eMOLT Fall 2014 Update

Temperature:

mailing probes

When you are done fishing for the year, please remember to mail in your temperature probe to Jim Manning, NOAA, 166 Water St, Woods Hole, MA. 02543 and remember to provide documentation of latitude, longitude, and depth deployed.

The importance of good documentation

I understand that some of you record position in loran TDs but it is essential that I have valid latitude/longitudes at these sites. I have been converting your lorans to lat/lon but I find that the conversion is not always straight forward and exact so please toggle your GPS navigation readout, at least temporarily, to lat/lon in degrees, minutes, decimal minutes format. As you know, there are multiple formats for lat/lon so it is important to be clear what form you are using. There is "decimal degrees", "degrees, minutes, seconds", and, the one I often use, " degrees, minutes, decimal minutes". If using this last format, the latitudes, for example, looks like "4330.0N" which, in decimal degrees format, is "43.5N". **So, please include lat/lon in your documentation and be clear what format you are using. Even if it is the same spot as previous years, I need this information so I can validate my records. It is very important to know where these observations are made.** I have also asked that you supply an estimate of depth at these locations and most participants provide that variable as "fathoms". Any unit is ok as long as it is clearly specified.

Funds arrived for a few dozen new probes!

As I noted in the last newsletter, many of our probes are getting low in battery and often do not survive the entire fishing season. You can check the status of your probe by looking for a small red flash on the end cap every 10 seconds. If it does not appear, the probe is likely dead. However, this doesn't mean that there is no data on the probe. We can usually extract the final recordings of data by sending the probe back to Canada and having them cut it open. This has happened to many of you in the past. However, the good news is that I got some in-house funds from the Northeast Cooperative Research Program to buy a 38 new probes. These will replace at least some of the old ones in 2015 and they will record hourly temperature for another 10 years!

Real-time temperature

The realtime temperature probe project has some momentum lately with the continued development of two different systems. While Aquatec from England is the only option well tested and viable, the VisibleAsset product (see enclosed brochure) shows great potential as a more local alternative.

Other Project Updates:

Current meters

The bottom current meters deployed in 2014 on long-line gear in the deep Gulf of Maine successfully documented the flow at several sites. These units now have a digital compass to record absolute direction of flow. At least four other units have been deployed on Georges Bank for several months (funded by a Research Set Aside Scallop Research Project) and will be recovered this fall. A few more will be deployed by long-liners again this Fall in the deep Gulf of Maine.

Drifters

The drifter project was very active this year with more than 200 student-built units deployed. We are now working on proposals to both NSF and NOAA that, if accepted, would expand this drifter project in the future. While most units were deployed off the coast of Maine in the past, this year most of them went off the Southern New England coasts. “Particles in the Coastal Ocean” will come out in a few months as a Cambridge University textbook for college level and up students of physical oceanography. It has a chapter called “Drifters and their numerical simulation” including several pictures and plots of eMOLT drifters. Since we make multiple references to the student-built drifter projects, we hope it will generate more interest and participation in the project. If any of your local schools would like to be involved, please let me know at james.manning@noaa.gov. Much of our drifter effort recently is directed at STEM education and part of that is teaching students basic coding techniques using our favorite programming language, Python, to process and visualize the drifter tracks.

Cameras on traps

The camera project is on hold indefinitely. Although, given our successful deployments a few years ago, we encourage any one with a GoPro and waterproof housing to continue that project and submit your images. Several lobstermen demonstrated that it works. There are limitations due to light and battery but we proved it can provide some interesting images and assessment of what happens in the traps.

Unmanned sail boats

The unmanned sail boat**s** that three of our participants deployed in December 2013 have sailed past the Azores (http://www.nefsc.noaa.gov/drifter/drift_ep_2013_2.html). A few of them are approaching the coast of Portugal but many may be making the turn to come back towards the Americas.

Proposals in the works

We are involved with three proposals in the next few months that, if accepted, should maintain and perhaps enhance the eMOLT operation. A few of them are going into NOAA's Climate Change Effects on Fisheries RFP and one is the NOAA's Advance Sampling Technology call. The later proposes to further develop some satellite transmitter hardware that would allow automated transmission of bottom temperature (or whatever variable can be store on a shipboard micorprocessor) to the satellite. A few other proposals are in development to promote more drifters.

Manuscript submitted

A manuscript comparing eMOLT-collected bottom temperatures with that estimated by multiple ocean models was submitted to the Journal of Ocean and Atmospheric Technology last month. If and when it is accepted, I can send you a copy on request.