TurboTrees v3

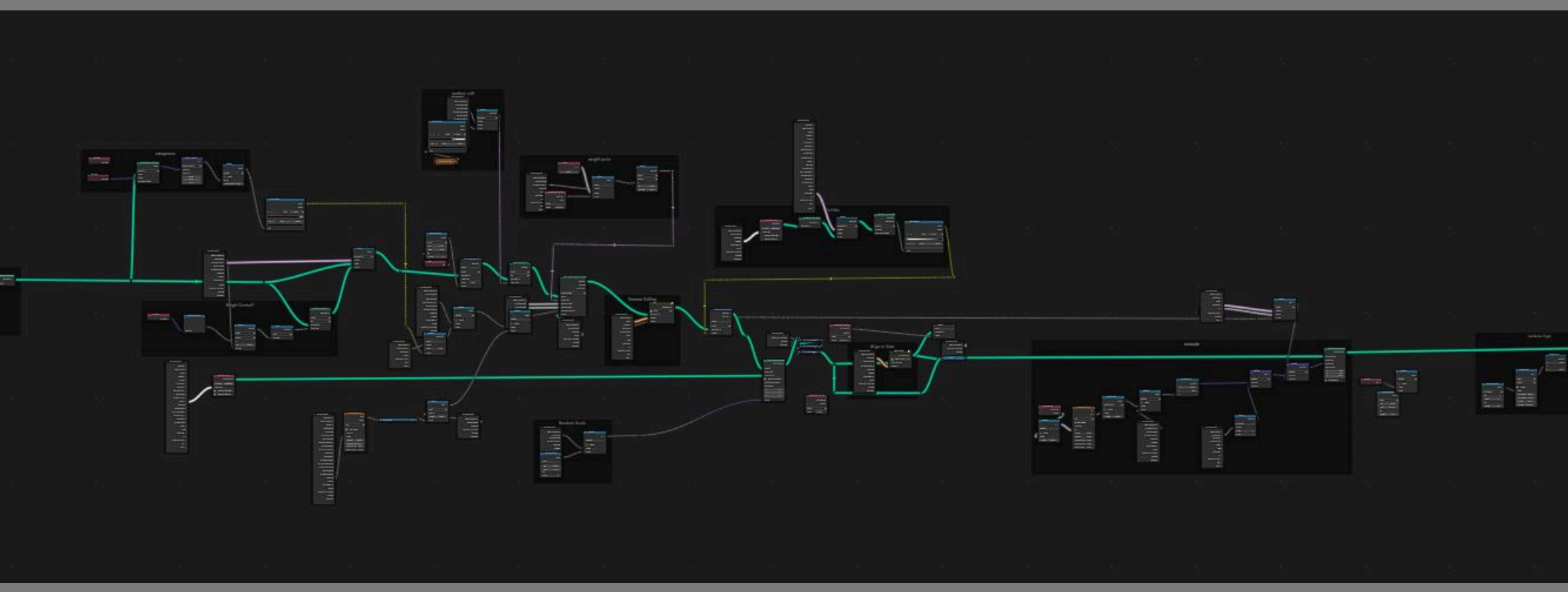
Summary

Getting Started
Using the Modifier
Weight Paint and Animation
Materials And Lighting
Compositing tips.
FAQs

Bonus

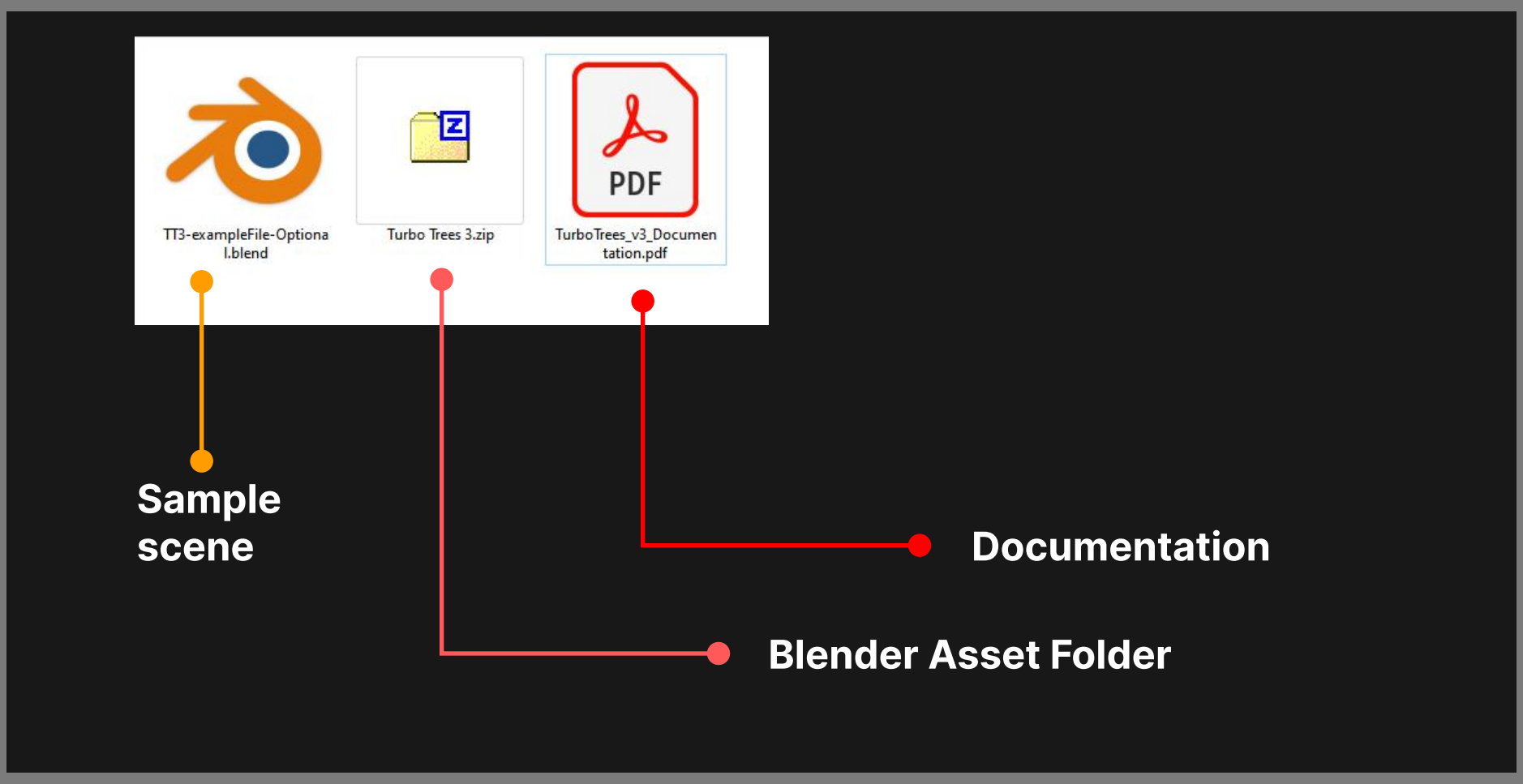
This package includes:

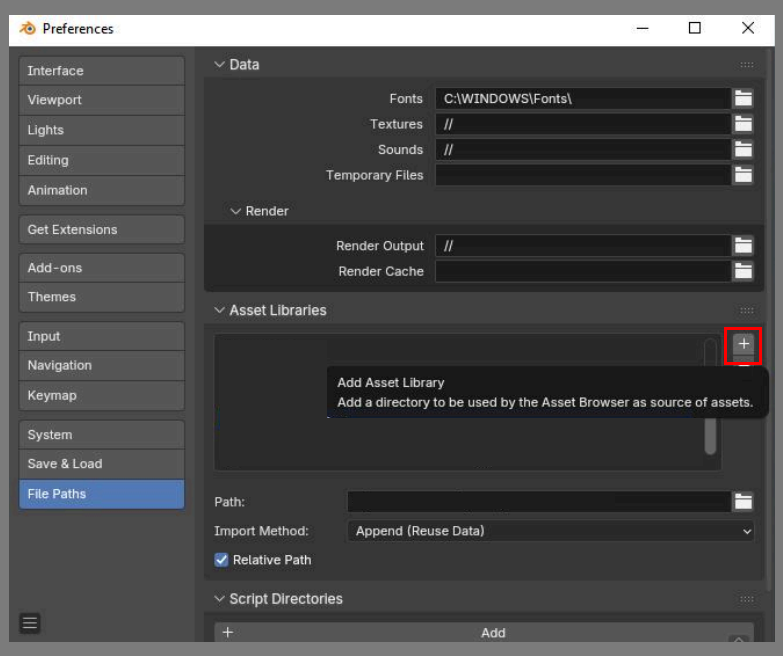
- **TurboTrees modifier and tree collection**
- **Sample Scene**
- **Compositor tips**



Getting Started

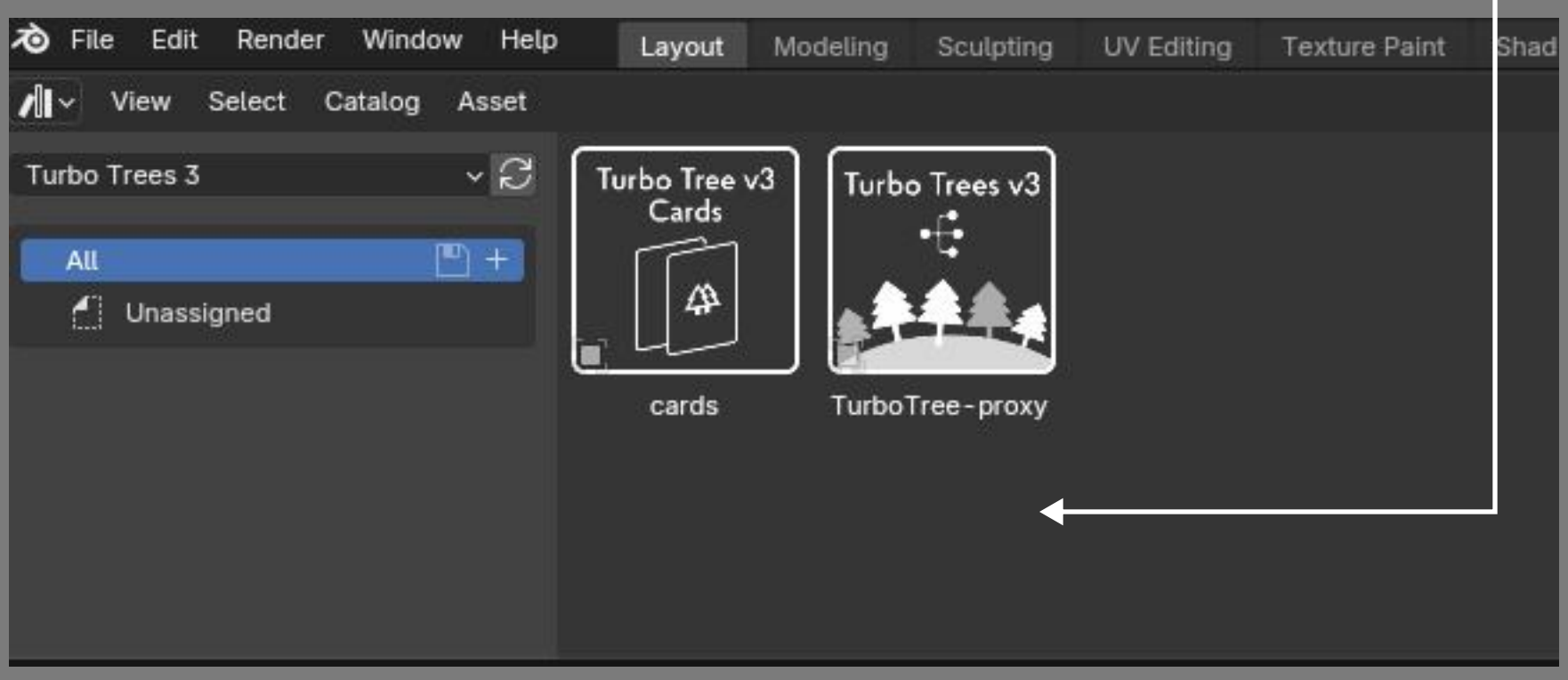
After downloading the zip and sample file you should see the below files:





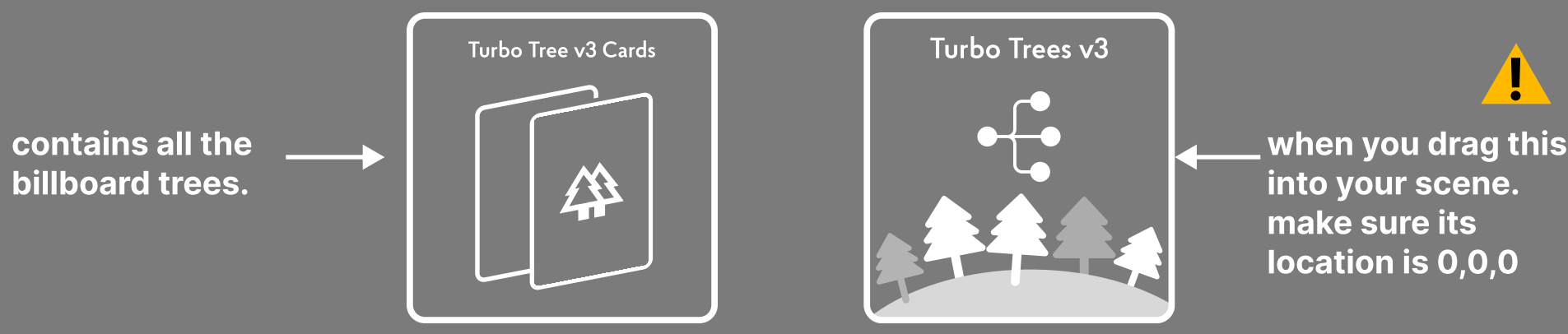
To begin integrating TurboTrees into your project, first extract the “Turbo Tree 3.zip” file. Afterwards you’ll need to add the Turbo Tree v3 folder that you extracted as a Blender Asset. This can be done in the Blender Preferences > File Paths > Asset Libraries

Once this is done Turbo Trees v3 can be access via the asset browser.

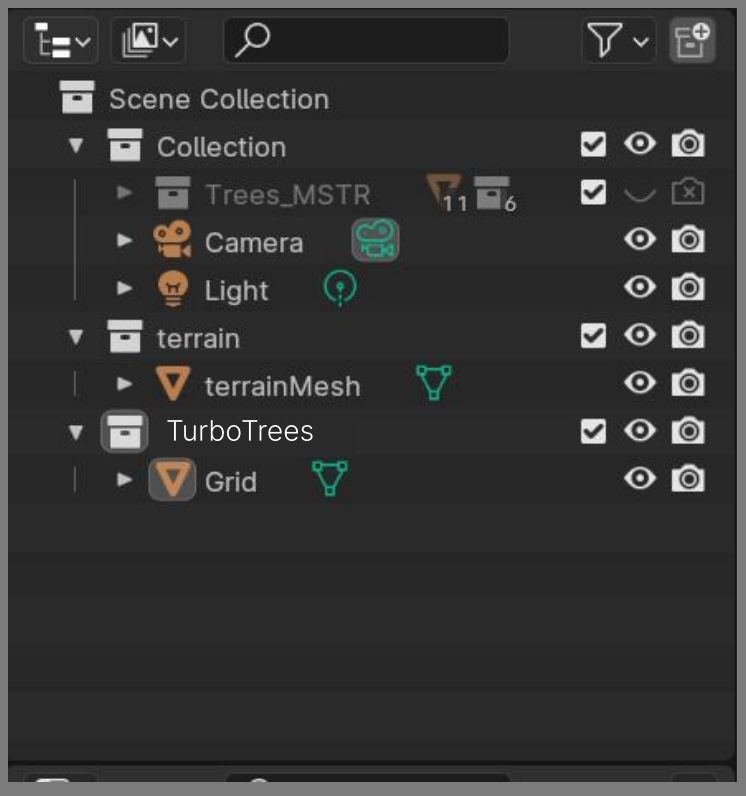


Getting Started

To start using the asset in your project, simply drag in the 2 assets from your asset browser.



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

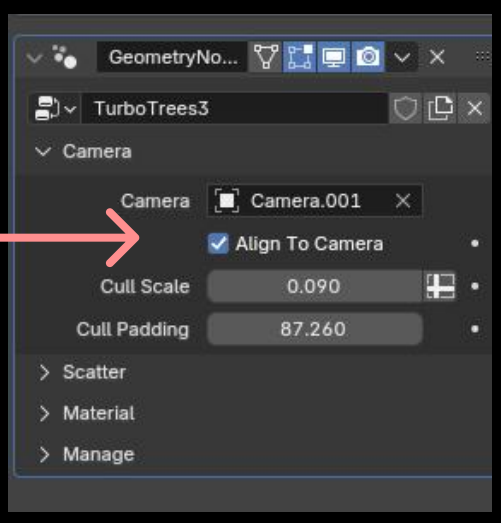


You can now hide the Trees_MSTR collection in viewport and render.

Place your *terrain* or ground mesh in a collection called terrain. Anything inside this collection will have trees spawn on its surface.

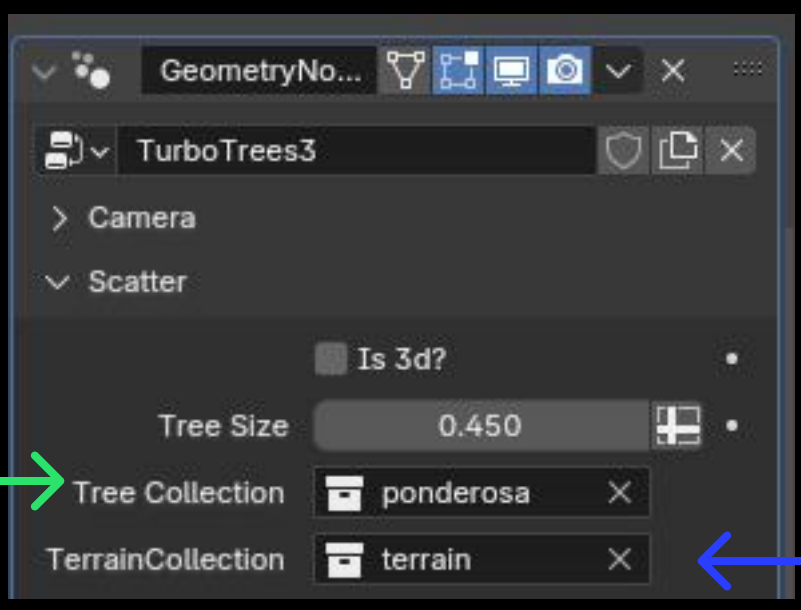
We'll need to populate the fields inside the modifier tab before we see results.
Add your scene's Camera, your desired Tree card collection and Terrain Collection.

add your scenes camera, and activate the align feature.

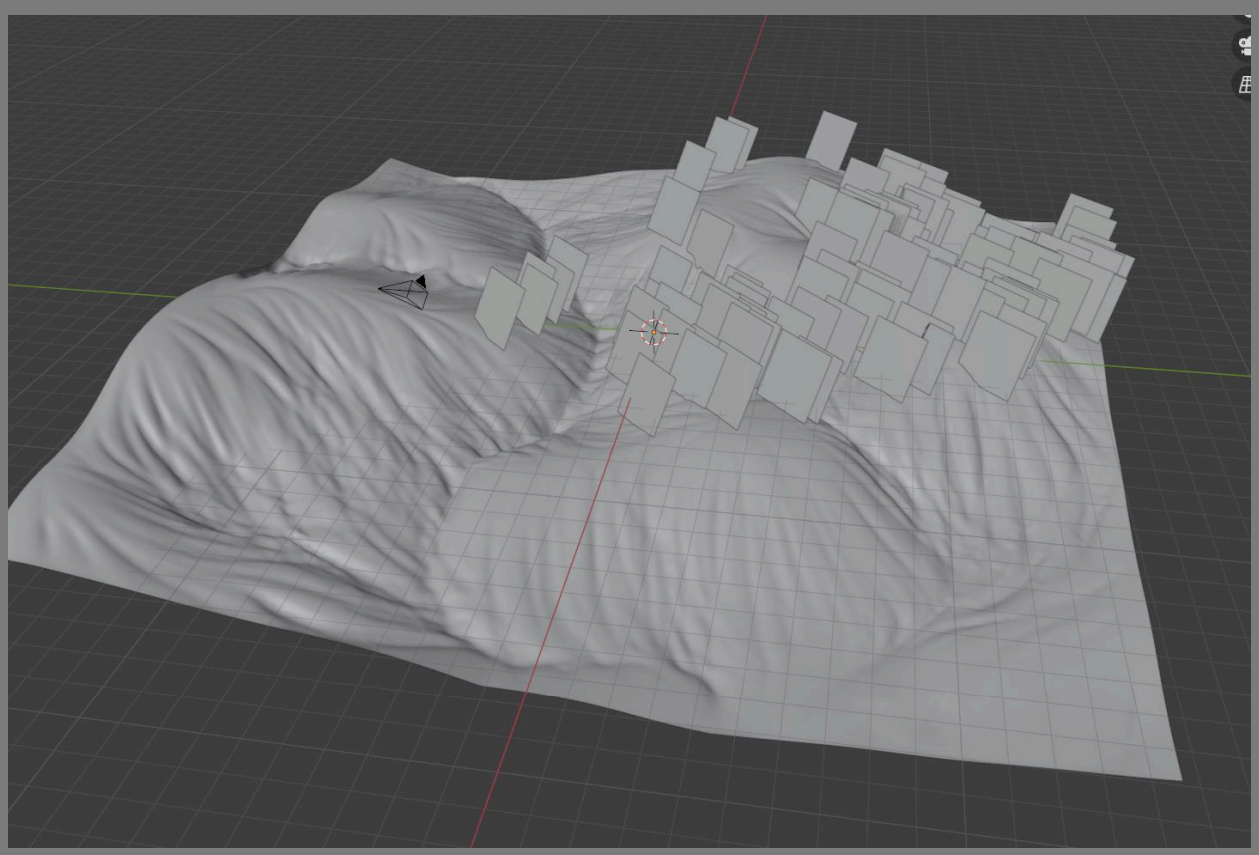


add your tree card collection

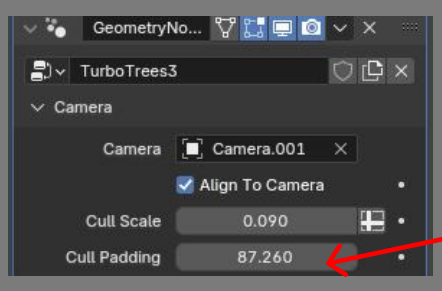
add your terrain collection



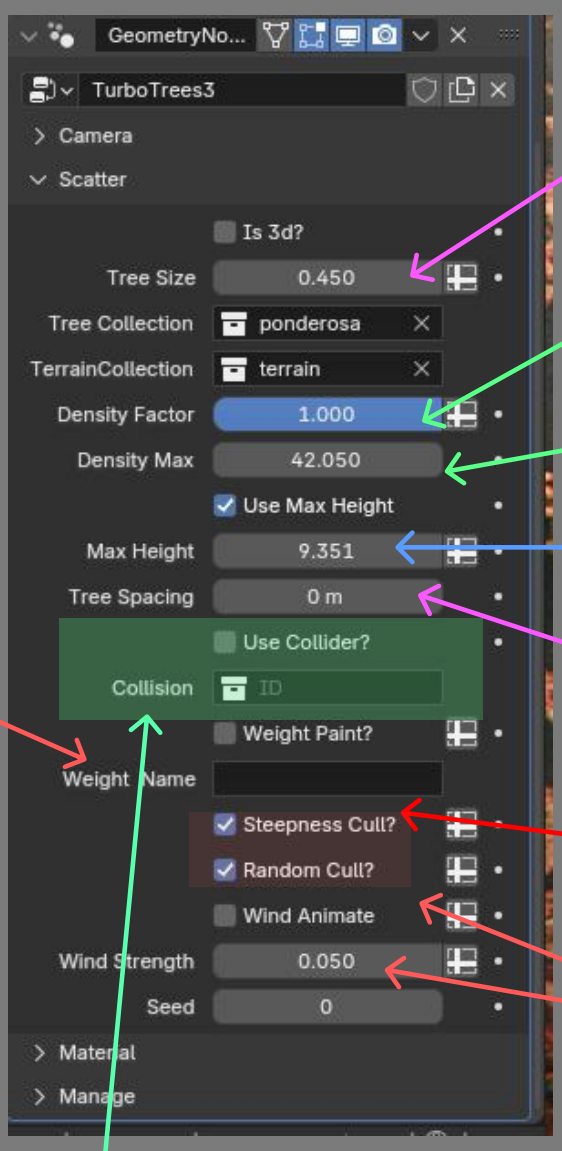
Filling your scene, and modifier information



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.

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

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

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.

The minimum spacing between cards.

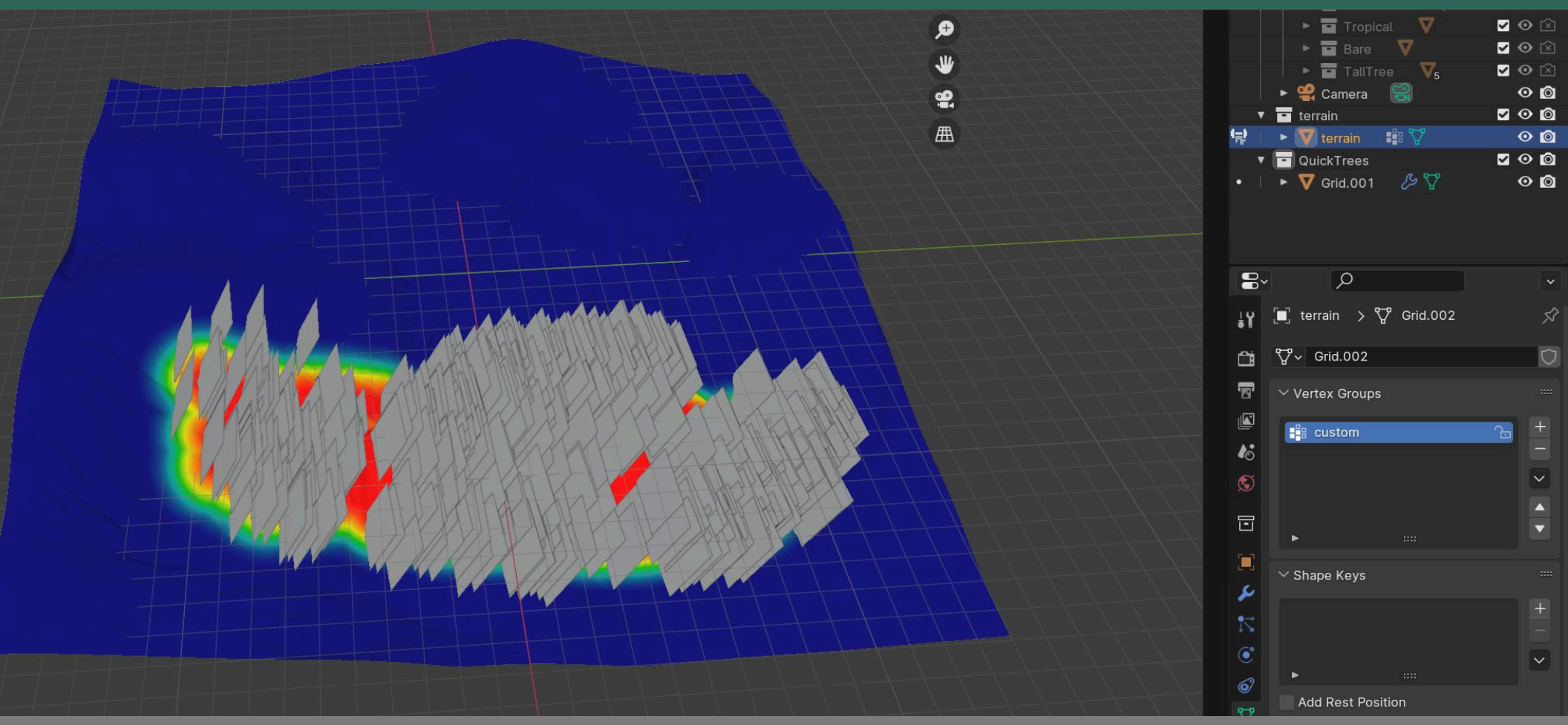
These field can be used to cull based on steepness or randomly. It will give it a more organic and less repetitive look.

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

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.

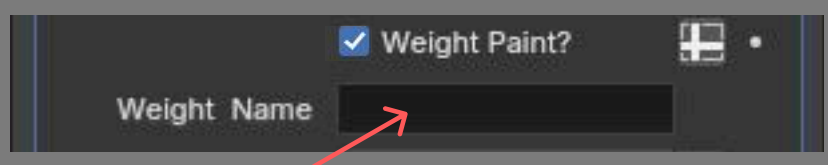
You can weight paint where on the terrain you want trees to appear, if this is checked it will use the weight paint. Add your weight paint name into the field.

Weight Painting

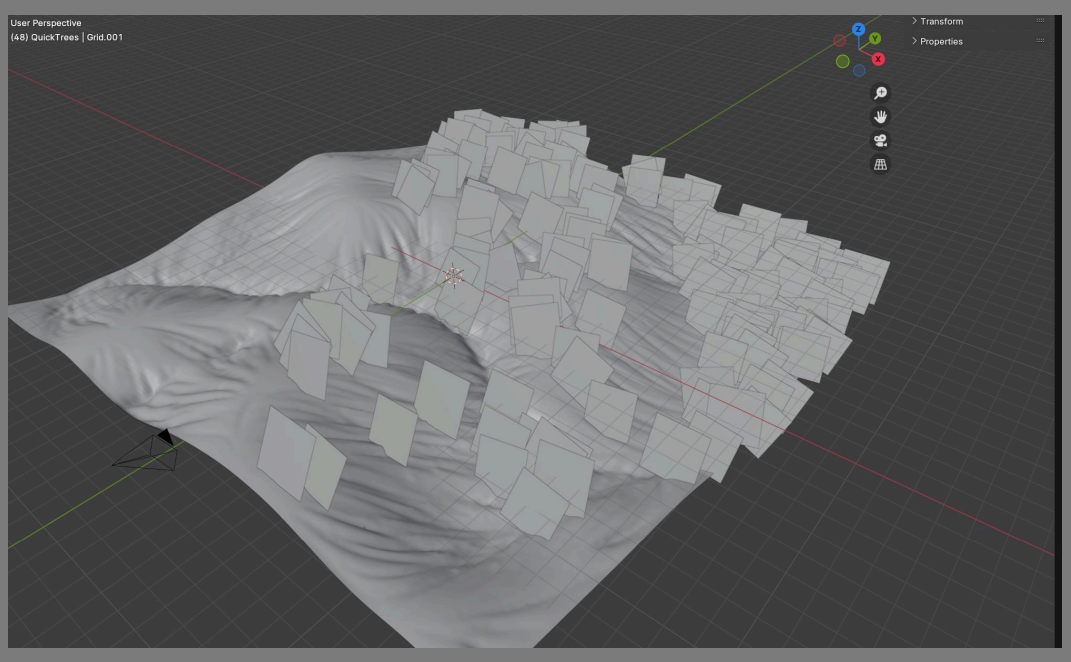


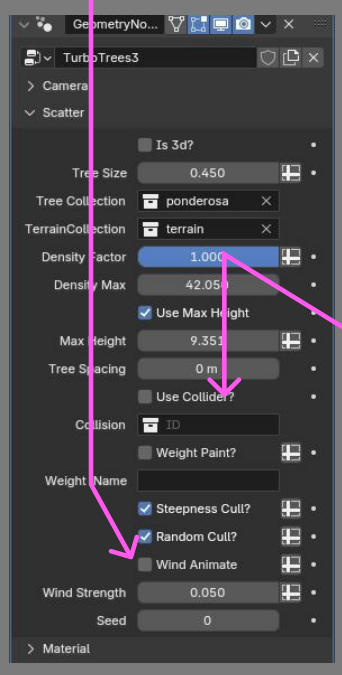
In the above example, the Weight Paint option is checked, and on the terrain mesh a weight paint group has been created, and named ‘custom’.

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.

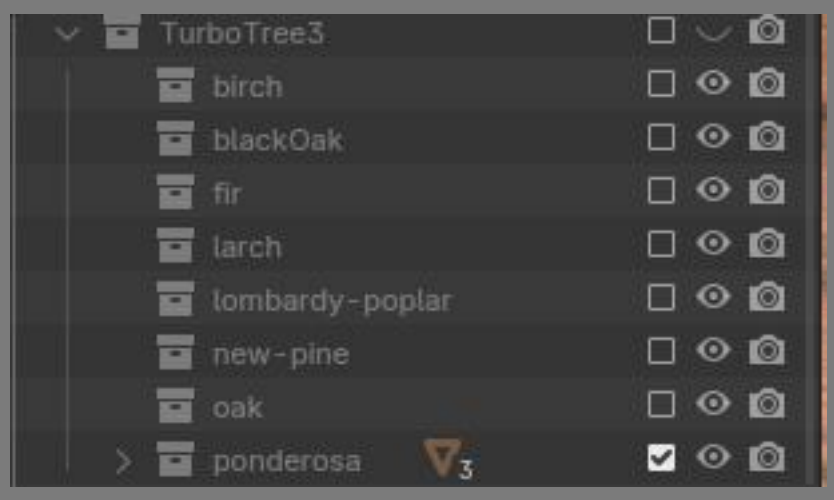
Materials and Lighting

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

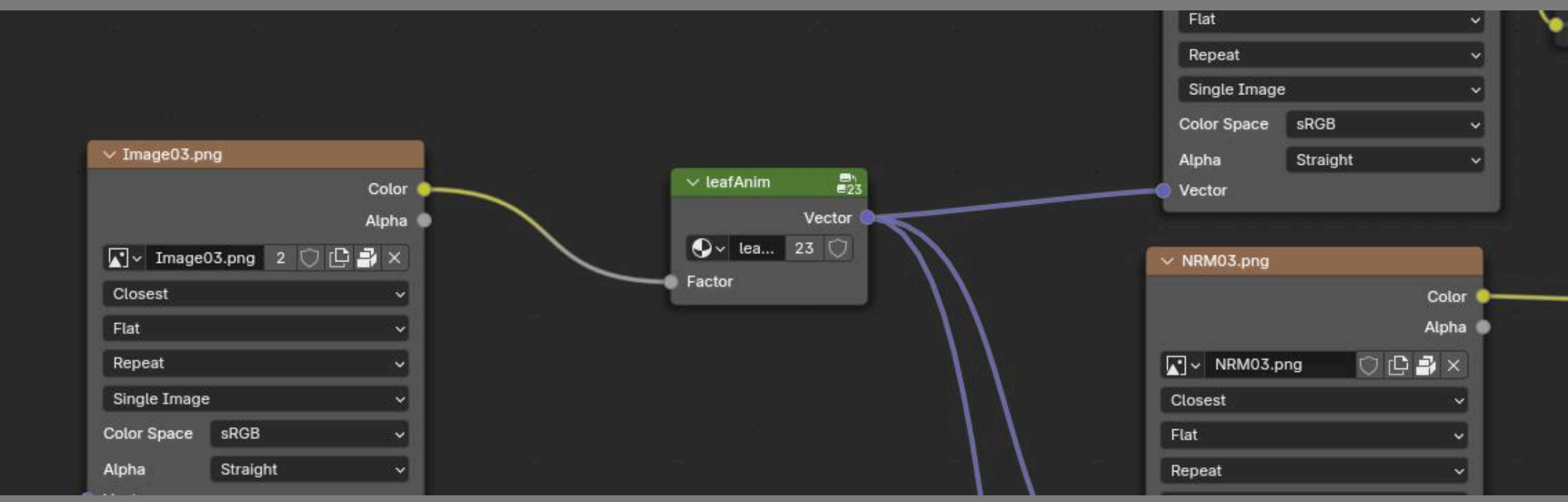
If you find the trees don't blend well with the scene lighting, you can adjust and color correct it from within the geometry nodes modifier, no need to dig into the shader. You can also set the min and max hue variation.

To add snow, increase the snow value to add snow to the material. Please note the snow feature will only work on the included trees.

V3 adds new trees, that are higher quality and the material has been reworked

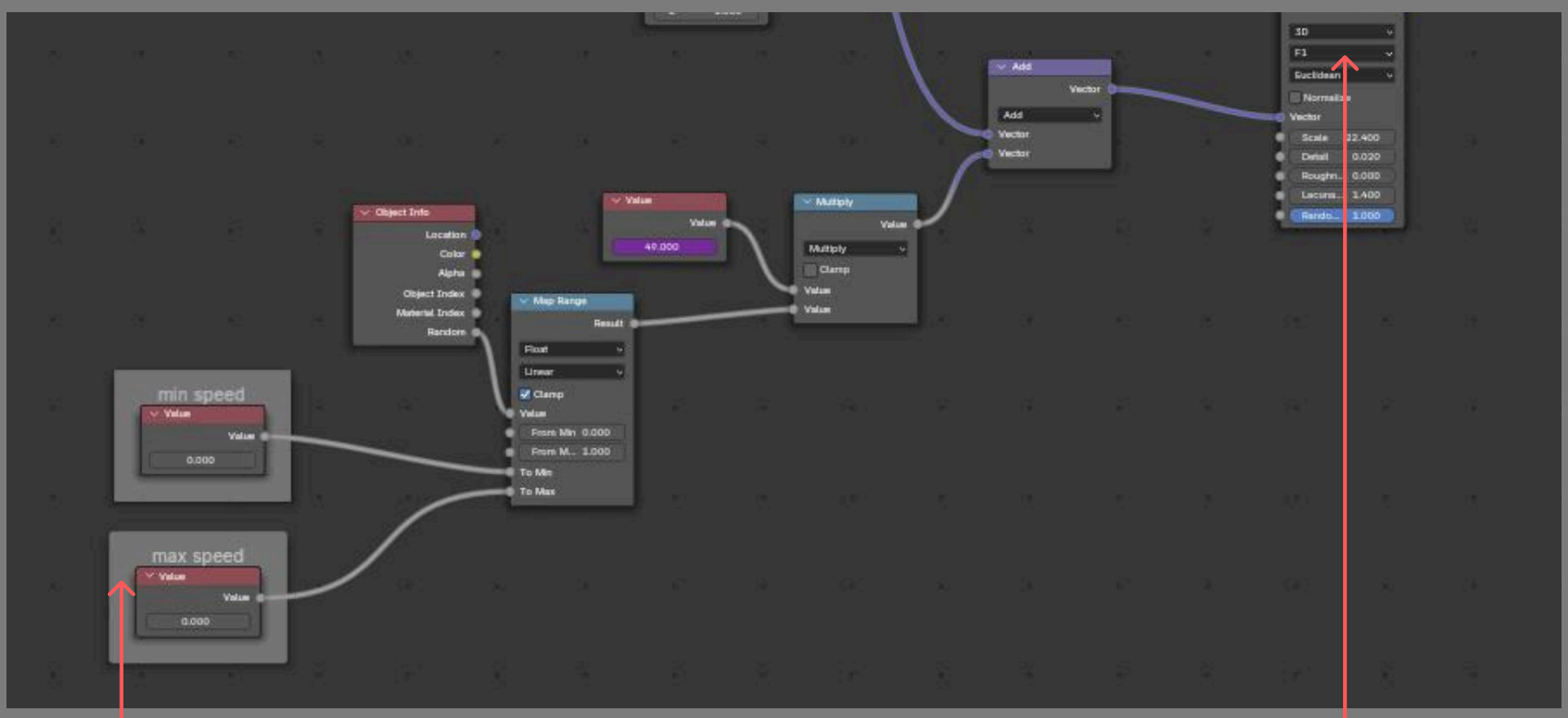


Bonus Material Features (experimental)



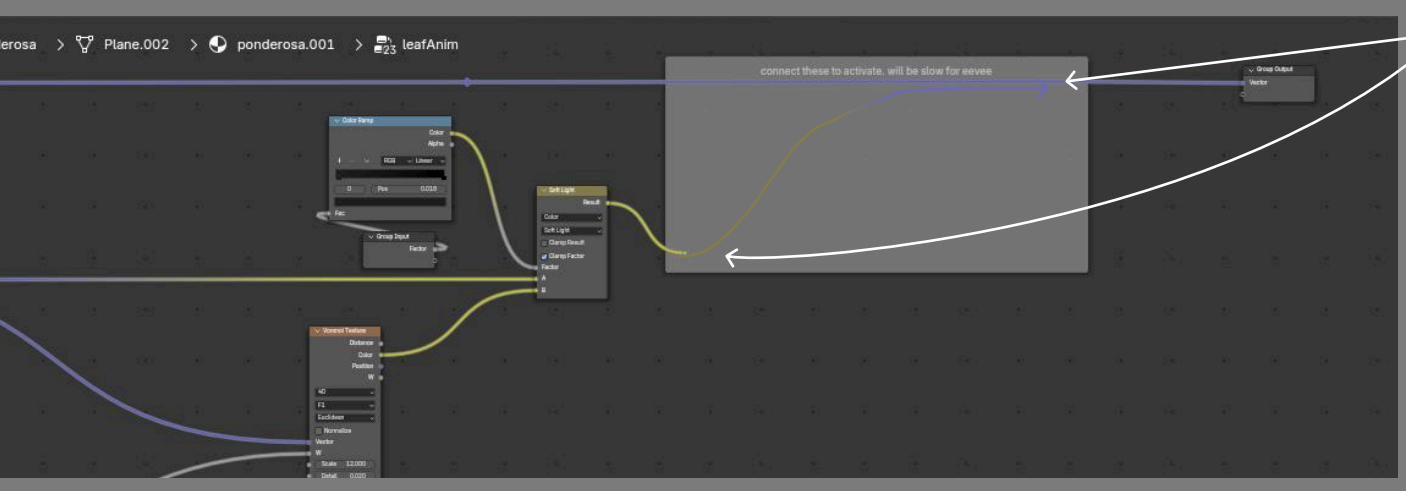
If you explore inside any of the pre-set trees you will see a node group called “leafAnim” in the shader. This node group allows the user to apply a global fake wind animation directly on the static textures.

To use this, simply double click the ‘leafAnim’ node group and follow the below:



set this to a low number like .01 and the leaves on the trees will begin to animate. Just remember this is a global change and affects all Turbo Tree pre-sets,

By default the material is set to use a voronoi set to *F1*, for a smoother result consider setting it to *F2* or *Smooth F1*. Be aware that this will impact performance.

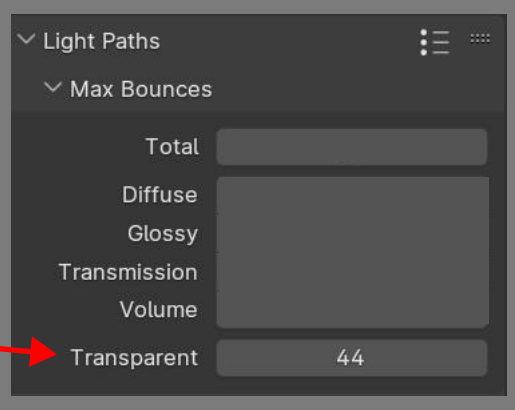


By default to help with performance this feature is turned off. To activate simply connect the two rerouts (yellow dot to purple), This will turn on the effect,

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. You will need 4 texture maps: Color, Alpha, Normal Map, and a leaf mask map.

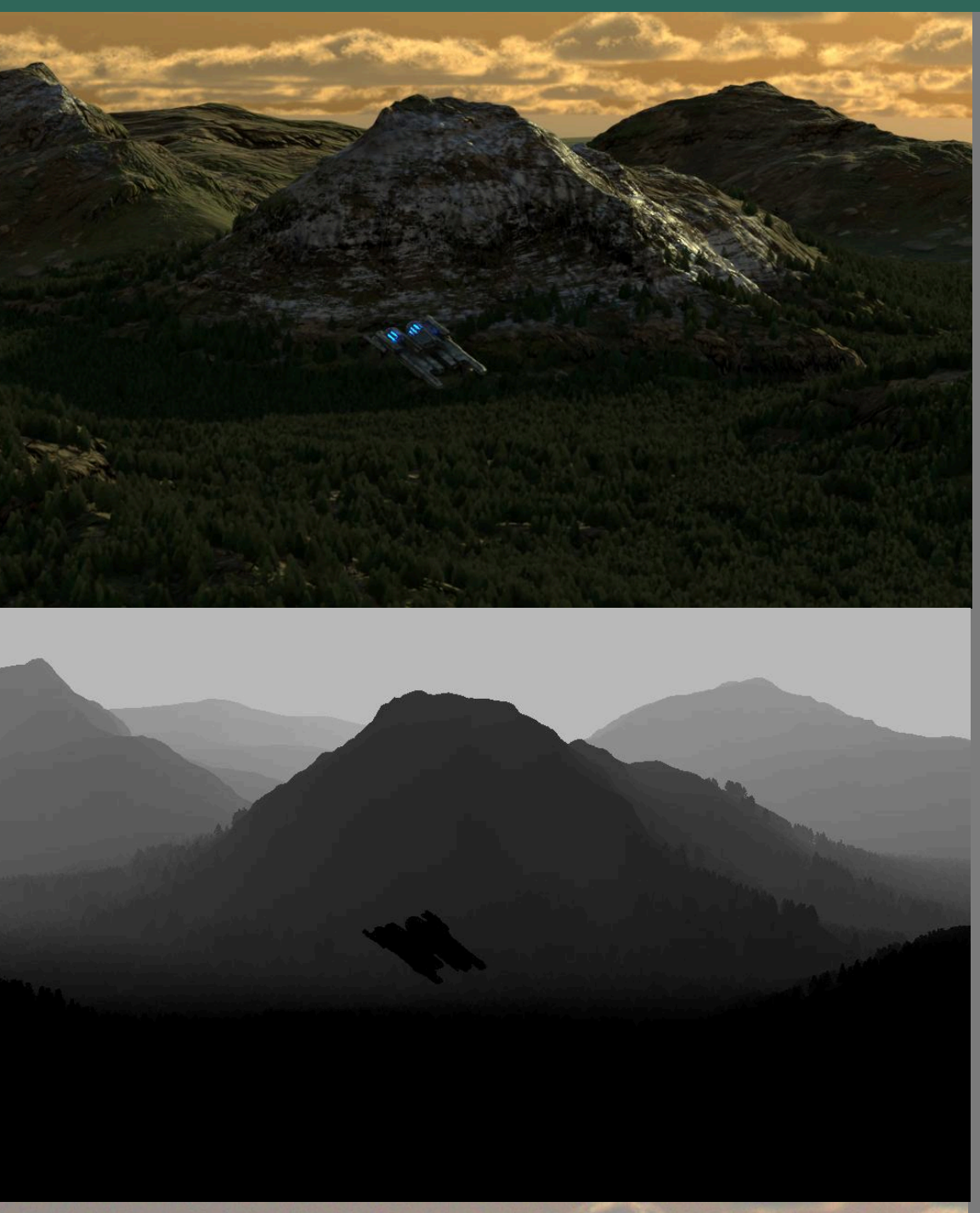
Why should I choose this over other options on the market?

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. If the object you wish to scatter is 3D be sure to check that as well.

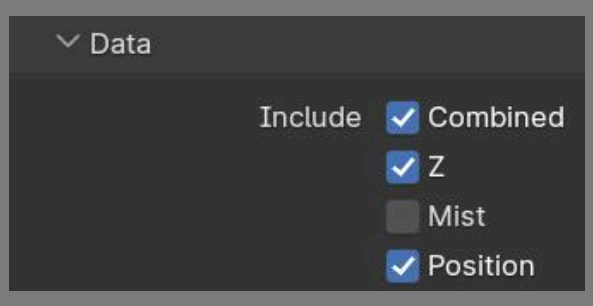
Compositing Tips



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. The example sample file includes a neat compositing node graph for you to explore.