



# Overview: digital landscapes

## **Exploring lost landscapes**

Data acquisition: digimap, lidar, scanning, photography

Data integration: Digital Elevation Model integration: QGIS

Transcoding: Digital Terrain Model: World Machine

Landscape Creation: Unreal 4 Game Engine

Painting Layers and Curating Scenes

Media Layering and animation: weather, lighting, soundscapes

Exporting media















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Examples of digital landscapes

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https://sketchfab.com/3d-models/callanish-04-stone-02-8f58d6194efd456eae20ea6fbaf7ccbc

https://sketchfab.com/3d-models/callanish-04stone-05-bd04bb8a6c88418ca073116a11c18056



https://sketchfab.com/3d-models/bass-rock-model-9937ab7a2c1440c299f579ad08837d54





### What is Digimap?

Digimap is an online map and data delivery service, available by subscription to UK Higher and Further Education establishments. Operated by EDINA at the University of Edinburgh, Digimap offers a number of data collections, including Ordnance Survey, historical, geological, UDAR and marine maps and spatial data.

## What are we offering?

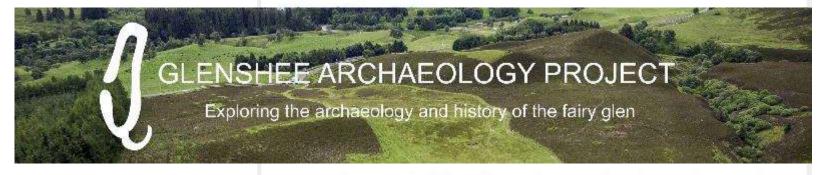
Digimap offers access to a range of datasets for the purposes of education and research. Create or interrogate a map online by selecting an appropriate base map, adding annotations and customising the content, use measurement and query tools to learn more about any study area. Download the raw spatial data in a wide range of formats for use in local GIS, CAD or image processing software.

#### Subscription Information

Digimap is available to members of subscribing higher and further education institutions in the UK. Individual registration is required, but the service is free at the point of use. More information about subscription fees can be found on our website.







http://www.pkht.org.uk/projects/completed-projects/glenshee/



Venture deep into the hills and visit a lost Pictish settlement that people called home 1,500 years ago.

#### By Alison Campsie

Tuesday, 7th April 2020, 5:00 pm Updated Wednesday, 8th April 2020, 5:07 pm



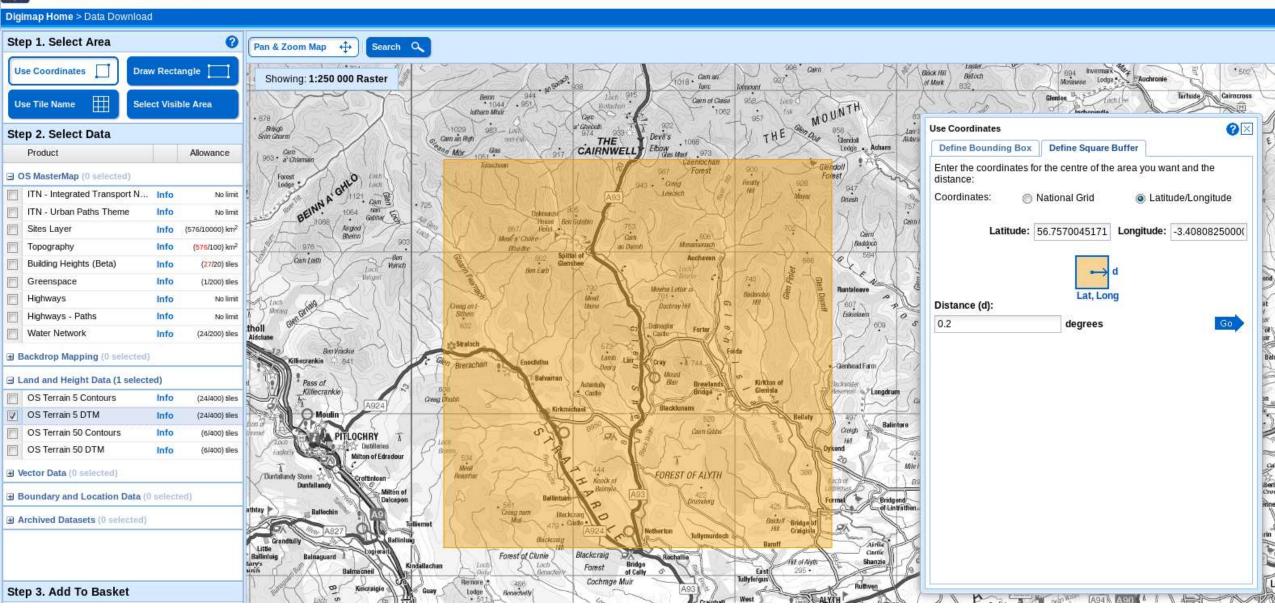


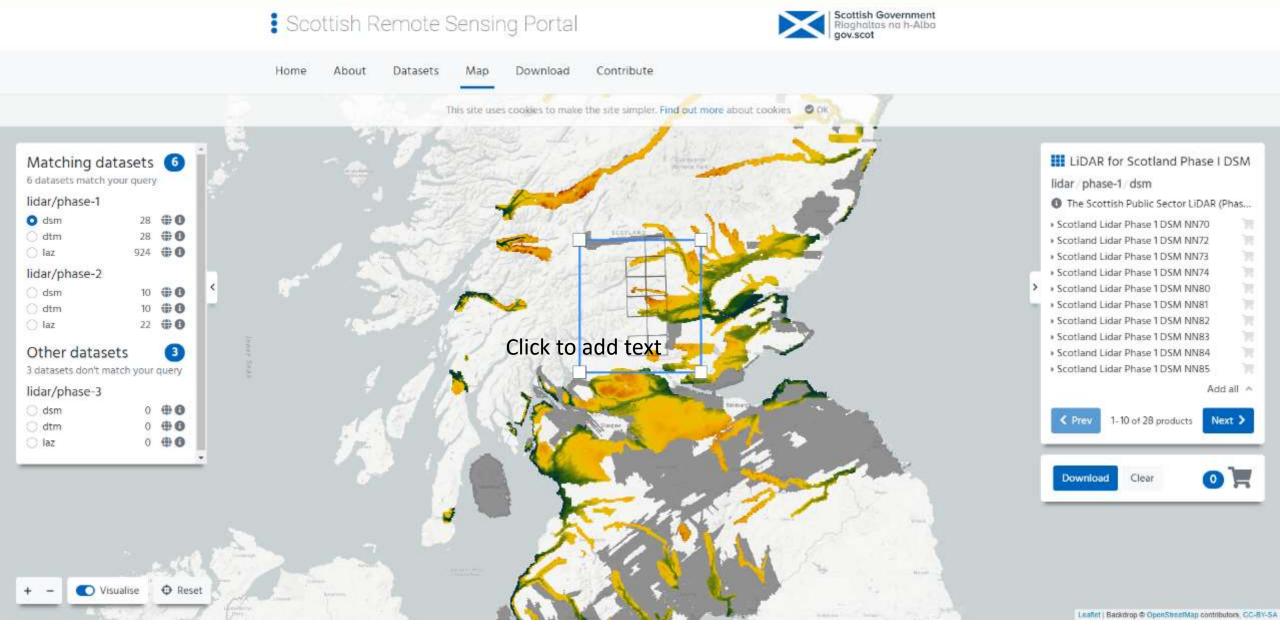






## Data Download





https://remotesensingdata.gov.scot/data#/list

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English

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#### Latest Project Blog Posts (blog.qgis.org)

Q - 2020/08/20 - Anita Graser receives the 2020 Sol Katz Award

Q - 2020/08/21 - Say helfo to the QHackFriday

Get Started



Start using QGIS for your GIS tasks.



Get Involved

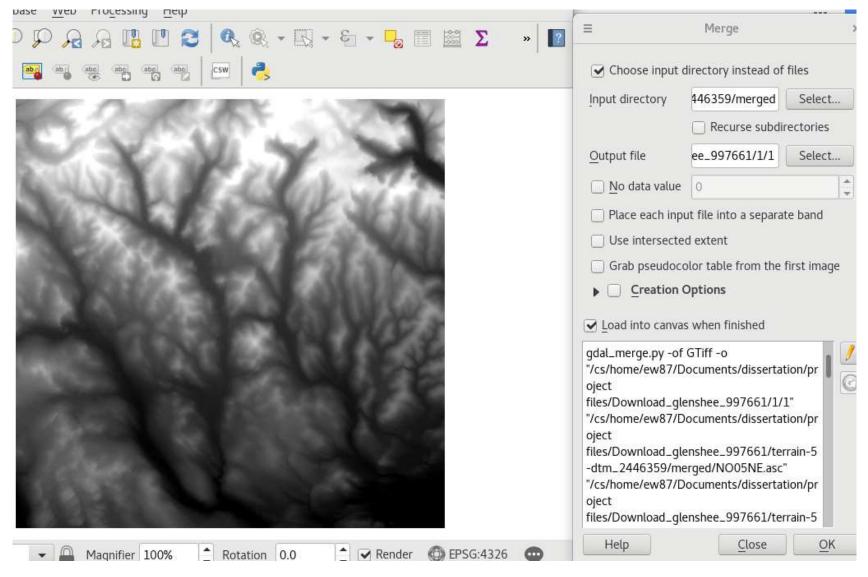
Shape the future of QGIS with your contributions.

Learn More



Find training materials and reference documentation.

# QGIS

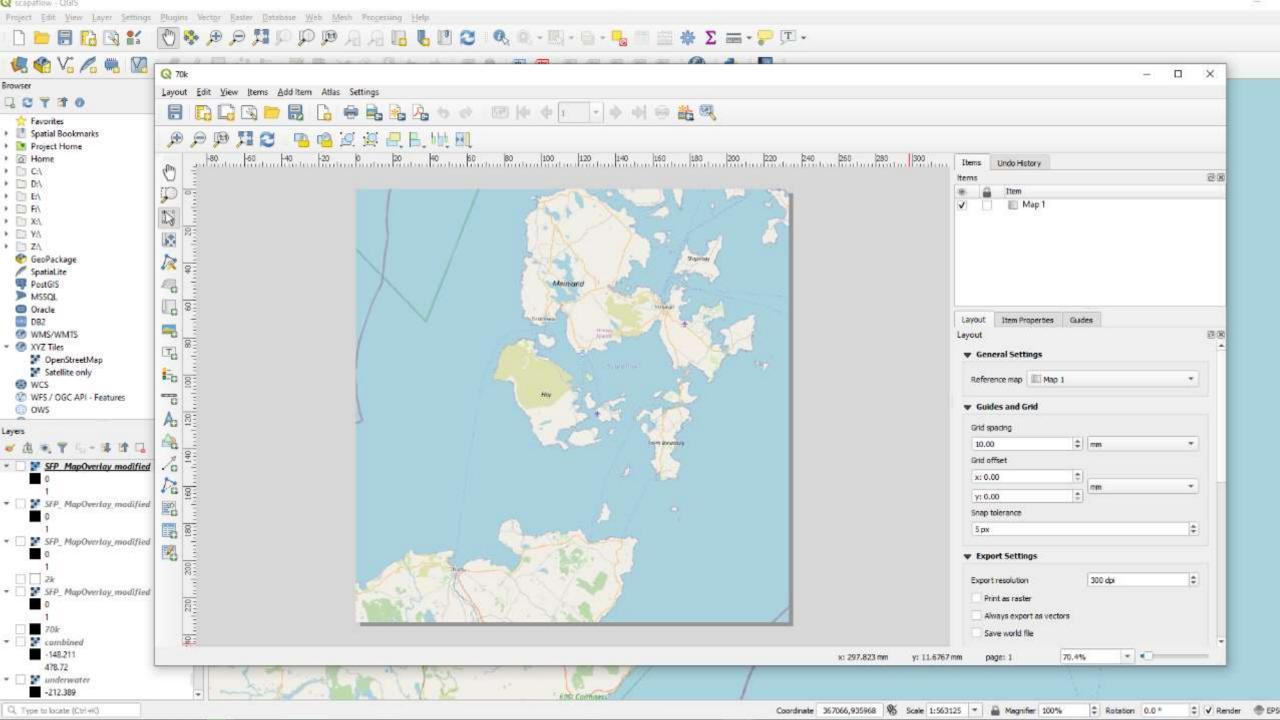


Select new project

Raster → Miscellaneous --- → Merge

Since Digimap generated the folder that has ASC format files with other extensions, put all ASC into separate locations, while selecting them for the input directory.

Set the default CRS to be British National Grid (EPSG:27700).



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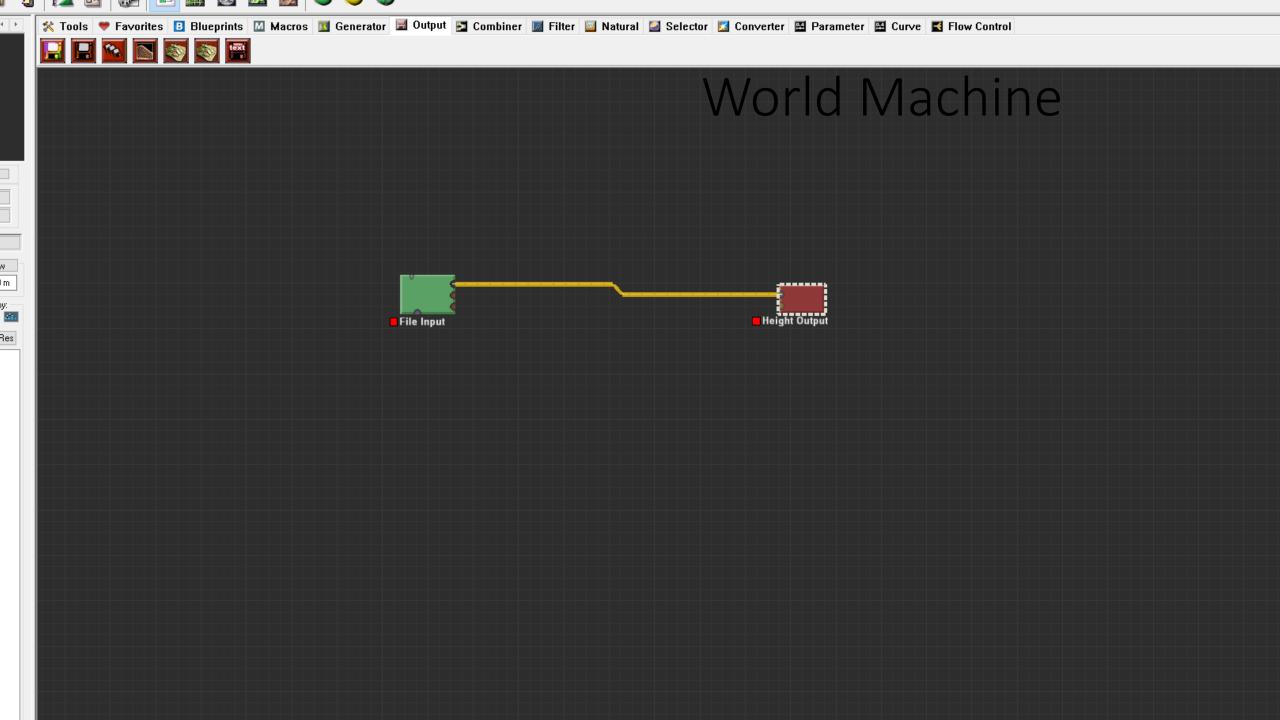
**Transcoding: Digital Terrain Model: World Machine** 

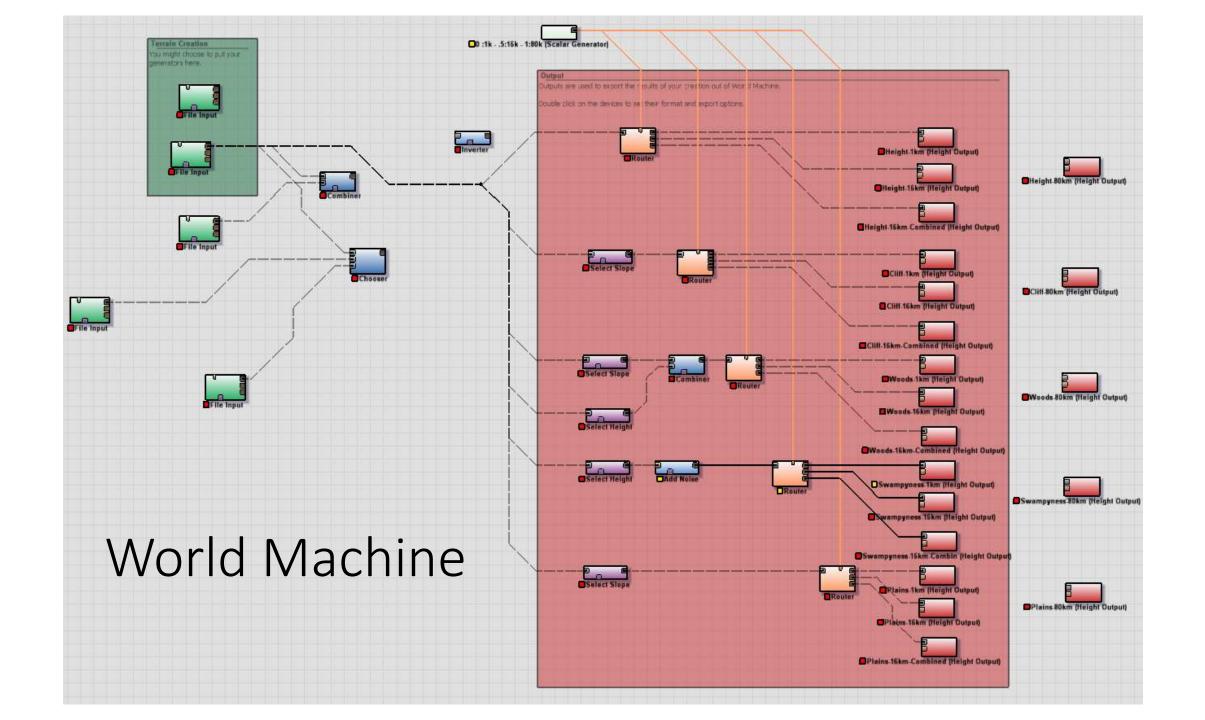
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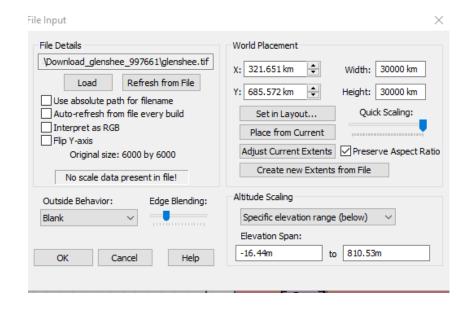
Exporting media

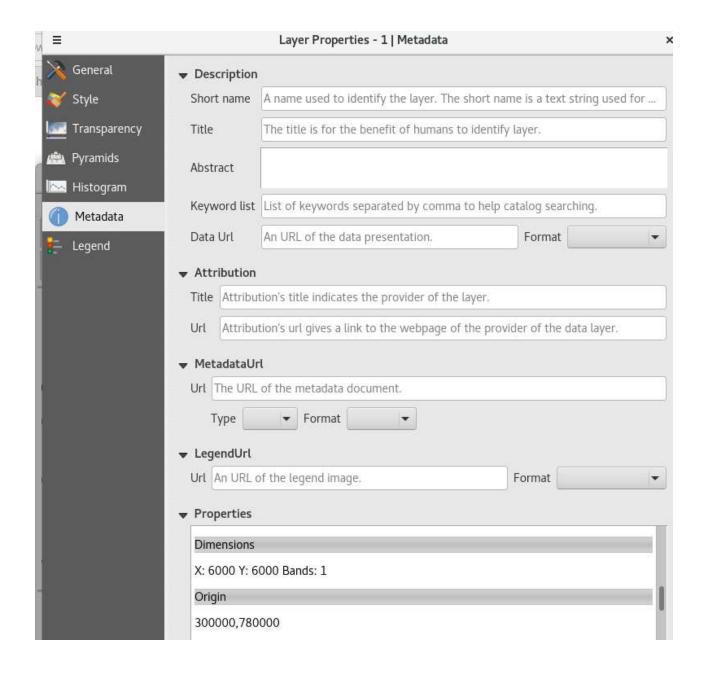




# Scale your world

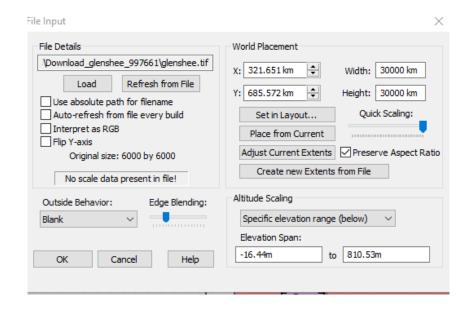
- Area of the terrain
- So we can rescale the heights correctly for WM

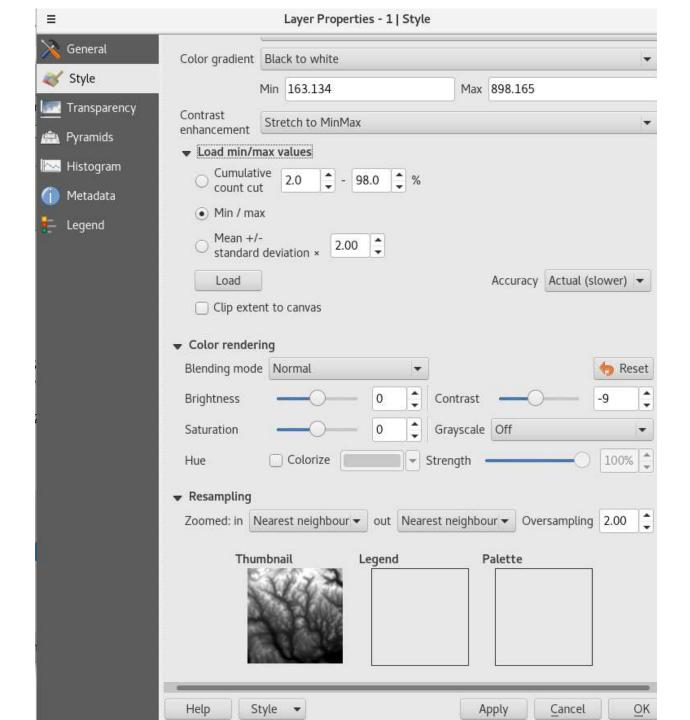




# QGIS height values

Read from QGIS enter into World Machine





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## Start Building your Terrain

And it's five! Just a few things to know...



#### Free for non-commercial use

You're good to go as long as you do not sell or otherwise profit from any work containing the assets you build within World Machine.

If you want to do that, or need higher resolution output, you can buy one of our full licenses.

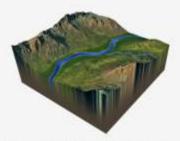


#### Fully featured (well almost)

This is not a time limited trial.

The only feature limitation of the free Basic Edition is that you cannot build or output an asset larger than 518xS13 pixels.

Otherwise, you have access to everything in the Standard Editioni



Receive a free email course helping you learn to use World Machine, along with updates, tutorials, and exclusive offers.

#### Your Name

Enter your name (upbonal)

#### Email address

Enter email (optional)

We'll never share your erral, with anyone else.

Yes, I'd like an occasional newsletter!



#### Full of Examples

Easily browse and modify our example worlds. You're welcome to base your own worlds on



#### Compatible with Windows 7,8,10

World Machine requires a Windows PC to run.



#### Want More?

Get higher performance, better workflows, and exclusive access to beta features by purchasing the Standard or Professional Edition



#### LATEST NEWS

Development Blog

#### NEWSLETTER SIGN UP

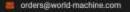
Enter your e-mail and subscribe to our newsletter.

Email Address

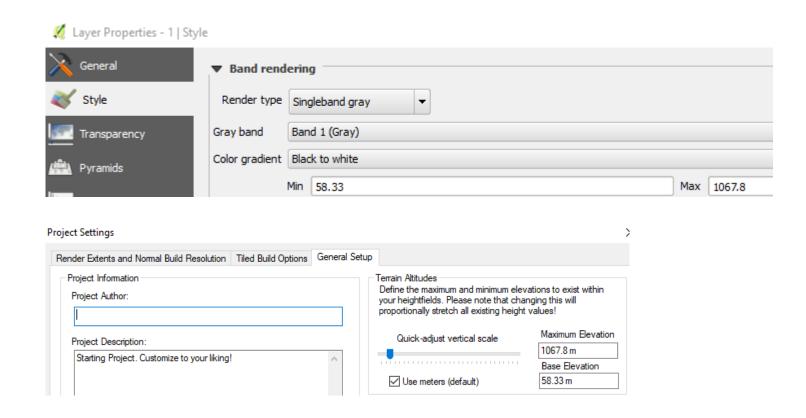
#### COMPANY INFO

#### About Us

helpdesk@world-machine.com



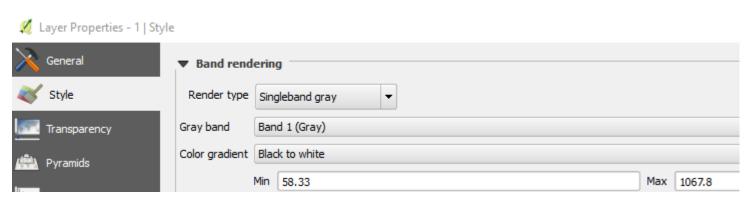
# Set up the World Machine Project

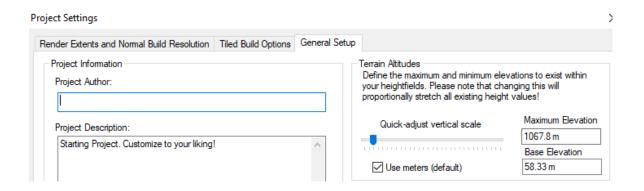


# Set up the World Machine project

- Read values from QGIS
- Enter values in WM

 Export in 16 bit png format





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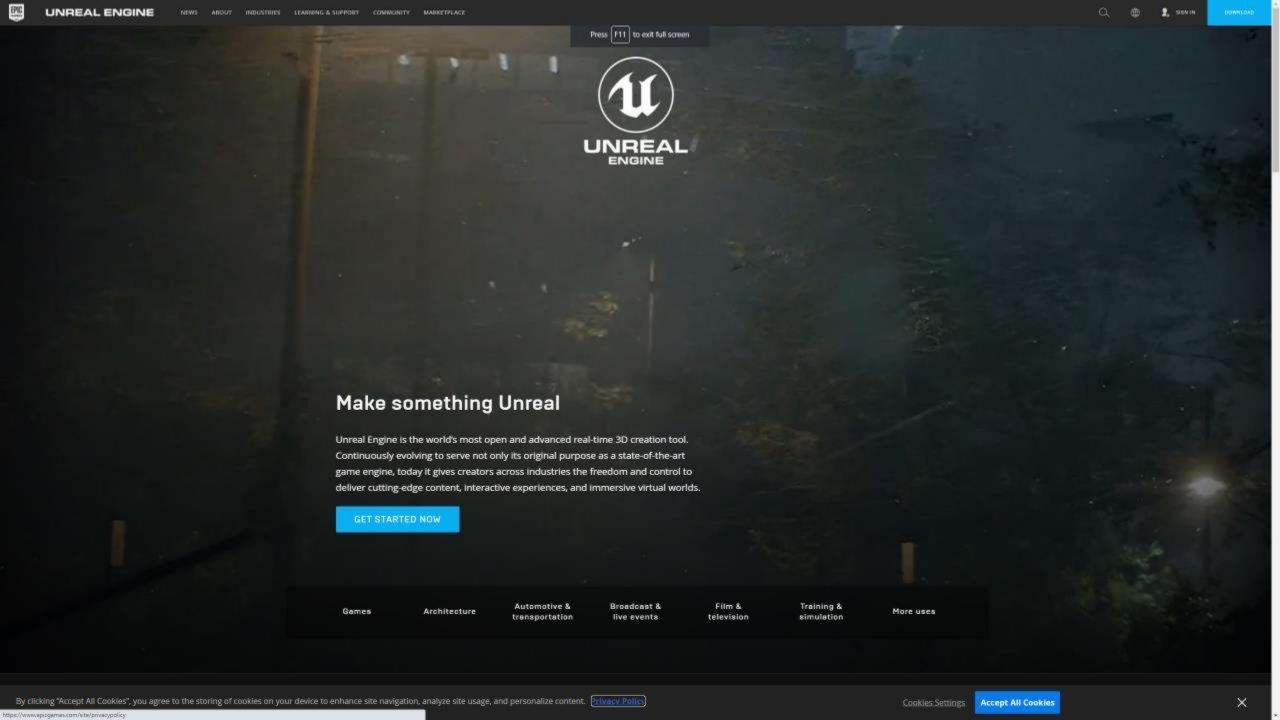
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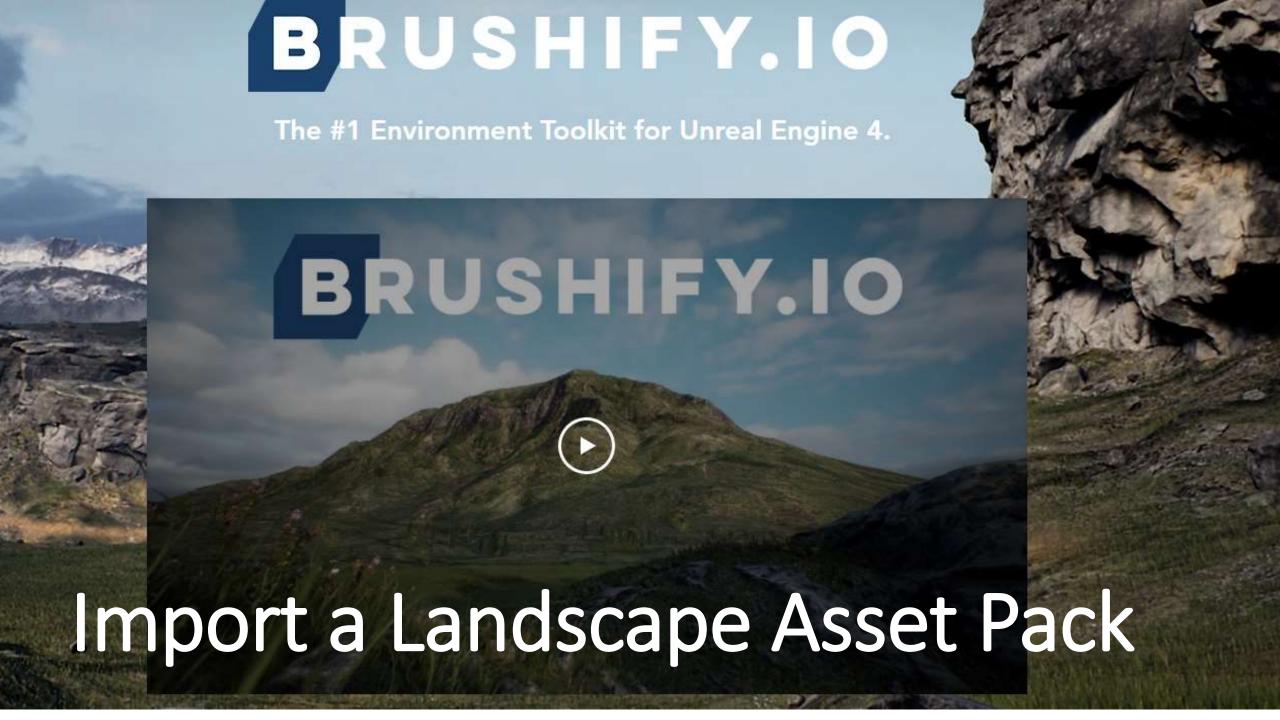
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## **Painting Layers and Curating Scenes**

Media Layering and animation: weather, lighting, soundscapes

**Exporting media** 

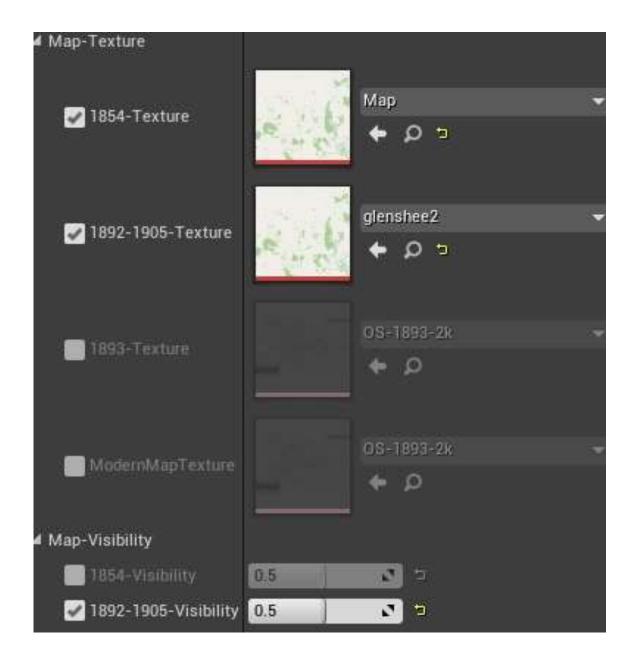
# Layers in UE 4

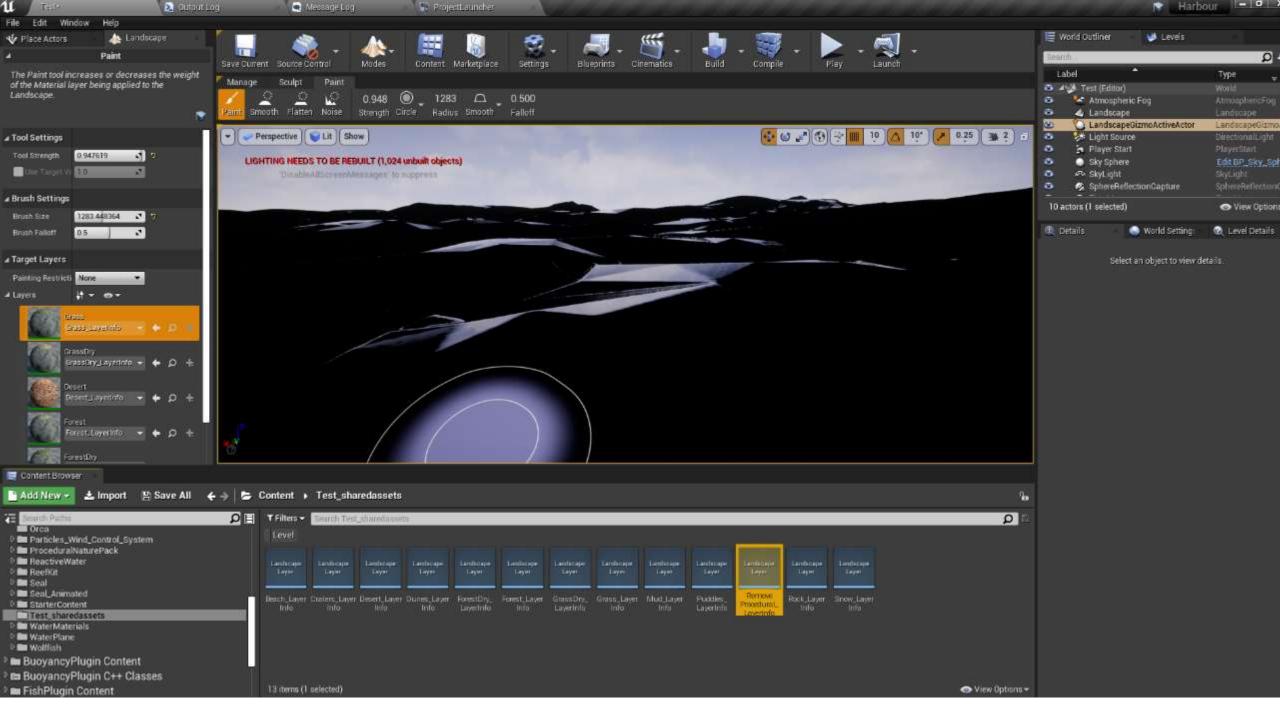
- Painted onto landscape
  - Descriptive name
  - Contain
    - Vegetation
    - Rocks
    - Trees
    - Grass
  - Parametrically arranged

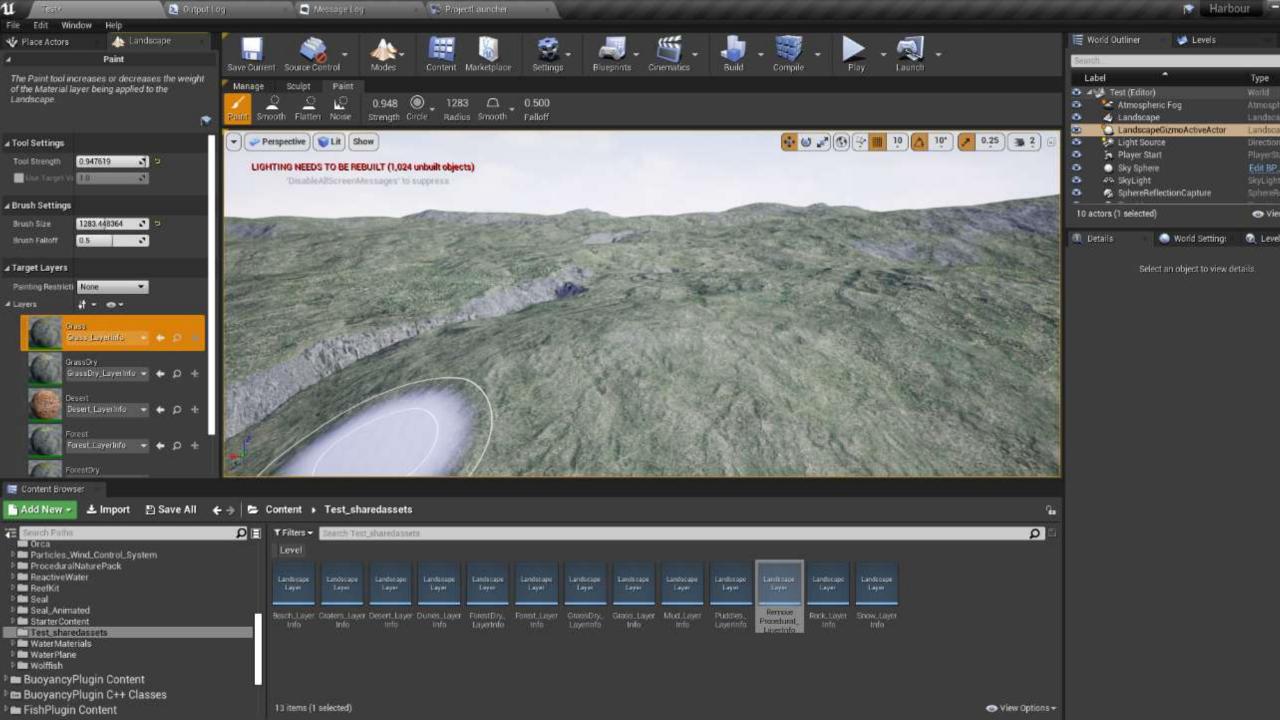


# Map textures

- Add an overlay map as an alternative to the layers
- Helps in painting on layers
- Helps in placement of assets







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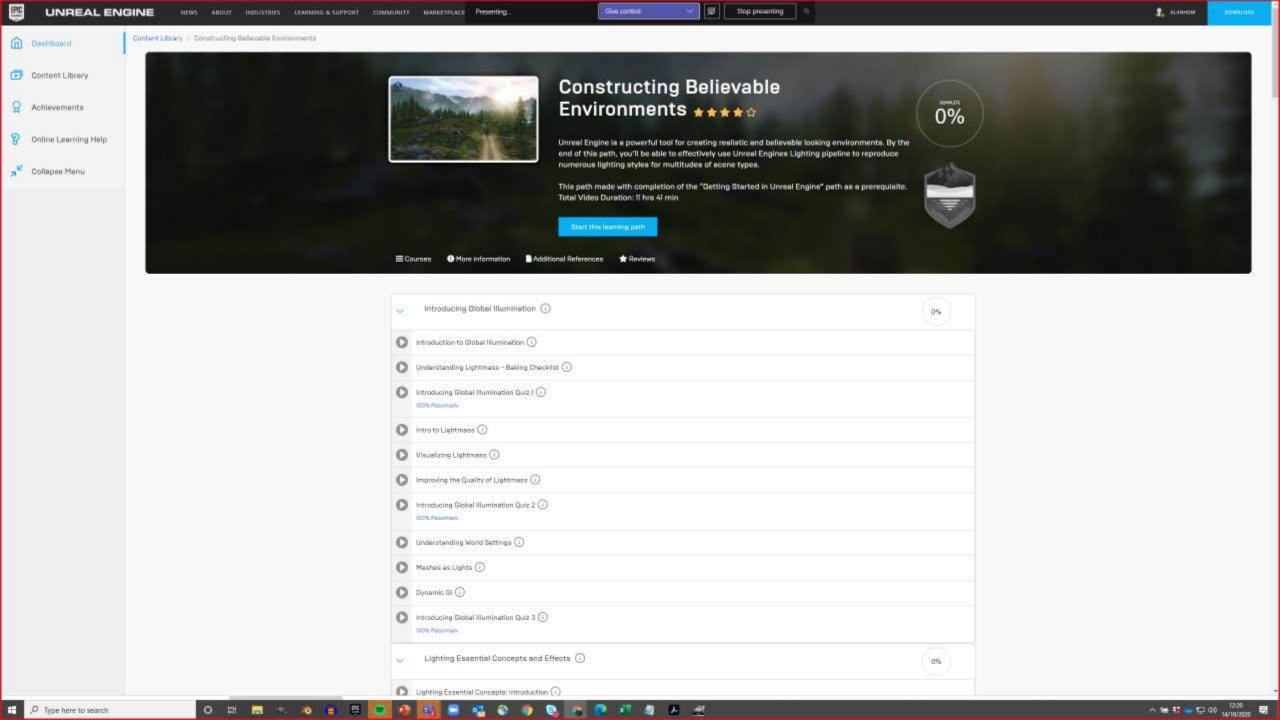
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• QGIS: <a href="https://www.qgis.org/">https://www.qgis.org/</a>

World Machine <a href="https://www.world-machine.com/">https://www.world-machine.com/</a>

• Unreal 4 <a href="https://www.unrealengine.com/">https://www.unrealengine.com/</a>





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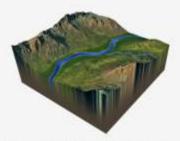


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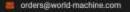
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At Products Models . Materials, Shaders, Textures . Scripts and Addons . Render Setups . Training .



#### This addon is free !

You can download it here: https://github.com/xavier150/Blender-For-UnrealEngine-Addons I am the creator and I use this page to have more visibility on my work and for the person who wants to support me :).

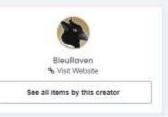
This Add-on allows you to export content created with Blender to Unreal Engine 4.

It works with Blender 28 and earlier versions

Working on object packs for Unreal Engine 4 can be tedious with Blender. That's why I created the Add-on "Biender for UnrealEngine". It simplifies the method of exporting from Blender to



#### \$25 - Purchase



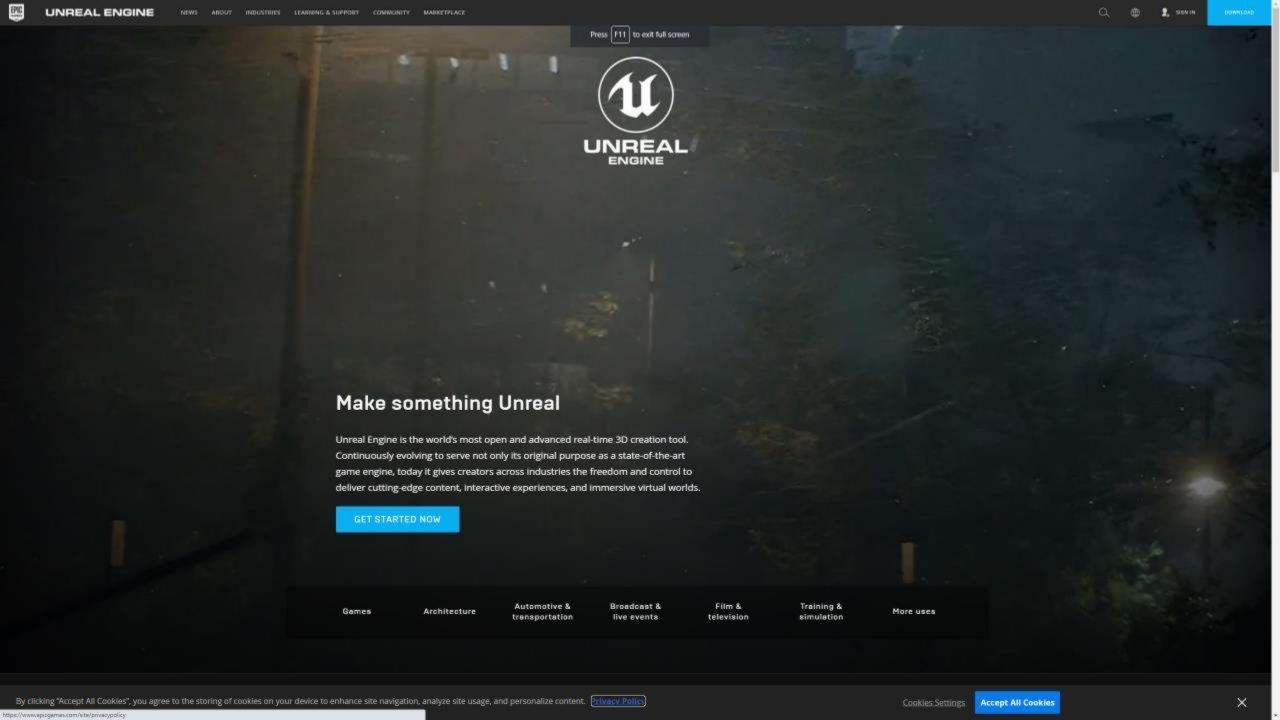






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# Modelling and Import

- Structure from motion: https://blendermarket.com/products/blender-for-unreal-engine/
- Blender: <a href="https://blendermarket.com/">https://blendermarket.com/</a>
- Blender for Unreal

https://blendermarket.com/products/blender-for-unreal-engine/ https://www.unrealengine.com/en-US/blog/download-our-new-blender-addons

