

May 27, 2015

Dear ICMGP 2015 Back-Trajectory Workshop participant,

These are instructions if you are going to be using a MAC-based computer in the workshop. There is a separate set of instructions if you are going to use a Windows-based computer. If you are planning to try to use a computer with a Linux-based operating system for the workshop, please contact the instructor at: mark.cohen@noaa.gov

Please note that while most of the functionality of HYSPLIT is available on a MAC-based operating system, there are some limitations in using HYSPLIT on a MAC. Please also note that the instructor is unfortunately not nearly as familiar with MAC systems as with Windows systems. All this is to say that if you are trying to decide whether to use a MAC or Windows computer at the workshop, it may be “better”, all things being equal, to use a Windows machine. With that being said, every effort has been made to allow folks with MAC’s to participate successfully in the workshop.

Thank you for your interest in participating in the workshop. Here is some information you will need, including steps you should take *before* the workshop. Some of the steps involve software installation, and so, you may need administrative privileges on your computer. For some of you, this may require you to work your IT department. As it is intended to be a hands-on workshop, in which you carry out the back-trajectory simulations on your own computer, it is extremely important that you make every effort to install the needed software before the workshop.

It is hoped that these instructions are clear and will allow you to successfully carry out the necessary pre-workshop steps. If you encounter serious problems, you can contact the workshop instructor Mark Cohen by email at: mark.cohen@noaa.gov

So, here is what we’d like you to try to do before the workshop. Some items are optional, and these are marked as such.

1. Download workshop materials and software (to anywhere on your computer, e.g., your Downloads folder)

http://www.arl.noaa.gov/documents/workshop/ICMGP_2015/MAC_hysplit4_installation.zip

http://www.arl.noaa.gov/documents/workshop/ICMGP_2015/extra_folders_for_MAC_hysplit4.zip

2. Install the necessary “helper” applications and the then HYSPLIT

The HYSPLIT Mac installation is similar to a Windows PC except that the Mac OS supports the native display of Postscript files, therefore Ghostscript is not required.

A. Tcl/Tk Graphical User Interface

Although not required to run HYSPLIT, a GUI composed of multiple Tcl/Tk scripts is provided with HYSPLIT. The model can also be run using a command line interface. However, it is easier for novice users to use the Tcl/Tk interface. The HYSPLIT installation includes all the GUI scripts, but the Tcl/Tk interpreter is not part of the distribution. Tcl/Tk should be installed to the suggested default directory prior to installing HYSPLIT.

A Tcl/Tk disk image file has been provided in the installation folder, or you can go to the Tcl/Tk home page to download the software for the Mac:

<http://www.activestate.com/activetcl/downloads>

B. (Optional) Postscript and ImageMagick Converter

The capability to convert the Postscript graphics to other graphical formats is enabled within the GUI through ImageMagick, which normally requires the prior installation of Ghostscript. However, on MAC systems Ghostscript is not required because the Preview function can be used to export the Postscript file to a select number of other formats. ImageMagick can then be used to convert these files to formats. Go to the ImageMagick web site to download the most recent Mac version.

<http://www.imagemagick.org/>

C. Postscript Viewer

Not required. Use Preview, however, if there are too many Postscript frames in a file, Preview may have trouble converting the output to a viewable PDF. In this case you need to reduce the number of output frames in one file.

D. Mac OSX 10.6 HYSPLIT Installation

Open the hysplit disk image (hysplit4_v720.dmg) and copy the Hysplit4 directory to your \$HOME directory. The Mac version was compiled under OSX 10.6 using the INTEL compiler. If it comes in as Hysplit4, it would be helpful to rename the folder: "hysplit4"

E. Optional Google Earth Viewer

Go to the Google Earth web site to download the most recent Mac version.

<http://www.google.com/earth/download/ge/agree.html>

3. Starting the first time

Once installed, open a terminal window or X-window and change directory to hysplit4/working.

Then just execute the softlink ./hysplit4.tcl and the GUI should open if Tcl/Tk has been installed.

If the softlink does not exist, one should be created in the working directory using the command `ln -s ../guicode/hysplit4.tcl hysplit4.tcl`.

Never run the model from the guicode directory. If using an X-window, insure that the X-directory location (usually /usr/X11/bin) in file default_exec points to the location of xterm, which can be determined from the command `which xterm`.

4. Add the "extra folders" to the HYSPLIT installation

Unzip the extra folders for MAC hysplit4.zip file that you downloaded earlier. You can unzip this anywhere on your computer. Once it is unzipped, move or copy the folders to the hysplit4\ directory.

The original sub folders in the hysplit4 directory include:

`bdyfiles, cluster, data2ar1, datem, document,
examples, exec, gisprog, graphics, guicode, html,
quikcode, scripts, testing, uninstall, working`

The extra folders that you will add to the hysplit4 directory include:

```
metadata
working_traj_001
working_freq
workshop_reference_files
```

The “workshop_reference_files” folder has numerous subfolders

5. (Optional) Check for additional workshop material

Every effort was made to completely prepare all of the necessary workshop materials. However, if additional materials are required, they will be put in one or both of the following files. At the present, the files are “there” but just contain a simple placeholder “read-me” file. If these files are needed, they will also be able to be downloaded at the workshop itself.

http://www.arl.noaa.gov/documents/workshop/ICMGP_2015/added_material_01.zip

http://www.arl.noaa.gov/documents/workshop/ICMGP_2015/added_material_02.zip

Also, a preliminary version of the main course lecture materials -- a large PowerPoint presentation-- have been included in the “Workshop Reference Files” that you have downloaded. But, this file is still being finalized. If/when this is updated, it will be placed at:

http://www.arl.noaa.gov/documents/workshop/ICMGP_2015/ICMGP_2105_Trajectory_Workshop.pptx

6. Things to bring to the Workshop

You may wish to bring a computer mouse as this may make data entries much easier.

7. Pre-Workshop Problems and Questions

I hope that everything above is clear and that it will all work for each of you. But, if you have problems or questions before the workshop about any of the above, please contact me by email at: mark.cohen@noaa.gov