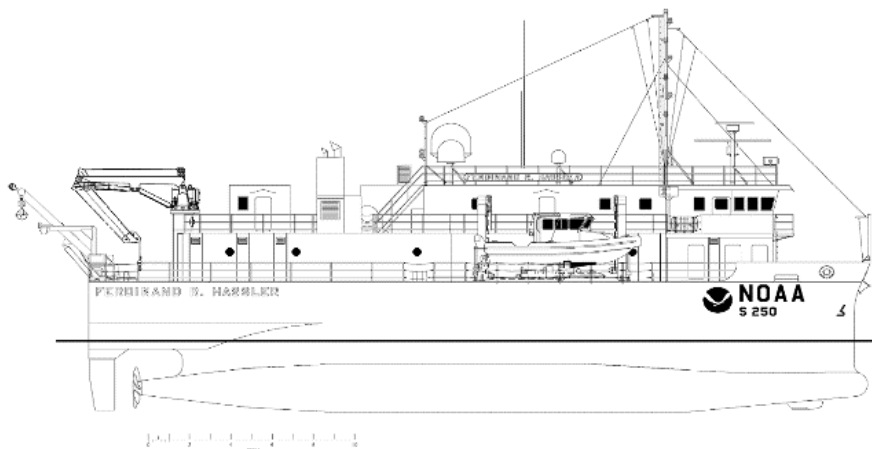




## Daily Survey Statistics for Operations Officer

## Standard Operating Procedure



### REVISION HISTORY

REV	Description of Change	Editor	Effective Date
1	Initial release	PS Amanda Finn	03/29/2022

### Contents

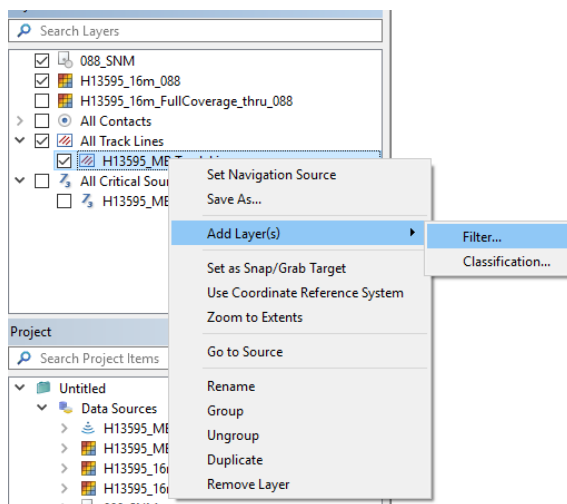
Overview.....	Error! Bookmark not defined.
Calculate Linear Nautical Miles	
Calculate Square Nautical Miles	
Number of Casts	

### Overview

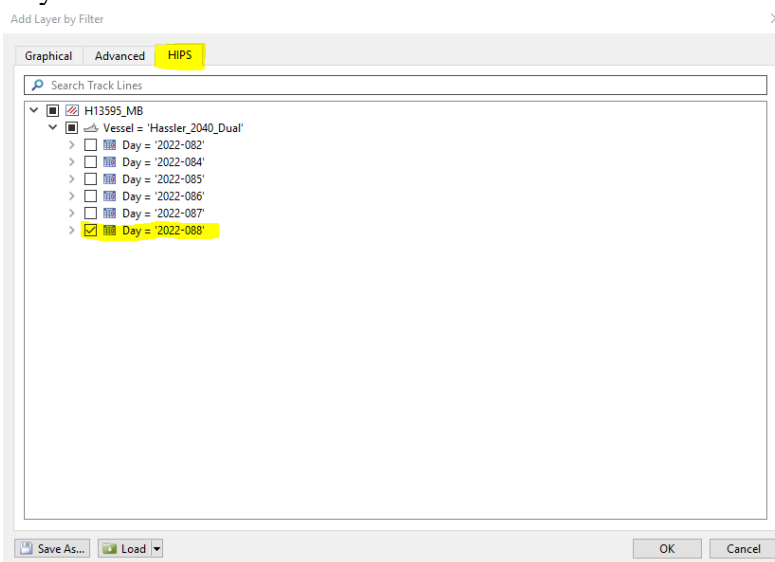
This SOP outlines the steps required to produce the daily statistics for each survey day: linear nautical miles (LNM), square nautical miles (SNM), and number of CTD/MVP casts. These statistics can be retrieved at the end of Charlene processing each day.

## Calculate Linear Nautical Miles

1. Open the survey's HIPS project in Caris
2. In the "Layers" window, right-click on the "HXXXX\_MB Track Lines" child layer → Add Layer(s) → Filter



3. Select the "HIPS" tab
4. Uncheck all other days → OK



5. Double-click on your new layer to rename it after the day number
6. Select the layer → Ctrl+A (or "Select All")
7. Tools → Report → Line



Line Report

File options

Delimiter: **Comma**

☒ Include headers

☒ Include column totals

Details:

☒ HIPS file

☐ Vessel

☐ Day

☒ Line Name

☒ Length

☐ SVP Corrected

☐ SVP File

☐ Delayed Heave Loaded

☐ Delayed Heave File

☐ Georeferenced

☐ TPU Computed

☐ Outdated

☐ Speed

☐ Heading

☐ Source File

☐ Nav|Att File

☐ RMS File

Output type: **Report grid and file**

OK Cancel

8. Match these parameters. De-select everything except “HIPS file,” “Line Name,” and “Length.” → OK

9. Once it runs, CARIS will display a “Report” tab at the bottom, next to the Output and Selection tabs

Report		
HIPS file	Line Name	Length
H13595_MB	0008_202203...	1123.27
H13595_MB	0002_202203...	497.90
H13595_MB	0010_202203...	1846.19
H13595_MB	0024_202203...	6197.15
H13595_MB	0011_202203...	7464.56
H13595_MB	0021_202203...	7430.88
H13595_MB	0019_202203...	937.47
H13595_MB	0015_202203...	1086.02
H13595_MB	0003_202203...	518.83
H13595_MB	0005_202203...	2412.93
H13595_MB	0009_202203...	1272.95

Output Selection **Report**

10. Manually select all the lines → Right-click → Copy

11. Open an excel spreadsheet → Paste the data into excel

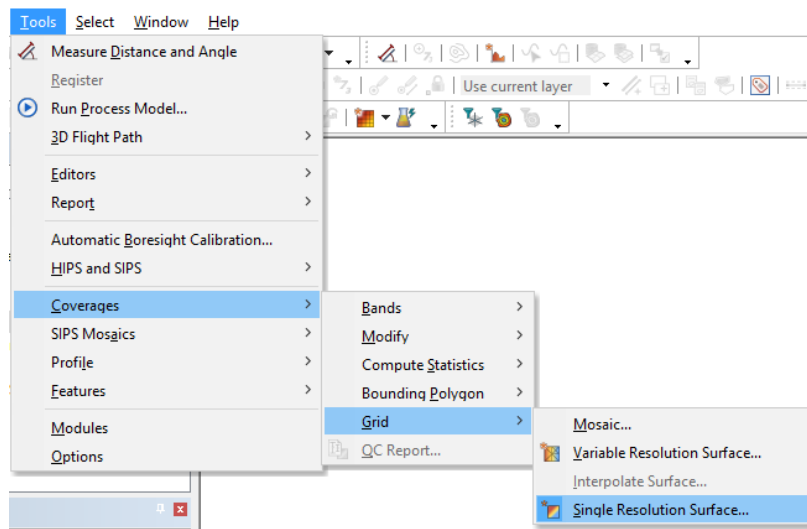
12. Calculate the SUM of all the line lengths and divide by 1852 (this converts meters into nautical miles)

	A	B	C	D
1	HIPS file	Line Name	Length	
2	H13595_M	0008_2022	1123.27	
3	H13595_M	0002_2022	497.9	
4	H13595_M	0010_2022	1846.19	
5	H13595_M	0024_2022	6197.15	
6	H13595_M	0011_2022	7464.56	
7	H13595_M	0021_2022	7430.88	
8	H13595_M	0019_2022	937.47	
9	H13595_M	0015_2022	1086.02	
10	H13595_M	0003_2022	518.83	
11	H13595_M	0005_2022	2412.93	
12	H13595_M	0009_2022	1272.95	
13				
14			=sum(C2:C12)/1852	
15				

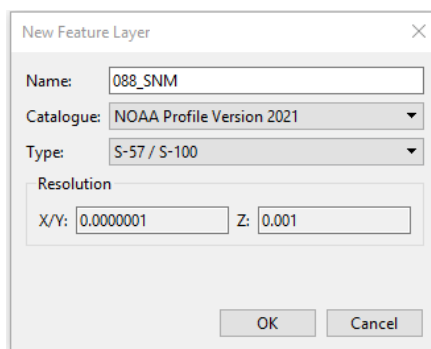
13. Document this number for the Operations officer

## Calculate Square Nautical Miles

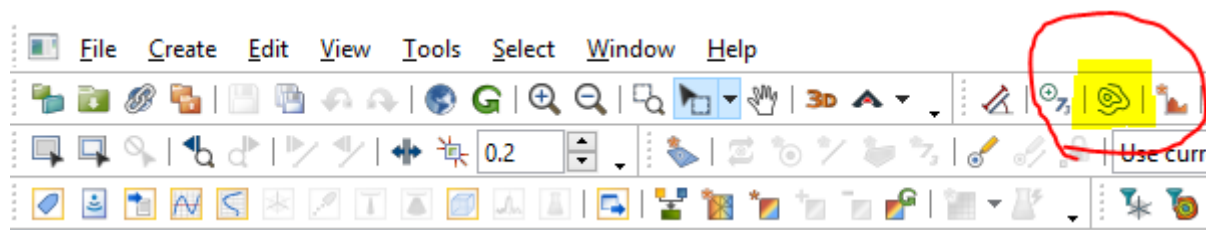
1. Select your day number layer in CARIS
2. Create a coarse resolution surface (8m, 16m, etc)



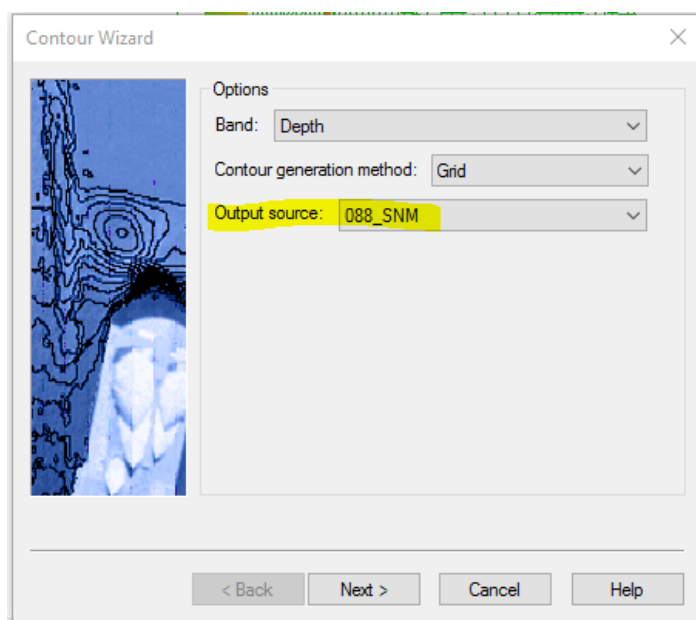
3. Create a new Feature Layer and name it “DDD\_SNM”
  - a. File → New → Feature Layer



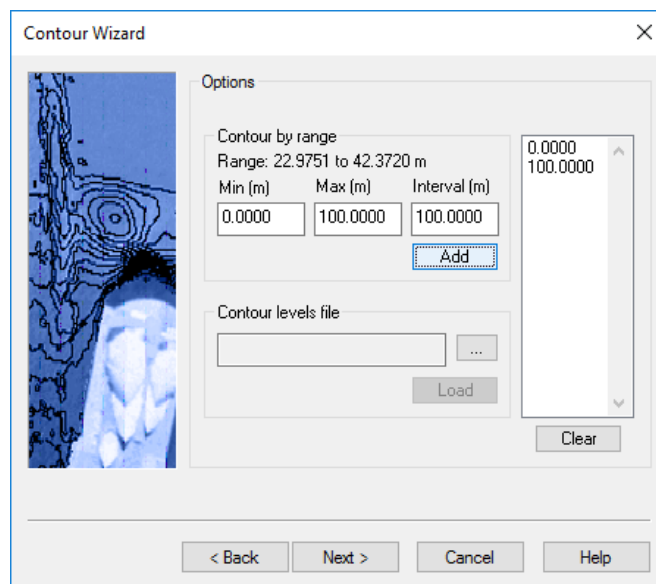
4. Select your surface in the “Layers” Tab
5. Select the “Contour” button at the top of the toolbar



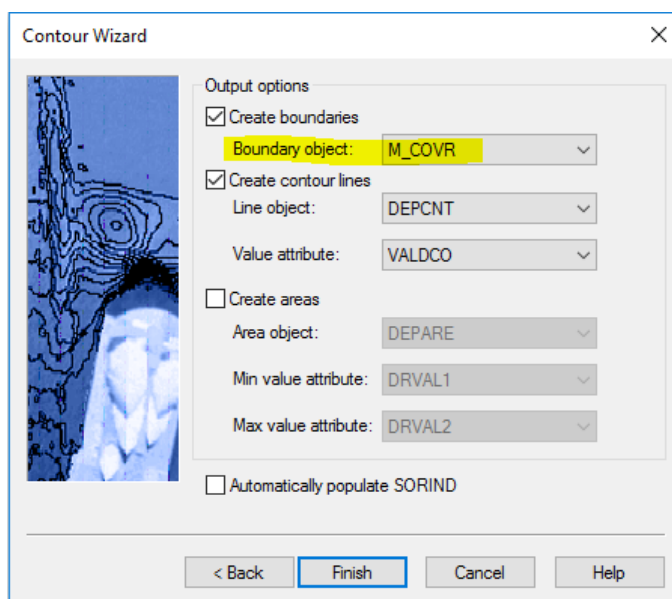
6. Set “Output Source” to your DDD\_SNM Feature Layer
  - a. Click Next



7. Set you Min and Max depths to numbers far outside your survey grid's depth range
  - a. Set the interval to a very large number → Click “Add”
  - b. Click Next



8. Match these settings. You should only have to change “Boundary object” to “M\_COVR”
  - a. Click Finish



9. When CARIS is done processing, select your “DDD\_SNM” feature layer
  - a. “Select All” or Ctrl+A
  - b. In “Selection” tab at bottom of screen, add of the area of all the M\_COVR objects (you may have more than one)
  - c. Ignore any that have 0.00 for the Area
  - d. If you do NOT see a column labeled “Area”:
    - i. Right-click on the column headers → More... → Check “Area” → OK
  - e. You can also copy this into excel and add the column

Selection								
Feature ID	Acronym	Name	Geometry	Latitude	Longitude	Depth	Object Ty...	Area
	M_COVR	Coverage	Area				Meta	0.02
	M_COVR	Coverage	Area				Meta	0.02
	M_COVR	Coverage	Area				Meta	0.03
	M_COVR	Coverage	Area				Meta	0.03
	M_COVR	Coverage	Area				Meta	0.03
	M_COVR	Coverage	Area				Meta	0.04
	M_COVR	Coverage	Area				Meta	0.05
	M_COVR	Coverage	Area				Meta	0.05
	M_COVR	Coverage	Area				Meta	0.05
	M_COVR	Coverage	Area				Meta	0.05

10. And voilà!



## Retrieve Number of Casts

There are several ways to do this:

1. Go to your desired day number in the Proc drive:
  - a. Ex) *S:\2022\OPR-F364-FH-22\H13594\Processed\SVP\Hassler\_2040\_Dual\SVP\2022-084*
  - b. The number of files in this folder indicate how many casts were taken.
2. Alternatively, open up the day number's acquisition log:
  - a. Ex) *S:\2022\OPR-F364-FH-22\H13594\Processed\Reports\Survey\Acquisition\_Processing\_Logs\Acquisition\_Logs\Hassler\_2040\_Dual\2022-084*
  - b. And check in the Acquisition Log's MVP/CTD cast section how many were taken that day