Earth To Landscape documentation

Choose a real location, import its terrain, then add imagery, roads, buildings or flow maps. This guide covers the main editor workflow.

Before you begin: Use Windows 64-bit and Unreal Engine 5.8; this release was tested with 5.8.3. Terrain imports require a non-World-Partition level. Keep an internet connection available for maps and downloads.

Install and open the tool

In Unreal, open **Edit > Plugins**, enable **Earth to Landscape**, and restart when prompted. Required built-in dependencies are enabled with the plugin, including beta Python and modeling plugins and an experimental modeling toolset.

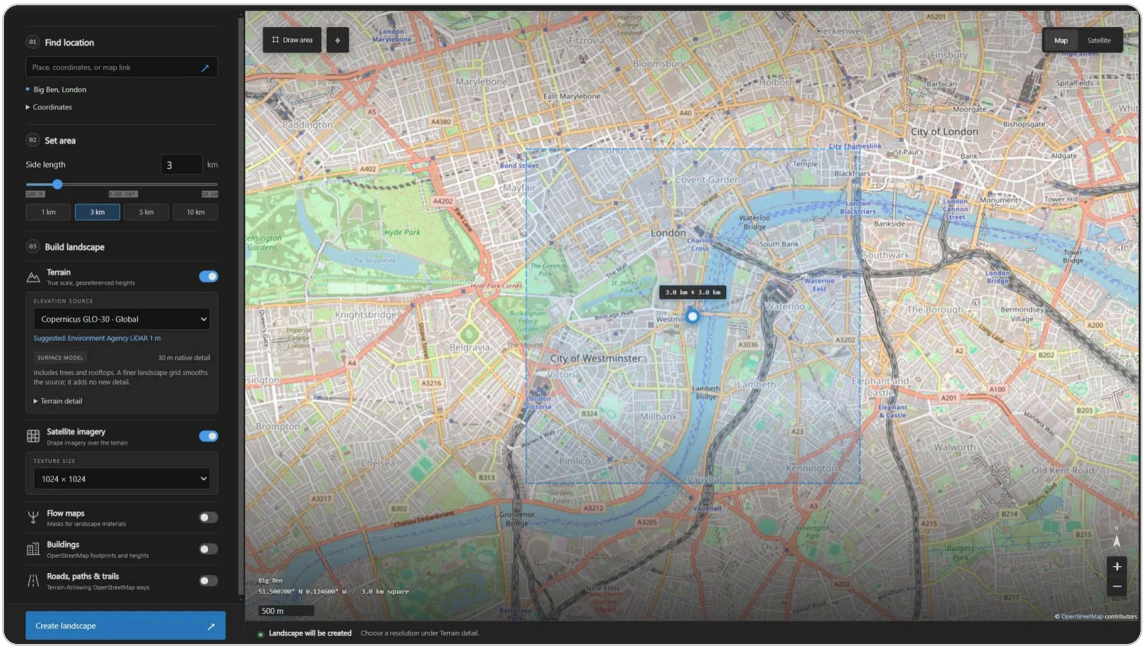
Open your level, then choose **Tools > Earth to Landscape**.

1 Find a location

Enter a place name or latitude and longitude under **Find location**, then submit the search. Drag the blue area pin to adjust the position. **Map** and **Satellite** change the map preview; Satellite does not automatically apply imagery to your terrain.

2 Choose the area size

Set **Side length** or use **Draw area** to define a square. Start with a 1 km area for a first test. The screenshot shows a 3 km square; the larger mountain examples later use 20 km.



The main interface with a selected area and Terrain and Satellite imagery enabled.

3 Select terrain and imagery

Under **Build landscape**, turn **Terrain** on and select an **Elevation source**. Copernicus GLO-30 is the global default. Regional LiDAR options offer finer source detail where coverage is available; a suggested source does not guarantee coverage.

Expand **Terrain detail**. **Standard** creates a 1009 by 1009 grid; **Detailed** creates a 2017 by 2017 grid. Existing landscapes keep their current layout. A finer grid uses more memory and cannot invent detail missing from the elevation source.

Turn on **Satellite imagery** to drape an image over the terrain and choose a texture size. Higher sizes use more memory.

4 Create and inspect the landscape

Click **Create landscape**, or **Update landscape** when a Landscape is connected. Keep Unreal open and pause sculpting until the job finishes. Terrain is downloaded and verified before dependent layers continue. When complete, click **Show in viewport** to frame the result.



Mountain Landscape with imagery applied. This example uses a 20 km area.

Save your work: Save the level after importing. Generated textures, materials and meshes appear under **Content/EarthToLandscape**, grouped by terrain and import.

5 Add buildings and roads

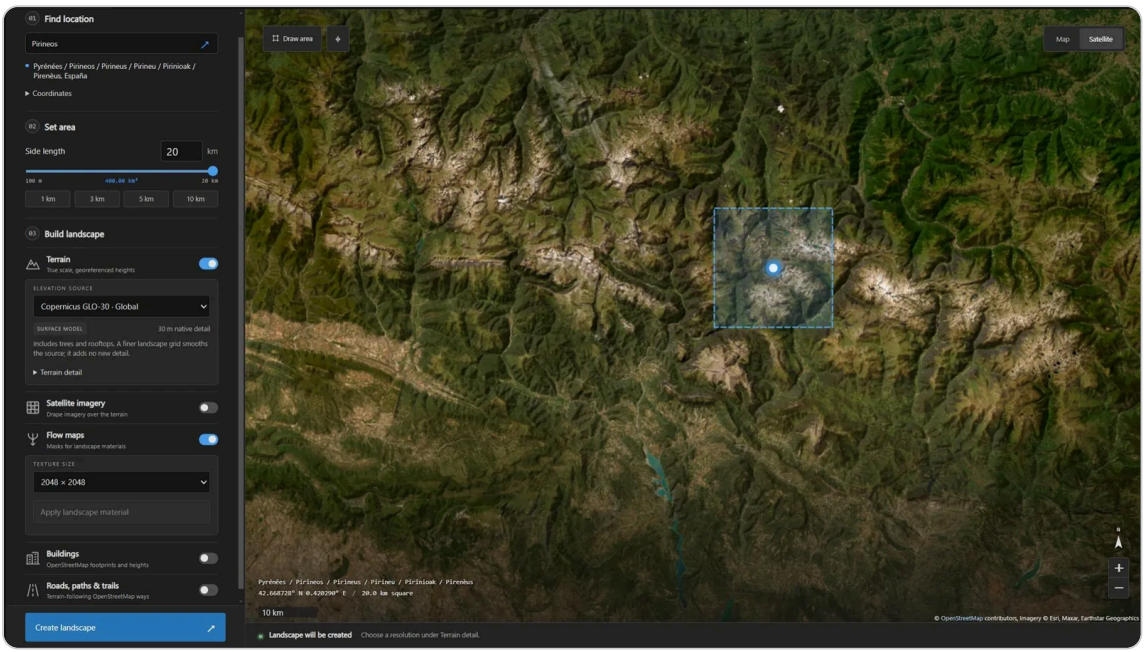
Enable **Buildings** and/or **Roads, paths & trails**. Scroll down for their options. These layers use OpenStreetMap data: buildings are approximate extruded footprints, and roads and paths follow the available mapped ways.

To keep imported terrain unchanged, turn **Terrain** off. Roads and buildings still follow a matching Earth To Landscape terrain. With no Landscape in the level, they use a flat plane. A manually created terrain without geographic metadata cannot be matched automatically.

Merged roads are split into bounded meshes. Dense networks can still consume substantial time and memory; imports above 3 km per side show a road warning. **Create editable splines** adds editable spline actors, but editing a spline does not automatically rebuild its road mesh. **Cut roads into terrain** requires terrain and changes the incoming heightmap. Click the main import button to create the selected layers, then wait for completion.

6 Generate flow maps

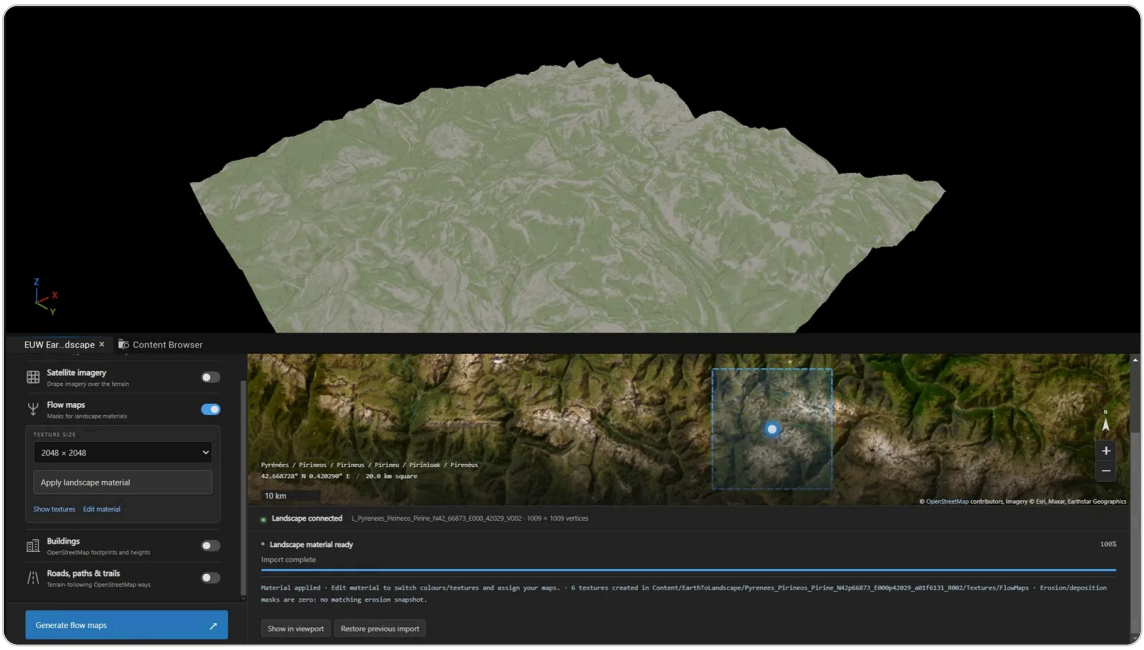
Turn **Satellite imagery** off and **Flow maps** on, then choose the texture size. Imagery and flow maps cannot be enabled together. For an existing supported Landscape, select only Flow maps and click **Generate flow maps**. This analyses the current surface without changing its heights.



Flow-map settings. The Satellite map preview is separate from the Satellite imagery import toggle.

7 Apply and adjust the landscape material

In **Flow maps**, click **Apply landscape material** to generate masks and assign a material. Use **Show textures** to find the generated maps and **Edit material** to adjust the material instance. Assign your own base colour, normal and roughness textures, or set **UseTextures** off for the Colours mode.



A landscape material applied using the flow-map workflow. You can customize its colours and textures.

Flow maps represent potential drainage, not measured wetness or a live water simulation. Regenerate them after sculpting or road cuts.

Save update and recover

Save the level after every import or material change. To update an imported area, select its Landscape if the level contains several, open the tool and choose the layers to update.

If a layer fails: Read **Import details**, resolve the reported issue, then click **Retry remaining**. Completed layers are reused. Missing provider coverage may require a different source or a smaller area.

To undo the latest import: Use **Restore previous import**. It retains one previous import state per Landscape, not a full level history. Save the level and preserve **Saved/EarthToLandscape/jobs/restore** for recovery across sessions.

Support: sir.studio.tools@gmail.com. Include your plugin version, Unreal version and the error message.