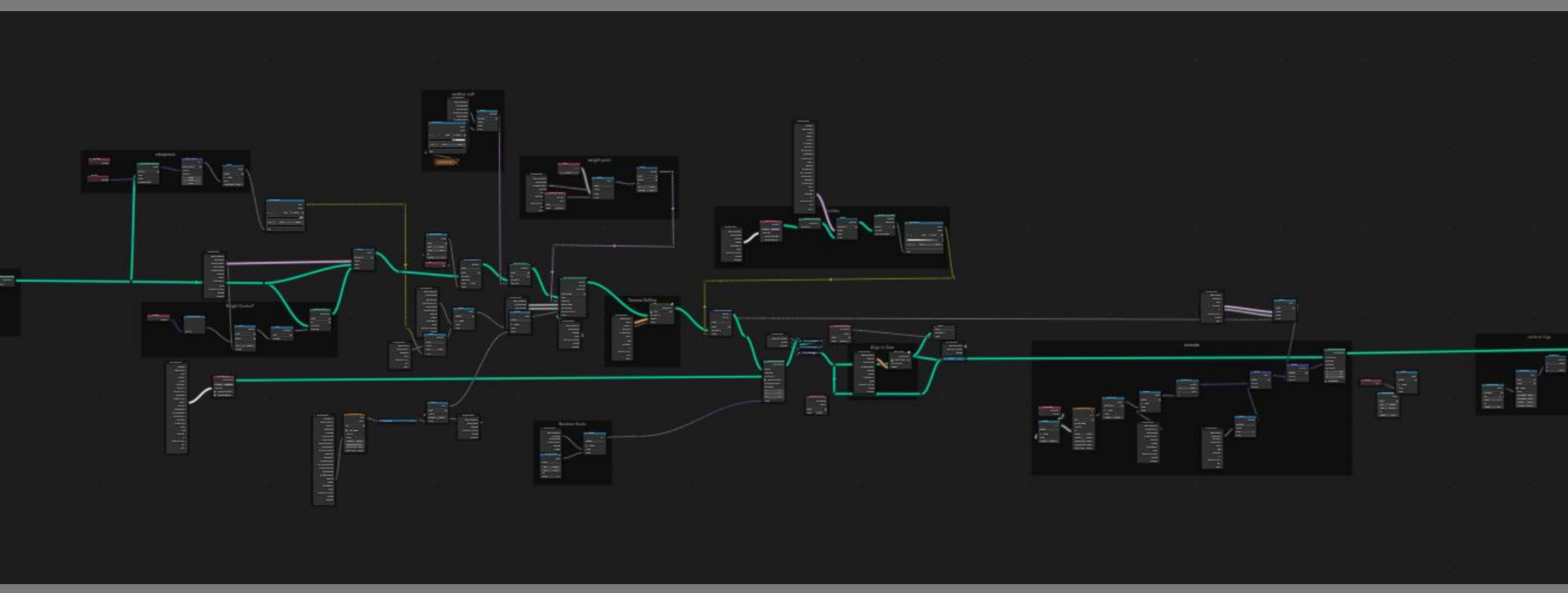
TurboTrees v2

Summary

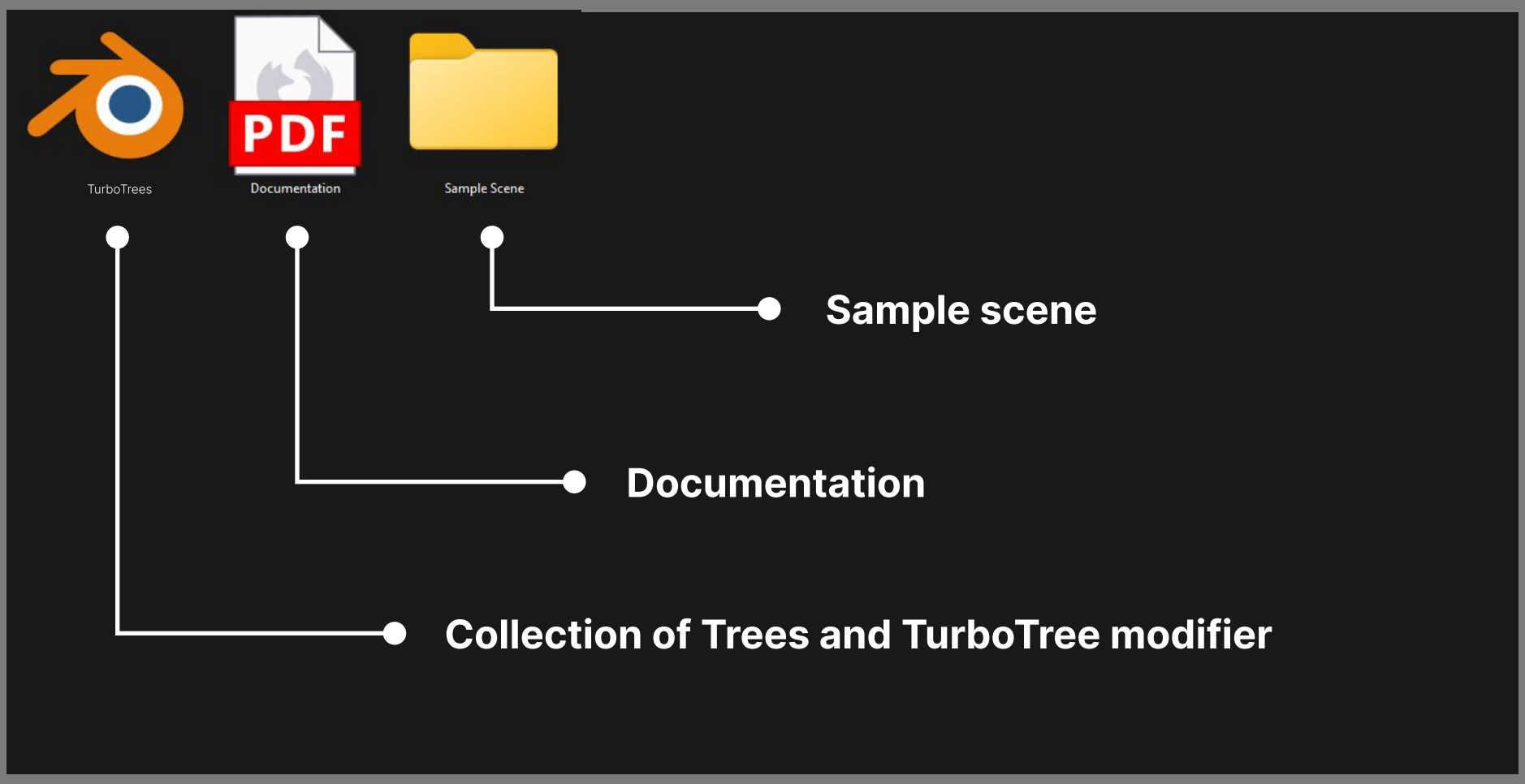
This package includes:

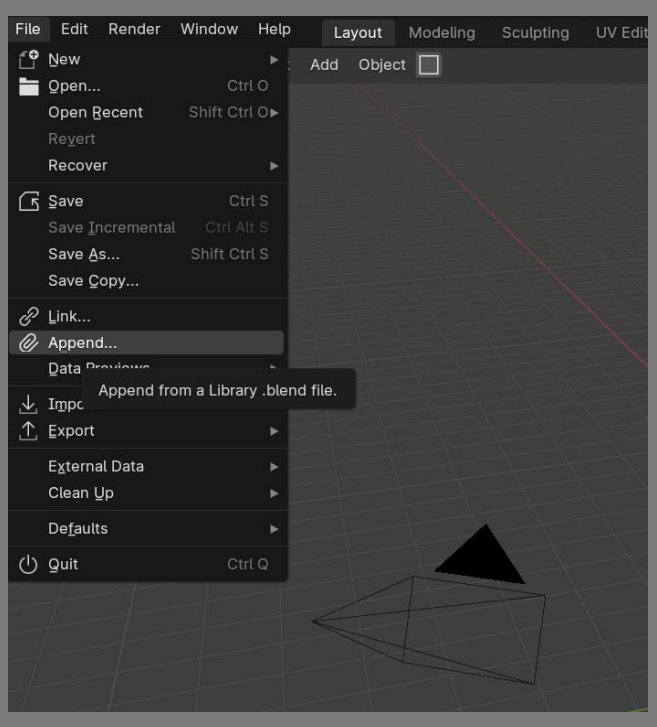
- **TurboTrees modifier and tree collection**
- **Sample HDRIs**
- **Sample Scene**
- **Compositor tips**
- **Bonus TurboGrass modifier**



Getting Started

After downloading and un-zipping the archive you should see the below files:



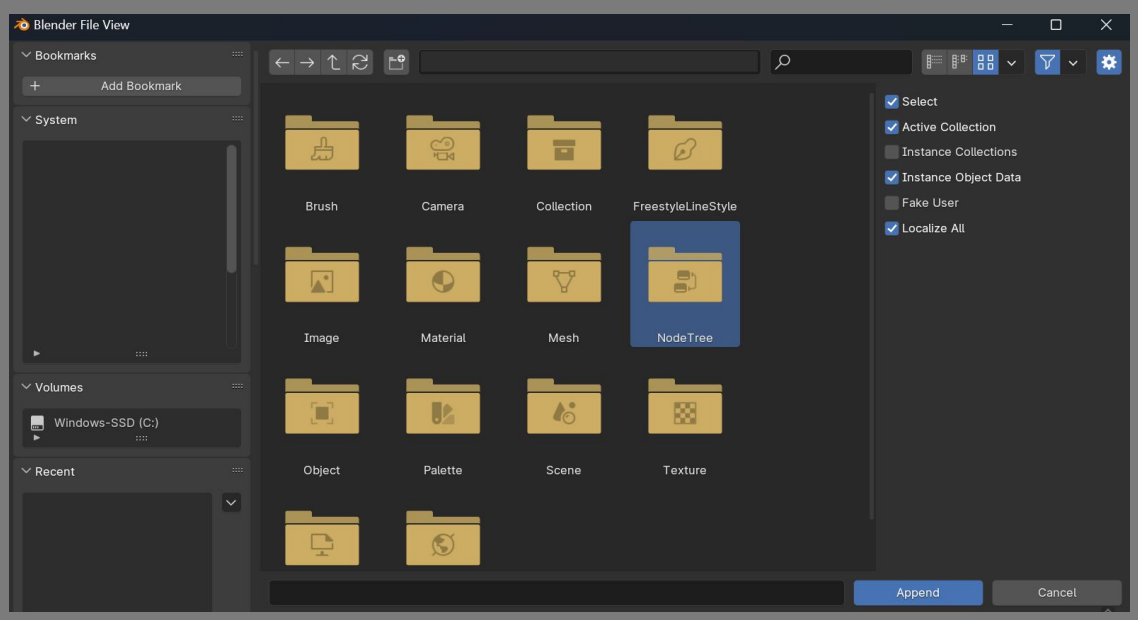


To begin integrating TurboTrees into your project, begin by appending the TurboTree_v2 file.
File>Append... Then select *Collection* from the browser window.

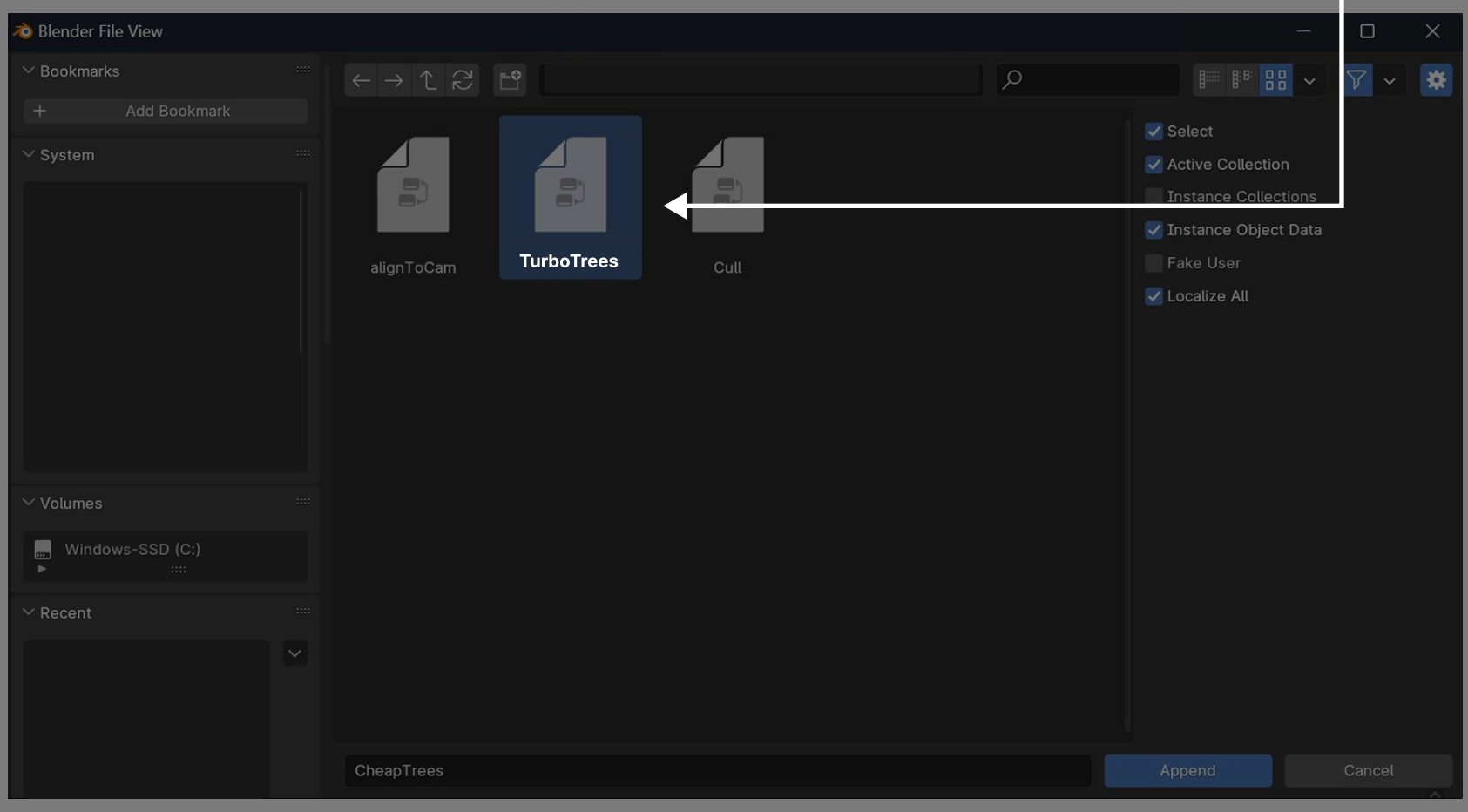
Select Trees_MSTR and append it. This collection includes the different tree types to use with the modifier.

Getting Started

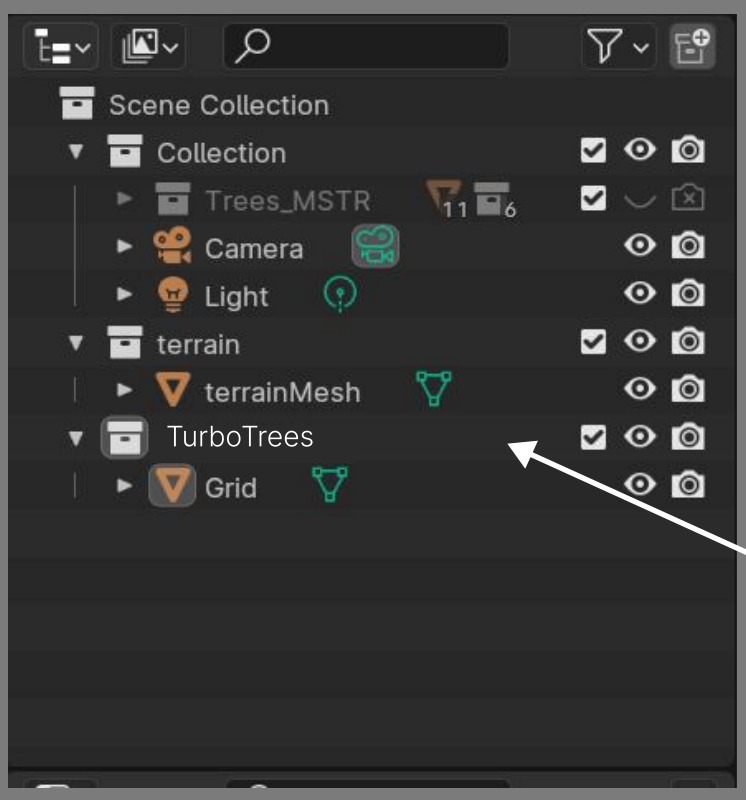
We then need to append the geometry nodes modifier. Return to the File menu & append, then select *Node Tree*.



Inside the Node Tree folder select and append TurboTrees



You will now have everything needed to start using *TurboTrees*.

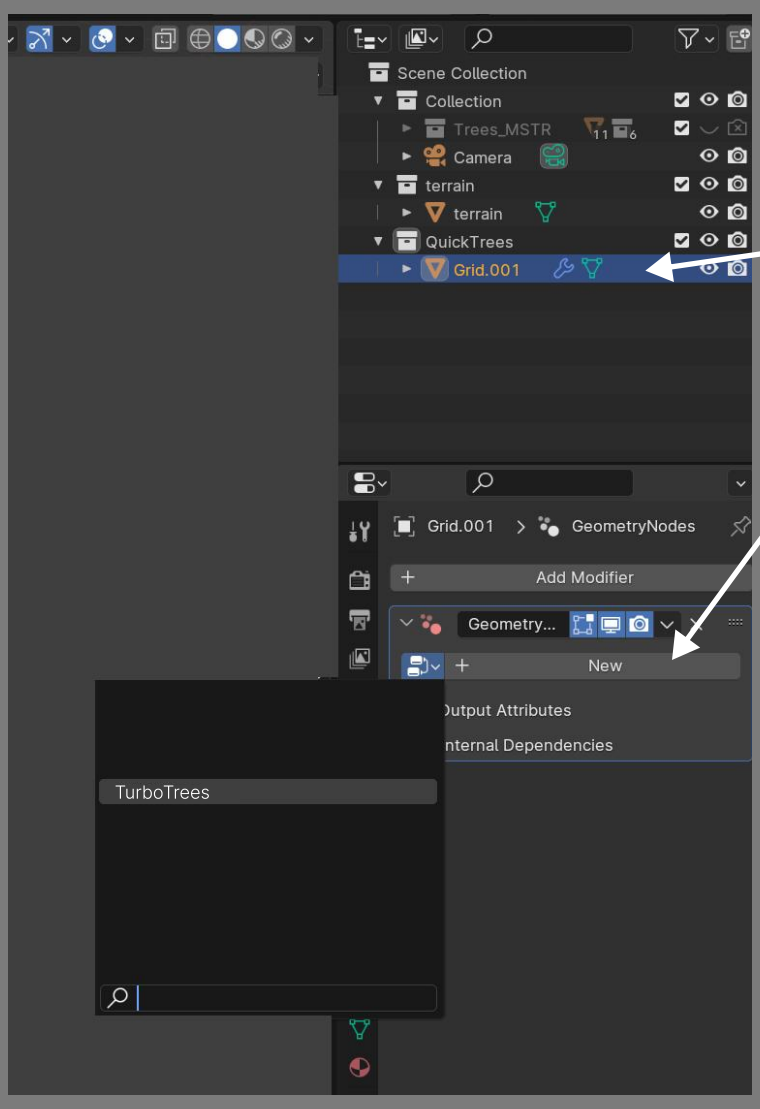


You can now hide the collection in viewport and render.

Place your *terrain* or ground mesh in a collection called terrain.

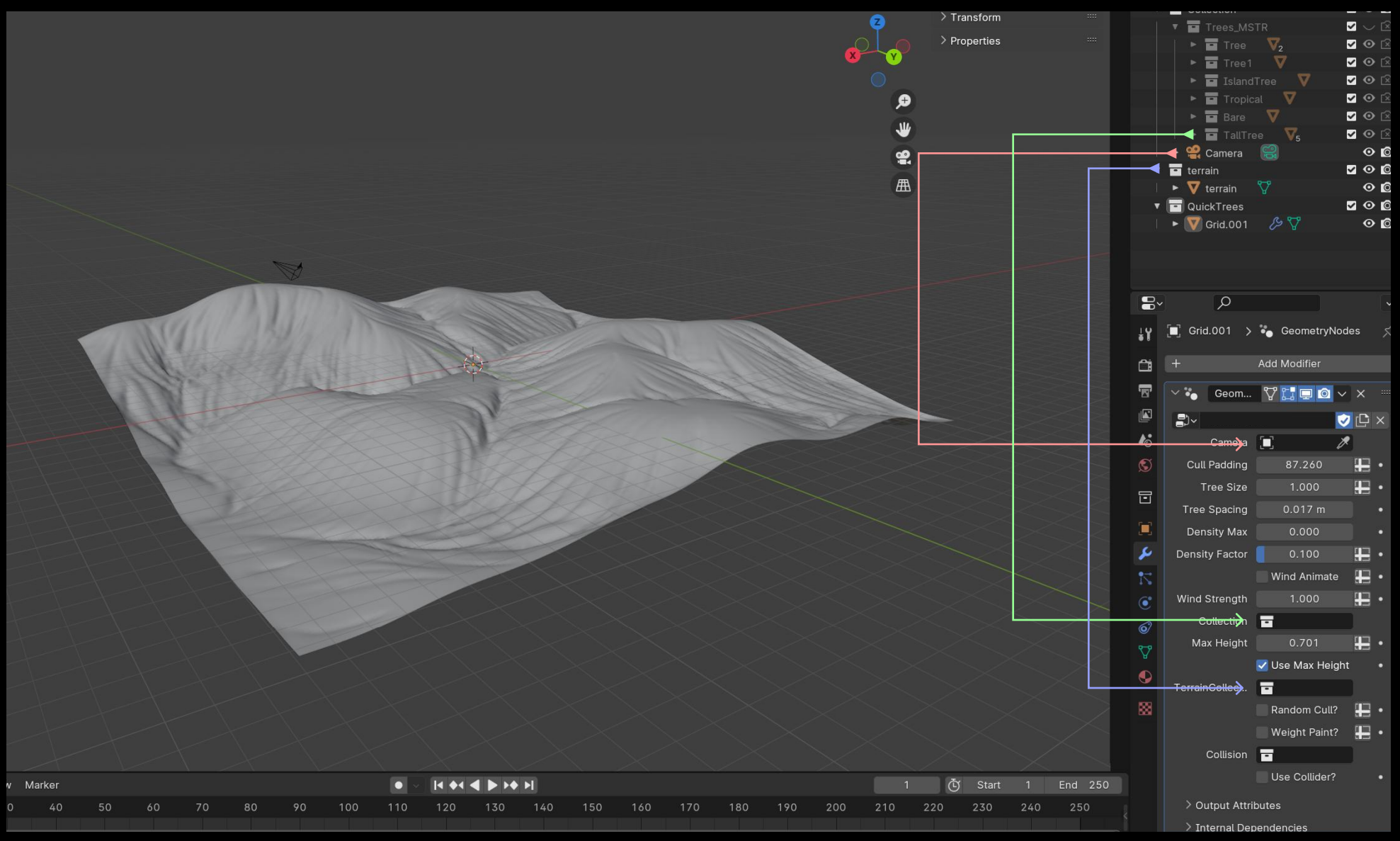
Create a collection for your TurboTrees and place any proxy geometry inside, we will be applying the *TurboTrees* geonodes on this mesh.

Getting Started

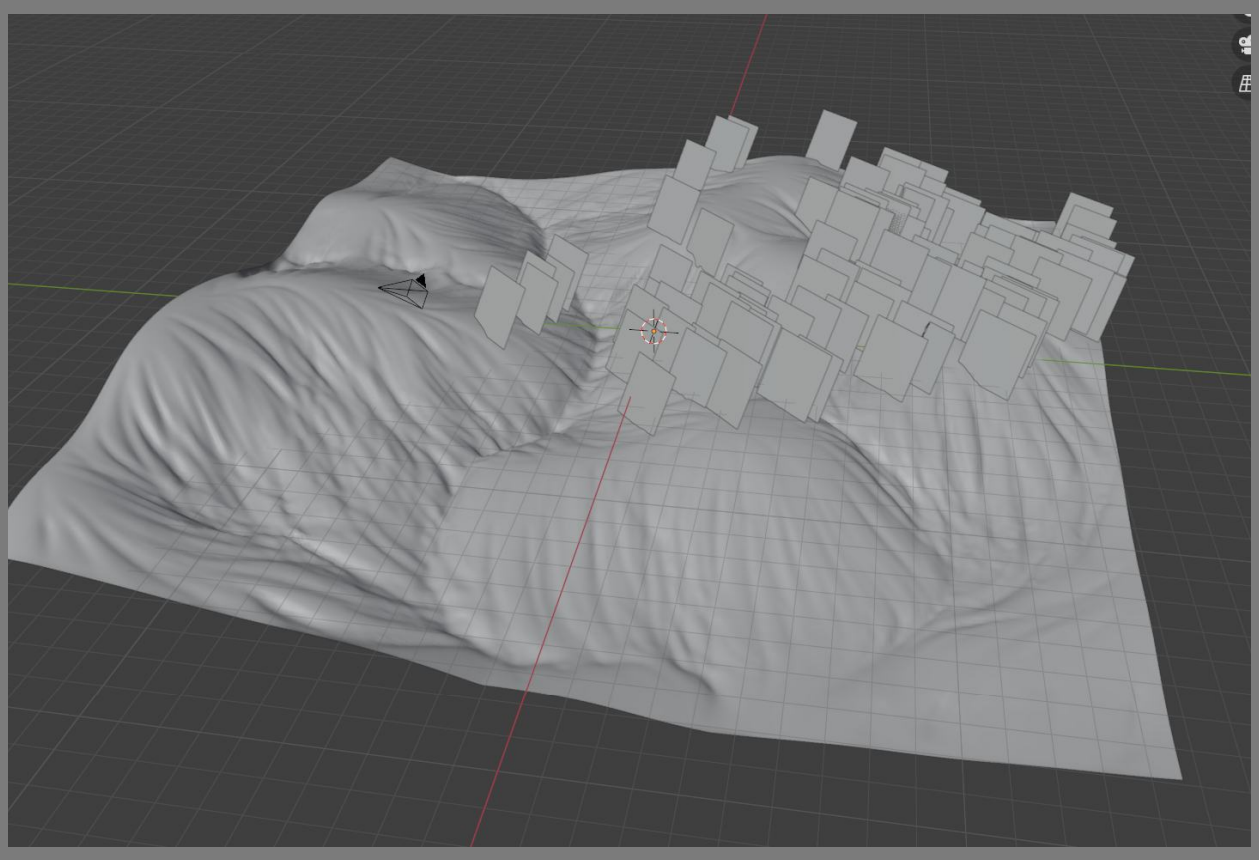


Select the proxy geometry inside the *TurboTrees* collection, and add a *GeometryNodes* modifier, add the TurboTrees modifier we appended earlier.

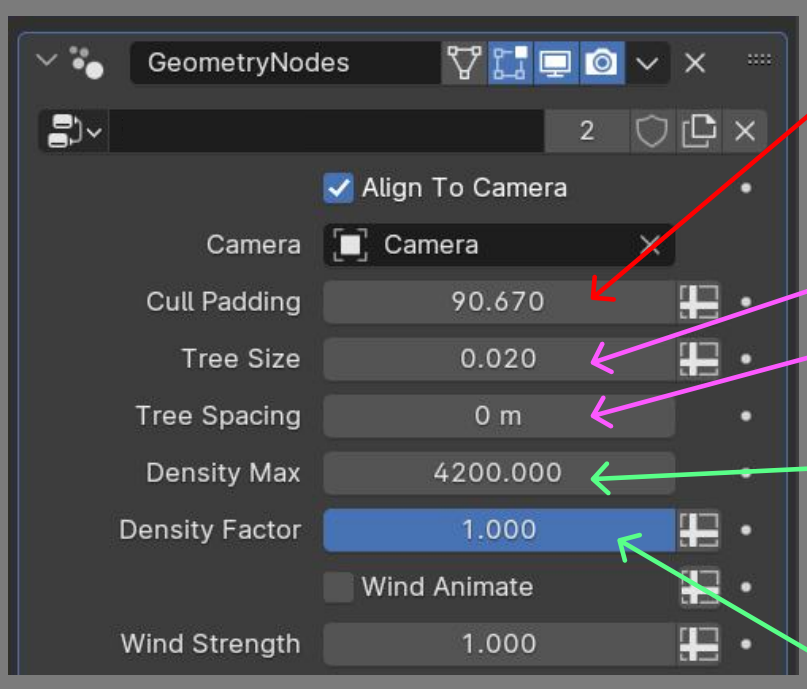
We'll need to populate the fields inside the modifier tab before we see results. Add your scene's Camera, your desired Tree collection and Terrain Collection.



Filling your scene, and modifier information



If you now set your *Density Factor* and *Density Max* to 1 the trees will begin to populate, align to your camera and cull based on what the camera sees.



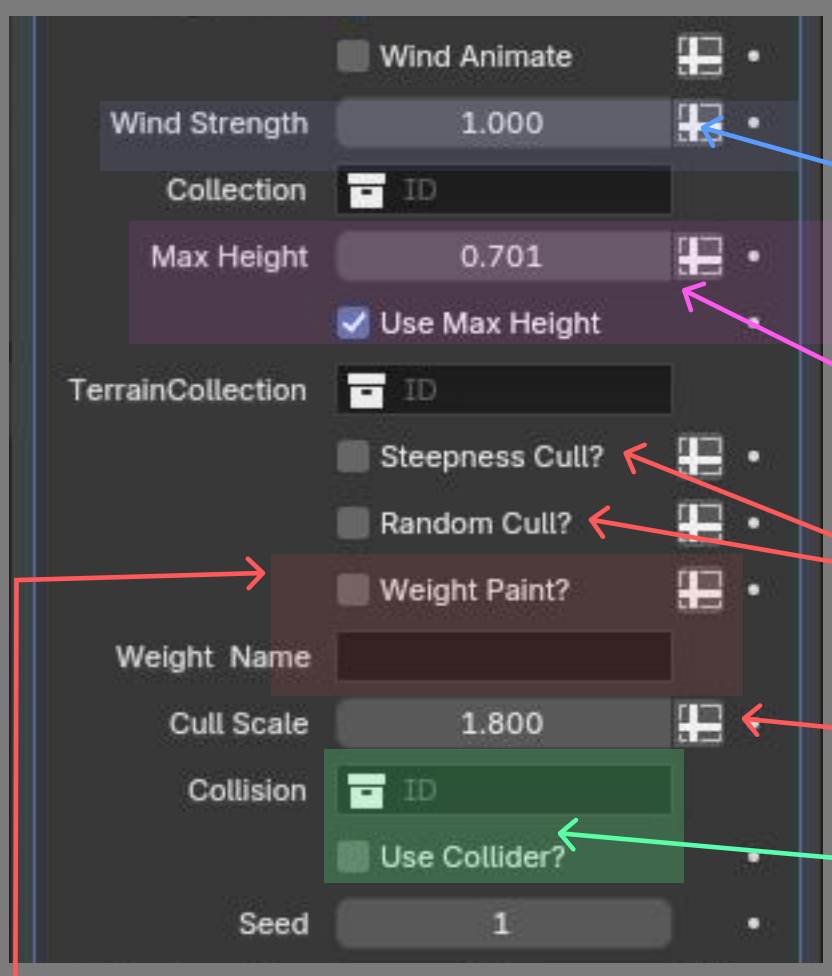
This adjusted the padding for the camera culling. When set to 0 camera culling will disable entirely.

This will control the tree billboard sizes.

The minimum spacing between cards.

The Max amount of trees, it's important to keep this number low while in planning stages, you can slowly turn it up later.

For extra viewport performance, you can keep Density Factor low and turn it up before a render.



You can toggle swaying animations, as well as change the 'wind' strength.

You can set the max height trees are allowed to be using this field, as well as toggle if you want a height limit at all.

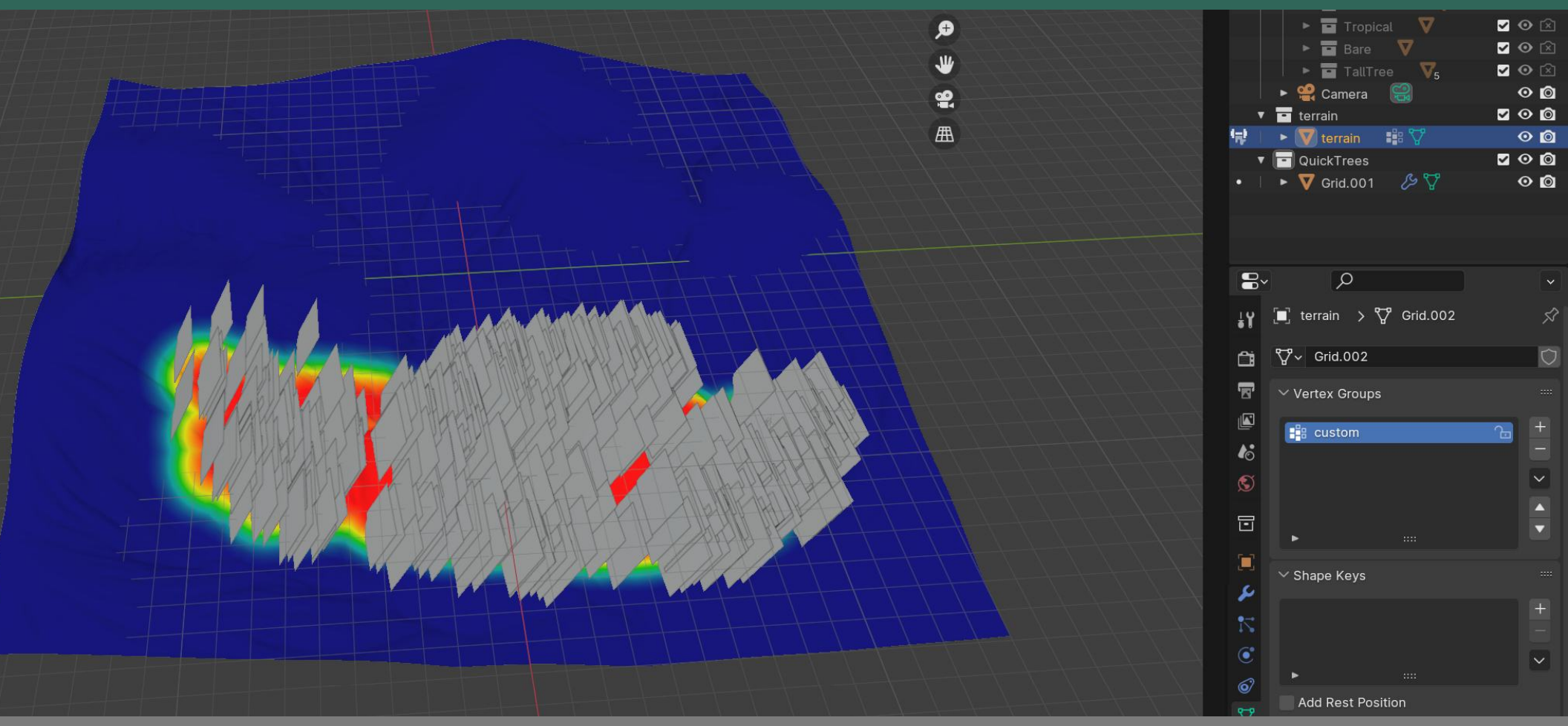
These field can be used to cull based on steepness or randomly. It will give it a more organic and less repetitive look.

This will scale the noise pattern used in '*Random Cull*'.

When checked the trees will animate or collide when in proximity of the Collision collection. First this to work, '*Wind Animate*' needs to be turn on.

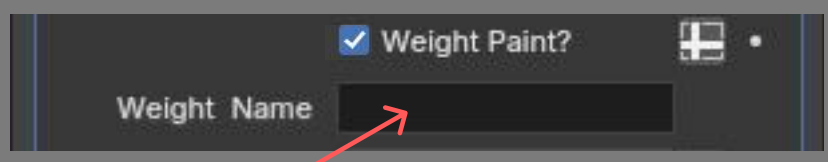
You can weight paint where on the terrain you want trees to appear, if this is checked it will use the weight paint. Add your weight paint name into the field.

Weight Painting

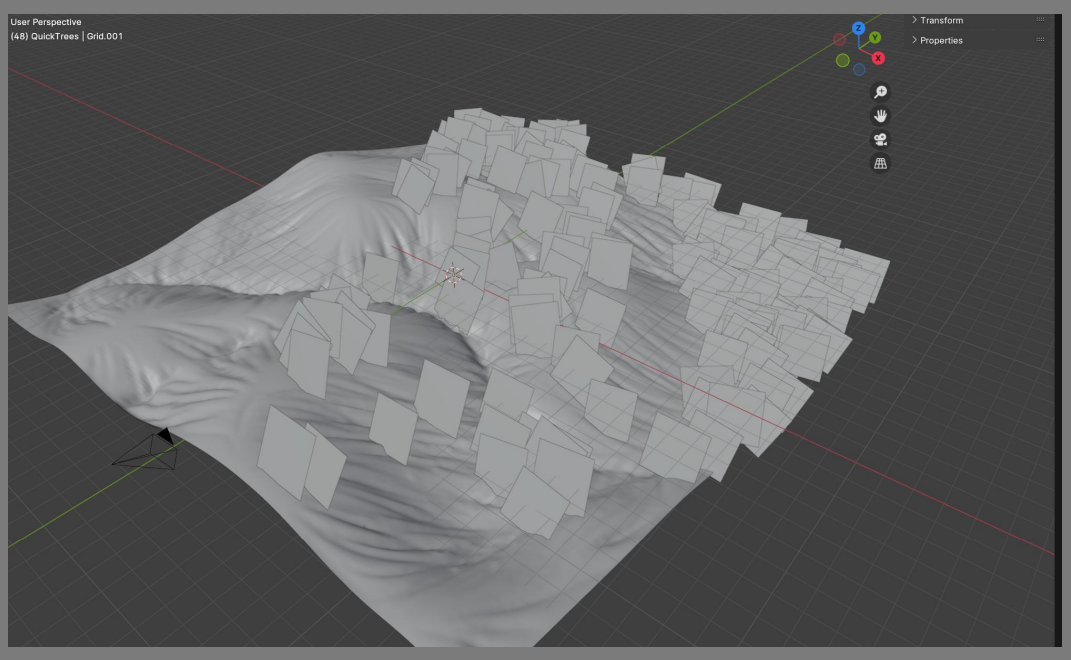


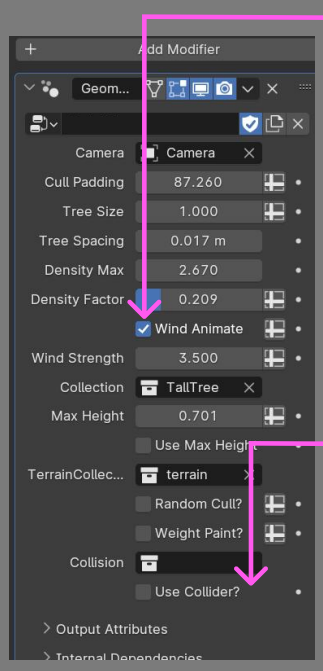
In the above example, the Weight Paint option is checked, and on the terrain mesh a weight paint group has been created, and named ‘custom’.

Be sure to add the name of the weight group to the turbo tree modifier.



Animation & Collider



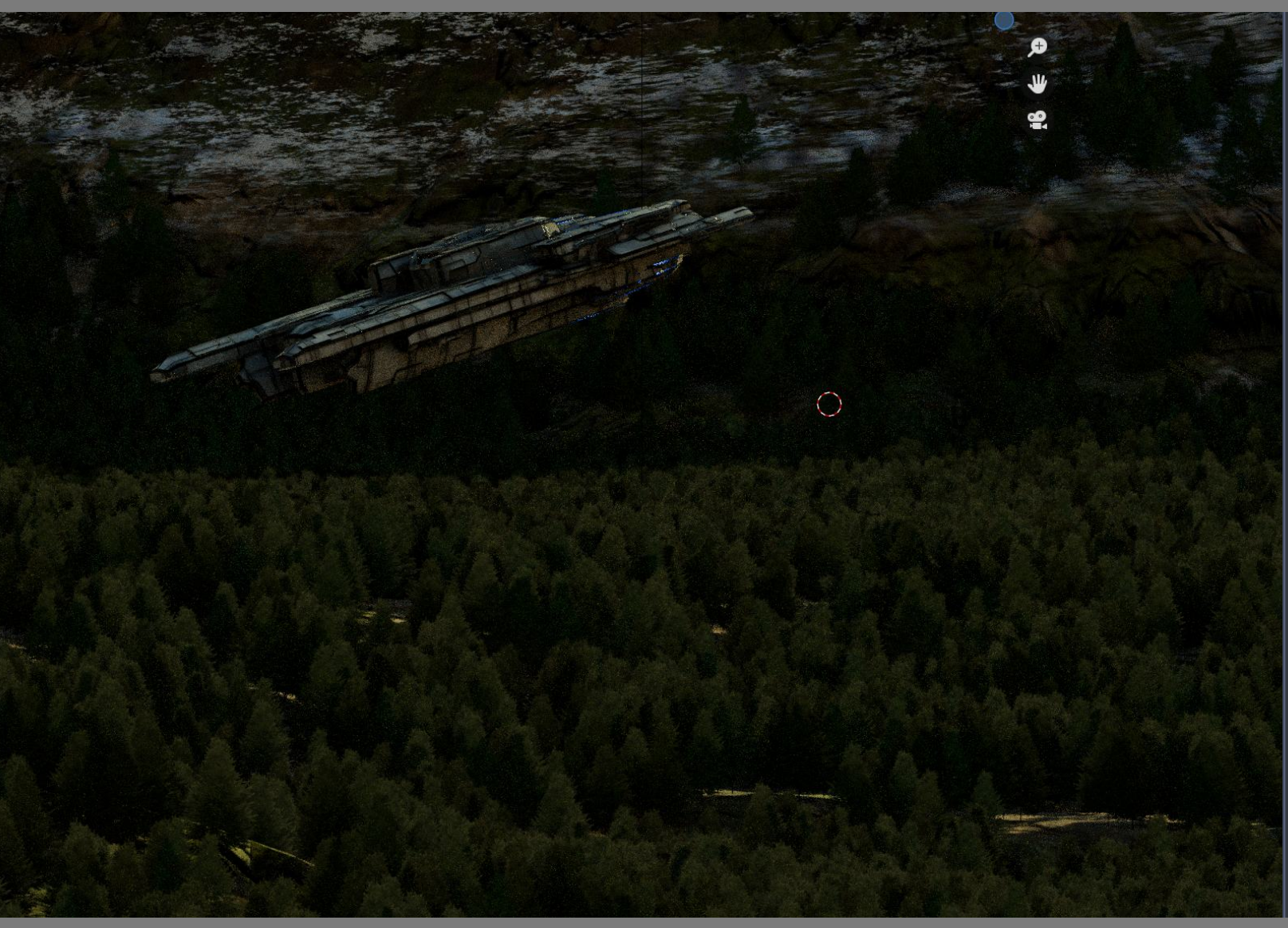


Use this to toggle swaying animation, it’s strength can also be adjusted.

You can limit the swaying animation using the *“use Collider”* option. Create a collection called “collision” and place any geo inside, it will limit which trees are affected.

In this example, an animated space ship passes by the trees and with the collision option checked only the trees in proximity of the “collision” collection animate.

Materials and Lighting

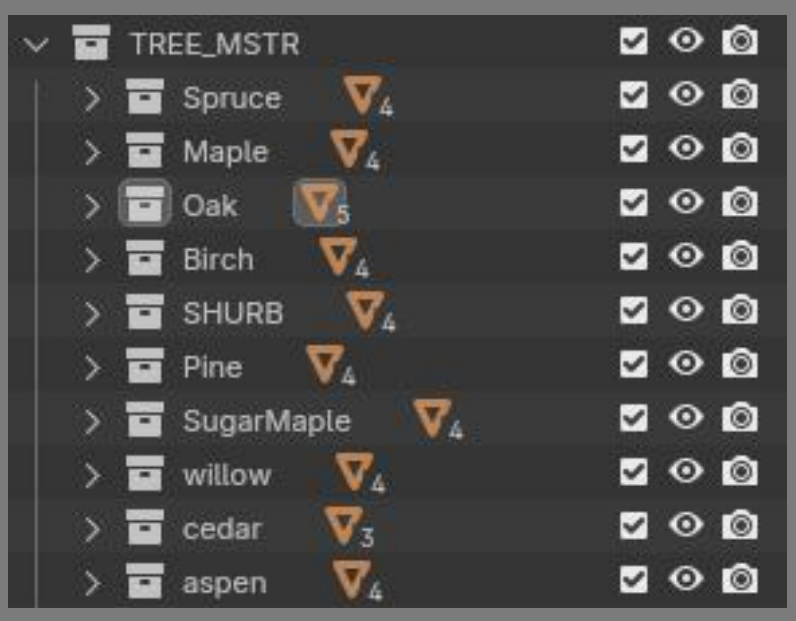


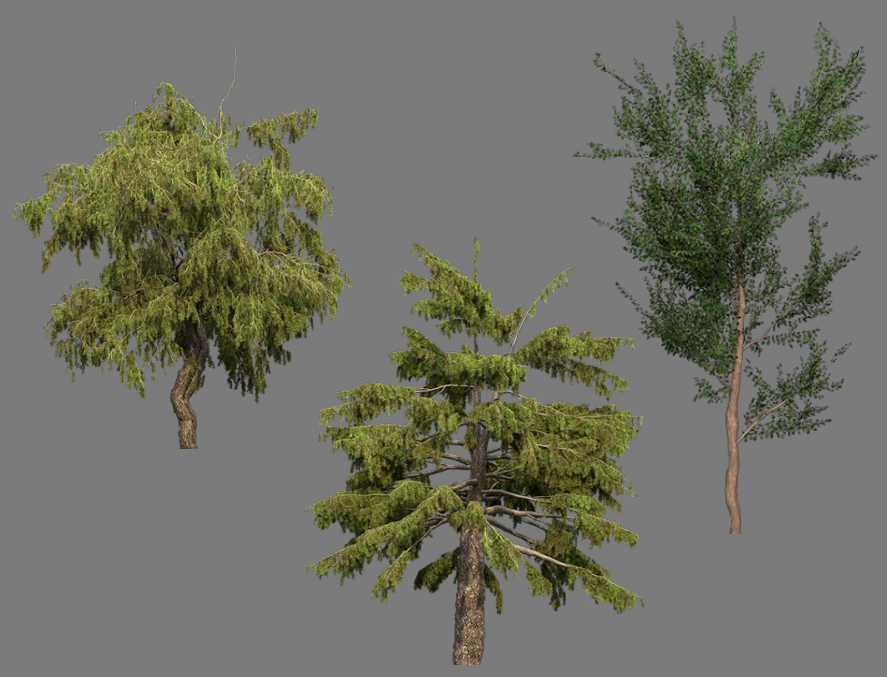
The shader setup allows for some light to bleed through the tree's textures giving the illusion of sunlight bleeding through the leaves.

If you find the trees don't blend well with the scene lighting, you can adjust and color correct it from within the geometry nodes modifier, no need to dig into the shader. You can also set the min and max hue variation.

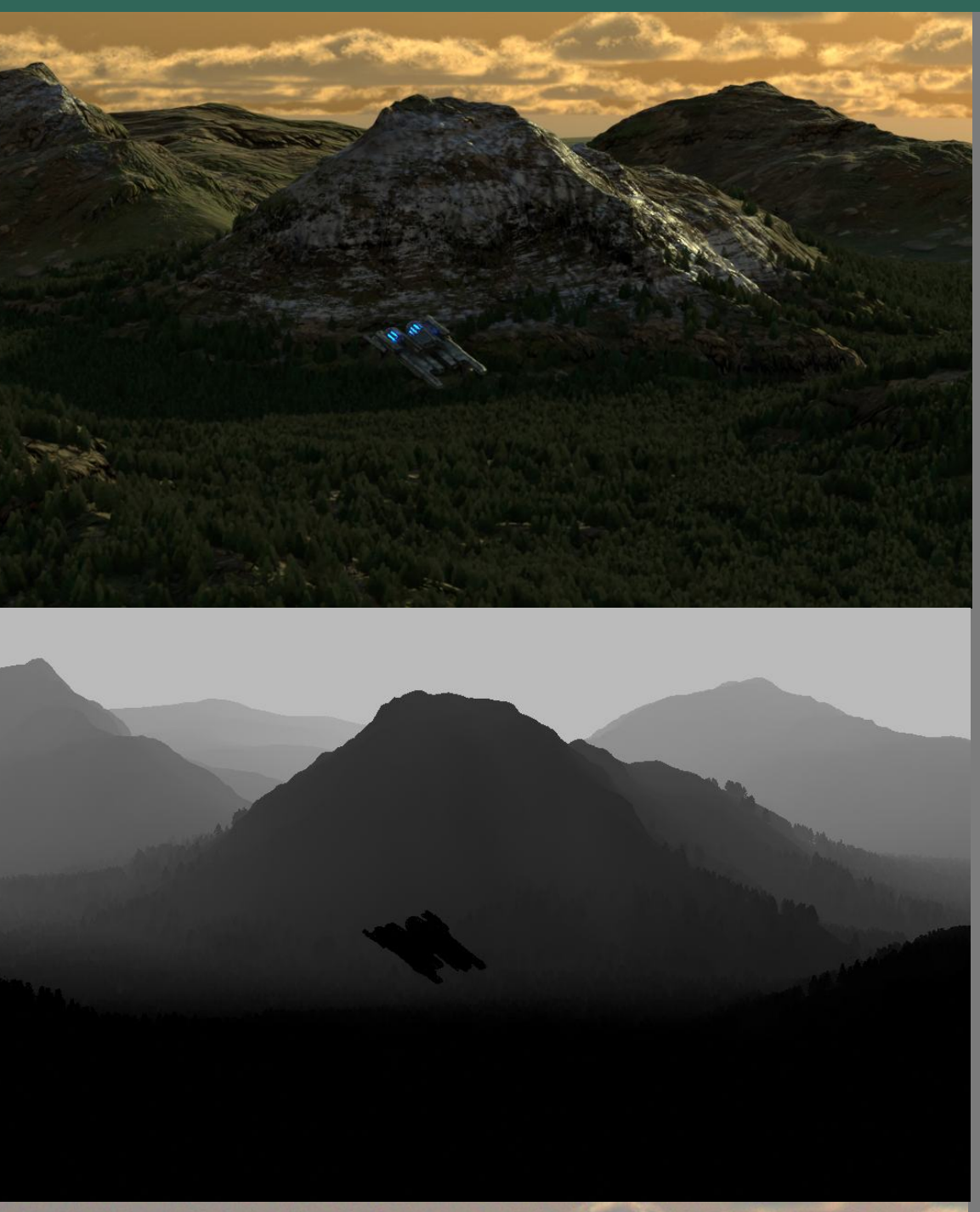
New in v2 is a snow adjustment tab, increase it above 0 to add snow to the material. Please note the snow feature will only work on the included trees.

V2 adds new trees bringing the total amount of tree types to 10





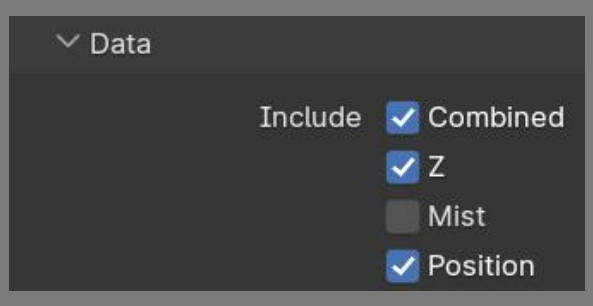
Compositing Tips



Since the purpose of TurboTrees is to efficiently create large forests, the overall scale and “grand” look can be accentuated with some overall compositing tips.

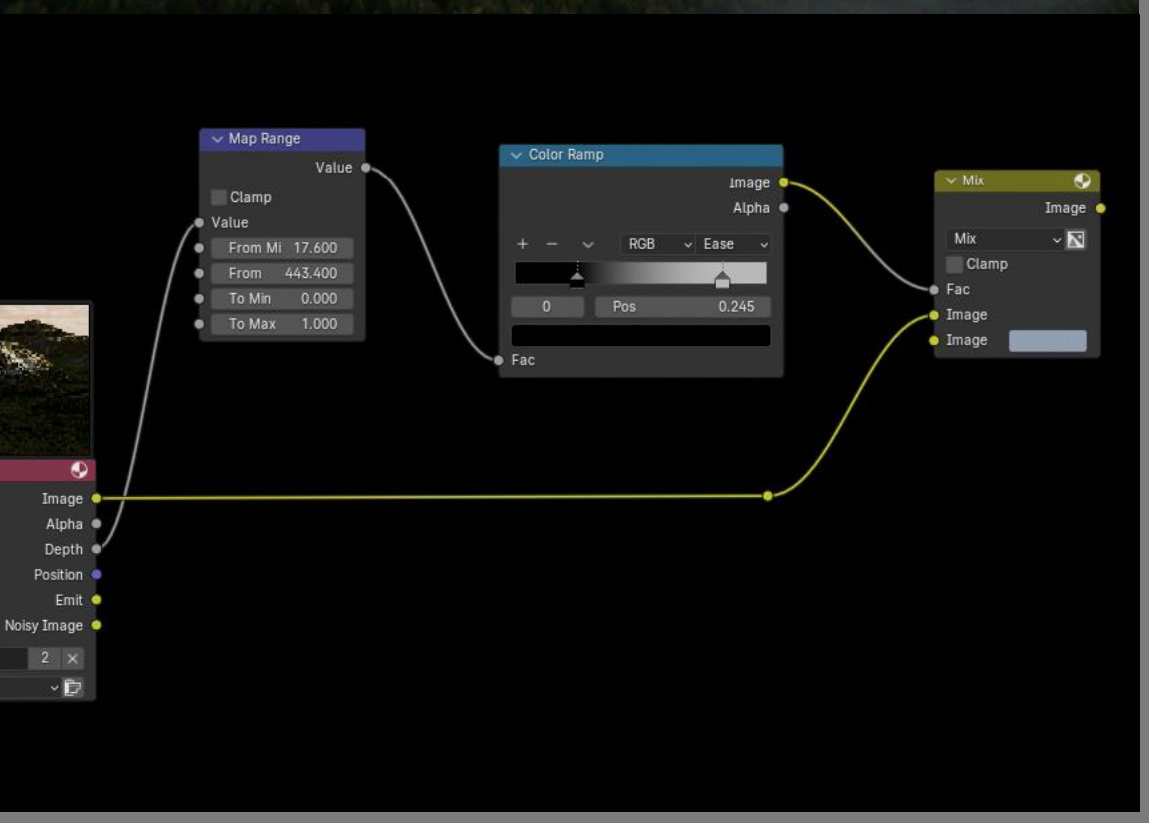
On the left we have the straight render of the scene with the trees scattered on the terrain collection. Overall it looks quite dull.

Here we have the depth pass processed through a map range, and later a ramp node. (Depth pass tends to be less noisy then mist when dealing with alpha channels).



And here we have the output of the ramp piped into the factor of a mix node. This gives the appearance of *‘atmospheric extinction’,* where light is scattered in the atmosphere. By using the compositor instead of volumetrics we can achieve this look cheaply and quickly!

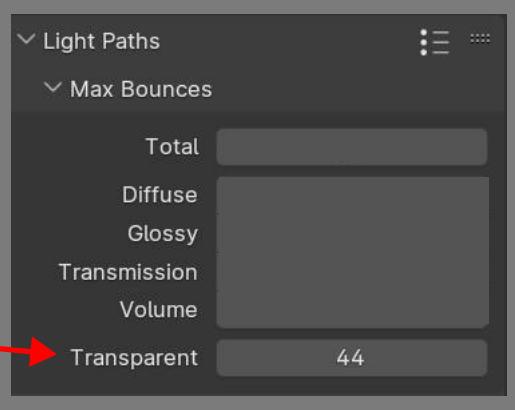
The values of the map range and ramp will depend on the camera position and scale of your scene, but this effect is vital in selling the scale of your scene.



FAQs

I'm using cycles and my trees aren't transparent and show up black.

You will need to increase the 'Transparent Bounces' under Light Paths in the render options.



I've followed the documentation but my trees are not showing.

Ensure that Density Factor is not 0, alternatively ensure that if you have a max height set, the value isn't too small.

My terrain's weight paint groups are not being read.

Ensure that the weight paint group name is entered into the modifier portion labeled as *Weight Name*. The modifier will only read the group if the weight paint toggle is active and name correctly entered.

Can I add my own tree textures?

Yes! I will be adding more as time goes on but the setup is fairly easy to get going. I will add some documentation on adding your own tree textures.

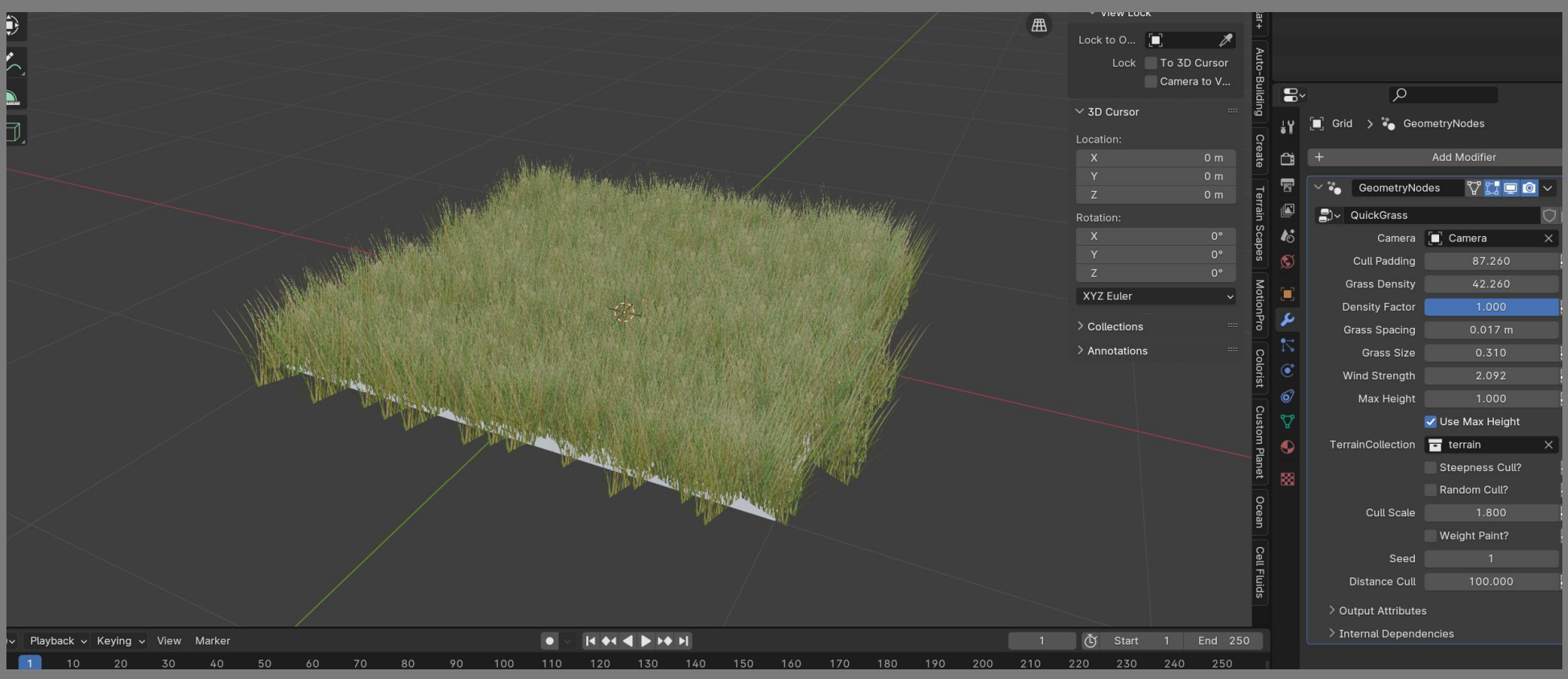
Why should I choose this over other options on the market?

Feel free to use what works best! I personally try to only use solutions that aren't overly complex or unnecessarily heavy. Lots of addons get abandoned or no longer updated, and since this is just a geonodes modifier + shader you can freely peek inside and change anything. The geonodes modifier has been organized and labeled neatly. I created this for my own project as I didn't feel there was an equally affordable and drop in solution.

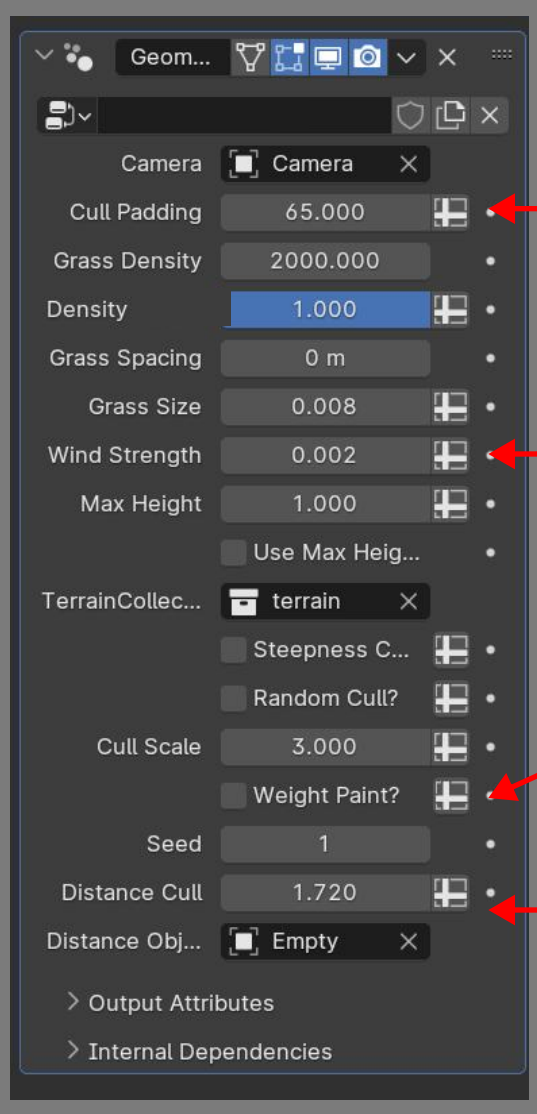
Can I scatter more then just trees?

Yes! Just be aware that you will need to uncheck 'Align to Camera' in the modifier.

TurboGrass



I've included a bonus small modifier called 'TurboGrass'.
This can populate your terrain with a quick and dirty patch of grass.
It has similar controls to 'TurboTrees', but with the added option of cull by distance. This performs well in Eeeve, for Cycles remember to increase the 'Transparency Path's as mentioned in page 10.



Place your camera, this will be used only for camera culling.

They can be animated similarly to 'TurboTrees'. Simply set this to 0 for static grass.

It can also read weight paint data, just like 'TurboTrees' name your weight paint group 'custom'.

This can call the grass patches based on distance. It's not a gradual falloff so its best used to only exclude far distances. I recommend using a empty plain axis as your *Distance object*