GAIA

By Procedural Worlds

QUICK START GUIDE

Gaia is a system that enables rapid and precise creation of gorgeous looking Unity terrains.

Contents

Welcome!

Thank you for purchasing Gaia!

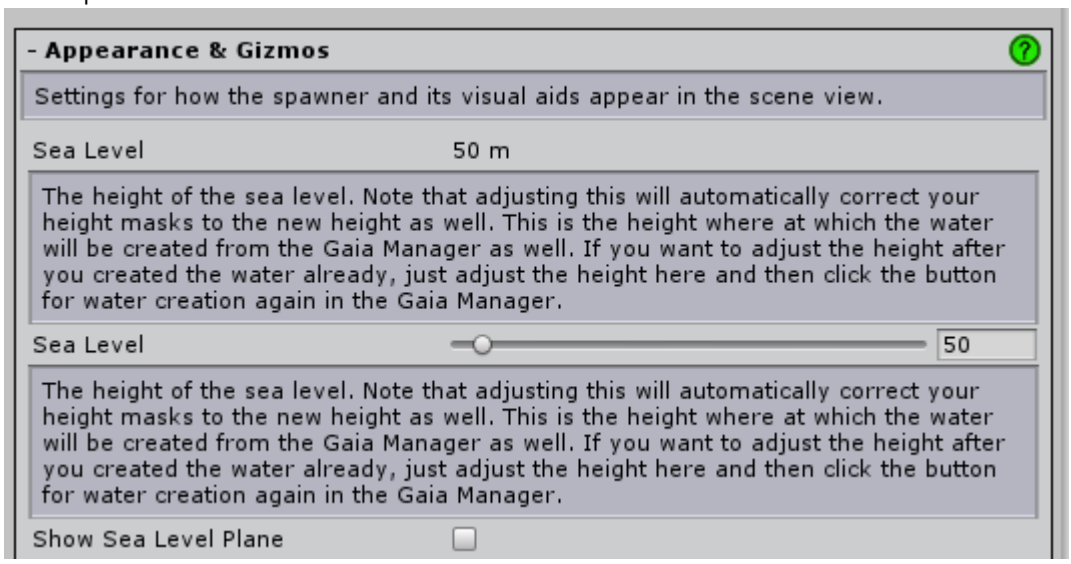
Gaia is a sophisticated tool with a lot of options and while you can go as deep as you like to create fully customized environments, you can also start easily and quickly.

To get up and running as fast as possible, please follow this quick start guide. We also have a range of tutorials on our web site at http://www.procedural-worlds.com/gaia/?section=tutorials-gaia-pro.

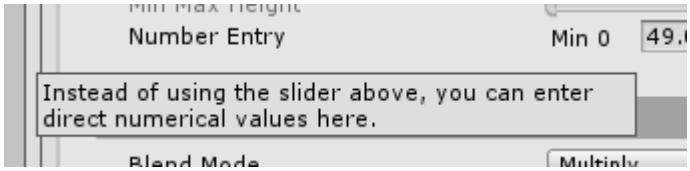
Help System:

Most Tools and User Interfaces of Gaia display a question mark help button in the top right corner: 

Clicking this button will display additional information on the UI, providing help for the input fields.



If you are not sure what an option in Gaia does, this would be the first place to check. Also note that all input fields use tooltips as well that you can see when hovering the mouse over the name of the input field:



PRO TIP:

Did you know that we also have a range of other products to enhance your environments in Unity? For example, with Gaia you can now use SECTR to stream large multi tile worlds - with massive performance increases!

Check out our other products on the next page to learn more!

About Procedural Worlds

At Procedural Worlds we create quality products that are easy to use, nicely integrated and well supported. We document our products and help you to get the best out of them and Unity with over 100 video tutorials on our YouTube channel. Your investment supports our team so that we can create better products sooner and provide you with timely support now. To learn more about us please check out our reviews and then come and say hello or ask a question on our discord channel.

Please Note: The links used in this section are affiliate links that will grant us an extra revenue share if you decide to make a purchase. Please consider buying via these links if you want to support us in what we are doing even beyond your purchase.

Our World Creation Products

Gaia - A world and scene generation system for creating, texturing, planting and populating scenes from low poly mobile, VR and through to high end desktop.

GeNa 2 - Nominated by Unity as one of the best assets of 2018, GeNa 2 is a sophisticated level design tool that augments Gaia's broad brush strokes, by working intuitively to give fine grained control in the placement of assets into your scene.

Path Painter - A tool to make terrain based roads, ramps, paths, and river creation and texturing a breeze.

CTS 2019 - Nominated by Unity of as one of the best assets in 2017, a PBR terrain shading system that significantly improves terrain look, performance and usability.

SECTR Complete 2019 - A suite of performance-enhancing tools that enable open world streaming, massive mobile games and includes the latest techniques in audio occlusion and propagation.

Our World Enhancement Products

Ambient Sounds - A tool that creates interactive soundscapes that also comes with professionally composed sound effects and music library.

Ambient Skies - An integrated Skies, Post FX and Lighting system that makes it easy to create visually beautiful scenes.

Real Ivy 2 – An awesome procedural ivy and plant generation system.

World Manager API - A FREE light weight command and control system for Unity 3D that manages all your environmental assets via one simple API.

Our Utilities

Pegasus - A system that can drive anything along a path. Great for cutscenes, and even has an intelligent driver that drives characters, formations, animation and even has local avoidance for your npcs and animals!

Learn more at our website here: http://www.procedural-worlds.com/

Tutorials, Chat, Ticketed Support

Still Stuck even after reading the quick start guide? You can contact us on our discord server: https://discord.gg/rtKn8rw

Or you can post on the Gaia Unity Forum thread: https://forum.unity.com/threads/gaia-aaa-terrain-generator-procedural-texturing-planting-and-scene-creation.327342/

Or lodge a Support Request: https://proceduralworlds.freshdesk.com/support/home

Migrating from Gaia 1

Gaia 1 and Gaia 2 / Pro are not directly upwards compatible - but it is possible to migrate scenes that were created with Gaia 1 into Gaia 2 / Pro so that you can continue working on your terrain with the more advanced tools. Please visit this page for information on how to migrate from Gaia 1 – we will constantly update this guide with the newest information / customer feedback:

https://proceduralworlds.freshdesk.com/support/solutions/articles/33000252032-migrating-a-gaia-1-scene-to-gaia-2-pro

Setup

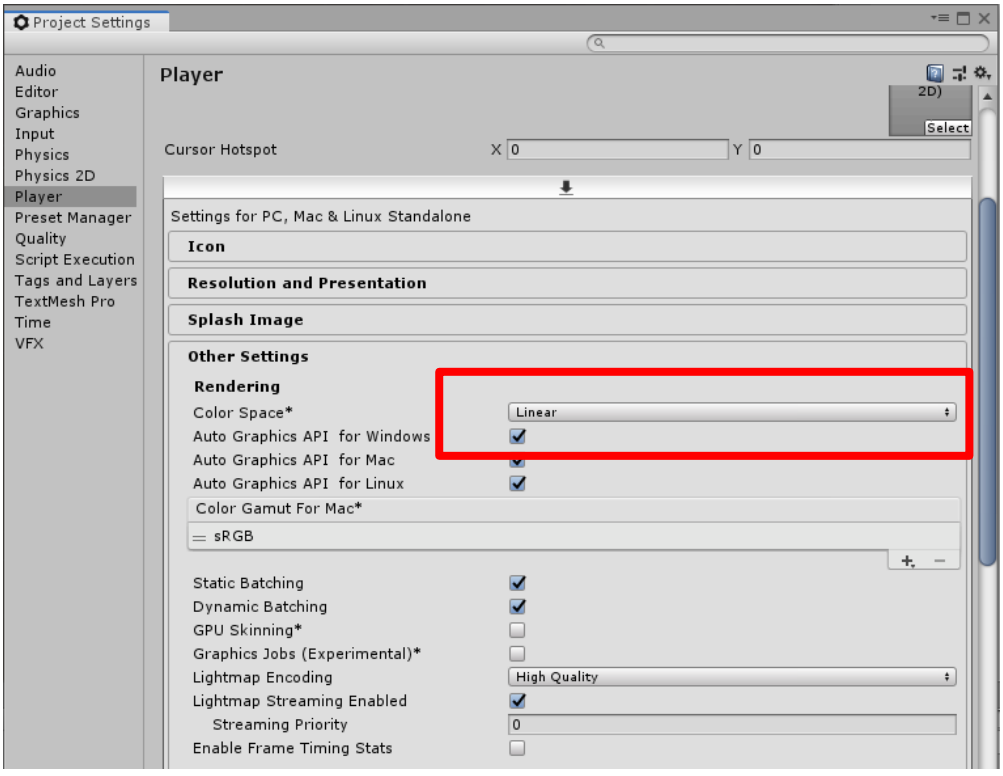
Before you start out with Gaia, please look through these steps to make sure Gaia is correctly installed in your project. While these instructions may seem long, the most text here is more informational, the actual doing is just a few clicks.

1. Create a new project in Unity or open the project that you want to use Gaia in.

2. **<OPTIONAL>** In most cases you want to work in linear color space, and it can save you a lot of time to switch the color space to "Linear" in your project before importing Gaia (or any other unity package). By doing so, the included assets will be imported in the correct color space settings right away (opposed to being re-imported again later when you switch the color space after importing.)

   To find out more about color spacse please read the official information from Unity about this topic and decide which color space you want to use. Unless you are developing for Mobile or VR or have very special requirements, you usually want to choose linear color space.

   To switch color space, open
   Edit > Project Settings > Player
   and adjust the color space under "Other Settings"

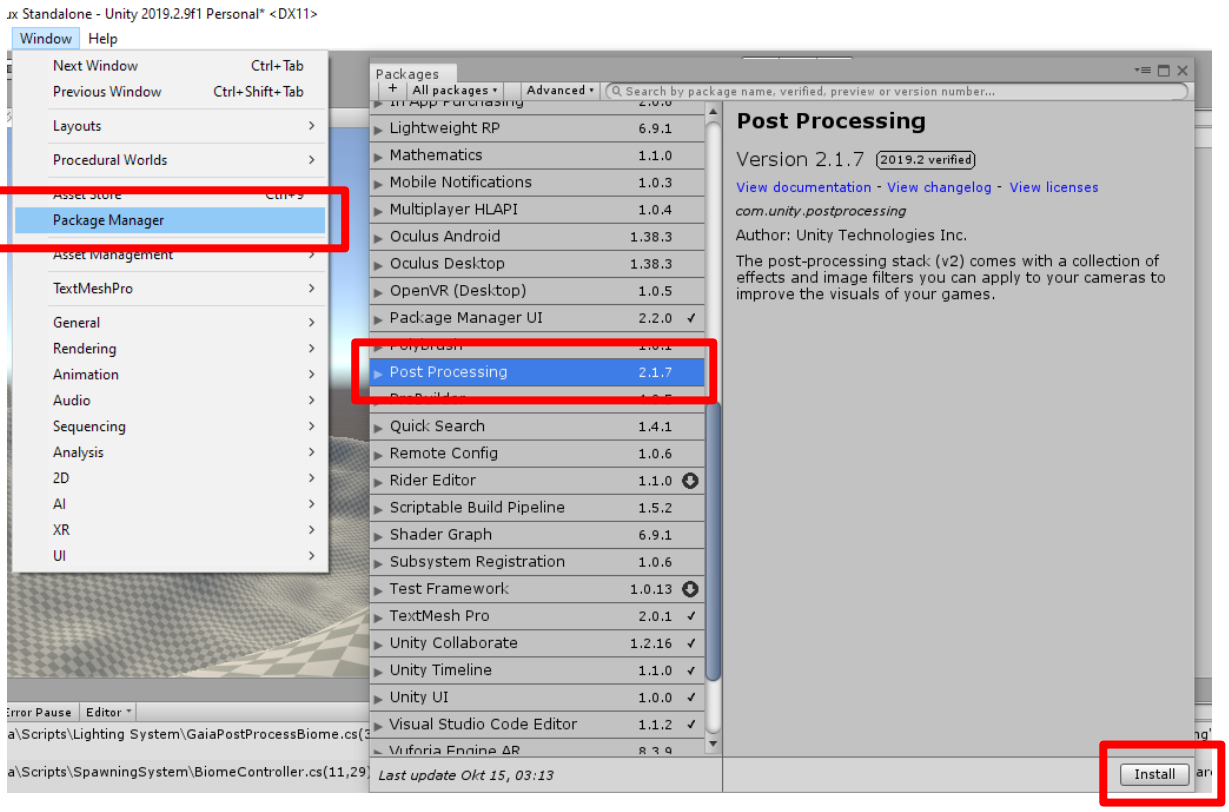


   Don't worry if you are unsure about this setting – you can always change the color space later in your project, but processing this change can take

a while.

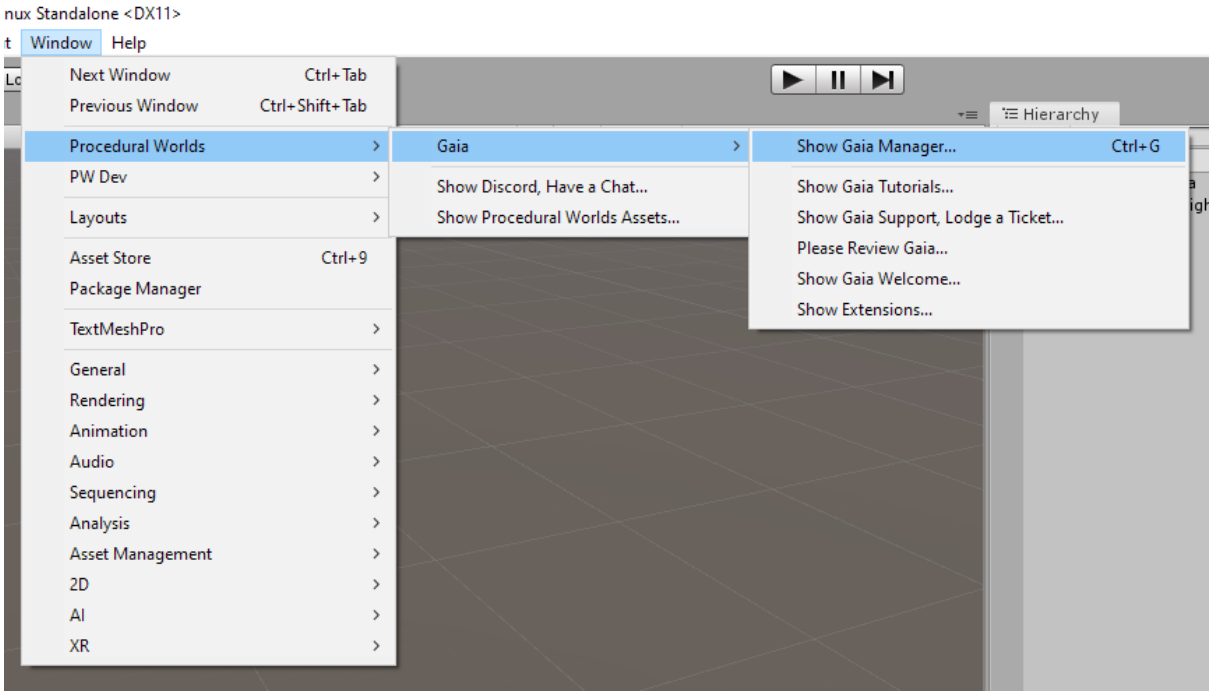
3. Install Gaia from the Asset Store as usual, if you are not familiar with using the asset store from inside the unity editor, please see these instructions.

4. **<OPTIONAL>** For a better experience with Gaia it is recommended to install the Post Processing Package from the package manager. This is entirely optional – Gaia will work fine without post processing installed, but then can't set up post processing in your scene, for underwater effects or in your biomes. To install post processing in your project, please open the package manager from Window > Package Manager and locate and install the post processing package:



This optional step is also not required when using HDRP as it comes with its own version of post processing automatically.

5. Your entry point to using Gaia is the Gaia Manager Window. After importing Gaia from the asset store, you can open the Gaia Manager Window from the Window Menu or by pressing Control + G:



If the Gaia Manager Menu entry does not appear: In 99% of the cases this is caused by compilation errors in the project. Please check your console for messages that might prevent the successful compilation of your project. In a fresh project this is very unlikely to happen, but in a larger, living project these errors can have many different causes. If you are stuck with a compilation error that you can't resolve, please contact support.

6. In **Gaia manager Standard Tab** if step 0 shows (**Set Linear Deferred**) click this to set your project's color space linear and your rendering path to deferred in order to get the best visuals and performance. This step only ever has to be done once in your project. If you performed the switch to linear before as mentioned in Step 2 this process will be very fast, otherwise it might take a bit to reimport the assets.

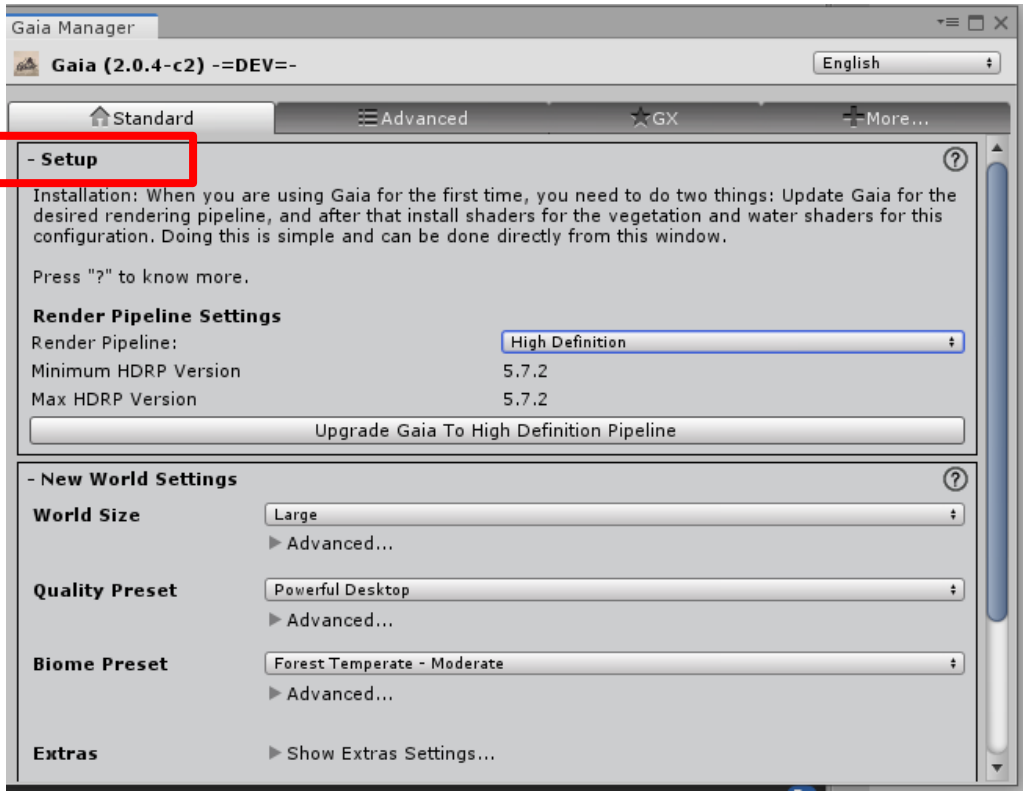
   NOTE: If you are gamma colour space you can ignore this step!

7. **<OPTIONAL>** Gaia comes with its own water and vegetation shaders which also support the Unity scripted rendering pipelines (SRPs). These are commonly known under the terms

   HDRP – High Definition Rendering Pipeline
   LWRP – Lightweight Rendering Pipeline
   URP – Universal Rendering Pipeline

   If you want to use one of these Pipelines, you need to set up Gaia for that specific pipeline. If you want to use Unity's built in rendering, you are done with setting up Gaia already.

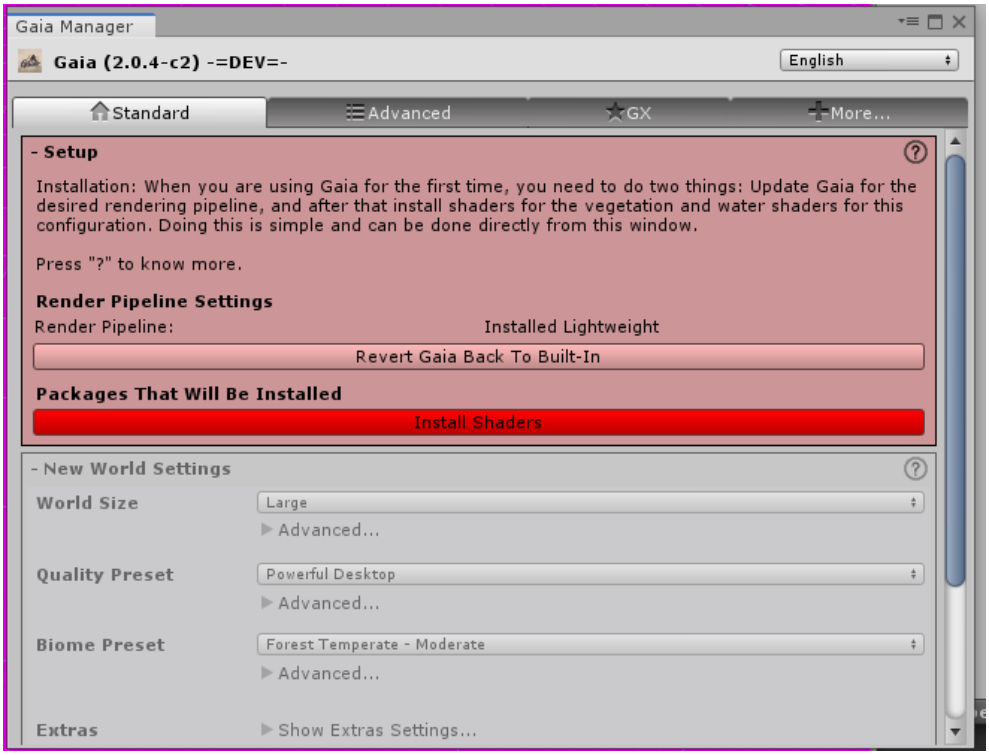
Supporting these pipelines can be challenging for asset store developers as we need to make sure that features like water use the correct shader for the correct pipeline for the correct unity / SRP version. To make this easier for you, we have mostly automated this process in the Setup Panel in the Gaia Manager:



In this panel you need to do only two things:

A) If you want to use a different pipeline than built-in rendering, select the pipeline you want to use and click the button to upgrade Gaia to this pipeline. This will change the Gaia tools and functions to the respective pipeline. This process can be reverted later as well. **If you want to use built-in rendering only, you don't need to do perform this step, Gaia is pre-configured for built in rendering after import already.**

B) After you have configured the rendering pipeline, click the "Install Shaders" button. This will install the shaders for both the water and the vegetation for the correct unity version and the pipeline you selected above. If the correct shaders are already installed, this button will not appear.



The Gaia setup process is now done.

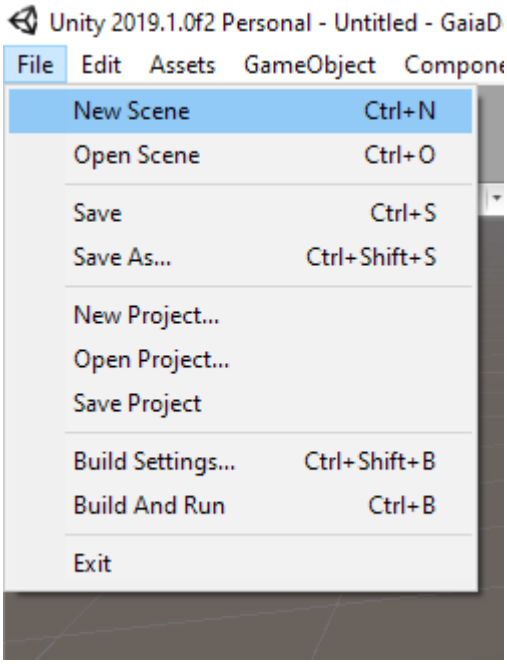
Please note: Using the SRPs is not recommended for Unity beginners as using those pipelines come with their own challenges and limitations you need to master. Doing so while just starting out with Unity will make your journey more difficult than it needs to be.
If you decide to use the SRPs please note that all materials you use beyond the Gaia vegetation items and the water need to be compatible with your target pipeline. Gaia cannot set up materials from other asset packs or convert shaders written for a different pipeline automagically for you.

When you are switching pipelines it is possible to revert back to built-in rendering later and then switch to another pipeline again.

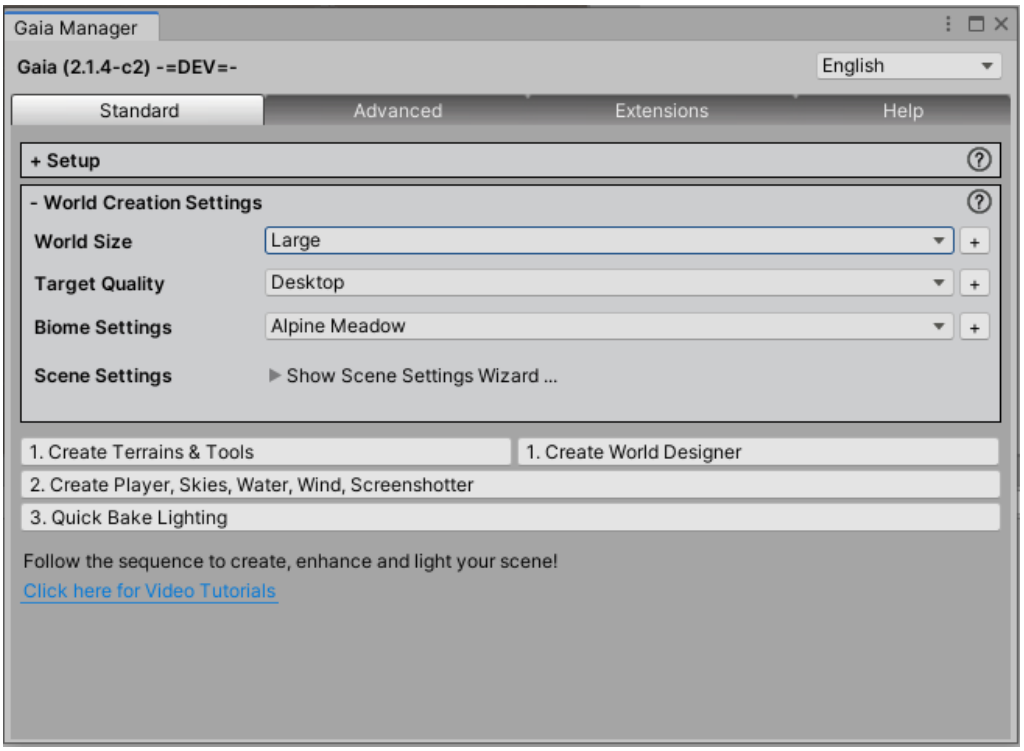
Create your first terrain with Gaia – in just a few clicks!

In this scenario we will use Gaia to generate an entire new scene using a simple heightmap stamp and a biome preset – this will create an entire terrain for you in just a few minutes.

1. Create a new scene. To create a new scene, select **File -> New Scene** or **Ctrl + N**.

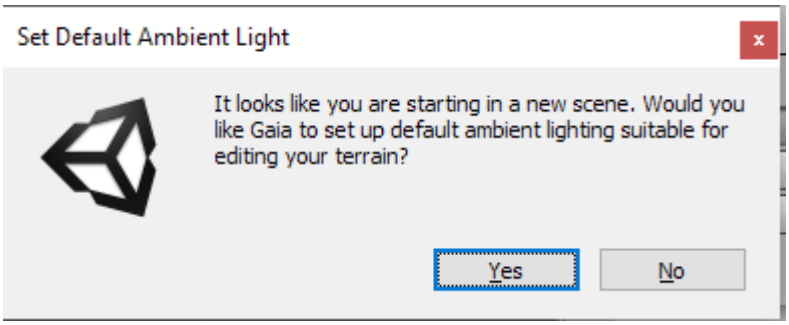


2. In your new scene, open the **Gaia Manager** by pressing Ctrl + G or the Window / Procedural Worlds / Gaia / Show Gaia Manager... menu entry.



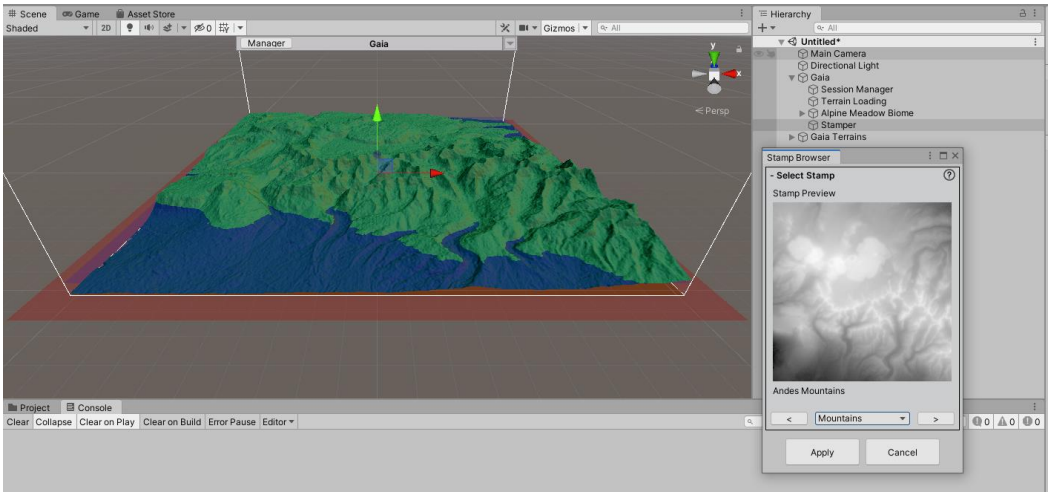
For your first attempt the default settings should just be fine – you can always start this process over to select a different terrain size or quality options later. Click on "1. Create Terrains & Show Tools" (The other workflow "Create World Designer" is described in its own chapter later down in this guide.

3. Since we started in an empty new scene, Gaia will ask us to set up a default lighting for editing. It is recommended to accept this, as this will add some ambient light to get rid off the ugly strong black shadows in a default unity scene. This will allow you to better see the terrain and the assets on it while editing.



4. You should see multiple things being added to the scene: A new terrain, created according to the world size and quality settings, but also various Gaia tools that will help you to shape and populate your terrain. By

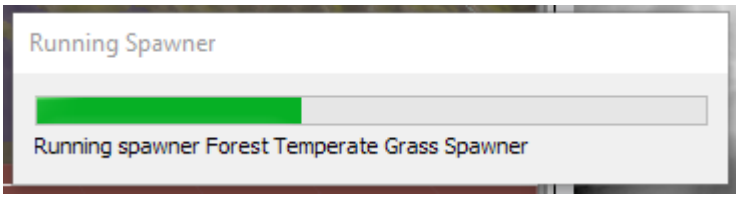
default, Gaia will select the stamper tool. The blue-greenish terrain you see in the scene view is not your terrain – it is more a real-time preview of the terrain shape we are about to create. You should also see a stamp browser window which allows you to quickly select one of the stamps ("terrain shapes") that come with Gaia.



5. To get a first impression on how the stamper and the preview works, try selecting a different stamp in the stamp browser by using the back and forward buttons and / or selecting a different stamp category. The stamper preview in the scene view should update immediately with your selection. Try to find a stamp that appeals to you, ideally it also allows a bit of water in the scene (deep blue in the preview) to be visible as well.

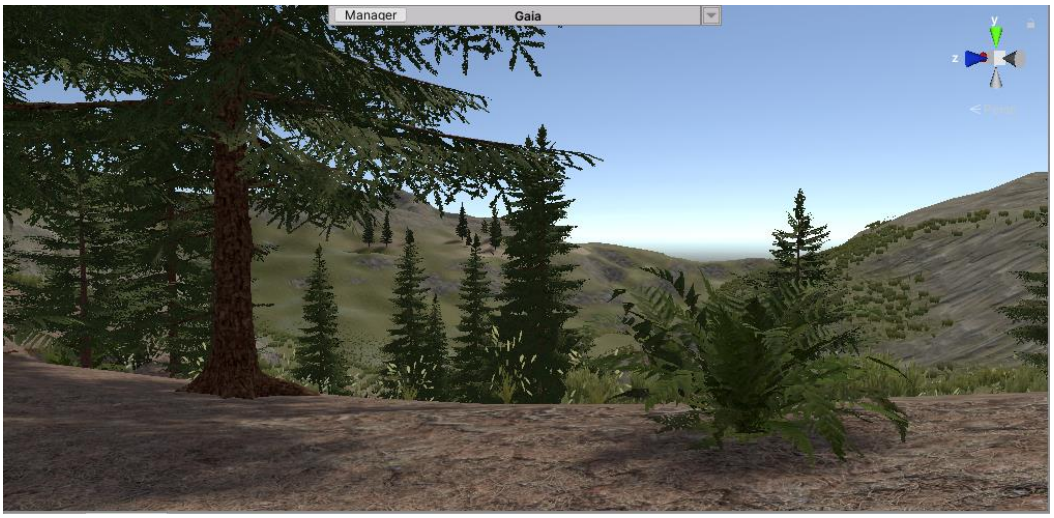
When you are happy with the selected stamp, you can click "Apply".

6. So now let's finish this! In the unity inspector you should have the stamper controls selected. Click "Stamp" at the very bottom of the Stamper and let Gaia do all the work for you. The following is happening now:



- The stamper adjusts the heightmap on the terrain to form mountains and valleys according to the stamp you selected
- When stamping is done, a couple of spawners will take care of automatically texturing your terrain and placing trees, grass or other objects on it.

When the progress bar in the center of the screen disappears and the stamper inspector window become active again, the stamping & autospawning process is complete and your terrain is done already. Zoom in in the scene view a bit and you should be able to see trees and grass on the terrain.

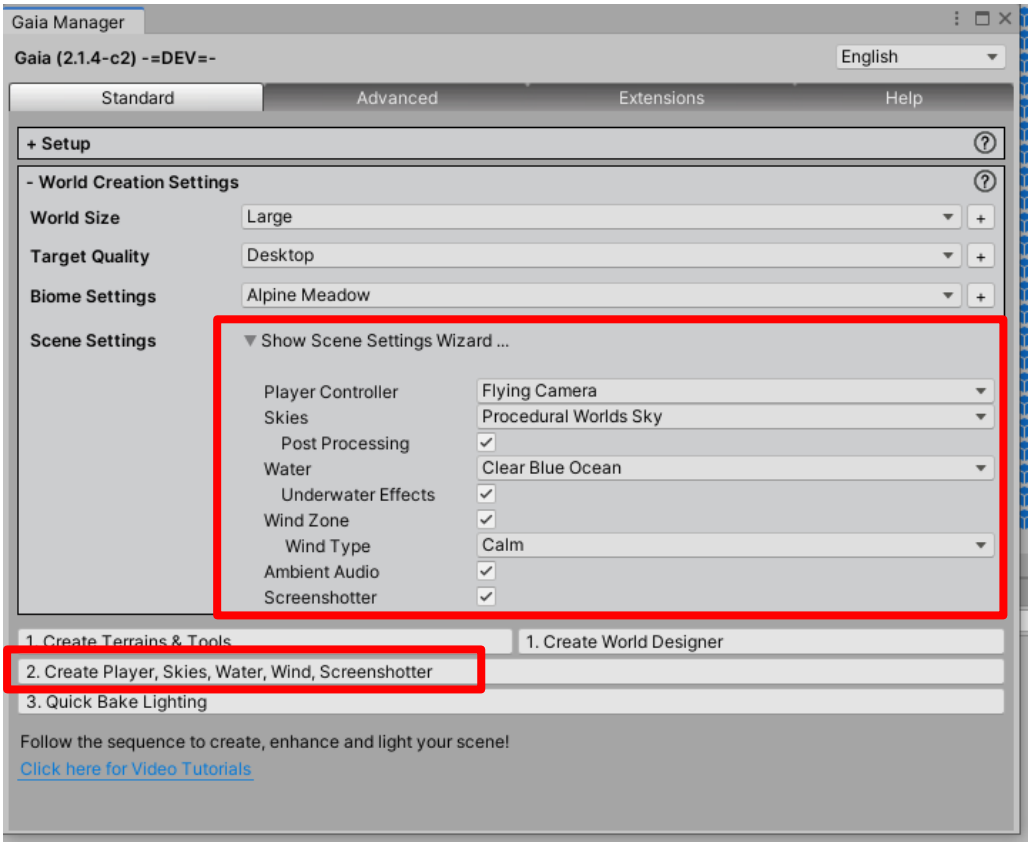


Now that you got your first terrain, let's take the final step to explore it in playmode as well.

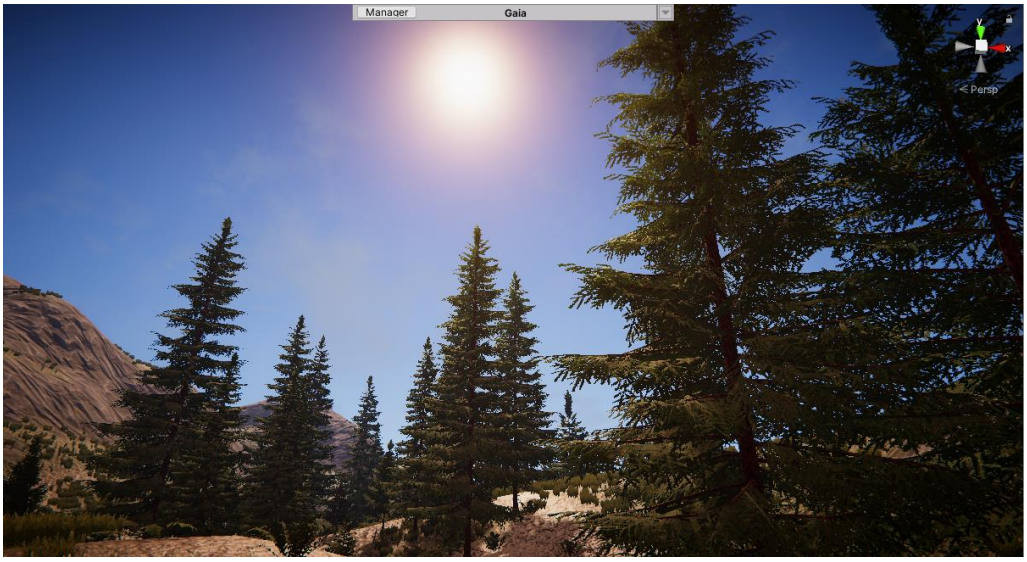
7. Bring up the Gaia Manager Window again. Click

   2. Create Player, Skies, Water, Wind, Screenshotter.

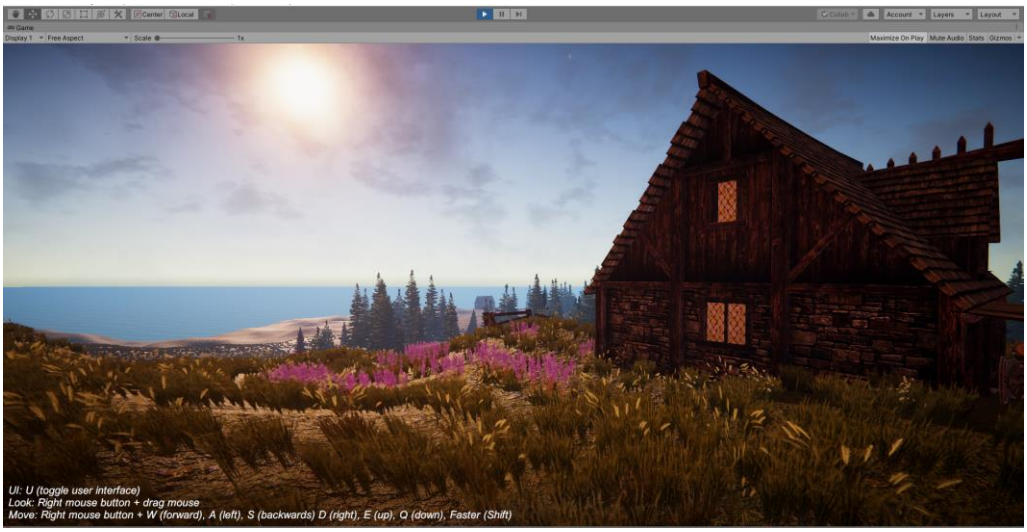
This will add a player controller,and various additional effects and assets to your scene (Skies and Lighting, water, etc.) If you have the post processing package installed, Gaia will set up a fitting profile for that as well. In the section "Show Scene Settings Wizard" you can see the available options for this step.



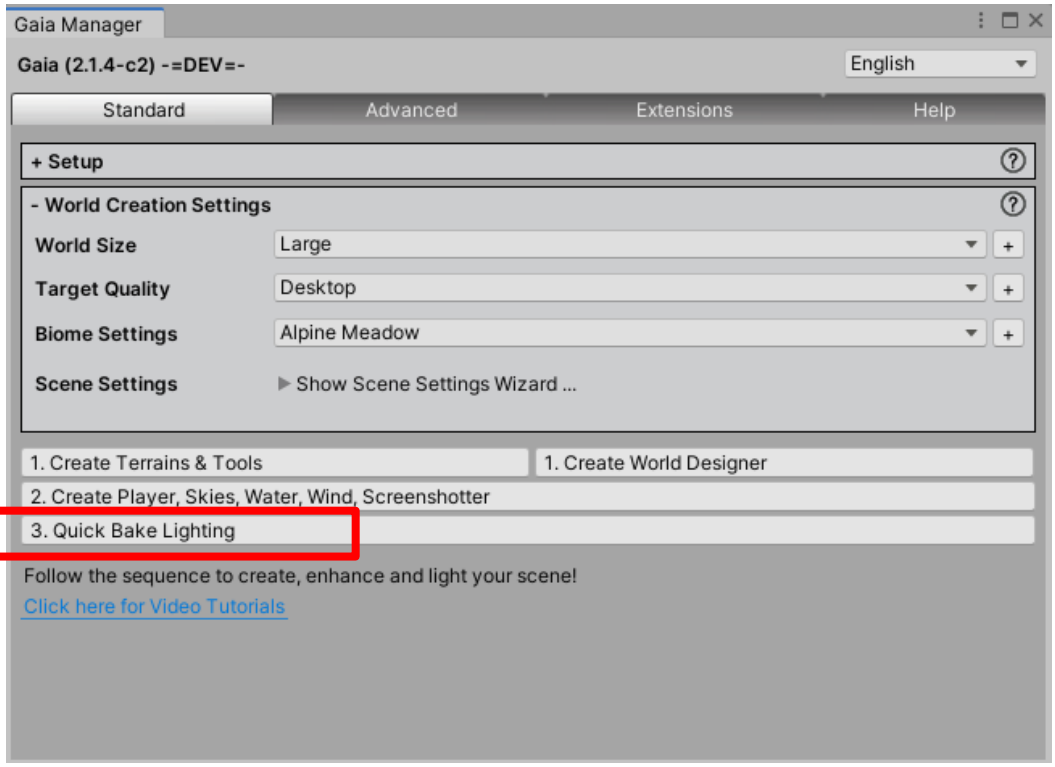
The result in the scene view after clicking the button(you might need to unselect any Gaia tools such as the stamper or any spawner so that post-processing effects kick in):



8. At this point your scene is now fully usable and you can click play to see it in action. Take a wander around hit **F12** when you find something cool! Then stop playing the scene when you have finished and look in the Screenshots folder.



9. One last thing: To get the best out of Unity you need to bake your lighting. To Bake your lighting open up the **Gaia Manager** Ctrl + G or Window / Procedural Worlds / Gaia / Show Gaia Manager... Then go to the **Standard Tab** and then click step **3 Quick Bake Lighting**, then click **Bake** on the popup window. This will take a short moment, but the improved visual fidelity is well worth it. You should bake light as the last step after any changes to your scene.

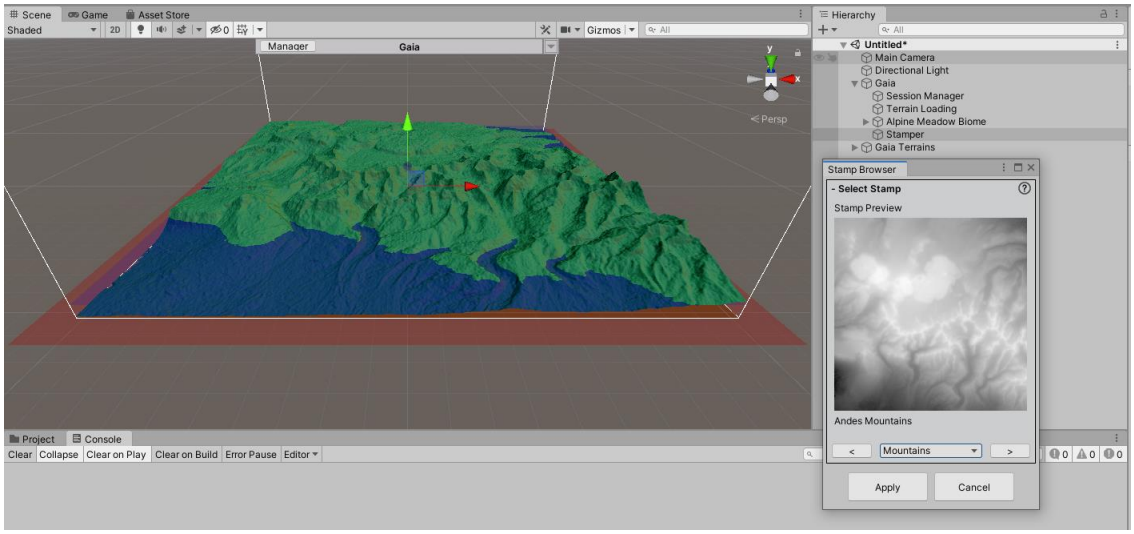


This concludes our first tutorial on making a quick terrain based on a single stamp and a biome preset. If you are curious, you can start over again, select a different stamp and a different biome preset to see what results you will get.

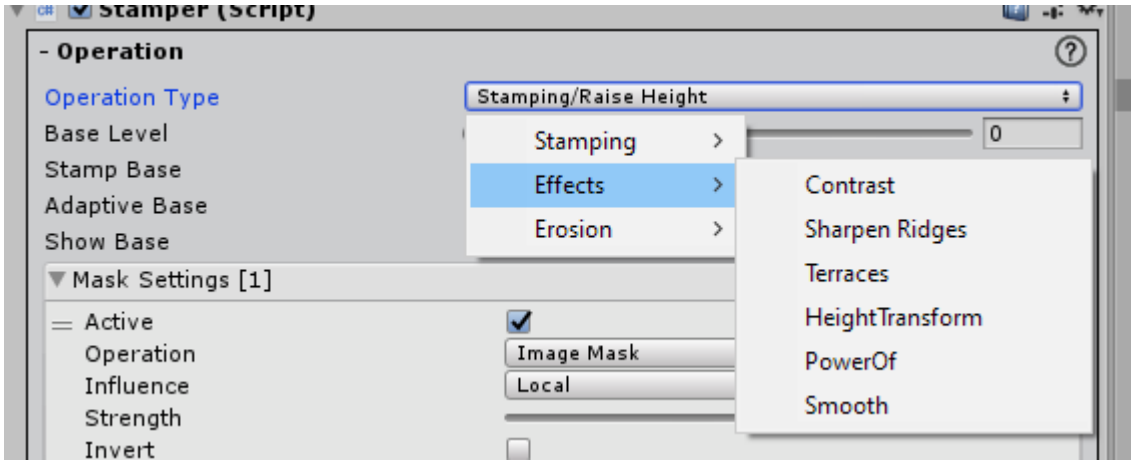
Please Note: This was only the quickest possible introduction to Gaia and we skipped a lot of the steps that a more experienced user would take in Gaia, e.g. a more detailed terrain sculpting process, and building their own set of spawners according to their design goals.
You are not restricted to using a single stamp and then having to live with the result Gaia generates – You can use multiple stamps to form your terrain and control every aspect of the spawning process to populate the terrain so you can get exactly the result you want.
Of course you can also add your own assets to Gaia to spawn them on your terrain in the same fashion as we just experienced.

Diving deeper – a more thorough look at the Stamper and the Spawner

In this section we take a closer look at the two most important Gaia tools, the Stamper, which allows you to shape your terrain, and the Spawner, which populates those terrains after stamping. Ideally you open a new scene and bring up the stamper via the **1. Create Terrain and Show Tools** button in the Gaia Manager so you can follow along with the description here.

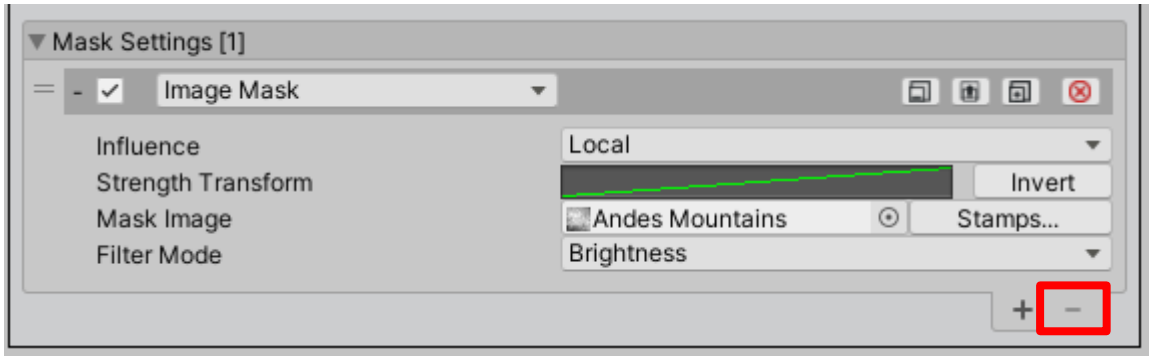


We previously only used the stamper to stamp a simple terrain feature across the terrain – but the stamper can do far more than just stamping. At the top of the stamper you will find the operation type.

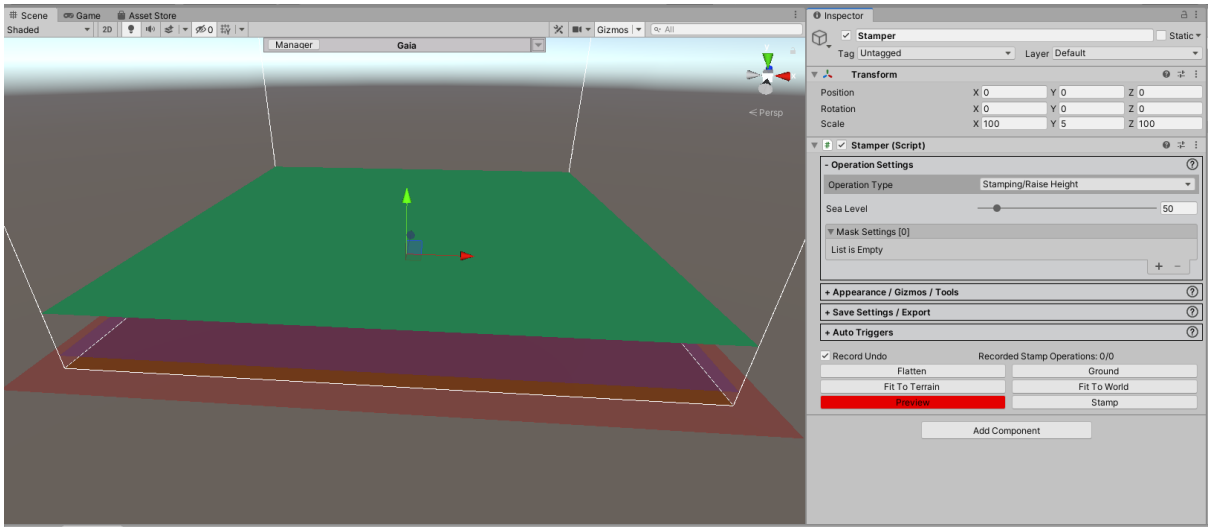


The stamping operations are used to transform the height of the terrain (usually with the help of the stamp images), the effect and erosion section alter existing terrain to make it more appealing. Note that you need to have an existing terrain with mountains and valleys first before you can use the effects and the erosion – otherwise these effects will have no impact on the terrain.

Another important thing about the stamper is the mask stack. These masks allow you to control the operation that you are about to perform. Masks are a recurring element in Gaia, you will find them in the spawner and other features as well. To better understand how the masking system works, select the standard "Stamping / Raise Height" operation, and then remove all masks from the mask stack with the small "-" button at the bottom of the mask list. (Click in the mask settings to select the mask entry, then "-" to remove)

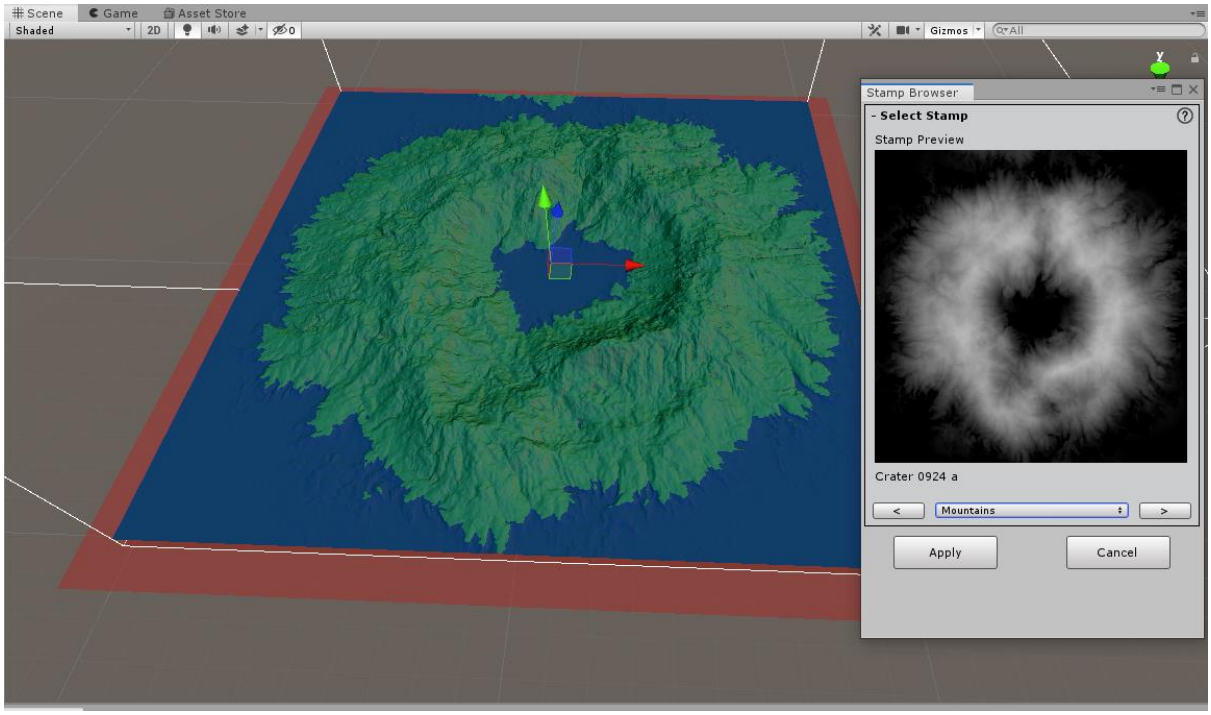


When the mask stamp is empty, you should see the "pure" Raise Height operation, which looks something like this:



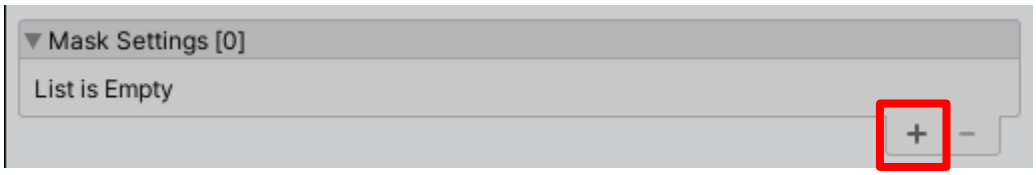
All that "Raise Height" does by itself, is to raise the terrain to the height of the transform Gizmo in the scene view. You can try dragging the green Y-Axis arrow around and the plane should follow the Gizmo. If you would stamp now, the terrain would end up flat just as you are previewing it.

But where do the terrain shapes come from when we were stamping before? Per default, the stamper is set up to use an **Image Mask.** An image mask influences the stamp result by applying an image over it where the brighter parts of the image represent the heights, and the darker part represent the lows. Here is an example, note how the black and white areas of the stamp image correspond to the terrain preview:

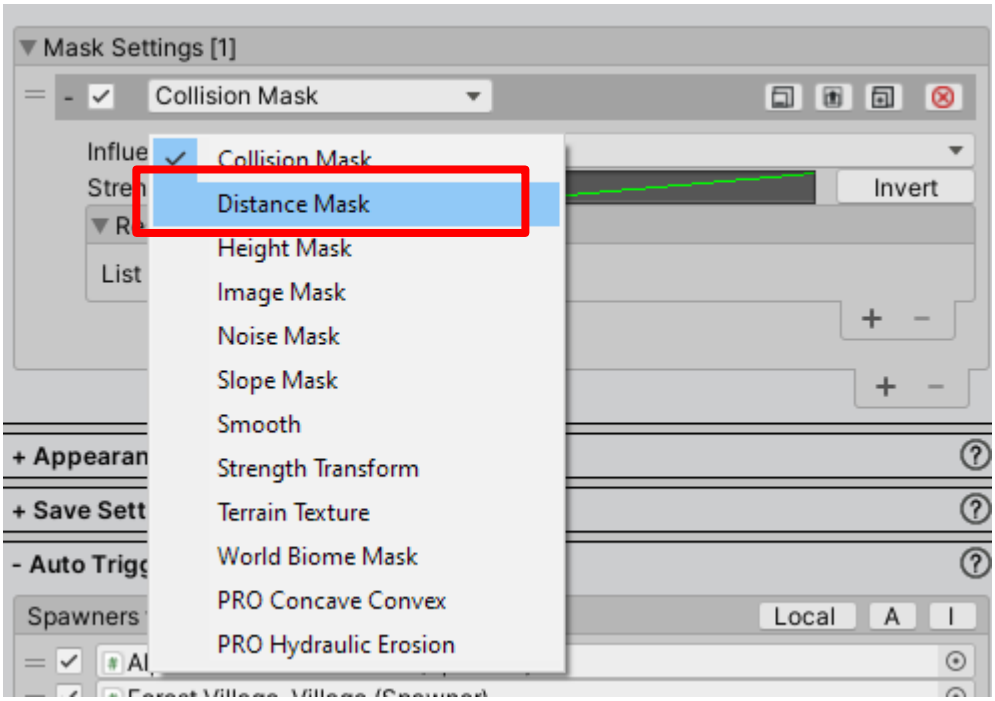


So this image reduces or "masks" the pure raise height operation down in the darker area – and the end result is that we are getting a terrain shape in our preview, and also in our stamping result in the end.

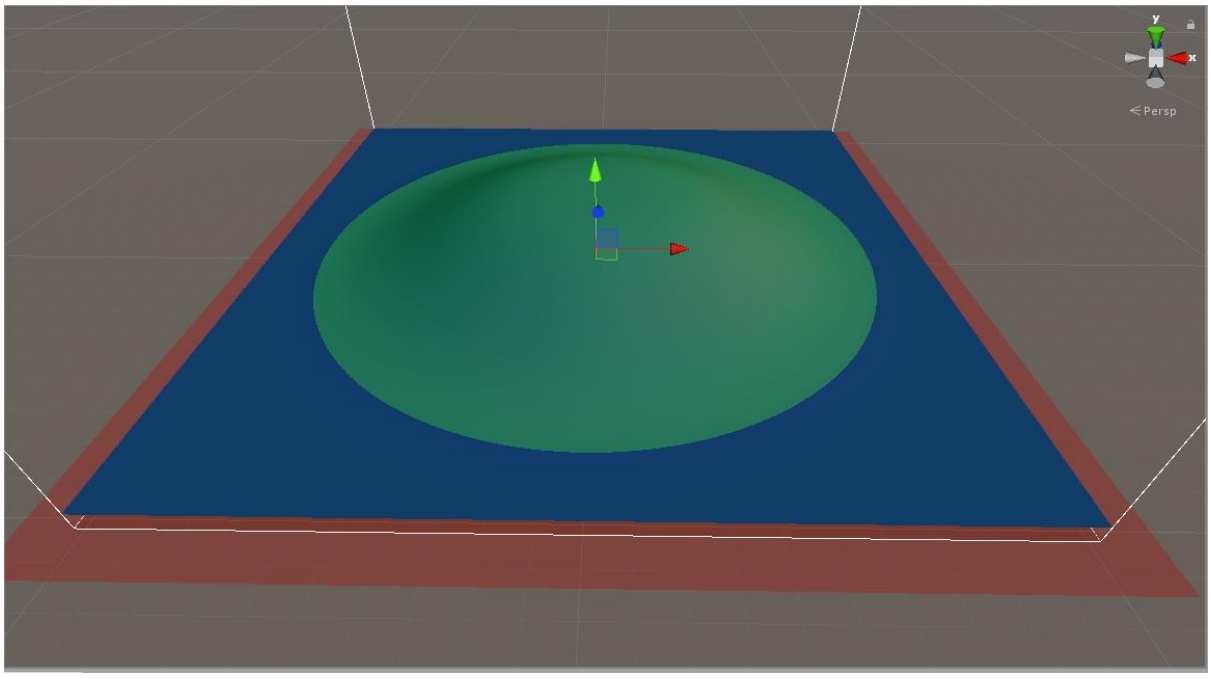
But there are more mask types that can influence an operation and can even be combined with each other. While the plain and pure raise height operation still is on your screen, try adding a new mask to the mask stack again with the small "+" button at the bottom of the list:



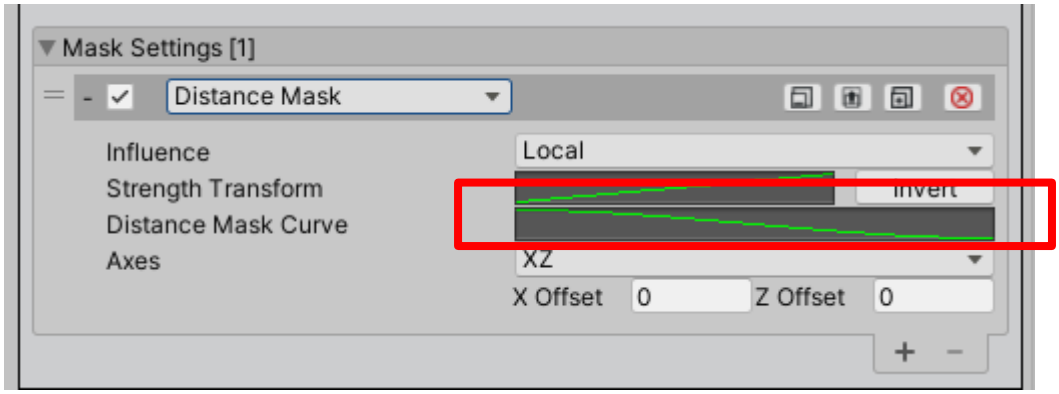
Per default, this new mask will be an image mask, we know that one already. Click the "Operations" dropdown to switch to a "Distance Mask" instead.



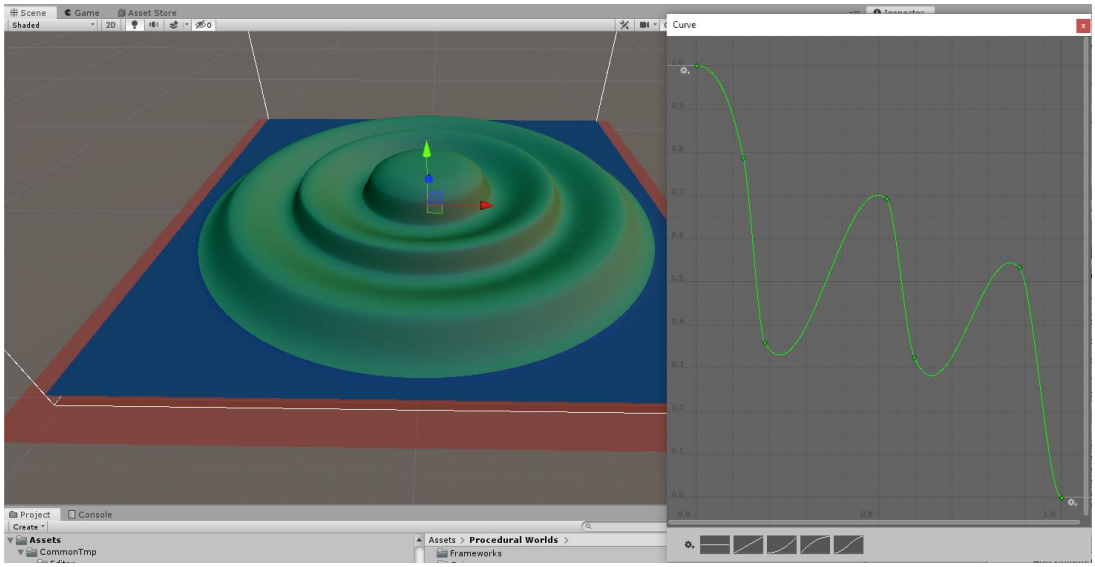
You should see this funny looking hill in your scene view now:



What is going on here? The distance mask also restricts the pure "Raise Height" operation, but does so with a different method: It uses a curve to define the strength of the operation from the center to the outsides of the stamper area. Try clicking in the distance curve window and play with the curve in the popup window.

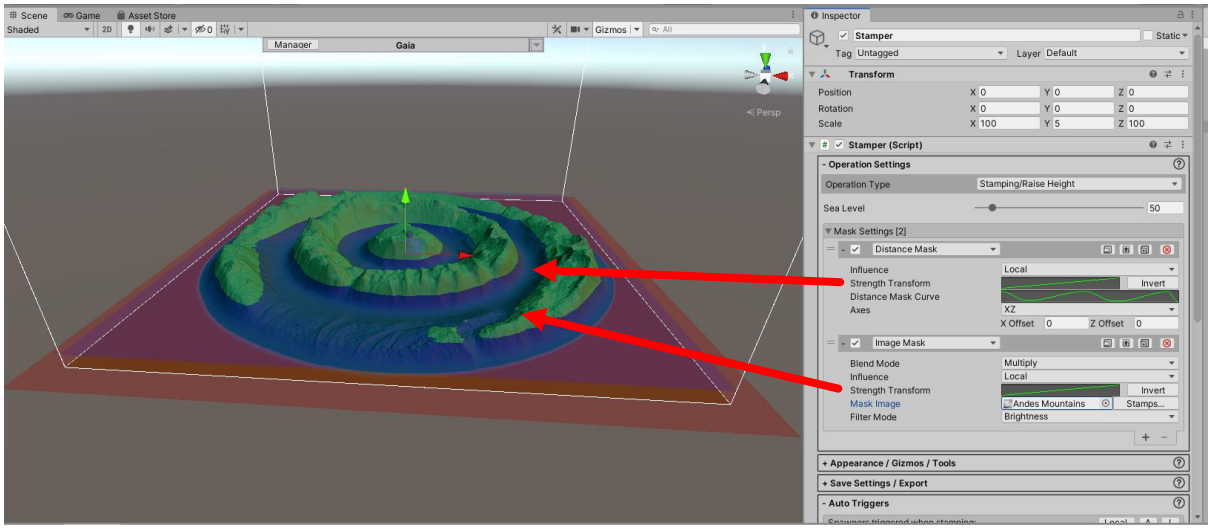


You should find that the stamp preview directly correlates to your curve:



And now the real interesting part, try to add another mask to the mask stack, **but leave the distance mask loaded in.** The second mask will be an image mask again by default, click the "Stamps…" button and load in an image from the stamp browser.

The result should be that both the distance mask and the image mask are combined together to influence the raise height operation:

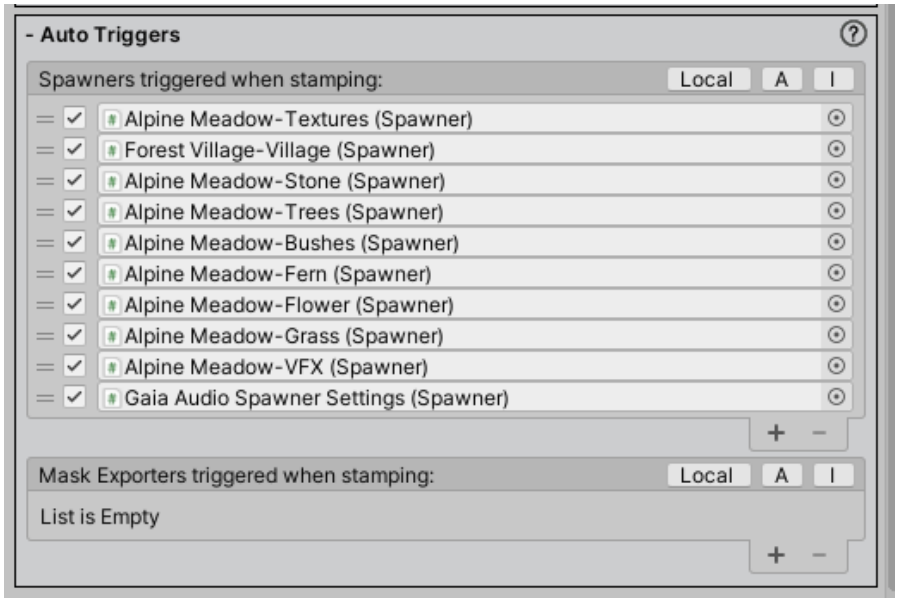


This is a very powerful feature in the stamper (and other parts of Gaia that use a mask stack): **By combining different masks and mixing them together, you can create a great array of visual effects and / or apply operations exactly where you want them.**

You want to add noise to your terrain, but only on slopes? No problem. You want to add a texture, but only at a certain height and distance to the center of the terrain, but also not when a tree is nearby? No problem.

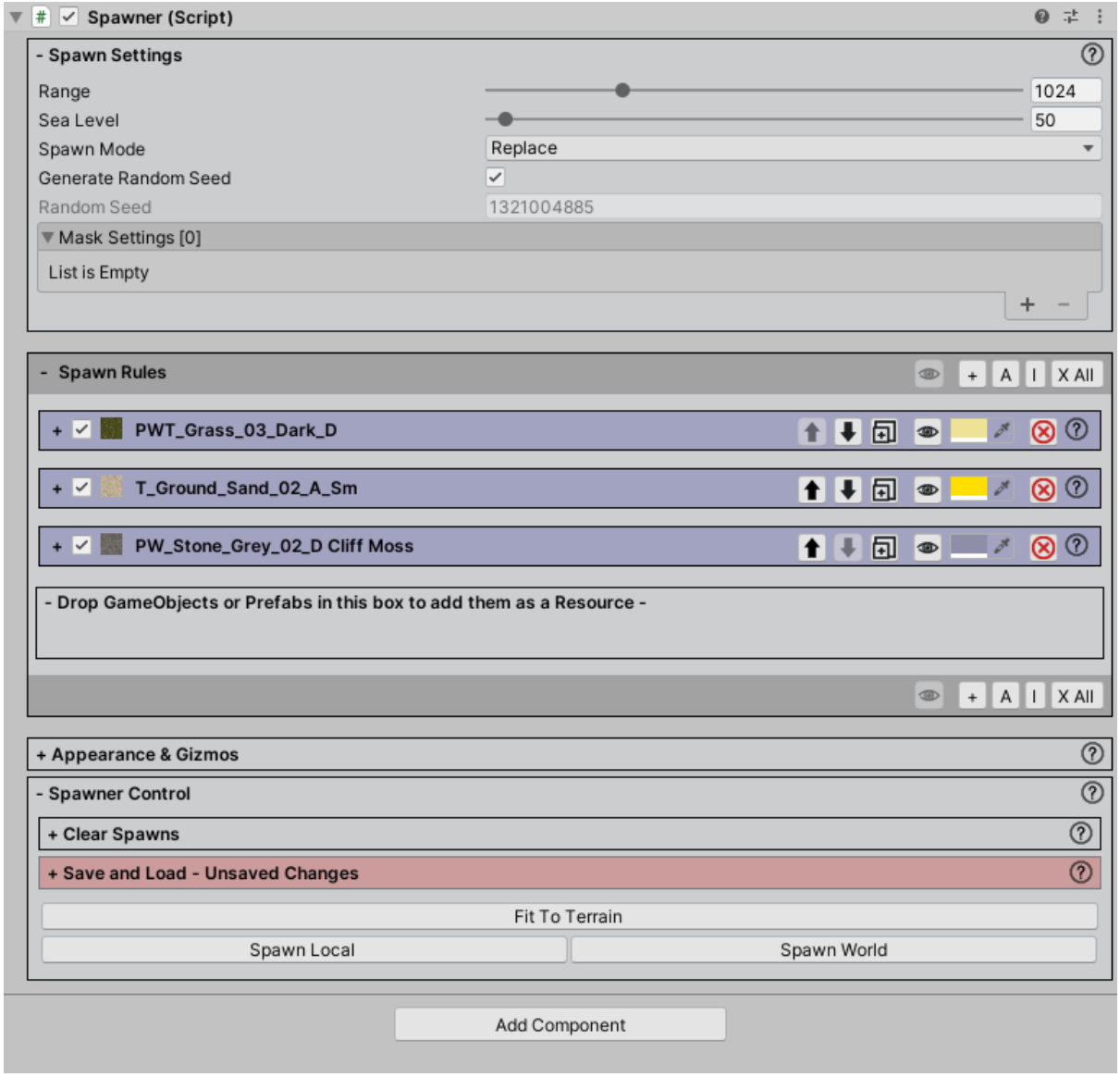
Try to explore the other different mask types, the noise mask is fun to play around with, because it is almost its own little terrain creation system by itself when used with the "Raise Height" operation. If you have found a good mask combination that you want to keep, you can do so with the mask export function. Under "Save and Load" you can also export the entire stamper settings into a file, so you can build your own set of interesting stampers to keep for future projects.

The last larger section on the stamper is the "Auto Triggers" at the bottom:



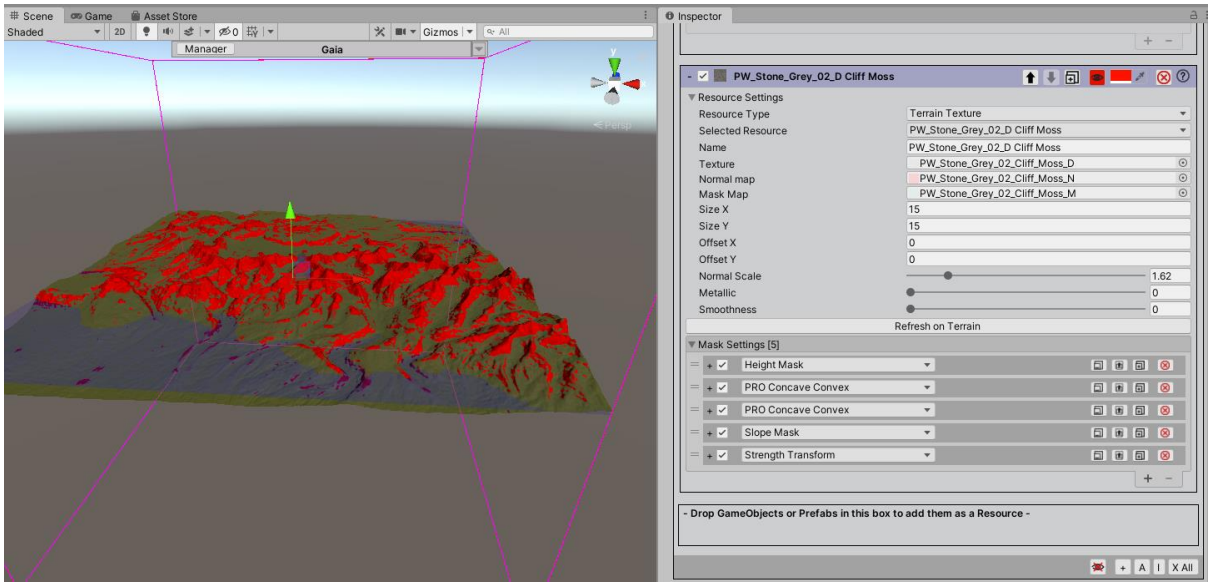
These are spawners that are currently present in your scene hierarchy and will be triggered automatically whenever you stamp. If you want to stamp in peace first before populating the terrain with assets, you can deactivate the auto spawners at first and run them manually or with your last stamping process only.

Speaking of Spawners: Double click on one of the spawners in the autospawner list to have a closer look at those:

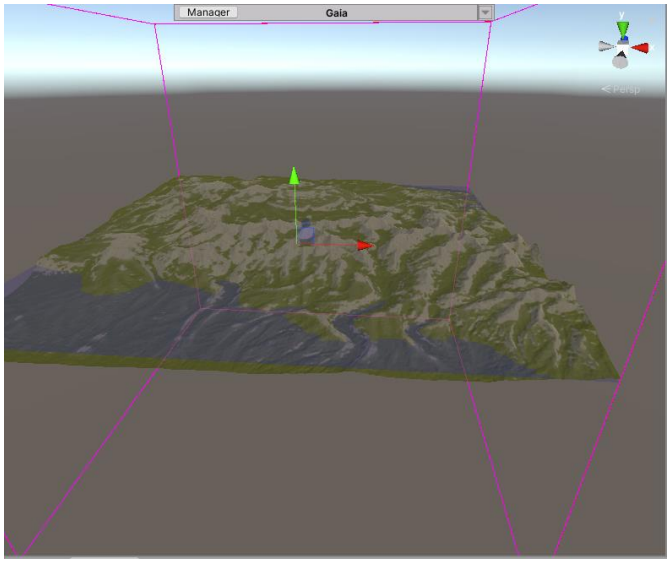


A spawner consists of multiple spawn rules that spawn resources on your terrain, pictured above is a spawner that will spawn textures on the terrain. By unfolding a spawn rule you can see which resource is used in this rule, but also how it is decided where this texture will appear on the terrain:

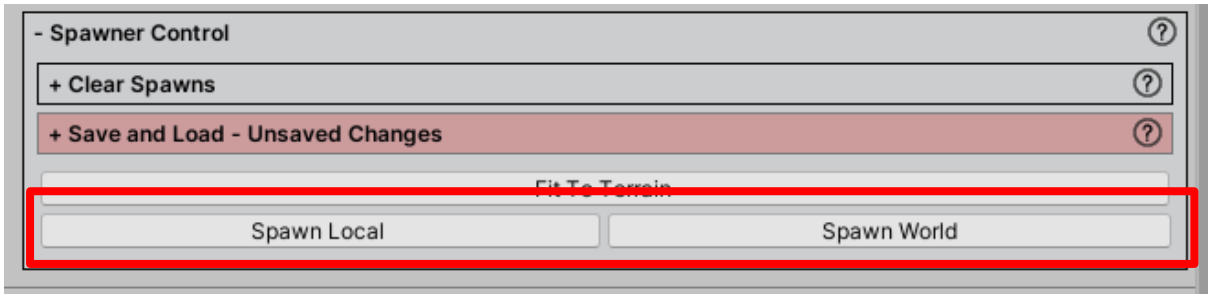
The spawning system makes use of mask stacks as well. You have one mask stack per resource available, but also one global mask stack on top of each spawner. Try to click the small "eye icon" button on the top header of the spawn rule to get a direct preview in the scene view to see how this resource will be spawned on the terrain according to the mask stack settings (you can adjust the color in the color picker in case it is hard to see on the terrain:



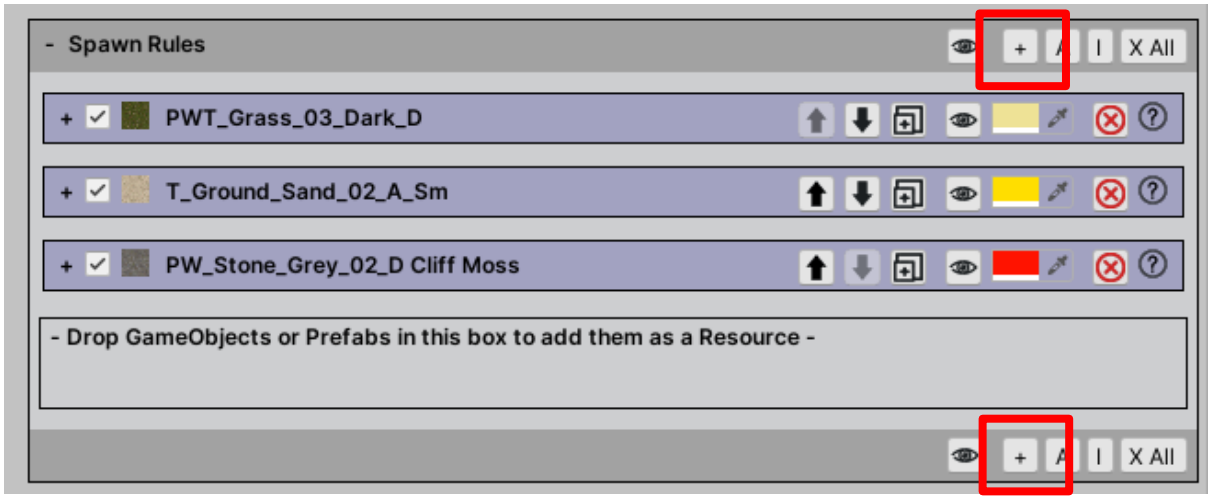
Here you can see where this texture will appear on the terrain when spawning. This distribution is a result of the mask stack of this texture. Without any masks the texture would be spawned over the entire terrain, and the entire preview would just be fully red. If you remember the stamper "Raise Height" example from before: The pure operation is spawning a texture across the entire terrain, the mask stack restricts that operation so that it only happens on certain parts on the terrain. By adjusting the masks, you can adjust where the texture will be spawned on the terrain.
The spawn result as comparison shows that the spawn preview is "what-you-see-is-what-you-get" level of information:



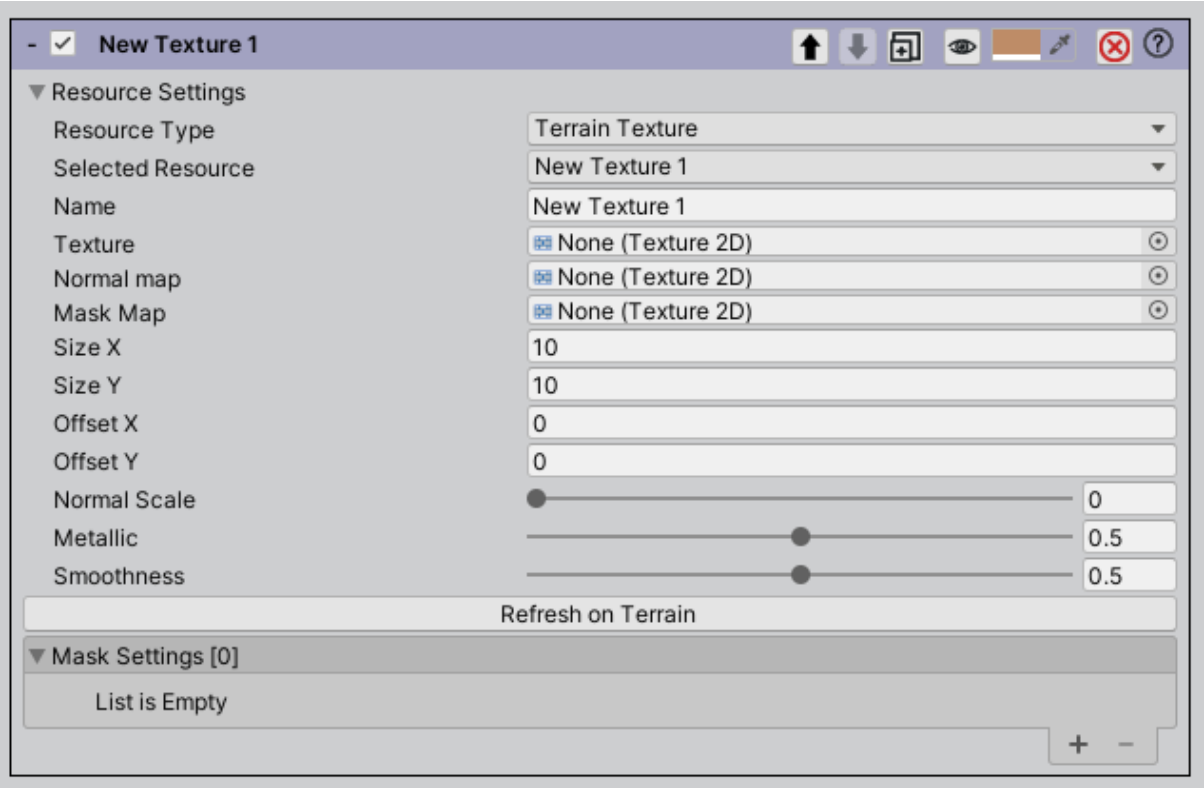
While we are looking at spawning: You can run a spawner with the spawning controls at the bottom of the spawner. Click "Spawn Local" to run the spawner only across the area where it is positioned currently (see the red box in the scene view that indicates the range), or you can click "Spawn World" to have the spawner being applied across all terrain tiles automatically.



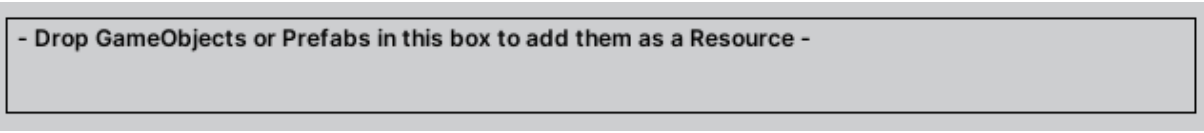
But how are new spawn rules created in a spawner then? You can just add new ones by clicking the "+" button at the bottom or top of the spawn rules list.



This will create a new rule entry that you can fill in with your resource, and then develop a mask stack to restrict where you want this resource to appear on the terrain:

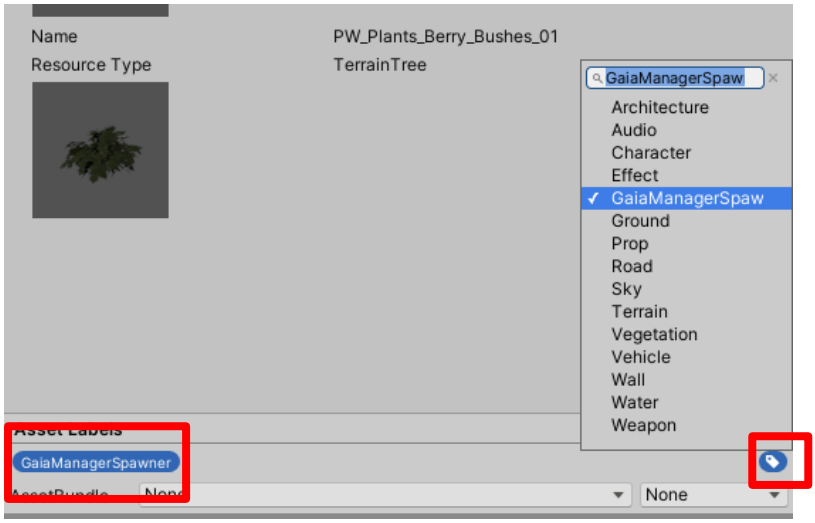


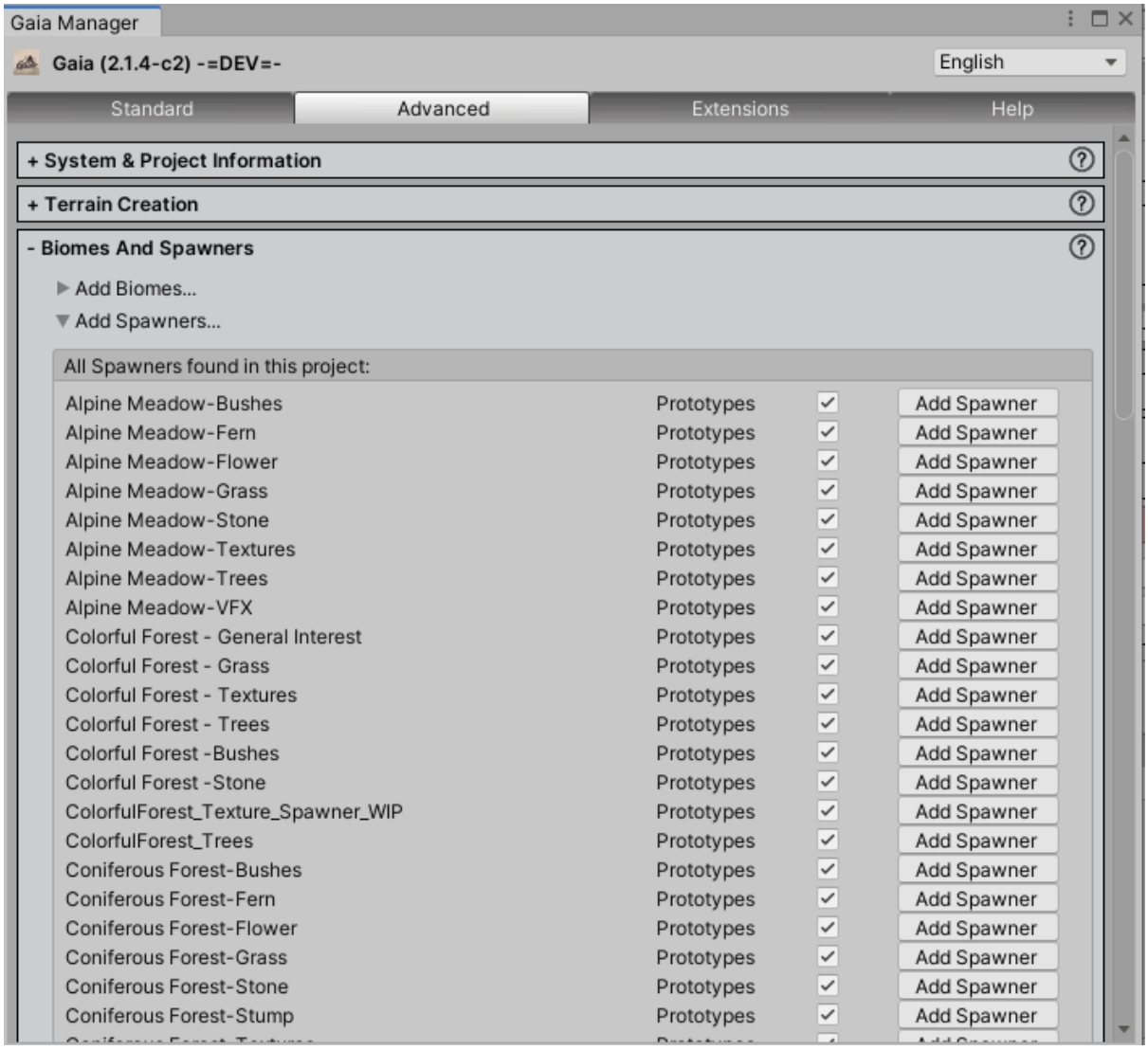
Note that you can switch the resource type around to spawn GameObjects, Trees or Terrain Details instead. If you want to add Game Objects as spawn rules, you can also use the drop area at the bottom of the spawner to add those GameObjects and have some of the settings being set up automatically:



You can also drag and drop larger selection of Game Objects on this area to have them spawn together in formation. This is useful to create more complex Game Object spawns, e.g. a farm building with a fence around it.

You can save your spawner settings away in a file just like with a stamper. You will then be able to re-create this spawner from the "Advanced" Tab in the Gaia Manager if you add the "GaiaManagerSpawner" tag to it:



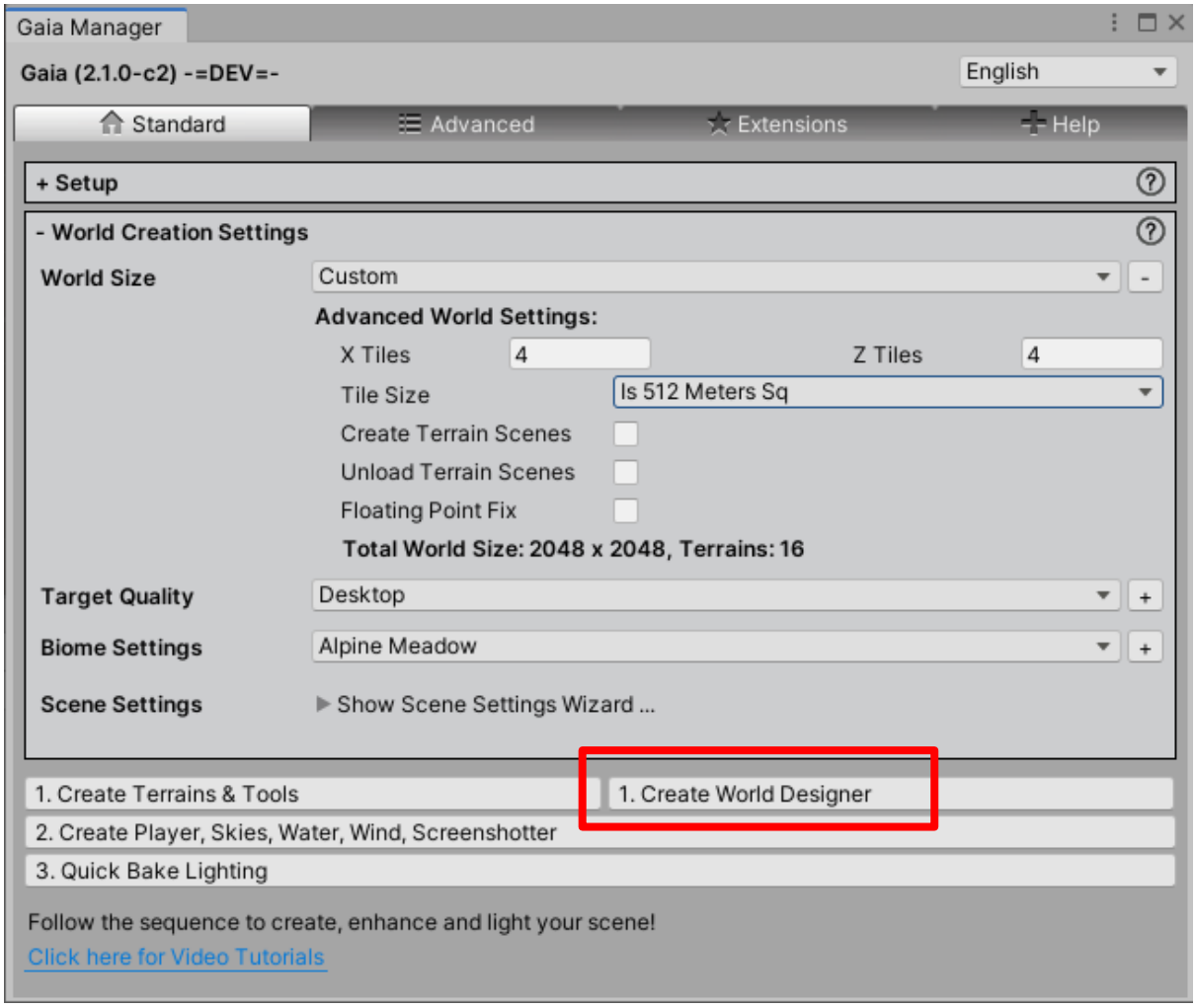


This is very useful as it allows you to build up your own library of spawners that you can just apply on other terrains as well.

World Designer - creating larger (and randomized) Worlds

If you followed the quickstart guide so far, you are familiar with Biome Creation, the Spawner and the Stamper tool now. While it is completely possible to create larger worlds with those tools alone, it can be time consuming to design larger worlds with it. If your world is split across multiple terrains it can also become challenging to keep all terrains loaded in the same time without running out of memory in the Editor.
The world designer is another tool – or workflow – to create terrains with Gaia. The main difference between working on a terrain directly is that the world designer allows you to create a "higher level" version of your scene first -think of a world map in a video game – which is then exported out into the actual unity terrains. The world designer also allows you to create large random generated worlds that still allow for full creative control.

You start a new world designer scene the same way you start with a single terrain from the Gaia Manager.



For the purpose of learning the world designer, it is recommended to set up a 4 x 4 terrain and a tile size of 512 in the Gaia Manager. These settings will not take into

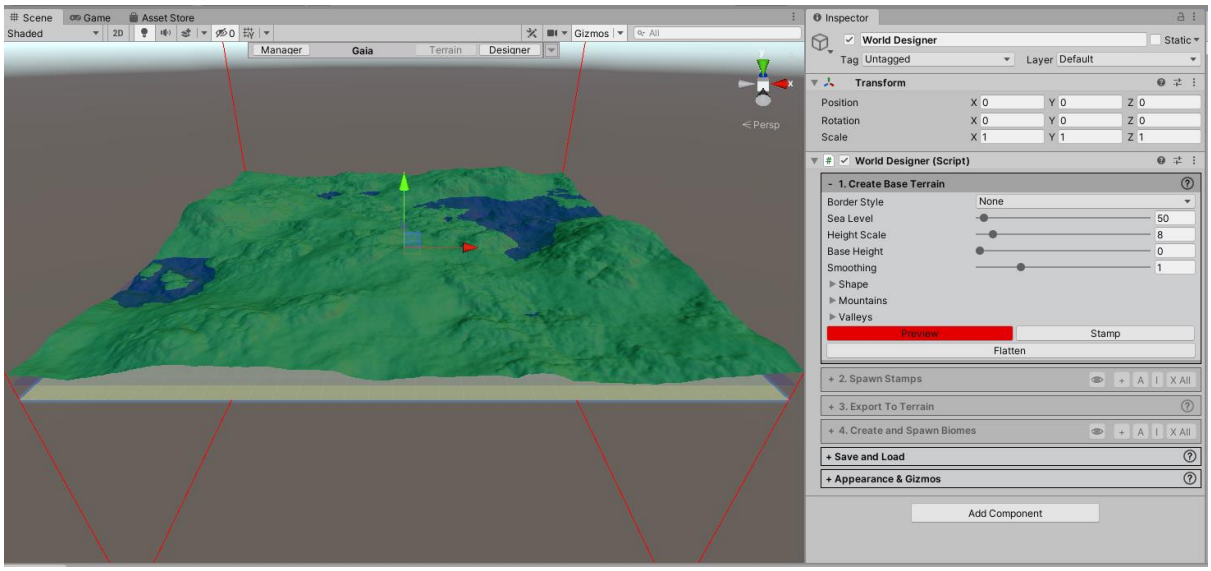
effect immediately as we still need to create our world map first, but the settings will be transferred in the World Designer Tool as your first export settings.

When you have decided on your world size settings, click on "Create World Designer" to open your world map and the World Designer Tool.

The terrain that opens in your scene now is your high level world map, and you will see a stamp preview of the so-called "Basemap" the rough high and lows of the terrain you are about to create. The Basemap is NOT your final terrain – it is only about to define the rough shape of your world at this point, e.g. if you want to create an Island, a relatively flat world, or a world with large height differences. You can create the Base map in two ways:

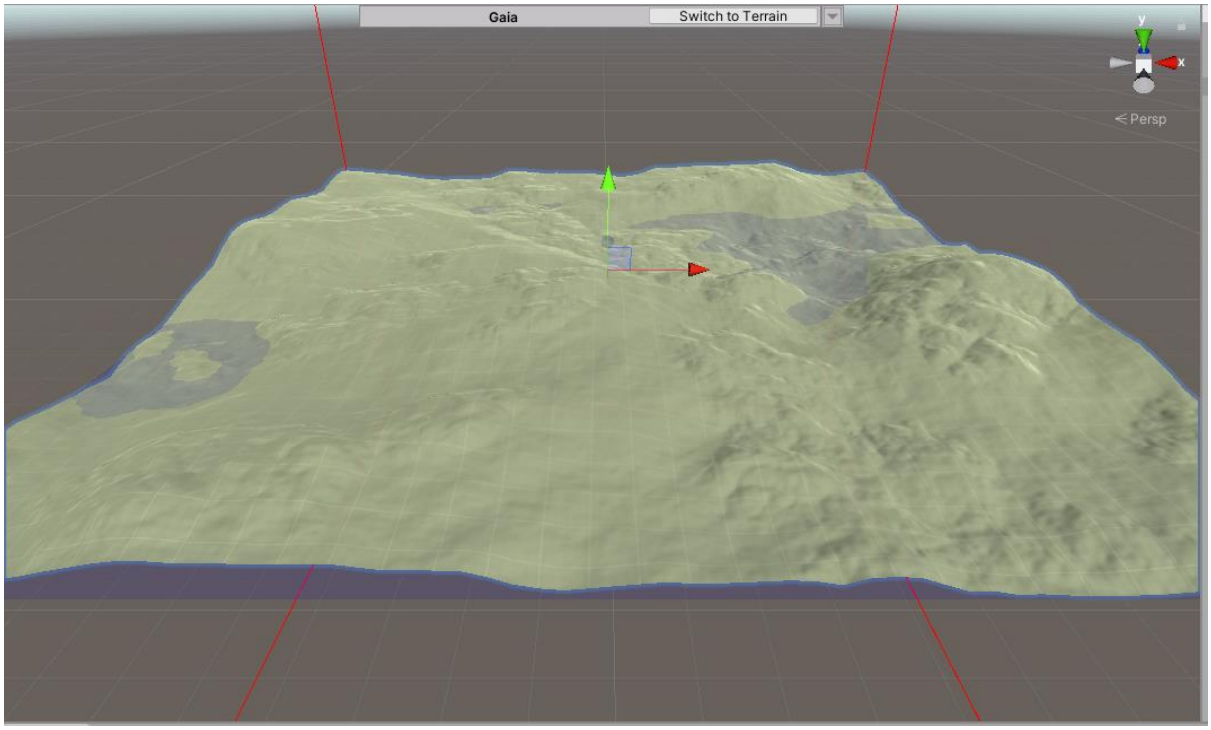
1. Use the settings offered for random basemap generation in the World Designer.

2. Selecting the World Map Stamper in the scene hierarchy and stamp the base map directly.

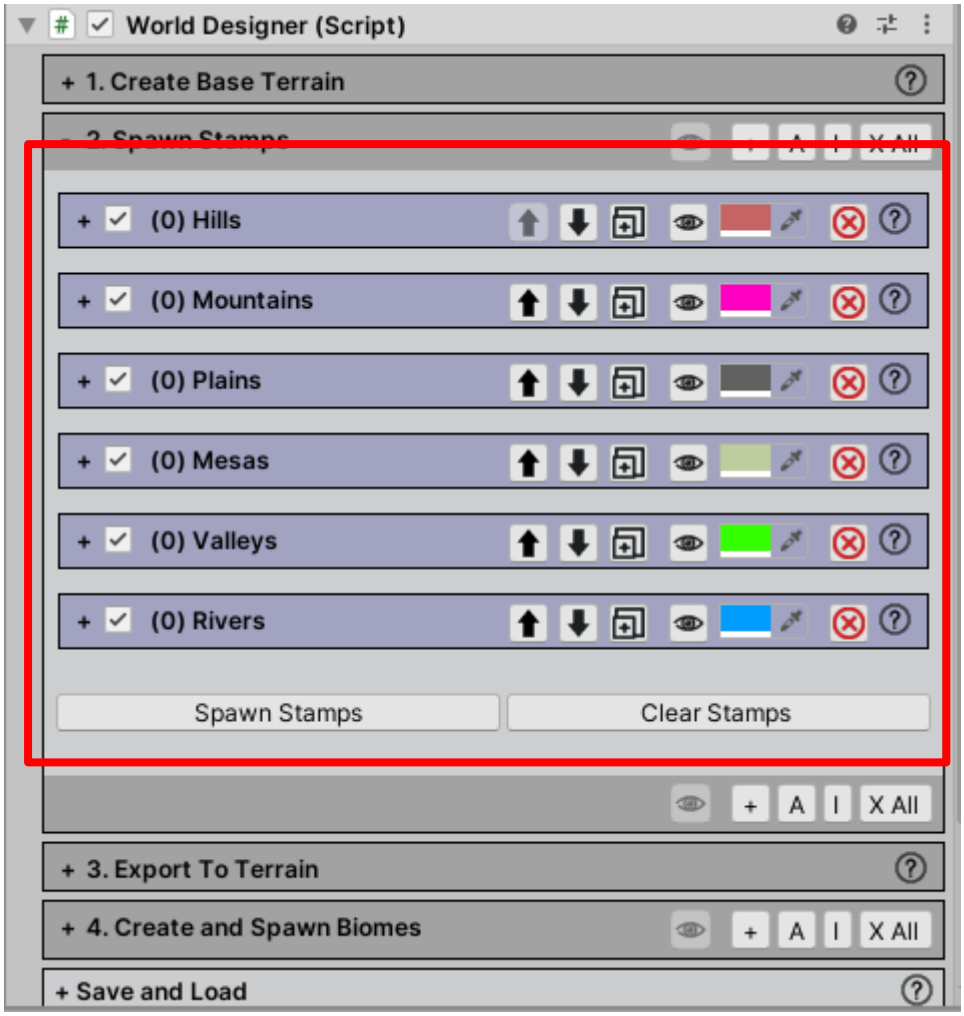


For this guide, just play a bit with the base terrain settings found under "Shape", "Mountains" and "Valleys" – these settings control noise masks on the associated world map stamper and can help you to design a rough shape of your new world. Again – this is not the final terrain yet, just a rough idea where mountains and valleys would go in your new world.

When you are happy with the settings, click the "Stamp" button. You should see how the world map is stamped now according to the preview you saw before:



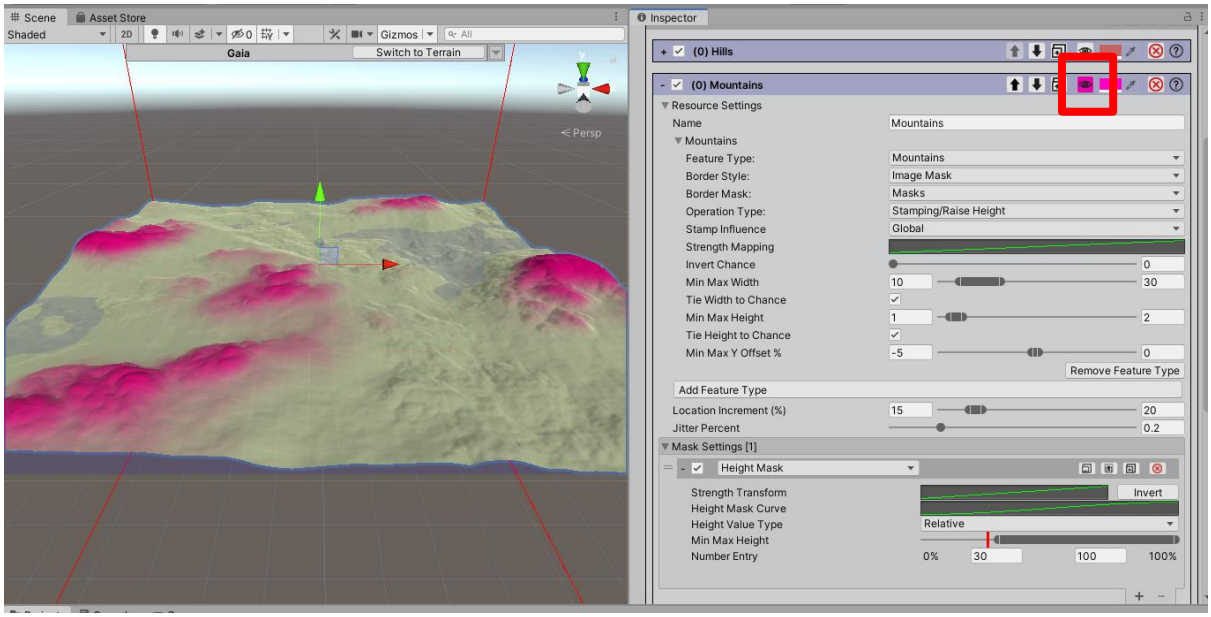
In the next step, you can enrich this rough layout with Gaia stamps to create more believable features such as mountains, hills and valleys on this world map. In the second section of the world designer you will find the possibility to spawn stamps on the world map:



You probably recognize this layout from the regular Gaia spawners. This is because distributing stamps across the world map functions the same way as spawning GameObjects on a regular terrain: You can design which stamp types you want to spawn, and – thanks to the masking system that works the same way as in the spawners – you can also decide where these features should appear.

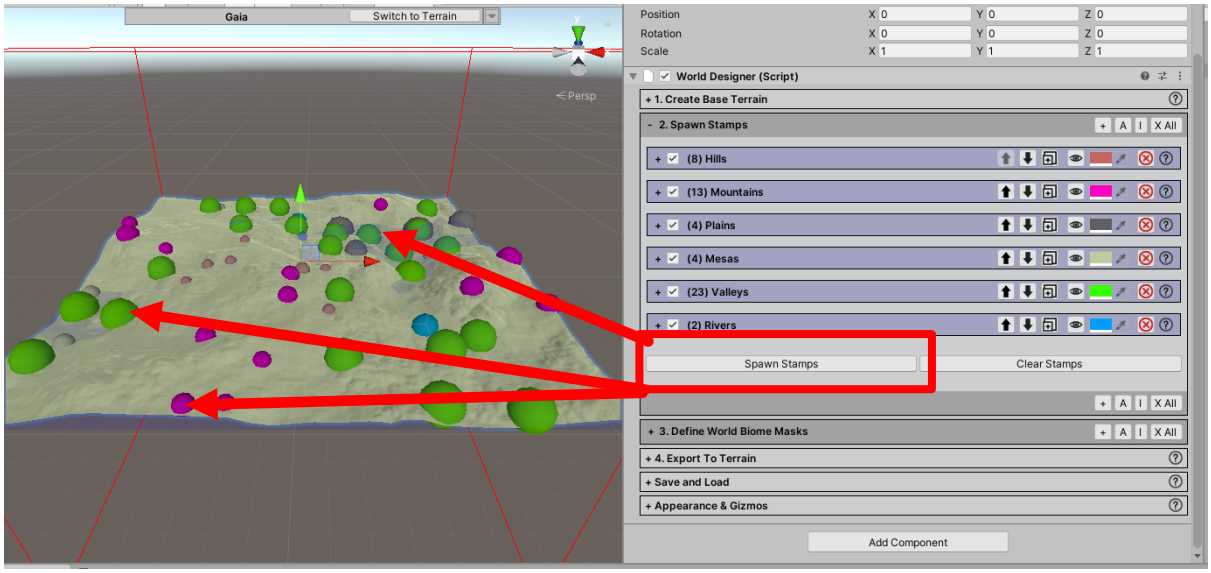
Open the "Mountains" stamp distribution and click the eye symbol for a preview of the affected area:

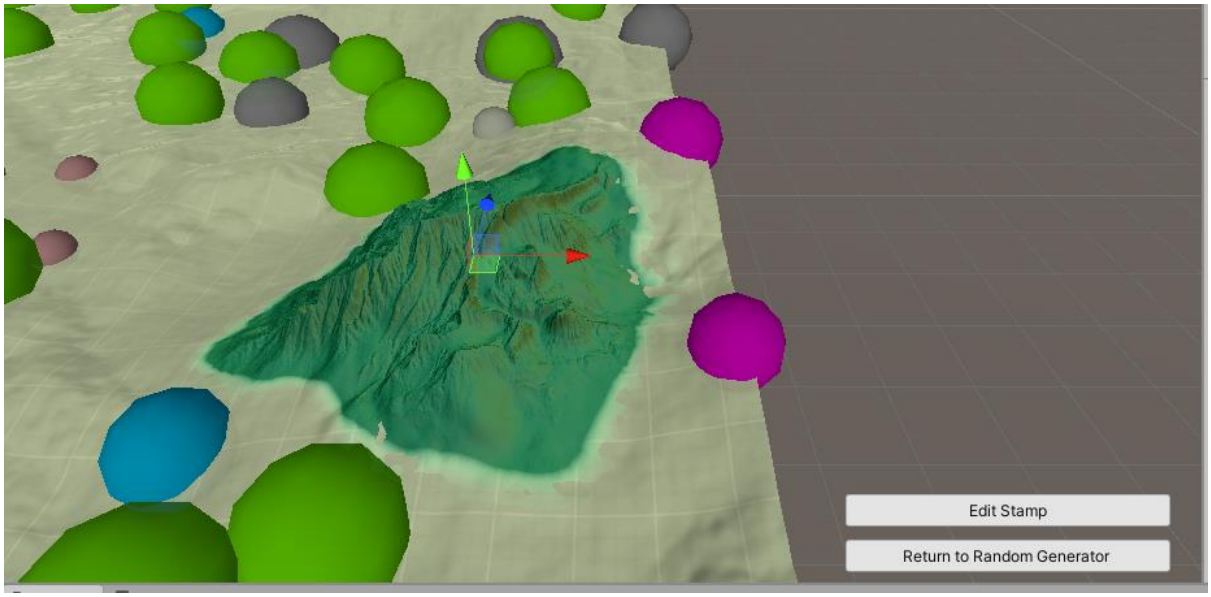
This entry will create stamps of the type "Mountain" (=coming from Gaias Mountain type stamp directory) with the selected settings in the areas that you can see highlighted in the preview on the world map:



If you investigate the other stamp types, you will find that the other stamp features are distributed in a similar fashion equivalent to their characteristics, e.g. valley stamps will go in the lower parts of the terrain, rivers near the water, and so on.

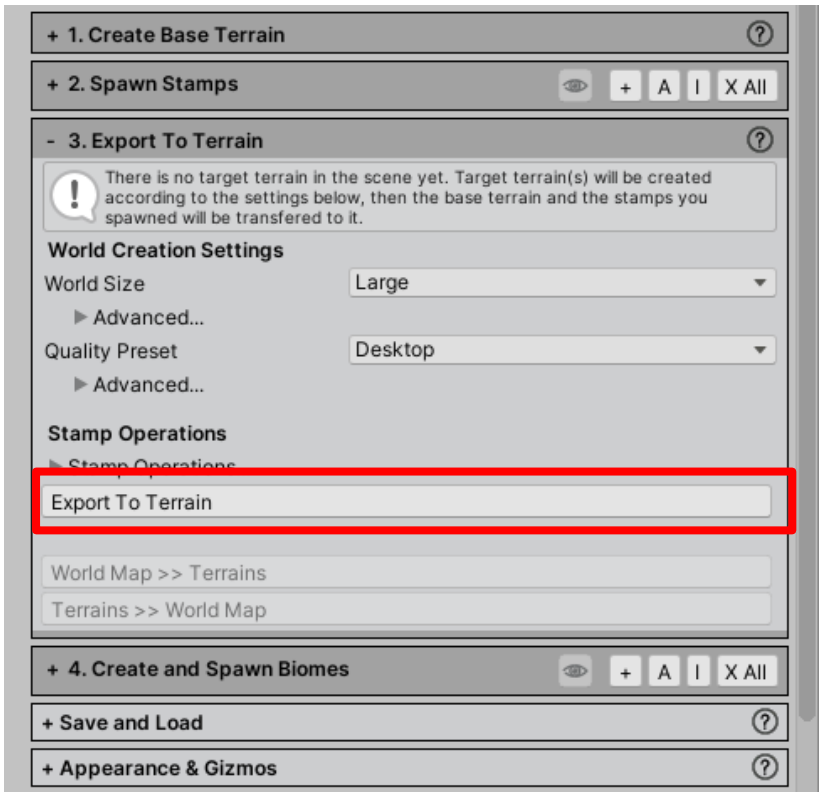
If you click "Spawn Stamps" at the bottom of the list, the appropriate stamps will be spawned across the terrains, represented by a colored sphere in the scene view. By clicking the sphere you can see the actual stamp that was created on the world map.





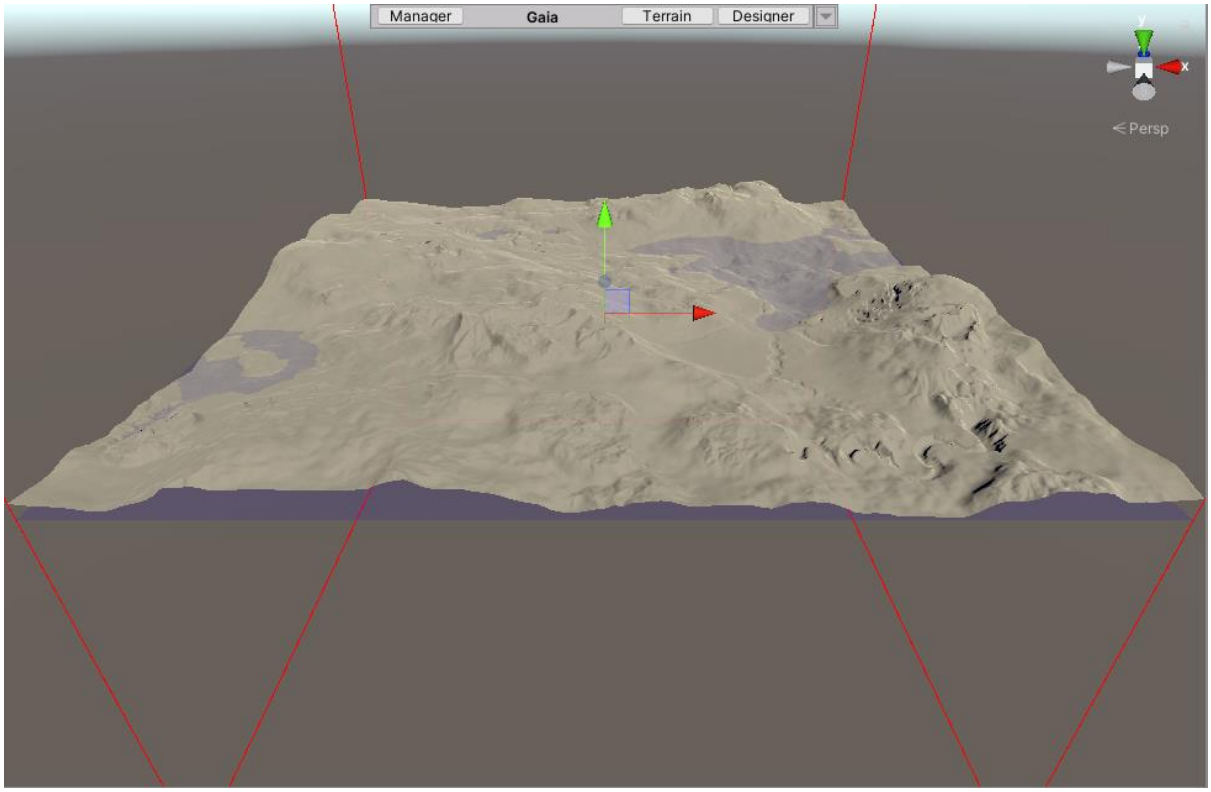
While looking at the stamp preview, you can move the stamp with the location Gizmo to replace it somewhere else.

The next step is finally the actual terrain generation: in the "Export Terrain" section you will find the same settings you originally selected in the Gaia Manager for your world size. Click "Export Terrain" here to actually export your base terrain with the created stamps on top on your final terrain. If you are running a multi-terrain setup, you will be asked to save the scene before the export.



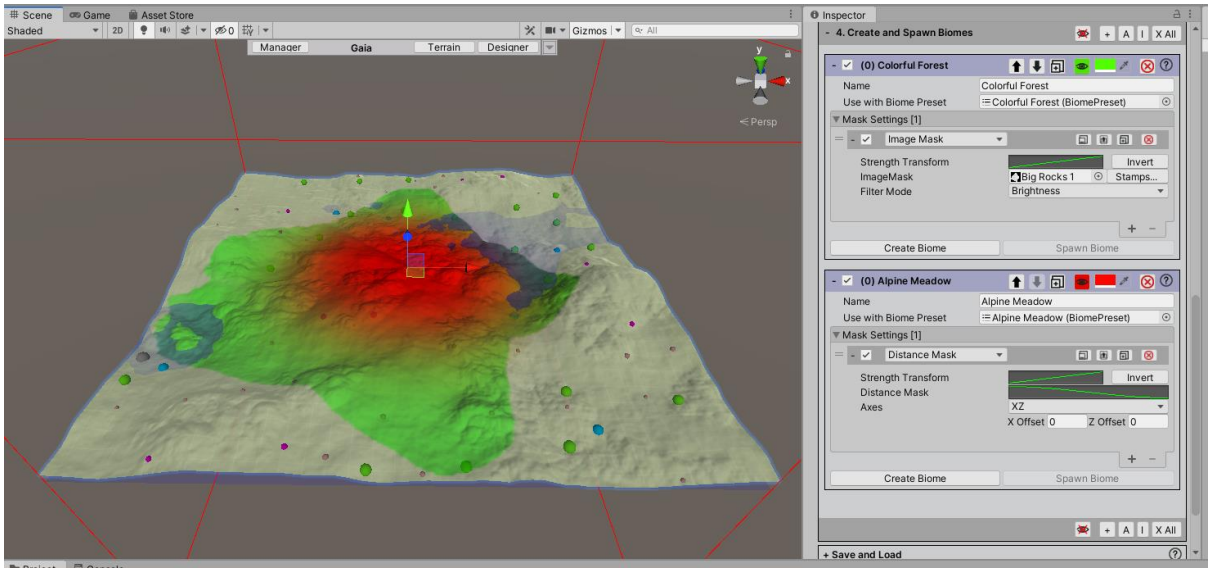
The world designer will now create the terrain(s) and apply the stamps on them. Depending on the chosen world size and the amount of stamps spawned, this might take a bit to process.

When the export is done, you should see your actual terrain that resembles the rough shape you laid out in the world designer, but was further enhanced with stamps to create more natural features on the terrain:

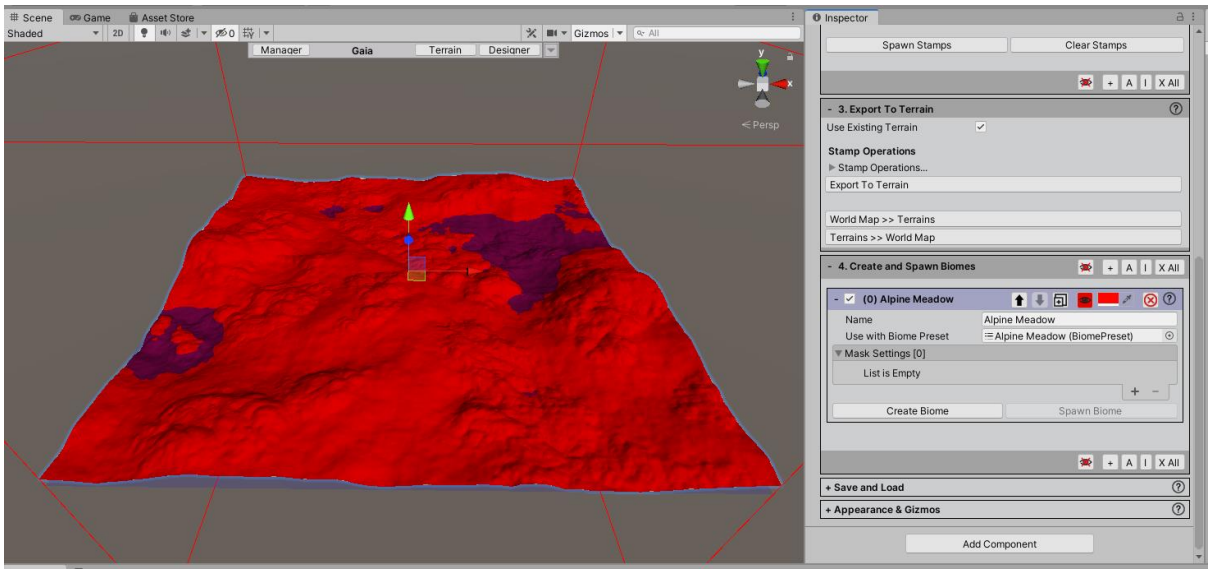


Note that the top of the scene view now also shows a panel that allows you to switch between regular map and world map, so you can go back to the world designer and compare the spawned stamps with the output, and do another export on demand – even to a different world size or number of terrains if you want to go larger or smaller.

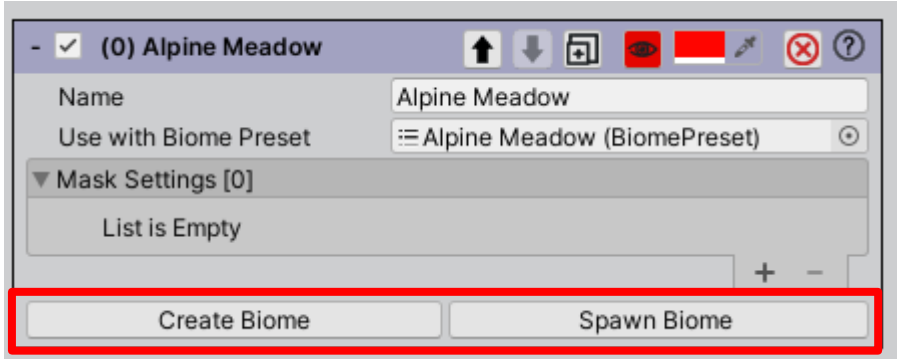
Return to the world designer via the panel to look at the last and optional step in the world designer: Defining your biome setup for the world. You can define that different biomes should appear in different areas of the terrain, e.g. a desert in the lower left corner of the world, and a snow biome in the upper right corner. Or you could spawn a forest in valleys only, and a rocky mountain biome only at the highest part of the world. The logic is very similar to spawning the stamps in the step above, but here you can select biome presets instead. The biome presets you are setting up here will then be created as biome spawners when you click the "Create Biome" button. Here is an example with two overlapping biomes on the same world:



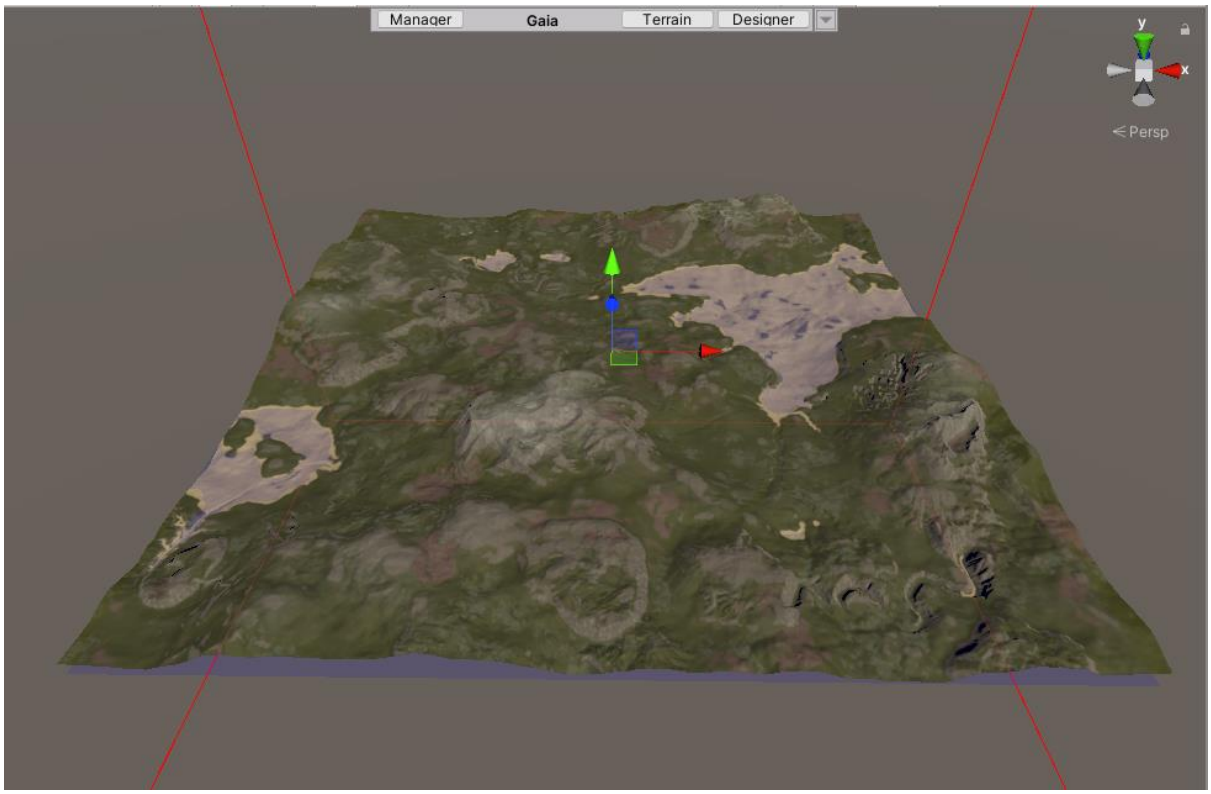
On your screen you will currently only see the biome preset that was originally visible in the Gaia Manager, which is set up to spawn across the entire terrain. This should do for exploring the world generator, you can always return to the biome creation later to add additional biomes or to reconfigure existing ones.



From here, click first the "Create Biome" button (note how the Biome spawner gets added to the hierarchy), then "Spawn Biome".



You should see how your terrain gets populated with the assets from the selected Biome:

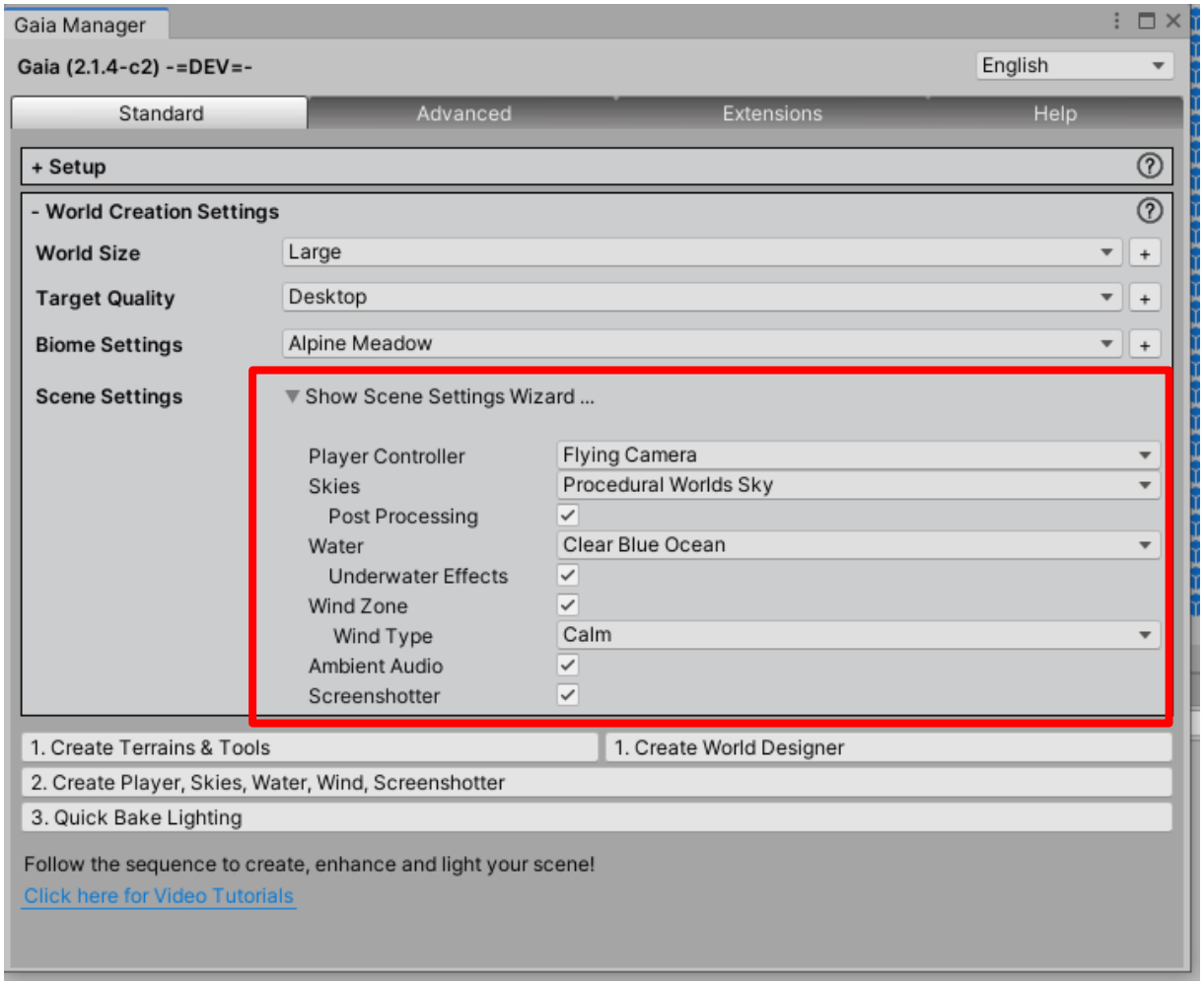


The rest of the terrain creation functions exactly the same as on a single terrain as well: You can open the Gaia Manager and execute Step 2 to add a Player, Water etc. to your terrain. When you press play after you should be able to explore your newly created world.

Useful Information

Extras Setup – Skies, Water, Player, etc.

The second large step after the terrain creation is the addition of a player, skies and water setup etc. In the Gaia Manager Standard tab, you can configure what extras are supposed to be created in that second step when you press the "2. Create Player…." button.



Note that if you want to change one of these options – e.g. change the water to a different water type – you can just press the "2. Create Player…" button again. The system is smart and will only change out the water rather than creating duplicates, same goes for the other extras settings as well.

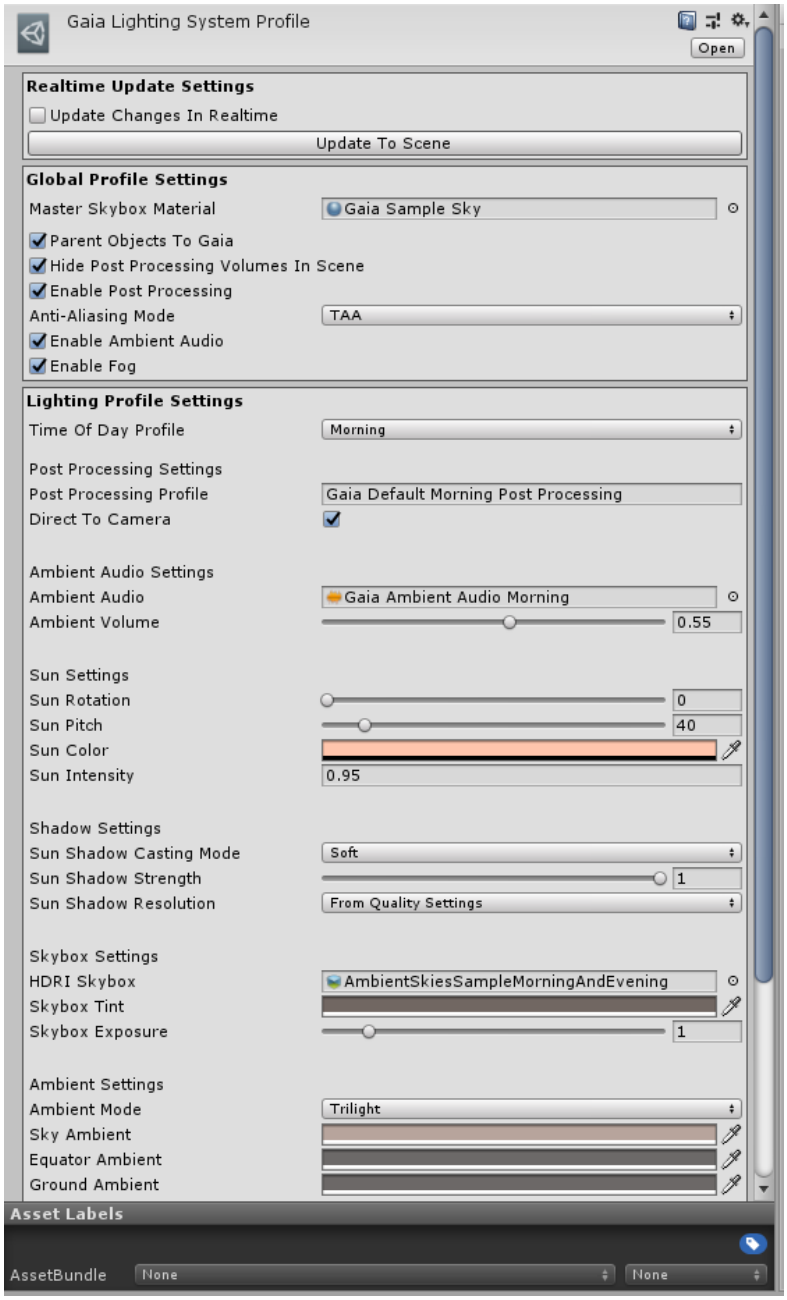
Note that in Gaia Pro you don't have to live with the predefined profiles for sky / lighting and water setup - you can edit these profiles by locating the lighting and water profile files in the asset hierarchy. To edit the lighting profiles, open

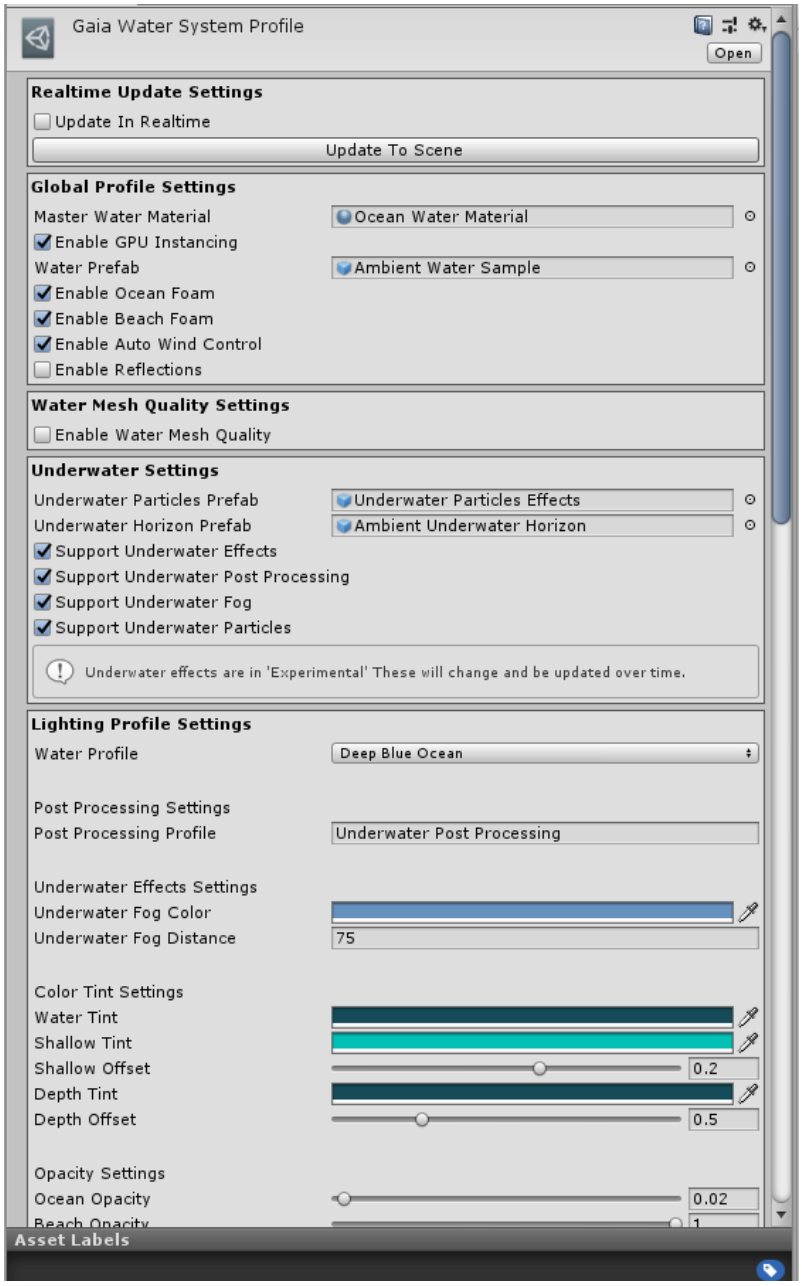
Assets\Procedural Worlds\Gaia\Lighting\Gaia Lighting System Profile

For the water accordingly:

Assets\Procedural Worlds\Gaia\Water\Gaia Water System Profile

Both these profiles have extensive editors that allow you to control every aspect of the lighting and water settings:



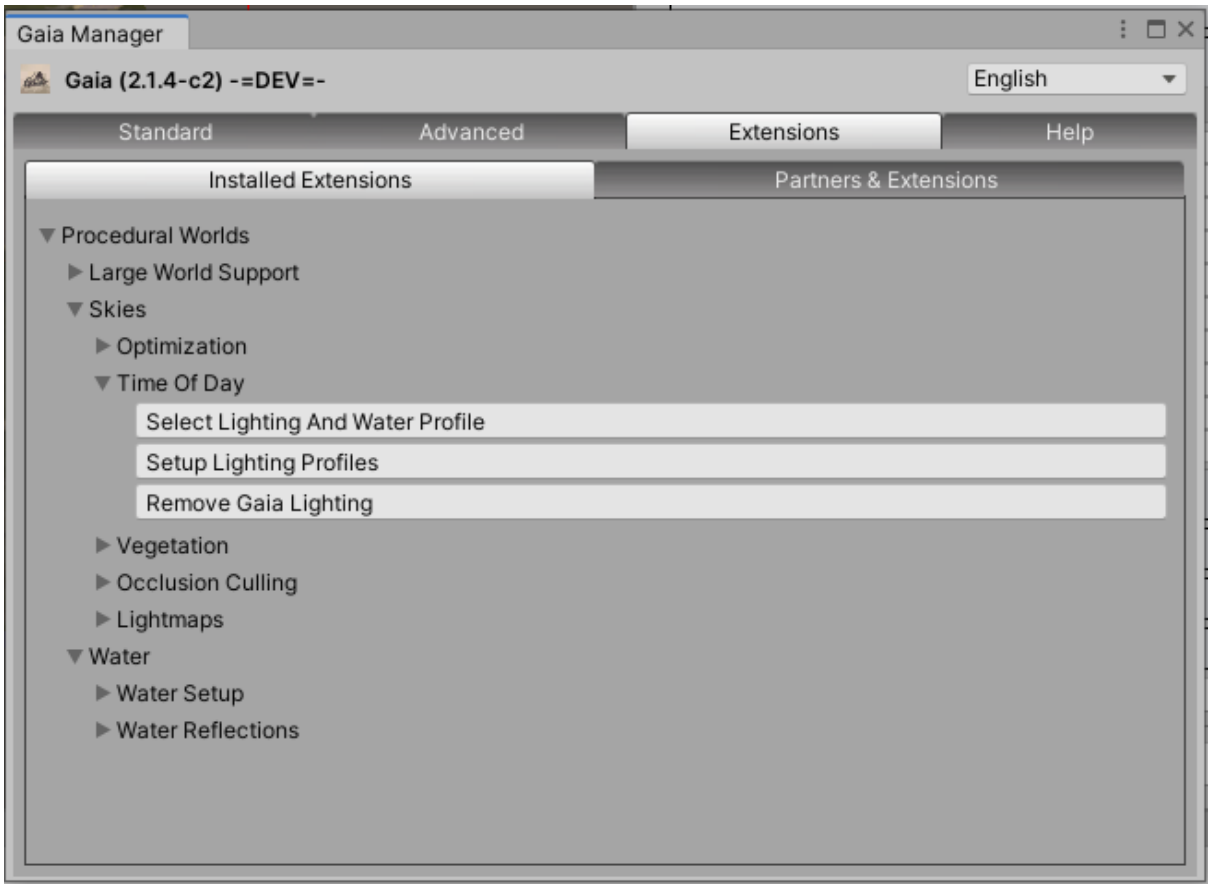


Gaia GX - (G)aia e(X)tensions

The Gaia extensions system allows Gaia to be extended with other tools and quality assets.

We used the Gaia Extension system to include our own sky and water system so that you can change the sky and water setup and surrounding settings from this menu as well.

To access them, go to the **GX** tab in **Gaia Manager** and select Procedural Worlds, Skies and Water to modify your time of day, water and post processing settings.



When you select a sky the sun light will be reconfigured, fog color, density will be changed and the skybox. Also, the post processing profile will be changed to the appropriate time of day to give the best experience.

You can also add and remove the water with also using a few of the preset configurations on the material settings. Lastly you can configure the post processing profiles to change them although these dynamically change when you select your time of day.

Adjusting the ambient audio volume

In the **Hierarchy** under **Gaia Lighting Environment** is the **Ambient Audio** game object. Click on that and then in the **Inspector** adjust the **Volume**.

Why you need to bake your lighting

Lightmaps are very important as they store the information than the Unity GI system needs to light your scene properly.

If you are using a skybox and an ambient light source you will not see any ambient lighting in your scene until your lighting is baked. Distance shadow masking for game objects and terrain won't be correct until you bake your scene lighting. You can have both baked and real time lightmapping in your scene also known as mixed lighting. Most large projects mix both baked and real time lighting. To learn more about light baking and lighting in general, please visit these links:

https://unity3d.com/de/learn/tutorials/topics/graphics/choosing-lighting-technique

https://blogs.unity3d.com/2018/03/09/spotlight-team-best-practices-making-believable-visuals-in-unity/

Pipeline Switching

If you need to switch rendering pipelines before starting a new project or during an existing project, you can do so via the "Setup" panel in the Gaia Manager window. Please see the installation information at the beginning of this guide for more information.