I've been working on adding filtering to the CLOUD program.

Mostly, filtering is done with SBMAX (the SINGLE BEAM EDITOR), MBMAX (the HYSWEEP® EDITOR), before you get to CLOUD. However, if you have XYZ or XYZ, Intensity data sets it can be useful. We've been working on saving raw and filtered data from the echoscope driver to XYZ Intensity files.

**FIGURE 1.** Sample of Some Raw Data Color Depth (left) and Intensity (right).

In the depth view, you can slightly make out the pylons in the water but, in the intensity view, you can also see a lot of low intensity points.

To clean it up I'm going to apply a minimum intensity filter to the data to remove the bad points. Also there is a wall behind the pylons which makes them more difficult to see.

**FIGURE 2.** Applying an Intensity Filter to the Data
Once the filter is run, it makes it a lot easier to distinguish the pylons against the ground and wall behind them. If I wanted to go a bit further, I could then apply the minimum depth filter and remove the yellow and greener points below them. Then, using the other editing tools, I could remove the wall and other points that don’t look like they belong and get a clear picture of the ground and the pylons.