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SpaceBlenders Plug-in for Blender User Manual

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Overview

The SpaceBlenders plugin for Blender is designing to simplify the processing of DEM images in Blender. We have automated GDAL image procesing tools to create image textures simply by picking a color scheme. These textures are pre-applied to your DEM image during the import process into Blender. Creating a 3D image is as simple as selecting a couple options and clicking render. We have also taken the hassle out of creating flyover videos. Our plug-in has several pre-defined flyover paths that can be selected before importing your image. Once the image is imported a flyover video is created by simply clicking on render animation. This user guide will give you an overview of how to use our plug-in.

- **Platforms**

Our plug-in has been made cross-platform compatible for Mac, Linux, and Windows

Required Tools

Before the plug-in will work in Blender it is imperative that the following tools are installed and tested.

1. **Blender 2.69**
2. **Python 2.7+**
3. **GDAL 1.10**

Setting up the Environment on a Mac

Install Blender

- Download Blender 2.69 from here.
- Select the approraite version 32/64-bit for your system.
- Follow the on screen install instruction.
- After installing Blender we need to add it to your path.

Type the following commands in Terminal:

```
echo "alias blender=/Applications/Blender/blender.app/Contents/MacOS/blender" >> ~/.profile
source ~/.bash_profile
```

You should now be able to type the command: `blender --version` into Terminal and get the details on your version of Blender. Now Blender can be launched simply by typing `blender` into Terminal.

Check your Python

- Mac's come with Python 2.7 pre-installed.

You can check your Python version by typing the following command into Terminal:

```
python --version
```

You should see: `Python 2.7.5` , or greater. Our plug-in works with all Python 2.7+, if you need to upgrade your Python version click here.

Install GDAL

- Download and Install GDAL 1.10 Complete from here.
- After install add GDAL to your path.

Copy and paste the below code into Terminal:

```
echo 'export PATH=/Library/Frameworks/GDAL.framework/Programs:$PATH' >> ~/.bash_profile
source ~/.bash_profile
```

You should now be able to test your GDAL installation by typing the following in terminal:

```
$ gdalinfo --version
```

If installation is successful you should see: `GDAL 1.10.1, released 2013/08/26`
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Setting up the Environment in Linux

Install Blender

- Download Blender 2.69 from here.
- Select the approraite version 32/64-bit for your system.
- Follow the on screen install instruction.
- Blender should be callable from Terminal by typing: `blender`

Check your Python

- Linux Distros should come with Python pre-installed.

You can check your Python version by typing the following command into Terminal:

```
python --version
```

You should see: `Python 2.7.5` , or greater. Our plug-in works with all Python 2.7+, if you need to upgrade your Python version click here.

Install GDAL

- For Ubuntu based Linux distribution install GDAL with your package manager.

```
sudo apt-get install gdal-bin
```

- For other distributions, search your package repository for 'gdal', or see OSGEO's GDAL Binaries information here.

You should now be able to test your GDAL installation by typing the following in terminal:

```
$ gdalinfo --version
```

If installation is successful you should see: `GDAL 1.10.1, released 2013/08/26`

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Setting up the Environment in Windows

Install Blender

- Download Blender 2.69 from here.
- Select the appropriate version 32/64-bit for your systemn
- Add the Blender program to your path by typing the following in the cmd prompt:

```
set PATH=%PATH%;C:\Program Files\Blender Foundation\Blender\;
```

You should now be able to run Blender by typing: `blender` into the cmd prompt.

Install GDAL

- Download and Install OSGEO4W from here.
OSGEO4W contains GDAL, Python 2.7.5 and Numpy.

- After install add OSGEO4W to your path by typing the following in the cmd prompt:

```
set PATH=%PATH%;C:\OSGeo4W64
```

- Typing `OSGEO4W` into the cmd prompt should display info on the OSGEO4W package.

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Download the Blender Plug-in

- Click the following link to download the plug-in:

<div style="background:#f5f5f5;padding:1em;">

    SpaceBlender Plug-in for Blender

</div>

Install the Blender Plug-in

- Unzip the plugin and put the whole folder in the Blender addons directory:
- For **Mac**:

  Paste the following folder address into Terminal:

```
open /Applications/Blender/blender.app/Contents/MacOS/2.69/scripts/addons
```

  This will open a finder window in the Blender addon directory.

  Drag and drop the entire folder into the directory.

- For **Linux**:

  From your file browser click on File System > usr > share > blender

  In the Blender folder click 2.69 > scripts > addons

  Then drag and drop the entire folder into the directory

- For **Windows**:

  Paste the following into the cmd prompt and hit enter:

```
explorer C:\Program Files\Blender Foundation\Blender\2.69\scripts\addons
```

  This will open an explorer window in the Blender addon directory.

 Drag and drop the entire folder into the directory.

Activate the Blender Plug-in

- Open Blender and go to File > User Preferences
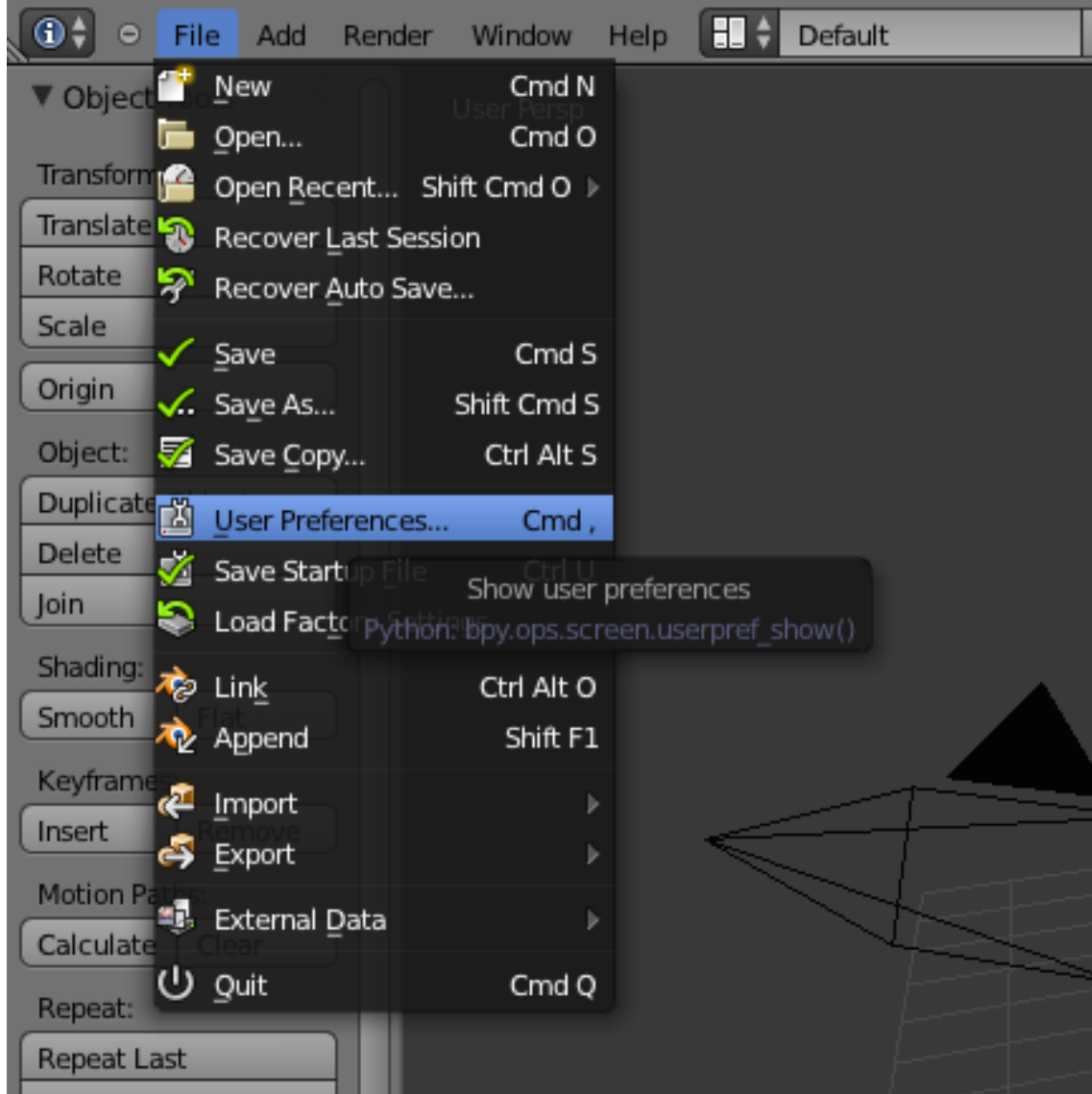
- Click on the Addons tab and search for dem in the upper left corner.
- Select Import-Export: Import and SpaceBlend DEM (.IMG)
- Click the check box in the right upper corner of the window to activate the plug-in.
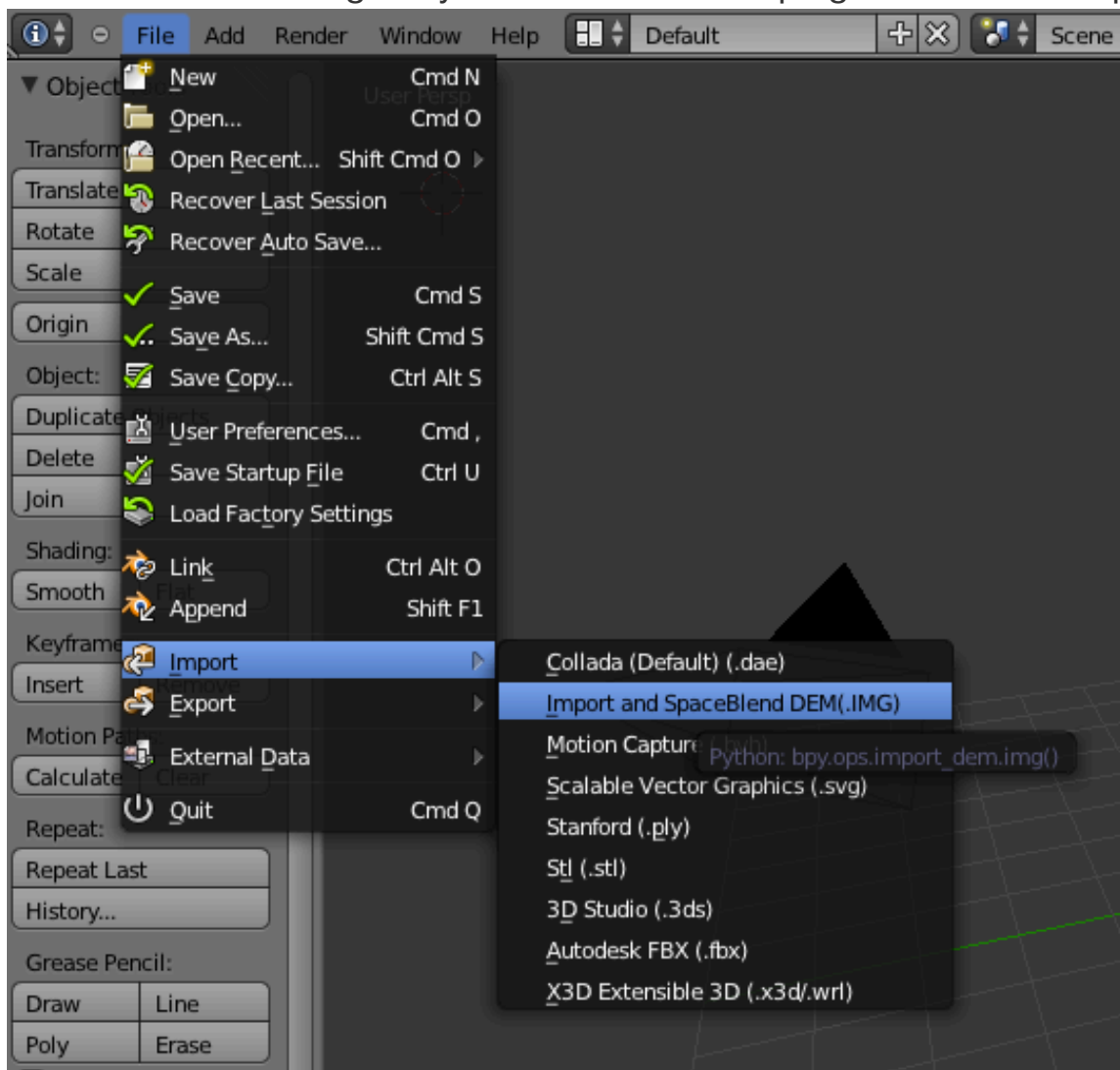- Click Save User Settings on the bottom of the window, and close the window.
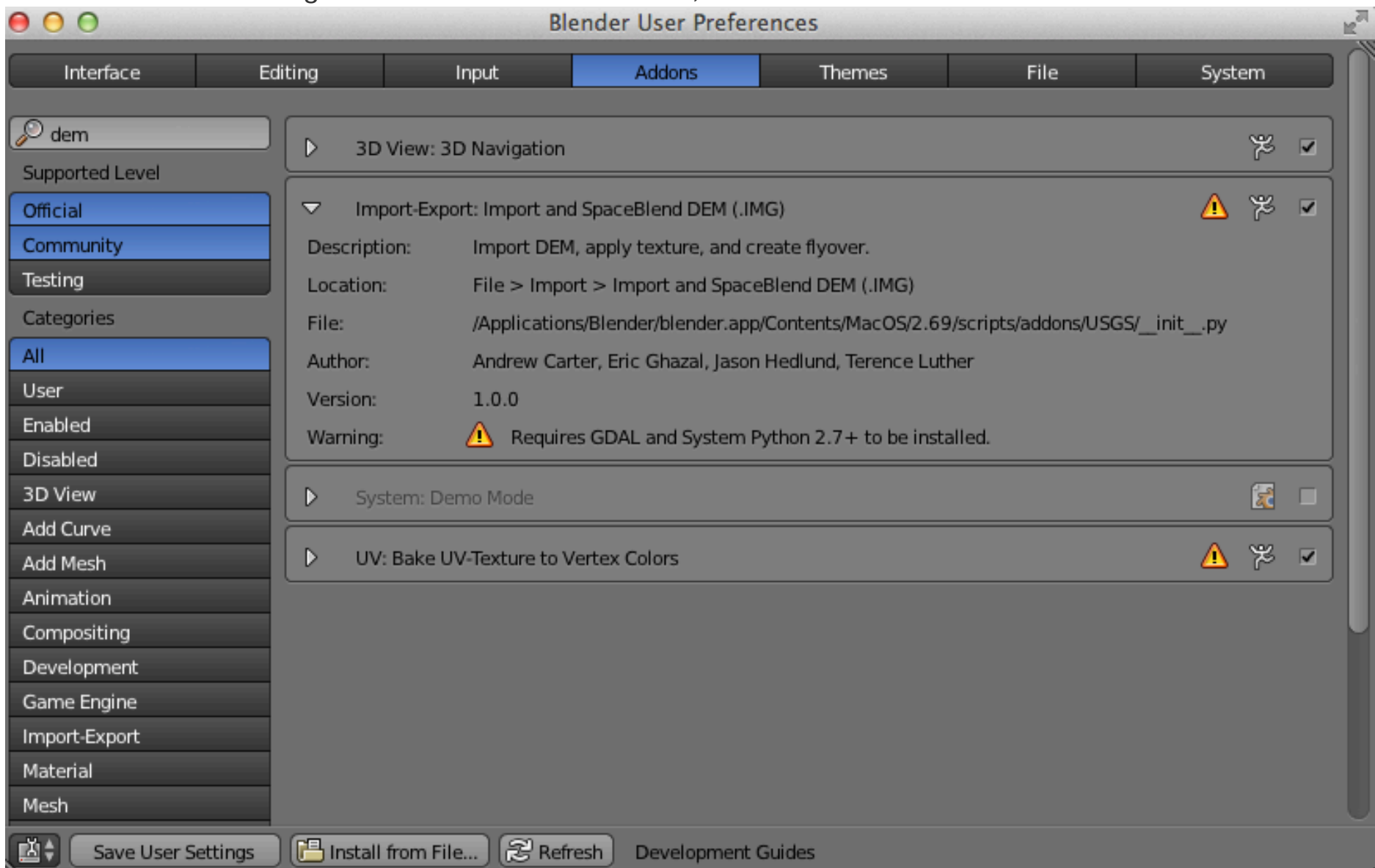
- The plugin is now ready to use and can be found in the import menu.
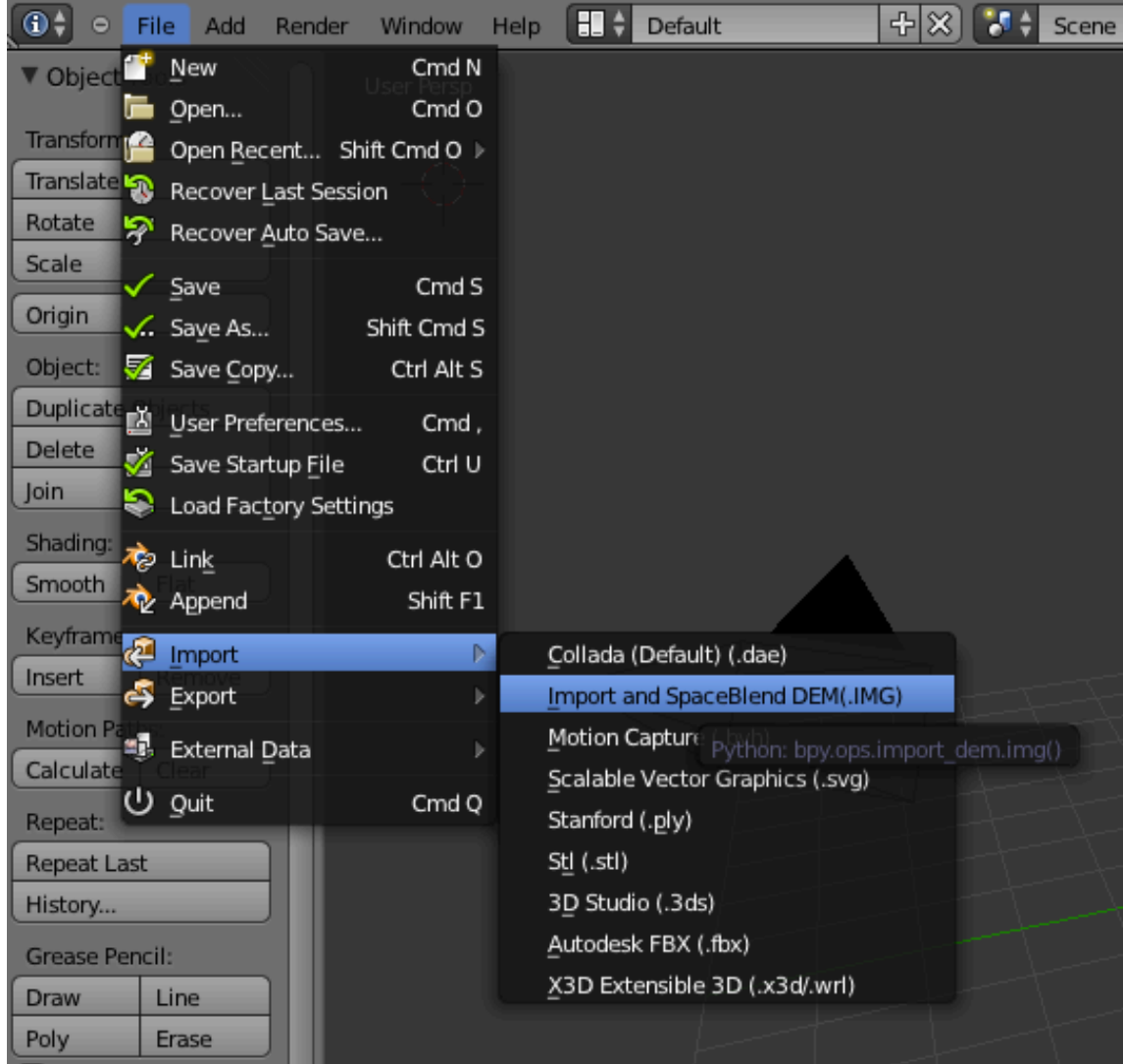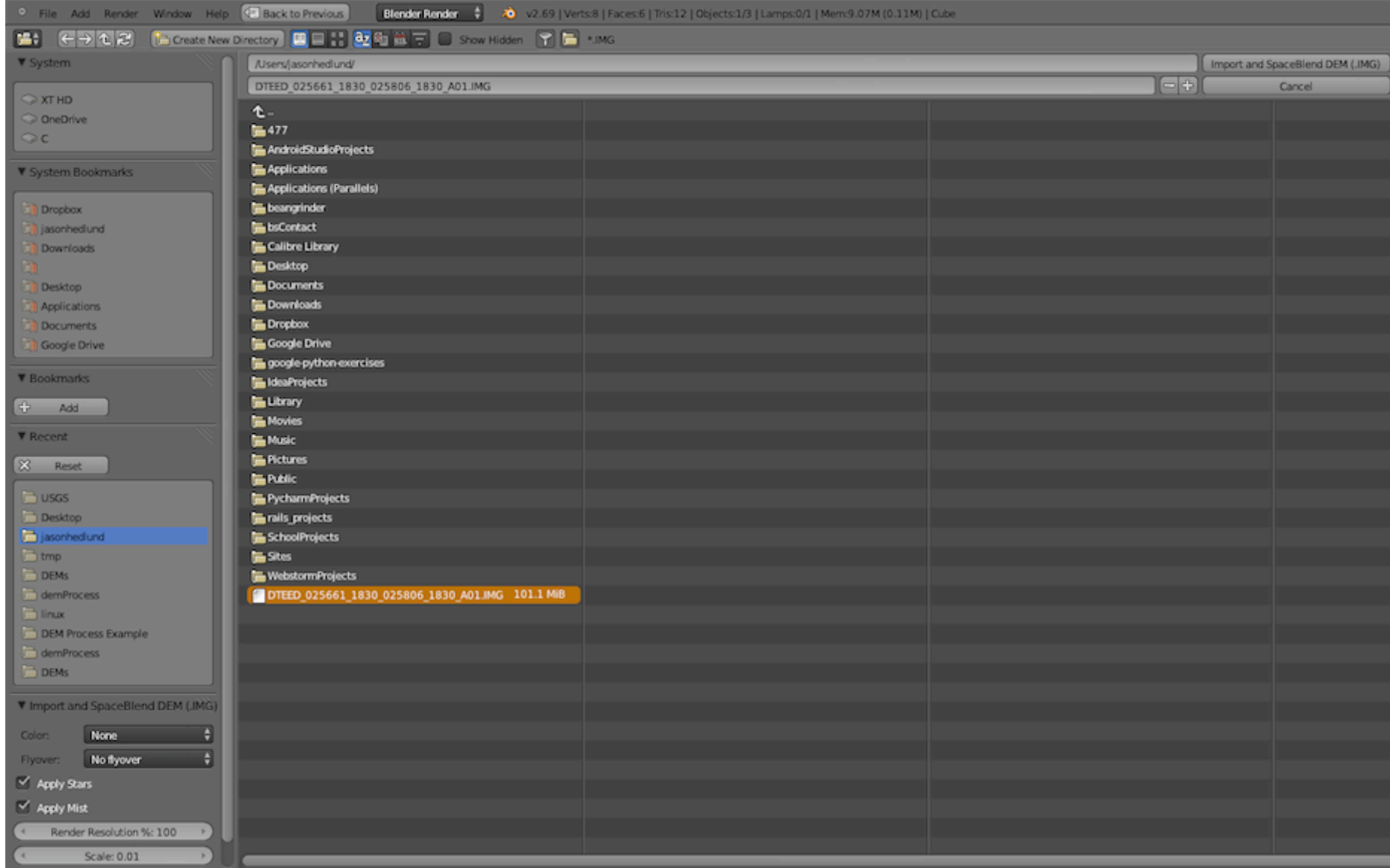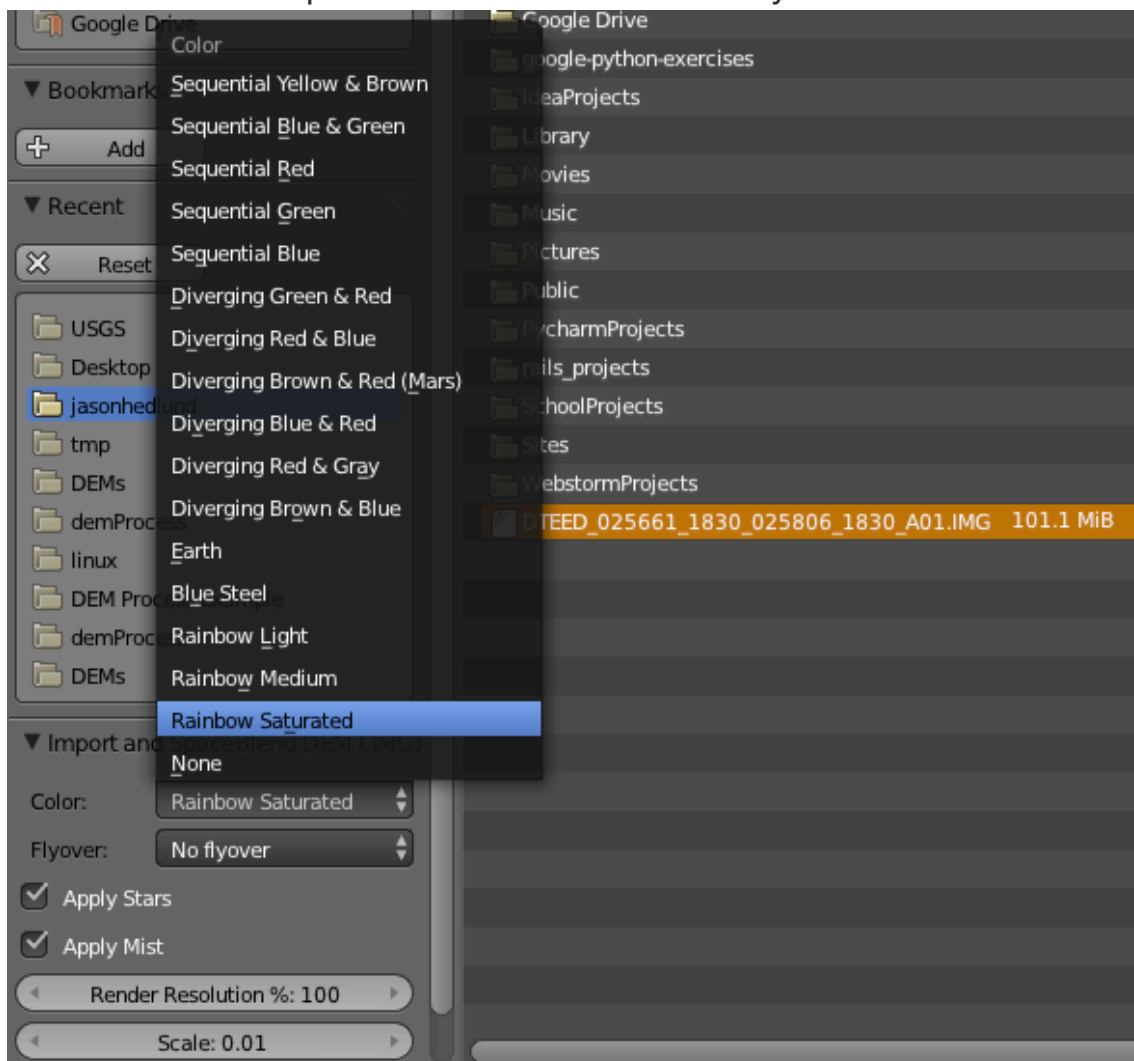
Creating a 3D Image

- To create a 3D image of your DEM select the plugin from File > Import

- Next, select your DEM image in the User Interface

- Select the options for your image in the lower left corner of the UI
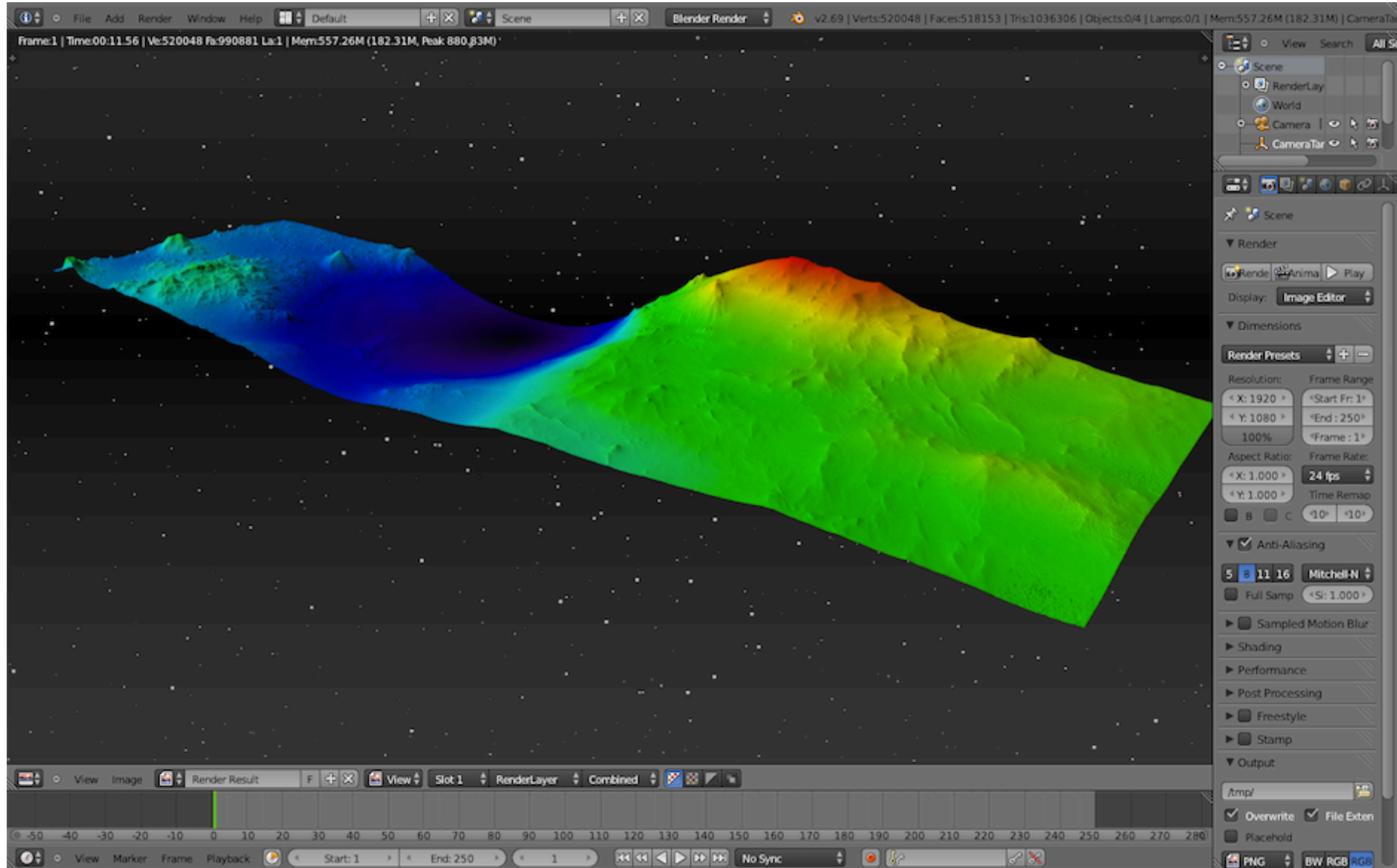- Choose a color pattern and make sure No flyover is selected

- Now click the Import button to start the import process
    - Note: The import process can take several minutes depending on your image size
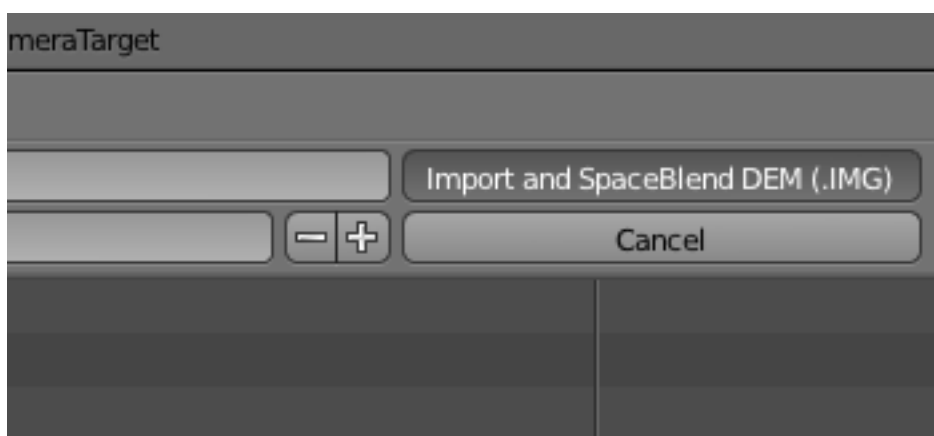
- Once the image import is complete the main Blender window will reappear
- To render your image click Render > Render image
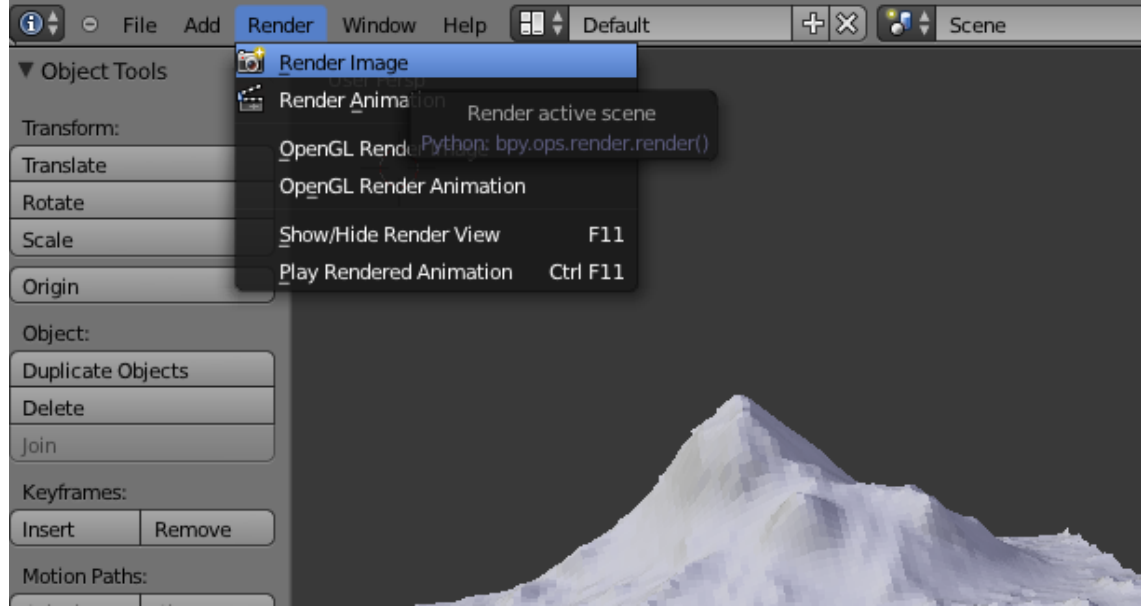
- You have now created your 3D image