



Depth-Profiling Protocol

Thanks for deploying our sensors. This note will assist you in conducting the depth profile. The procedure is very simple.

CMS lab technicians will have prepared the YSI device prior to delivering it for deployment. You would have communicated with them regarding the likely deployment time and they would have set the device to record over a long period which includes your likely deployment interval. Also, you would already have discussed with them the deployment location. Your location should have a depth greater than 100 ft deep. If not, do not deploy the sonde to depths such that it drags on the bottom.



1. For deployment from a **boat**, when you reach the deployment location write down the GPS location and water depth if you have them.
2. Open the instrument bag, remove the instrument, find the two lines, and attach the two lines to the boat and ensure that they are attached to the YSI handle. One line is marked for length and the other is a redundant line to reduce risk of instrument loss.
3. Make sure the dive logger is attached to the handle. If not, please note and search the gear bag for it. If found, attach if possible to the handle. However, the device is still deployable without the logger, though additional attention to detail is required.
4. Remove the plastic transparent cylinder (known as the calibration cup) at the end of the device. It is approximately 8 inches long and is opposite the handle. This cup unscrews from the sonde. There should be water in the cylinder, so be prepared for spillage. The cup could be difficult to unscrew and may take two people, one holding the sonde and the other twisting the calibration cup.

Once the cup is removed, the sensors attached to the sonde are exposed. Be careful not to bang the sensors.



5. Place the calibration cup in the gear bag and take the cage out. The cage must be screwed onto the sonde, replacing the calibration cup. The cage permits sea water to reach the sensors.



6. The sonde can now be lowered over the side of the boat. Using the labels on the line, lower the sonde to a depth of 20 ft and hold for 5 minutes. There may be a timer in the gear bag that can be used to ascertain deployment duration. After 5 minutes, lower the sonde to 40 ft, and sample for 5 minutes, and repeat for depths of 60, 80 and 100 ft. After the 100 ft depth is sampled, reverse the procedure and sample at 80, 60, 40, and 20 ft, each for 5 minutes. If the sampling interval is not 5 minutes or not exactly at the desired depth, no worries, the data are still valuable. If you cannot deploy to 100 ft, the data are still valuable. However, we prefer you to sample longer than 5 minutes rather than less. If the dive logger is not present, please manually record the time and depths sampled.
7. After the final sampling bring the sonde onboard, remove the cage, fill the calibration cup with about a half inch of water (fresh or sea water) and screw it onto the sonde. Some sensors attached to the sonde must remain moist in storage.
8. Place the lines, cage and timer back in the gear bag. Store the data you manually recorded, if any.

The sonde can be deployed several times while you have it and will collect data over the time interval it has been programmed to record. This interval is typically 1 to 2 days. Most of the

time, it will only record the sample in the calibration cup, and not open ocean water. We'll figure out what recorded data are useful once the sonde and diver logger data are downloaded.

If deploying from a **kayak** or small boat that could be swamped, secure the sonde lines and prepare the sonde before getting underway. Once at the deployment site, deploy the sonde as described above.

CMS staff will retrieve the sonde from you and download the data you acquired.