

Instructions for Read_SOCATv3_v2019.m

This is the routine to get the SOCAT v3.0 (2015) to v2019 data into matlab. The data files are the “SOCAT V3-V2019” 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

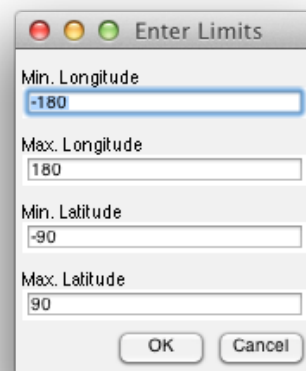
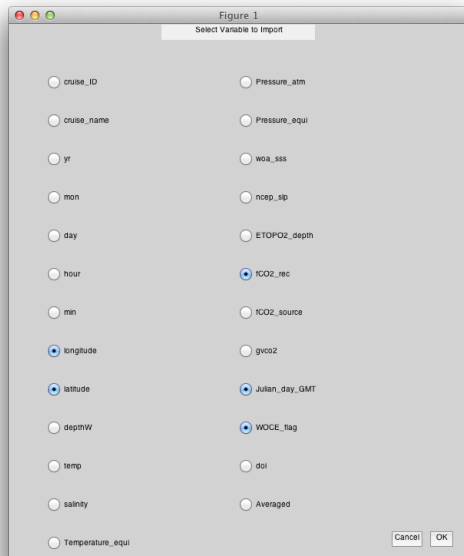
Some computers might overload if this number is too big. Lower the number if that's the case. 10,000 seems to work well.

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

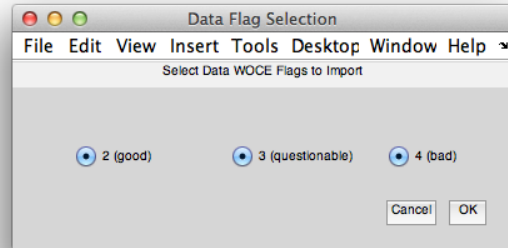
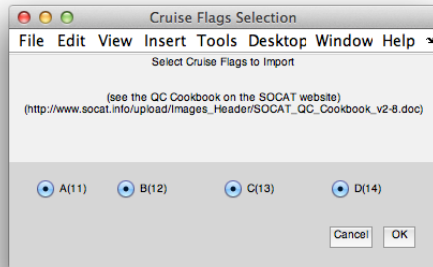
② Select the variables you want to import individually on the interface...click OK.
[clicking CANCEL will stop the program]

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

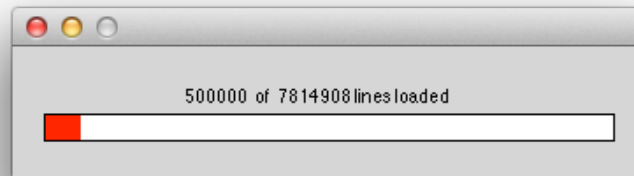


The names displayed are the column headers
The resulting variables in Matlab will have the same names.

- 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 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”