



Real terrain maker is an easy tool for creating terrain with the real geographic data. Specifies the geographic coordinates, and make a terrain of anywhere on the earth in a few clicks. This plug in runs depend on the Google map service, which requires Google's Elevations API and Staticmap API.

Features:

Picture downloads:

Image saved in a folder for each time the generate starts.

Map Style:

Besides satellite, three more types of terrain texture supported. It is convenient for making a 3D map.

Real Elevation data:

Using the elevation data of Google map, over 30 meters in most of the Earth areas.

Easy setting:

To make a terrain faster or in high quality, simulate the real world or make an extravagant land. All setting can be made in a few clicks.

Save in many types:

The data downloaded can be saved in mesh, terrain and prefab. Material is created automaticity.

Adjustments saving:

Can save keys and other setting for the other time.

Preset template:

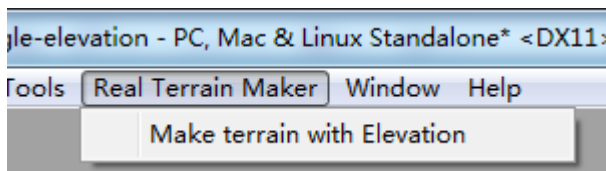
Include some common options for fast data preview or high details terrain creating.

To free users, Google does limit the number of elevation samples, and limit the times of requirements in one day. Try to work within this limitation or upgrade the API key.

Full Source Code & Project Files are included.

Guide

1. Find Real Terrain Maker at your window menu.



2. The editor window will show up. Define the geographic coordinates and other setting, then start the process.

The area is determined by two points.
Using the latitude and longitude of northwest /southeast point is recommended.

Check the *load texture* box to enable loading texture from Google map.
Staticmap API required.

Set *zoom* to -1 to calculate the largest zoom automaticity.
If set to another value, all the pieces of tile will use the same zoom value.
Range 0 to 21.

Separate the terrain into 5*5 pieces.
Each piece of tile runs in it's own thread.

Create a piece of tile as mesh of 30*30. The mesh contents more detail in a larger segments.

Click *Start* to start the process.
You can stop all process by clicking *Stop* button.

The loading state of each piece is showing here.
If You Get some errors in loading, such as network problem, API key out of limitation, fix the problem and click *Retry* to reload the error pieces.

After filling all the parameter area, click save to keep the setting.

Log in your Google account and enable the API. The elevation API key is required.

Four types of map style provided

The size of one piece of tile in Z axis. The size of the full terrain will be 5 times 100 unit when the Pieces is 5*5.

The size is base on the Latitude . The size in X axis is less then in Z axes at the area of high latitude.

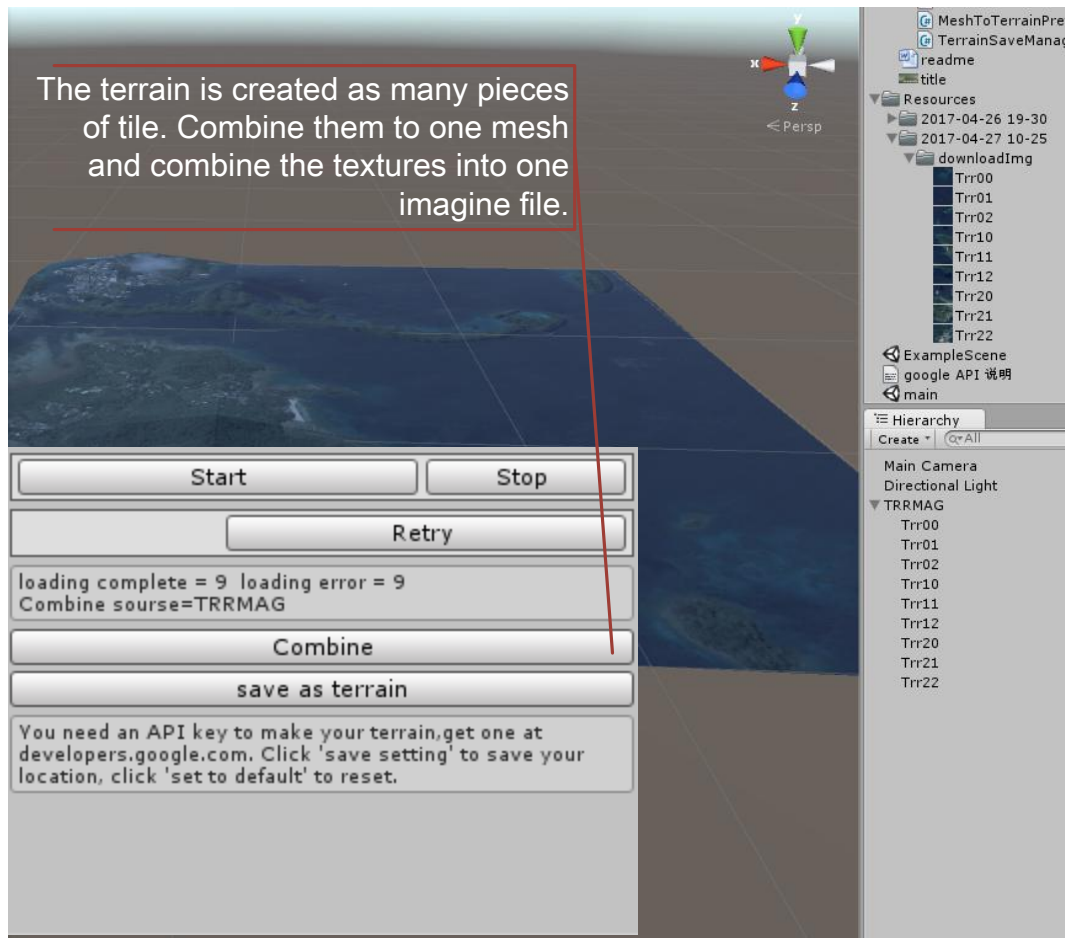
Add on the real height. The height of the result mesh is base on the size of each mesh; the real world distance of the area definition.
Set one to create the real elevation terrain.

The screenshot shows the 'EleDataToMesh' application window. It has a title bar with standard window controls. The interface is divided into several sections:

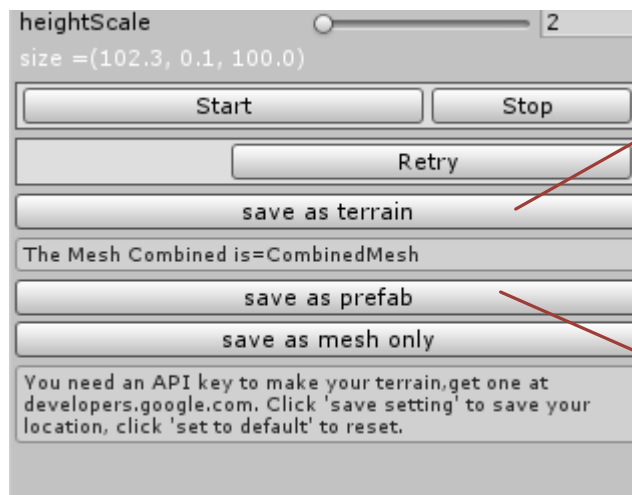
- geographical coordinate**: Contains sliders for 'lat' (31.2), 'lng' (-122.53), 'end lat' (31), and 'end lng' (-122.35). A 'more' button is to the right.
- API keys**: Includes text boxes for 'API KEY of google elevation service' (AIZA...), 'ELE API Key' (AIzaSyBh1FWrJnwfQz5M...), and 'API KEY of google staticmap service' (AIzaSyCnLoM6-ftnyH7R...). There is a checked box for 'Load texture'.
- texture type**: A dropdown menu currently set to 'satellite', with '<<' and '>>' buttons.
- Zoom**: A dropdown menu set to '-1', with a note 'set zero to calculate the zoom automaticity'.
- separate the full area into pieces**: Contains input fields for 'Pieces' (X: 5, Y: 5) and 'number of samples in each direction' (X: 30, Y: 30).
- size of each mesh in north-south**: A 'size' input field set to '100'.
- addition of real height data**: Includes a 'heightScale' slider set to '2' and a 'Size' field with the value '(100.0, 100.0, 100.0)'.
- Buttons**: 'Start' and 'Stop' buttons are at the bottom of the main settings area. Below them is a 'Retry' button.
- Status and Actions**: At the bottom, it shows 'loading complete = 25', 'loading error = 0', and 'Combine source=TRRMAG'. There are 'Combine' and 'save as terrain' buttons.
- Footer**: A small text box at the very bottom says 'You need an API key to make your terrain, get one at developers.google.com. Click 'save setting' to save your location, click 'set to default' to reset.'

After the terrain Gameobject created,
It can be combined to an all in one mesh ,or save as an Unity terrain.

3. After loading the real world geographic data, a new Gameobject will be created in the scene.



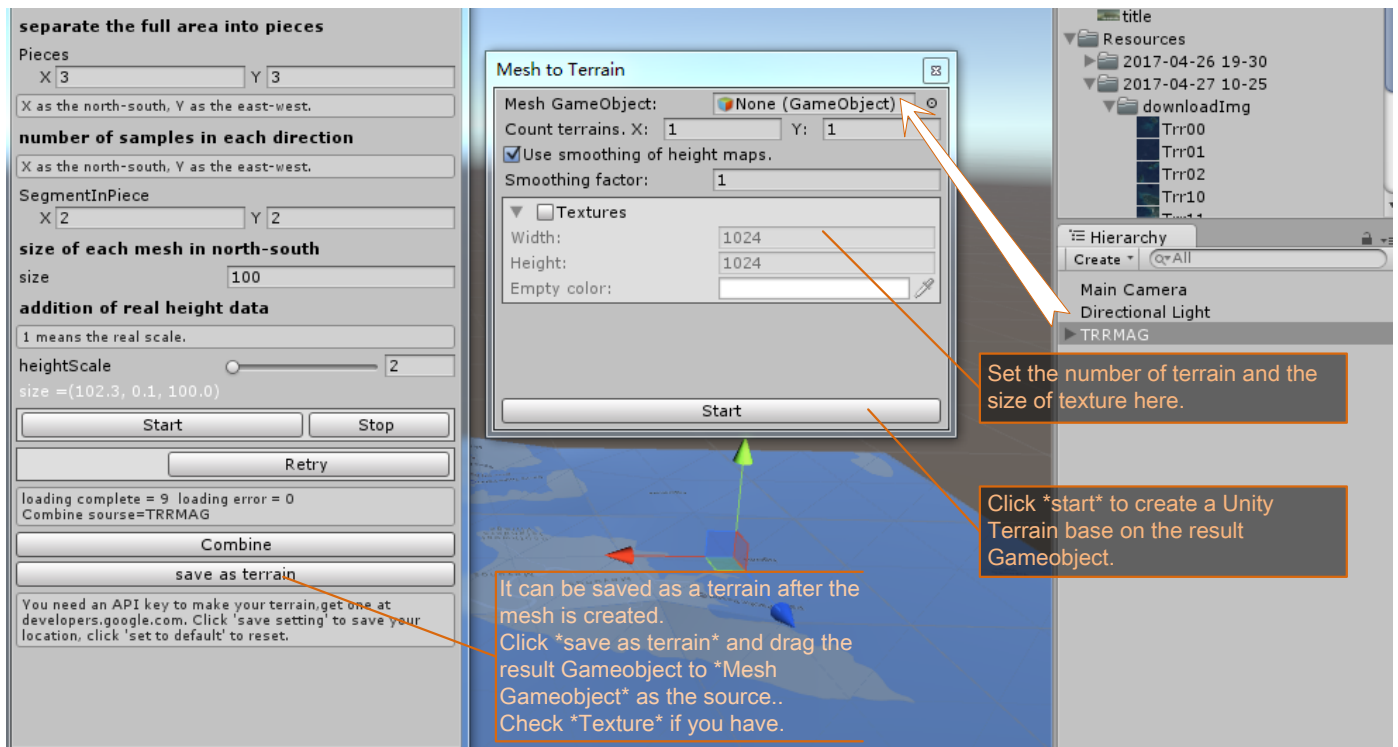
4. save the combined mesh to prefab for the later use.



After combined. The combined mesh can be save as prefab or mesh only. The prefab contents material and mesh. All the saved files in the Resources/system data directory.

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5. you can also save the result gameobject to Unity terrain as you like.



notice:

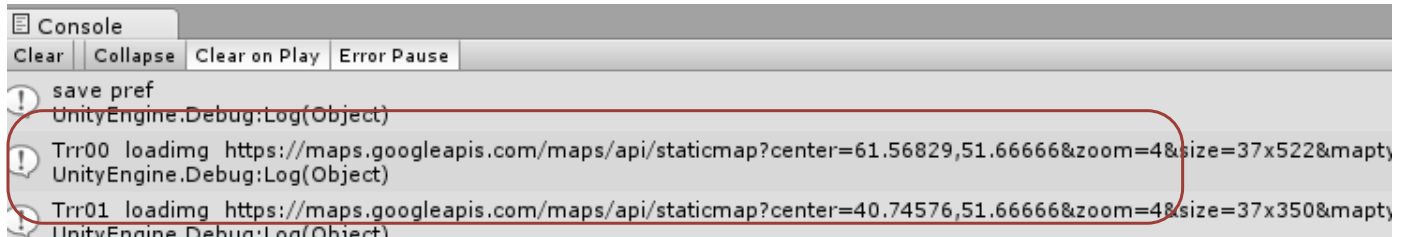
while using the Google map service you might meet some error message.

1. If you cannot download the right texture you want, try your query in your web browser.

example:

<https://maps.googleapis.com/maps/api/staticmap?center=location-lat,location-lng&zoom=your-zoom&size=your-sizeyour-size&maptype=your-maptype&key=your-API-key>

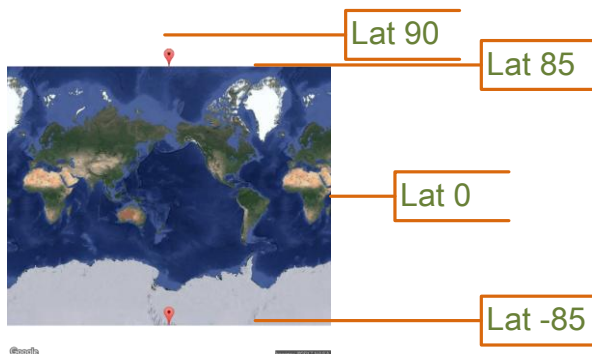
you can copy the query from the debug log.



2. If you receive a texture like this, it means Google do not present the image at this zoom scale. Try to set the *zoom* to a smaller value manually.

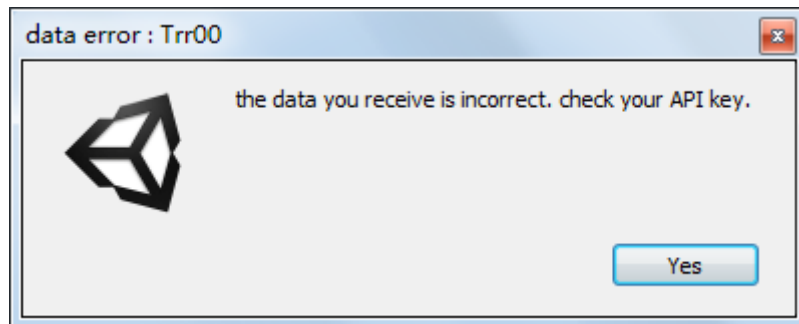


Google staticmap service does not present a image over lat +-85. if you want to create a terrain in this area, try ignore the texture.



3. The free staticmap API limits the image size to 640*640. The number of pieces determines the quality of the texture. Larger value of pieces.x and pieces.y lead to better texture, and slower speed. It's not suggested to set the pieces larger than 10*10.

4. The free user API limits the number of elevation samples, and the times of requirements in one day. If you work with a free API, confirm the `segmentInPiece.y` less than 511 and product of the number of pieces and `segmentInPiece.x` should less than 2500. If you receive this error, use another API key and click *Retry*.



5. To gain an API key, login your Google account and enable the API at:
<https://developers.google.com/maps/documentation/elevation/start>
and
<https://developers.google.com/maps/documentation/static-maps>
6. If you have not created the terrain completely in one time, you may receive some warning when you combine the meshes. You can go on combine them if you are satisfied with the result data.