

# Procedural Terrain Generator

## Brief description

A procedural terrain generator allows you to create a terrain using a set of noise generators. Generators have a similar interface and a set of parameters. Generators use Perlin noise. Each generator is created for its purpose: generating landscape, textures, trees and grass.

## How to use

1. Create a terrain
2. Assign the necessary generator files to the terrain.
3. Set required noise parameters
4. Click "Generate" button on each of the selected generators.

## Basic noise parameters

Octaves	Number of levels of detail you want you perlin noise to have
Scale	Number that determines at what distance to view the noise map
Lacunarity	Number that determines how much detail is added at each octave
Persistence	Determines how much each octave contributes to the overall shape
Offset	By changing this parameter at random, you can make random noise

## Basic parameters of generators

Randomize	Randomly changes the Offset parameter after generation calling.
AutoUpdate	Causes generation after each parameter change

## Modules

### Generators:

*HeightsGenerator* – generates terrain heights

Width	Terrane width
Length	Terrane length
Depth	Terrane height
HeightCurve	Rate of change of heights curve
FalloffDirection	Direction of change in average height

FalloffRange	Slope of the average height
UseFalloffMap	Use a fall in average height

*TexturesGenerator* – generates textures using custom images

Textures	Custom textures list
----------	----------------------

*GrassGenerator* – generates grass using a custom image

MinLevel	Minimum height of grass appearance
MaxLevel	Maximum height of grass appearance
MaxSteepness	Maximum landscape slope for grass appearance
IslandsSize	Size of grass areas
Density	Grass density on the map

*TreeGenerator* – generates trees using custom trees objects

MinLevel	Minimum tree height
MaxLevel	Maximum tree height
MaxSteepness	Maximum landscape slope for tree appearance
IslandsSize	Size of trees areas
Density	The density of trees on the map

## **Interfaces:**

*IGenerator* – interface for generators

*IMap* – interface for height maps

## **Editors**

*GrassEditor* - basic Editor for Grass Generator

*HeightsEditor* - basic editor for a height generator

*TexturesEditor* allows you to select custom textures.

*TreesEditor* is for a tree generator allows you to select custom trees objects

## **Maps**

*FalloffMap* - allows to choose between an island, a central sea or a plain

*PerlinMap* - generates a noise map