PVSYST SA TUTORIAL

PVSYST 7

3D Procedures
Ground & Topography

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INTRODUCTION

This document is a help following your request for support.

The complete reference manual for PVsyst is the online help that is accessible from the program through the “Help” entries in the menus, by pressing the F1 key or by clicking on the help icons inside the windows and dialogs.

Contents

1: Importing a ground topography from Google Earth

- Open Google Earth Pro (this software is free even if it's called "Pro")
- From the menu "Tools>Options>Navigation", check "Do not automatically tilt while zooming" (in order to be always in a 90° top view from the ground)
- Select a location by setting and address or by scrolling with the mouse
- Click on the "Path" tool  and draw as many points as possible with the mouse to define the desired area (the polygon tool will only generate the elevation data for the polygon's corners, it's not sufficient to extract the topography of the polygon area)
- On "Altitude tab", select "Ground level"

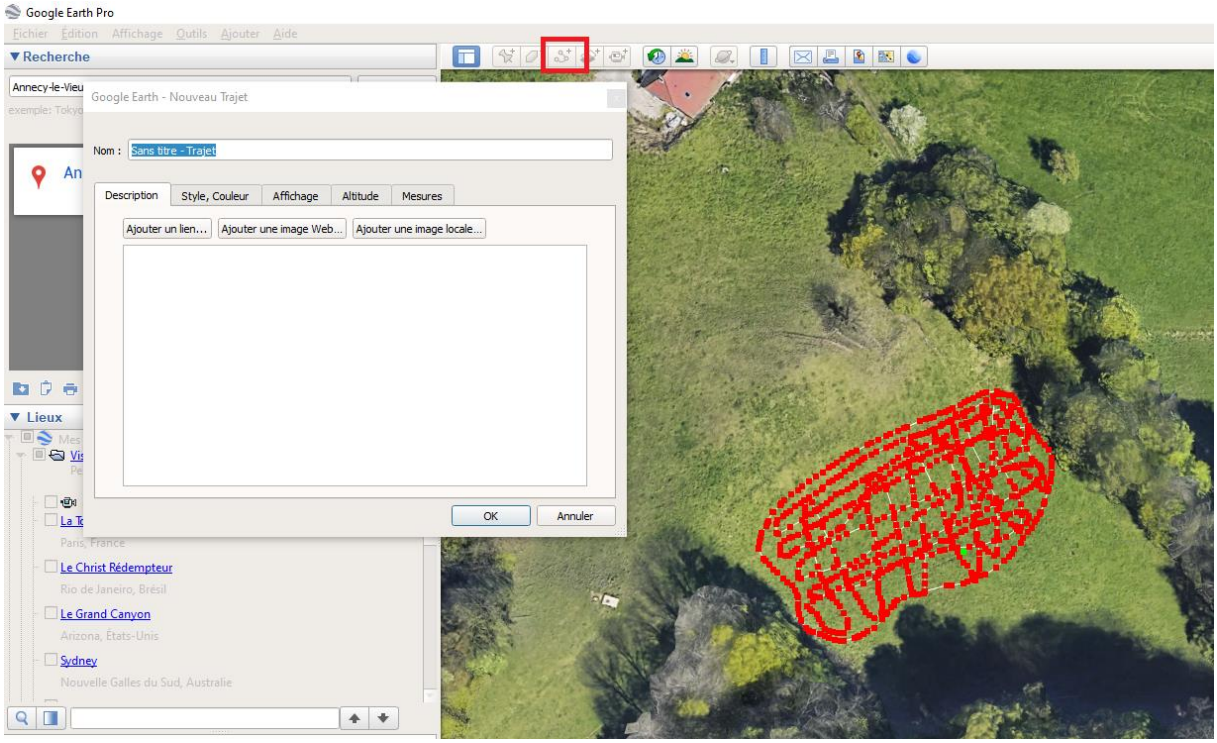


Figure 1 : Google Earth Pro

- Click on "OK" to close the path tool

- Select the generated path and save it as a KML file :

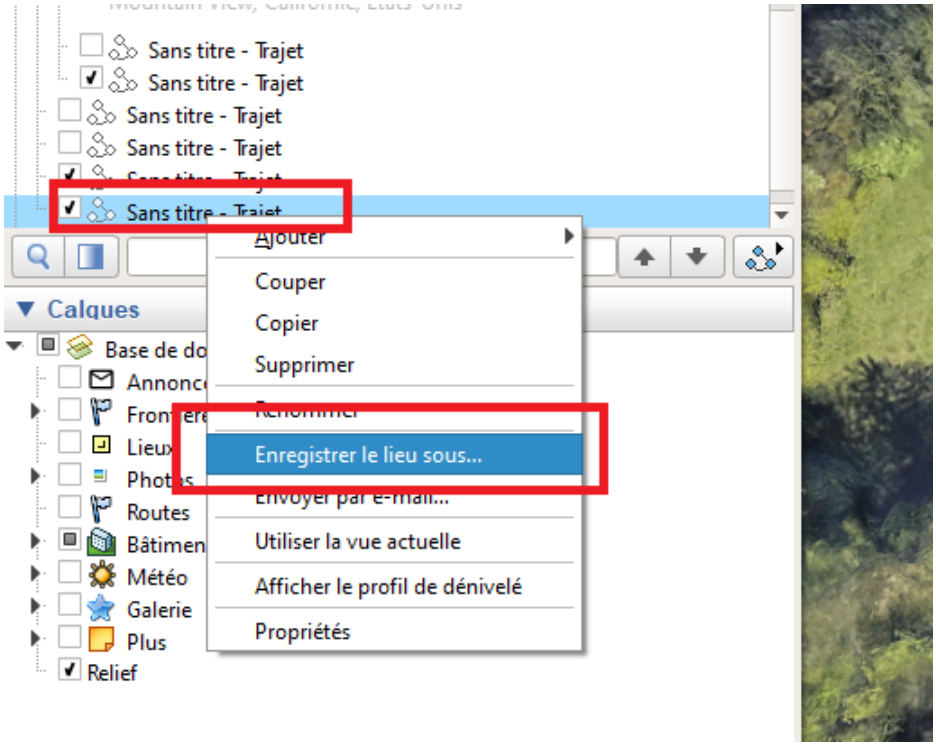


Figure 2 : google earth - Save as

- Go to https://www.gpsvisualizer.com/convert_input
- Select “Plain text” as “Output format”
- Select your KML file from “Upload your files here”
- Select “Semi-colon” for “Plain text delimiter”
- Select “Best available source” in “Add DEM elevation data” list

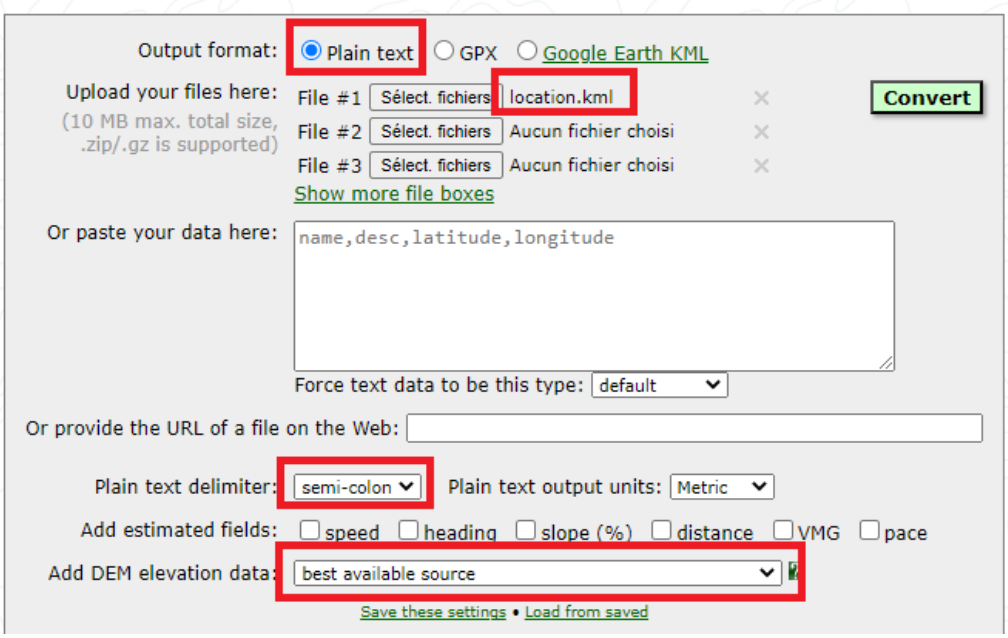


Figure 3 : Google earth - Output format

- Click on “Show advanced parameters”
- Select “No” for “Repeat header row in plain-text output”
- Select “Yes” for “Output UTM coordinates”

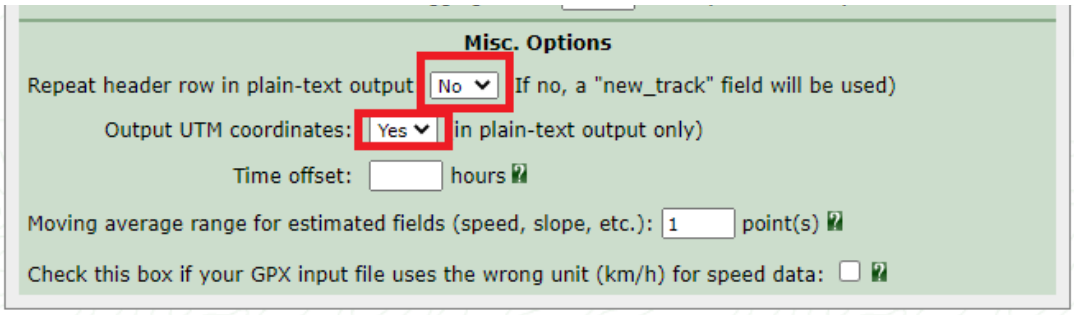


Figure 4 : Misc. Options

- Click on “Convert”
- Copy the generated content

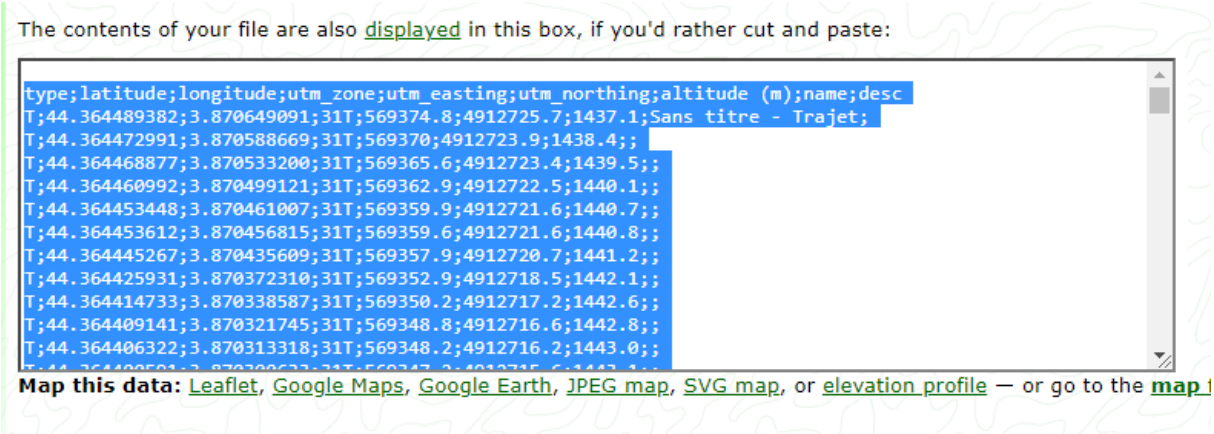


Figure 5 : Google Earth - Data format

- Past the content to Excel

- Click on menu “Data>Convert” and select “Delimited” file

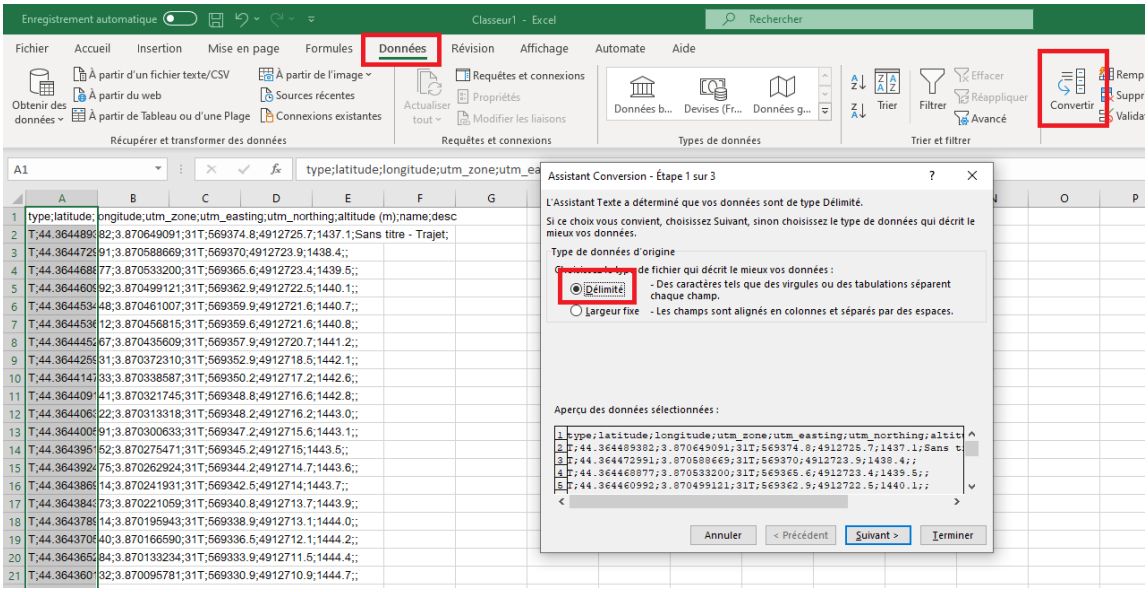
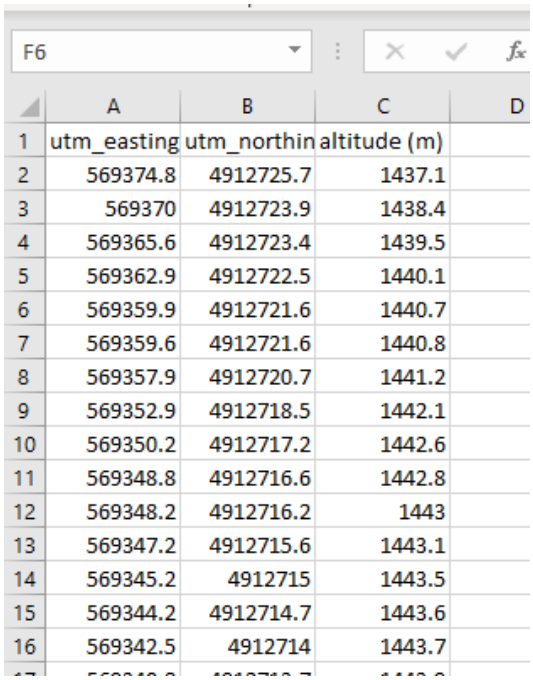


Figure 6 : Excel data

- Click on “Next” and select “Semi-colon” as delimiter, click on “Next”
- Remove the first 4 columns (from “type” to “utm_zone”), keep only columns “utm_easting”, “utm_northing” and “altitude”



	A	B	C	D
1	utm_easting	utm_northin	altitude (m)	
2	569374.8	4912725.7	1437.1	
3	569370	4912723.9	1438.4	
4	569365.6	4912723.4	1439.5	
5	569362.9	4912722.5	1440.1	
6	569359.9	4912721.6	1440.7	
7	569359.6	4912721.6	1440.8	
8	569357.9	4912720.7	1441.2	
9	569352.9	4912718.5	1442.1	
10	569350.2	4912717.2	1442.6	
11	569348.8	4912716.6	1442.8	
12	569348.2	4912716.2	1443	
13	569347.2	4912715.6	1443.1	
14	569345.2	4912715	1443.5	
15	569344.2	4912714.7	1443.6	
16	569342.5	4912714	1443.7	

Figure 7 : Data

- Save as .CSV and close excel

- In PVsyst 3D scene, from the menu “File>Import>Import ground data (CSV)”, select and import your file

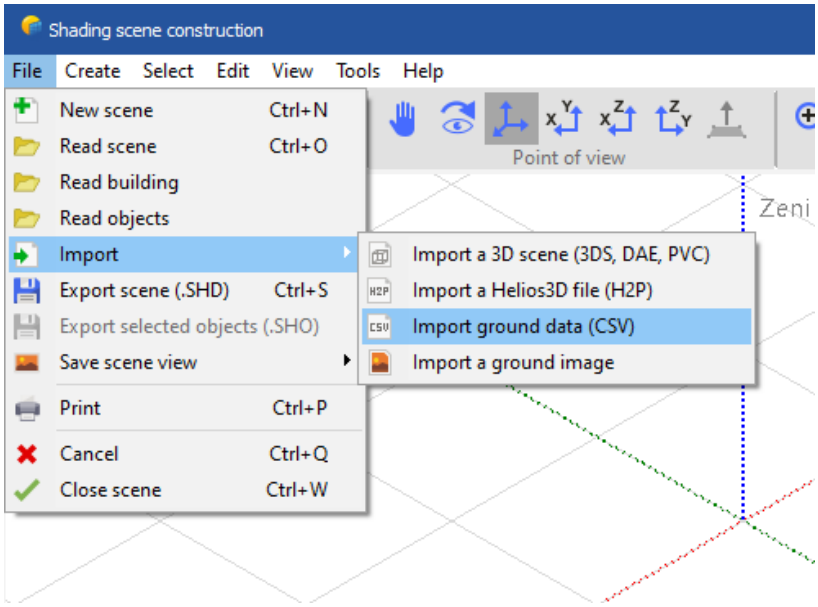


Figure 8 : PVsyst - Import ground data

- Your topography should be correctly imported:

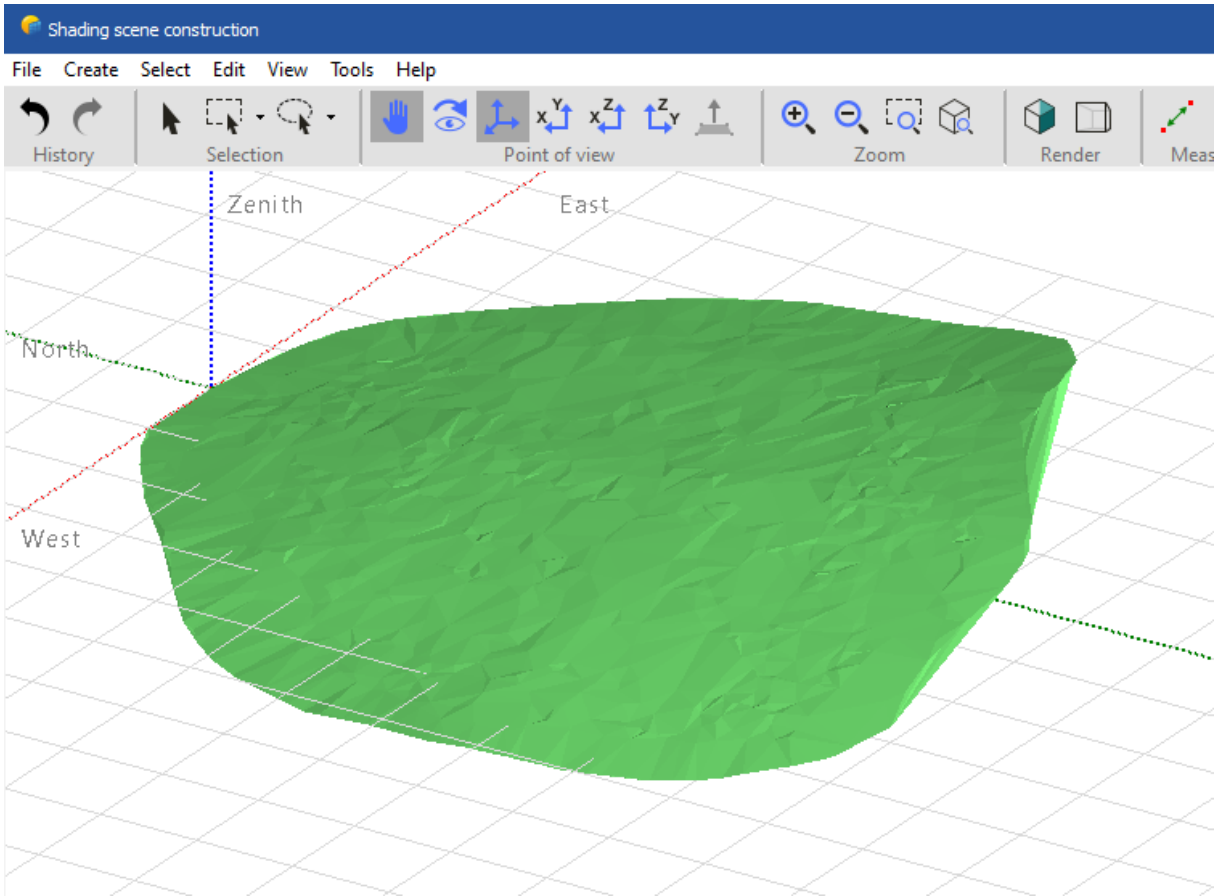


Figure 9 : PVsyst ground

Chapter 2: Converting an Autocad .DWG to .DAE from sketchup

- Open Sketchup Pro
- Click on “File>Import” and select an Autocad .DWG file
- Click on “File>Export>3D model”
- Select “Collada (*.DAE)” and save your file.
- In PVsyst 3D scene, from the menu “File>Import>Import a 3D scene (3DS, DAE,PVC)”, select and import your file

Chapter 3: Importing a ground from sketchup

- Open Sketch Pro
- Click the "Add Location tool"  on the Location toolbar or select "File>Geolocation>Add Location".
- In the “Add Location” window that appears, type an address or intersection where your desired terrain is located.
- Click the "Search" button, and an aerial view of your location appears in the window.
- Click “Select Region” in the upper right.
- Drag the corners of the selection box to refine the location.

- Click the “Grab” button in the upper right, and your location’s terrain is imported into your model as a layer.

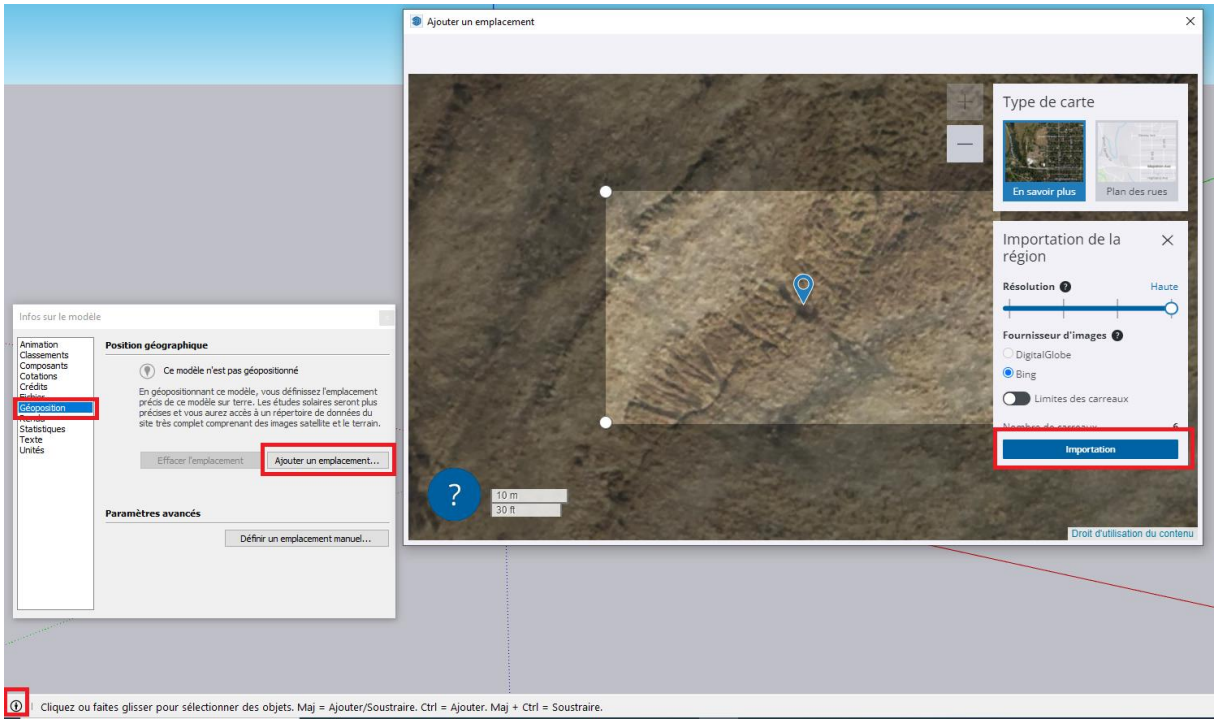


Figure 10 : Sketchup Import ground

- In the layers list, make “Snapshot” layer invisible and “Terrain” layer visible :

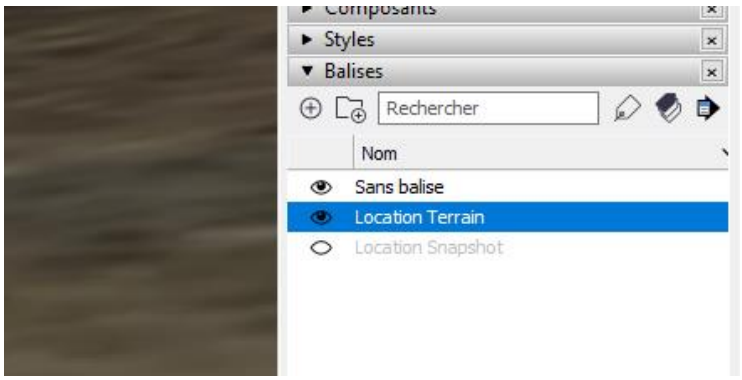


Figure 11 : Location terrain

- Right click on the ground image and select “Unlock” then “Explode”

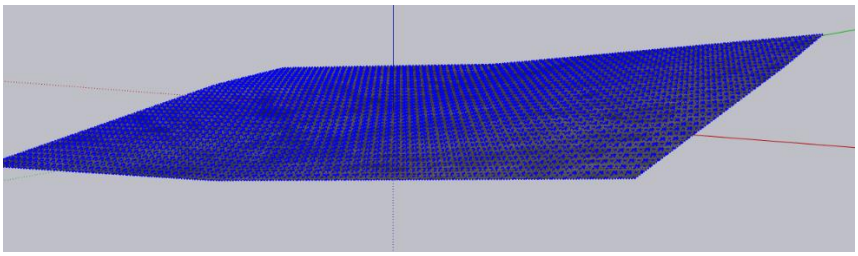


Figure 12 : Ground under Sketchup

- From menu “File>Export>3D model”, save the terrain as “.DAE” file
- In PVsyst 3D scene, from the menu “File>Import>Import a 3D scene (3DS, DAE,PVC)”, select and import your file
- Click on “OK” in the import dialog: your 3D object is imported in the 3D scene
- Right-click on it and select “Transform to a ground object”

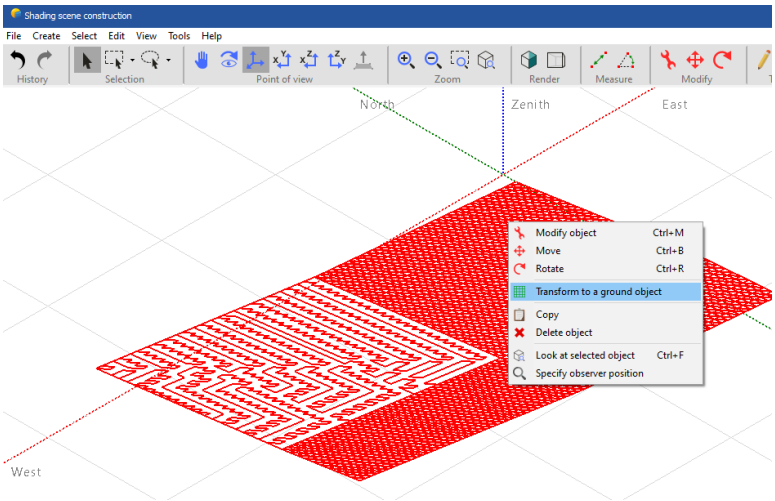


Figure 13 : PVsyst - Transform to a ground object