**Field Sed Core Methods**

Materials

* + 5 core liners (tubes)
  + Corer
  + Gloves
  + Black stoppers
  + Hose clamps
  + Flat head screwdriver for hose clamps
  + Orange core caps
  + Bucket
  + Ice
  + Foil
  + Parafilm
  + Syringe

Personnel required: 2-3 people

Methods

1. Set up
   1. Bring all of the equipment on the boat with you
   2. Boat to the Sed Core buoy (closest to the platform) and tie on
   3. Clip the corer onto the boat using the carabiner. We have found that connecting it to the knot you used to tie onto the buoy works best.
   4. Insert a core liner (clear tube) into the metal corer tube. Screw this into the large metal and plastic coring device. Screw the metal corer cap onto the other end of the tube (not too tight!). The core liner should now be secure within the corer.
   5. Make sure the wire is untangled as much as possible. Put on gloves.
2. Taking the core
   1. Drop the corer into the water and let it fall as fast as possible. The goal is for it to get firmly lodged in the sediment, so you need to let it fall pretty quickly, but you should stay in control of the wire.
   2. Pull up the core. Meanwhile, the other person needs to watch and tell you when the corer gets close to the boat. Once it reaches the edge, but before the bottom of the core comes out of the water, they reach under and insert a black core stopper.
      1. NOTE: There are two sizes of stopper, and the smaller one generally works better
   3. Put an orange core cap on the bottom of the corer, and set it in the boat. The core cap should stop water and sediment from escaping into the boat.
3. Storing the core
   1. Unscrew the top of the corer. It is generally helpful if one person holds the wire out of the way while you do this.
   2. The next step is to take off the bottom piece and get the core out. This is tricky because unscrewing the bottom piece tends to cause sediment and water to escape. To avoid this, one person takes off the orange cap and push the core up and out of the way using another black stopper. You may need to push down on the top of the core to make sure the stopper gets fully jammed into the core liner.
   3. While they are holding the core out of the way, the other person unscrews the bottom piece.
   4. Once it is off, you should be able to slide the core down and out of the metal tube. Secure an orange cap on the bottom using a hose clamp.
   5. Fill the core all the way to the top with surface water using a syringe
   6. Cover with parafilm
   7. Put an orange cap on the top. Wrap with foil and store in the ice bucket
4. Repeat
   1. Rinse everything thoroughly and repeat. Be especially careful to rinse the grooves on the metal coring tube and the coring cap—if they are dirty it can be nearly impossible to get them apart next time. You can also be conscious of this when you are screwing it on next time—when you get to the part that got mud on it, just stop turning.
   2. Ultimately, we want four cores each SSS week.

THANK YOU!!

**Lab**

Materials

* Screwdriver
* Extrusion device
* Spatula
* Old sed trap bottle
* 8 eems vials
* DI water
* Kim wipes
* Measuring tape
* Label tape
* Marker

Methods

1. Make sure the slicing platform is clipped up at the top of the extrusion device
2. Remove the orange core cap
3. Put the bottom of the core on the extruder
4. Push out all of the water without losing any sediment. Once you get to the top of the sediment you can use your finger to break the surface tension and pull out the last few drops of water
5. Slide down the slicing platform until the top of the platform lines up with the top of the sediment (you may need to push the core down a tiny bit more)
6. Using a marker and the measuring tape, draw lines 1 cm and 2 cm above the extruder
7. Push the core (and slicing platform) down until the first mark you made (1 cm) lines up with the extruder
8. Scrape off everything above the edge of the slicing platform using the spatula, and get it into an EEMS vial
9. Make sure the vial is labeled with the date, “sed core”, and layer (1 cm)
10. Wipe down the platform using a kim wipe
11. Repeat for the 2 cm sample: push the core down, scrape off the top of the core, get it into an EEMS vial, and make sure it is labeled with the date, “sed core”, and layer (2 cm)
12. Extrude the rest of the core into the old sed trap bottle. Wash down all of the equipment with DI
13. Repeat steps 1-12 for all cores
14. Store all samples in the freezer. There should be a box in freezer #3 with other sed core samples. **You need to store them horizontally so they do not break.** If any vials seem too full, homogenize them by shaking and then pour off the extra sediment.
15. Clean everything in the lab and put it back in 2029. Hose clamps, stoppers, and orange caps all go in the sed core bin

THANK YOU!!!