

Charcoal analysis – Tutorial

EPD Meeting 2016 – Aix-en-Provence

Dear Participants to the EPD Meeting Charcoal training,

You will participate in a short introduction to

- 1) the online charcoal database (www.paleofire.org)
- 2) the R-package "paleofire"
- 3) and get some insights in the fire-episode detection algorithms (as implemented in the CharAnalysis software (Higuera, 2009)).

In order to spend as much time as possible with the exploration of the software tools that we would like to introduce you to, it would be good if you could install both software on your personal laptop computer.

PALEOFIRE DATABASE

- 1) create a user account and visit the new Global Charcoal Database website at www.paleofire.org

PALEOFIRE R-PACKAGE

- 1) Download and install the R-package "paleofire" your computer (<https://cran.r-project.org/web/packages/paleofire/index.html>). The simplest of doing that is by typing the following command in RStudio (<https://www.rstudio.com/products/rstudio/download/>):

```
install.packages("paleofire")
```

DOWNLOAD AND INSTALL “CHARANALYSIS”

NB: Once downloaded, copy the files to an easy directory before installing the software, choose something simple such as “C:\CA”.

If you are running Windows 7 (64 bit machines) – CharAnalysis Standalone:

- 1) Download the CharAnalsyisInstaller.exe from the Dropbox folder:

https://www.dropbox.com/sh/et8pakcgqzj5f0s/AAA_pBmxB5yuL8fBlGD-SCn-a?dl=0 [4 mb]

2) Double click the .exe file and wait...until installation is terminated. The first time you install the program, this will take a few minutes...be patient

The program will direct you through the installation of the MATLAB Component Runtime (MCR) program, accessing it from a MATLAB server. You will need Internet access to download the MCR program.

3) Download the example files from Code Lake (the files named 'COchar.*' and 'templateChar.*') and add them to the same folder where the CharAnalysis_*.exe file is located.

For Windows XP or Vista (32 bit machines) – CharAnalysis Standalone:

1) Download CharAnalysis_1_1_WindowsOS.exe from the Dropbox folder:

<https://www.dropbox.com/sh/bcxcz4ok3cf1enu/AACqsQsHTq-RnFqt1DYmNFUUa?dl=0> [624 kb]

2) Download the MATLAB Compiler Runtime (MCR): MCRInstaller_7.11.zip from the same Dropbox folder as above

3) Unzip and Install MCR file by double-clicking on MCRInstaller_*.exe.

4) Download the example files from Code Lake (the files named 'COchar.*' and 'templateChar.*') and add them to the same folder where the CharAnalysis_*.exe file is located.

4) Once the MCR is installed, initiate CharAnalysis_*.exe by double clicking on the icon.

Overall notes

The first time the program runs, the startup time will be > 1 minute. After the first time, startup times will be significantly faster.

The first task one should perform to validate the installation is run the example files from Code Lake (the file named 'COchar.xls'). The most common problems when running the program for the first time are related to directory issues. Make sure the files you are accessing and writing to are located in the same directory as the program, and make sure any relevant files (*_charResults.csv, or the .xls file) are closed if you are to save data.

For additional information, or if you have Matlab installed on your computer and thus want to use the CharAnalysis version running on Matlab rather than the Charanalysis Standalone version, you may check:

<https://github.com/phiguera/CharAnalysis> or

<https://sites.google.com/site/charanalysis/>

Please don't hesitate to get back to me (or to Phil Higuera: pfiguera@uidaho.edu) if you encounter difficulties with the installation of the CharAnalysis software.

Good luck !!

With very best wishes,

Boris and Walter