



Some HYSCAN Mosaic Tweaks

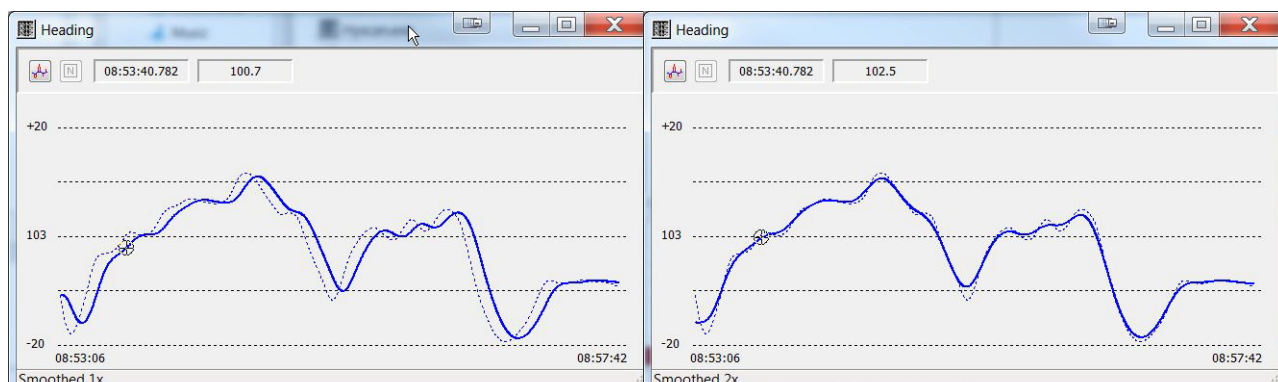
by Dave Maddock

Often my newsletter articles focus on big changes or new features in the package. And rightly so, as these are usually the most interesting things to write about. However, sometimes we overlook the steady accumulation of little enhancements and refinements that add up to deliver a better user experience or superior final product. In this article, I will highlight a few such “tweaks” to HYSCAN 2013 (SIDE SCAN TARGETING AND MOSAICKING) that, while perhaps minor on their own, combine to make a noticeable improvement to your mosaics.

A NEW HEADING FILTER

First on the list is an updated heading filter. HYSCAN 2012 used a simple low-pass filter to smooth heading that was susceptible to “smearing” the more times it was applied. For 2013, we replaced this with a spike filter and boxcar smoothing algorithm.

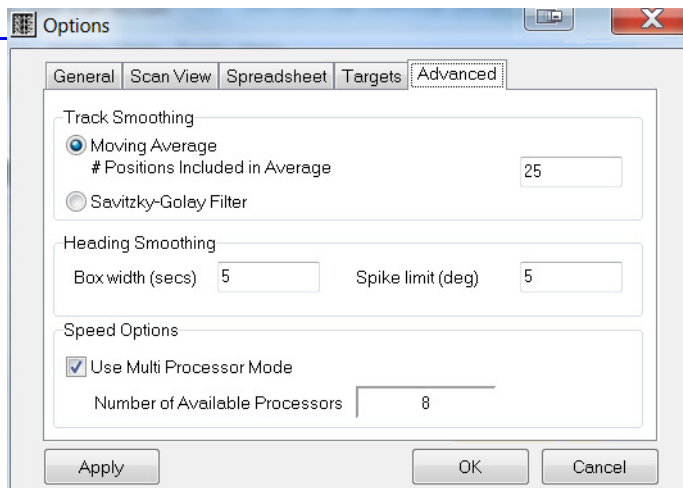
FIGURE 1. The Heading for the Same Line Smoothed Twice— 2012 (left), 2013 (right).



In Figure 1, notice how the 2012 algorithm introduces a slight shift in time as it smooths, while 2013 does not. The settings for the new algorithm can be adjusted on the Advanced tab on the Options dialog, if necessary.

FIGURE 2. Options Dialog

The box width is defined in seconds so that the level of smoothing appears as consistent as possible across datasets with heading logged at varying rates. The wider the box, the more aggressive the smoothing.



ADJUSTING DUPLICATE TIME-TAGS

The second change addresses the issue of duplicate time-tags in the side scan messages. When two or more side scan pings have identical time-tags, they are all positioned directly on top of each other, degrading the along-track resolution of your data. HYSCAN 2013 identifies any such groups of duplicate pings and slightly adjusts the duplicates so that the full along-track resolution of the sonar is retained.

IMPROVED GAP FILLING

Finally, the gap filling algorithm was improved to eliminate the speckling effect visible in earlier versions (Figure 3 left, 2013 on the right).

Perhaps each of these changes on its own is relatively minor, but taken together they exhibit the steady improvements we are constantly making to our products—honing each tool in the HYPACK arsenal to squeeze every ounce of quality out of your data.

FIGURE 3.

