

# GCE-LTER MONITORING CRUISE PROTOCOL

DRAFT: 10 April 2002

**CHIEF SCIENTIST.** The Chief Scientist will be an experienced person with sea experience, at least a postdoc, senior technician or equivalent (not a grad student). The Chief Scientist is responsible for ALL cruise activities, not just their own program:

- **Pre-cruise.** Prepare cruise plan. Logistics including coordinating gear and personnel transport and loading, communication between sampling programs, communication with ship Captain and crew.
- **During cruise.** Responsible for day to day operations decisions, ensuring that sampling schedules are met, coordinating ship-board activities, final arbiter (with the Captain) for proposed changes to the cruise schedule. RESPONSIBLE FOR MAINTAINING CRUISE LOG.
- **Post-cruise.** Responsible for post-cruise logistics including off-loading, transportation of gear, samples and personnel. Will distribute copies of the CRUISE LOG (see below) within ONE WEEK of the end of the cruise. Will complete a CRUISE REPORT (see below) and submit to GCE-LTER data manager for posting on the web within ONE MONTH of the end of the cruise.

## QUARTERLY CRUISE PLAN TEMPLATE:

**Under Way.** Calibration samples of SPM/POCN and chlorophyll to be collected at selected sites or appropriate intervals as long as the SCS surface mapping system on the R/V SAVANNAH is running; SCS will generally be running and logging data as long as ship is under way or on station.

**LTER Quarterly Water Sampling Stations.** One sound, 3 GCE Quarterly stations per day, low and high water. Upstream, shallow water stations will be sampled from a small boat (equipped with another CTD), then samples are to be transferred to R/V SAVANNAH for processing. Low Water samples at Site 1 (Eulonia Dock) and possibly Site 4 (Meridian) and Site 10 (Hunt Camp) will be obtained from land.

- Routine samples are collected from surface and bottom water at each of the 10 GCE Quarterly Sites, except upstream/shallow water stations where only surface water is collected. GCE Quarterly Sites are located at CTD stations near the long-term Monitoring Sites.
- Routine samples (taken at every GCE Quarterly Site and depth) include: bacterioplankton abundance, bacterioplankton production, primary production (surface sample only), chlorophyll, SPM, POCN, dissolved organic and inorganic nutrients, DOC, carbonate system, CDOM, oxygen, temperature, salinity/conductivity and CTD vertical profiles (including OBS, PAR, chlorophyll fluorescence and DO).
- When possible, all samples are to be taken out of the same bottle/bucket and should be collected at the same time as the CTD cast for that station. A salinity/chlorinity sample is also to be taken from the bucket/bottle. The small boat (and land-based) crew will be provided with a thermometer capable of reading temperature accurately to 0.1 C, bucket temperature should be measured ASAP after the sample is collected.
- Additional CTD casts (without water sampling) will be taken at 2 to 4 km spacing at low water and high water at each of the 3 GCE sounds and several tidal creek stations. Upstream Sapelo River stations cannot be reached at low water by boat.

**Altamaha Sound/River only.** Additional stations at 4 km intervals will be sampled as follows: CTD cast, bucket/bottle samples for nutrients, salinity/chlorinity, DOC, POCN, SPM.

**Use of contingency days.** All cruises may have one or more contingency days built into them that can be used for other activities once the core mission of collecting the quarterly monitoring samples has been satisfied. Additional activities include but are not limited to, deployment of gear, transects off-shore, time series stations, sampling additional coastal stations, repeating transects, schoolyard activities, etc.

**Cruise Log.** The cruise log will be maintained by the Chief Scientist. We will develop a standard log form; a written record is preferable to a digital record, though parallel logs can be kept to facilitate subsequent preparation of the cruise report. In the log will be recorded the

location (lat and long as well as station ID), depth and time (standardized to GMT), type of sample and sample identifier (if required) for all samples collected either underway or at stations. It will also record any other oceanographic events or observations (weather, red tides, slicks, foam, etc.) and any other comments that the Captain or other members of the scientific complement deem noteworthy, including comments on sampling activities (for example; "samples retrieved from launch," "launch departs to Stn X," "SCS mapper turned on," "SCS mapper turned off," "Dr. X arrives," "Dr. Y departs" etc.). The log will contain a complete list of all personnel on the cruise. In short, anything that might be remotely interesting to anyone at any time in the future should be recorded in the cruise log. Upon return of the Chief Scientist to her/his home institution, the log will be photocopied and mailed to all cruise participants. The log will also be transcribed into a digital format for electronic dissemination.

**Cruise Report.** The cruise report will distill the cruise log into a brief (1 page) overview of the cruise. It will contain a brief description of the purpose of the cruise and of any special activities that fall outside the routine monitoring sampling, a list of all scientific personnel that participated in the cruise, a summary list of the most significant events (departure time, arrival times for each station, return to dock, etc.). The digital form of the cruise log will be attached, then the file will be sent (email) to the data manager for archiving and posting on the GCE-LTER web site.