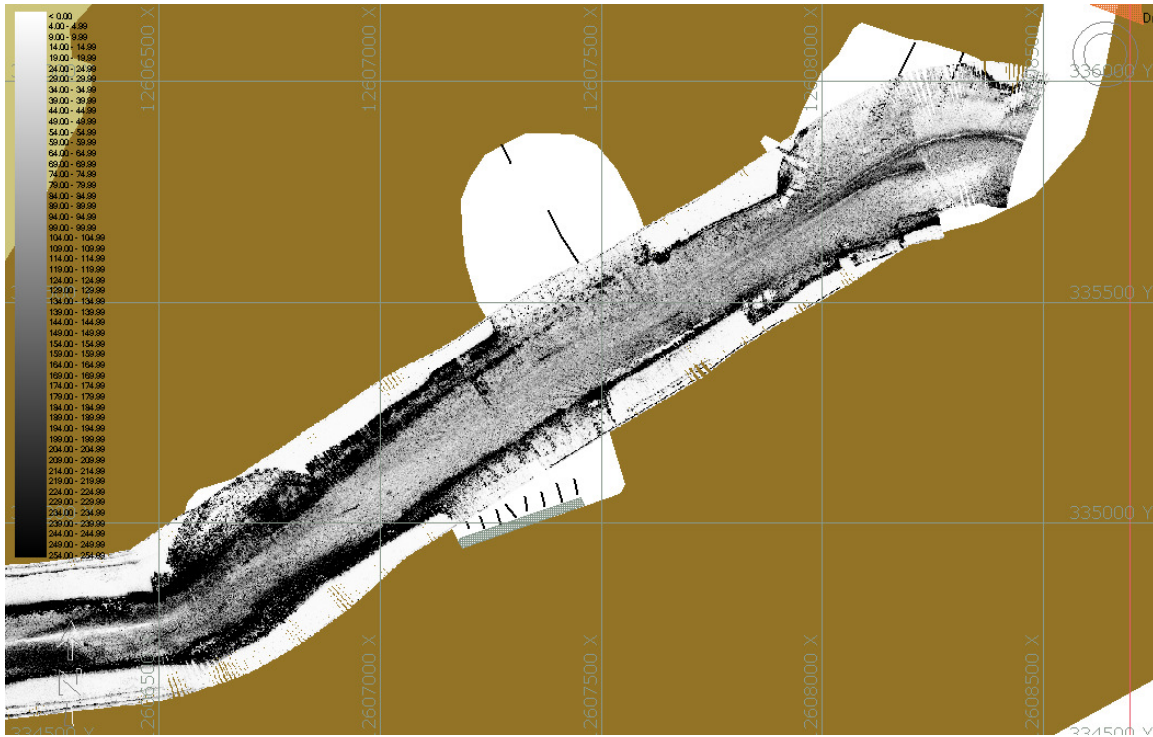


Real Time Mosaic of Side Scan Data

By Jerry Knisley

Recently on a trip to test HYPACK® with Ralph Wilbanks of Diversified Wilbanks, we modified the SIDE SCAN SURVEY program in an attempt to test Real-Time Mosaic of Side Scan data. Ralph has both a Klein 3000 and a Klein 3900 with which to conduct tests.



Mosaic from a Klein 3000 after 2 passes. Chart created in the HYPACK® DG2 Editor.

Hardware Setup

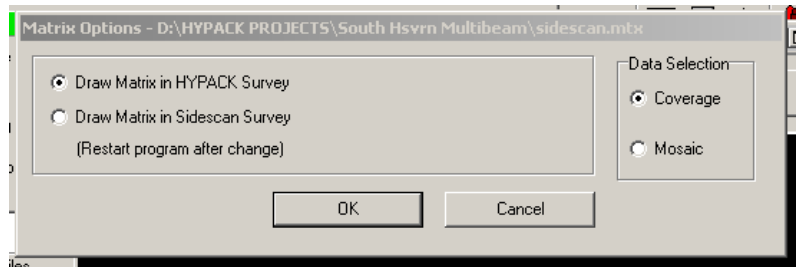
In **HYPACK HARDWARE**, configure the GPS for positioning and the HYSWEEP driver to pass that positioning to SIDE SCAN SURVEY. Without the HYSWEEP driver, SIDE SCAN SURVEY has no way to position the data in the matrix.

In **SIDE SCAN HARDWARE**, configure the Klein 3000 driver.

Side Scan Survey

The Side Scan Survey program can fill the matrix to show Side Scan coverage. This is designed to ensure that the desired coverage is met. To achieve the Real-Time Mosaic, the coverage was modified to down sample the Side Scan returns and post them into the matrix cells instead. The overall effect is that instead of a solid matrix, the intensity of return is displayed. To view the returns in the matrix, I set the HYPACK colors to represent the range of the returns received from Side Scan Survey-- a minimum of 0 and a maximum of 256.

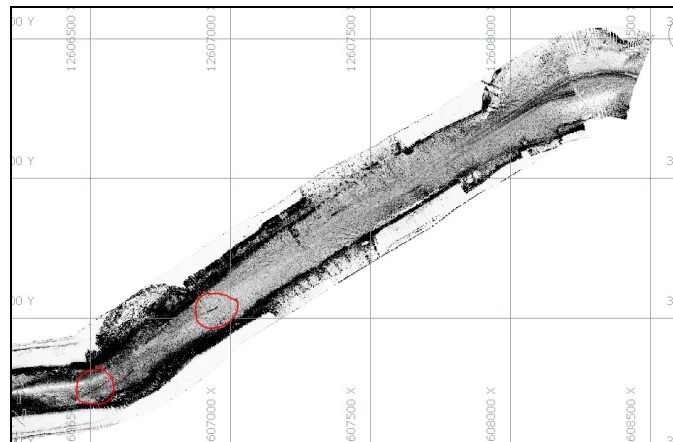
In the Side Scan Survey program on the Matrix Options form, we added the option to choose from Coverage Map or Mosaic. This tells the software what to send to the HYPACK SURVEY program.



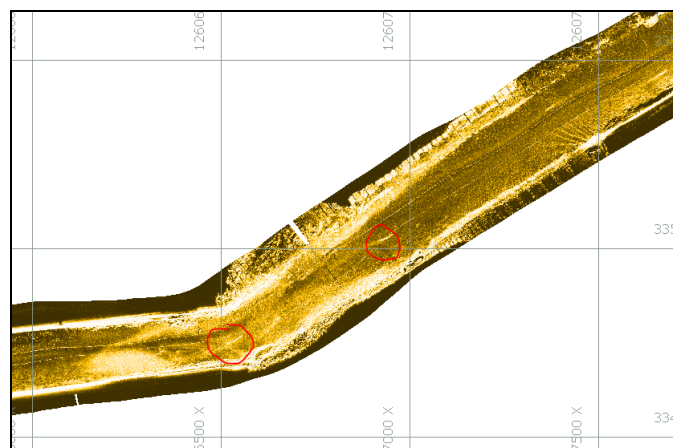
This first image is a color filled matrix using the Side Scan returns as depths in the matrix file. This pseudo-mosaic was recorded in real time from the Klein 3900@500 Khz.

The image resolution is horrible because it is a sampling of data in a 2x2 matrix, however, the channel is clearly defined in the Jetty and an object in the water is visible in the mosaic and the actual Side Scan mosaic. When compared to the actual Side Scan mosaic, the resolution deficiency is apparent.

Real-time, color-filled matrix



Side Scan Mosaic



Conclusion

Having seen the matrix filled in real time, I believe that the most important benefit is the coverage information. Any target information can be obtained via the SIDE SCAN SURVEY waterfall better than in the mosaic. It would be useful when looking for a relatively large object or to map the geology of a large area. The

resolution is definitely not in the same category as a real mosaic completed in post-processing.

Currently the SIDE SCAN SURVEY program does not include this feature. It is in the earliest stages and has not been distributed. If you wish to get a copy and try it for yourself please email me at Jerry@HYPACK.Com