
Subject: 3D terrain model help - seems simple, but...
Posted by [dale3318](#) on Sat, 27 Oct 2012 08:19:04 GMT
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So, I've been trying to get a 3d topo map of a certain mountain range for a long time. I found this site, I've been using the software, but I can't seem to solve my problem. I've used Sketchup to download the terrain and even scaled it to a reasonable size. I'm not a 3d modeler by any means, but I am a fluent autocad user. It would seem to me that I could just take the scaled terrain model, 'offset' it 4mm, then create a solid from the two parrallel planes, but I haven't been able to do it. I've tried using other free programs like Blender, but I'm out of my league here. Can someone point me in the right direction?

Subject: Re: 3D terrain model help - seems simple, but...
Posted by [stonysmith](#) on Sat, 27 Oct 2012 11:19:48 GMT
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Can you share the terrain file you're working from?
You could PM it to me if it's something you want to keep private.

Subject: Re: 3D terrain model help - seems simple, but...
Posted by [victorrings](#) on Sat, 27 Oct 2012 16:05:26 GMT
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in blender it is just a matter of applying a modifier called solidify... that is assuming the source terrain file is good to go... that might be your issue.

chris

Subject: Re: 3D terrain model help - seems simple, but...
Posted by [dale3318](#) on Sat, 27 Oct 2012 17:51:27 GMT
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Thanks for the quick reply guys. Basically, I'm following this youtube video I found that shows how to get google earth terrain models into blender:

<http://www.youtube.com/watch?v=A-OfeO7H0Mk>

So, I bring in the google earth data in Sketchup, unlock it and explode it, then export. It's looks

perfect right out of Sketchup, and I can even scale it down to a printable size (say 250mm x 250mm), but it has no depth. I tried working with it in Blender, but I couldn't get it to work. I am a total noob at this, so maybe you guys can dumb it down for me.

Subject: Re: 3D terrain model help - seems simple, but...
Posted by [victorrings](#) on Sat, 27 Oct 2012 18:16:45 GMT
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in blender- at 4:30 i the video the guy adds a modifier... instead of the smooth modifier add solidify modifier... this will give anything a thickness.... it is an added bonus if you are doing the terrain in scale for printing that you can add the thickness enough that it will comply with shapeways requirements... for this to happen though you need to make sure that the terrain's scale has been applied. the easiest way to tell this is to see that after you have scaled the thing down to where it needs to be to check the information on the side bar... if the scale says anything other than 1.0 then the scale needs to be applied.

to do this select the terrain and hit object-apply-scale. this should set the objects scale to 1 and now the solidify modifier is correct. if you put in 3mm it will be 3mm in the print...

chris

Subject: Re: 3D terrain model help - seems simple, but...
Posted by [Fredd](#) on Sat, 27 Oct 2012 21:13:53 GMT
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Try selecting all in edit mode, then extrude in the up direction. Make sure all normals are pointing away from the surface first. It will create a volume

Subject: Re: 3D terrain model help - seems simple, but...
Posted by [victorrings](#) on Sun, 28 Oct 2012 05:22:31 GMT
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this doesn't work though... because of the way blender works...but there are ways that this might make it better:
if you are not worried about poly count and you want to say make the volume of the piece lie flat on a table you could do it like this... the problem here is that using the extrude function does not make solid piece from a flat piece... it makes the edges but if you extrude up there is a hole in the

bottom... you can remedy this in 2 ways(actually there is more than that but i will cover 2 here)

1. extrude up then go into points or edges mode and select the lines or points that are left at the bottom. make sure the pivot point is set to median point. in scale mode scale the selected points in the up direction by 0 percent by pushing 0. this will align all the points in Z axis. from there you can move the points anywhere you want but hopefully 2 to 3 mm below the lowest point of the terrain. to make it solid hit the F key. this will fill in the bottom with a n-gon poly. this might be problematic due to the sheer number of point in the n-gon- Blender might get confused and there might be issue...

2. this method solves the problematic n-gons but introduces almost double polygons. before extruding in edit mode select the whole terrain. duplicate the polys by hitting shift-d then escape. this will make a copy of the selected polys. flip their normals. invert the poly selection(this should select the original polys) now extrude them. now you have the cap on the end of the extrude. after extruding go into points or edges mode and select the lines or points that are left at the bottom. make sure the pivot point is set to median point. in scale mode scale the selected points in the up direction by 0 percent by pushing 0. this will align all the points in Z axis. from there you can move the points anywhere you want but hopefully 2 to 3 mm below the lowest point of the terrain. at the end select all and remove doubles and you should be all set.

these are 2 techniques to make the terrain solid. to make it hollow- extrude then go into points or edges mode and select the lines or points that are left at the bottom. make sure the pivot point is set to median point. in scale mode scale the selected points in the up direction by 0 percent by pushing 0. this will align all the points in Z axis. from there you can move the points anywhere you want but hopefully 2 to 3 mm below the lowest point of the terrain. then use the solidify modifier and there you have just the shell that can sit on the table...

Subject: Re: 3D terrain model help - seems simple, but...

Posted by [dale3318](#) on Sun, 09 Dec 2012 06:53:47 GMT

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I appreciate all your help with this. I tried using all those methods, but I'm just out of my league. If you search for 'eroded terrain #3' in the Shapeways search box, you'll see an example of what I'm trying to do (but mine would be full color). I've searched the internet for 3d terrain printing options, raised relief maps, etc., and if someone could create an easy program that allows the user to input their desired area from Google Earth and have Shapeways print it, they would have the market cornered. I'll have to wait until that happens because i don't have the ability to figure this all out.

Subject: Re: 3D terrain model help - seems simple, but...

Posted by [stonysmith](#) on Tue, 11 Dec 2012 05:24:41 GMT
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Just for argument's sake.. what area are you looking to get a map of?
There are several (free) data sources other than Google Earth.
The challenge is the resolution of the data available: it varies between 10m in city areas to as much as 90m in some rural areas.

Subject: Re: 3D terrain model help - seems simple, but...
Posted by [dale3318](#) on Tue, 11 Dec 2012 05:39:33 GMT
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It's just a mountain range near Mono Lake, CA. can get the terrain data, I just can't figure out how to print it. I think that landprint.com has figured it out, but they want an arm and a leg to print out a custom terrain.

Subject: Re: 3D terrain model help - seems simple, but...
Posted by [denali3ddesign](#) on Tue, 11 Dec 2012 18:33:42 GMT
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I've been playing with this over the last few days, and think I am very close to a solution with just Sketchup and Meshlab. The terrain is easy to get using just Sketchup, but getting Sketchup to export color involves using Meshlab, and that's what I'm working on now.

Dale, what would you color the sides and bottom on a model like this?

File Attachments

1) [terrain.JPG](#), downloaded 112 times

Subject: Re: 3D terrain model help - seems simple, but...
Posted by [dale3318](#) on Tue, 11 Dec 2012 19:43:57 GMT
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Wow, looks great! Any color would be fine, but i guess white or black would be best.
