Terrain Expansion Walkthrough

Context: You may have a project either you started that you worked on, it did well however the terrain you generated may be small, or you may have an Idea and wish to create a larger map and extend a polished project. This guide will help you to do just that.

Prerequisites:

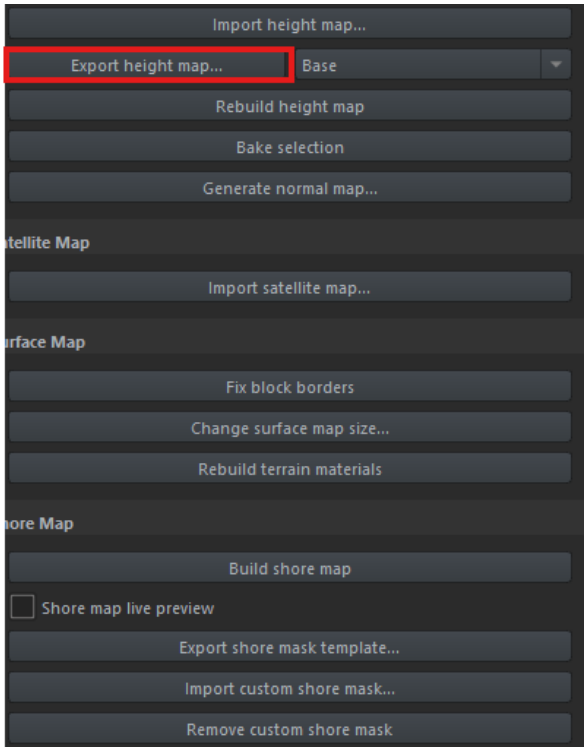
A) A project to expand
B) GIMP
C) Backup your project (seriously)

I have currently not found any issues or bugs with this process. If you do, please contact me via the Arma or Arma Modders Discord.

I would also recommend not saving your project until the surface masks have been imported that way you can ensure all assets are in the correct place after finishing the process. But that is up to you. This is why we make backups.

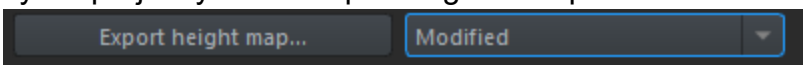
Terrain Expansion

1. Open a new project in Arma Reforger tools. And generate a terrain to the new desired size. Ensuring placement of co-ord 0,0,0.
2. Export the flat height map. See example.

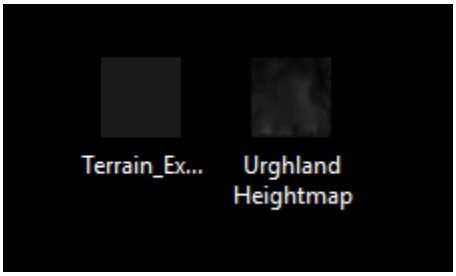


Result = Flat height map PNG.

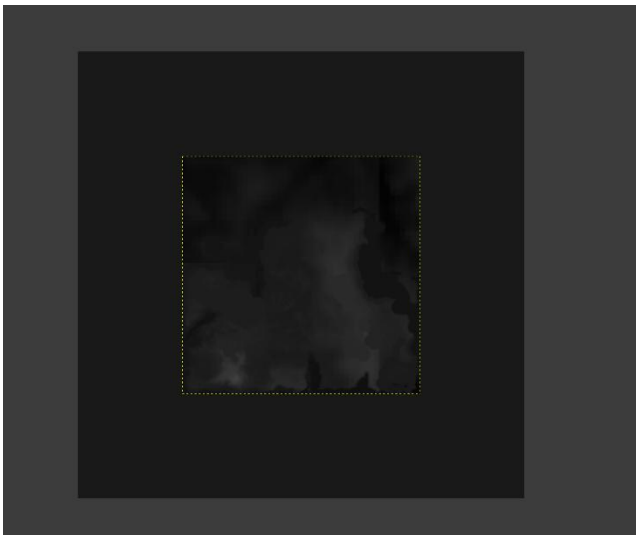
3. Go into your project you are expanding and Export the **Modified** Height map.



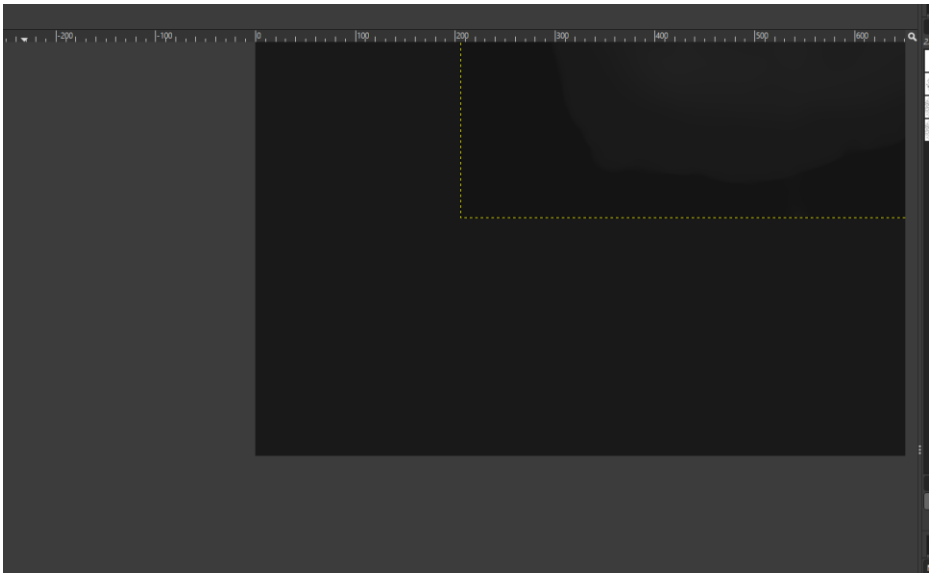
   a. You will now have two images. One original heightmap and the other larger flat heightmap.



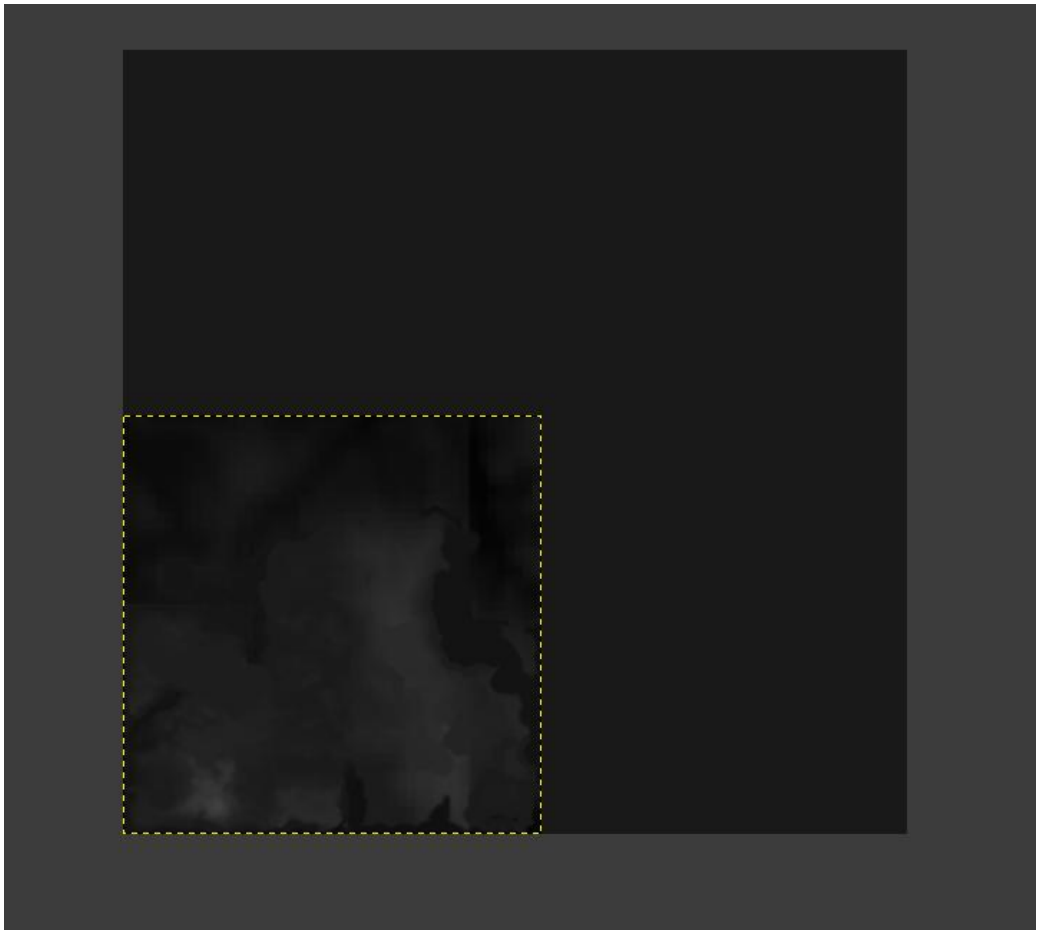
4. Open GIMP
    a. Open the new larger flat heigh map. File – Open – Filename
    b. To add your heightmap to this image. File – Open as layers.



    c. As you can see your heightmap is now overlayed onto the blank heightmap. However, the origin of the map terrain generation will be in the bottom left corner of this image.
    d. When moving the overlay, it is **Crucial** to be sure that the height maps are lined up in the bottom left corner perfectly. The overlay is indicated by the yellow lines.

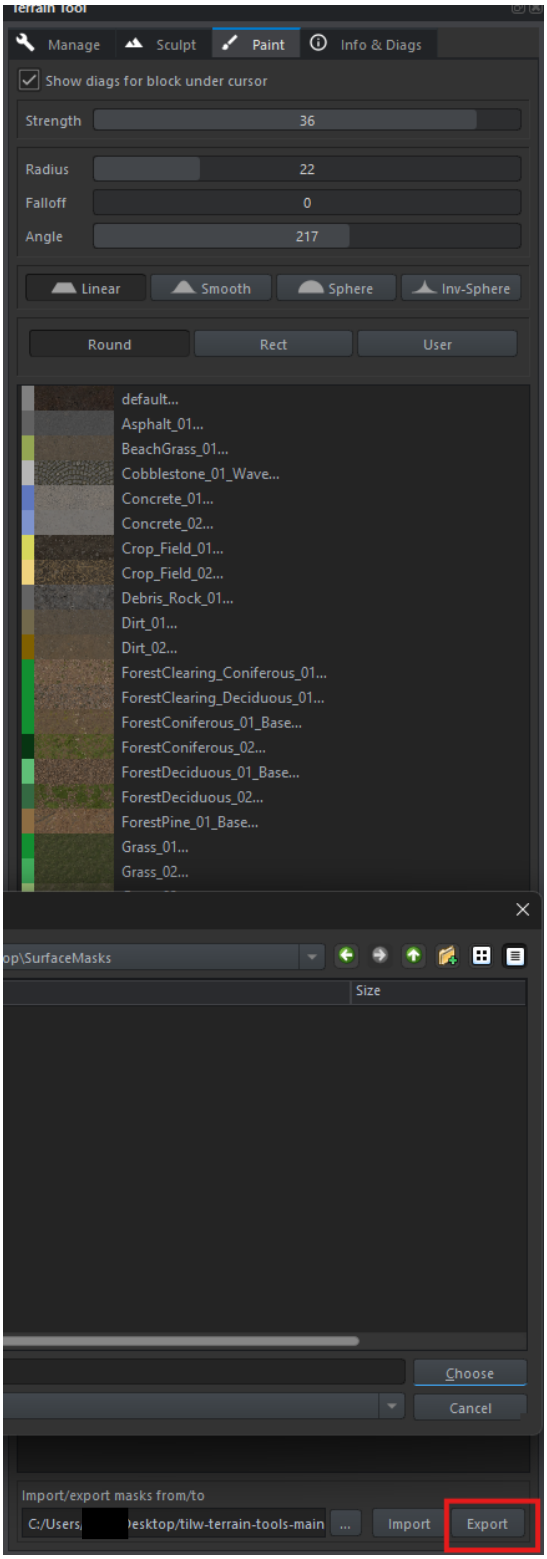


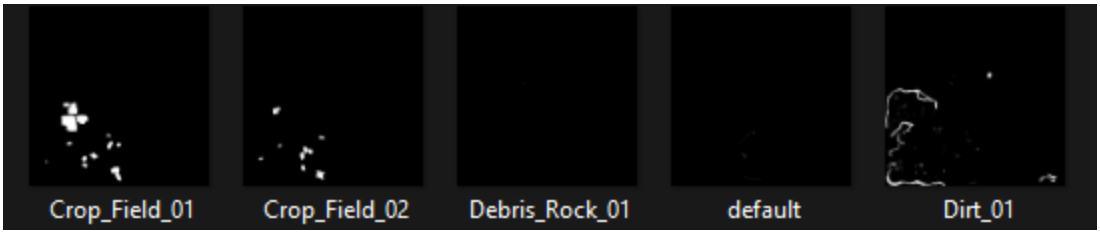
    e. Match up the images to the bottom left corner. You can zoom in with CTRL + Mouse wheel.



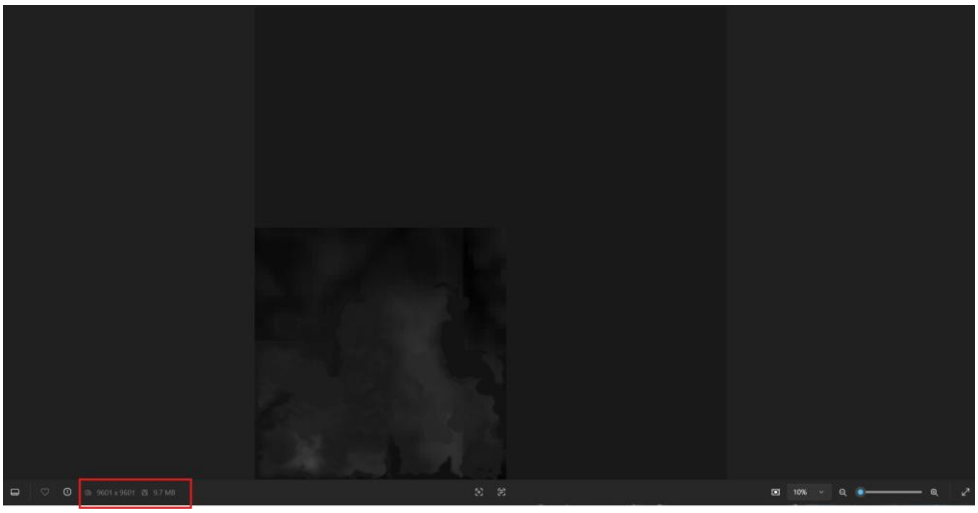
f. Go to File – Export as. Ensure that the file is a .png. When export window appears just click export.

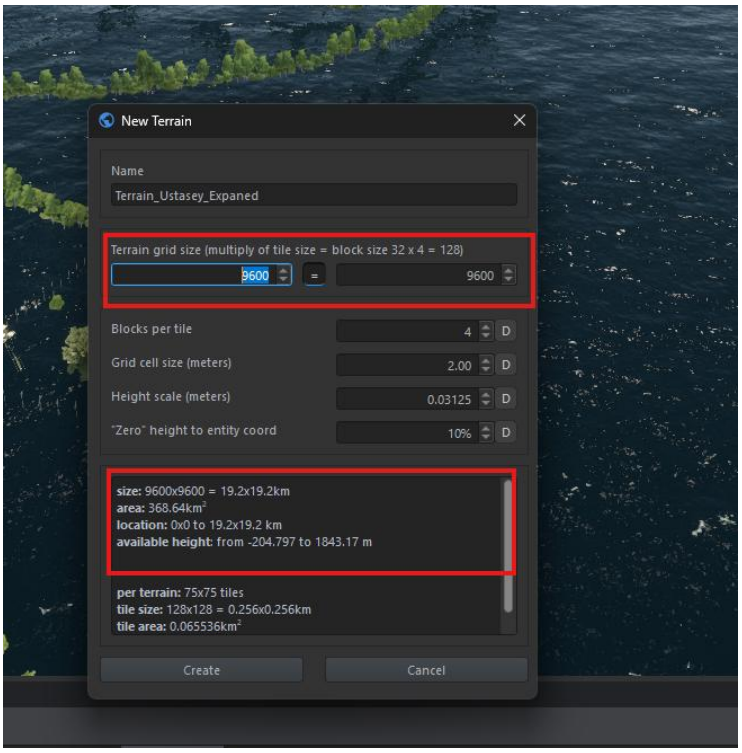
Before moving onto step 5. Go to terrain tools – Paint and export your surface masks into a folder of your choice. This will take a while. DO NOT SKIP.


Terrain Tool
Manage
Sculpt
Paint
Info & Diags
Show diags for block under cursor
Strength
36
Radius
22
Falloff
0
Angle
217
Linear
Smooth
Sphere
Inv-Sphere
Round
Rect
User
default...
Asphalt_01...
BeachGrass_01...
Cobblestone_01_Wave...
Concrete_01...
Concrete_02...
Crop_Field_01...
Crop_Field_02...
Debris_Rock_01...
Dirt_01...
Dirt_02...
ForestClearing_Coniferous_01...
ForestClearing_Deciduous_01...
ForestConiferous_01_Base...
ForestConiferous_02...
ForestDeciduous_01_Base...
ForestDeciduous_02...
ForestPine_01_Base...
Grass_01...
Grass_02...
op\SurfaceMasks
Size
Choose
Cancel
Import/export masks from/to
C:/Users
esktop/tilw-terrain-tools-main
...
Import
Export



5. **Importing new terrain**
    a. In your project you are expanding DELETE you existing terrain.
    b. Grab a new terrain entity and place at 0,0,0 and generate to the size of your new height map. **IF** you have forgotten open your height map image and look at the pixel count.





c. Create the terrain. If you have not generated the terrain to the size of the new height map then the height map will stretch and scale to the terrain generated. As you can see from the images above the height map is 9601x9601 and the terrain is 9600x9600. Heightmaps are for some reason 1 pixel larger. This is normal.

DO NOT SAVE AT THIS POINT. Export your heightmap that you have just created for later. If issues are run into with importing surface mask you will need to go back to your original project.

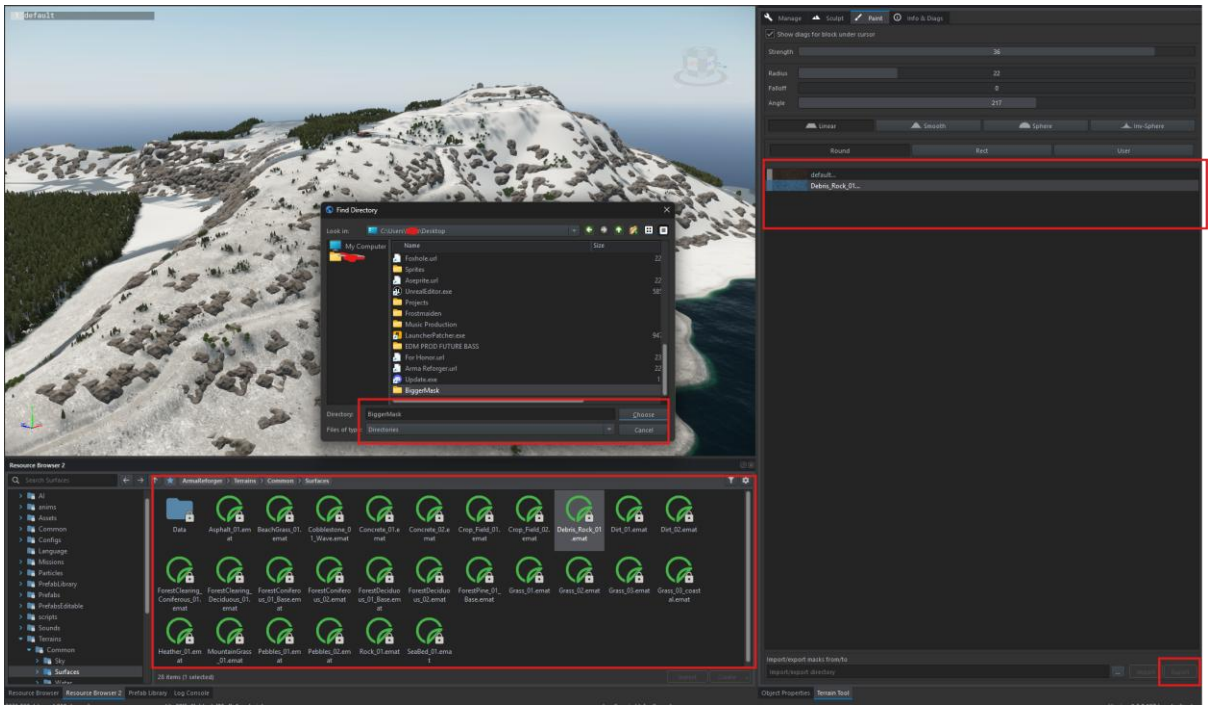
Terrain Expanded summary

You now have a new expanded terrain on an existing project. However it will default back to have no surface masks. Which will be covered below.

Importing surface masks to expanded terrain

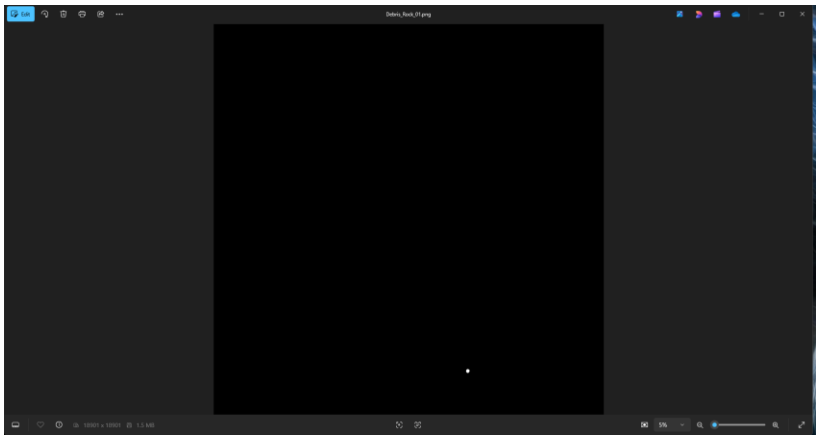
Now that you have your terrain with no surface masks it is time to upscale your surface exports so you can import them and not have to re-paint everything.

1. Grab a blank (not used) surface mask PNG that is the same size as your expanded terrain. In my case 9600x9600. We will need this blank image to overly the new masks onto. This is a similar process to the heightmaps.



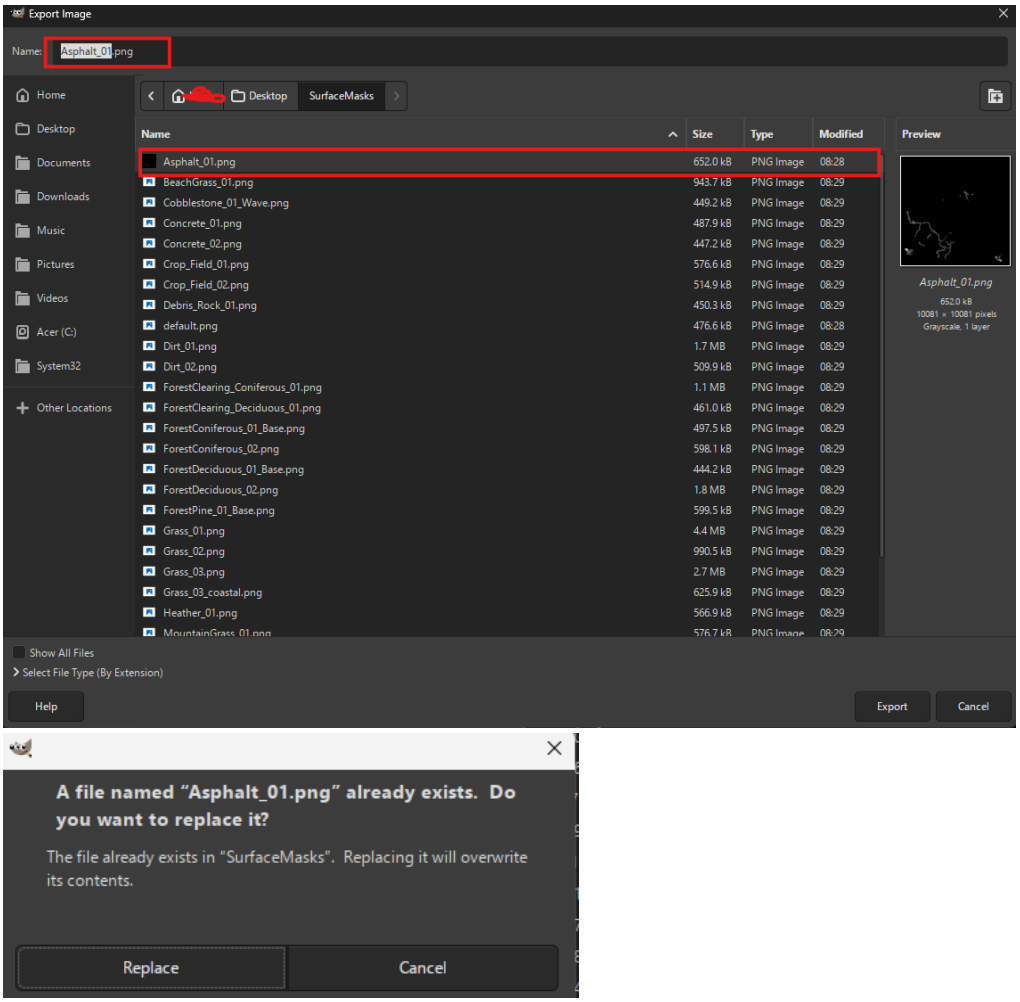
As you can see, I have grabbed a random Surface mask on the expanded world. I will now export this to a new folder. We now have our upscaled image. You could probably just use a plain black image but I have not tried that method. **Make a backup of the original export**. That way if you save over the wrong mask or mess

up then you can just do it again.

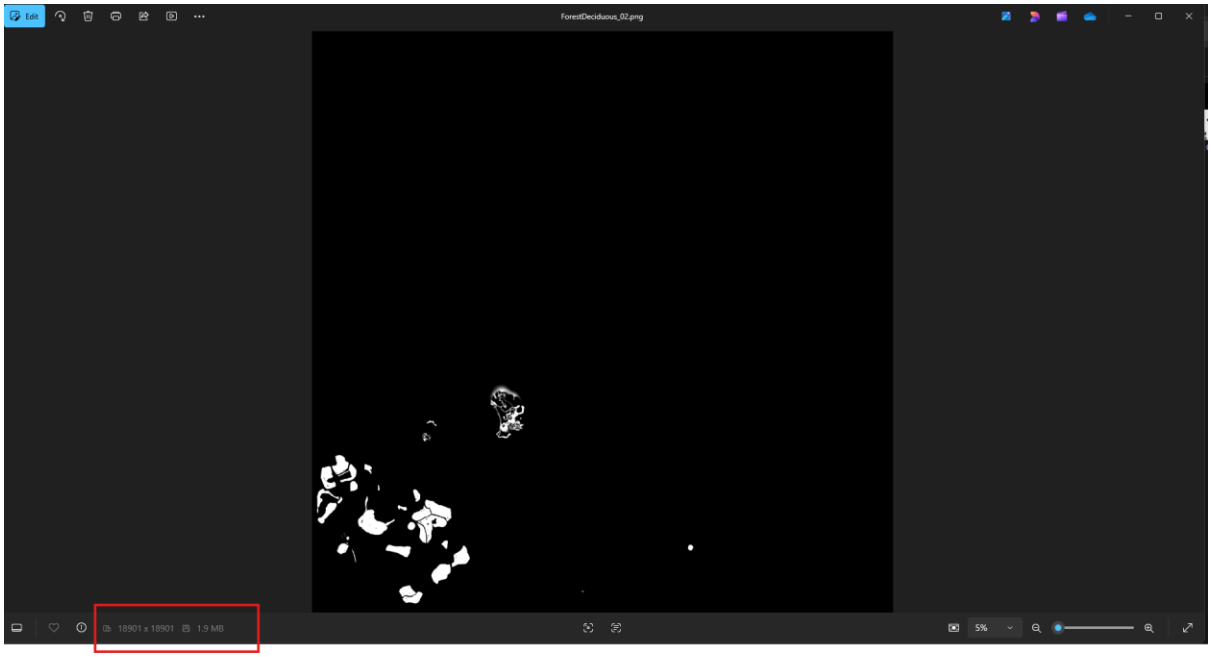


2. Open Gimp
    a. Open the new expanded surface mask with GIMP.
    b. Open for Example Asphalt_01 and follow the exact same process as the heightmap expansion. Ensuring the image matches EXACTLY with the bottom left corner.

    c. This time when exporting save it as your original surface mask with the correct naming convention.

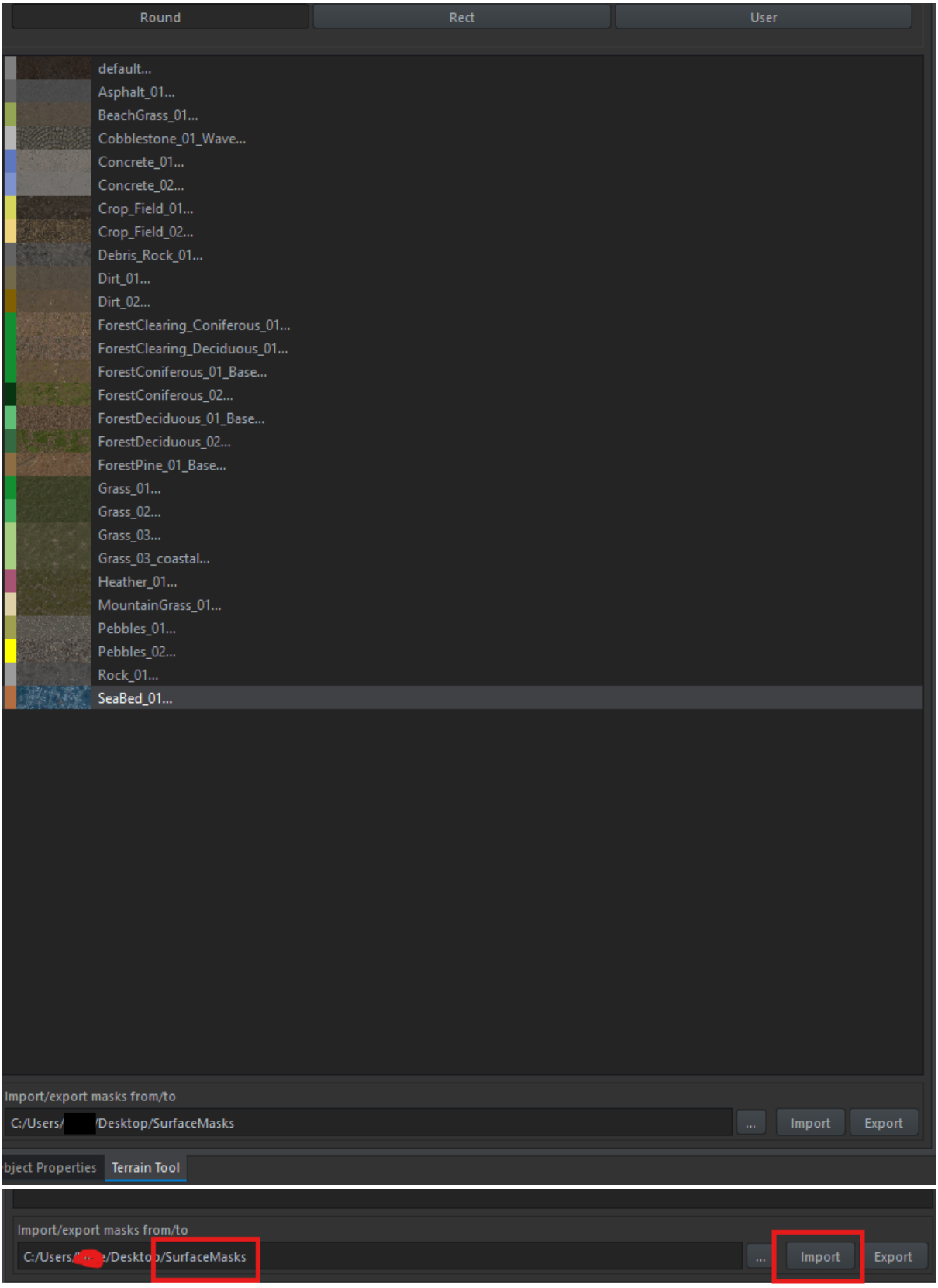


3. After this has been done for ALL surface masks. Import into your project with the new upscaled Mask files. See below. Ensure to check that you have scaled all the surface masks up.

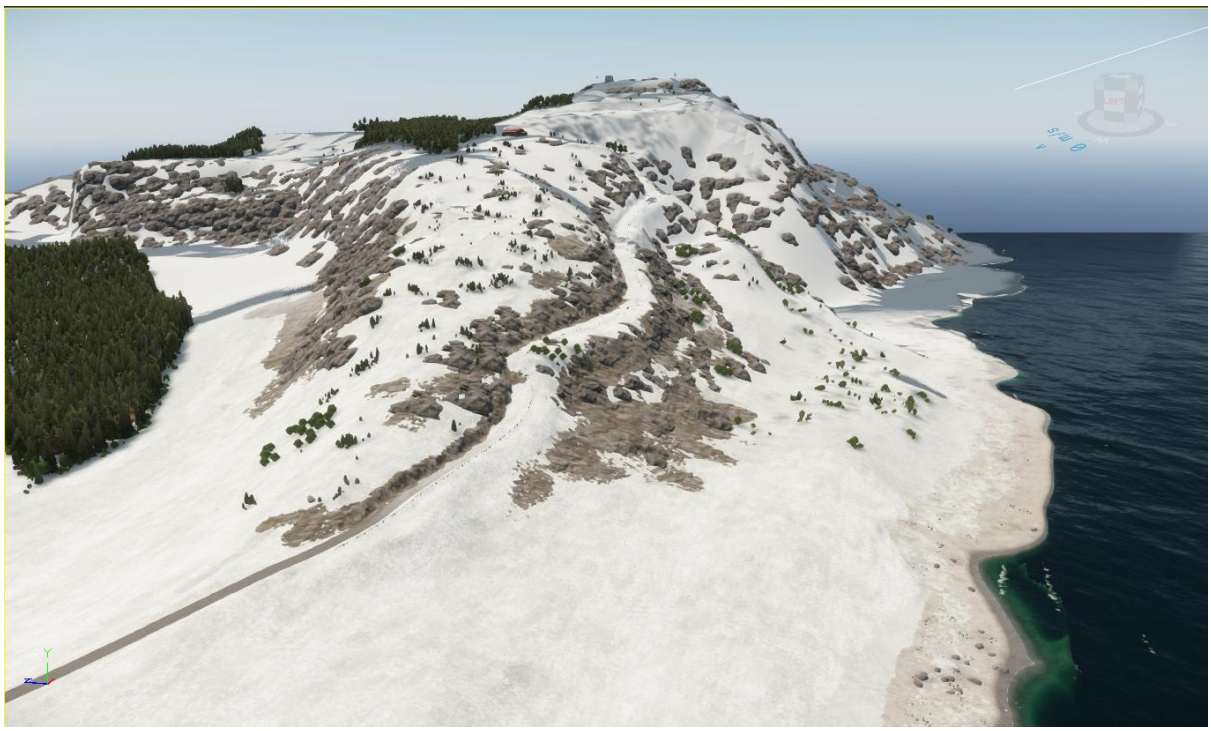

Edit
ForestDeciduous_02.png
18901 x 18901
1.9 MB
5%


Asphalt_01
BeachGrass_01
Cobblestone_01_Wave
Concrete_01
Concrete_02
Crop_Field_01
Crop_Field_02
Debris_Rock_01
default
Dirt_01
Dirt_02
ForestClearing_Coniferous_01
ForestClearing_Deciduous_01
ForestConiferous_01_Base
ForestConiferous_02
ForestDeciduous_01_Base
ForestDeciduous_02
ForestPine_01_Base
Grass_01
Grass_02
Grass_03
Grass_02_coastal
Heather_01
MountainGrass_01
Pebbles_01
Pebbles_02
Rock_01
Seafloor_01

4. Import your masks. From the folder with the edited surface masks. Be sure to add all the surfaces back into the Terrain paint pallet or this will fail.



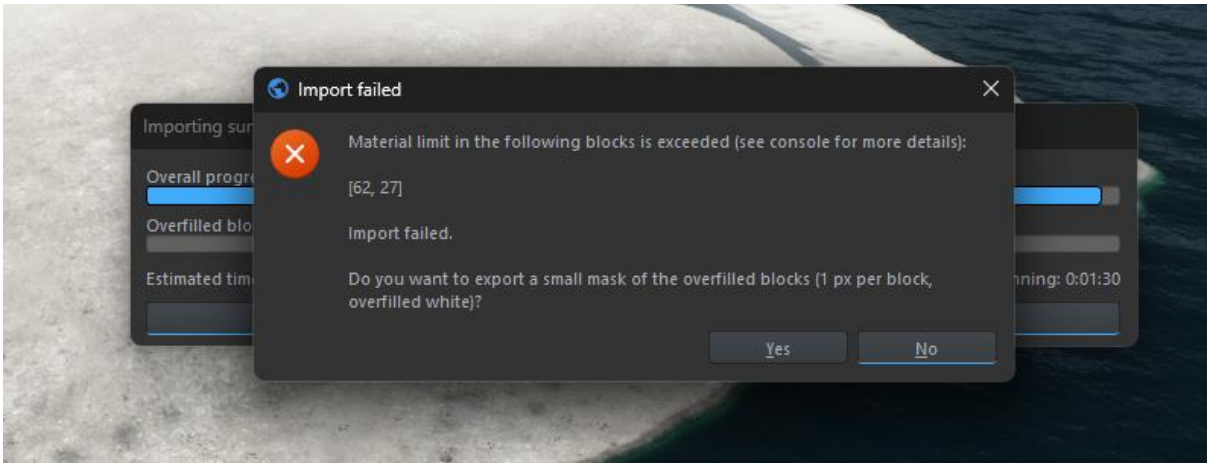
5. You can see that the surfaces have exported fine. Now use a satmap tool of your choice to generate a new satmap. I personally use the Seamlesssatmap tool by TilW.

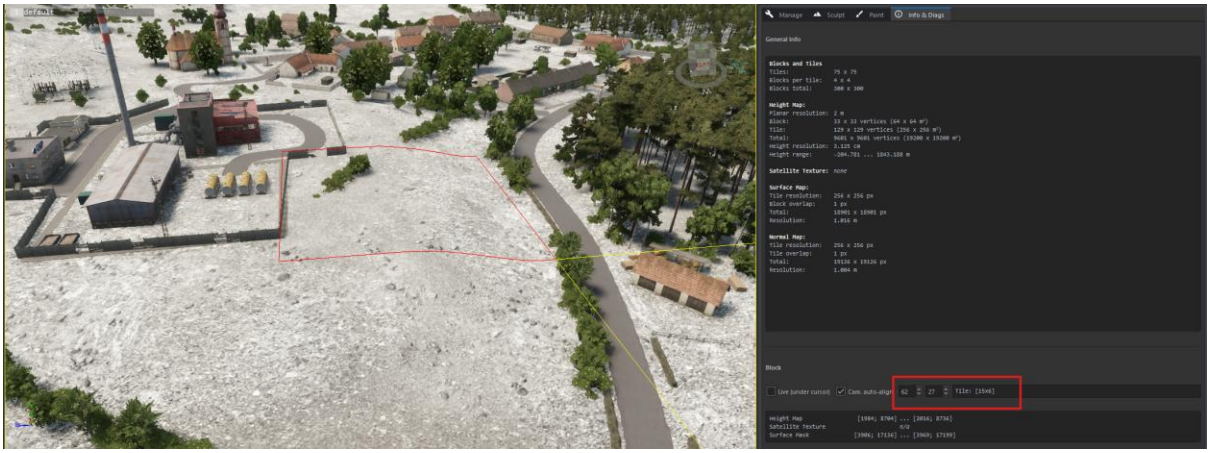


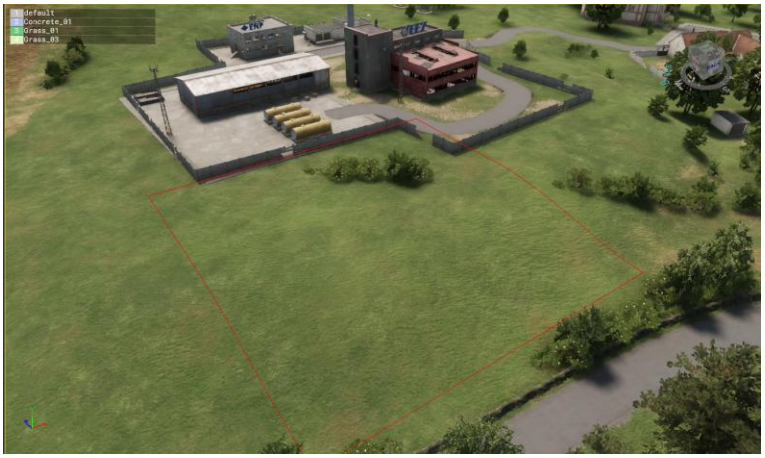
Final product with Satmap

Problems I faced

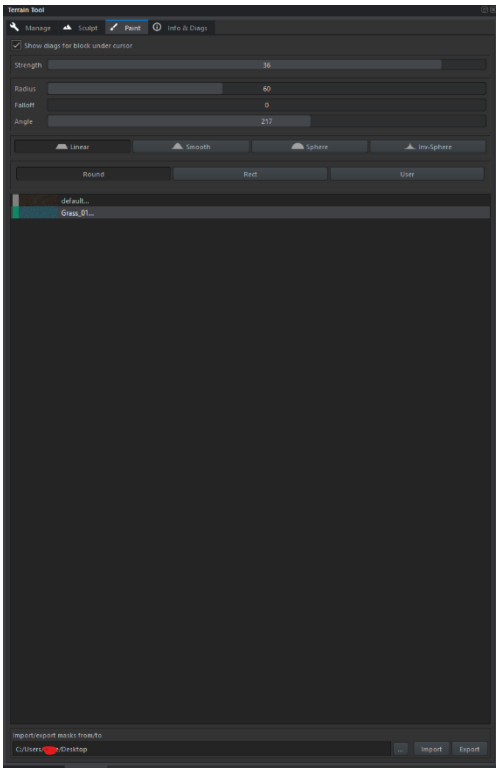
When importing my mask the first time I received this error. I found the







I went back into my original project file and merged Dirt_01 With Grass_01 to ensure that 4 surfaces are only being used in this block. Then re-exported the surface masks.



I then re-edited Dirt_01 and Grass_01 with the new exports to a scaled blank surface mask. **ENSURE** to export to a backup folder **NOT** where your scaled surface masks are or you will have to go back to step 1.