Instructions for Read_SOCATv3_v5.m

This is the routine to get the SOCAT v3.0 (2015) to v5.0 (2017) data into matlab. The data files are the "SOCAT V3-V5" global and regional zip files, which can be downloaded from the SOCAT Data Download page on www.socat.info. It can also read the individual cruise files from Pangaea (http://doi.pangaea.de) as well as the ascii or csv files downloaded from the cruise viewer on the SOCAT website.
Several files can be selected, all with the same extension.

Instructions:

Possible User Input:

> readlines = number of lines read per loop
>> Some computers might overload if this number is too big. Lower the number if that's the case. 10,000 seems to work well.

> dflt = set of column numbers that will show up as selected when interface is created. They can be deselected at will on the interface.

① Start the program, then select the file you want to import. The following extensions are allowed: .txt   .tab.tsv   .tsv   .csv   .rtf'

② Select the variables you want to import individually on the interface…click OK. [clicking CANCEL will stop the program]

③ Enter the geographical limits of the data you want to import …click OK. [clicking CANCEL will stop the program]
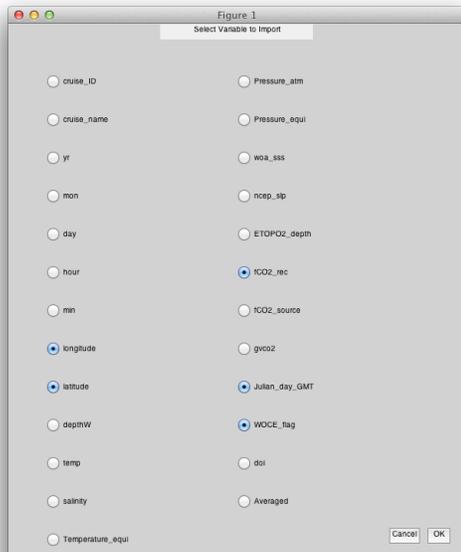
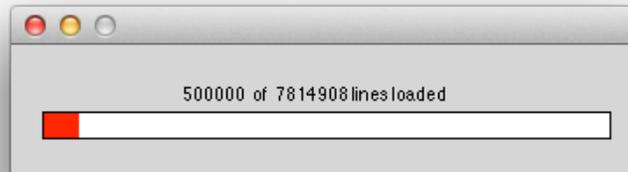

The names displayed are the column headers
The resulting variables in Matlab will have the same names.

④ If applicable, select the cruise and/or data flags to be imported.
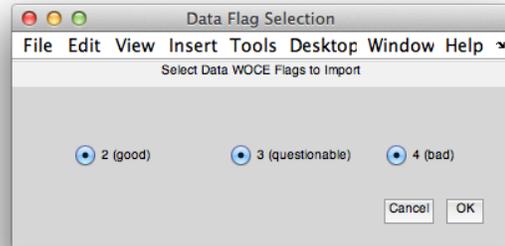
⑤ A progress bar will appear. When it disappears, the data will be loaded in Matlab.

Other details:

- It reads the file until the column headers are found.
- Determines # of columns from # of headers.
- Creates GUI to ask user which columns to import
- If Lat or Lon are selected for import, it creates another GUI to ask user which geographical region to import.
- If cruise flags are present and selected for import, it creates a GUI to select which flags to import. Likewise with data flags
- Data is stored in variables named after column headers
- Anything before column headers is stored in 'StartText' variable

Quick Look:

Code has been added at the end (starting at line 378) to do a quick 3D plot of data. To run this code, do the following:
- Change "fCO2rec" for the variable name to be plotted
- Highlight the code from line 385 to 405
- Right-Click on the selected code and select "Evaluate Selection"