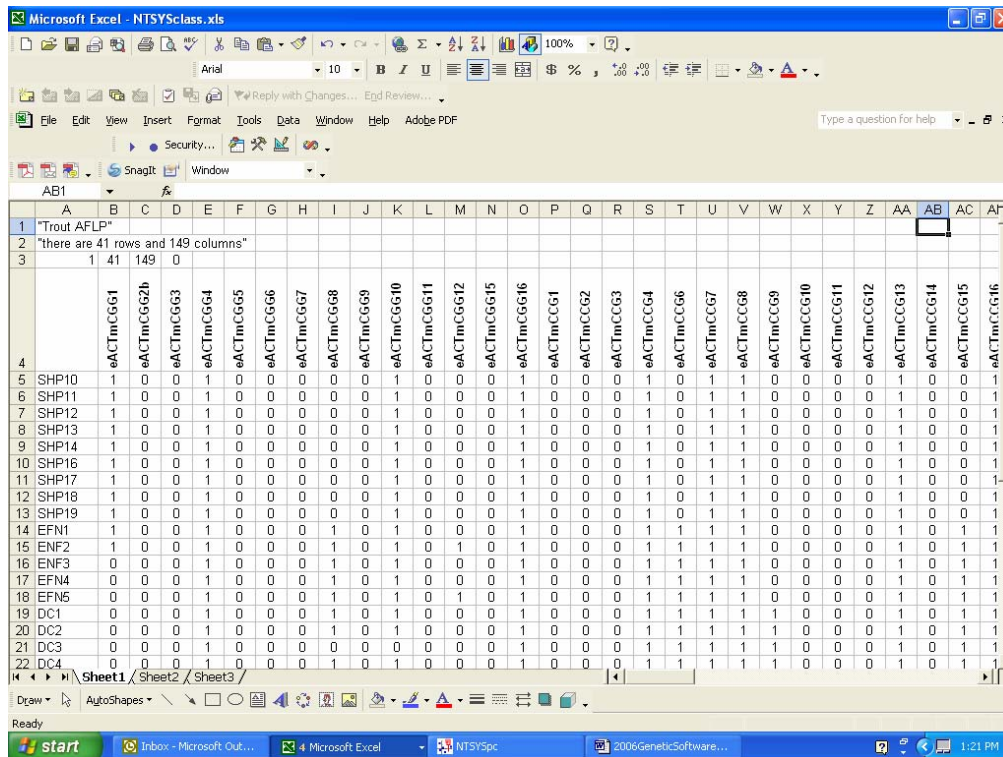


ECL290, Winter quarter, 2007

Using NTSYS-pc for Principal Coordinate Analysis of dominant data

Data preparation

1) Open excel file “NTSYSclass” in the class folder, it should look like the clip below. You can either input files to NTSYS-pc using Excel or using the application NTedit.



Your loci or OTUs can be either the columns or the rows, but keep track you have to tell the program later, which is which. In this case, the OTUs are rows. *If you make your file with Transformer, the OTUs are columns.* Also open excel file “[dominantsymbol.xls](#)”. This file specifies populations so when the results are plotted, individuals in different populations are given different symbols.

Principal Coordinate Analysis

1a) Open Programs-NTSYS-pc21-**Ntedit** File-Open file in grid. Browse to the file “NTSYSclass.xls.” This allows you to view the excel file in the NTS format and it can be saved as a .NTS files if you so choose. Close **Ntedit**.

1b) Open Programs-NTSYS-pc21-**NTSYSpc**

2a) Select **Similarity** left menu and choose **Qualitative Data**

2b) Click Help menu in upper right corner of NTSYS window. Whatever module you are using if you click Help it will open up the relevant help section.

3) Double click **Input File** box and browse to ECL290 folder, change file type to excel. Select “NTSYSclass.xls”

4) Select **Rows** if your OTUs are rows (they are).

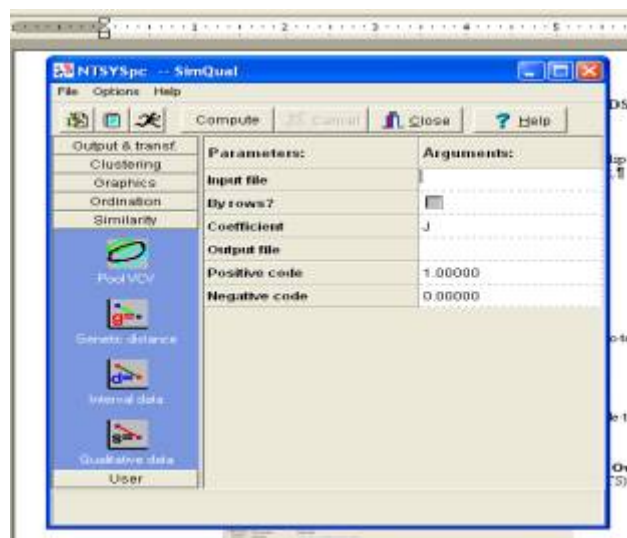
5) Choose **J** (J = Jaccard’s coefficient) for **Coefficient**

6) Double click **Output file** and browse to your eponymous ECL290 folder. Name **Output file** “dominant jaccard”, save as type .NTS (from this point on save all files as type .NTS)

7) Leave **Positive** (= 1.00000) and **Negative** (=0.00000) codes as default

8) Click **Compute** in top menu bar

The Window you have open should look like the window on the next page.



Note: Another NTSYS window titled “Report listing” will now open up and will give you a list of operations you have run and tell you where the resultant files are saved

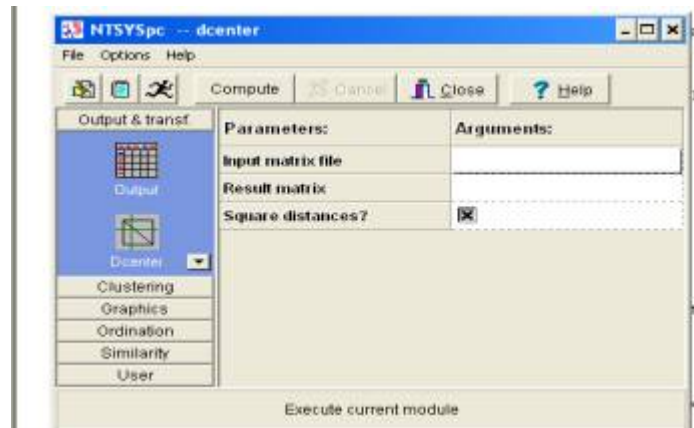
8) Select **Output and Transf.** from the left menu, then click **Dcenter** icon

9) Browse to your ECL290 folder and **Input matrix file** “dominant jaccard” you will probably have to change the “files of type” to .NTS in order to see the Jaccard matrix you made and be able to select it.

10) Browse to your ECL290 folder and name **Result matrix** “dominant jaccard dcenter”

11a) Leave **Square distances** box checked

11b) Click **Compute**



12) Select **Ordination** from the left menu and then choose the **Eigen** module

13) Browse to your ECL290 file and select “dominant jaccard dcenter” for **Input matrix file**

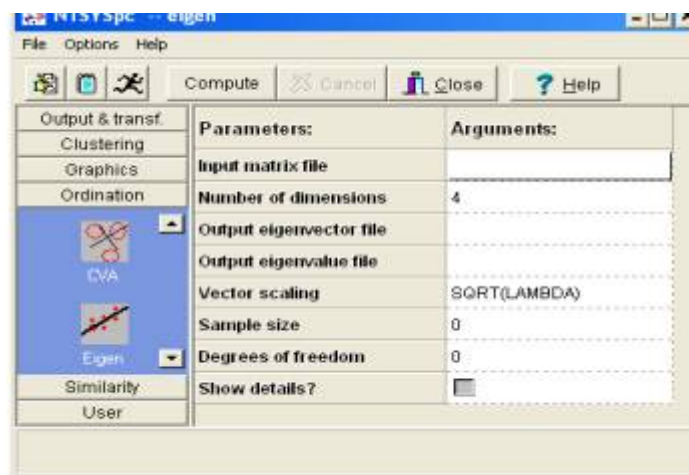
14) Browse to your ECL290 file and name **Output eigenvector file** “dominant jaccard dcenter vector”

15) Browse to ECL290 file and name **Output eigenvalue file** “dominant edit jaccard dcenter value”

16) Leave **Number of dimensions** as 4 and **Sample Size** and **Degrees of Freedom** as 0

17) Check **Show Details** Box if you want to see the operations in the **Report Listing** box

18) Click **Compute**



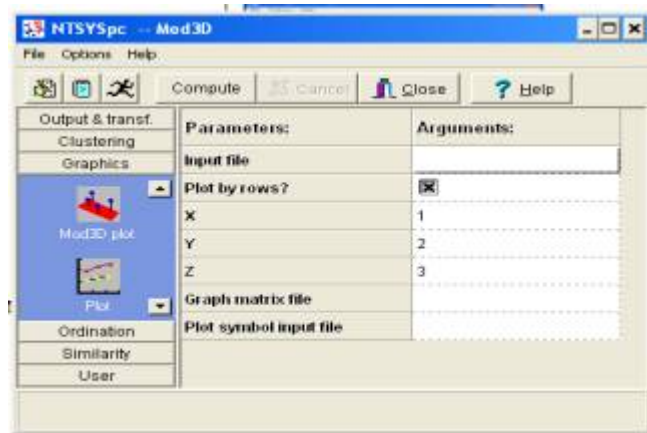
19) Select **Graphics** from the left menu and then choose **Mod3D plot**

20) Browse to ECL290 “your name” folder and choose **Input file** named “dominant jaccard dcenter vector”

21) Deselect **Plot by rows**

22) Browse to ECL290 Ordination file and choose for **Plot symbol input file** “dominant symbol” you will have to change file type to all or .xls to see this file!

23) Leave **Graph Matrix File** blank



24) Click **Compute**, you should get a plot that looks something like that below.

25) In 3D plot window, **Plot Options** you can change the size color shape etc of most components of the plot if you want. The plot can be rotated using the mouse.

