

# Flood and Rainy Puddles | Ciconia Studio

[Online Documentation](#)

## Overview

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These Shaders let you create beautiful wet and flood effects for all projects. There were created to enhance visual of 2d ground and can be also used to simulate leaking water effects on Roofs, walls and so on.

### URP Package :

#### - URP : **2022 LTS**

(For 2019 to 2021 Unity version, unpack the URP - Wet Flood&Rain Puddles Shaders\_v2019 to 2021 LTS.unpackage)

The file includes URP and Built-in shaders.

By default, the package is set up for the Universal Render Pipeline (Unity 2022 LTS).

In order to use the shaders with the Universal Render Pipeline

you will need to enable the Opaque Texture toggle in the pipeline asset inspector.

### Built-in Setup:

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First delete the URP folder and unpack the Built-in-Wet Flood&Rain Puddles shaders.unpackage.

### HDRP Package :

The shaders are set up to work as opaque shaders. Only the "HDRP - CS\_Flood Transparent" shader has been created to use transparency.

## URP Setup

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Support Unity versions :

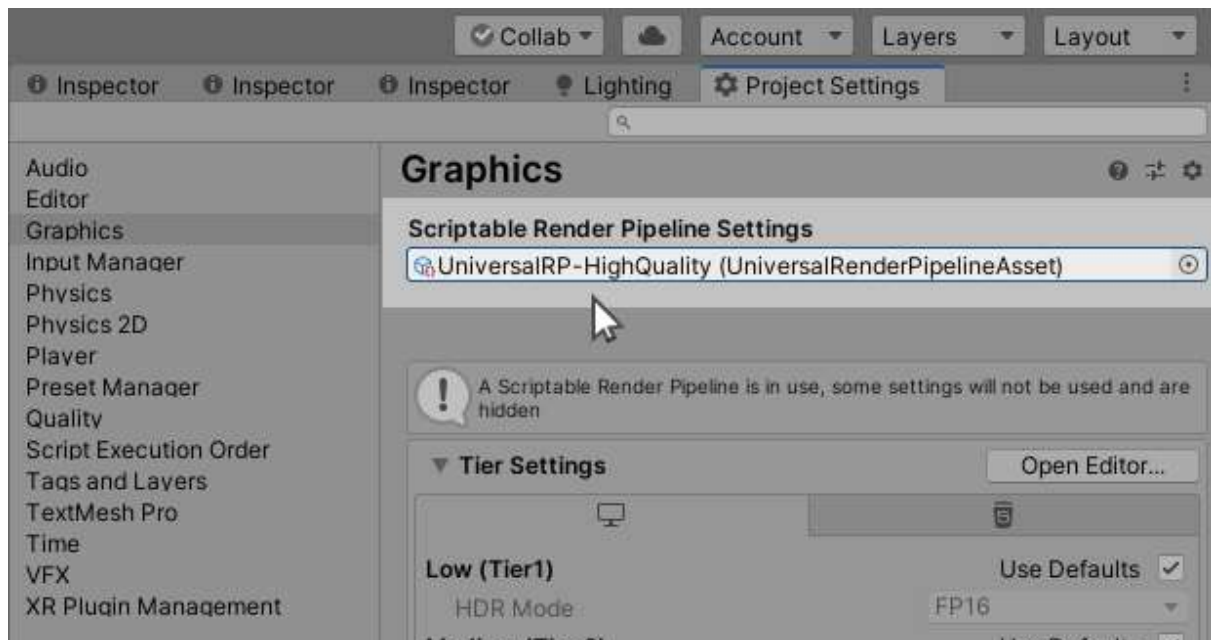
**2019.4.0** or higher

**2022 LTS** (by default in version 2022.3)

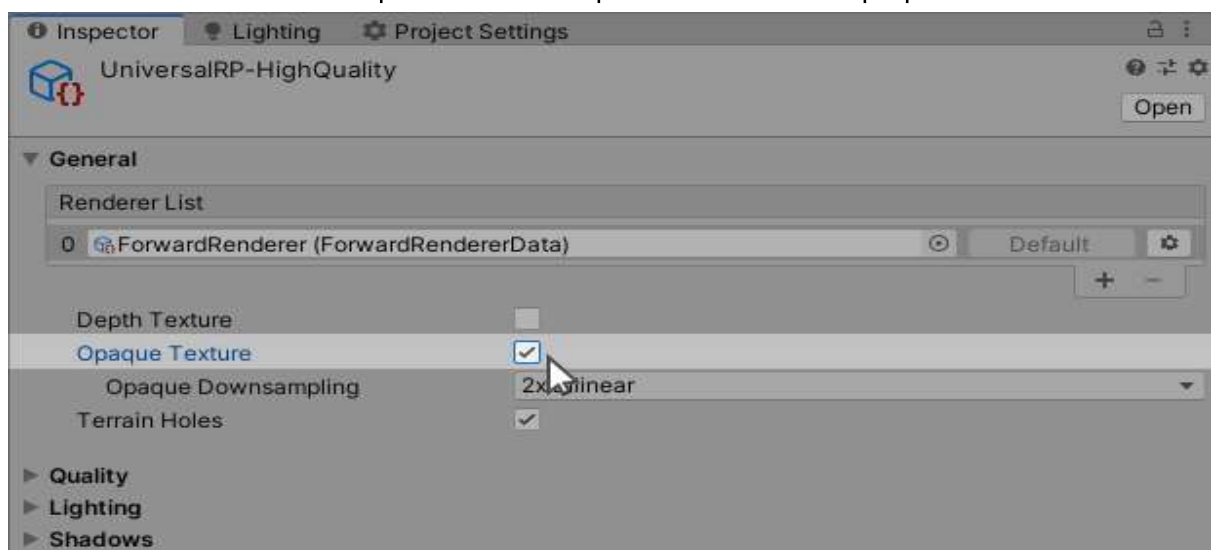
(For 2019 to 2021 Unity version, unpack the URP - Wet Flood&Rain Puddles Shaders\_v2019 to 2021 LTS.unitypackage)

By default, the package is set up for the Universal Render Pipeline (Unity 2022 LTS). In order to use the shaders with the Universal Render Pipeline you will need to enable the Opaque Texture toggle in the pipeline asset inspector.

Go to Edit/Project Settings/Graphics.



Go to the UniversalRenderPipelineAsset's inspector and enable Opaque Texture.



## Tutorials

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URP setup : [Tutorial](#)

Wet Shader Flooded Ground - Tutorial : [https://youtu.be/Qfv\\_gW7AKig](https://youtu.be/Qfv_gW7AKig)

Wet Shader Rainy Puddles - Tutorial : <https://youtu.be/F9U3KB3C8tE>

## Shader Properties

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**Main Properties** | These properties affect all the maps selected in the Main Properties.

**Global --> XY(TilingXY) - ZW(OffsetXY)** – Controls the Tiling and the Offset of all maps contained in the main properties

**Color** – Specifies the RGB color of the model.

**Invert Alpha** – Inverts the alpha channel.

**Base Color -->(Mask A)** – Selects a color map. A Grayscale Map can be stored in the alpha channel and be used as smoothness value or puddles Mask

**Saturation** – Controls the amount of saturate or desaturate of the Base Color map.

**Brightness** – Controls the amount of brightness of the Base Color Map

**Normal Map** – Selects a normal map.

**Normal Intensity** – Controls the normal intensity.

**Metallic Map -->(Smoothness A)** – Selects a metallic map. The smoothness map can be stored in the Alpha channel.

**Metallic** – Controls the amount of metallic reflection.

**Smoothness** – Controls the amount of glossiness reflection.

**Source** – Selects the smoothness map stored in the metallic alpha or base color alpha

**Height Map** – Selects a height map.

**Height Scale** – Controls the height intensity.

**Ambient Occlusion Map** – Selects an ambient occlusion map.

**Ao Intensity** – Controls the intensity of ambient occlusion.

**Emission Color** – Specifies the HDR color for the emission.

**Emission Map** – Selects an emission map.

**Intensity** – Controls the emission intensity.

**Mask Properties** | These properties control the mask for the puddles effects.

**Visualize Mask** – Enables or disables the detail mask visualization.

**Exclude - Use BaseColorAlpha** – Enables or disables to exclude, from the puddle effect, parts of the mesh using the mask contained in the alpha channel of the Base Color map

**Source** – (URP Only) Selects between these different sources. By selecting Both the detail mask will be an additive map between the detail mask map and the base color alpha map.  
*(The Built-In Shaders version only have the BaseColorAlpha checkbox. Enable this property to add the base color alpha to the detail mask)*

**Invert Mask** – Inverts the alpha channel. If no detail mask is selected, enabling this property will define a white color by default.

**Channel Selection** – Specifies in which channel RGBA the detail mask is stored.

**Detail Mask** – Selects a detail mask map. If no map is selected, the detail mask map will be black by default. Black value means no water puddles.  
In order to see water without map selected, simply enable Invert Mask.

**Intensity** – Controls the intensity of the detail mask.

**Contrast** – Controls the amount of contrast of the detail mask.

**Spread** – Controls the diffusion amount of the detail mask. This property is used to control and animate the amount of puddles.

Set the spread value to 1 to define a detail mask completely white. The result will be a 100% flooded effect.

The lower this value is, the less visible the flooding effect will be.

## **Reflection Properties** | These properties control the additional reflections.

**Color** – Specifies the RGB color of the reflection.

**Cubemap** – Selects a cubemap.

**Intensity** – Controls the intensity of the reflection.

**Blur** – Specifies the amount of blur.

**Use Main Normal Map as Normal Direction** – Enables or disables the use of this normal map for the normal direction of the reflection. Used to define more reflection on the edges of the puddles and simulate wet mud. Defined by the gray values of the detail mask. Depending on the grayscale map selected for the detail mask, a low value for the contrast property is necessary to see the effect.

## **Rain Dots Properties** | These properties control raindrops visible on dry surfaces

**Gradient Tex** – This texture controls the animation of the raindrops, from left to right. White value means that the water drops are 100% visible and gradually dissipate towards black(0%)

**Intensity** – Controls the intensity of the water drops.

**Tiling** – Controls the scale of the water drops. The larger this value, the smaller the water drops will be

**Splash Speed** – Defines the speed of appearance of water drops

**Size** – Controls the size of each water drops

**Puddles Properties** | These properties control the look and the animation of the puddles.

**Color** – Specifies the RGB color of the model.

**Use Main Base Color Map** – Enables or disables the use of the main base color as the base color visible in the puddles.

**Base Color** – Specifies a base color visible in the puddles. If the color RGB value is black, the map won't be visible.

**Saturation** – Controls the amount of saturate or desaturate of the Base Color map.

**Brightness** – Controls the amount of brightness of the Base Color Map.

**Blend Main Normal** – Enables or disables the blending of the Main Normal Map with Wave Normal Map.

**Wave Normal Map** – Selects a wave normal map.

**Main Wave** – Enables or disables the main wave map.

**Intensity** – Controls the wave intensity.

**Speed** – Defines the speed offset of the main wave map.

**Rotation** – Determines the angle of rotation in degrees.

**Tiling** – Controls the texture repetition on the X and Y axis.

**Detail Wave** – Enables or disables the secondary detail wave map.

**Intensity** – Controls the wave intensity.

**Speed** – Defines the speed offset of the detail wave map.

**Rotation** – Determines the angle of rotation in degrees.

**Tiling** – Controls the texture repetition on the X and Y axis.

**Metallic** – Controls the amount of metallic reflection.

**Smoothness** – Controls the amount of glossiness reflection.

## **Rain Ripples Properties** | These properties control the rain ripples effect

**X(Columns) - Y(Rows) - Z(Speed) - W(Strart Frame)** – Specifies the numbers of columns and rows of the selected Texture Atlas Normal map.

- For exemple, the RainRipples 02\_Atlas\_Normal texture, which is used by default, is an atlas of 64 textures (64 cells = 8 columns x 8 rows).

The Z value modifies the flipbook animation speed.

The W value determines the frame where the animation starts. The first cell is always = 0.

- For exemple, the RainRipples 02\_Atlas\_Normal texture has 64 cells. If the first frame = 0, then the last frame = 63.

**Texture Atlas Normal** – Selects a texture atlas map. This can only be a normal map.

**FlipBook Tiling** – Specifies the number of tiling for the texture atlas.

**Intensity** – Controls the normal intensity.

**Duplicate Texture Atlas** – Enables a duplication of the texture atlas normal. This property let you easily break any visible tiling.

**Intensity** – Controls the normal intensity of the duplicated texture atlas.

**Scale** – Controls the scale of the duplicated texture atlas. This value is linked to the Flipbook Tiling value. So make sure to always set up the FlipBook Tiling value first.

**Rotate Details** – Specifies an angle(degree) of rotation of the duplicated texture atlas. The duplicated texture will have the same coordinate of the first texture atlas by default. Change the rotation value to move the new texture atlas from its point of origin.

**OffsetXY** – Controls the offset of the duplicated texture atlas.

**Distortion** – Controls the amount of distortion created by the ripples. This property is linked to the Base Color of the Puddle Properties. If no Base color map is selected or if you have enabled Use Main Albedo Map(Main Base Color), the distortion won't work.

**Use Ao From Main Properties** – Enables the Main ambient occlusion to be visible in the puddles

**Use Emission From Main Properties** – Enables the Main emission color and map to be visible in the puddles

**Transparency Properties** | These properties control the opacity of the model.

**Mask Selection** – Specifies a source for the transparency.

**Invert** – Inverts the grayscale value of the selected map

**Opacity** – Controls the amount of transparency.

**Refraction** – Controls the amount of refraction.