NOTE: If you are having issues with the asset and want help, feel free to ask on the forum or over email! The links are at the end of the documentation!

INTRODUCTION

Hello, and thank you for buying the Customizable Planet Shader! I am glad that you have decided to give the product a try and see what can be done with it! The documentation will go through the different options the shader has available and give examples for each. For the examples, I will be using the Planet Earth Material to show what visual effect each shader has.

As a note, the textures used for the planets in the demo are all protected by the Creative Commons Attribution 4.0 International License, and are available for download here.

https://www.solarsystemscope.com/textures/

With that said, let's get started!
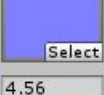
USING THE SHADER

To use the shader on a material, select your material and click on the drop-down tab near "Shader" at the top of the material inspector. Move down to "AHProxy," and you should see the "PlanetShader." Click on it, and now it should be the shader used for your material. If you want to use the mobile shader, go through the same steps, but select "PlanetShaderMobile" instead.
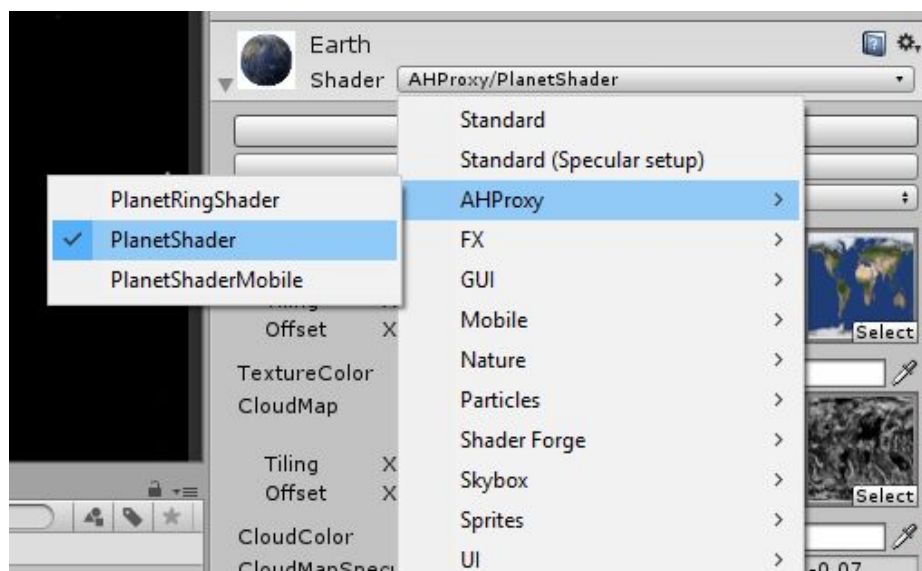
THE SETTINGS

Now you should several different settings. First of all, these settings are put with one another depending on what texture or layer they affect.

To make things easier, we will be going over each segment one by one.

NOTE: The mobile shader is VERY similar in structure to the desktop shader, only with some variables and settings removed. Any variables that are present in the mobile shader will be marked with **(In Mobile Shader)**.

DIFFUSE

TextureMap (In Mobile Shader)

The main texture that will be displayed on your planet. The default color in the case of nothing being in the space is black, because it works better with thick clouds and gas planets.
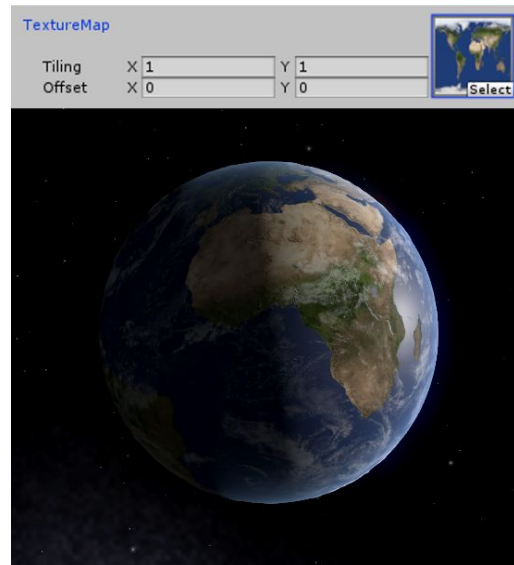
TextureColor

Use this to manipulate the color of the main texture map to whatever you desire.
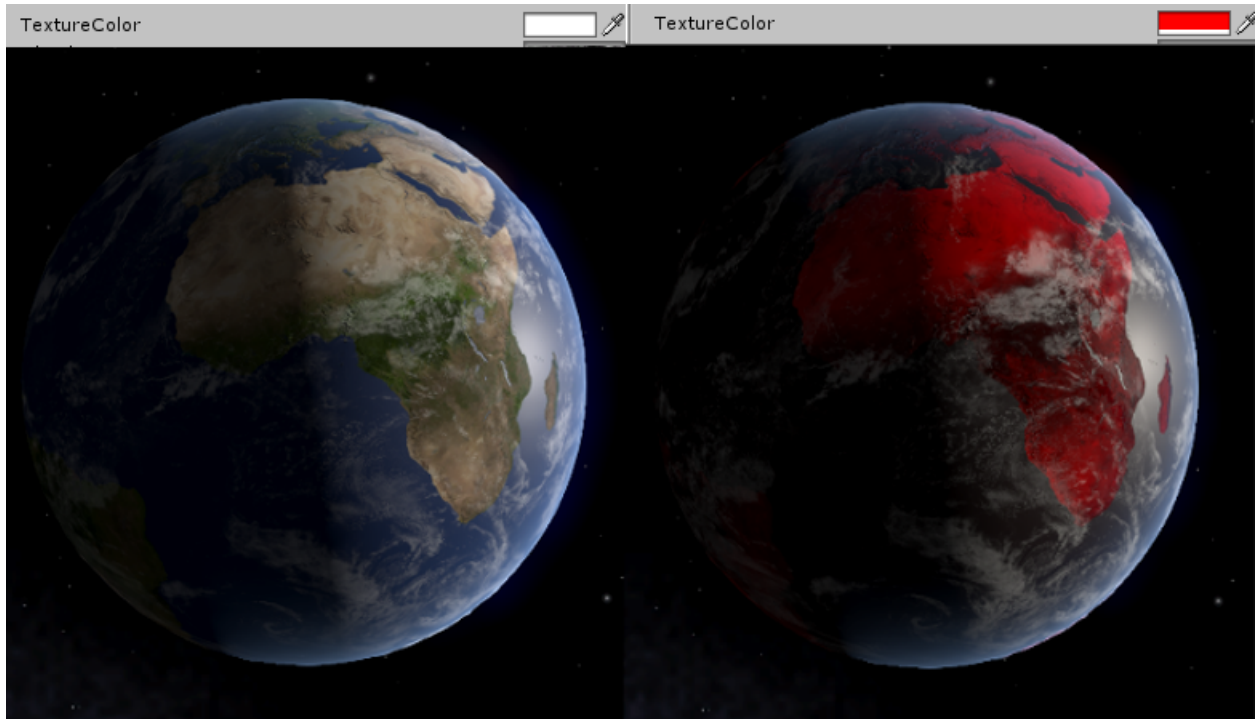
CITY LIGHT

CityLightMap

This is a texture that indicates what parts of the map should light up on the dark side of the planet, and is useful for the effect of city lights. This is normally a black and white texture, with white parts indicate where to light up.
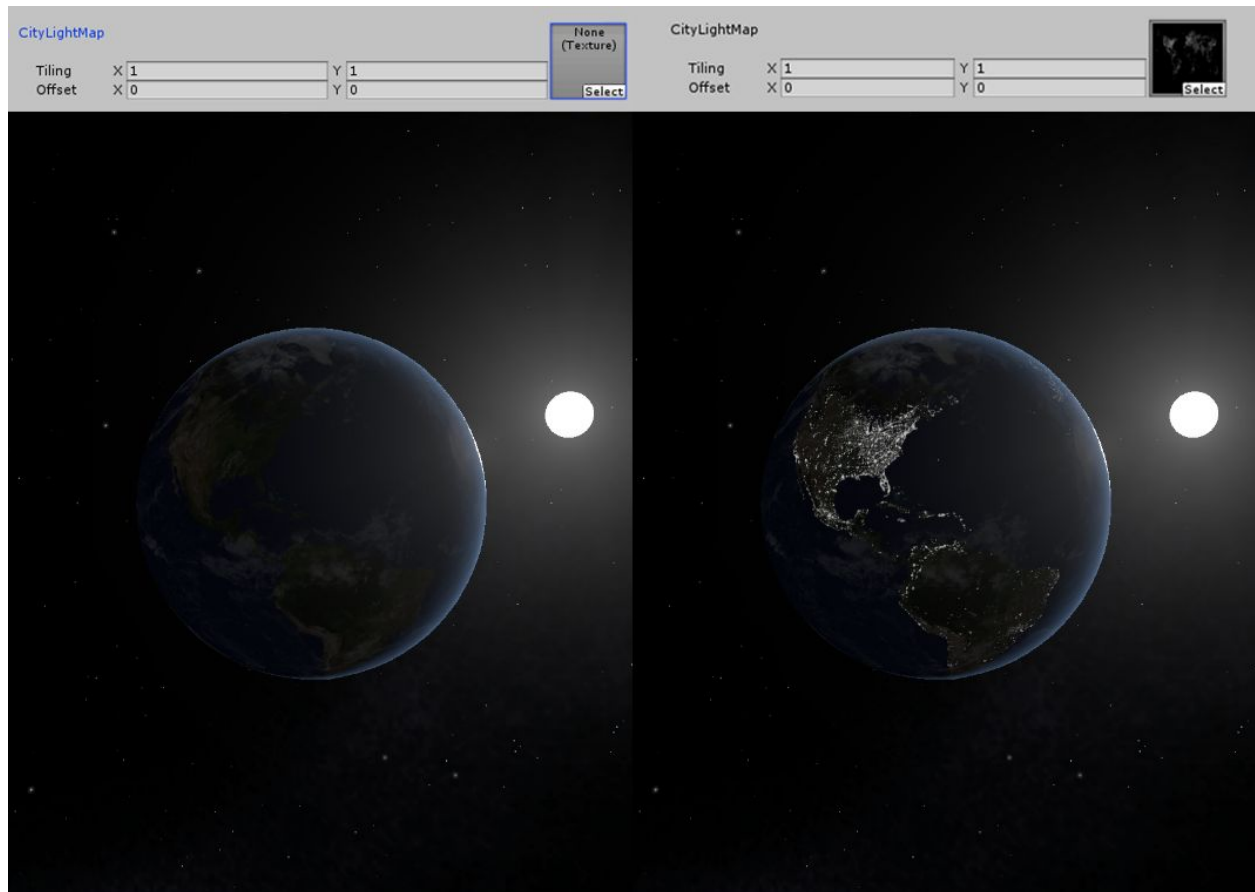
CityLightColor

Use this to manipulate the color of the city light texture map.

CityLightIntensity

Use this to manipulate the intensity of the city light texture map.
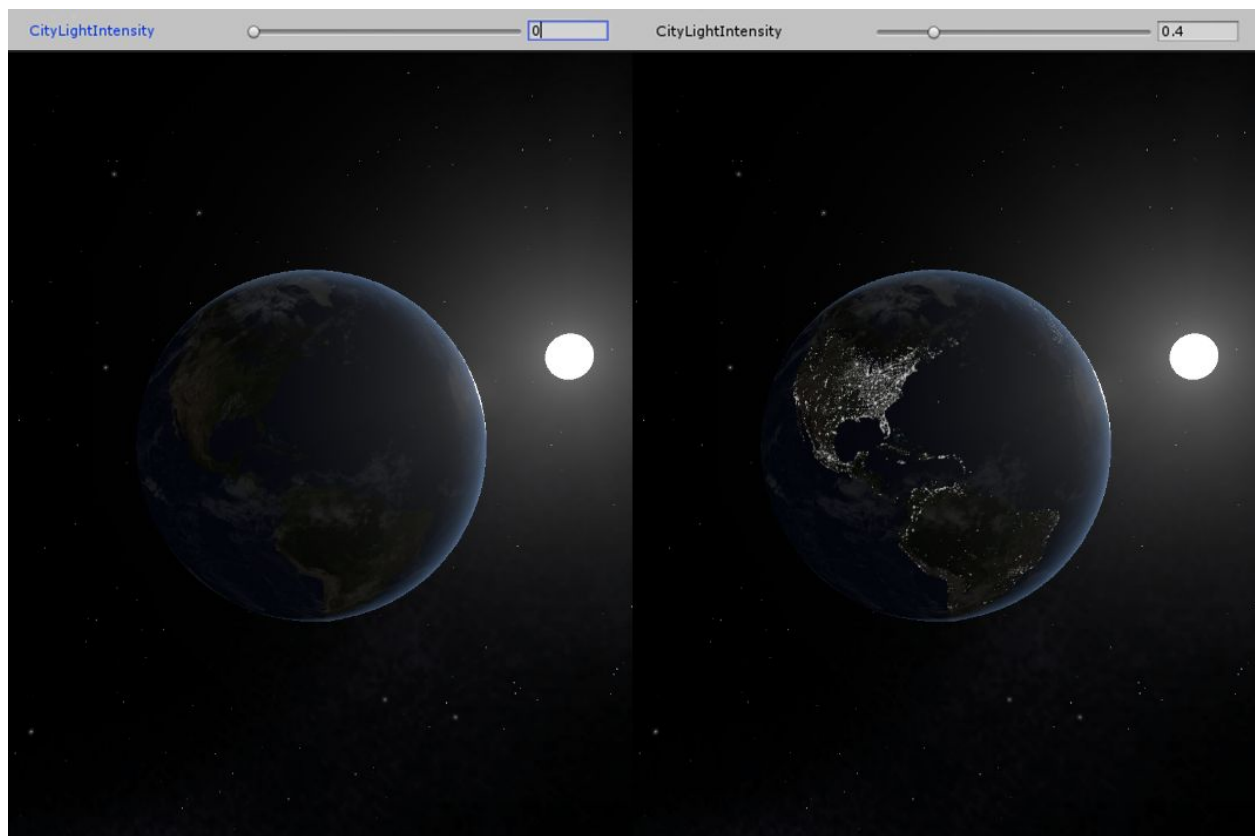
CLOUD

CloudMap (In Mobile Shader)
This is a texture that gets overlayed over the main texture. This is used for clouds that will move over the planet's surface. Black on the texture will be invisible.
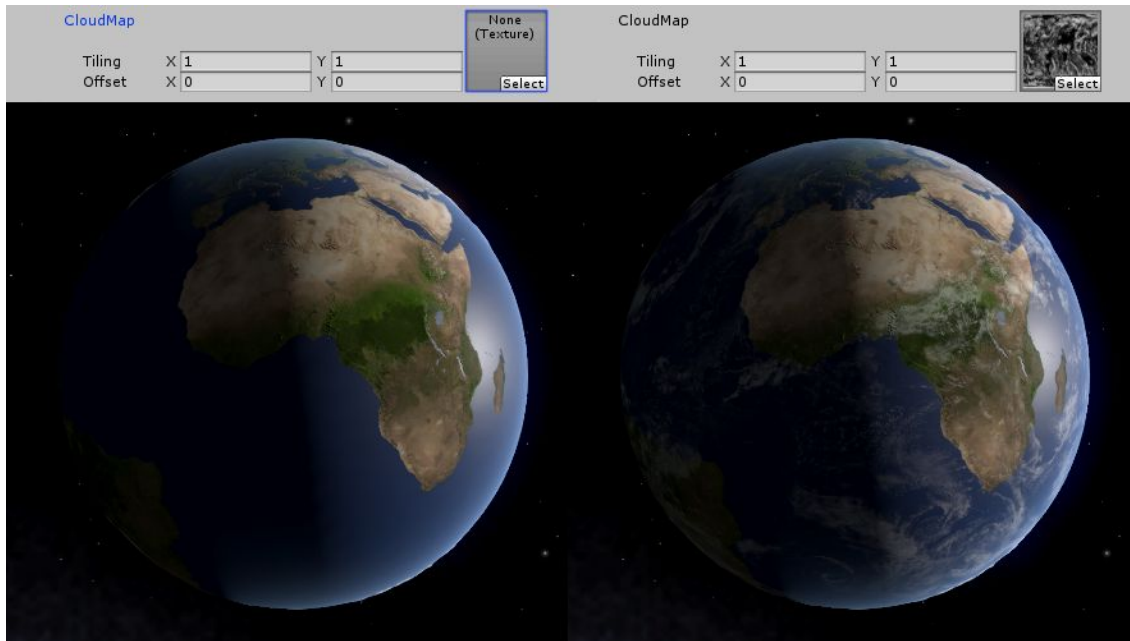
CloudColor
Use this to manipulate the color of the cloud texture map to whatever you desire.
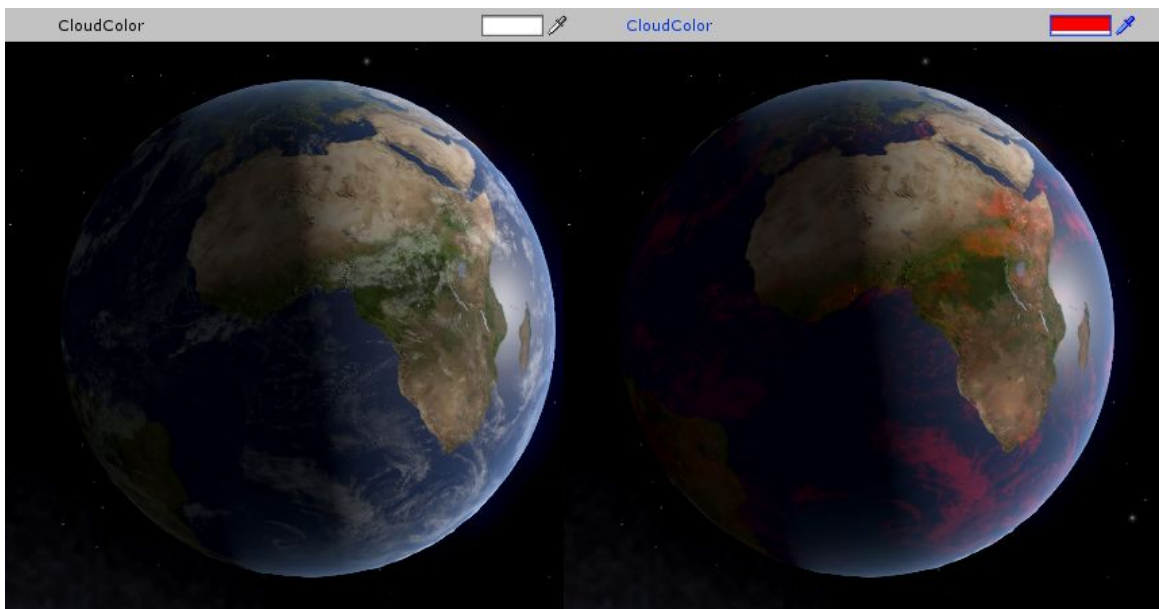
CloudMapSpecularity (In Mobile Shader)

This is used to change the cloud map's specularity individually from the planet's surface.

SPECULAR

SpecularMap (In Mobile Shader)
This is a texture that is used to give the material information on the specularity of the texture. Black means the material will is not smooth and will reflect light less, while white means the material is smooth and will reflect light more.
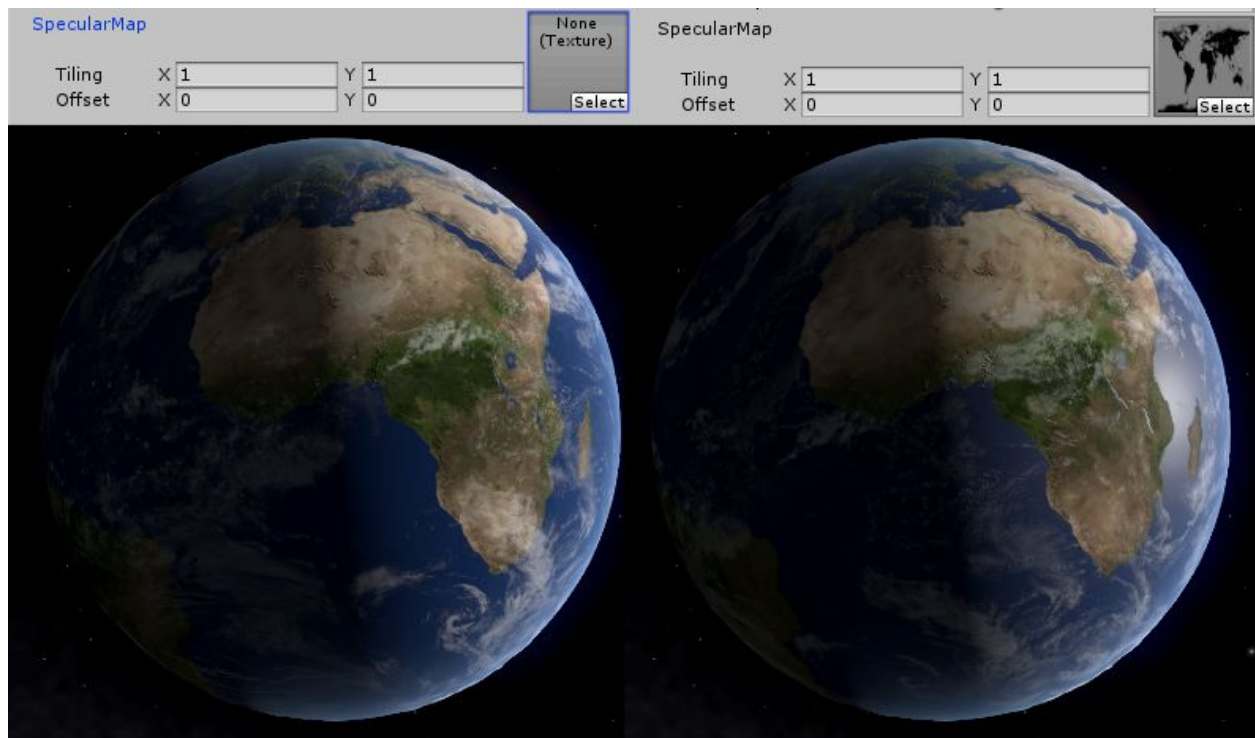
SpecularMapIntensity
The higher this value is, the more intense the specular map will be. 0 will set the specular map to all black, while 2 will set the specular map to double the values in the specular map provided.

Smoothness (In Mobile Shader)
The higher this slider is, the more smooth the lightened areas in the specular map will be.

NORMAL

NormalMap (In Mobile Shader)
This is a texture that is used to give the material a sort of bumpiness. The information in the texture is used to properly shadow and lighten the material depending on what direction a light is at.
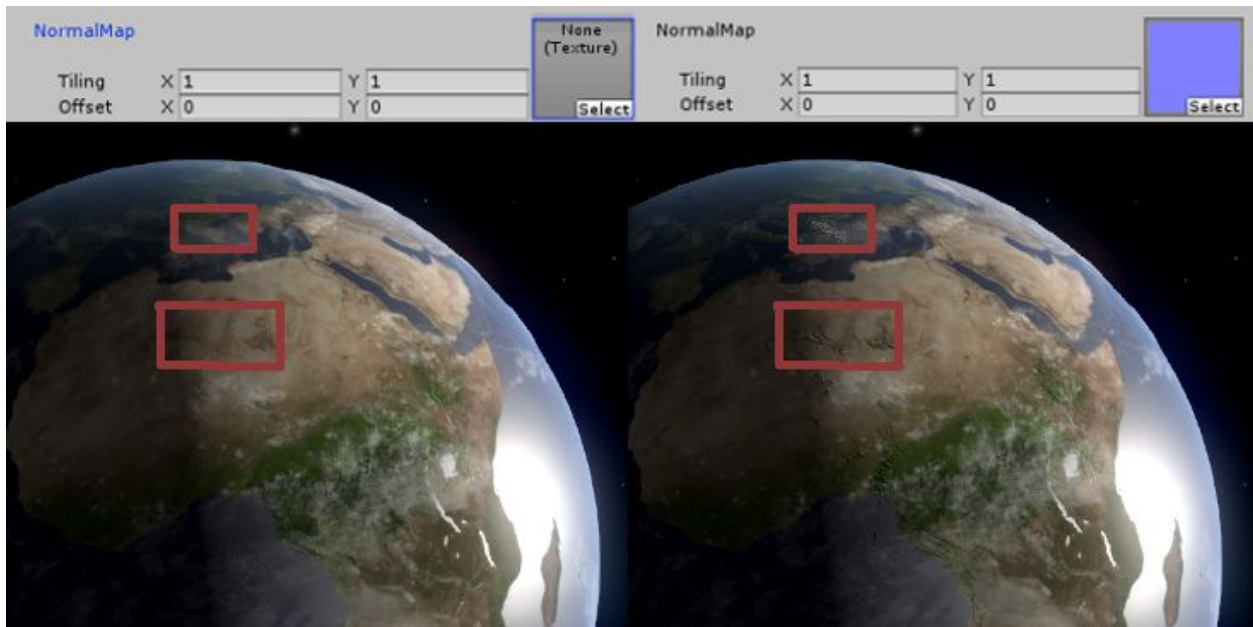
NormalMapIntensity
This is a value that changes the intensity of the normalmap. The higher this value is, the more bumpy and extreme your normalmap will appear on the material.

HEIGHT

HeightMap

This is a texture that is used to change the vertex position of the planet's mesh. This can be used to give the planet actual bumpiness, as opposed to normalmap's, which fake it. For this texture, black indicates lower elevations while white indicate higher elevations.
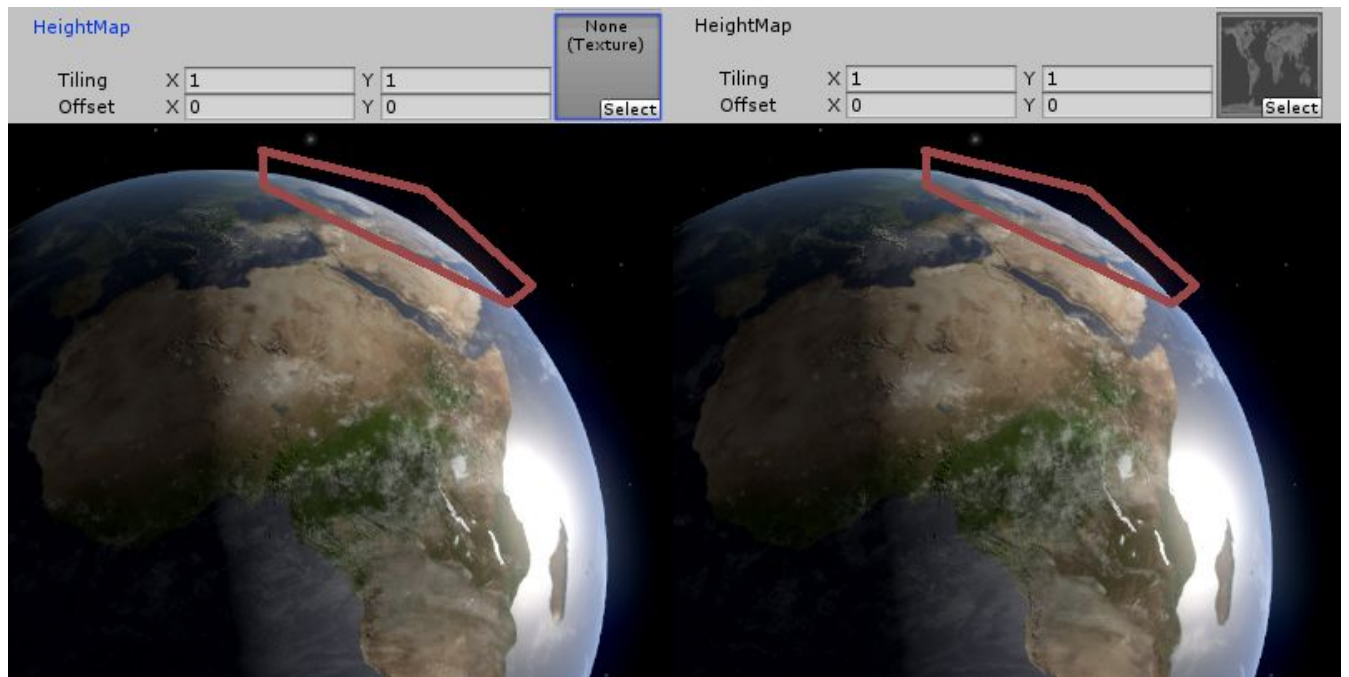
HeightMapIntensity

This value changes the intensity of the heightmap. The higher the value is, the more extreme and bumpy the terrain will be. A value of 0 will be comparable to having no heightmap at all.

ATMOSPHERE

AtmosphereColor (In Mobile Shader)
This value sets the color of the atmosphere. A color of black will turn the effect off.
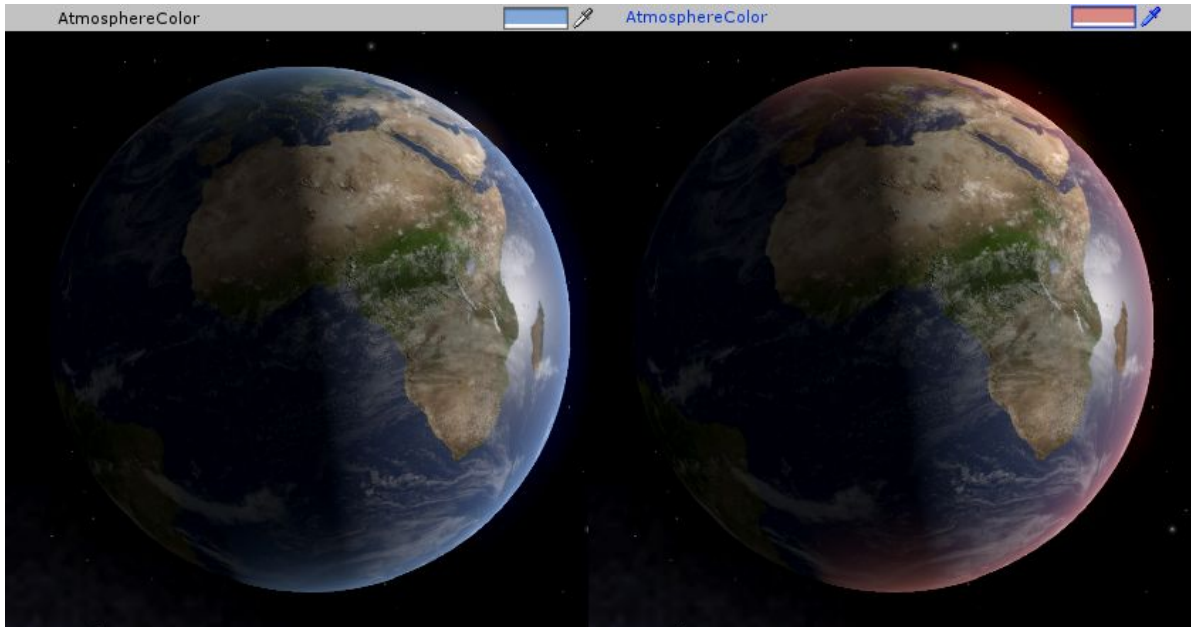

AtmosphereDensity (In Mobile Shader)
This value sets the density of the atmosphere. The higher this value is, the more prominent the atmosphere will be. This value is best being really high for planets similar to Earth or for gas giants such as Jupiter or Saturn.

LightStretch (In Mobile Shader)

This value is used to determine how the planet will look when looking at the shadowed part of it. The higher this value is, the more light will leak around the sides, making the atmosphere feel more prominent.
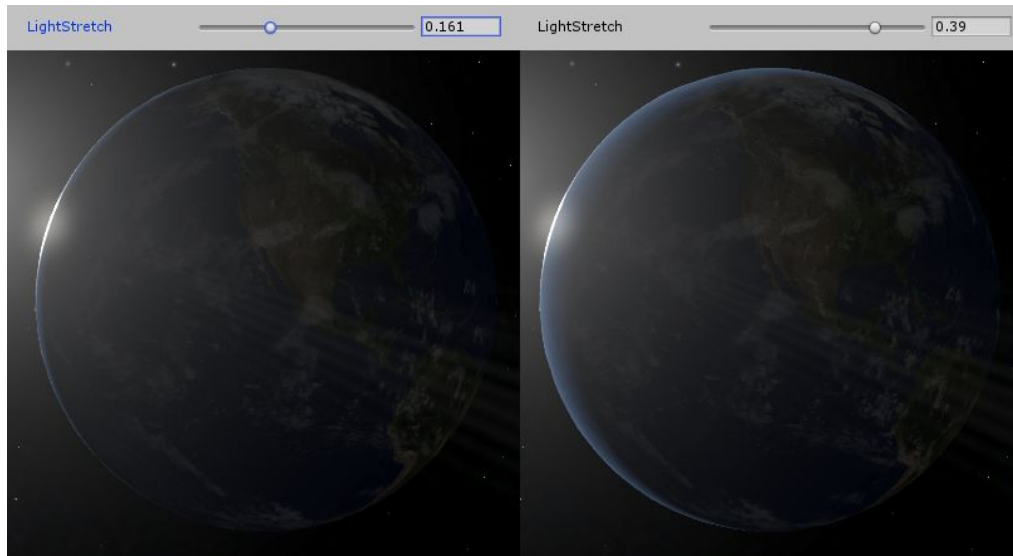
MOBILE VS STANDARD SHADER

There are a few signature differences between the mobile shader and the standard shader that will be listed here:

- The shader does not use Physically Based Lighting, instead going with a simplified Blinn-Phong lighting model.
- The mobile shader does not include options to change texture colors or the intensity of normalmaps.
- Heightmaps have been removed from the more shader entirely for less complexity.
- Many variables in the shader now use half or fixed point precisions rather than the float precisions for the standard shader.

STANDARD   **MOBILE**
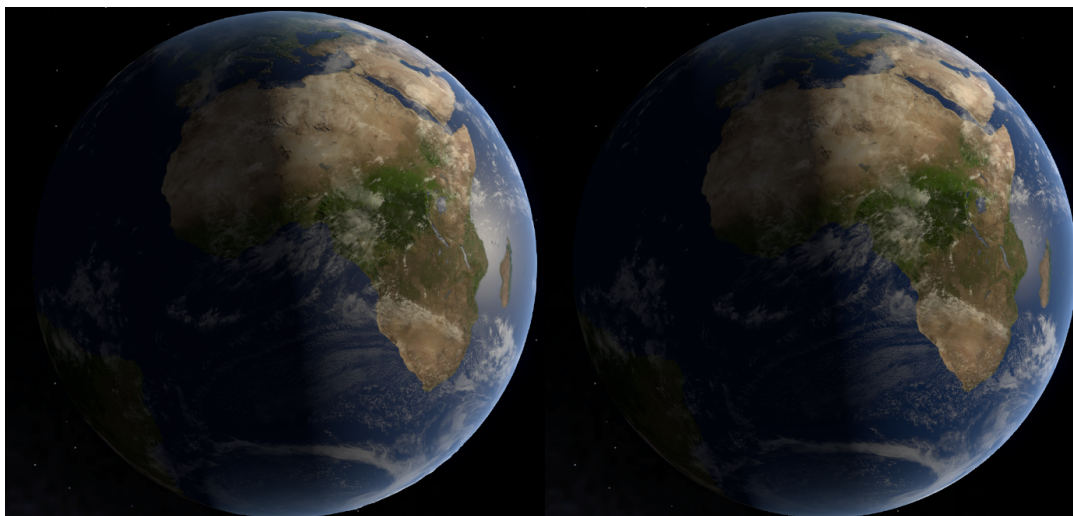
THE RING SHADER

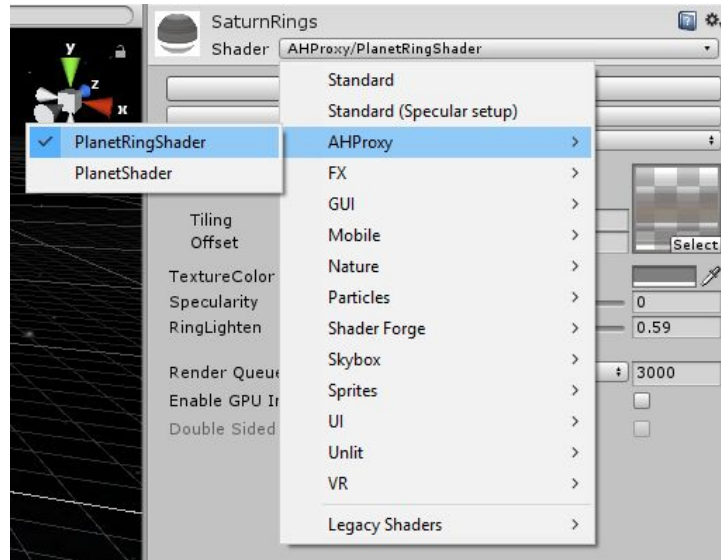Compared to the planet shader, the ring shader is much less complex and easier to understand.

In order to use it, go through the same steps mentioned with the planet shader. Click on the taskbar to change the shader of a material and go to "AHProxy." Instead of choosing the planet shader, though, choose the "PlanetRingShader."

TextureMap
Similar to the planet shader, the texture map is the main texture that will be displayed on your rings. The shader does support transparency, so textures with different alpha levels can be used.

TextureColor
This value will manipulate the color of the texture.

Specularity
This value will change how the rings react to light.

RingLighten
This value will lighten up the rings, giving the rings some ambient light. Without it, the side of the rings facing away from the sun will be completely black if your ambient levels are low.

SUPPORT

If any assistance is needed, feel free to contact me through the following channels:

Forum: https://forum.unity.com/threads/customizable-planet-shader.575869/

Email: aahproxy@gmail.com

Again, thanks for buying the Customizable Planet Shader. I hope you enjoy it and find great use of the shaders.