

## Try Me First Sample Run

A number of users who are being exposed to AERMOD for the first time, are running into problems just setting up the test cases and running them. Try Me First is designed for the novice to setup and **\*\*successfully\*\*** run an AERMOD sample run.

The use of AERMOD requires a user to read the manuals and in particular, to **\*\*understand\*\*** what they are trying to convey. Try Me First is simply a “plug and crunch” example to familiarize the user with how to set up and run AERMOD in a generic sense. Any understanding needs to come from reading the guides.

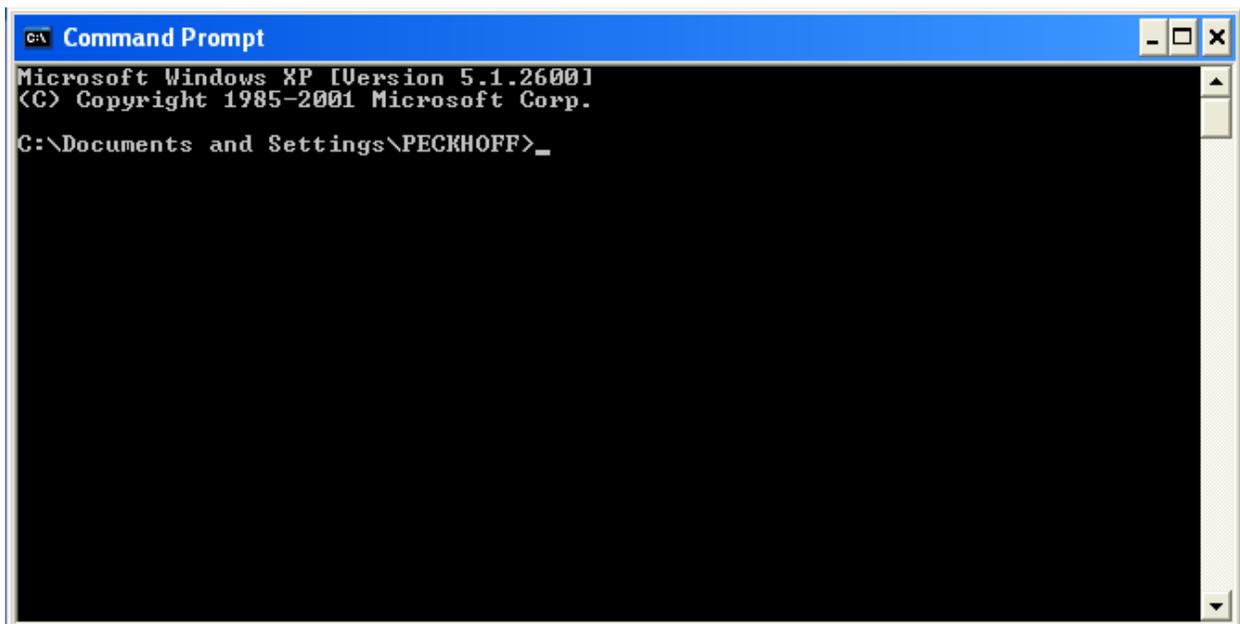
AERMOD was coded so that the input file has to be named “AERMOD.INP”. The batch files in the actual test cases, copy a test case input file to AERMOD.INP before executing AERMOD. Here is a copy of a segment of one of those batch files:

```
copy aertest.inp aermod.inp
aermod
copy aermod.out aertest.out
```

Note that the output file is AERMOD.OUT and needs to be copied from AERMOD.OUT to another file. If this is not done, AERMOD.OUT will be over written next time AERMOD is run and you will lose whatever data was in the previous AERMOD.OUT file.

Many a first time user will go into Windows Explorer, double click on AERMOD.EXE and then call us wondering why a window blinked open and shut with no indication of anything happening. You **\*\*did\*\*** run AERMOD but you have no idea of whether it was a successful run or not. You need to run AERMOD from the Windows Command Prompt to see any error or success messages. AERMOD was designed to run from a Command Prompt window (e.g. Start | All Programs | Accessories | Command Prompt).

The Command Prompt window looks like this initially:



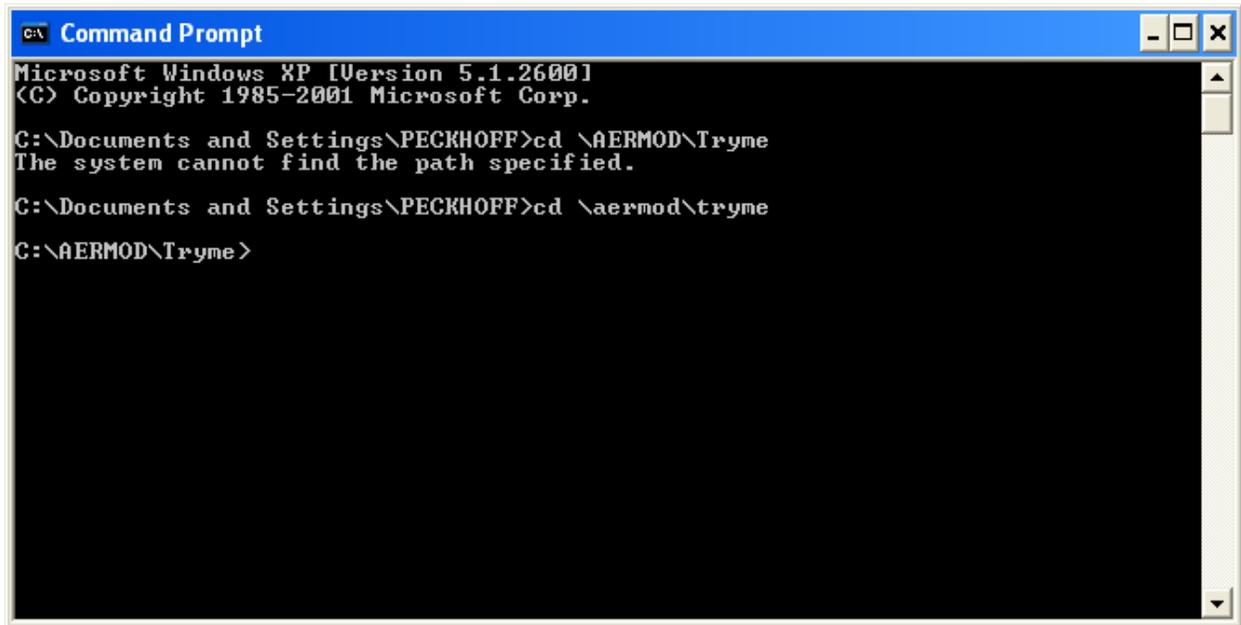
However, we need to go to C:\AERMOD\Tryme. How is that done in DOS?

Here are some sample DOS commands to enter at the Command Prompt (>):

- cd \ - takes you to the top directory in whatever drive you are on
- cd \document\* - takes you to the "documents and settings" subdirectory
- cd MY\* - takes you from the "Documents and settings" subdirectory to the "MY Documents" subdirectory (if you were previously in the "Documents and Settings" subdirectory)

copy file1 file2 - copies the file contents of file1 to file2  
(e.g. copy aertest1.out aermod.out)

So to go to the Tryme subdirectory, I would type: cd \AERMOD\Tryme and then press the Enter key. I would then see:



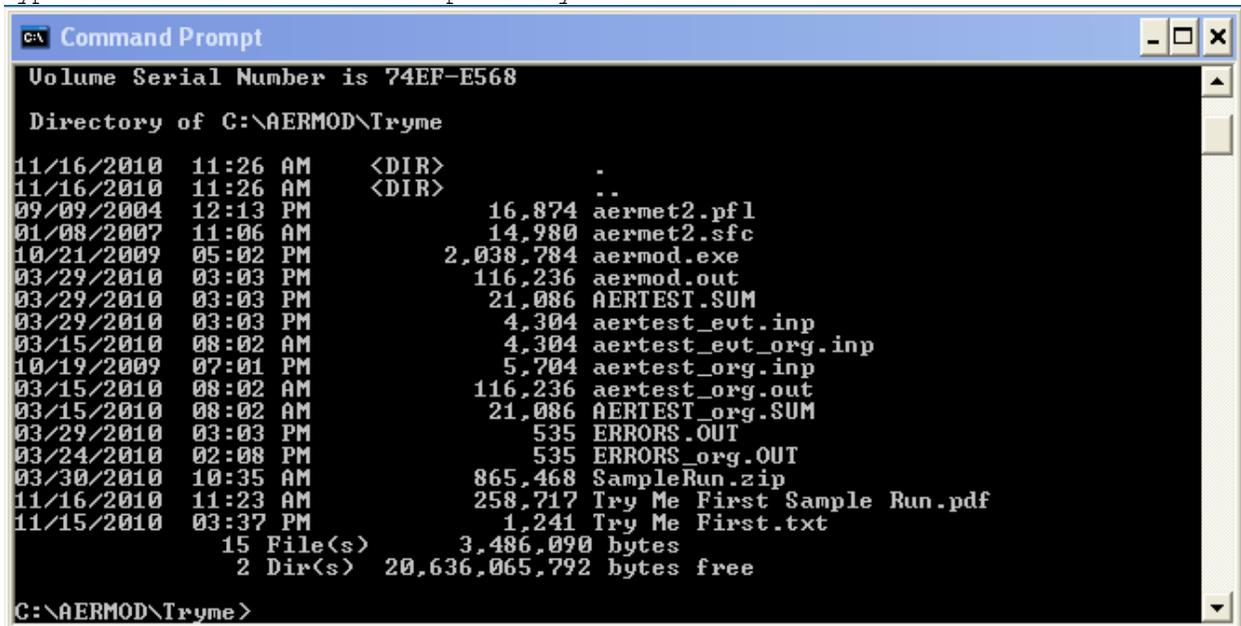
```
C:\> Command Prompt
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\PECKHOFF>cd \AERMOD\Tryme
The system cannot find the path specified.

C:\Documents and Settings\PECKHOFF>cd \aermod\tryme

C:\AERMOD\Tryme>
```

Type DIR at the Command Prompt and you should see:



```
C:\> Command Prompt
Volume Serial Number is 74EF-E568

Directory of C:\AERMOD\Tryme

11/16/2010 11:26 AM <DIR>      .
11/16/2010 11:26 AM <DIR>      ..
09/09/2004 12:13 PM           16,874 aermet2.pfl
01/08/2007 11:06 AM           14,980 aermet2.sfc
10/21/2009 05:02 PM       2,038,784 aermod.exe
03/29/2010 03:03 PM           116,236 aermod.out
03/29/2010 03:03 PM           21,086 AERTEST.SUM
03/29/2010 03:03 PM           4,304 aertest_evt.inp
03/15/2010 08:02 AM           4,304 aertest_evt_org.inp
10/19/2009 07:01 PM           5,704 aertest_org.inp
03/15/2010 08:02 AM           116,236 aertest_org.out
03/15/2010 08:02 AM           21,086 AERTEST_org.SUM
03/29/2010 03:03 PM            535 ERRORS.OUT
03/24/2010 02:08 PM            535 ERRORS_org.OUT
03/30/2010 10:35 AM       865,468 SampleRun.zip
11/16/2010 11:23 AM       258,717 Try Me First Sample Run.pdf
11/15/2010 03:37 PM            1,241 Try Me First.txt
          15 File(s)          3,486,090 bytes
          2 Dir(s)        20,636,065,792 bytes free

C:\AERMOD\Tryme>
```

Extention	Meaning
*.pfl	Upper level wind profile
*.sfc	Surface meteorological data
*.exe	executable file
*.inp	input file
*.out	output file
*.sum	summary file
Errors.*	File containing error messages generated during run attempt

The \*.pfl and sfc files are prepared using AERMET. Land Characteristics are part of the surface meteorological data file and the land characteristics are prepared using AERSURFACE. The output from AERSURFACE is incorporated with the meteorological data in AERMET.

#### Try Me First Continued Instructions:

This part of the instructions assumes that you followed the Initial Installations Instructions in the file Try Me First.txt file. If not, please find those instructions and act upon them.

#### Sample run:

This sample AERMOD installation and run test case was gleaned from the test case file that is posted to SCRAM. The instructions should be straight forward but addition information has been included for those who are unfamiliar with DOS. If you run into problems, we are available through the SCRAM web site "Contact us" page.

- 1) Execute the Command Prompt (e.g. Start | All Programs | Accessories | Command Prompt)
- 2) Use the cd command to go to your Tryme subdirectory  
(e.g. cd \aermod\tryme)
- 3) Unzip SampleRun.ZIP - If you have not already done so already. Please use either PKUNZIP or WinZip as we have had a few reported problems with other third party unzipping programs.
- 4) At the Command Prompt, type: DIR to see if all the files are there as shown on the previous page.
- 5) Type: copy AERtest\_org.INP AERMOD.INP this copies the original input file to an input file name that AERMOD is source coded to open and read.
- 6) At the Command Prompt window, type: AERMOD

-- this will run the sample run test case  
Note: aertest.inp has already been copied to aermod.inp

Note: An AERMOD.EXE file was also included and should **\*\*not\*\*** be used for production runs. It was provided for ease of operations.

- 7) Use the DOS FC command to compare file output.  
For example, at the Command Prompt, type:  
FC aertest.sum aertest\_org.sum  
FC aermod.out aertest\_org.out

Some difference output should only have lines containing date or time which will be difference. Some files should have no differences.

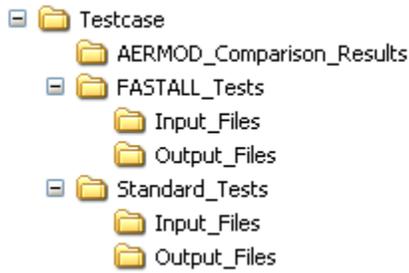
There might be cases where "0.00" is represented as ".00" or "1.45678" might be "1.45677". The FC command will find all such differences and they should be ignored as they are insignificant.

Commercial text editors such as Ultra Edit have their own File Compare functions that can be used instead of the FC command.

- 8) Once satisfied that you have successfully installed and run AERMOD, please delete AERMOD.EXE so that if it is an older version, it does **\*\*not\*\*** make its way into being used in a production run.
- 9) If you have any questions or issues with these instructions, please contact us through our SCRAM web site using its "Contact Us" feature.

## Real Test Cases

SCRAM contains a set of test cases. The test cases unzip into a subdirectory tree like so:



.....  
Note: The Input\_Files subdirectories do NOT contain the AERMOD executable!!  
.....

You will need to download the current AERMOD executable and copy it into each of the two Input\_Files subdirectories before running the test cases.

## Additional Information and Notes

PLEASE READ AND UNDERSTAND WHAT IS IN THE USER'S GUIDES AND MANUALS!!!! We can not emphasize this enough. AERMOD and its supporting systems are complex and do not lend themselves to "plug and crunch".

The executables and source codes do not of themselves require much space. However, the models use something called "Allocatable Arrays" which adjust the variable array sizes to meet the needs for large receptor grids and other such variables which can also form additional large array sizes. Very large variable arrays can affect RAM memory to the point where the RAM memory can not hold all the variable data. At that point, a run can be adversely affected by either stopping, crashing or by using the hard drive as a storage location (e.g. virtual memory). If the later, performance will be drastically slowed as data is read onto and from the user's hard drive. Most AERMOD runs will not encounter this unless a large run is being performed on an older PC with minimum RAM memory. At this point, the run should be broken into separate runs.

Additional hard disk drive space is needed for the various input data sets. For instance, detailed terrain data input for an AERMAP run can approach 1 Gigabyte when used in preparation of a 50 km radius AERMOD run. Details such as this will be covered in the revised addition of the AERMOD User's Guide.

It is advisable to create a general overall subdirectory for each project with subdirectories for each part of the AERMOD modeling system. This way it will be easier to backup your project by copying the main project subdirectory and all its underlying subdirectories.

#### Normal AERMOD Installation Help

Each part of the AERMOD modeling system (e.g. AERMAP, AERSURFACE, AERMET, etc.) should be stored in its own subdirectory. The output from each segment of the system, such as the meteorological data or land characteristics, will need to be copied to the subdirectory where the user's AERMOD run will be executed. Path names can sometimes be used to point back to where the data is located and therefore, the data does not have to be copied to the executable's subdirectory.

Input to each executable has to be renamed or copied to the basic file name of the executable. For instance, when executing an AERMOD run, "myinputfile.inp" has to be renamed to "AERMOD.INP". The output file will be AERMOD.OUT and will have to be renamed to "myoutputfile.out" or it will be overwritten next time AERMOD is run. It is important to read each User's Guide for any variations that do not follow this generic procedure. This helps us to make AERMOD compatible with other Operating System environments.

It is advisable to create a general overall subdirectory for each project with subdirectories for each part of the AERMOD modeling system. This way it will be easier to backup your project by copying the main project subdirectory and all its underlying subdirectories.