

Basic terrain techniques. © Mark Jeffers

You have a lot of choices when it comes to modelling landscapes or as I like to refer to them "terrains."

There are several conversion utilities that will convert bitmap images into DXF format with peaks and valleys corresponding to light and dark areas of the bitmap image. As well as commercial packages that will generate "random" landscapes given parameters specified by the user. With the surface deformation tools in trueSpace you can create very unique and interesting landscapes in just a matter of minutes. This tutorial will walk you through the creation of a very basic terrain model by introducing you to some the surface sculpting tools in trueSpace.

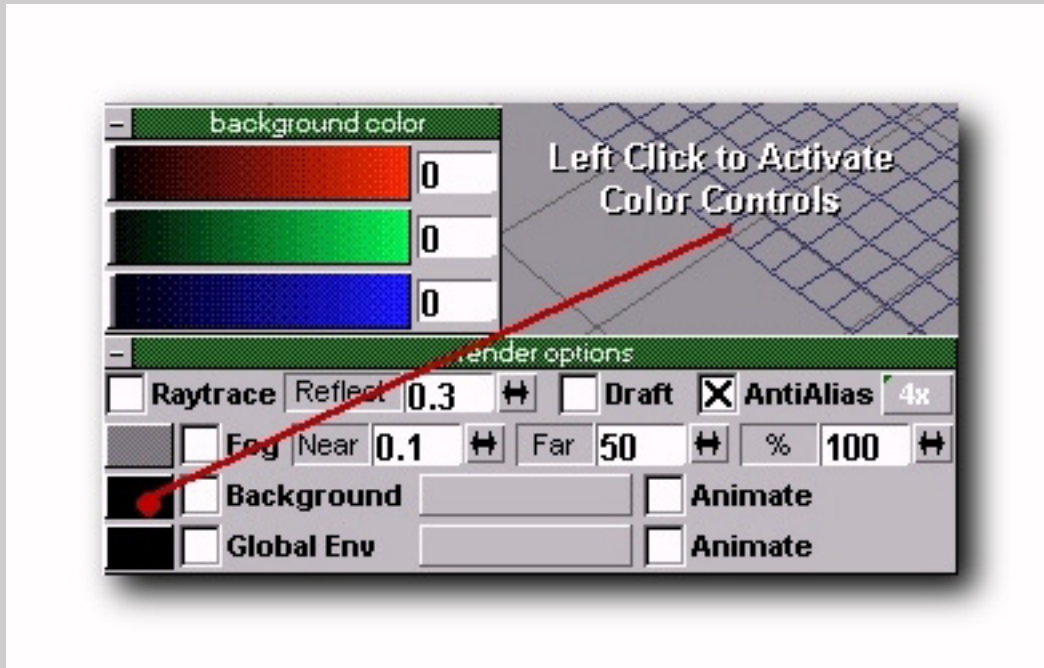
Setting up the environment.

To make the preview renders easier interpret I like to set the lights and background color right off the bat. I prefer to use the colored lights with a black background. To change these settings:

Background.

1. Activate the render preferences dialogue box by right clicking on the active render scene button.

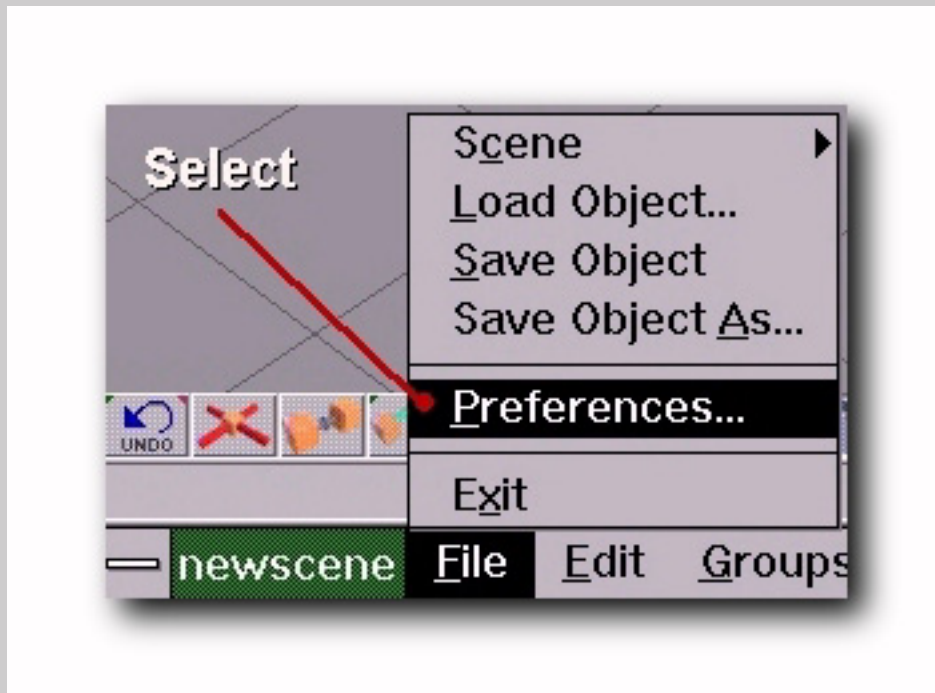
2. To change the background color from the default (which is gray) left click on the background color sample box to activate the color selection slider controls.



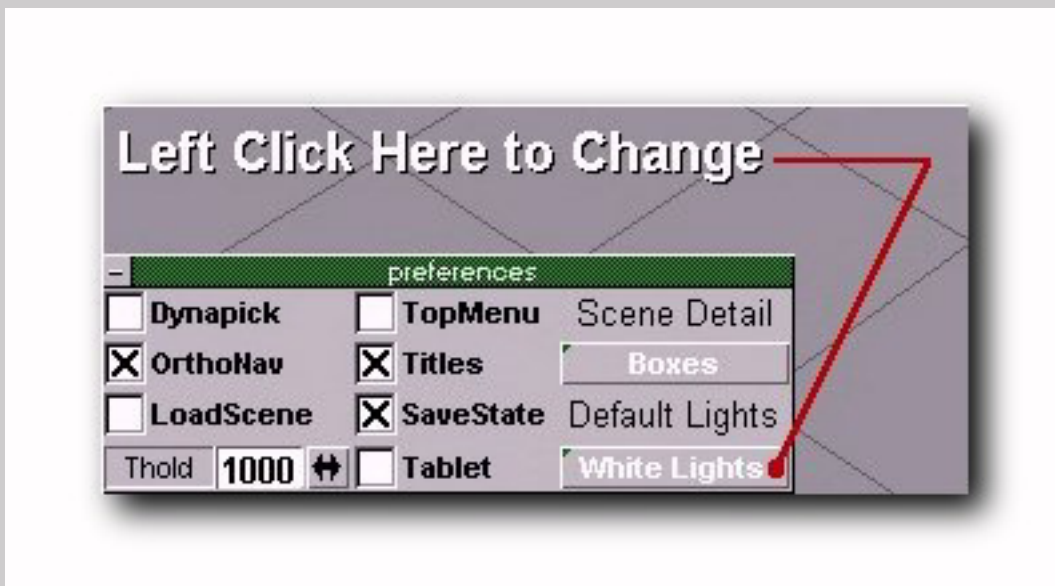
3. Slide all three bars to the far left or enter zeros in the red, green and blue numerical control boxes.

Lights.

1. Activate the preferences dialogue box by selecting the preferences option in the file menu.



2. Left click on the lights option box and select the colored lights option.

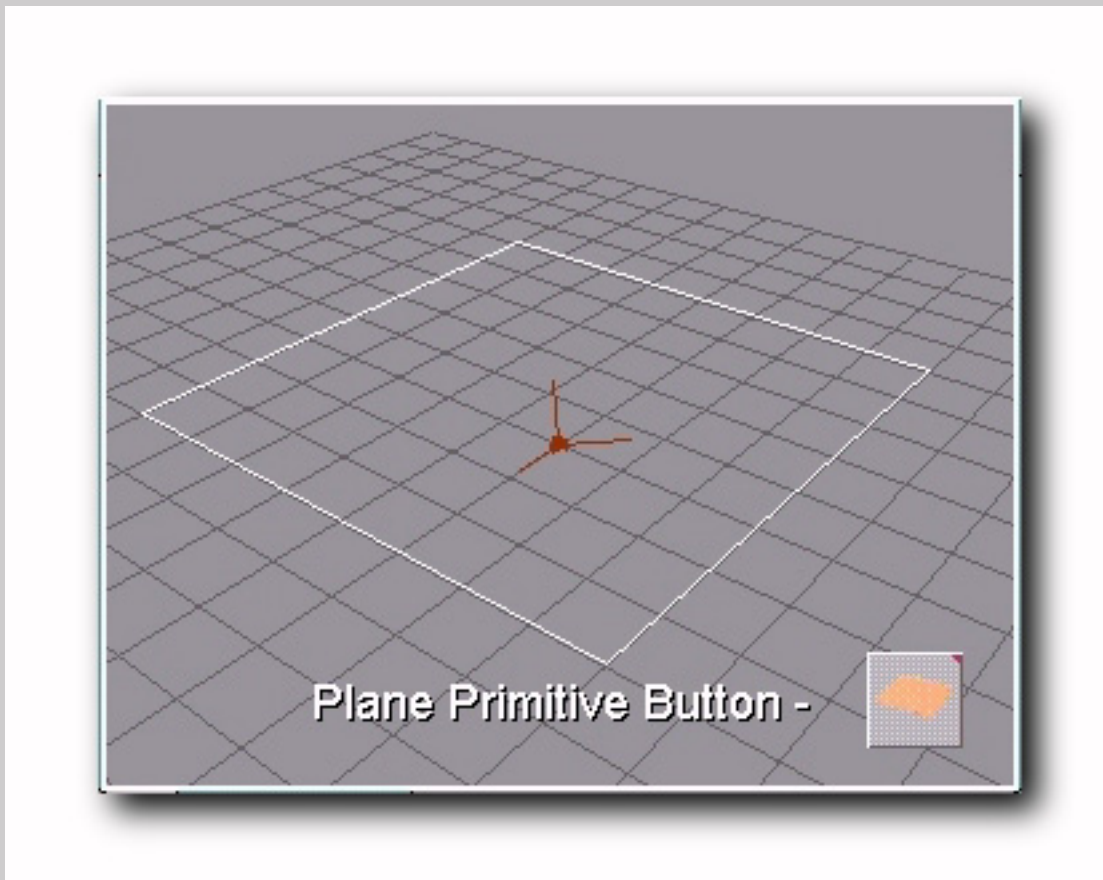


Creating a terrain.

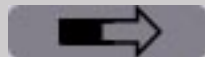
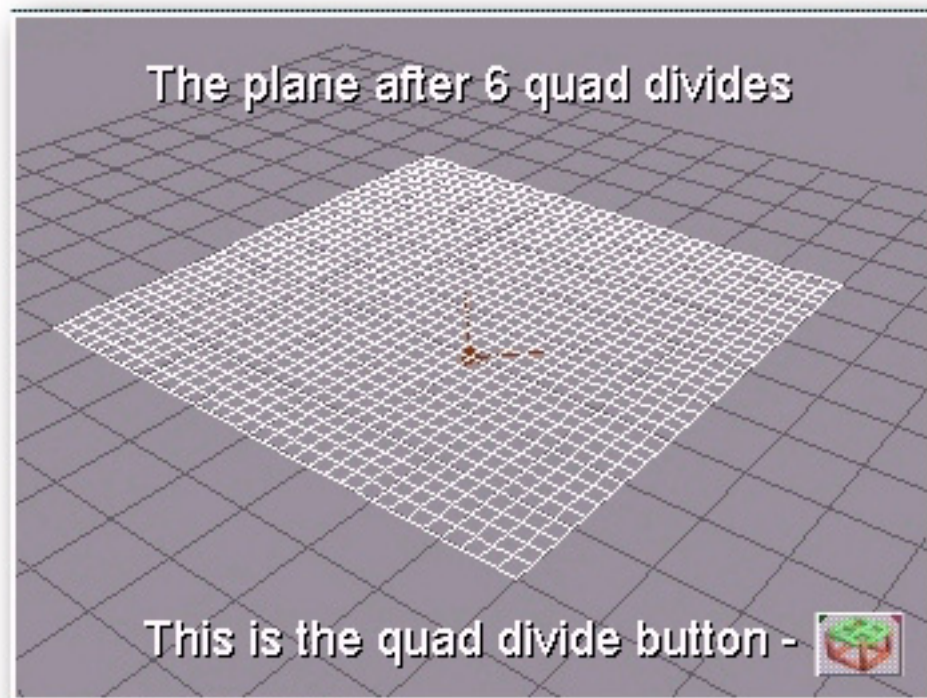
To create a surface you can start with any of the primitives in the primitives dialogue box. For demonstration purposes we'll use the plane for this

example.

1. Activate the primitives panel and create a plane.
Once it's created, stretch it so that it occupies most of the screen. This way it's easier to tell what you're doing when you start applying the surface deformations.



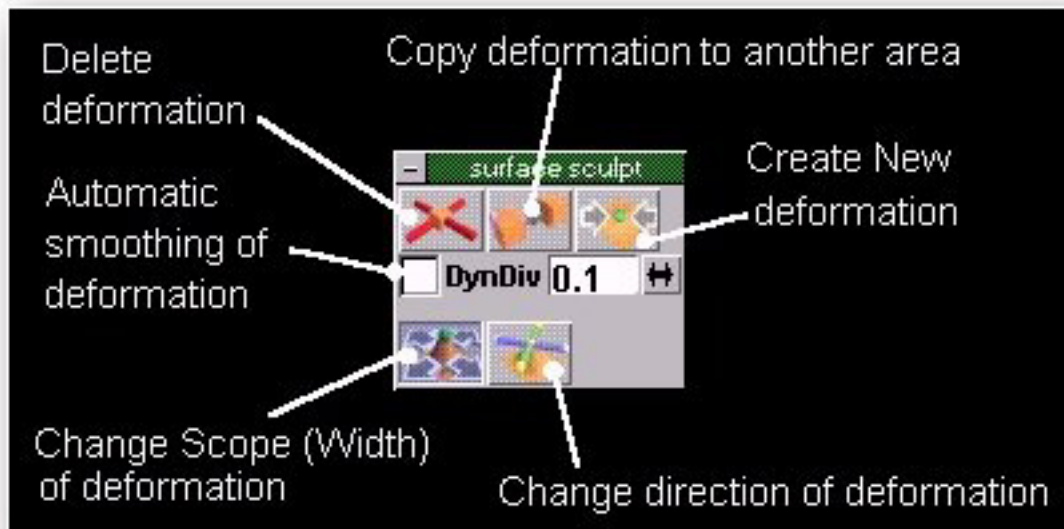
2. To create the vertices that we'll need to manipulate with the surface deformation tools use the quad divide button/tool. I divided my original plane about six times to get the example you see here. You can smooth divide the plane later to produce smoother, less faceted surface features.



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Surface deformation options.

It is necessary to have an basic understanding of the surface deformation controls before we go any further.



Some of the names of these controls were shortened in an attempt to simplify this explanation.

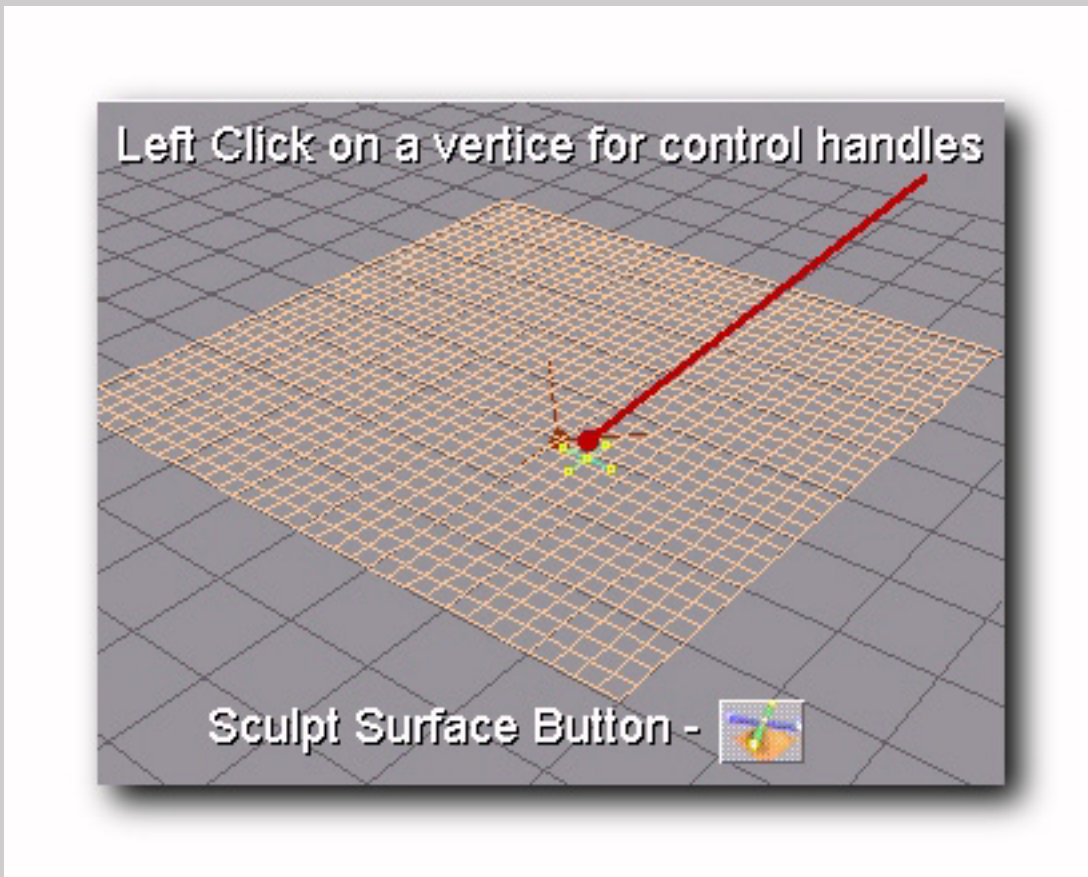
1. Delete Deformation - this deletes the current deformation.
2. Copy Deformation - this copies the current deformation to another vertex that you specify.
3. Create Deformation - This allows you to create a separate new deformation at another vertex that you specify.

4. **Scope Control Handles Mode** - When this button is active the handles will change the scope (length and width) of the current deformation. Rather than grab the ends of the control handles, grab the control bars themselves to extend the deformation in a direction parallel to the bar.
5. **Sharpness Control Handles Mode** - The control handles control rotation and direction of the deformation.
6. **DynDiv** - Controls the amount of automatic smoothing that occurs to the area deformed.

Note: For a more technically thorough explanation of these controls (including their real names) please consult the trueSpace manual and the help files.

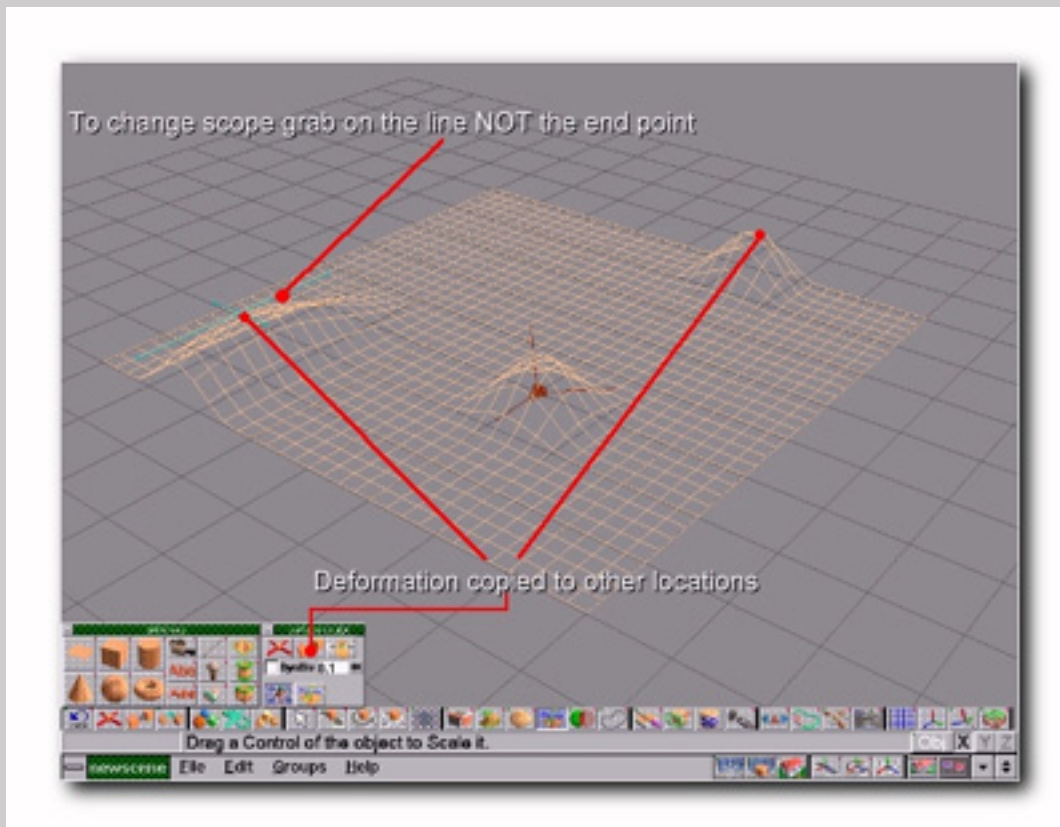
Creating peaks & valleys.

1. To start a new deformation select the Deform Object tool.
2. Select a vertex to deform. If you're doing this for the first time just pick one at random and experiment until you get the hang of how the controls work.



3. To raise or lower the vertex you have selected simply select the center control point and right click. By moving your mouse up or down you can create a "mountain" or a "valley."
4. Once you have your mountain or valley where you like you can move on. The power of the copy deformation tool is now to your advantage. Press the copy deformation button and specify a new location by clicking on another vertex. You can repeat this as many times as you like.

5. Now that you have several identical mountains or valleys, what can you do to add some randomness to the pattern you have created? If you have been creating peaks move to a new area of the plane and create a depression. Copy this depression to other areas of the terrain. Try copying them to the top vertex of a mountain for interesting results. Another thing you can do to vary the terrain is to use the scope control.

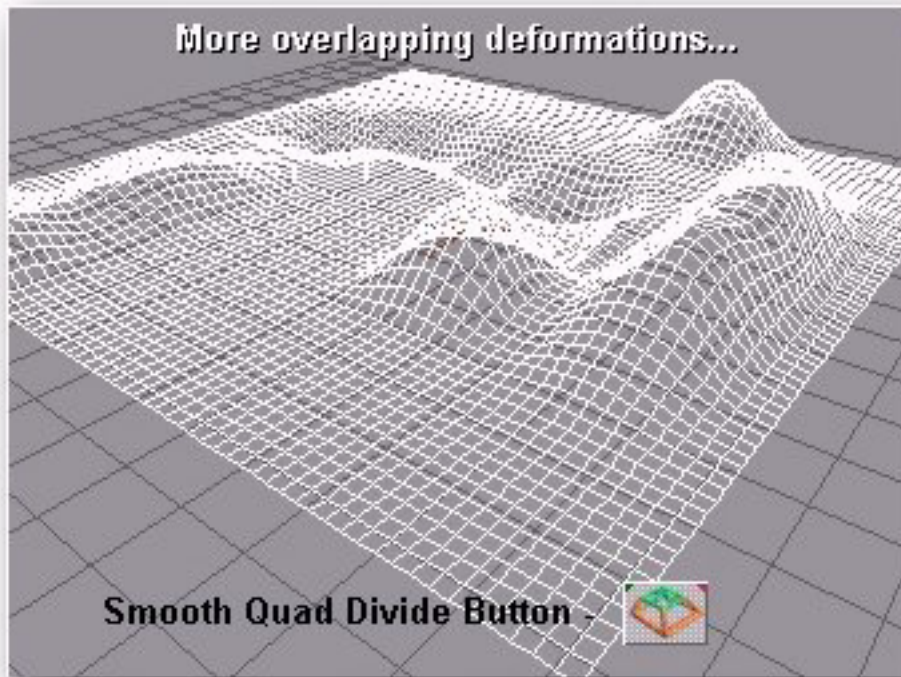


With the vertex control active press the scope control button. Now, grab one of the control bars (in the center of the bar not at the control points at their ends or at the intersection) and drag the deformation in the direction you would like to lengthen or widen it.

Repeat these techniques for any number of

deformations until you achieve a terrain that you're happy with.

6. This step is optional. If your mountains and valleys have a faceted look to them when you render them you may need to perform a smooth quad divide to smooth out the facet surfaces.



Close