

## Instructions for Read SOCATv3 v2022.m

This is the routine to get the SOCAT v3.0 (2015) to v2022 data into matlab. The data files are the “SOCAT V3-V2022” global and regional zip (or tsv) files, which can be downloaded from the SOCAT Data Download page on [www.socat.info](http://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 to find the data header  
10,000 seems to work well.

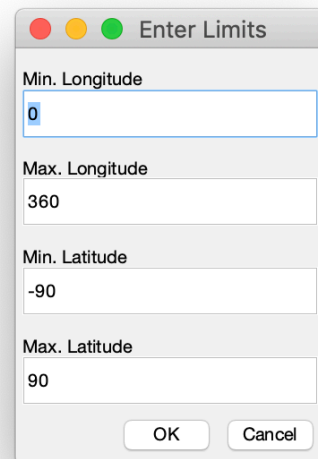
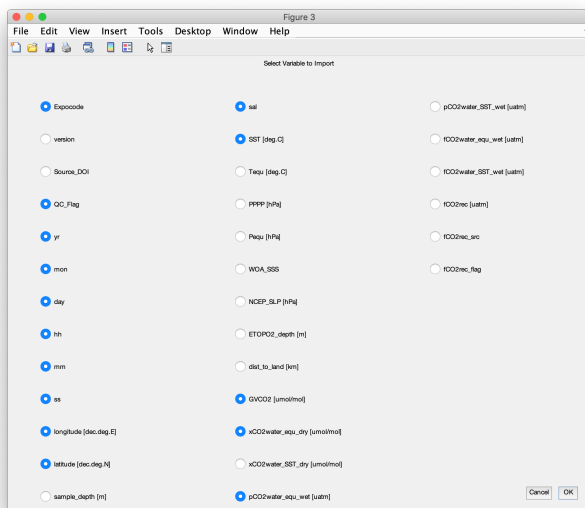
dflft = set of column numbers that will show up as selected when interface is created. They can be deselected at will on the interface.  
Variable can be found in the code around line 100

defans = default lat-lon limits of region to be imported when interface is created.  
They can be changed on the interface.  
Variable can be found in the code around line 200

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

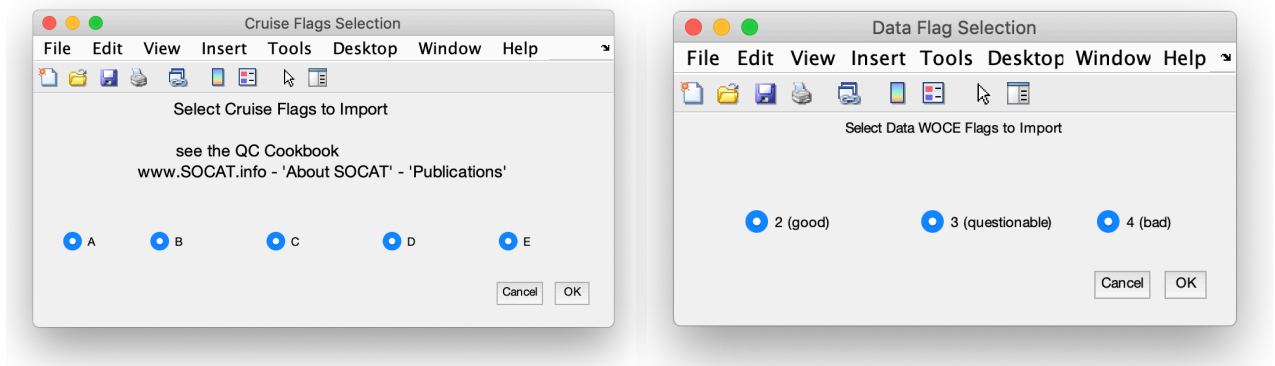
② Select the variables you want to import individually on the interface...click OK.  
[clicking CANCEL will stop the program]

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 The data will be loaded in Matlab after a few seconds.

### **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.
- If fCO2rec\_flag column is selected for import, it creates a GUI to select which data flags to import.
- 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 379) 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 386 to 406
- Right-Click on the selected code and select “Evaluate Selection”