In-Field Metadata Collection

Version 1.0
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Set-up & Pre-Collection Checks

- **Logistics & Organization:**
  - Assign roles: site lead; sampler(s); metadata lead (and backup); gear; safety/buddy.
  - Plan capacity: target # of samples per site + ≥30% extra for loss/error/optimization.
  - Pre-label containers with Field IDs, using waterproof, alcohol-resistant marker; allow ink to dry.
  - Pack spare blank labels for unplanned samples.
  - Replicates & controls: schedule Field Blanks (FB) and Filter Blanks (FilB); define replicates (R1–R3).
- **Chain of custody**
  - Prep forms/envelopes if required by permit; bring clipboards/zip pouches for paperwork.
  - Define custody transfer points for samples
- **Devices & Data Prep**
  - Time sync all devices (local + UTC); set GPS to decimal degrees with accuracy readout.
  - Offline ready: cache maps and forms; confirm login to any data apps.
  - Calibration: calibrate meters per SOP; pack standards and spare tips/filters.
  - Photo plan: for every sample, shoot (1) context, (2) sampling action/spot, (3) labeled container, (4) instrument screens.

MATERIALS: Pre-labeled Whirl-Paks (4 oz and 1 Liter), Water-proof/alcohol-resistant markers, waterproof field notebook/paper, camera, plastic bags.

- **Best Practices:**
  - For multi-day expeditions, upload digital metadata daily to the designated expedition cloud folder and verify backups are intact.

Collection

- **Arriving at the site**
  - Once the site is selected and surveyed, begin metadata capture while teammates sample. If you're handling both tasks, use a **photo-first** workflow: photograph the prospective sample with its Field ID in frame, then collect the sample, then complete the metadata. In difficult conditions, prioritize the collection—if the attempt fails, skip the metadata entry and note the abort.

Metadata Collection (Minimum):

- *Collect the following information about each sample:*
  - Field ID
  - Time of Collection
  - Type of Sample
  - Depth (m) (if water/sediment)
  - Temperature (C)
  - Photo of sample
  - Additional geochemistry

Sampling Order:

Collect in the following order per site to minimize contamination between samples:

1. Water
2. Sediment
3. Soil
4. Biomass
5. Coral (if in the collection plan)

Site-Specific Metadata

- **GPS (lat, lon) ± accuracy (m):** _____ , _____ ± _____ m
- **Date (YYYY-MM-DD):** _____
  Site name/ID: _____
- **Entry GPS:** _____ , _____ **Exit GPS:** _____ , _____

Sample-Specific Metadata

- **Collector initials:** _____
  Time (local / UTC±offset): __: / UTC _____
- **Sample type (check one):** [ ] Water [ ] Sediment [ ] Soil [ ] Biomass [ ] Coral mucus [ ] Coral fragment [ ] Other: _____
  Depth (m): _____
- **Temperature (°C):** _____
- **Container ID / type:** _____ **Vol/Mass:** _____ mL / g
- **Preservation:** _____
- **Notes (color/odor/flow/state):** _____

Post-Collection Check-In

Label Verification and Assignment

1. Ensure the sample container is clearly labeled with its original Field ID.
2. Arrange sample by date collected, site collected from and sample type.
3. Assign a unique CID for each incoming sample.
   - Use the CID sheet generated prior to the expedition.
   - Apply CID label to the sample container.

Metadata Entry

4. Open the expeditions metadata spreadsheet for the expedition.
5. In the spreadsheet:

- Link the assigned CID to the corresponding FIeld ID.
- Record key sample metadata from the field notebook.

Images

6. Confirm all sample photos have been uploaded to the appropriate location.
   - File names must be prepared with CID (e.g. CID_012345_coral1.jpg)
7. Upload images of all field notes (non-digital) and note each page with the date, location and page number (DD-MM-YYYY_site_pagenumber)

Sample Intake Area Handling

8. Place checked in samples in the designated intake area for preparation.
   - Keep samples on ice or at 4C.
   - Group samples in racks by sample type and CID order.

Errors/Missing Metadata:

- If minimum info is missing, attempt recovery immediately (ask team, check photos/GPS logs).
- If unrecoverable, **flag** the sample and decide whether to proceed with processing.