



HYPACK Interface to M3 Sonar

By Harold Orlinsky

A new sonar system, the M3, manufactured by Mesotech was recently interfaced to HYSWEEP®.

And it was easy.

The system has the ability to output both profile and imaging data. HYSWEEP® took in the profile format, as a system with 256 beams. Using the existing EM3002 driver, the data can be collected in HYSWEEP®, and processed in MBMAX (32-bit HYSWEEP® EDITOR or 64-bit HYSWEEP® EDITOR). I recently traveled to Malaysia to work with the folks at the Johor Port authority to test the system capabilities. With HYSWEEP® and the sonar controller running on a single machine, the set-up was pretty straightforward.

As Paul Harvey would say, and now, the rest of the story...

Many times, HYPACK is asked to develop a new interface to a sonar – whether a multibeam, side scan or some new interferometry system. We are asked to write a driver for a format that is new, at times still in development (and the worst, with changes being made after we do the initial programming). The problem is the driver is never really complete until the format stops changing.

If we look at it in real simple terms, a depth is just a measurement of time, and angle, and a sound velocity. A side scan sonar is a time series of amplitudes across the seabed. And with interferometry, well, let's just call that a combination of the two.

Inevitably, each sonar manufacturer wants to make it more complex, sending more information, in different ways. With each one, there is a new decoding format mechanism (done behind the scene in HYSWEEP®, but it's there working away). By the time the data is logged in the HSX file, we store a range, angle, sometimes intensity and quality codes, and a few other parameters that can be used in processing.

The interface to the M3 was easy because the format, known to many folks, was just re-used. It worked in the past, and there was no sense to try to make a new one, just to have your own. Working with Mesotech, the driver was completed and running in a day. There were just a few changes needed on the sonar end, to adjust the format output to exactly match what the driver was expecting.

Perhaps others should look into a similar mode; if not the primary format output, at least one that may be common to all, and the best part, has worked in the past. It certainly would reduce the time and cost for development and testing.

IMAGES OF M3 DATA COLLECTED AND PROCESSED IN HYSWEEP®

FIGURE 1. Data Along the Dock Wall, Showing 5 Lines of Survey Data.

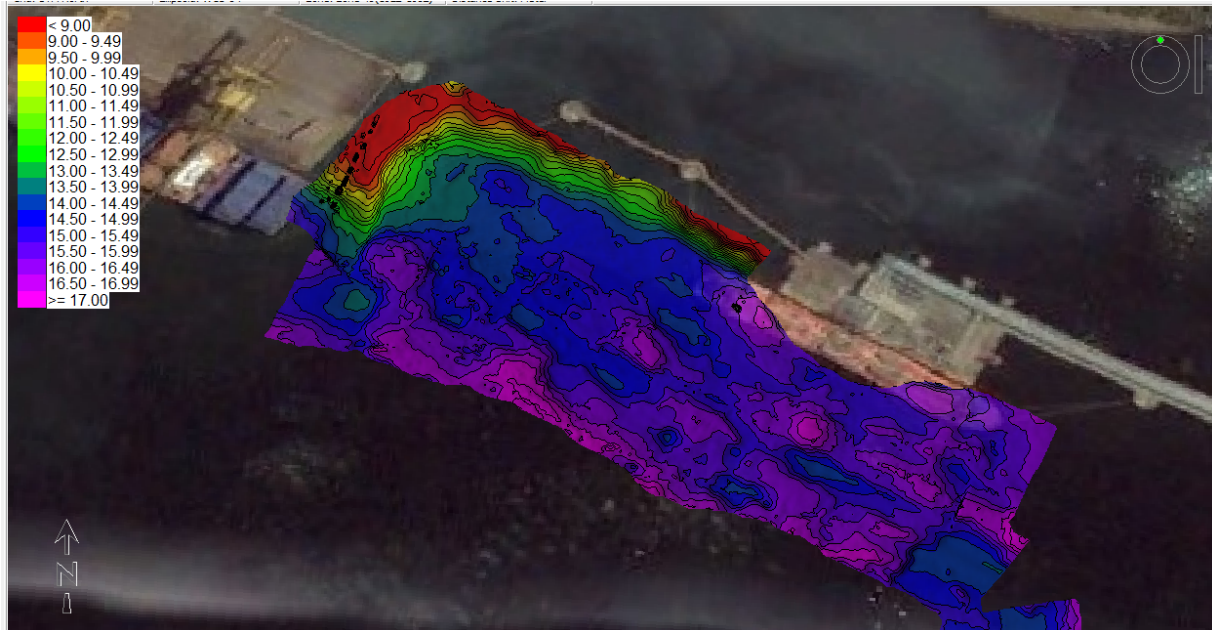


FIGURE 2. View of Profile Data Overlaid on Bathymetry Data

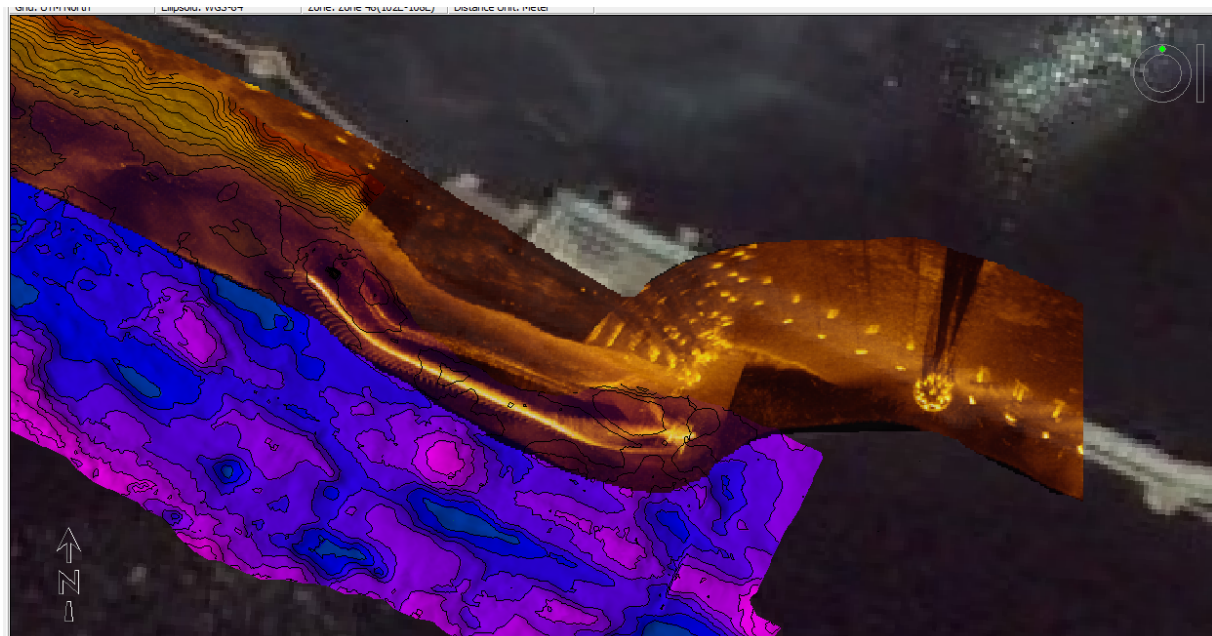


FIGURE 3. Dock Piles. As with other multibeam systems, seeing below the dock and beyond the piles can provide valuable information of the seabed

