**Workhorse Sentinel 1200 kHz Post-Processing**

Recovering Data from ADCP Deployment:

1. After the instrument is recovered. Open WinSC --> File --> Recover Recorder Data --> select the appropriate file directory for the output file.
   1. Data files will be outputted in a format ending in \*000.000, \* 000.001 etc.
   2. The data files can be opened in WinSC and WavesMon.

WavesMon Processing

1. Open WavesMon and select "File" -> "New Waves Project"
2. Select "Reprocess" then click "Next"
3. Select the raw .000 or .001 file that you wish to process. In the “File Information” section, check the start and end times of the data sampling along with the number of ensembles and wave burst to compare with your intended results based on pre-deployment settings. Then click "Next"
4. Input the correct "Altitude Above Bottom" in meters. Also check that the Magnetic variation that was input at the time of deployment is correct. If it is incorrect make a note, this can be changed later. Click "Next"
5. There is no need for input on the "Data Sampling" page. Click "Next"
6. Under "Project Name" input the folder name that you want the processed data to be in. Select the directory that you wish the folder to be stored in under "Working Directory". Finally, select "Enter Advance Configuration" and click "Next"
7. No changes need to be made on the "ADCP Environment" page. Click "Next"
8. In “Advanced Processing”, select “VPS” under the “Spectrum used to calculate wave parameter”. Click “Next”
9. Continue clicking "Next" until you reach the "Advance File Outputs" page. Here you will select format 9 under the "Wave Parameters Log." Then under "Processed Waves Data" select "Save Text File."
10. Click Next until you reach the "Summary" page. Then click "Finish." The file will be loaded into WavesMon.
11. To begin processing, press the play button at the top left of the screen. Once it is done you should have a folder that contains the direction spectrum, pressure spectrum, surface spectrum and velocity spectrum. You will also have a .prj file, a .WVS file, a .PD0 file and a .txt file.
12. You will end up with several files. An explanation for the various files is below.
    1. Direction Spectrum: file will be named like "DSpec.....txt" There will be a txt file for every burst that the ADCP took.
    2. Pressure Spectrum: file will be named like "Pspec....txt" and there will be a file for each burst for each burst.
    3. Surface Spectrum: file will be named like "SSpec....txt" and there will be a file for each burst for each burst.
    4. Velocity Spectrum: file will be named like "VSpec....txt" and there will be a file for each burst for each burst.
13. The .prj and .WVS files can be opened using RDI's WavesView software. The .PD0 file contains the currents and can be opened using RDI's WindADCP software.
14. Open Matlab and create a .m file for the wave and spectrum data.
15. Copy the file directory for the file folder that was outputted by WavesMon and label it path (path = ‘*file directory’*). The full file name for the Log9.txt file will be needed to run the matlab function RDIWH\_process\_waves.m (Ex. filename = ‘*Waves092021.112021\_000\_000\_LOG9.TXT*’).
16. The matlab function RDIWH\_process\_waves.m can run with the path and filename as inputs to the function. It will output a structure containing Hs, Tp, Md, and time.
17. The four spectrum files are separated and concatenated into a structure using the function process\_deployment.m. The file directory saved as path in step 15 is used as the single input to the function. The process\_deployment.m function will output a structure with the direction spectrum, pressure spectrum, surface spectrum, and velocity spectrum.
18. Save these two structures to a .mat file with a naming convention that is fit for your research.