

# Time of day

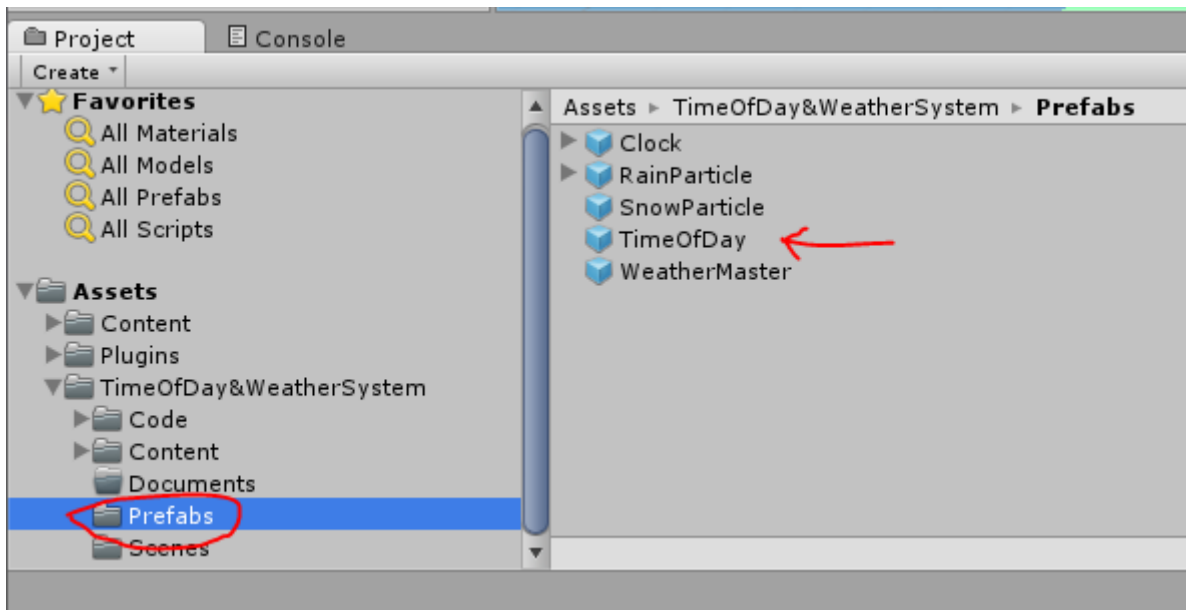
For new information regarding release V.1.1. look at the bottom!

Full change log can be found here: <http://www.johansson-tobias.com/2015/07/08/time-of-day-weather-system/>

## Setting up

### How to

Go into: TimeOfDay&WeatherSystem -> Prefabs -> Pick the one called TimeOfDay and drag it out into your scene.



After you have dragged it out into your scene, click on the object in your *Hierarchy tab* and you will see the different settings in the *Inspector tab*. Here, you can change the settings to what you want to use.

### Settings

**Show more information:** Check this box and you will get more information about some settings straight in the editor.

Add *gameobjects*, *lights* and *materials*

**Sun (Directional light):** Add a normal directional light

**Use Moon light:** If you also want to use moonlight, check the box

**Moon (Directional light):** Add a normal directional light

**Use weather system:** If you don't want to have weather changes, leave this box unchecked

**Weather master:** Here, you need to add the weather master that you have placed in the world (see *how to place it in the world under How to for the weather master*)

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### Time of day settings

**Full day cycle in seconds:** This is where you decide how long you want a full day and night cycle in the game to be. You write the value in seconds.

**Game starting hour:** Choose at which hour you want the game to start

### Timeset settings

**Sunrise starts at:** Choose at which hour you want the game to go into *Sunrise* settings

**Day starts at:** Choose at which hour you want the game to go into *Day* settings

**Sunset starts at:** Choose at which hour you want the game to go into *Sunset* settings

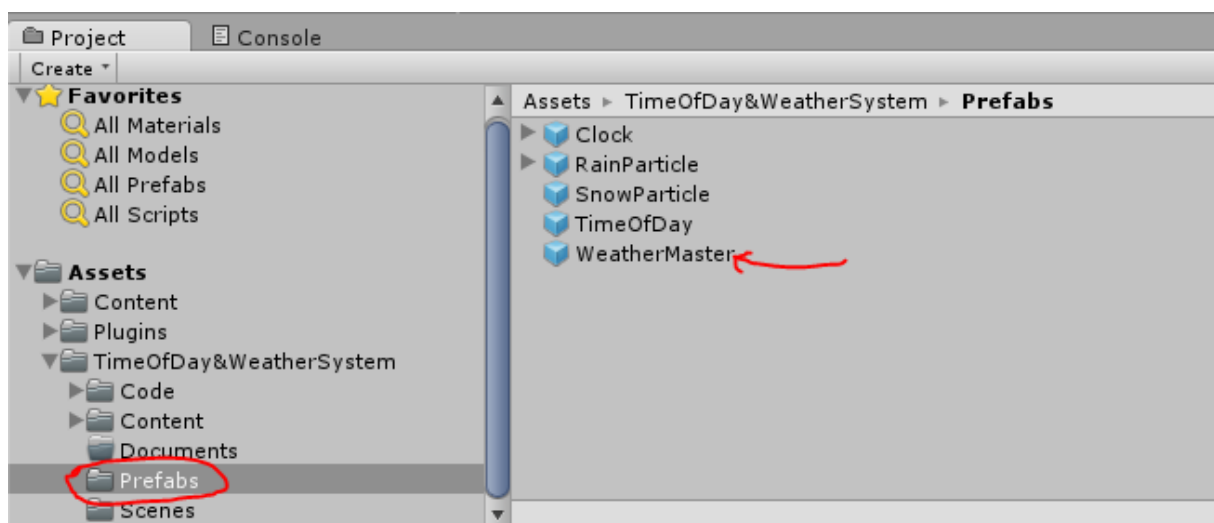
**Night starts at:** Choose at which hour you want the game to go into *Night* settings

## Weather Master

### Setting up

#### How to

Go into: TimeOfDay&WeatherSystem -> Prefabs -> Pick the one called WeatherMaster and drag it out into your scene.



After you have dragged it out in your scene, click on the object in your *Hierarchy tab* and you will see the different settings in the *Inspector tab* where you can choose the settings you want to use.

### Settings Weather controller

**Show more information:** If you check this box, you will get more information about some settings straight in the editor.

#### Add gameobjects, lights and materials

**Time of day (Gameobject):** Here, you need to add the time of day that you have placed in the world (see how to place it in the world under **How to for the time of day**)

**Skybox (Material):** Here, you add the skybox material you use in your game. (If you don't know where to find this you go to Windows -> Lighting -> Scene and it says there. \*You can also double-click on the material to find it in the *Project Tab*.)

**Cloud (Material):** Here, you add the material you use for your clouds. This is needed so you can change the color of them when needed.

#### Weather settings

**Starting Weather:** This is a dropdown menu with all the current weather types existing in the weather master. If you choose a weather type in the weather master, the game will start with this type of weather. If you choose RANDOM or NUMBEROFWEATHERTYPES the game will randomly pick one of them for the beginning.

**Using procedural skybox:** If you are using the procedural skybox shader, remember to check this box. If you do so, you will have further options that you will need to change in all the weather types.

**Use random weather:** In the default setting, the random weather option is activated. That means that you randomly get any of the weather types that are checked below. If you choose to un-check this option, you should change *Starting weather* to the type you want, if you keep it on RANDOM, the system will by default go into SUN.

**Use SUN, CLOUDY, RAIN and so on:** With these settings you can pick which of the weather types you want the game to be able to use. The ones you turn off never occur during the game. So if you for example don't feel like weather type SNOW is fitting for your game, turn this type off, and it won't occur.

**Random day weather change:** If you want the weather to be able to change on a random amount of set days, keep this checked. If you leave the box unchecked, you get another setting, where you can pick the amount of days between the weather changes.

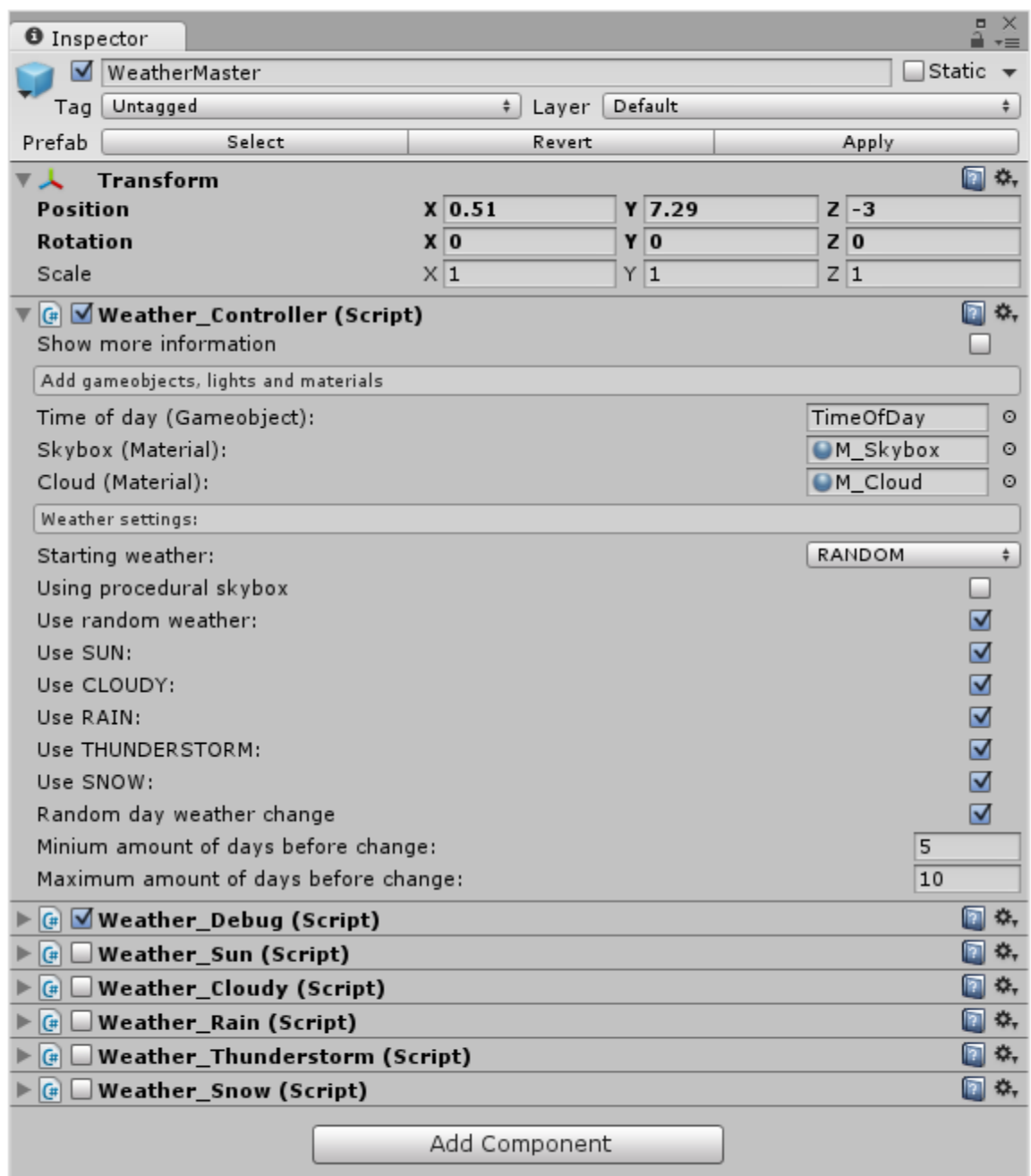
**Minimum amount of days before change:** Here you set the minimum amount of days before the systems tries to change weather.

**Maximum amount of days before change:** Here you set the maximum amount of days after which the systems tries to change weather.

If **Random day weather change** is turned off you get this setting:

**Change weather every day(s):** Here, you set the amount of days after which the system always tries to change the weather.

**\*IMPORTANT:** The weather will try and change after either the set days, or it will pick a random number between your minimum and maximum. However, if the weather type that is randomly chosen happens to be the same weather type you already have, there won't be a change in weather. Then it will instead skip changing the weather until next time, when it will try again.



### Settings Weather types \*All of them

*I will explain these settings using the example of SUN as it has all the basic settings that all other weather types also have. For all the special settings there are, look at the end of this document (for example THUNDERSTORM has some special settings).*

**Show more information:** If you check this box, you will get more information about some settings straight in the editor.

### Sound settings

**Weather Sound:** For some weather types this option is activated by default and for others it is deactivated by default. (For example, SUN does not have a sound by default.) However, you can turn it on or off on all types.

*If **Weather Sound** is activated you also get these settings:*

**Sound (Gameobject):** The reason we have a Gameobject for the sound is so that the level designer can place the gameobject in the world thereby defining where the sound comes from. (For example, if you want bird twitter you might only want it to come from the forest and not from all over the world). *\*Note: If the weather effect has a particle I expect the sound to come from the same place as the particle and therefore you don't need to set a special gameobject in those types.*

**Sound (Audioclip):** The audioclip you want to play.

**Sound time to fade in and out (in sec.):** Here, you write the value in seconds how long it should take for the sound to fade in and out when the weather effect starts and exits.

**Audio volume:** Here, you set the volume for the sound that plays.

*End of **Weather sound** extra settings*

#### Fade effect settings

**Effects fading time (See “more info.”):** This is the duration time it will take for the effects within each timeset (e.g. sunrise) to fade in. For example, the time it takes for the skybox color to go from the current color to the full sunrise skybox color as soon as the system enters *timeset Sunrise*. The settings this timer affects is: Light intensity (both SUN and MOON), Light color (both SUN and MOON), Skybox color, Cloud color, Fog amount, Fog color.

*\*In the future I'm going to add the option to use different “fade” times for different timesets. If you are in the hurry for this, please email me and I will prioritize this task on my todo list – Added in version V.1.1.*

**Time before INIT starts:** INIT stands for initialization. This is when the effects of this weather type will start (not any of the options that is set in **Effects fading time (See “more info.”)**). For example, if you set the effects fading time for RAIN to 5 seconds, you might want to set 10 seconds for Time before INIT starts. That would mean that it gets dark and cloudy during five seconds and after five more seconds, it actually starts raining. That is, the designer has the option to first let the clouds and all other settings change to grey rain colors before the particle effect sets in. *\*Note: If you want this to work the way intended, you need to have a longer timer on the **INIT** than you have on the **fade time**, as the timers starts at the same time. They start at the same time so the designer can choose to give them the same amount of time and then for example the rain would start as the effects have just finished fading.*

#### Temperature settings

**Lowest temperature:** Set the lowest temperature you want the game world to have at minimum during this weather effect.

**Highest temperature:** Set the highest temperature you want the game world to have at maximum during this weather effect.

#### *About some of the settings below:*

**\*IMPORTANT:** For some of these settings you have different options for different timesets (Sunrise, Day, Sunset and Night). What that means is that when the system switches to that timeset the affected setting will change into the setting you picked. Take the example of Skybox color: If you have Sunrise = Orange, Day = Blue, Sunset = Red and Night = Green, the color of the skybox will change into this color starting when the “clock” reaches the beginning of this timeset. (See more information about timeset settings under the **Time of Day** part of this text). For all settings that use

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this setup, for example the light intensity that is our next option below, I won't explain this for every timeset but give you an overall idea what the setting does.

### Directional light (SUN) intensity settings

This changes how intense the light is going to be during the different timesets. *\*Note: I recommend that you keep the SUN intensity set to 0 during nights if you use a MOON.*

### Directional light (SUN) color settings

This changes what the color of the light is during the different timesets.

### Directional light (MOON) intensity settings *\*If you don't use a moon you can skip this setting*

This changes how intense the light is during the night. *\*Note: During every other timeset the moon is automatically set to 0 for the intensity.*

### Directional light (MOON) color settings *\*If you don't use a moon you can skip this setting*

This changes what the color of the light is during the night.

### Skybox color settings

This changes which color the skybox has during different timesets.

### Skybox ground settings *\*This is only needed for the procedural skybox shader.*

*\*If you are using the procedural skybox shader in Unity, make sure to set check this box as that will give you some more color settings for the ground.*

This changes which color the ground should use during different timesets.

### Cloud settings

**Cloud color:** Here you can pick which color you want your clouds to have during the different weather types.

### Fog settings

**Fog amount:** Here you set how much fog you want to have during this weather effect.

**Fog color:** Here you set which color you want the fog to have.

### Settings Weather types *\*Special for RAIN*

#### Particle settings

**Particle effect:** Here you put the rain particle you want to use. *\*As I have written earlier in this text, if you have rain sound, it will come from the particle placement.*

### Settings Weather types *\*Special for THUNDERSTORM*

#### Particle settings

**Particle effect:** Here you put the rain particle you want to use. *\*As I have written earlier in this text, if you have rain sound, it will come from the particle placement.*

**Thunder sound (AudioClip):** Here, you put the thunder sound you want to use for each "lightning".

**Thunder sound volume:** Set how loud you want the thunder sound to be.

### Thunder settings

*\*The lightning light is based off a Point light.*

**Next thunder in sec. (min):** This is the minimum amount of time you want between each lightning.  
*\*It will pick a random time between the two values you choose.*

**Next thunder in sec. (max):** This is the maximum amount of time you want between each lightning.  
*\*It will pick a random time between the two values you choose.*

**Lightning (Light) intensity (max):** This is how strong you want the light from the lightning to be when it is strongest.

**Lightning (Light) range:** Here, you choose how big of an area you want the light to cover.

**How long should the light from the lightning be seen:** Choose how long you want the lightning (light) to be seen. *\*This value is in seconds*

**Lightning spawn location min. distance (from Weathermaster):** This is how far from the weather master you want the lightning to spawn at minimum distance. *\*It will pick a random time between the two values you choose.*

**Lightning spawn location max. distance (from Weathermaster):** This is how far from the weather master you want the lightning to spawn at maximum distance. *\*It will pick a random time between the two values you choose.*

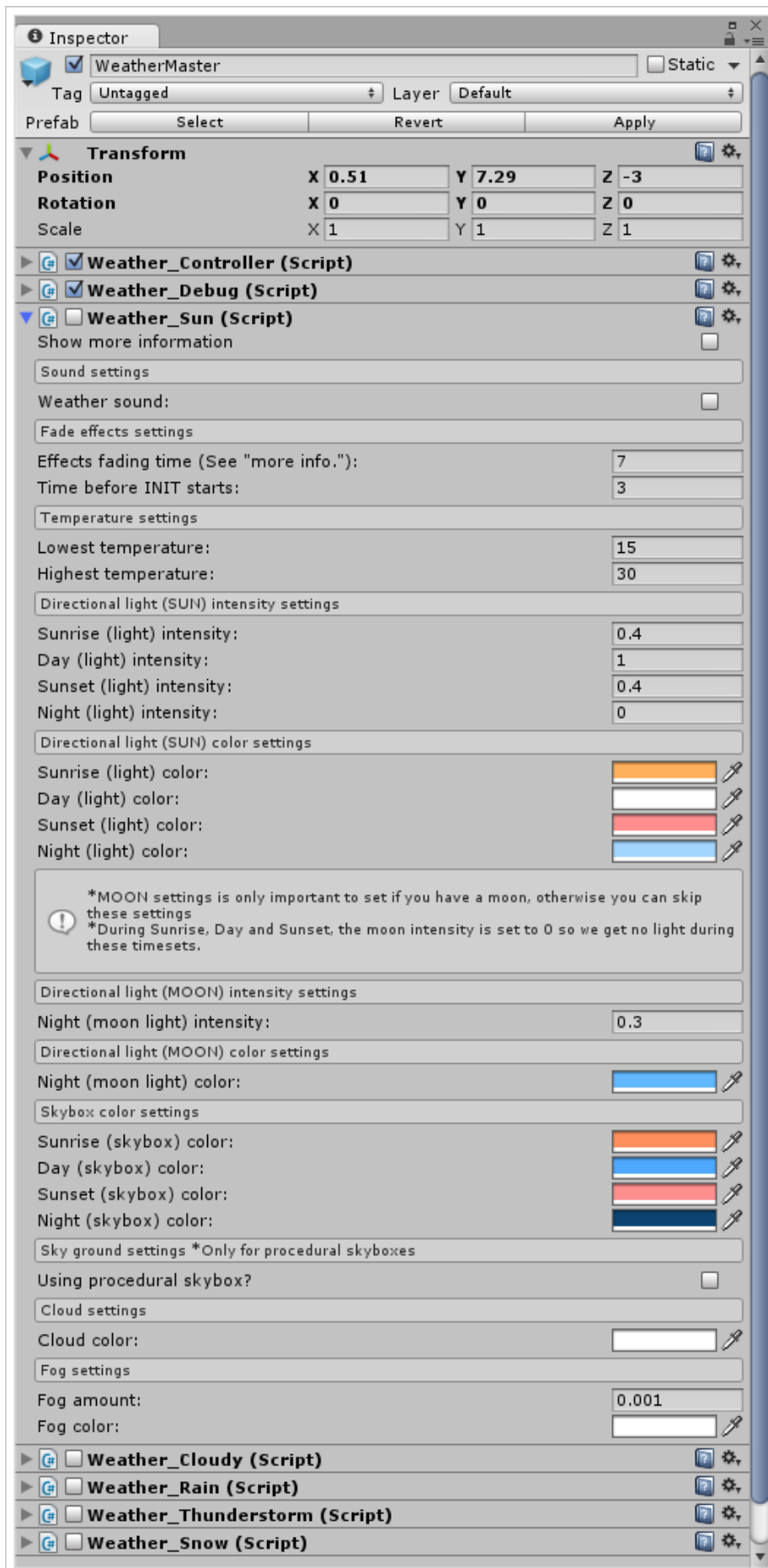
**Lightning spawn height location (from Weathermaster):** How high up in the sky (from the weathermaster) do you want the lightning to spawn.

Settings Weather types *\*Special for SNOW*

Particle settings

**Particle effect:** Here you put the snow particle you want to use. *\*As I have written earlier in this text, if you have rain sound these will come from the particle placement.*

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## New settings added with version 1.1

### Different fade times for different timesets

For a longer description of this look under *Fade effect settings* from version V.1.0. I've added the ability to have shorter or longer fading times per timeset. So if you want the colours during sunrise to switch faster than during sunset this is now possible. All you need to do is turn on the option **Use different timeset fade times**.

### Use more or less fog during sunrise

If you want to have more or less fog during sunrise this is now possible. All you need to do is set the **Use different amount of fog during sunrise** and it will give you the option to change this as you please.

### Add a special particle to begin at different timesets

Another thing that is added is that you now have the ability to add particles that start at each timeset. You can add one particle effect per timeset on each of the weather effects. All you need to do is drag the particle effect as a gameobject into the box and it will start and end with the timeset. This is good if you for example want there to be fireflies during night, but not during the day.

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