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Surveying with Multibeam and LIDAR Together

By Mike Kalmbach

We checked out simultaneous multibeam (Reson Seabat 7125) and LIDAR (Velodyne VLP-16) data collection during a recent test survey. It went well!

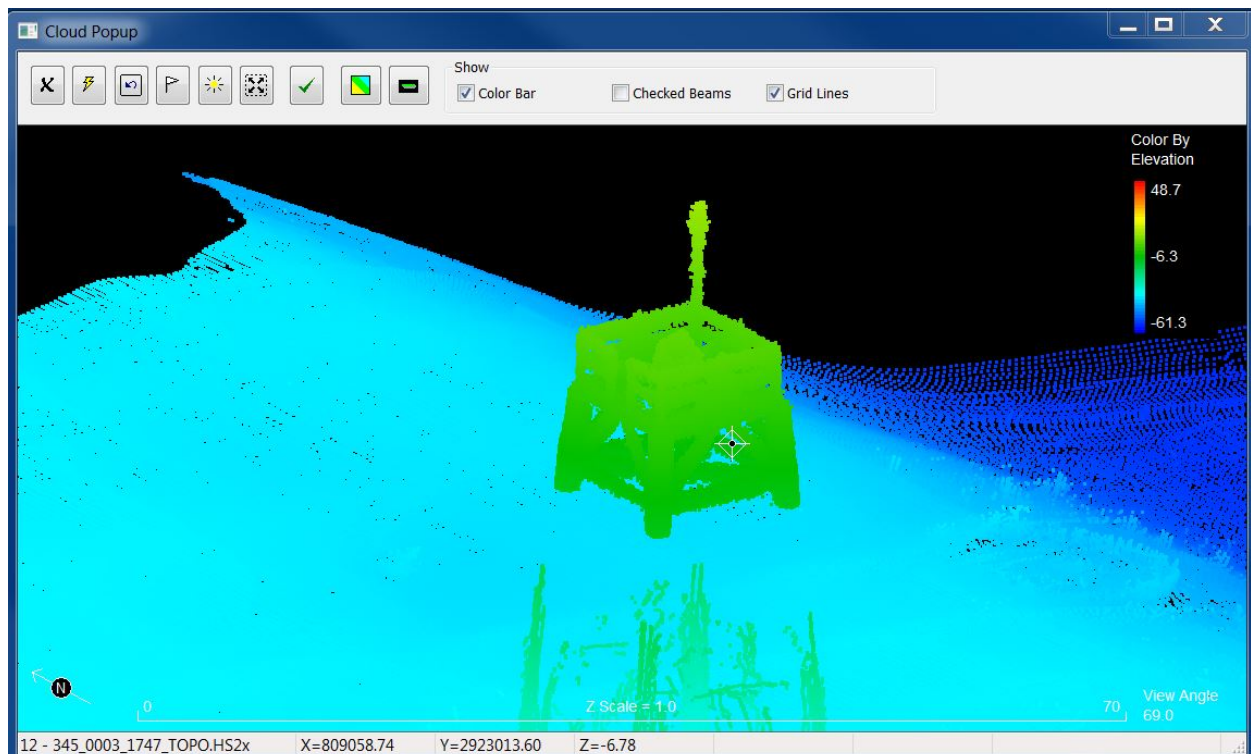
There's nothing tricky about the HARDWARE setup for simultaneous survey. Reson and Velodyne devices are added as normal, and they share the navigation and motion sensors. That's an advantage of using HYPACK / HYSWEEP. You don't need two sets of sensors.

There's no complication during the survey either. If you use HYPACK® Real Time Cloud, it shows both devices, which is valuable QC (Quality Control).

Figure 1 shows the post-processed result, which is quite good. Getting to this requires a little finesse. The multibeam is edited and saved in one session and the LIDAR is edited and saved in another. Files containing LIDAR always have “_topo” as a name suffix for a reminder.

A simple LOG file editor in MBMAX64 (Tools menu, Merge Log Files) can be used to combine multibeam and LIDAR into a single LOG file. Then the edited files can be loaded, re-edited and saved together.

FIGURE 1. *Multibeam + LIDAR collected in HYSWEEP® SURVEY. The gap between LIDAR above water and multibeam below is caused by limitation in multibeam angle. That is, the multibeam used in this survey does not sound to the surface.*



Figures 2 and 3 do not include multibeam. But they do show the quality of Velodyne LIDAR data.

FIGURE 2. Day marker from Velodyne LIDAR and HYSWEEP®.

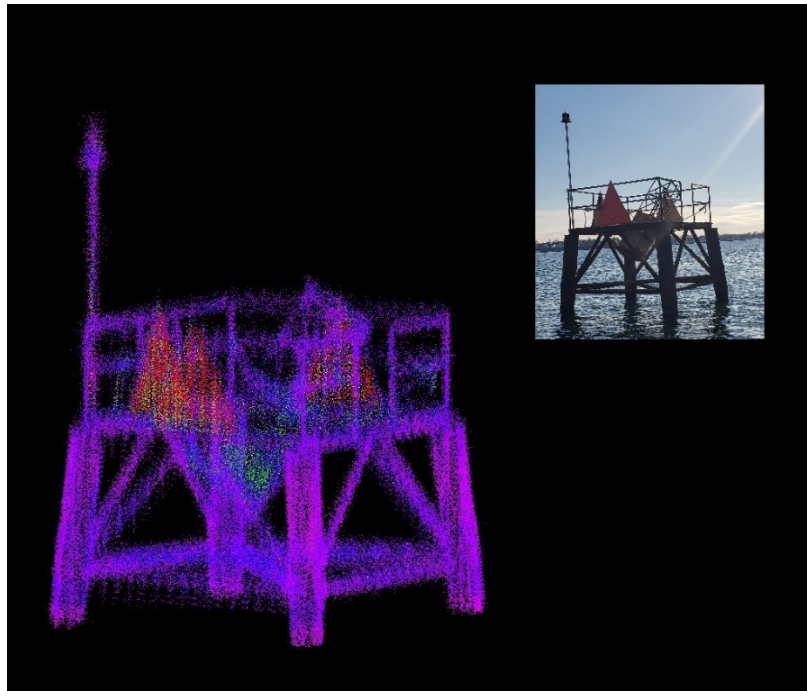


FIGURE 3. Pier and condominiums from Velodyne LIDAR and HYSWEEP®.

