

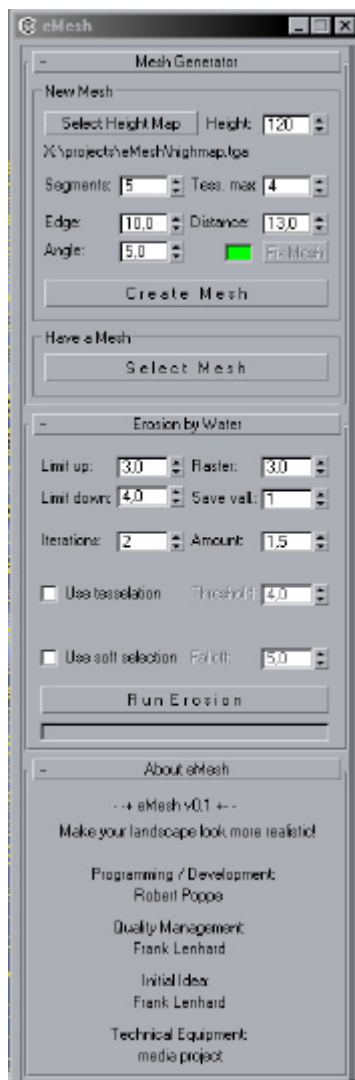
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eMesh by Robert Poppe

eMesh is a 3ds max 4 script to simulate real world erosion on terrain surfaces.
At this version emesh only calculates water erosion

Tutorial eMesh ver. 0.1

1 UI



select high map : lets you select a b/w image
height : overall height of the landscape
segments/tessmax : resolution of the mesh
edge/dist/angle : dynamic resolution of the mesh
create mesh : let's go :)

select mesh : lets you select an own mesh

limit up/down : the search area for the water trenches

iterations : amount of iterations of the erosion
amount : the deep of the water trenches
tessellation : tessellate the water trenches
soft selection : soft edges on water trenches (much slower)

run erosion : starts the calculation

about: look for yourself :)

2 simple out of the box landscape

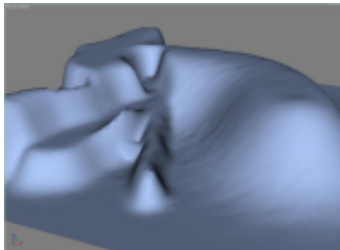
1. first paint a b/w map for the mountains and valleys. Can look like this one.



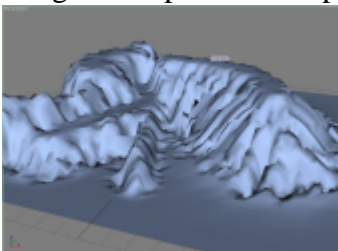
the map should have the same length as width and should also not be too big. 500x500 pixels are just fine for our first try.

2. now load the map into eMesh.
3. let the height, segments and tessellation to its default values. eMesh generates the mesh dynamically so it uses faces where they are needed. Not on large flat segments of the landscape.
4. the edge/dist./angle parameters are the same as inside max. Adjust them to get more detail in curved parts of the landscape.
5. be aware not to get too many faces at start as they will be much more at the end :)
6. if you get more than 50.000 faces after "create mesh" you'll probably have to "repair mesh". Due to a bug inside of maxscript some vertices flying around and generate errors in later renderings. Repair mesh does a weld on the mesh and can take a while.
7. set the angle parameter to 7 and click create mesh.

an ugly mesh will appear :)

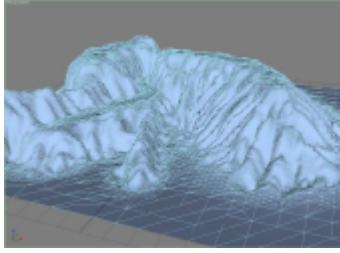


8. now let's do eMesh something for us. First to keep in mind that you'll need some passes to get the details in. After each pass we should decrease the amount a bit to not get too deep trenches in the land.
Let's begin with an amount of 3
click run erosion
eMesh now calculates the changes in the mesh. The wireframe will be hidden through the operation to speed things up zillion :)



9. after eMesh is ready click into the viewport and force a redraw. (Key ^)
10. whoops... what is this :)
11. put a meshsmooth on top of it. Set smoothness to 0.85 (this will force only to tessellate where it's necessary) and the iteration to 1

12. collapse the stack to an editable mesh, make shure there will be an editable mesh!



13. now to the next pass, lower the amount value in eMesh to a lower value and perhaps reduce the iteration as the calculation will be a BIT slower than the first.

You know... meshsmooth :)

14. repeat step 13/14 as often as you want/need

15. finally put a last meshsmooth ontop of the transformed ladscape. Set it to render only.

Whats left is to put a nice shader on this rock. We work on methods to supply mapping coordinates that you'll be able to use bitmaps also.

Comments, suggestions, ideas and of course BUGS are welcome at franky@ixdream.com