Guide for using the AutoFormatForMAT.R script.

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What it does: transform your dinocyst data (raw counts or percentages) into a MAT-ready format (details in Tutorial_R_2013.pdf). So basically:

- Fill your data into the format with 71 taxa used for MAT reconstruction.
- Convert taxa abundances into per mil.
- Save your data as a tab-delimited text file.

1. Preparation

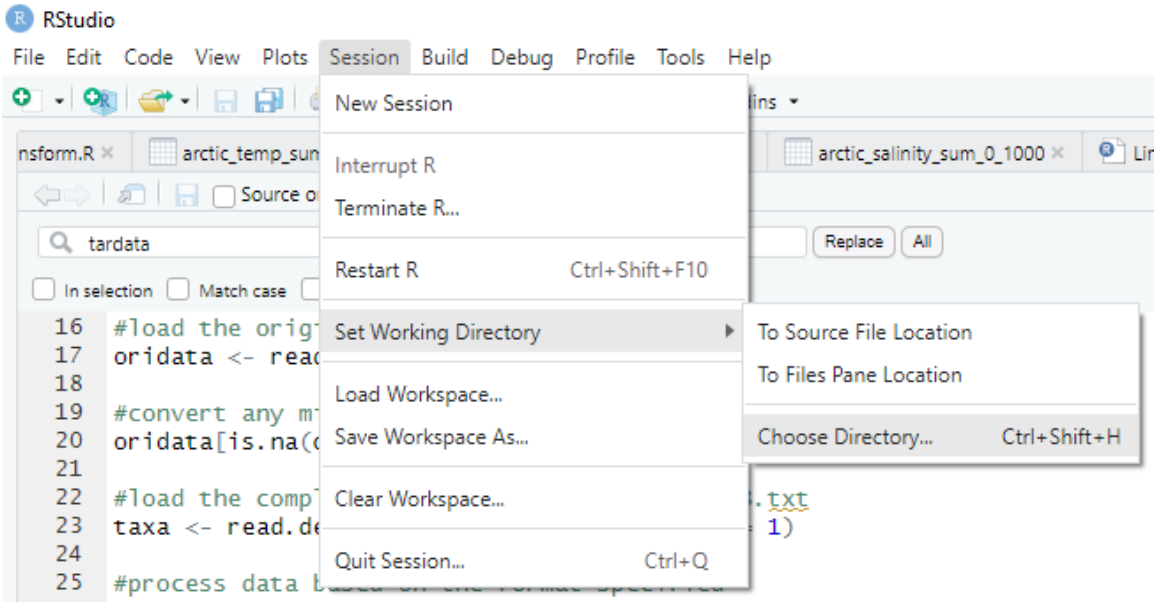
Save your dinocyst data in a csv file (comma separated), like the example below, but with your observed taxa. In the stations column, you can put sample ID, depth, age, etc.

Make sure you put the correct abbreviations for your taxa.

	A	B	C	D	E	F	G	H	I	J
1	stations	Atax	Btep	Bspp	Iacu	Ipal	Ipar	Isph	Imin	Lspp
2	0.5			18		52			3	1
3	1.5			24		61			1	
4	2.5			10		37			1	
5	3.5			10		58		2		
6	4.5			11		41				
7	5.5			5		30				
8	6.5			5		49				
9	7.5	1	1			44		1		
10	8.5					26				
11	9.5					36		1		
12	10.5		1			60		0.5		
13	11.5					43		2		
14	12.5					52		1		
15	13.5					50				
16	14.5					90		2		
17	15.5		1			134		2		
18	16.5		1			164		1		
19	17.5		1			125		3		
20	18.5					119		2		
21	19.5		1			141		3		
22	20.5					179		2		
23	21.5	1	1		1	208		3		
24	22.5					134		3		
25	23.5	1	1			174		3		
26	24.5	2				236		7		

2. Prepare your R or Rstudio

Gather 1) your csv datafile, 2) the “dino1968.txt” file, and 3) the “AutoFormatForMAT.R” script in one folder. Set the working directory to that folder. Proceed as follows:



Next, install the "analogue" package if you haven't done that before. Simply type the following command in the console and Enter:

```
install.packages("analogue")
```

3. Running the script

In the menu bar, click on Code -> Source File... , and select the file "AutoFormatForMAT.R". Alternatively, type the following command in the console and Enter:

```
source("AutoFormatForMAT.R")
```

You will be asked to enter your file name, your data type, and an output file name. Type your answer and press Enter as the example below:

```
[1] "Make sure to have put the correct abbreviations as column names! T
he order doesn't matter. Your data file should be .csv by default."
analogue version 0.17-6
Enter file name (eg. SIP084_original_data.csv): test.csv
Select your type of data (1=raw counts; 2=percentages): 1
Enter output file name (eg. SIP084.txt): test.txt
```

"Done!" appears when it's done. The output file will have been saved in the working directory.