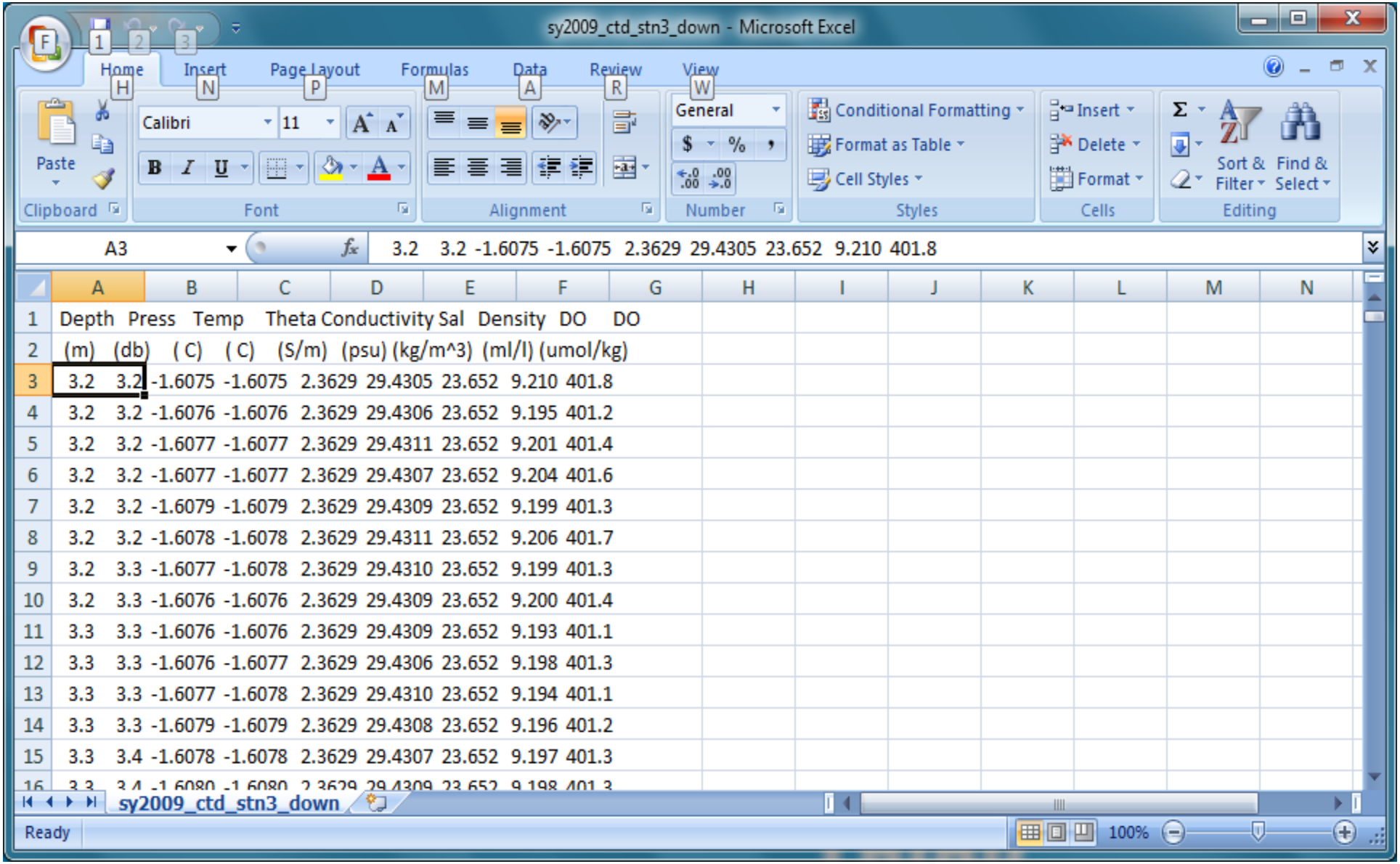
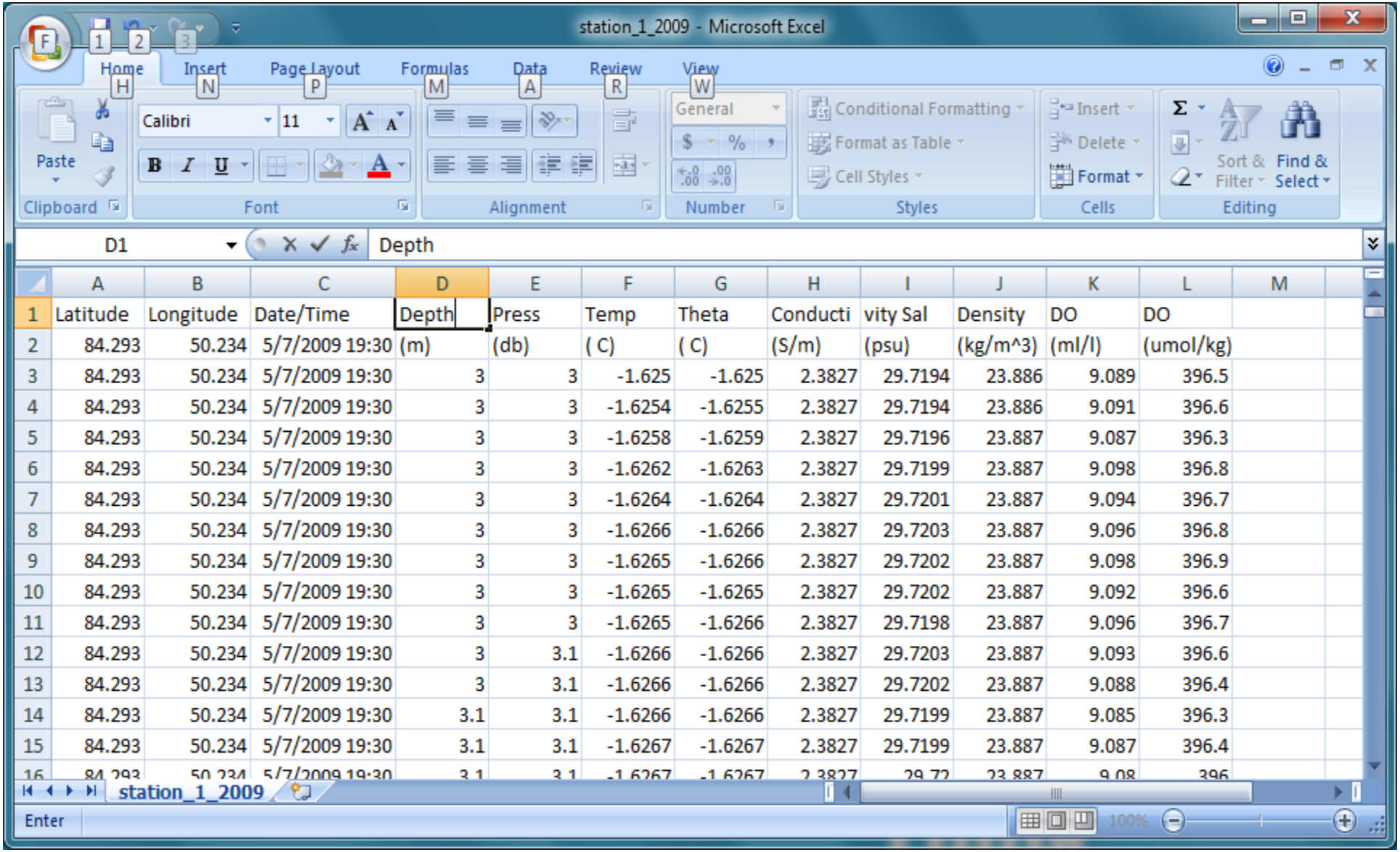
Non-standard ASCII to netCDF

CF Conventions
REQUIRE
Latitude
Longitude
Date/Time
…for EVERY observation

Bad ASCII

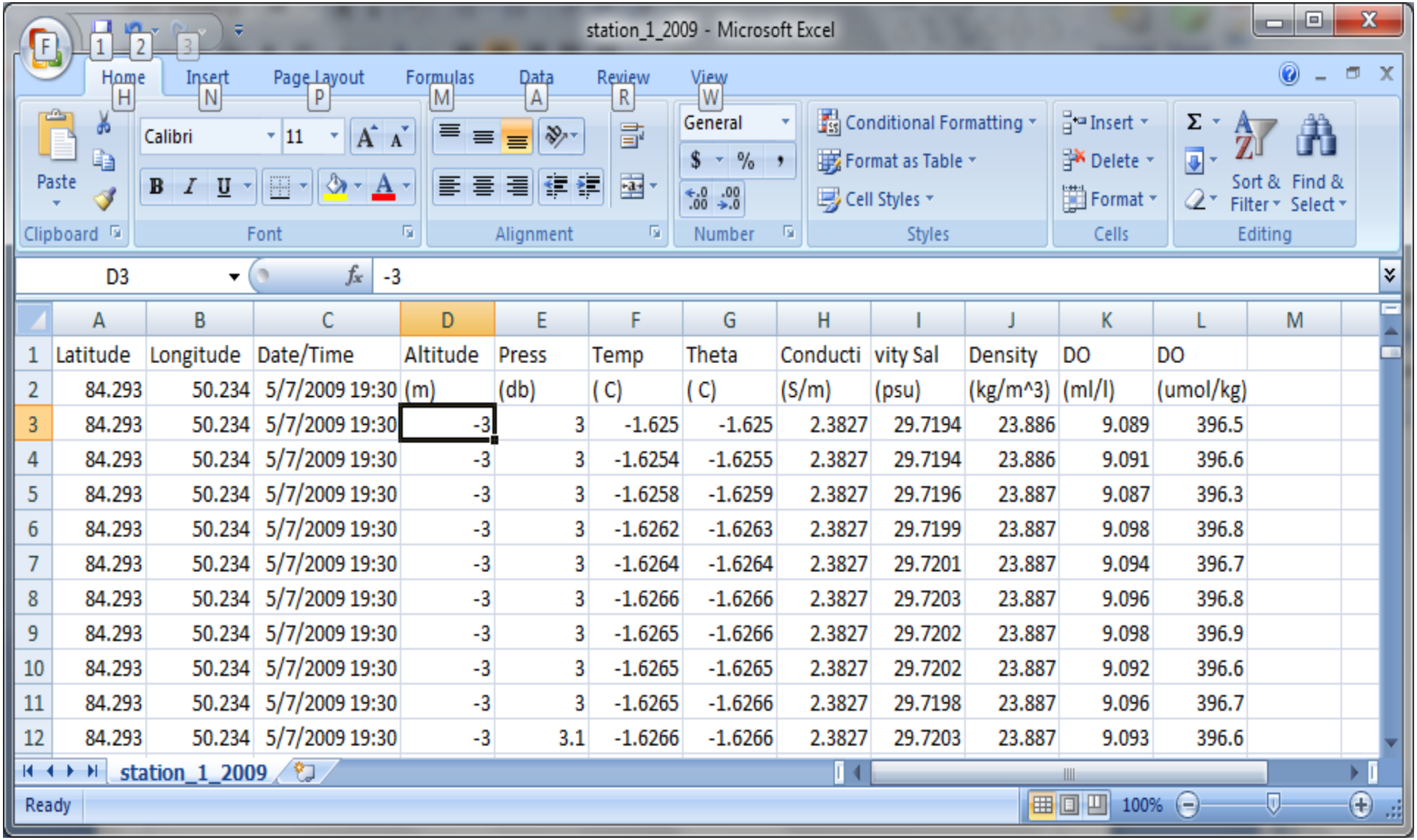

sy2009_ctd_stn3_down - Microsoft Excel
Home
Insert
Page Layout
Formulas
Data
Review
View
Paste
Calibri
11
General
Conditional Formatting
Format as Table
Cell Styles
Insert
Delete
Format
Sort & Filter
Find & Select
Clipboard
Font
Alignment
Number
Styles
Cells
Editing
A3
3.2 3.2 -1.6075 -1.6075 2.3629 29.4305 23.652 9.210 401.8
Depth Press Temp Theta Conductivity Sal Density DO DO
(m) (db) (C) (C) (S/m) (psu) (kg/m^3) (ml/l) (umol/kg)
3.2 3.2 -1.6075 -1.6075 2.3629 29.4305 23.652 9.210 401.8
3.2 3.2 -1.6076 -1.6076 2.3629 29.4306 23.652 9.195 401.2
3.2 3.2 -1.6077 -1.6077 2.3629 29.4311 23.652 9.201 401.4
3.2 3.2 -1.6077 -1.6077 2.3629 29.4307 23.652 9.204 401.6
3.2 3.2 -1.6079 -1.6079 2.3629 29.4309 23.652 9.199 401.3
3.2 3.2 -1.6078 -1.6078 2.3629 29.4311 23.652 9.206 401.7
3.2 3.3 -1.6077 -1.6078 2.3629 29.4310 23.652 9.199 401.3
3.2 3.3 -1.6076 -1.6076 2.3629 29.4309 23.652 9.200 401.4
3.3 3.3 -1.6076 -1.6076 2.3629 29.4309 23.652 9.193 401.1
3.3 3.3 -1.6076 -1.6077 2.3629 29.4306 23.652 9.198 401.3
3.3 3.3 -1.6077 -1.6078 2.3629 29.4310 23.652 9.194 401.1
3.3 3.3 -1.6079 -1.6079 2.3629 29.4308 23.652 9.196 401.2
3.3 3.4 -1.6078 -1.6078 2.3629 29.4307 23.652 9.197 401.3
sy2009_ctd_stn3_down
Ready
100%

Better ASCII



	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Latitude	Longitude	Date/Time	Depth	Press	Temp	Theta	Conducti	vity Sal	Density	DO	DO	
2	84.293	50.234	5/7/2009 19:30	(m)	(db)	(C)	(C)	(S/m)	(psu)	(kg/m^3)	(ml/l)	(umol/kg)	
3	84.293	50.234	5/7/2009 19:30	3	3	-1.625	-1.625	2.3827	29.7194	23.886	9.089	396.5	
4	84.293	50.234	5/7/2009 19:30	3	3	-1.6254	-1.6255	2.3827	29.7194	23.886	9.091	396.6	
5	84.293	50.234	5/7/2009 19:30	3	3	-1.6258	-1.6259	2.3827	29.7196	23.887	9.087	396.3	
6	84.293	50.234	5/7/2009 19:30	3	3	-1.6262	-1.6263	2.3827	29.7199	23.887	9.098	396.8	
7	84.293	50.234	5/7/2009 19:30	3	3	-1.6264	-1.6264	2.3827	29.7201	23.887	9.094	396.7	
8	84.293	50.234	5/7/2009 19:30	3	3	-1.6266	-1.6266	2.3827	29.7203	23.887	9.096	396.8	
9	84.293	50.234	5/7/2009 19:30	3	3	-1.6265	-1.6266	2.3827	29.7202	23.887	9.098	396.9	
10	84.293	50.234	5/7/2009 19:30	3	3	-1.6265	-1.6265	2.3827	29.7202	23.887	9.092	396.6	
11	84.293	50.234	5/7/2009 19:30	3	3	-1.6265	-1.6266	2.3827	29.7198	23.887	9.096	396.7	
12	84.293	50.234	5/7/2009 19:30	3	3.1	-1.6266	-1.6266	2.3827	29.7203	23.887	9.093	396.6	
13	84.293	50.234	5/7/2009 19:30	3	3.1	-1.6266	-1.6266	2.3827	29.7202	23.887	9.088	396.4	
14	84.293	50.234	5/7/2009 19:30	3.1	3.1	-1.6266	-1.6266	2.3827	29.7199	23.887	9.085	396.3	
15	84.293	50.234	5/7/2009 19:30	3.1	3.1	-1.6267	-1.6267	2.3827	29.7199	23.887	9.087	396.4	
16	84.293	50.234	5/7/2009 19:30	3.1	3.1	-1.6267	-1.6267	2.3827	29.72	23.887	9.08	396	

Best (conforming) ASCII



	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Latitude	Longitude	Date/Time	Altitude	Press	Temp	Theta	Conducti	vity Sal	Density	DO	DO	
2	84.293	50.234	5/7/2009 19:30	(m)	(db)	(C)	(C)	(S/m)	(psu)	(kg/m^3)	(ml/l)	(umol/kg)	
3	84.293	50.234	5/7/2009 19:30	-3	3	-1.625	-1.625	2.3827	29.7194	23.886	9.089	396.5	
4	84.293	50.234	5/7/2009 19:30	-3	3	-1.6254	-1.6255	2.3827	29.7194	23.886	9.091	396.6	
5	84.293	50.234	5/7/2009 19:30	-3	3	-1.6258	-1.6259	2.3827	29.7196	23.887	9.087	396.3	
6	84.293	50.234	5/7/2009 19:30	-3	3	-1.6262	-1.6263	2.3827	29.7199	23.887	9.098	396.8	
7	84.293	50.234	5/7/2009 19:30	-3	3	-1.6264	-1.6264	2.3827	29.7201	23.887	9.094	396.7	
8	84.293	50.234	5/7/2009 19:30	-3	3	-1.6266	-1.6266	2.3827	29.7203	23.887	9.096	396.8	
9	84.293	50.234	5/7/2009 19:30	-3	3	-1.6265	-1.6266	2.3827	29.7202	23.887	9.098	396.9	
10	84.293	50.234	5/7/2009 19:30	-3	3	-1.6265	-1.6265	2.3827	29.7202	23.887	9.092	396.6	
11	84.293	50.234	5/7/2009 19:30	-3	3	-1.6265	-1.6266	2.3827	29.7198	23.887	9.096	396.7	
12	84.293	50.234	5/7/2009 19:30	-3	3.1	-1.6266	-1.6266	2.3827	29.7203	23.887	9.093	396.6	

Options

- Have PI's submit data in netCDF
- Have PI's submit data in CF -> netCDF compliant ASCII
- Accept any data in any form

.xls is the most used data format

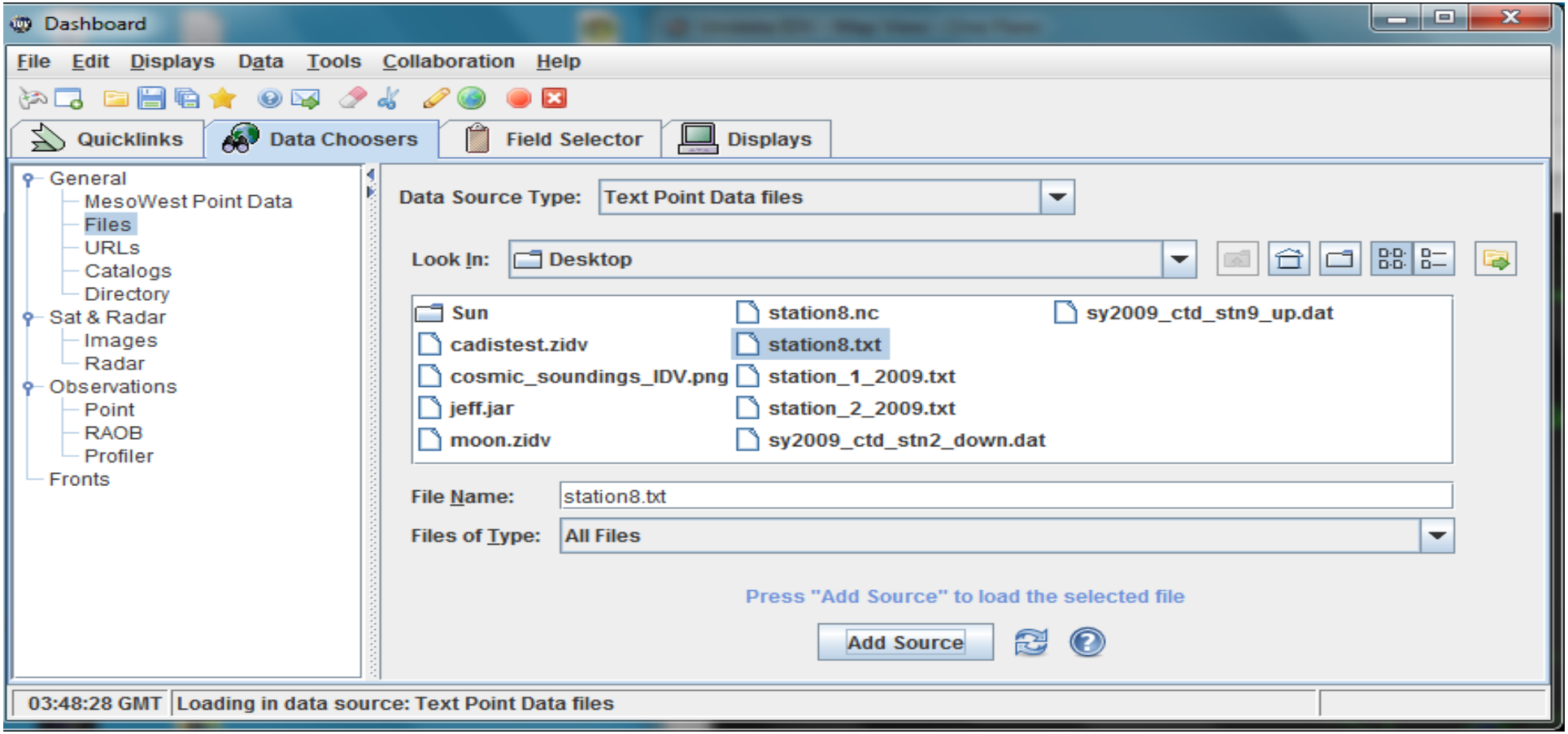
Complete (conforming) ASCII can readily be transformed to netCDF.

Non-standard data formats will likely not be supported by funding agencies in the future.

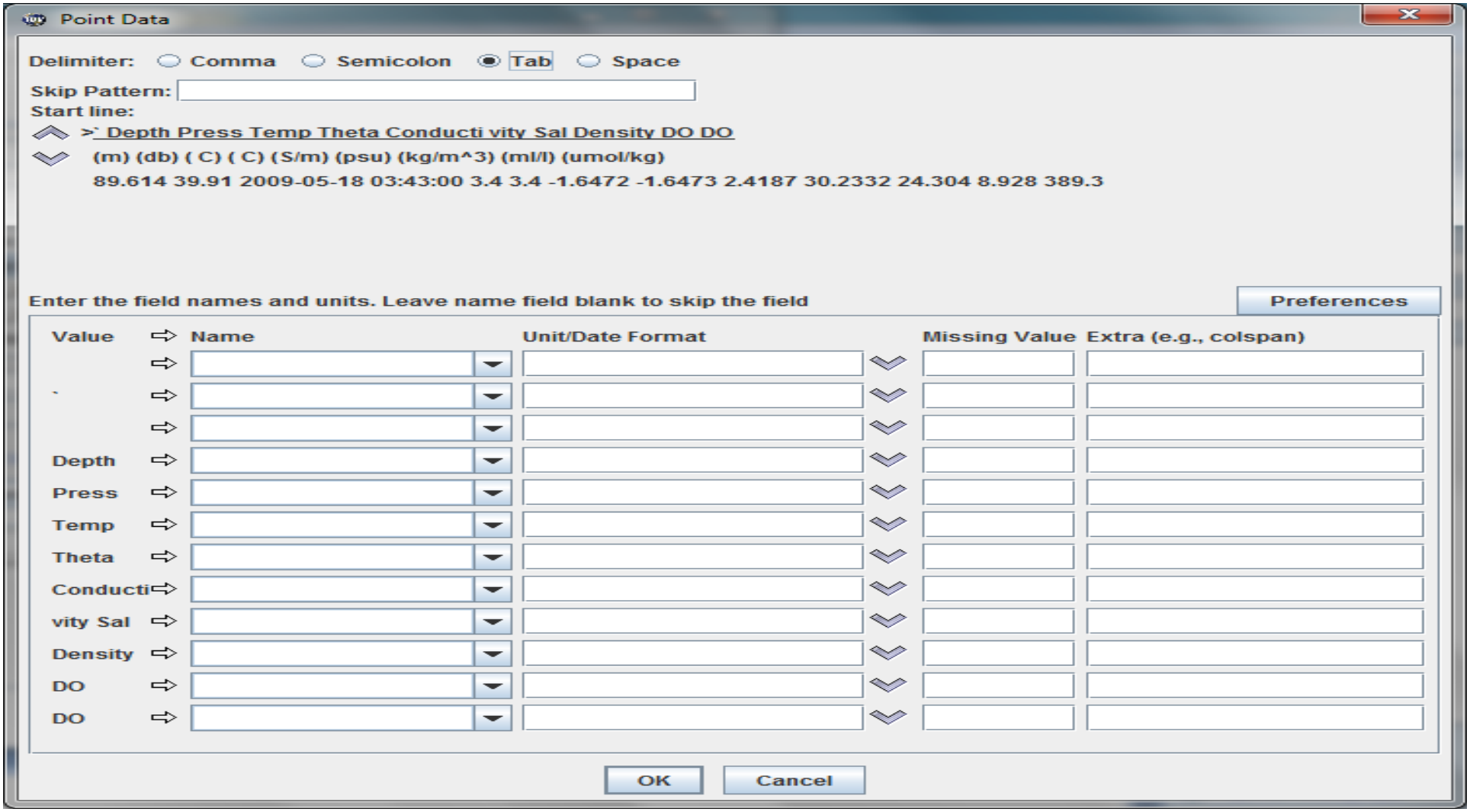
How to ingest non-standard ASCII data into the IDV for display and export to netCDF

- Step one – Add missing fields to file to become CF netCDF compliant: via Excel or editor of choice and save as a .txt file (Tab, space, or comma separated)
- Latitude
- Longitude
- Date/Time

Step Two: Import file to IDV from Dashboard “File” -> “Open” ..as “Text Point Data files”, then “Add Source”



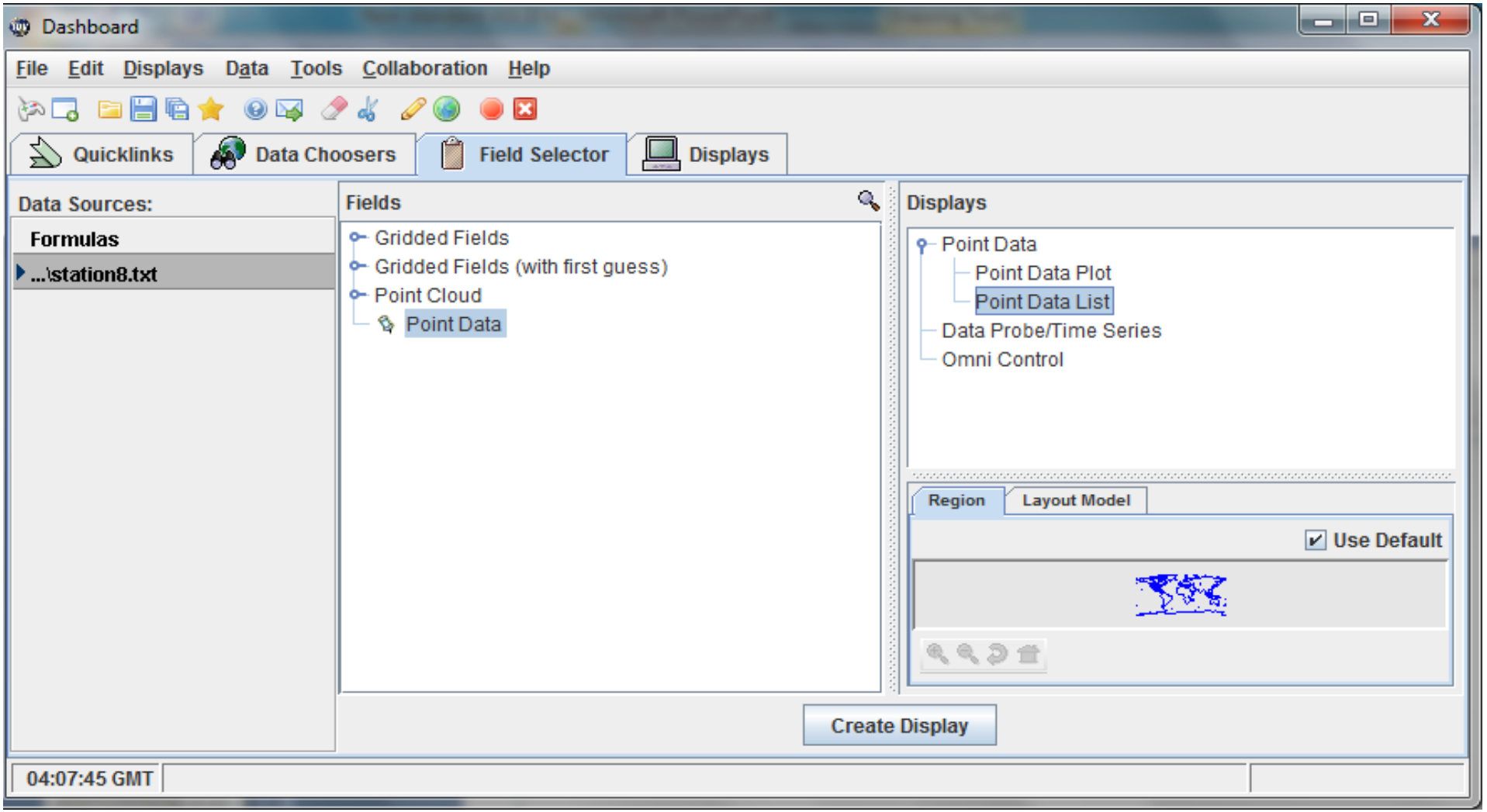
A “Point Data” GUI will pop-up.
-Select appropriate “Delimiter”



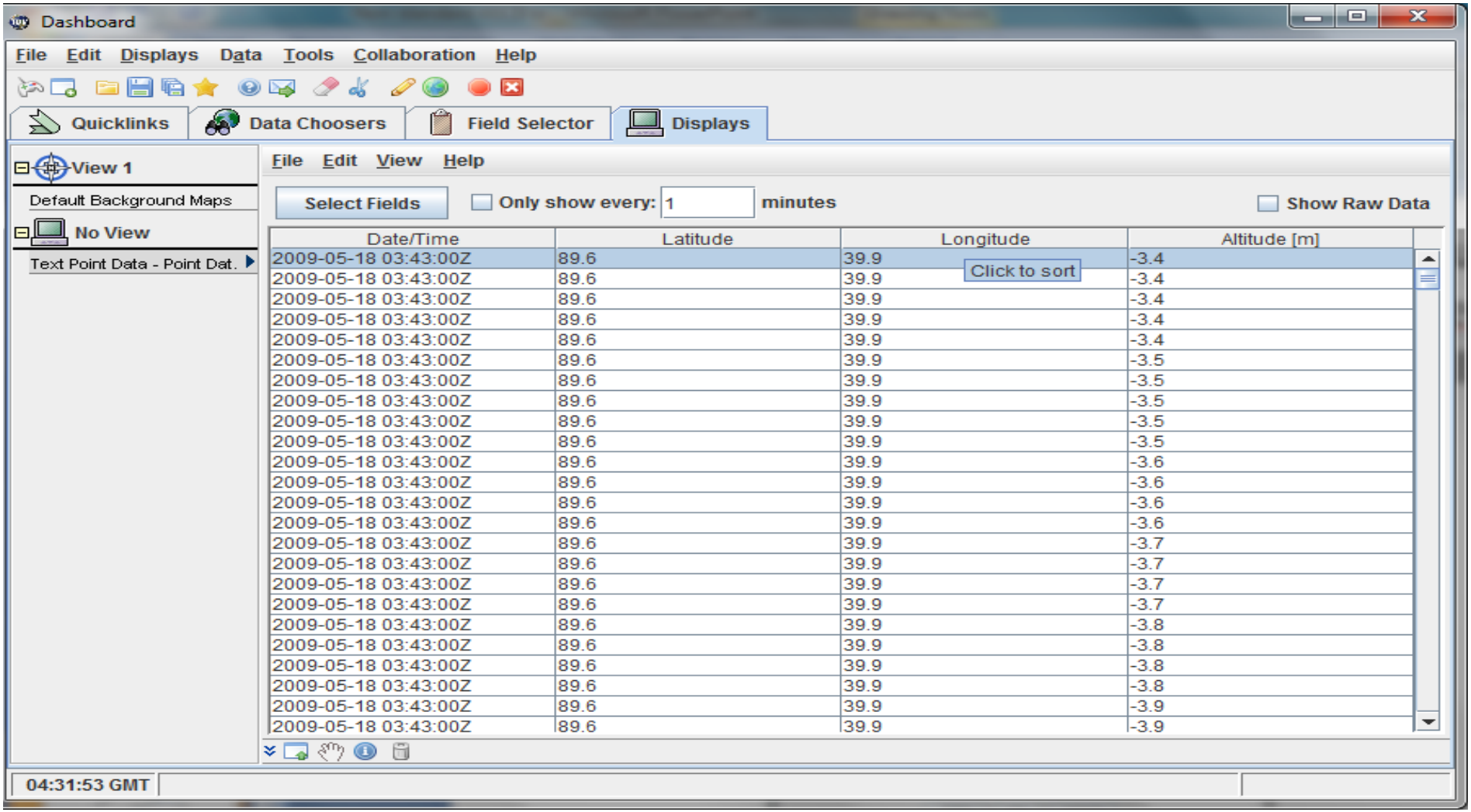
Use the up and down arrow keys to
scroll down to where the data begins then enter the variable names and units of the data set as needed. You can use the “pull down” menus for some pre-populated fields.

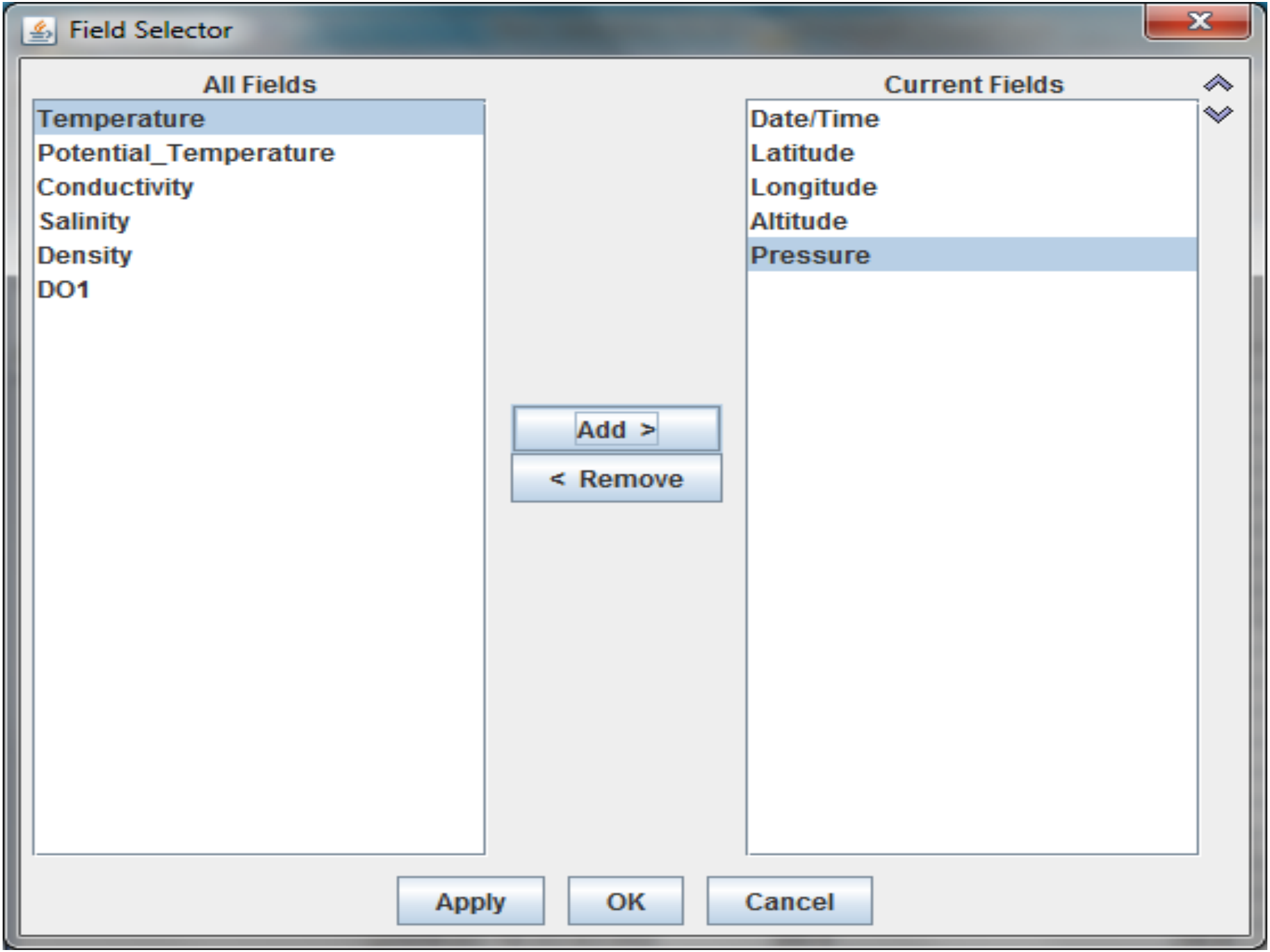
Once entered save off via “Preferences” and name as desired, then this process will not need to be repeated for like datasets.

- The “Dashboard” will display and under “Fields”, select “Point Data” and under “Displays” select “Point Data List”, then “Create Display”

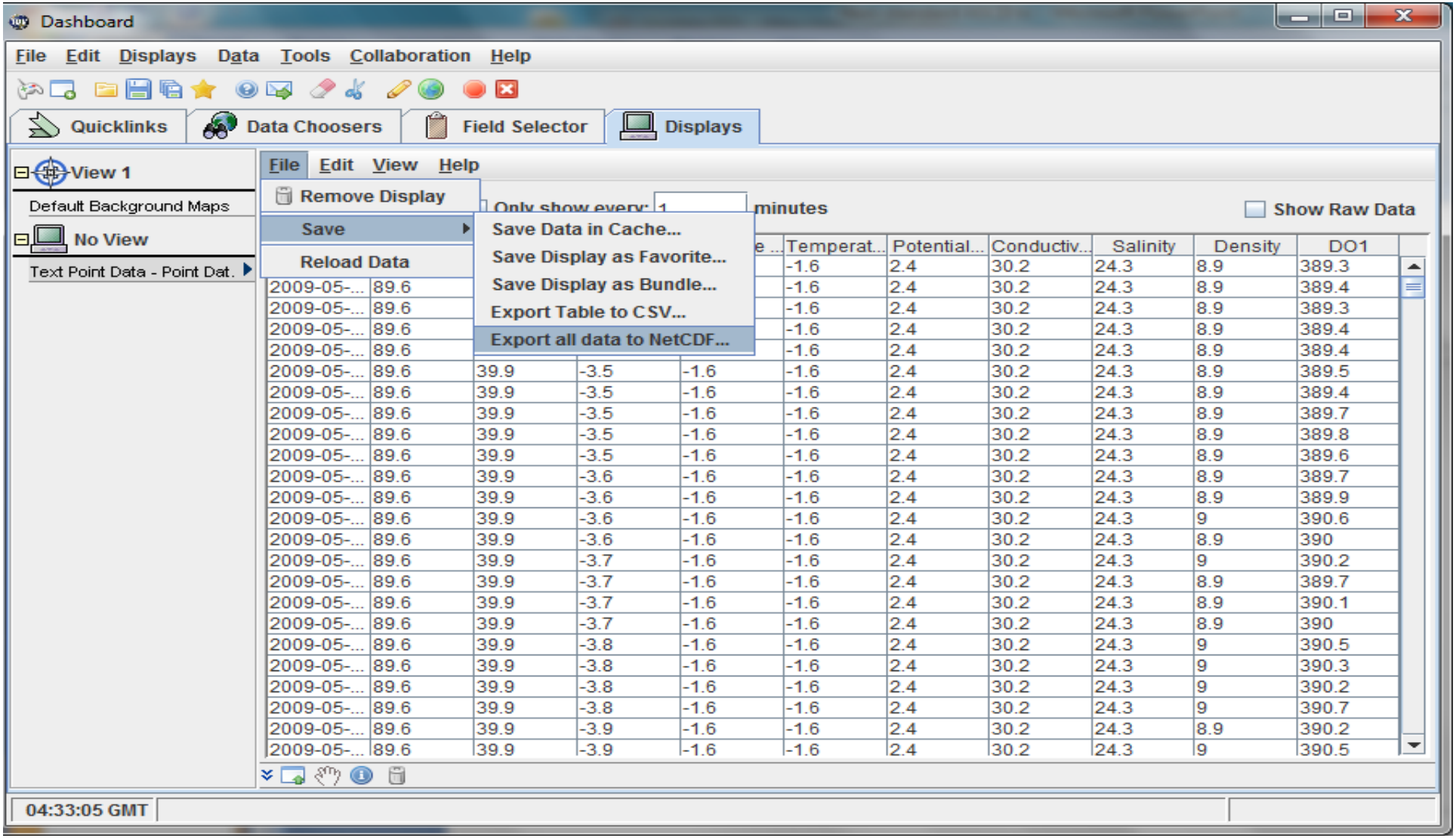


The “Dashboard” will display and you must now enter your desired variables via “Select Fields”. Generally, one will add all.

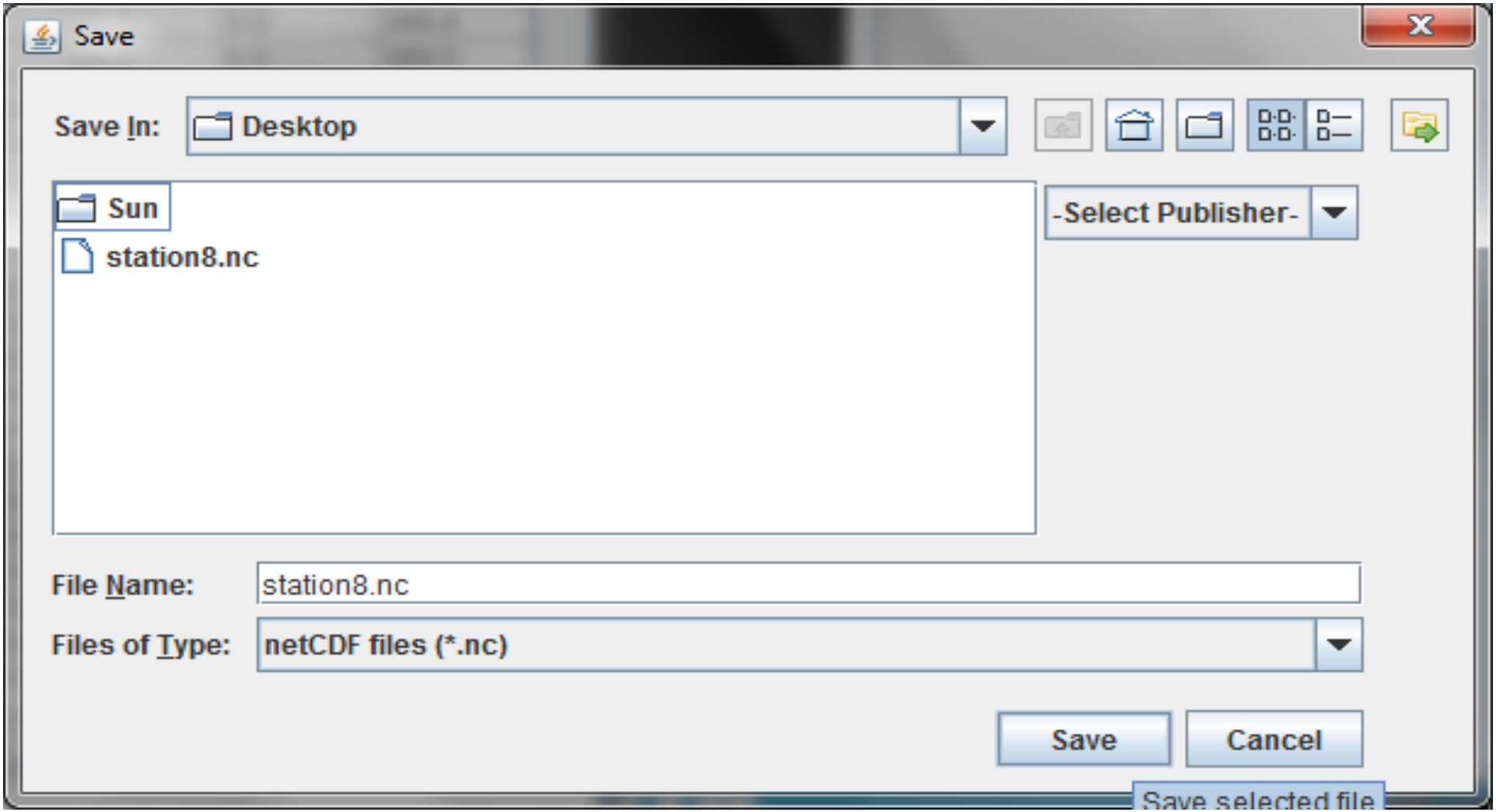



Field Selector
All Fields
Temperature
Potential_Temperature
Conductivity
Salinity
Density
DO1
Add >
< Remove
Current Fields
Date/Time
Latitude
Longitude
Altitude
Pressure
Apply
OK
Cancel

Then, “File” -> “Save” -> Export all data to NetCDF



Name *.nc and “Save” as desired



Resources

- IDV Users Guide
  - 7.5.1 and others
- NetCDF Users Guide