Underway ADCP and CTD • Towed optical backscatter • Vertical profiles of CTD, DO, and turbidity • Particle samples SEM, XRD, BET and electron probe analysis, size-class analysis	Wang/Churchill/Wurgaft, Woods Hole Oceanographic Institution Dellapenna, Texas A&M University Galveston
Nuclei induced $CaCO_3$ precipitation (NICP) experiments	Dissolved phase analyses: • TA, DIC, pH, Ca^{2+}, Mg^{2+}, Sr^{2+} Particle samples: • XRD, surface area (BET), SEM, electron-probe analysis	Wang/Churchill/Wurgaft/Lazar WHOI and Hebrew University
Field carbonate system and oceanographic data (Israel)	Sediment trap: particle XRD, SEM, BET, electron probe Flashflood sampling: • Bottle samples DIC, TA, pH, non-carbonate alkalinity and nutrients • Vertical profiles of CTD, DO, and turbidity • Particle SEM, XRD, BET and electron probe analysis, size-class analysis	Lazar/ Wurgaft, Hebrew University

US side: Two 8-day cruises on a UNOLS coastal class vessel (R/V *Pelican* or similar) are planned, during which water-column biogeochemical and physical data will be collected (Table 1) near Galveston Bay, Texas and in the Mississippi and Sabine River Plumes. During each cruise, two-days of coordinated operations will be carried out near Galveston Bay from the R/V *Trident* of the Texas A&M University. The R/V *Trident* will also be used for a 1-day cruise to collect background measurement in the Galveston Bay study area and to test/refine the method for generating and tracking a discrete sediment plume. During the two 8-day research cruises, onboard experiments will be conducted to mimic NICP at the in-situ condition. We will utilize the pre-cruise planning of sampling strategies and the BCO-DMO guidance on best practices for cruise data management (e.g., generation of cruise reports and sampling event logs). Pre-planning for cruises will be done via teleconferencing and PI planning meetings. Detailed plans for cruise track, instrument deployment, water sampling strategy, water sample allocation, and onboard experiments will be written up as a science implementation plan. The actual sampling events will be recorded on paper logs (scanned into PDF documents) and in a digital event log.

Data collected from NICP laboratory experiments will also be stored electronically and in hardcopies. All electronic data acquired from shipboard instrumentation (ADCP, CTD and attached sensors) will be stored in the ship's onboard computer system and on at least two PCs of the scientific party with daily backup on USB flash-drives.

Israeli side: six single day cruises with the R/V *Sam Rothberg* of the Interuniversity Institute for Marine Sciences, Eilat (IUI) are planned during the first 2 years of the project and additional 3 days during the 3rd year. The cruises will be used to deploy and recover sediment traps about 3-4 time during a winter. During a flashflood event, we will attempt to conduct a cruise at the northern tip of the Gulf of Aqaba to sample water and suspended solids within the flood's plume. During a flashflood cruise we will conduct several vertical profiles across the plume (see table 1). For comparison we will also sample at nearby unaffected location. The pre-cruise planning of sampling strategies, recording and data storage will be identical to those described in the previous section.

The whole team (WHOI and HUJI) will participate during at least one of the USA and Israeli sampling campaigns. During this period we will hold also a workshop for discussing and interpreting all data collected by the team.

Metadata and data generated by the project will be submitted in a timely fashion to the BCO-DMO which will assist with quality control and documentation before making the data sets available online (http://bco-dmo.org/data/). BCO-DMO will also archive project data at the appropriate national data facilities, including the National Oceanographic Data Center (NODC) and Carbon Dioxide Information Analysis Center (CDIAC). In addition to meeting the BCO-DMO data standards, we will ensure that the recommendations of *Guide to Best Practices for Ocean CO_2 Measurements* (Dickson et al., 2007) for sample measurements, data quality analysis and control, and reporting practices specific to seawater carbonate chemistry (fCO_2/pCO_2, DIC, TA, and pH) will be met.

For both onboard and laboratory experiments of NICP, data will also be archived in BCO-DMO.

2. Model Data

The model data generated by this project will include the mass of $CaCO_3$ precipitated on suspended particles within cells of a hydrodynamic model as well as vertical and horizontal fluxes of carbon carried on particles. The data will be stored on Co-PI Churchill's work station hard drive, which is copied (backed-up) daily.