Pydro

Pydro is a suite of software developed by NOAA and University of New Hampshire's Center for Coastal and Ocean Mapping (CCOM) HydrOffice to aid hydrography and nautical charting. The program can be dowloaded here:

https://nauticalcharts.noaa.gov/data/tools-apps.html

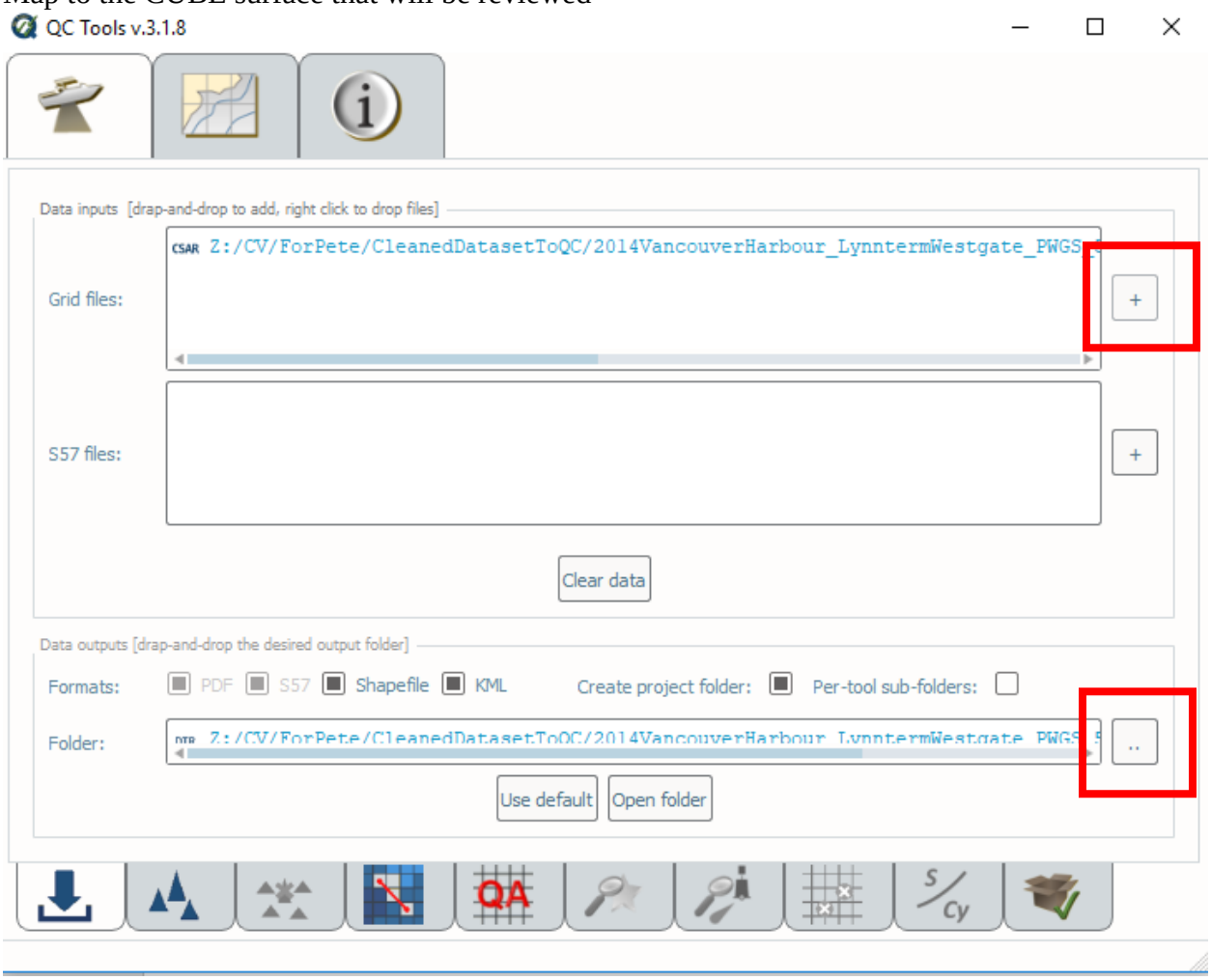
QCTools- Background

This algorithm contributes to detect fliers as early as possible in the quality control process. The initial implementation scans gridded bathymetry and flags abrupt depth changes as per user-set criteria, Several algorithm modifications have also been testing (e.g., by including the evaluation of additional statistic layers provided by a CUBE DTM). This section of Pydro can be downloaded and used as a stand-alone program:

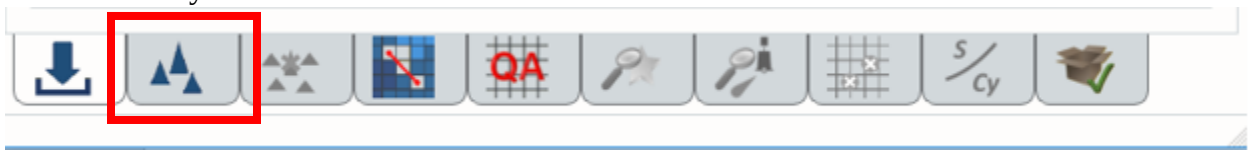
https://www.hydroffice.org/qctools/main

Find Fliers- Procedures

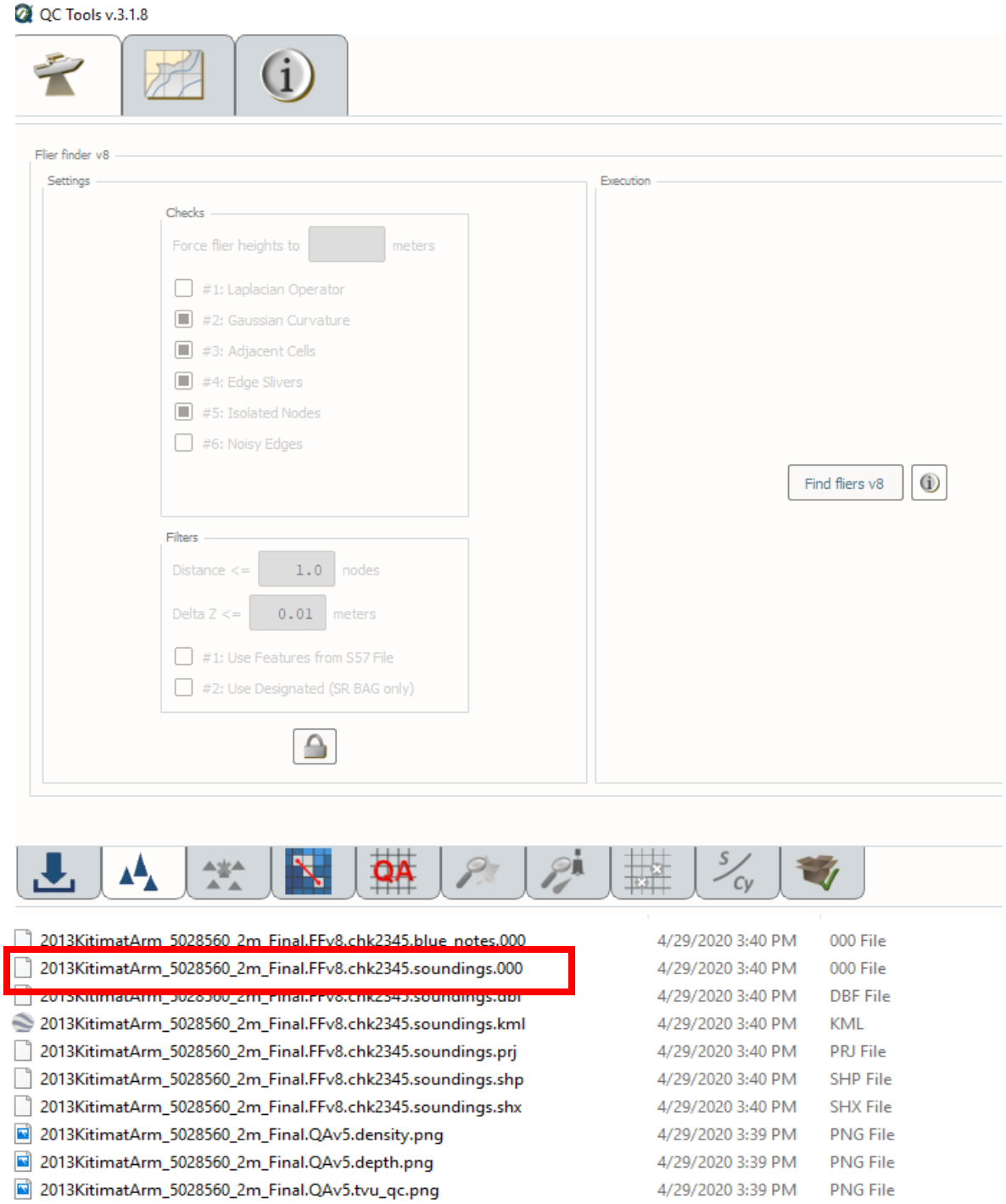
1. Navigate to the validation folder and create a "QCTools" folder for the data outputs.
2. Map to the CUBE surface that will be reviewed



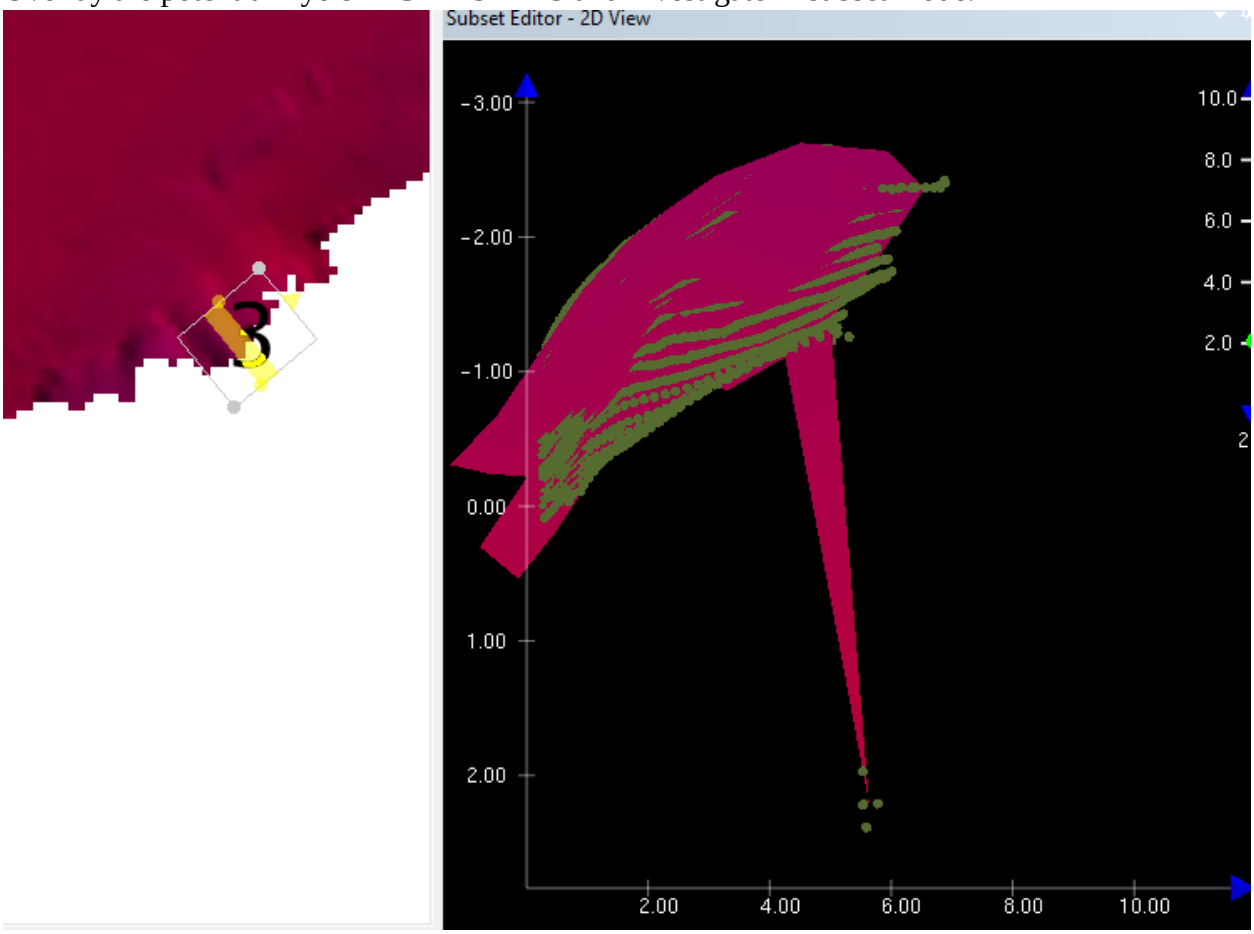
3. Click on the flyer tab



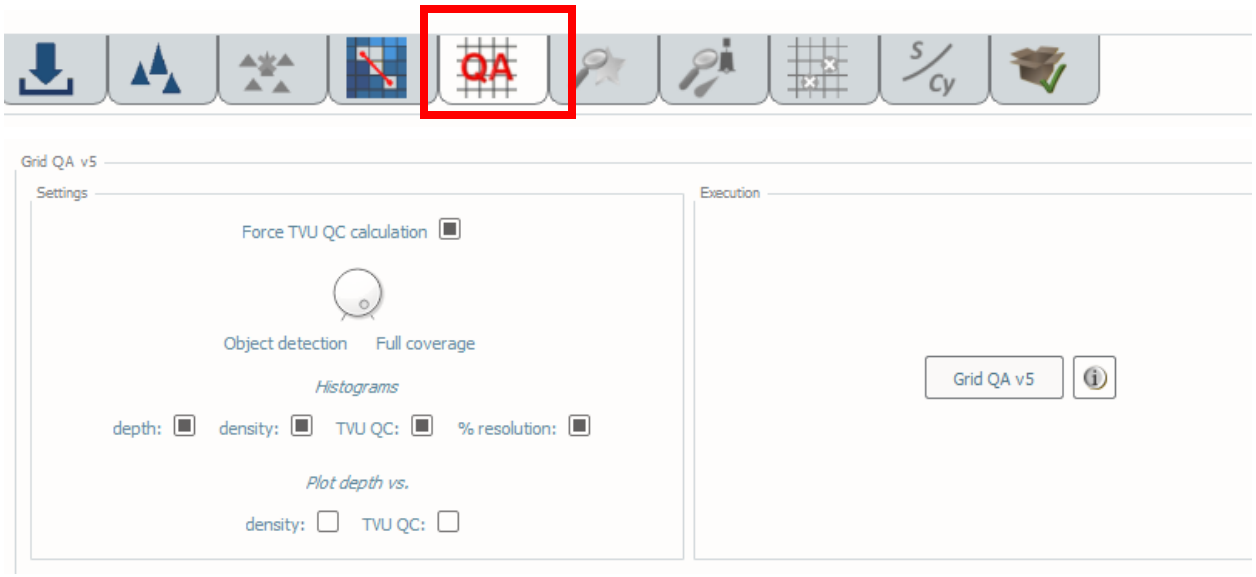
4. The defaults checks work for most survey areas. The filters can be changed by unlocking the padlock icon. The output of the checks are .000 file and shape file with the number of <u>potential</u> flyers listed. Since step vertical slopes have large standard deviations between nodes these valid depths may be flagged as potential flyers.



5. Overlay the potential flyers in CARIS HIPS and investigate in subset mode.

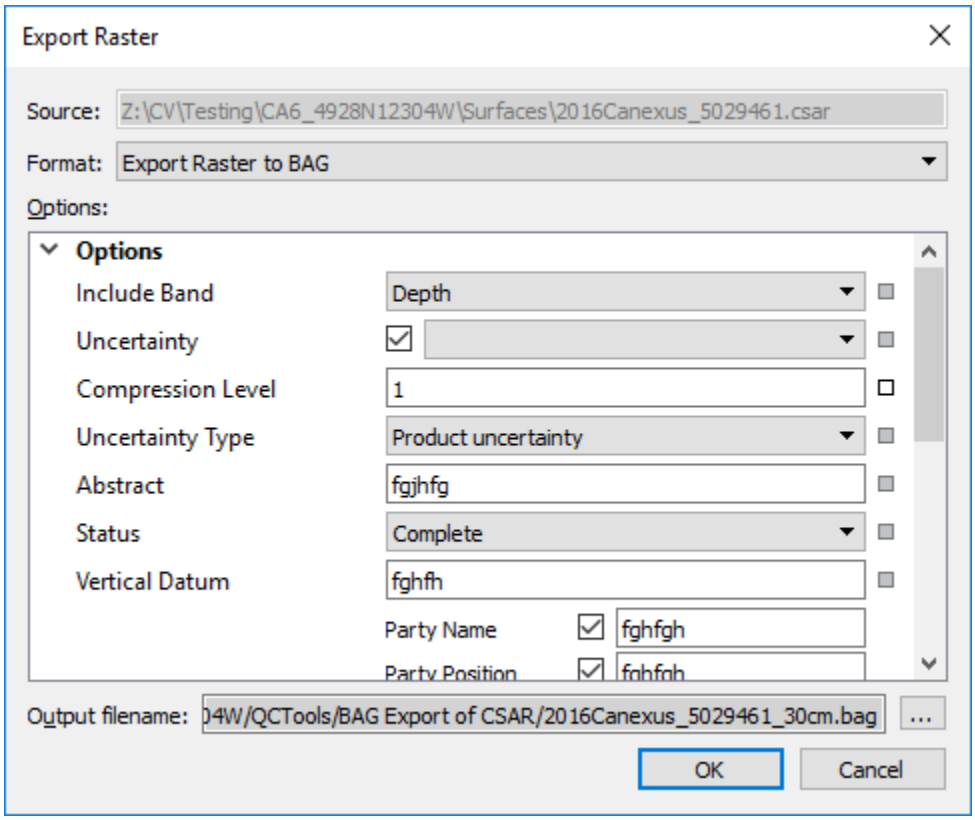


6. The total density of a survey can be assessed using QCTools. NOAA uses the threshold of 5 nodes populated over 95% of the survey (see NOAA's Hydrographic Specs and Deliverables for additional information).

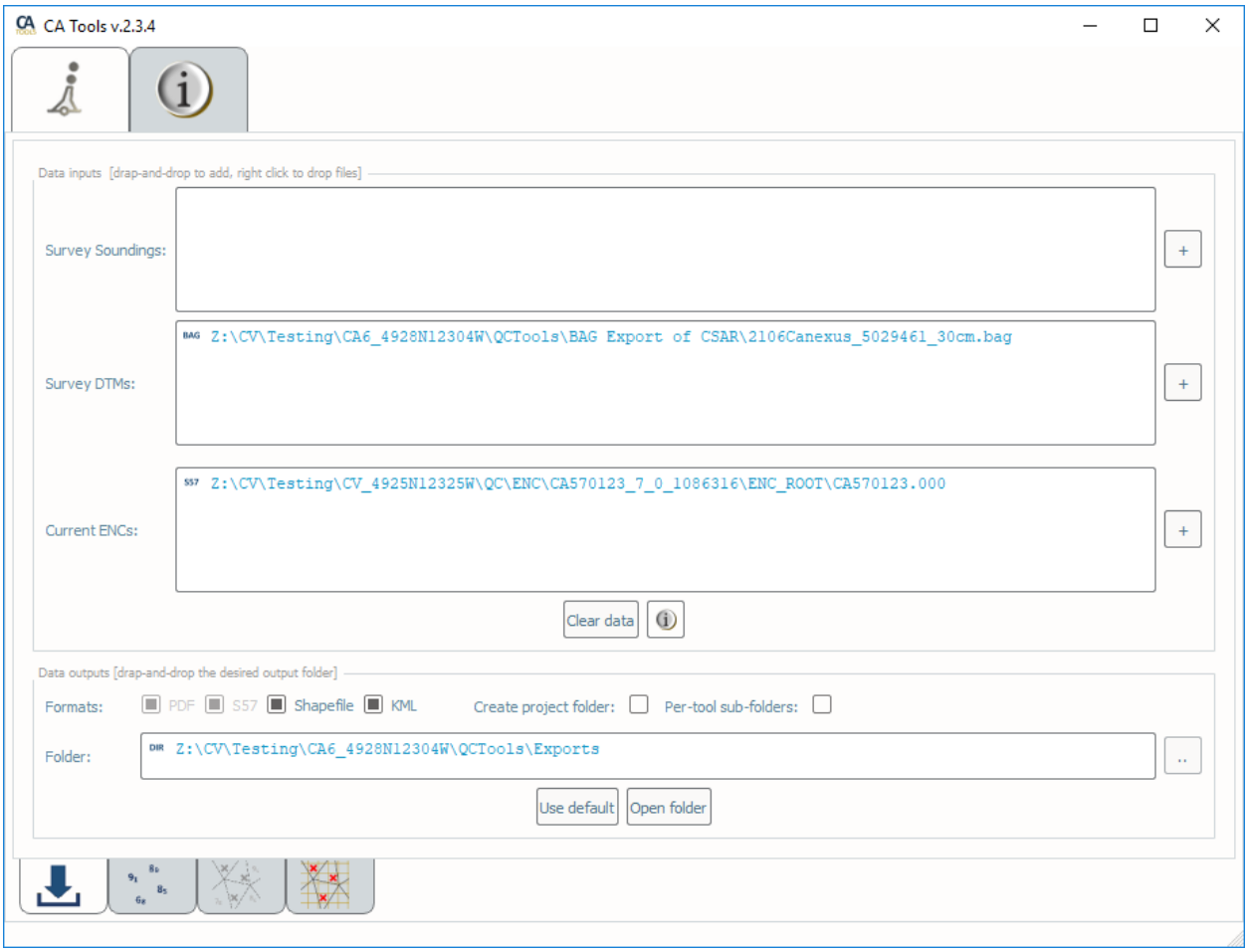


ENC to Surface Difference

1. Export CSAR as a BAG file
    a. File>Export>Raster
        i. Select BAG format from the drop down menu

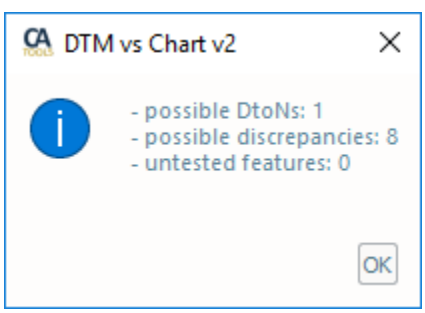
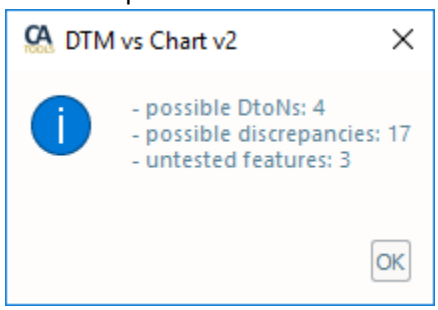
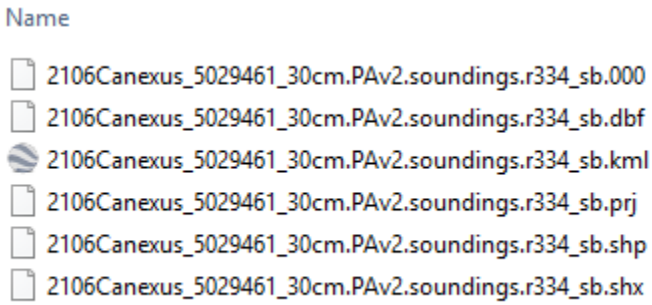
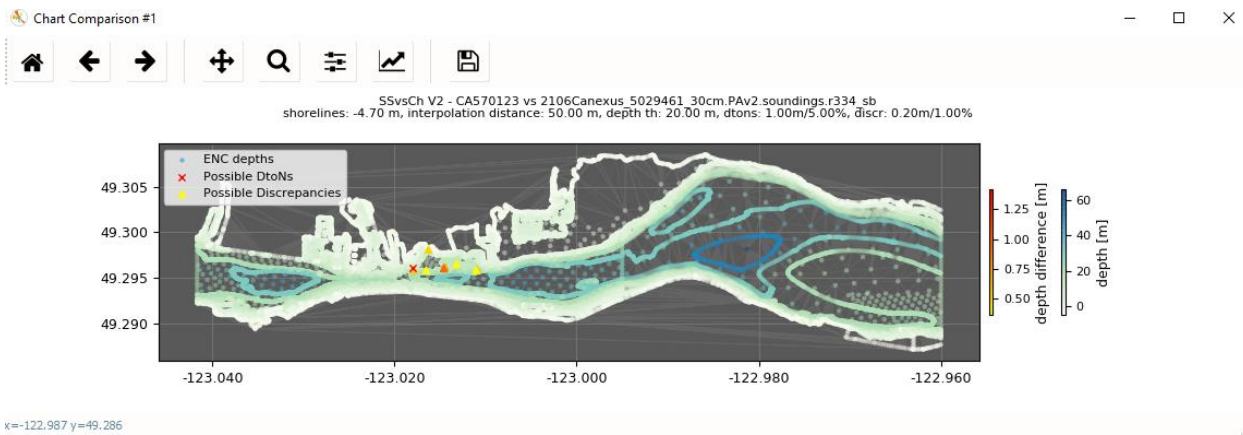


2. Open CA Tools in Pydro



3. Select DTM vs Chart

Leave the defaults (I sometimes change the threshold for dangers depending on the area)



4. Review exports