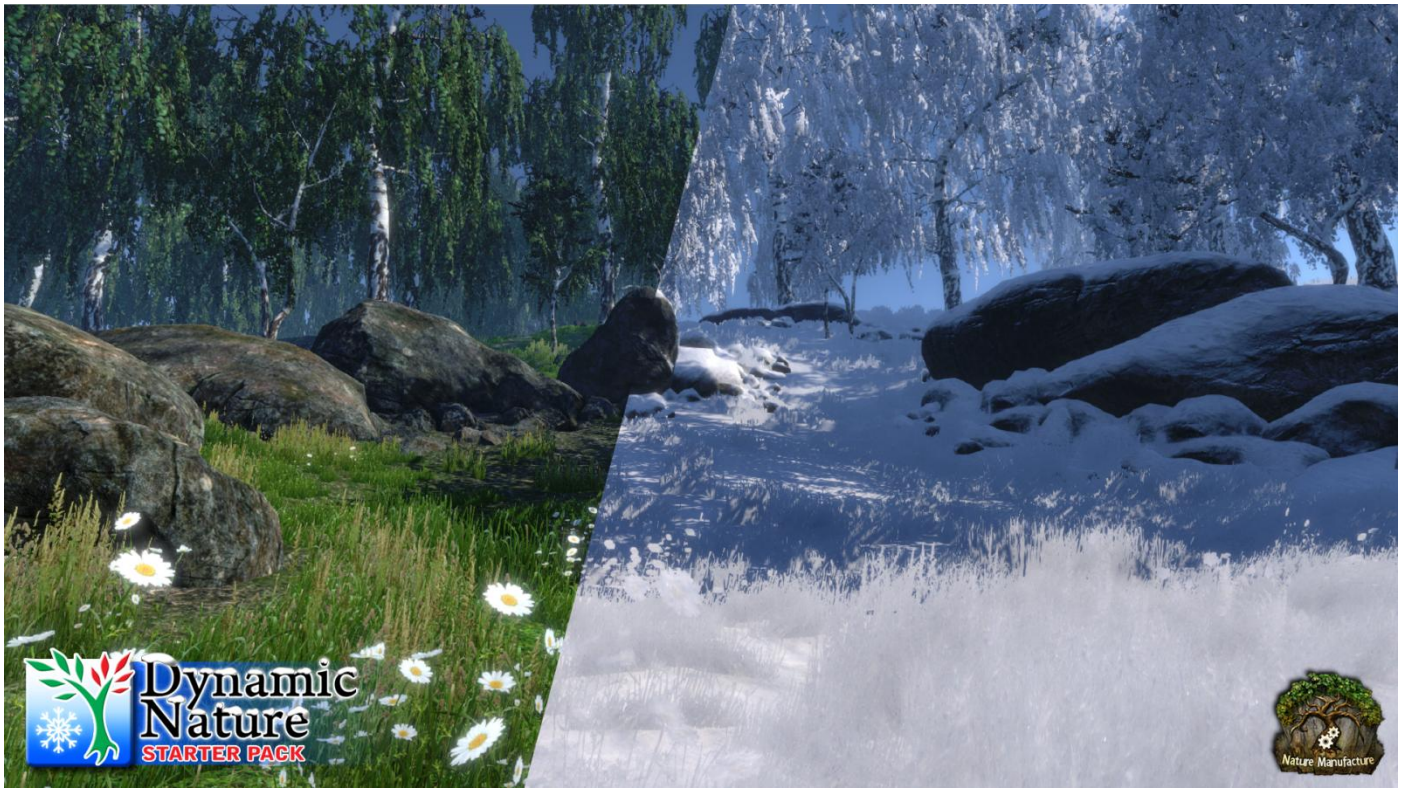
Dynamic Nature - Manual v1.3



Introduction to Dynamic Nature

Dynamic Nature is a system which brings new source of Nature shaders in dynamic and non-dynamic versions. We give you ability to jump up with your game/app/archviz rendering and also make your scene dynamic without tons of additional work. Our shaders are also useful to simply change your asset into completely different version without additional work.

Pack also contain uv-free shaders which are useful to blend models with ground and models with models. They are show their power in walls or huge rock structures.

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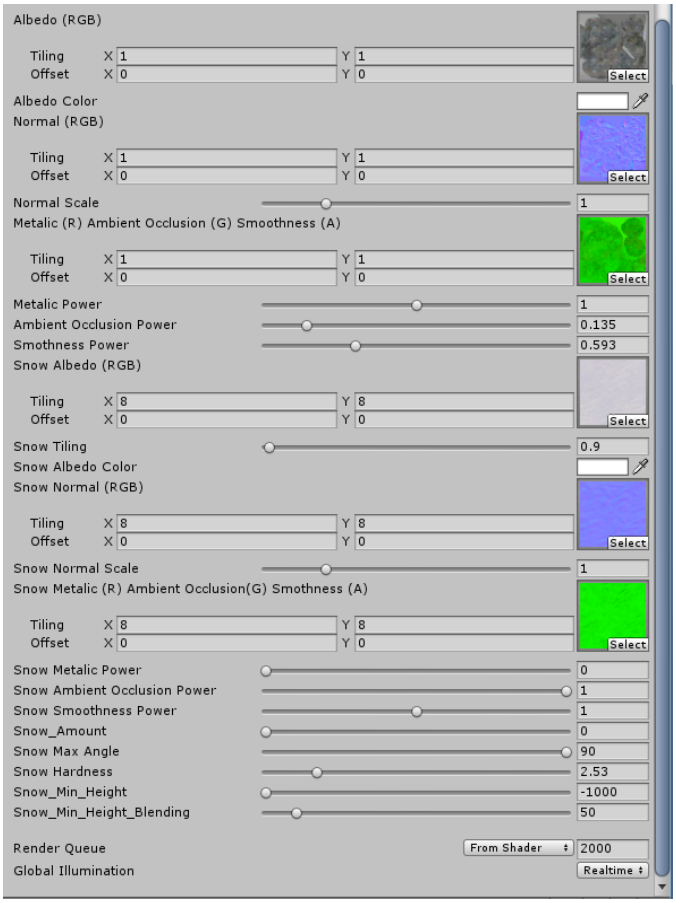
1. Dynamic Nature Shaders, Materials and Textures

In all non uv-free shaders tilling and offset is controlled by albedo!



Every snow material uses normalmaps and vertex position (normal) to cover object by snow, or moss/grass. Each shader have sliders which give you more control over used maps than in Standard unity shader. Snow tilling is separated from base texture.

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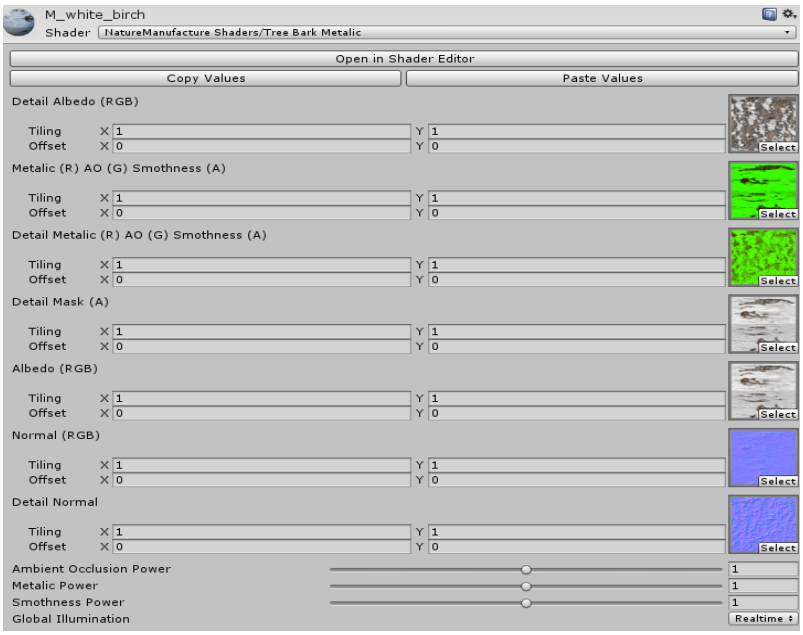

Bark Shader contains "mask" on alpha (A) wich gives you ability to blend 2 textures of bark. For example thick bark with branches. It's especially visible on birch trees.

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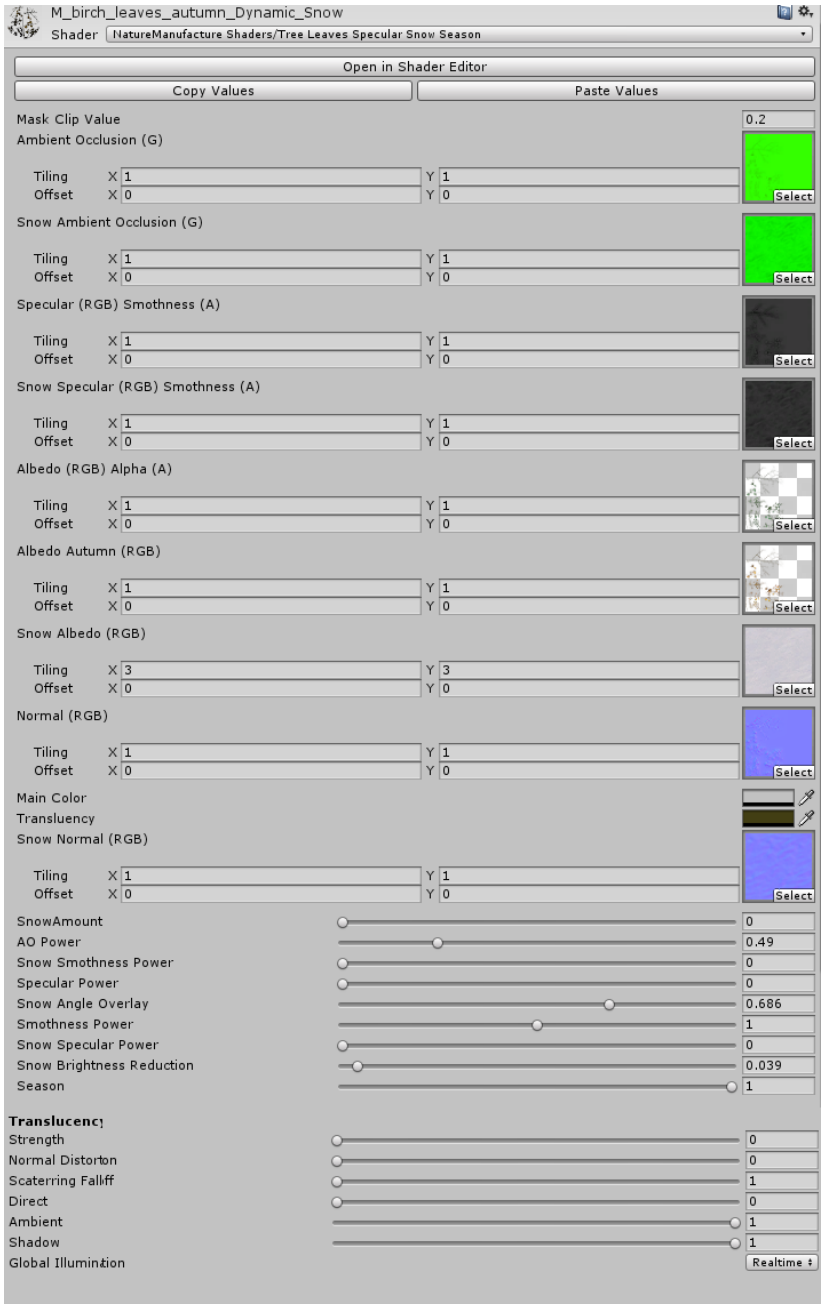


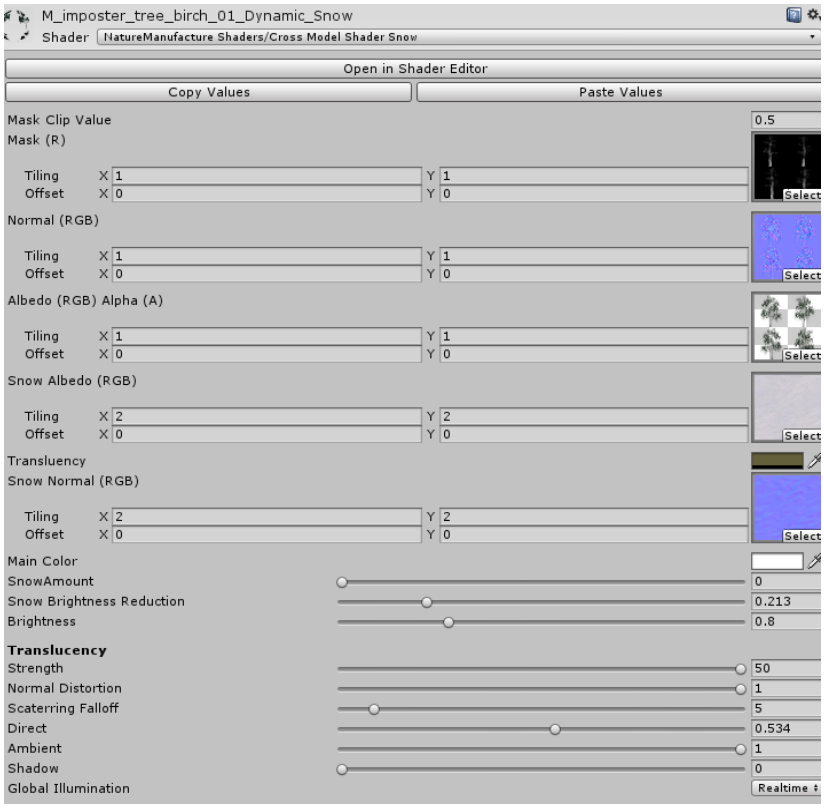
Leaves shader use Translucency shading!

"**Snow Brightness Reduction**" is reduction of Translucency when snow cover rises. It makes also our tree darker because we don't want to get white stain instead of tree. This value gives you ability to adjust snowed tree to your scene image effects. Big reduction could affect in some strange results.

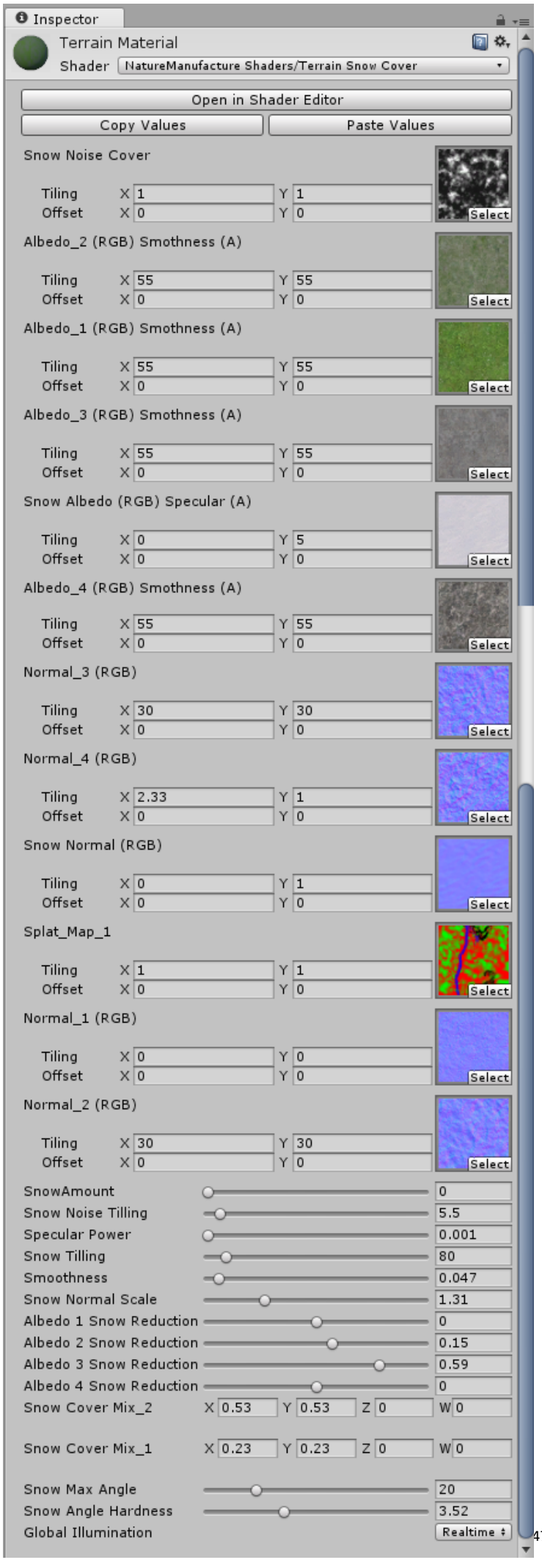
"**Snow Angle Overlay**" this value gives you control on how much leaves back-faces should be covered by snow. If this value is negative, it starts to removing snow from the front-faces. In coniferous trees probably it should be setup as 0 or very small value.

"Season" is a slider which blends autumn texture with albedo. As autumn texture you could setup leafless branch or you could leave leaves like in our example. Soon we will add dropping leaves system for this shader.

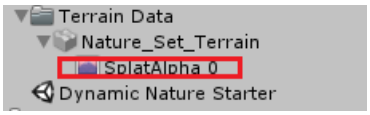
TIP: We recommend you to setup translucency as the last setting and check how it will behave on normal, autumn and winter verions.



Cross shader contains special mask which removes snow from bark. This gives natural view in far distance. We also will try to get such effect, without this mask in future release. We recommend you to adjust imposter in far view (in distance where possibly tree will switch into cross). Matching up at very close distance could give incorrect effect in far view. You should start material setup from front of the tree, then remember to check tree in each direction, because you will probably have to adjust shadows and translucency in few directions. Of course many effects doesn't have any impacts in far view, but spending few additional minutes in material adjustment could improve effect.



Terrain Snow Cover shader work similarly as unity terrain shader. It needs **splatmap**, which could be taken from existing painted terrain or you could made it on your own. Shader is compatible with unity terrain. so there is strange R+G mix for first texture. So if you want to use it, you have to use splatmap from unity terrain file.



Small video tutorial:

https://www.youtube.com/watch?v=KV12IdtdS7w

In next update we will add alternative shader with splatmap solution, which will be more universal for outside applications like world mashine etc.

Snow on terrain uses terrain slope and normalmaps to fill space by snow.

Snow Noise Cover is a map which is used to mix snow cover rising. With this map snow does not show linearly but with noise. This gives natural feeling.

Albedo and Normal (1-4) are textures like in unity terrain, you could use the same textures which are in unity terrain.

Splat_Map_1 splatmap texture which was dragged and dropped from unity terrain data.

Snow Amount value from 0 to 2 which is representation of snow amount.

Snow Noise Tilling value which is responsible for snow noise texture tilling.

Snow Cover Mix 1 and 2 values which are responsible for snow noise texture mixing. Just put snow amount to 0.5-0.7 and play with this snow cover mix values. This is useful to kill snow noise tilling.

Snow Max Angle - Snow will cover your terrain only to this angle limit. This is useful for vertical slopes to get natural feeling.

Snow Angle Hardness value which is responsible for blending between snowed and raw terrain in the snow max angle border.

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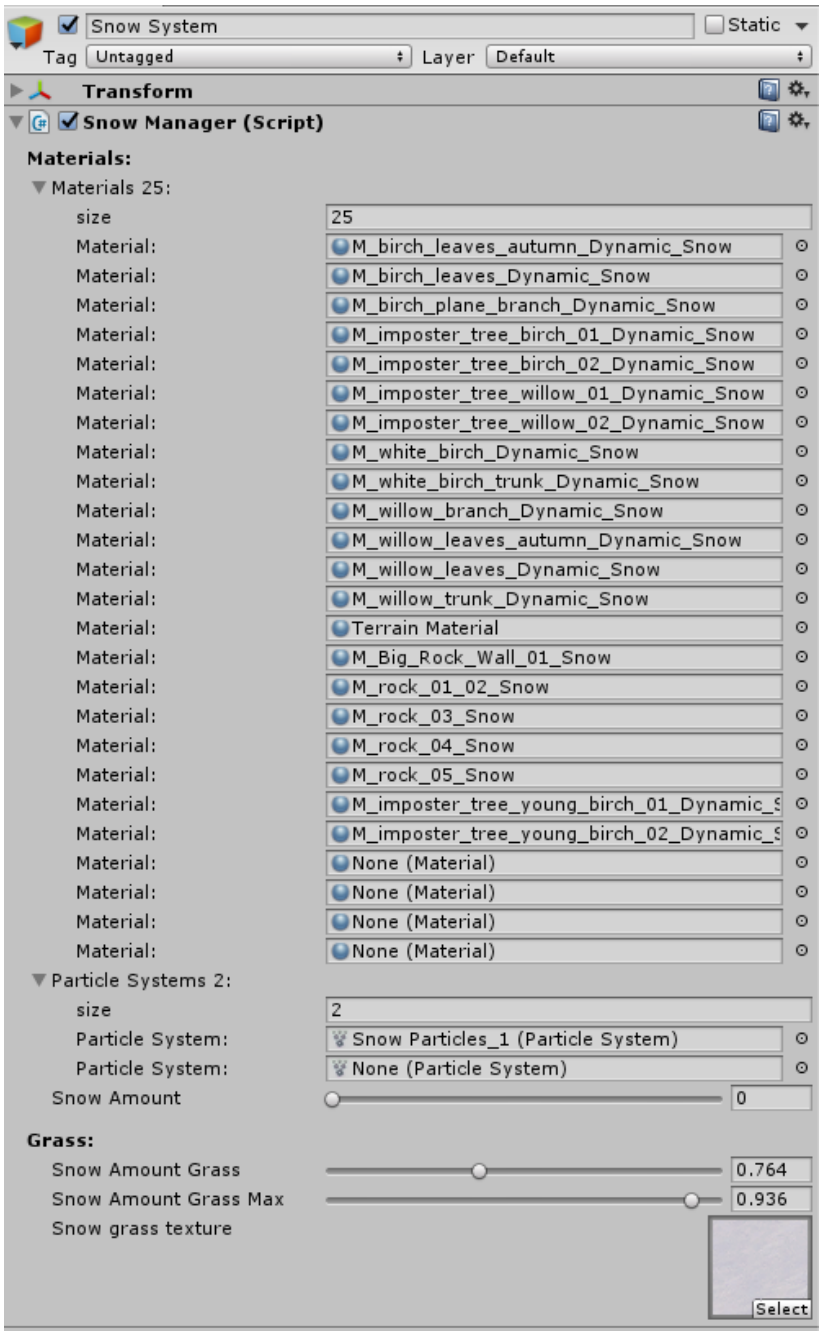
2. Snow Manager



Snow system manager is SIMPLE example script which gives you basic ability to control your snow cover at the app/game. You have to drag and drop your materials into material list. It also allows you to control (turn on/off) particles when snow cover rises.

Grass features are a bit more complicated. They work only if our grass shaders will overwrite grass shader at engine. If you import our pack simply restart your unity engine and it should work properly from this moment.

"Snow Amount Grass" this value gives you ability to control snow cover rise speed on the grass.

"Snow Amount Grass Max" this value controls how much snow should be at the grass, when snow amount will be = 2. This also means how much of old grass texture will be visible, when snow cover will be at max value.

Combination of these 2 values gives you big control over the grass at our example system.

"Snow Grass Texture" texture which will be used to cover your grass, DO NOT use any alpha on this texture. Shader uses it but unity atlasing system destroys the effect while many grass textures are used.

3. Wind

Grass - It could use vertex color from mesh (R channel) or calculated values based on grass height. Vertex color version is cheaper for GPU.
Trees - use R channel for global wind direction and B channel (leaves only) for wind noise.

About R channel (grass and trees):
In vertex color black means no wind which should be at bottom of the model and red means full wind power which should be on the top of the model.

About B channel (tree leaves): B channel should be noised but where leaves connect the branch it should be equal 0. Otherwise wind will disconnect leaves from branch