

## Instructions for Read\_SOCATv2019\_v2023.m

This is the routine to get the SOCAT v2019 to v2023 data into Matlab. The data files are the “SOCAT V2019-V2023” 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. Please report bugs to [denis.pierrot@noaa.gov](mailto:denis.pierrot@noaa.gov)

### Instructions:

Possible User Input:

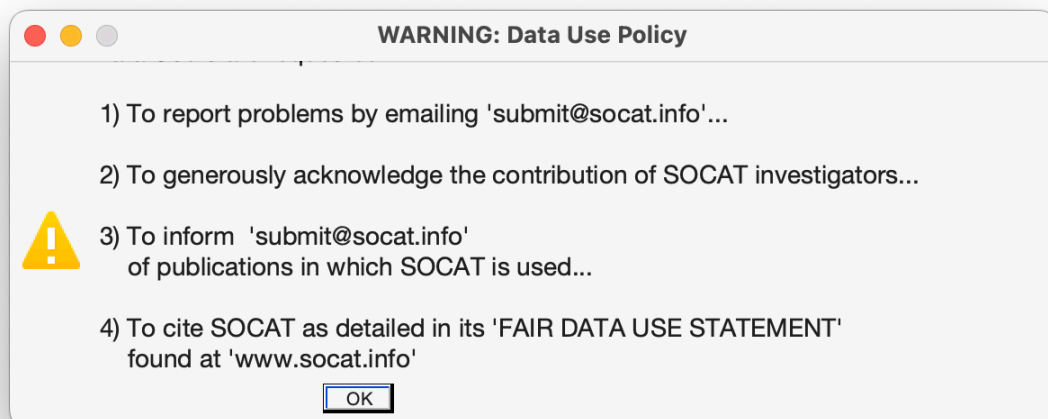
readlines = number of lines read to find the data header  
10,000 seems to work well.

dflt or

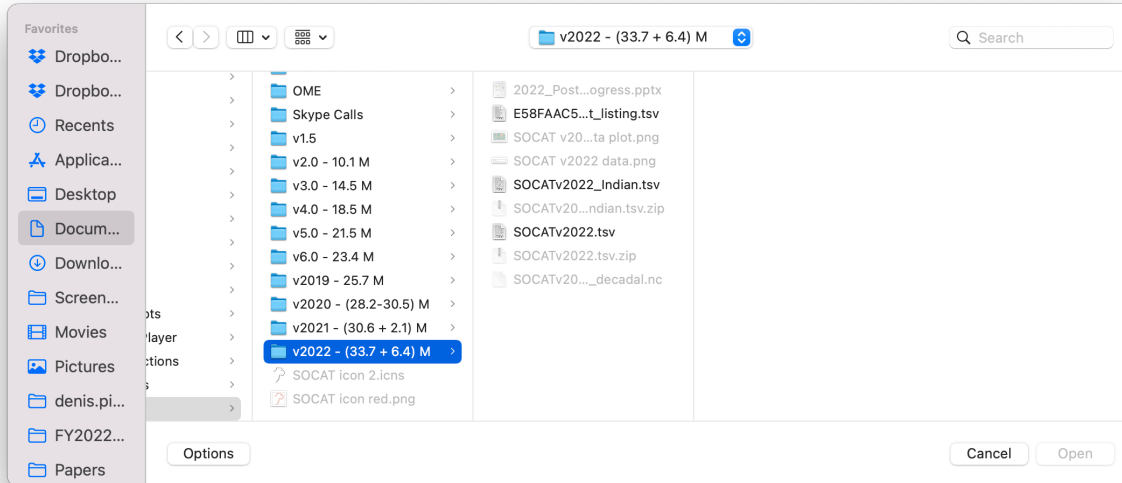
dflt\_info = set of column numbers that will show up as selected when interface is created. They can be deselected at will on the interface.

Variables can be found in the code around line 100

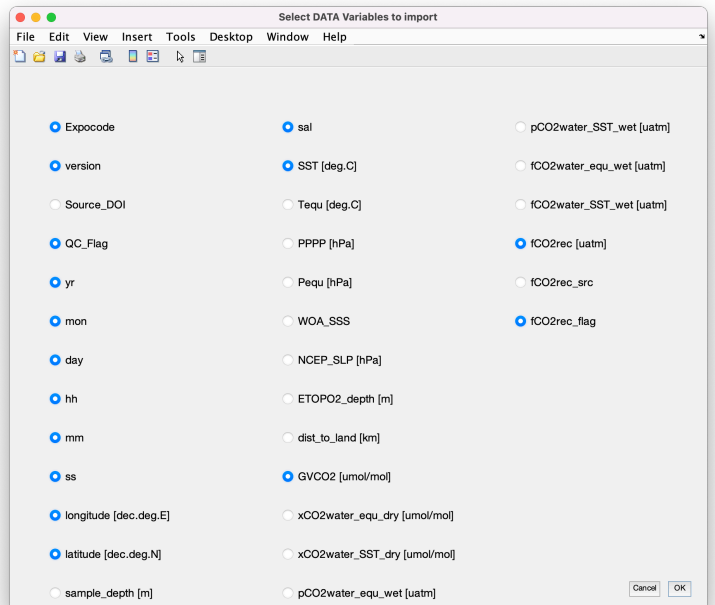
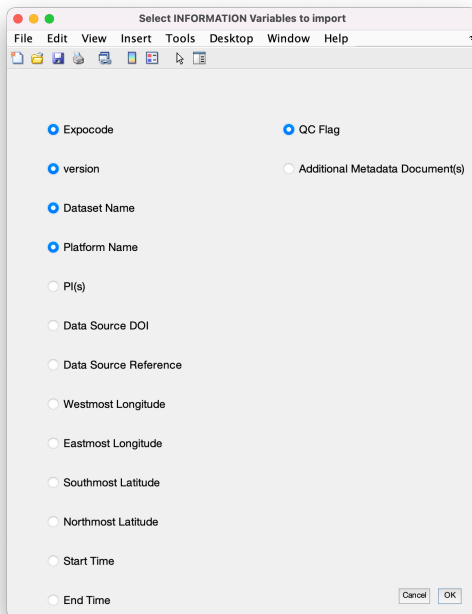
① Start the program, then read the warning.



② select the file you want to import. The following extensions are allowed: (.txt .tab.tsv .tsv .csv .rtf)



③ Select the variables you want to import individually on the interface...click OK. [clicking CANCEL will stop the program]



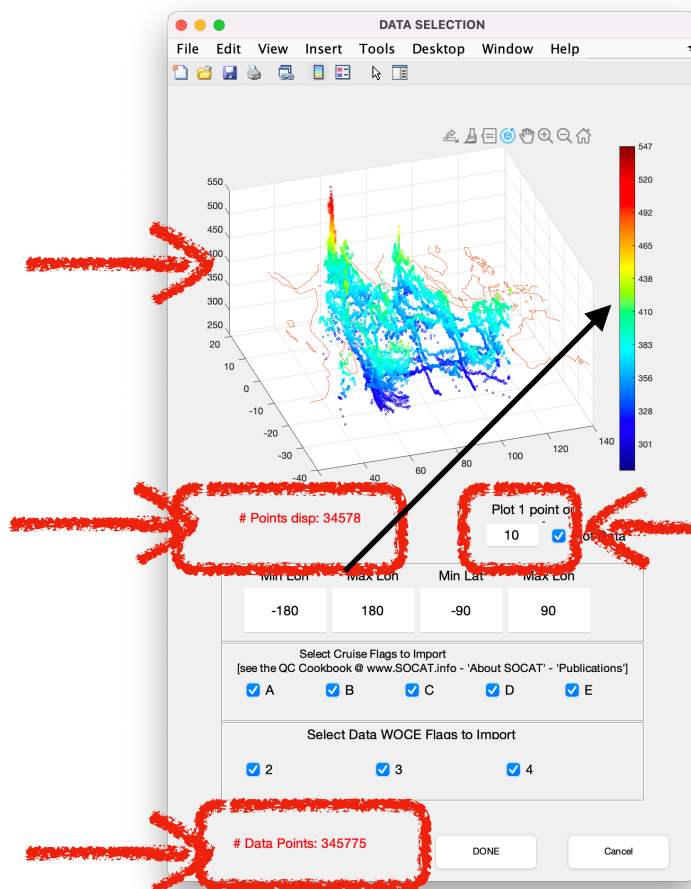
④ On the next interface, the data will be plotted in 3D. (If the dataset is big, this might take a while).

- If the variables selected allow, the user will have the possibility to select geographical limits, as well as cruise or data flags to import.
- Enter the geographical limits of the data you want to import, and select which cruise or data flags to import
- Each time a selection is modified, the data selected will be re-plotted and the number of points selected will be displayed at the bottom left of the interface
- The user can reduce the number of points to plot to speed the program.
- To skip plotting altogether, de-select the “Graph” check box.

Graph can be rotated with the tools above.

Number of points displayed on the graph

Number of points displayed on the graph



Fraction of points selected displayed on the graph. 10= 1/10th displayed

Name	Value
clean_with	1x4 cell
data_in	1x16 cell
data_in_clean	1x16 cell
data_info_in	1x5 cell
Dataset_Name...	108x1 cell
day	345775x1 cell
expocode	345775x1 cell
Expocode_info	108x1 cell
fco2rec	345775x1 cell
fco2rec_flag	345775x1 cell
gvco2	345775x1 cell
hh	345775x1 cell
latitude	345775x1 cell
longitude	345775x1 cell
mm	345775x1 cell
mon	345775x1 cell
Platform_Nam...	108x1 cell
qc_flag	345775x1 cell
QC_Flag_info	108x1 cell

...click DONE. [clicking CANCEL will stop the program]. The data will be in the workspace.