

## USING THE SKYBOX KIT

*\*Original tutorials and supporting files created for Adobe Atmosphere by Benjamin Jordan (2003)  
Modified for VRML online worlds by Donza.*

### INTRODUCTION

This kit contains tools to create cubic environments and skyboxes in online worlds. Terragen™ users can create an online immersive version of their creations (using only Terragen™ and this kit), and online world designers can create realistic backdrops for their worlds. Down the Skybox Kit files from <http://www.donzas.com/tutorials.html>.

Terragen™ is a freeware scenery generator which is capable of photorealistic results for professional landscape visualization, special effects, art and recreation. Although Terragen™ is a continually evolving work-in-progress; it is already capable of near-photorealistic results for professional landscape visualization, special effects, art and recreation. Terragen™ has been used in a variety of commercial applications including film, television and music videos, games and multimedia, books, magazines and print advertisements.

Download and install the most recent version of Terragen™ from <http://www.planetside.co.uk/terrigen/>. It's a very cool program so explore the website to see all the other info and goodies that are there. Play with the program for a while just to get the feel of it before you start on the final version of your skybox.

This tutorial is not meant to be a comprehensive tutorial on how to use Terragen™; only how to use Terragen™ to create background files or "skyboxes" for online worlds. If you need some tutorials for this very fun-to-use program check out the rest of the planetside.co.uk site or just Google "terrigen tutorials" – you will find plenty online.

By default, the Terragen™ script (skybox.tgs) included in this kit will save the new background images into the included "skybox" subfolder. If desired, you can edit it in a text editor to specify a different path (second line of the script). Both absolute and relative (from the script directory) should work.

### THE SKYBOX KIT ZIP FILE

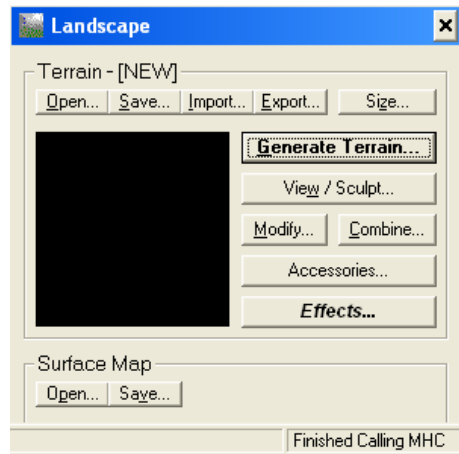
1. Unzip all the skyboxkit.zip files into a folder named "skyboxkit" which will contain 2 other folders named "skybox" and "preview".
2. The main "skyboxkit" folder should have the following files in it:
  - Skybox.tgs (the camera script file)
  - Create\_skybox.doc (a copy of this tutorial)
  - A subfolder named "preview" with these files:
    - Index.html
    - Cubic.aer
    - World.js
  - An empty subfolder named "skybox"

### CREATE THE LANDSCAPE

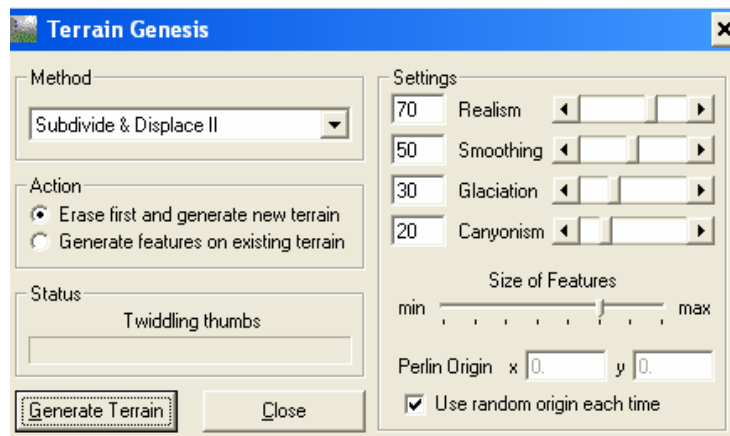
1. Start Terragen™ and immediately select World File > Save World > Save World to save your file into the main "skyboxkit" folder.
2. In the "Landscape" window click the "Generate Terrain" button to begin creating a surface map.

NOTE: From this window you can also open, save, import and export other surface maps to enhance your terrain.

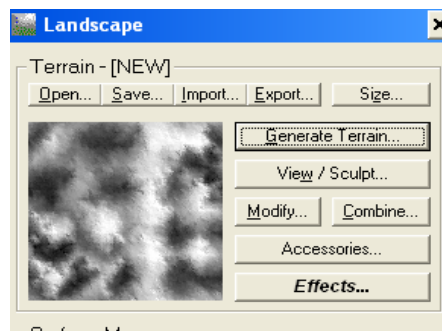




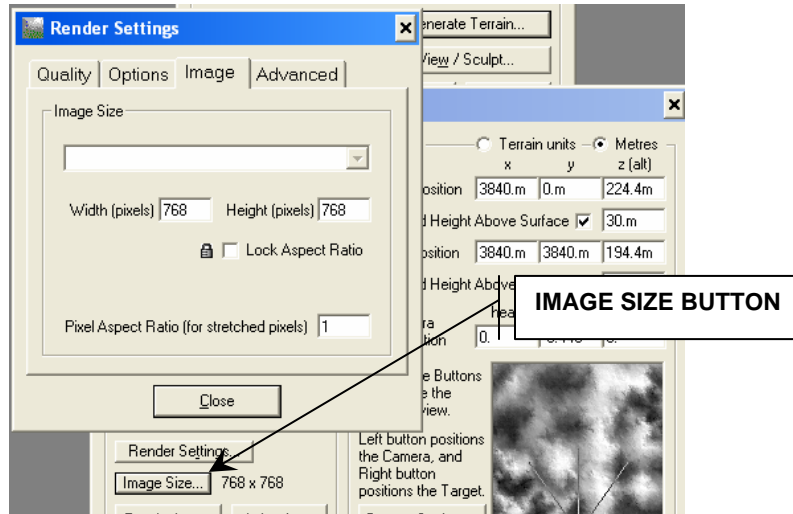
- This will open the following "Terrain Genesis" window:



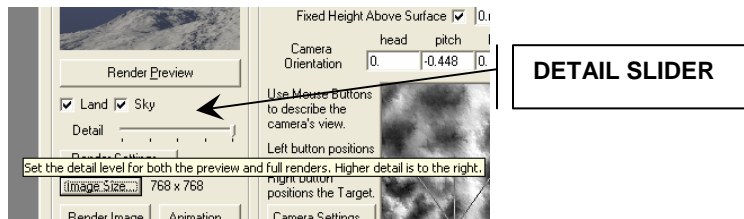
- For right now leave everything set at its default and just click the "Generate Terrain" button in this window and then close the window.
- This will return you to the "Landscape" window and you should now see a grayscale pattern appearing in the thumbnail window.



- In the "Rendering Control" window click the "Image Size ..." button to set the Height and Width for the images. BOTH WIDTH AND HEIGHT SETTINGS SHOULD BE THE SAME. 768 x 768 is reasonable for online viewing.



- Next, move the "Render Preview Detail" slider all the way to the right for full quality – by default it is set to about 50%.

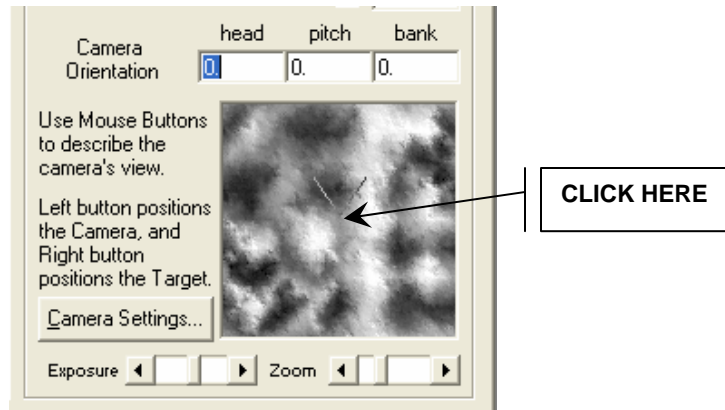


- Finally, click the "Render Preview" button in the "Rendering Control" window to see a small thumbnail of what it will look like.

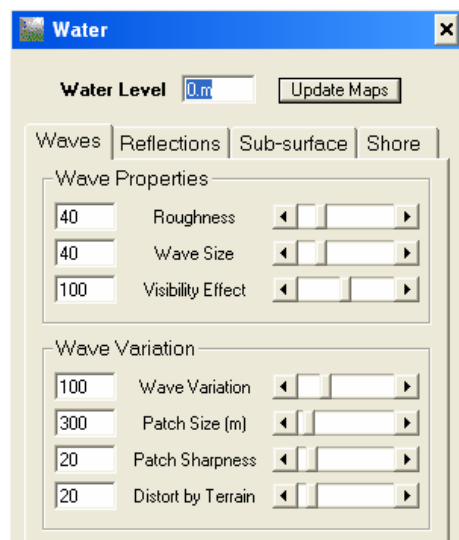


NOTE: Your render will not look the same as the one shown here as all terrains are generated randomly.

- In the lower right corner of the "Rendering Control" window click inside the terrain thumbnail.



10. You want to set the camera's position as close to the exact center of the scene as possible, and then right click to set the initial target (direction) of the camera.
11. Once you have clicked inside the window the easiest thing to do is enter all zeros in the Camera Orientation boxes for head, pitch and bank. This will set your initial camera position to dead center facing to the back and looking straight down.
12. If you want water in your terrain open the Water window and bring the "Water Level" up to at least 0. You can adjust the other Water properties or not – depending on what you want and then click "Update Maps".

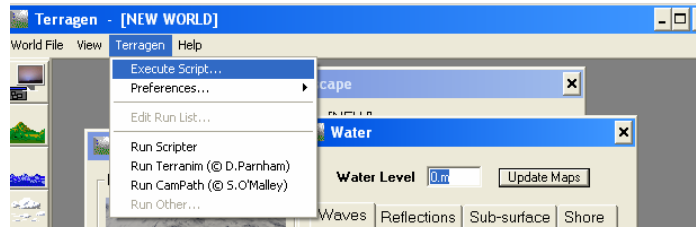


### EXECUTE THE TERRAGEN™ SCRIPT

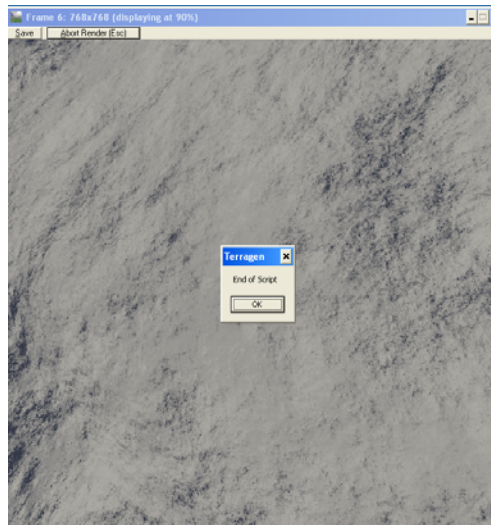
Once you are ready to create your final skybox images, there is a file named "skybox.tgs" in the main "skyboxkit" folder. It is a Terragen™ script which will control the Terragen™ camera and produce the skybox images.

When you have completed your terrain:

1. In the main window, select the "Terragen™" menu, and choose "Execute Script".



2. Click on the file "skybox.tgs" which is in the main folder and choose Open.
3. Wait while the 6 views render and save to the "skybox" folder.



4. Click the OK button. If you click on the Save button in this window you will see that all 6 views have been saved into the main folder as BMP files as they were rendered.

### CONVERTING THE FILES

1. Use Windows Explorer to look at the files in your "skybox" folder.
2. Each of the 6 BMPs needs to be converted to a JPG with the appropriate name in order to be used in your Flux file. This can be done manually with a graphics tool such as Photoshop or a freeware tool called IrfanView (available from <http://irfanview.com>), but the filenames MUST be renamed/converted as follows:

- f0001.bmp --> lt.jpg (looking to the left)
- f0002.bmp --> ft.jpg (looking to the front)
- f0003.bmp --> rt.jpg (looking to the right)
- f0004.bmp --> bk.jpg (looking to the back)
- f0005.bmp --> up.jpg (looking to the up)
- f0006.bmp --> dn.jpg (looking to the down)

3. Open each of the BMP files and, without changing anything in the file, resave them as JPG files with the corresponding names as stated above. DO NOT just change the extension – they must be CONVERTED to the JPG format from the BMP format.
4. Copy or upload the “skybox” folder into your world's main folder.
5. Add the 6 background files to the Background Node of your Flux Studio file.
6. For detailed instructions on how to add the Background Node see “Background Node” in the Flux Studio Help Files.
7. Preview in Flux Player to see your new background.

### PREVIEWING YOUR CUBIC ENVIRONMENT

You can quickly preview what your new terrain environment looks like by using the files in the “preview” folder.

1. Place a copy of the 6 JPG files in the "preview" folder.
2. Double-click on the “index.html” file to preview your environment in the Atmosphere viewer.

### HINTS FOR CREATING TERRAINS

You can control the height of the mountains and depth of the valleys as well as the direction and elevation of the sun. You can download atmosphere files that will give you preset sun, cloud, and other atmosphere properties that will go a long way to letting you create really beautiful environments for your worlds.

The more you play with Terragen™ the better you will get at it.

Some useful links:

- SOPack Plugin Pack - <http://www2.cs.uh.edu/~somalley/sopack.html>
- Terragen™ Plugins - <http://www.planetside.co.uk/terrigen/resources.shtml>