

Protocol: Sediment Trap



How to cite this work: Protocol: Sediment Trap. (2020) Tennenbaum Marine Observatories Network, MarineGEO, Smithsonian Institution.



Introduction

This is the Sediment Trap protocol for the MarineGEO network research project.

Additional copies of this protocol, field datasheets, data entry templates, literature, and more can be found at: [website link to the network project information](#).

Measured Parameters

This assay quantifies:

Measured as:

Requirements

Personnel: 2 people

Estimated Total Time Per Location (n = number of replicates per location):

- Preparation: 1 person x 1 day
- Field work: 2 people x 1 day
- Post processing: 1 person x 1-2 days
- Data processing: 1 person x 1 day

*Estimated times will vary by site and conditions

Replication: Break down of the experimental replication per location.

Materials:

Make sure that you have all the materials required: some materials need to be provided or procured by the partners as they cannot be sent through post.

Survey Design:

Materials included in the KIT:

- ☐ 2 x 3 sediment trap

Materials required from the partner:

- ☐ 1-2 pieces of metal bars (50 cm long)
- ☐ Hammer
- ☐ Zipties
- ☐ 1 or 2 Transect tape(s)
- ☐ Hand-held GPS unit

Fieldwork:

Materials included in the KIT:

- ☐ Lids of the sediment traps

Post-Processing:

Materials required from the partner:

- ☐ 6 glass containers
 - ☐ Weight scale
 - ☐ Drying oven
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Methods

Fully review this and any additional protocols necessary for the sampling excursion and watch the videos provided. We encourage our partner to take pictures of the experiment and share them with us. Address any questions or concerns to marinegeo@si.edu before beginning this protocol.

Preparation:Fieldwork:**Sediment Trap Deployment:**

1. Secure the sediment trap with the 50cm metal bar(s). If sediment is disturbed, wait a few minutes before deploying the sediment trap.
2. If there is a treatment, place the second sediment trap at a minimum of 5m distance from the control area. Use the transect tape to place the traps at the required distance.

Sediment Trap Retrieval:

We recommend carrying out the retrievals during the morning low tide if possible.

1. Close the sediment traps with their lids
2. Remove the sediment traps

Post-Processing:

1. Pre-weigh 6 empty glass containers. Write down the weight on the container and label them with the name of the glass containers. Record the weight on the excel sheet provided
 2. Pour the seawater + sediment into the pre-weighed containers
 3. Allow the sediment to settle out to the bottom of the glass container. *This step can take several hours to a day.*
 4. Remove as much water as possible without disturbing the sediment
 5. Oven dry the sediment at 60°C until it is completely dry. *This step can vary in time depending of the amount of water left in the jar.*
 6. Remove any small invertebrates (e.g. mussels, tube worms etc.)
 7. Weigh each container.
 8. Fill out the excel sheet provided.
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Data Submission

1. Scan the completed field data sheets and save both paper and electronic versions locally. We do not require you to submit the scanned forms.
2. Enter data into the provided data entry template. Each template is an Excel spreadsheet. Please provide as much protocol and sample metadata as possible, such as the protocol version and contact information. Use the “notes” columns to provide additional information or context if a relevant column doesn’t already exist, rather than renaming or creating columns.

3. Use our online submission portal to upload the Excel Spreadsheet: <https://marinegeo.github.io/data-submission>
4. Contact us if you have any questions: marinegeo@si.edu