

Sea-Bird Navis Floats (floats not in cardboard boxes)

1. General Information:

The Sea-Bird Navis float is programmed to profile to 2000m every 10 days. After a short transmission period on the surface, the float will descend back to 1000m and park until the next profile. Since these floats profile to depths of 2000m, please do not deploy them in water shallower than 2500m to allow for safe profiling without risk of grounding. Also, please deploy no closer than 50 km to the existing ice edge, so that at least the first profile, taken within 24 hours, is returned immediately. When launching the floats, expect them to slowly begin to sink within a few minutes. The floats are stored in a pressure activation mode which means that they do not have to be “started” before deploying. Do **NOT** swipe the float with a magnet.

The end of this document includes photos that show some photos that are helpful for deployment and handling techniques.

2. Float Pre-Deployment:

Immediately preceding the scheduled float deployment, the float must be removed from the wooden crate that it was shipped and stored in. There will be some carved foam on top of the float that should be removed and set up in a position where the float can be put back on top of it. The float should only be lifted by the aluminum pressure housing and the SUNA sensor between the two mounting brackets as shown in Figure 1 in the appendix. The antenna and sensors at the top of the float are extremely sensitive to being bumped or strained, so please proceed with caution. Place the float securely on top of the foam that was just removed to set up for sensor cleaning as shown in Figure 2 in the appendix.

There are two sensors that must be cleaned prior to deploying the float. These are the SUNA (nitrate sensor) and the MCOMS (FDOM, backscattering, and CHLA). These are both optical sensors and must be cleaned in the very gentle manner described. First, wash your hands with soap and water to remove any oils or grease. Lens cleaning wipes were provided in the BGC float deployment box to use for cleaning the optical sensors along with wooden Q-Tips and kimwipes. You will need to acquire a bottle with DI water as it is not provided in the deployment box.

To clean the sensors:

1. Rinse optical windows by squirting with deionized water.
2. Tap/dab lens with alcohol lens wipe (wrapped around Q-tip if necessary).
3. Rinse with deionized water.
4. Tap/dab dry with lens paper.
5. Use new wipes for each instrument.

Please note that red sensor caps included in pictures below should not be present on your Navis float. However, if your Navis float has red sensor caps,

please REMOVE and discard. The float should NOT be deployed with red sensor caps.

3. Float Deployment:

The floats do not need to be 'started' as they are already in pressure activation mode. This means that once it is lowered into the water it will sink (not right away but about 3-5 mins after deployment, no need to wait), it will then feel the pressure on the sensor and begin its mission.

Ship speed and float location:

After the CTD profile is completed, the ship should get underway and steam to outside the area that was occupied by the ship during the station, which creates a localized oily patch. This might be about 1 km or 1 nm away from the CTD station. Deployment is easiest when conducted on the lee-side (with respect to waves) stern-quarter of the ship and when steaming into the wind with the ship moving 1-2 knots over water. This way there are no worries about the ship running into the float, which will head to the surface shortly after deployment. Please note all deployments should occur in at least 2500m of water. Please deploy floats before you reach the shallows as necessary.

To deploy the float, take the line that is twice the length of the freeboard plus 10 feet and tie one end off to a cleat. Pass the other end of the line **down through** the hole in the blue deployment disk. Pass a length of line through the hole that is slightly longer than the ship's freeboard. With two people standing apart from each other, lift the float and move the float over the railing. With each person holding one side of the line, lower the float hand over hand until it is in the water. The person with the bitter end of the line can then release their end and pull from the end that is tied off to a cleat to retrieve the line. A photo showing how the line should be running through the stability disk is shown in Figure 3 in the appendix and a photo showing a deployment in progress is shown in Figure 4 and 5.

4. Appendix



Figure 1: How to properly lift Navis float.



Figure 2: Navis float set on top of foam for sensor cleaning.

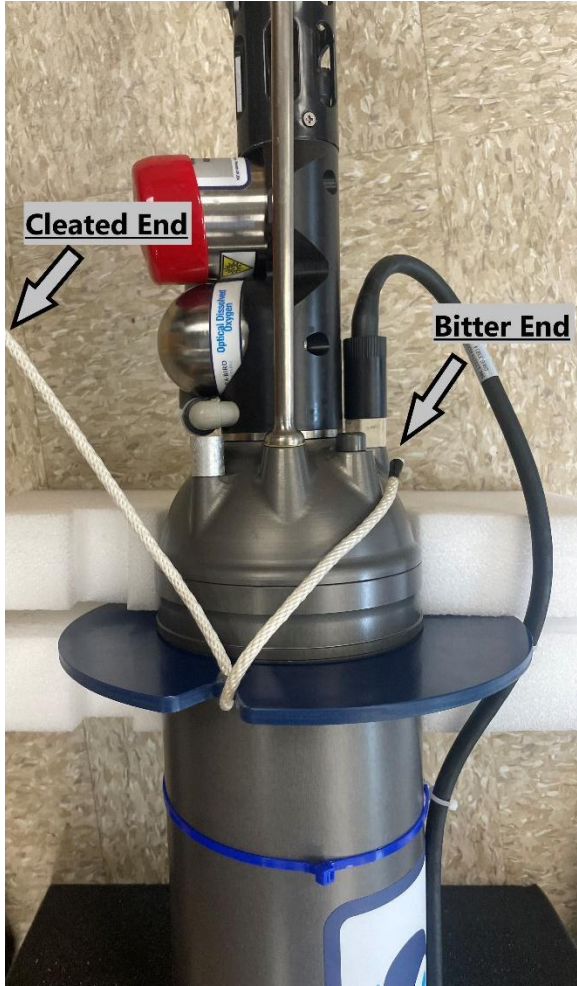


Figure 3: How the line should pass through the stability disk.



Figure 4. Float Deployment.

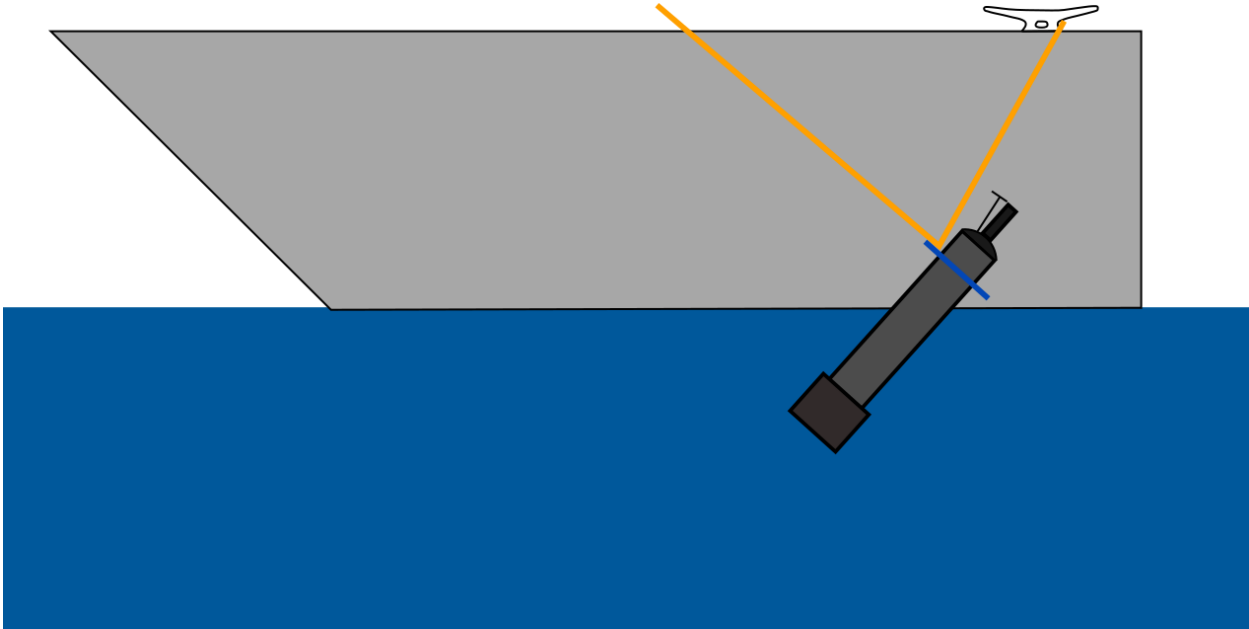


Figure 5: Float deployment.