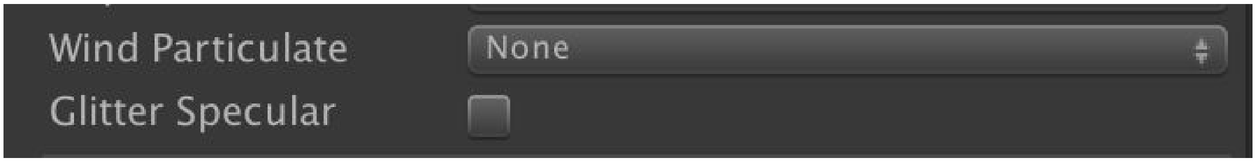
MicroSplat

Wind and Glitter module

Overview

The Wind and Glitter module adds several special effects to the MicroSplat terrain shading system, and extends the Snow module with additional options.

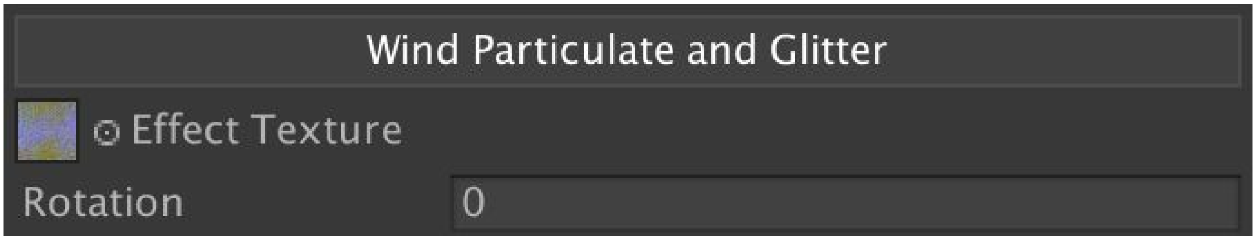
Shader Options



Wind Particulate: None

Glitter Specular: ☐

Once installed, the Wind Particulate and Glitter Specular options will be added to the shader generator. If you have the snow module installed, additional options will be available for the same options on snow. Wind Particulate has two options - one for the basic effect, and another which adds a shadow system to that effect.



Wind Particulate and Glitter

Effect Texture

Rotation: 0

Once any feature is enabled, a rollout for the module is added to the material options. Under it is a single texture used by all of the effects. Should you wish to modify it or supply your own, the RGB channels contain a normal map for the glitter effect along with a noise texture used to vary and mask the effect across the terrain. The alpha channel of the texture is a noise texture used for the wind particulate. It is suggested that you keep this texture small, uncompressed, and linear.

The rotation property controls the direction of the wind.

Glitter in Deferred Rendering

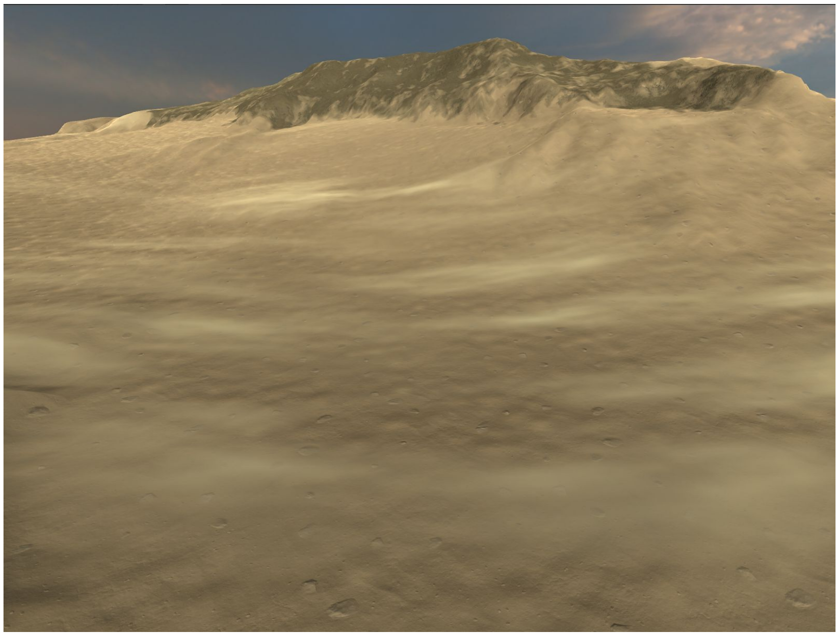
When rendering in deferred rendering, the glitter effect needs to know which light is used to render the wide specular and glitter effect. To do this, add the Glitter Light component to your main, directional light.

Wind and Glitter in HDRP

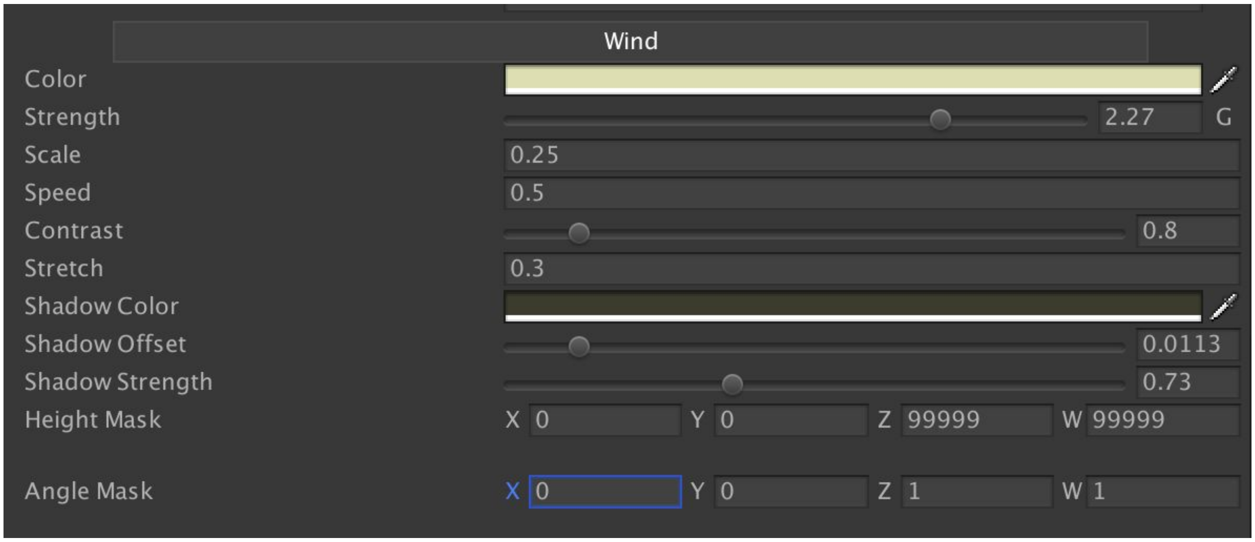
When rendering in HDRP, there is no concept of a main light, and thus it must be marked by adding the Glitter Light component to your main, directional light.

Wind Particulate

The Wind Particulate feature simulates fine grains of sand or snow blowing across your landscape. Once enabled,



If Wind Particulate is enabled, the following options will be added to the material section of the editor:



Wind

Color	
Strength	2.27
Scale	0.25
Speed	0.5
Contrast	0.8
Stretch	0.3
Shadow Color	
Shadow Offset	0.0113
Shadow Strength	0.73
Height Mask	X 0 Y 0 Z 99999 W 99999
Angle Mask	X 0 Y 0 Z 1 W 1

- The color property controls the tinting of the albedo from the particles, and the alpha channel controls the strength of the tint. Note that you can turn the alpha all the way down, and the lighting modifications from the particulate will still be present, creating a much subtler effect.
- Strength controls the overall strength of the effect for all surfaces. You can adjust the strength per texture in the per texture properties section of the interface
- Scale adjust the scale of the texture across the terrain.
- Speed controls the rate of motion along the terrain
- Contrast controls how often the wisps occur- low contrast will create a blanket of particulate, while higher values will produce less frequent and smaller wisps
- Stretch controls how the UVs are stretch along the travel direction.
- Height Mask controls effect strength over world position height. X is the height at which the effect starts fading in, Y the height in which it is fully faded in, Z is the height in which it begins to fade out, and W is the height in which it is fully faded out.
- Angle Mask controls effect strength over the slope of the terrain. X is the angle at which the effect starts fading in, Y the angle in which it is fully faded in, Z is the angle in which it begins to fade out, and W is the angle in which it is fully faded out. Angle is expressed as a 0 to 1 value, with 0 being sideways and 1 being up (flat). So if you put in values of 0.8, 0.9, 1, 1, then the effect would start when the terrain was 20% sloped, be in full effect by 10% sloped, and be in full effect for the rest of the angles towards being perfectly flat.
- Slope Mask allows you to filter based on if the effect is going up or down a hill. Values of -1, -1, -0.9, 0.1 would only show particulate when it’s going downhill.
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- Emissive Strength allows you to make the wind effect emissive, so that it glows in the shadows, which can be useful for magical effects.

If Shadows are enabled for the particulate feature, the following additional options will be exposed:

Shadow Color

Shadow Offset 0.0113

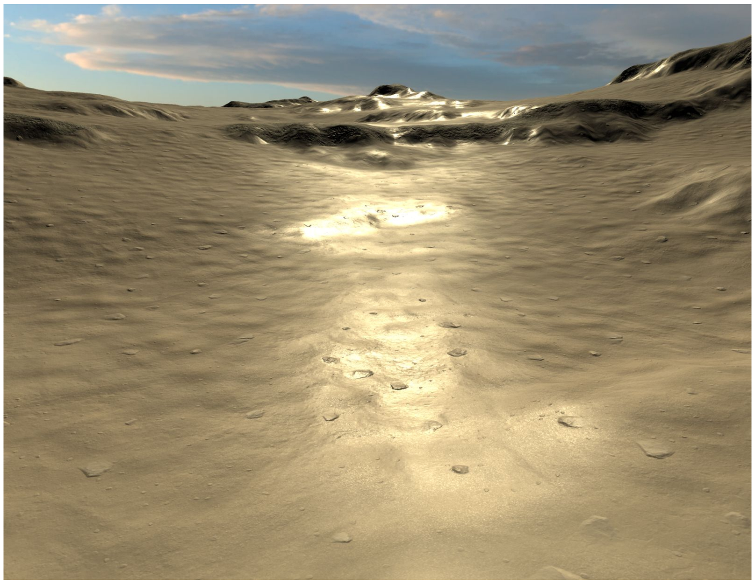
Shadow Strength 0.73

Shadows run before the main particulate code, computing the particulate with an offset based on the light direction. This can be used to create a drop shadow, or alternate colored effects which gives the particulate more depth. It is suggested to play around with the color and it’s alpha value to get different looks.

The offset controls how far to move the shadow based on the light vector. In some ways, this is analogous to how far off the ground the particulate is.

Shadow Strength is used to control the strength of the shadowing effect.

Glitter



Glitter is loosely based off the effects found in the Playstation game Journey, and helps create the effect of glittering sand or snow in the sun. There are two parts to the effect, small sparkles which simulate the microfaceted nature of snow and sand particles acting as tiny mirrors, and a wide specular reflection.

When enabled, the following properties appear for Glitter:

Glitter

UV Scale X 200 Y 200

Graininess 0.53

Shininess 6.8

View Dependency 0.276

Strength 1

Threshold 0.664

- UV scale controls the overall tiling of the glitter texture. This usually wants to be quite high
- Graininess controls the contrast on the glitter texture. Higher values will produce more noticeable grains instead of a wide specular.
- Shininess controls the width of the specular lobe
- View Dependency mixes in some of the view vector in order to make the glitter sparkle as you move your head around
- Strength controls the global strength of the effect. A per-texture option is available as well.
- Threshold acts as an overdrive when the strength is all the way up, creating a sort of metallic/gold effect on the sparkles areas.

Snow

If you have the snow module installed, an additional copy of each of these effects is available for use with snow. This version will only appear on snowy areas, and is an independent set of effects from the main effects.