

Zhe Zhu, Assistant Professor, Department of Geosciences, Texas Tech University, zhe.zhu@ttu.edu

Instructions for Windows Standalone Fmask 3.3 Version

Notice: Standalone Windows executable Fmask software which do not need to install Matlab or R and runs on 64-bits Windows machine with 8G memory. It is based on the same Fmask 3.3 Matlab code and it can be download and used by the following steps. This instruction explains how to use Windows standalone Fmask version 3.3 and if you want to use other Windows standalone software, you can do it in the same way.

Install Fmask

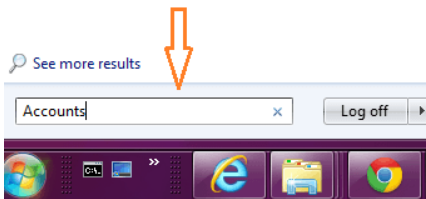
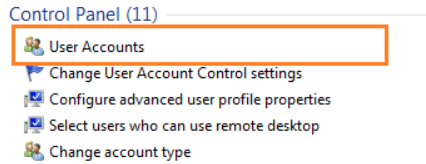
1. Download Fmask 3.3 version Windows installer and double click to install following the wizard.
2. There will be a new file called *Fmask_3_3.exe* generated at *C:\Program Files\Fmask_3_3\application*, if you do not change install directory, and this is where your Fmask software is located.

Add Environment variable

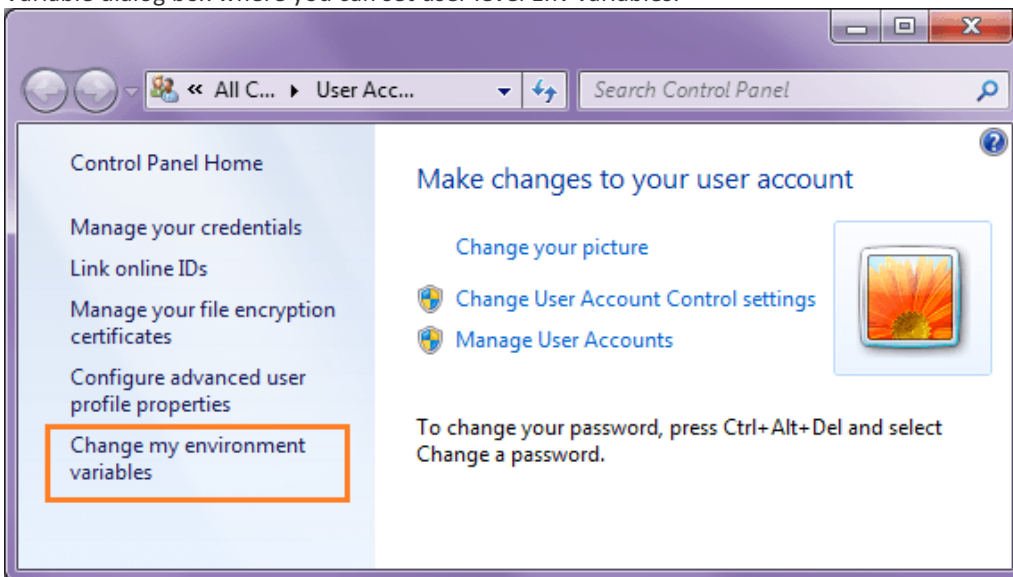
1. Next you need to add this path to the environment variable in your Windows machine. Based on what Windows versions you are using; this is how you add your environment variables for Windows 7-10:

Windows 7

- a) Open *Start Menu*, type string *Accounts in Search programs and files*. You should see *User Accounts* in *Start Menu* as seen in screenshot bellow. Select *User Accounts*.

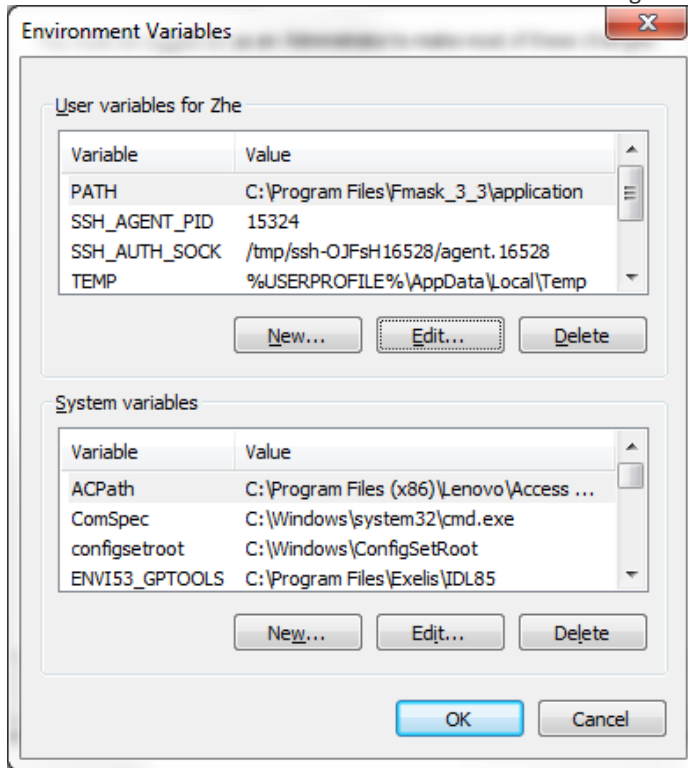


- b) This should open *User Account* panel where you can tweak user level settings. See below screenshot. Notice a link on left sidebar: *Change my environment variables*. Voila!! You got it. Click this link “*Change my environment variables*”. It should open standard Environment Variable dialog box where you can set user level Env variables.

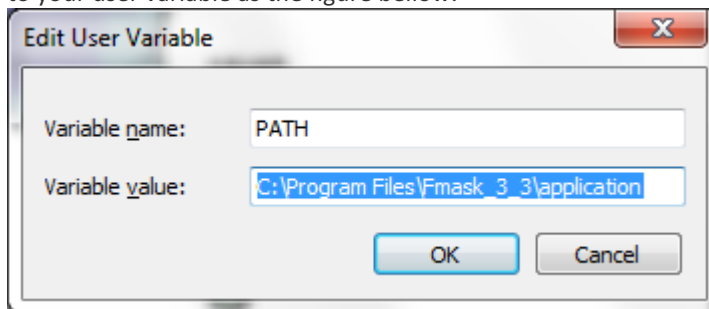


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c) You will see this *Environment Variables* interface as this figure bellow



d) In the section *User variables for XXX* (here is Zhe), click *New...* and paste the following path to your user variable as the figure bellow.



e) Click *OK*

Windows 10 and Windows 8

- In Search, search for and then select: System (Control Panel)
- Click the *Advanced system settings* link.
- Click *Environment Variables* and following similar steps as Windows 7

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Run Fmask software

1. Open *Start Menu*, type string *cmd* in *Search programs and files* and *Enter*
2. In the Command Prompt, *cd* into the folder where Landsat bands and .MTL files downloaded and run Fmask by entering "Fmask_3_3" and Fmask will run automatically.
3. If you want to change parameters for Fmask, you can enter other parameters, such as *Fmask_3_3 4 6 1 50*, in which the first parameter (4) is the number of pixels dilated for cloud (default is 3), the second parameter (6) is the number of pixels dilated for cloud shadow (default is 3), the third parameter (1) is the number of pixels dilated for snow (default is 0), and the last parameter (50) is the cloud probability threshold with default value of 22.5 (cloud probability thresholds are between 0 and 100).

After running Fmask, there will be an image called XXXFmask that can be opened by ENVI. The image values are presenting the following classes:

0 => clear land pixel; 1 => clear water pixel; 2 => cloud shadow; 3 => snow; 4 => cloud; 255 => no observation. You can use *Overlay -> Density Slice...* to give different color for different image values for the newly generated image in ENVI.