PROTOCHOL FOR MEASURING SEDIMENTATION RATES ON THE REEF (Sampled 2005-2010 only)
Moorea Coral Reef LTER

Get Together:

Sediment traps – 2 inch PVC pipe with a 3:1 aspect ratio, (5.2 cm internal diameter, 17.5 cm high) glued to a plexiglass base weighed down by a donut of lead beads in a bicycle inner tube.
Rubber corks that fit the sediment traps
Liter plastic beaker
Filter rig and vacuum pump for 47 mm filters
Squirt bottles of fresh bottled water and filtered seawater
Labeled foil squares
25 ml pipette.
Labeled plastic scintillation vials
Preweighed 1 μm pore size, 47 mm polycarbonate filers
Hexamine buffered formalin.

Procedure

A. Sampling:

1. Place 3 replicate sediment traps in relatively open areas (not within 50 cm of a coral head) on the bottom in as level a position as possible at one of the three time series locations: Fore reef, Back reef, Fringing Reef
2. Note time.
3. Leave out about 24 hours. Recover by corking top of each trap. (Push in hard) Note time of recovery.
4. Place traps upright in bucket in boat and return to the lab.

B. Sample Processing

1. Pour the contents of each trap into a large plastic beaker and clean the sediment from the trap into the beaker using filtered seawater.
2. Measure the volume of the sample in a 500 ml graduated cylinder and write it with the appropriate sample number in the sample log.
3. Return the sample to the beaker and stir vigorously. Remove and preserve 15 ml of <u>one</u> of the replicates in a scintillation vial with 1 ml of hexamine-buffered, 40% formalin.
4. Filter the sample onto a preweighed 1 μm pore size, 47 mm polycarbonate filer. Rinse twice with bottled fresh water. Subsample if material looks too concentrated.
5. Fold the filter and wrap it in a foil square, crimping the edges to allow some circulation of air
6. Dry the filters at 70^{o} C in a drying oven overnight.
7. Completely seal the foil and store frozen for return to UCSB in a cooler on dry ice.

8. Record all data on the data sheet.

Clean-up

Thoroughly rinse all sediment traps and glassware to remove any sediment.

C. Sample Analysis

1. At UCSB dry the filters again and reweigh each filter on a Metler balance. Subtract the filter weight to obtain total mass of the sample.
2. Take the samples to be analyzed at the Marine Science Institute Analytical Lab for POC and PON. Both acidified and non-acidified subsamples should be analyzed in order to determine % organic carbon and % carbonate content.
3. Examine preserved samples under the microscope.