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The Challenges Of On Water Demonstrations

By Peter Ramsay

March was a busy month of training courses and demonstrations for me. I conducted a comprehensive HYPACK training course for post-graduate students at the University of New Hampshire (UNH-CCOM) covering aspects of HYPACK® from the basics through to advanced multibeam, backscatter, side-scan sonar, magnetometer and sub-bottom data acquisition and processing. Question time at UNH-CCOM is always interesting as the students are well versed in the latest hydrographic research techniques!

FIGURE 1. UNH-CCOM HYPACK class of 2018.



I also ran a side scan sonar and sub-bottom training course in Houston in collaboration with Subsea Technologies. This course consisted of one and a half days of classroom work covering all aspects of side scan and sub-bottom in HYPACK®. We also had an on-water demonstration scheduled for the last day on Lake Conroe using the Subsea Technologies survey vessel, an AAE 300 Joule boomer system and Klein 3900 side scan sonar. The Subsea Technologies team and myself mobilized the vessel and tested the boomer system and everything worked perfectly.

Now onto the main point of this article! On the day of the on-water demonstration, the HYPACK/Subsea Technologies team arrived bright and early at the vessel to welcome the trainees. Then Murphy struck! My laptop developed a boot sector failure and refused to start up. This meant that I had to install the National Instruments A/D box software, HYPACK® 2018 and various missing drivers on Andrew Garcia's laptop and get the laptop to communicate with the NI-USB 6212 A/D box, which we were using to acquire the boomer hydrophone data. This took about an hour to accomplish. Next, we deployed the boomer system and the power supply would not energize. Luckily Andrew Garcia and I are well

experienced in trouble shooting these high voltage power supplies and, after opening the system a few times and trying various things, we isolated the problem to a faulty interlock switch. This was quickly repaired and we were able to collect four lines of good quality boomer data for the trainees to view and process.

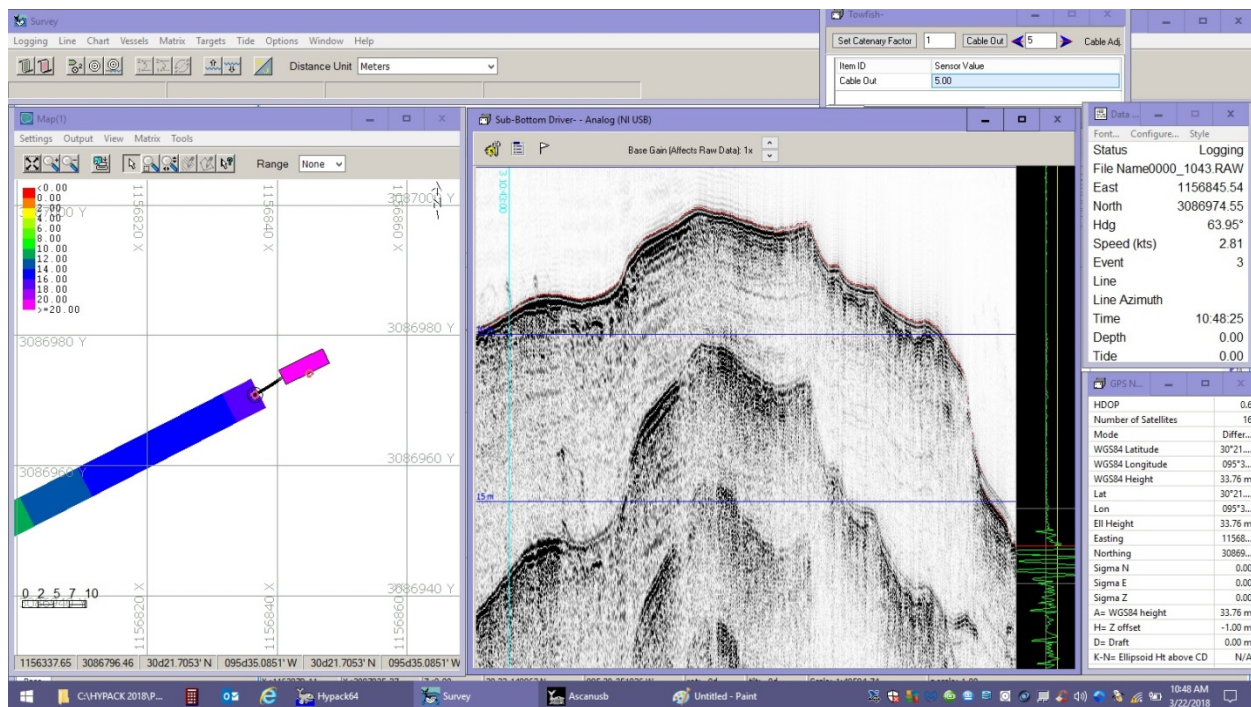
FIGURE 2. Subsea Technologies survey vessel mobilized with an AAE boomer system and Klein 3900 side scan sonar.



FIGURE 3. Repairs being made to the boomer power supply. Caution – high voltage!



FIGURE 4. Boomer sub-bottom profiling data being collected in HYPACK® SURVEY on Lake Conroe. The data shows up to 2.5 m of sediment accumulation since the lake was constructed.



The moral of the story is that Murphy is around to complicate complex geophysical on-water demonstrations! Fortunately, we were able to work through all the issues and have a successful demonstration.

Many thanks the Subsea Technologies team for all the support during the HYPACK training course.