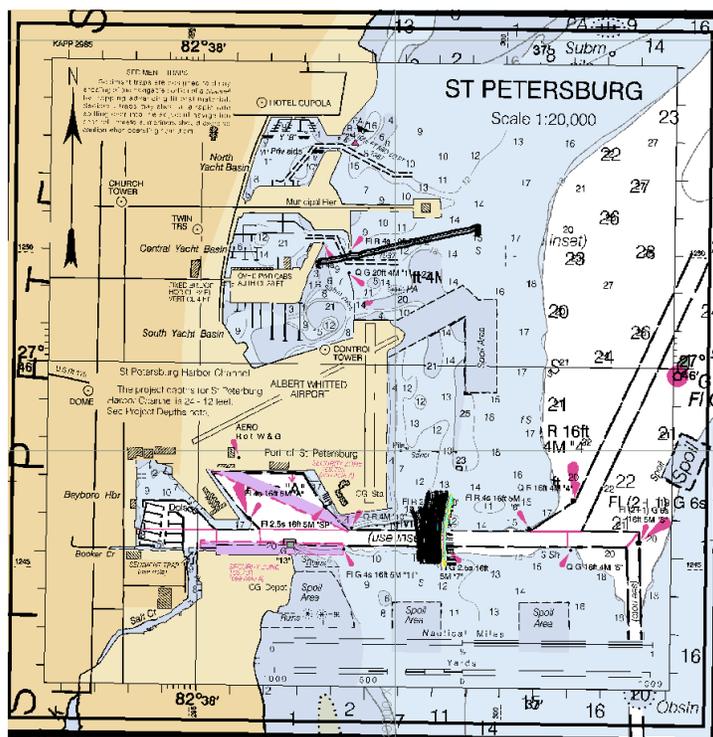# Contouring the Channel Bathymetry Activity

This activity is intended to compliment USGS video created for Science Festival October 16, 2020

Bathymetry is the study and measurement of the floor (or bed) of a water body. This could be an ocean, a lake, a river, a stream, or even a pond in your neighborhood.

As you have seen in the wave runner video, we use three instruments (a depth finder, a GPS, and a motion sensor) to collect measurements of water depth (bathymetry). This data is then processed for quality and then used to create a map of the area that was surveyed.

Many bathymetry maps, or NOAA nautical charts contain contour lines. Contour lines help to create a shape of the seafloor (or other water body) by grouping similar depths together using some simple rules. The following image is an example of a bathymetric chart created by NOAA of our local downtown St. Petersburg Yacht basin and surrounding Pier location.

Some very basic rules for creating bathymetric contour lines:

Contour lines separate similar depths.  Each data point on or within a contour line must have the same or similar value.
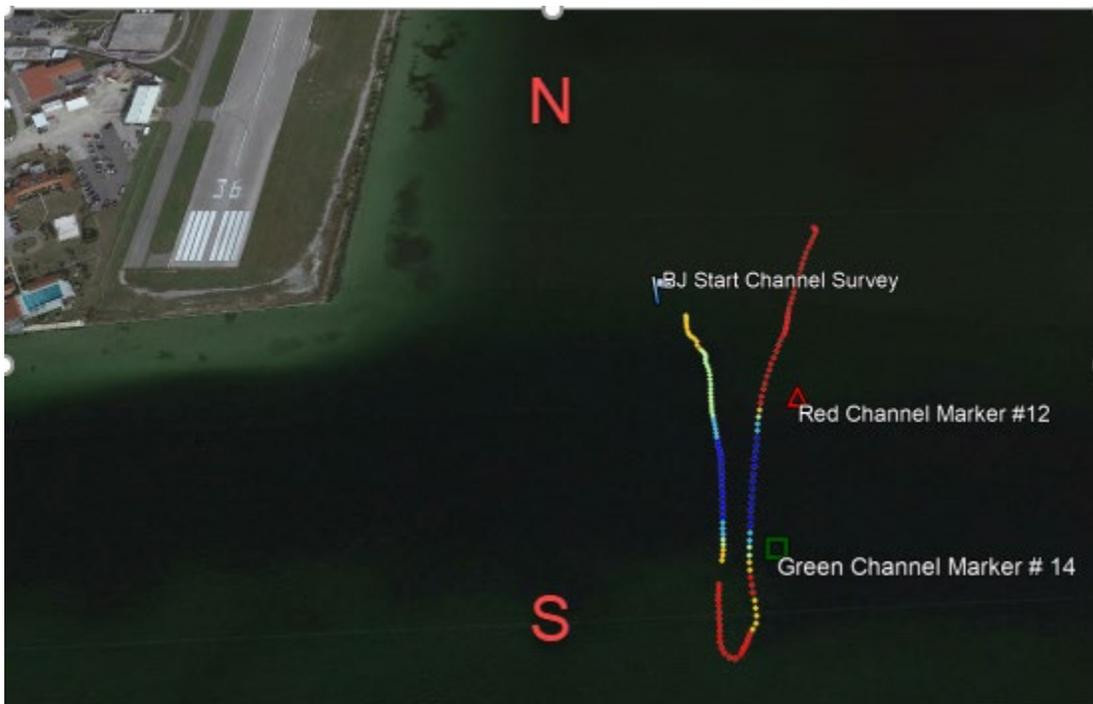
For example, if data points are plotted in 1-meter intervals as shown in this activity, then all data points from 1.00 meters to 1.99 meters will be within in the same contour.

2. Contour lines do not touch or cross.

3. Contour lines are closer in spacing in areas of rapid decent or rapidly changing depths.

4. Contour lines are can have further spacing in flatter areas having similar depths (example of seagrass bed, or shallow sand bars)

Can you test your skills at creating a contour map of the channel using the data points that BJ collected as shown in the image below?



Using what you have learned from watching the video and listening to the explanations, give your own skills a try at drawing contours of similar colored depth in the practice sheet on the next page.  An example line of the -5.00-meter contour line is there to help get you started.

## BJ's Channel Bathymetry Data

**Water Depth**
- -8.48 - -8.00
- -7.99 - -7.00
- -6.99 - -6.00
- -5.99 - -5.00
- -4.99 - -4.38

Can you draw the rest of the contours? There is one started for you already.

-5.00
-6.00
-7.00
-8.00

-8.00
-7.00
-6.00

-5.00

N

S