ecoSUB_process

Script to process and plot science and engineerig data from ecoSUB instruments.

Requires:

- gsw toolbox http://www.teos-10.org/software.htm
- cmocean https://uk.mathworks.com/matlabcentral/fileexchange/57773-cmocean-perceptually-uniform-colormaps
- m_map https://www.eoas.ubc.ca/~rich/map.html

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Set filepaths and strings for incoming and outgoing data

1. Set paths to data and figure folder
2. Change testdate variable to reflect the folder in /logs
3. Check the IMEI number to match the vehicle used
4. Choose quality control parameters to apply to the data

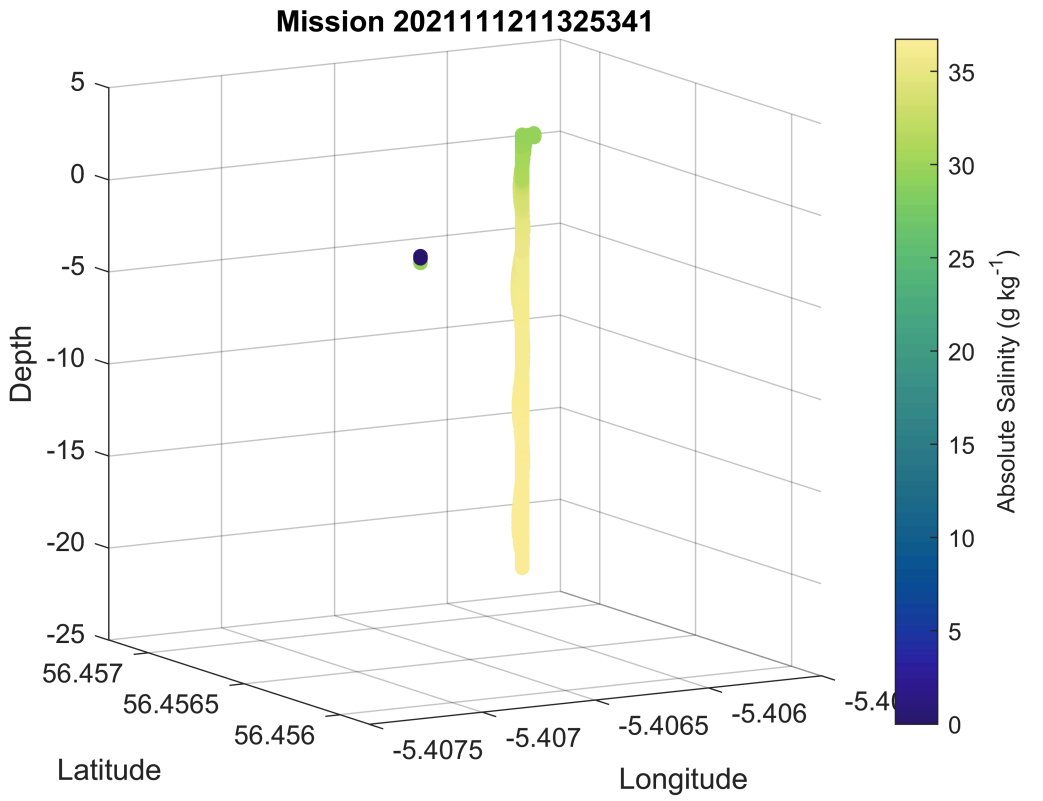
```
inst =
'milli'
```

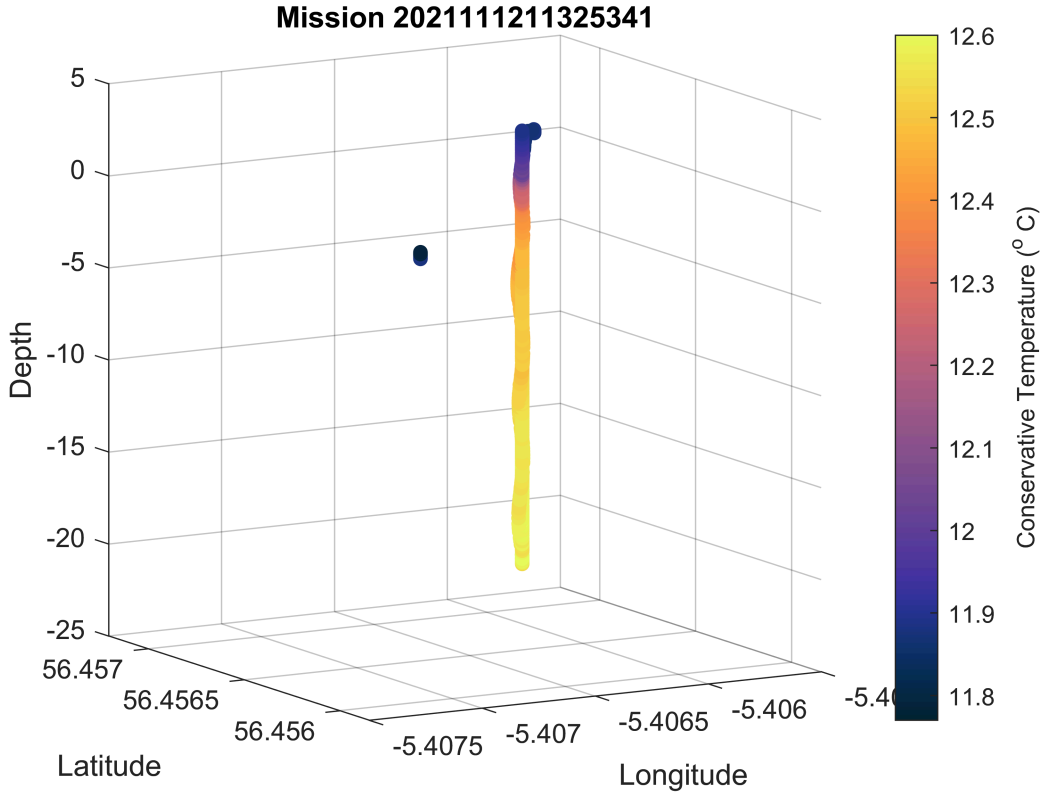
```
Warning: Column headers from the file were modified to make them valid MATLAB identifiers before creating
 variable names for the table. The original column headers are saved in the VariableDescriptions property.
Set 'PreserveVariableNames' to true to use the original column headers as table variable names.
```

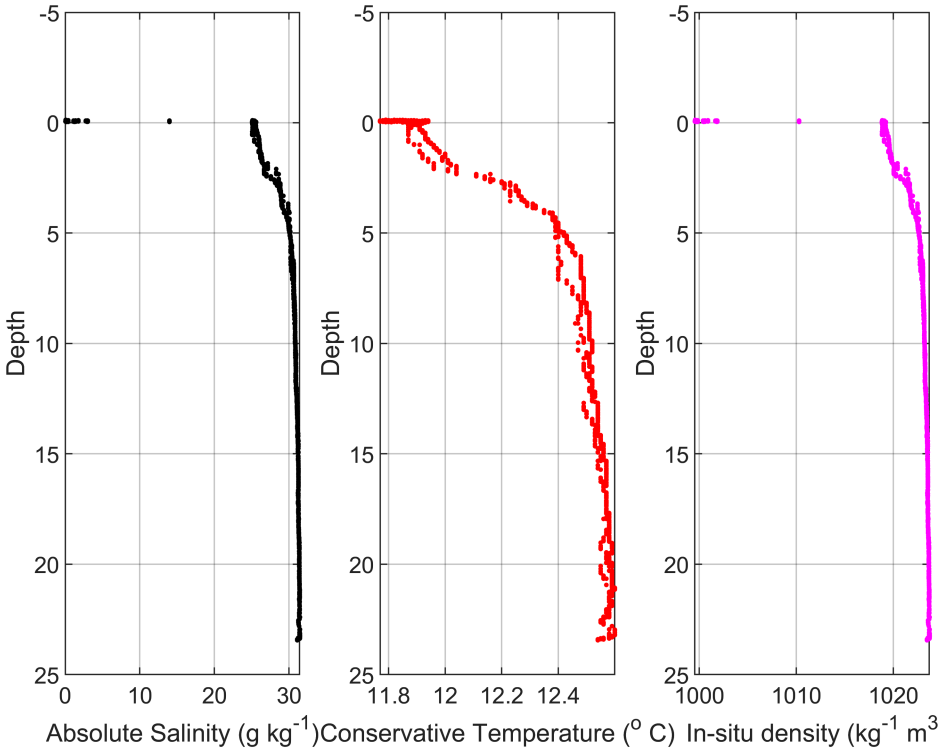
Extract data, apply QA to science data, and conversion to TEOS-10

Plot science data

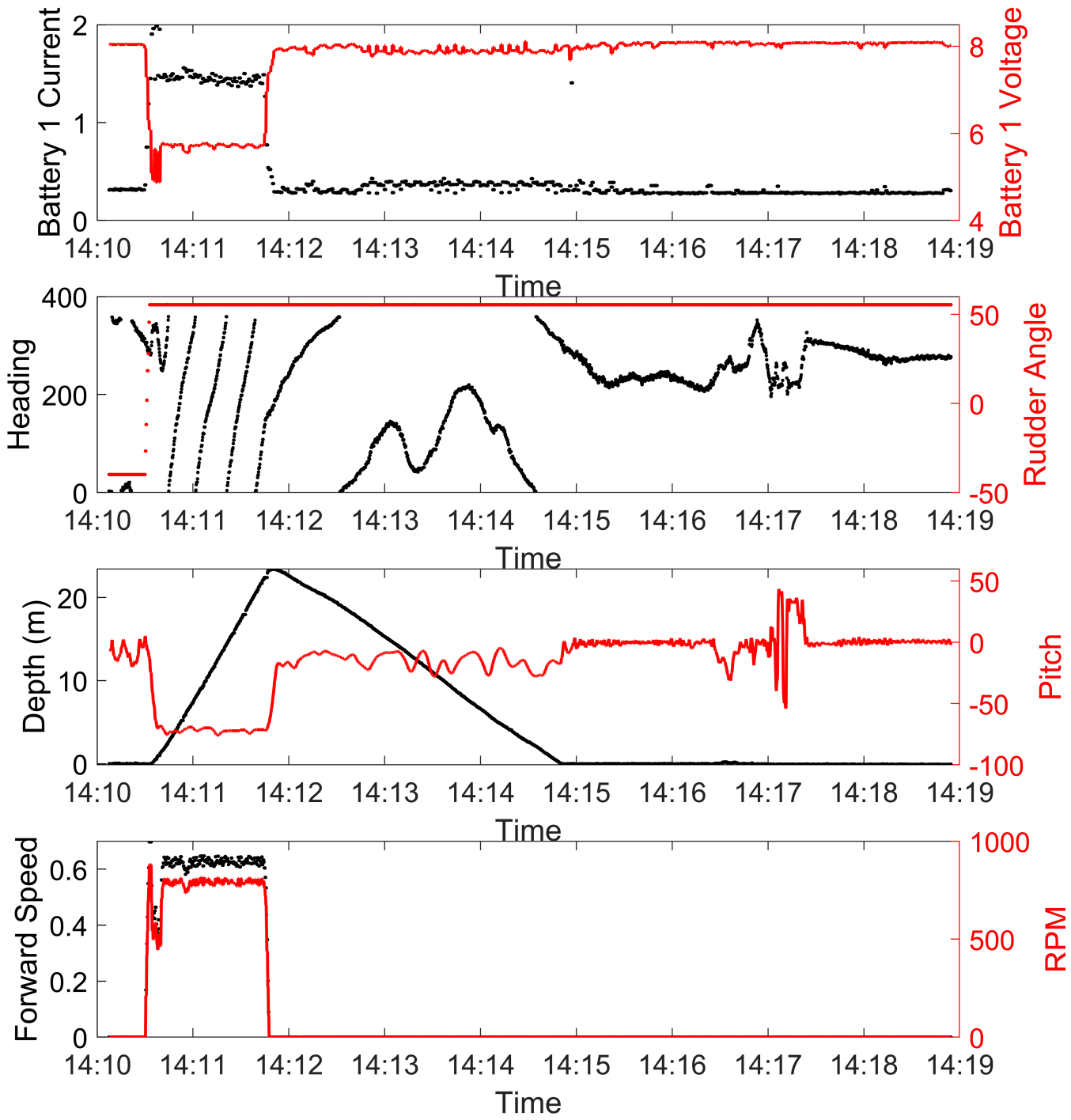
will only plot realistic (in-water) values of salinity and temperature


Mission 2021111211325341
Depth
5
0
-5
-10
-15
-20
-25
56.457
56.4565
56.456
Latitude
-5.4075
-5.407
-5.4065
-5.406
Longitude
35
30
25
20
15
10
5
0
Absolute Salinity (g kg-1)


Mission 2021111211325341
Depth
5
0
-5
-10
-15
-20
-25
56.457
56.4565
56.456
Latitude
-5.4075
-5.407
-5.4065
-5.406
Longitude
12.6
12.5
12.4
12.3
12.2
12.1
12
11.9
11.8
Conservative Temperature (° C)



Plot vehicle engineering units


Battery 1 Current
Battery 1 Voltage
Time
Heading
Rudder Angle
Time
Depth (m)
Pitch
Time
Forward Speed
RPM
Time
14:10
14:11
14:12
14:13
14:14
14:15
14:16
14:17
14:18
14:19