**How do I get involved with the drifter project?**

Go to the main drifter website at nefsc.noaa.gov/drifter and look for the link to:
“To see the process of getting involved with the project, click here. “

**What is the cost of a typical drifter deployment including satellite transmissions?**

The costs range from about about $600 to more than double that depending on:
- a) whether you build the drifter yourself,
- b) you buy all the parts,
- c) how often & how long you want to sample

The typical breakdown for the low-cost drifter goes as follows:
- $50 parts other than the transmitter
- $300 transmitter
- $250 bi-hourly transmissions for 4 months

If you are able to retrieve your drifter and want us to refurbish it with a new battery pack, it is half the price of a new drifter. Keep in mind that we do not guarantee that trackers will be refurbishable but will check them out for free.

**How long will the battery last?**

Most transmitters will typically provide at least 2000 fixes before the battery starts to get weak. You can keep track of how many fixes have been transmitted either on the ComTech website (see login instructions here) and on the “fixcount” website but this is only the number of successful fixes. The battery life depends on the number of attempts the transmitter makes. So, if you have the transmitter turned on and it is inside a building, it is still running its batteries trying to transmit. In fact, it will drain quicker hidden from the satellite because it is programmed to try three times per sampling interval.

**What kind of drifter should I make?**

There are two basic types of ocean-going drifters:
We make both these types. Although most have been the surface drifters, we encourage you to try both.
As described by separate pull down menus on “studentdrifters.org”, they are both about the same cost and effort to build.

We have been experimenting with a variety of surface drifters in the past decade in an effort to minimize cost, effort,
plastic, and windage. The result is a series of models all with the same shape and size to comply with the standard but
they are made from different materials. To see the full list visit the studentdrifters.org “History” tab. In the past few years,
we have been suggesting:
- Cassie drifter w/bamboo frame
- Irina drifter w/aluminum frame
- Emily drifter w/wood frame and sails

Why should I ask for my transmitter to be decommissioned if it has been lost at sea or I do not plan on using it in the
coming year?

The ComTech satellite company will keep charging a $2.45 monthly fee for transmitters even if you are not using them.
We can decommission a transmitter to stop that charge but, if you want to use it again, we need to pay $30 reprovisioning
fee. So it is very important you let us know when to decommission.

What sample rate should I set my transmitter?

If you are interested in depicting the big semi-diurnal tidal signal and want to contribute to oceanographers and modelers
data archive, we suggest hourly fixes. In this case, the batteries are good for about three months. If you are deploying
more than one drifter and want to see one travel for many more months, you could have one transmit frequently and one
just a few times per day.

Why did my drifter suddenly stop working?
It often happens that drifters will not survive as long as you would like. Since we are typically not involved with the actual construction and assembly, we can NOT guarantee they will survive. Here is a list of common problems:

1. lost all flotation (suddenly stops)
2. lost ballast (very intermittent since it is on its side w/transmitter usually half submerged)
3. transmitter flooded (suddenly stops)
4. faulty battery (gradually stops)
5. lost some flotation (intermittent)
6. too much ballast (intermittent from beginning and especially after water logged)
7. accidentally run down by mariner (depends on damage)
8. recovered, hidden, & unreported by mariner (suddenly stops)
9. run down by large marine animal (depends on damage)
10. large waves broke mast extension (depends on damage)

**How do I make sure my transmitter is waterproof?**

While the transmitters are design to withstand the weather on the top of trucks on the highway, they are not meant for the ocean. We usually take care of this waterproofing step before mailing transmitters but, just so you know, we have tried a variety of methods to seal the TrackPack transmitters. For most of them in the past we have applied a bead of “5200 Fast-drying Marine Caulking”. While we now do a light sanding of the plastic prior to the application in hopes the caulking will adhere better, it should be noted that this caulking is actually designed for wood and fiberglass surfaces (not plastic) so we are concerned that after some time it may be failing. After all, all it takes is a pin-hole leak in the caulking. When the transmitter gets submerged (as it most definitely will in any kind of seas), a single molecule of seawater will corrode the electronics in no time. In recent years we have experimented with other, more-easy-work-with materials like the brush-on “liquid electric tape” they sell at ACE Hardware in little bottles. We have also, at times, applied a few wraps of “vulcanizing tape” and always apply an outer layer of electric tape. One of the most secure methods, as used on the unmanned sailboats, is to wrap the entire transmitter in fiberglass cloth. While this is a messy job, it may be the most reliable way to protect the transmitter. Another solution is to buy an Otterbox2000 (available online for less the $20/each) and house the semi-sealed transmitter in that.

**What if I want to deploy drifters in a shallow water river or estuary?**
In the past we have used 5-gallon plastic bucket drifters for this situation but, in early 2015, have started devising the “Emily” drifter made entirely of wood. Given scrap paneling from home remodeling projects, sails can be made of ¼ inch wood. While these units require more ballast and we are not sure how durable (after some period of soak), they will certainly be more eco-friendly and will probably hold up better that the standard surface drifters.

In general however, we discourage these shallow deployments. We have found that shallow water tracks are too short. They take a lot of logistics, time, and effort in recovering units, refurbishing them, and redeploying them. It is hard to do statistics on shallow water drifters. Since we can not always determine exactly when the drifter is aground, you are not able to accurately calculate the average speeds and directions. We suggest Vitalii’s current meters in shallow water studies.

**How do I get funding for my drifters?**

We have been collaborating with multiple labs and applying for various grants through:

- NOAA
  - Environmental Literacy
  - Marine Debris
- EPA Environmental Education
- NSF Environmental Education
- Sea Grant
- Foundations

If you come across any other grant opportunity and need help with drafting and submitting the proposal, we can help. We have lots of proposals and letters of support already written that can be used over and over. In a few cases, teachers have gone to their local banks for mini-grants. We also suggest you join your local chapter of the National Marine Educators Associations, go to their meetings, and network with other groups in order to submit big proposals.

**What can I do with the data in the classroom?**

We have started posting various lesson plans at studentdrifters.org where there is a drop down menu with options for various levels (middle school through undergrad).
Can I transmit any variables other than position?

We are actively working on ways to do this but as of this writing, it is usually not worth the added expense.

How do I track my drifter?

visit the drifter site [here](#) and click on “Tracking units on the web”