

Geospatial Modeling & Visualization

A Method Store for Advanced Survey and Modeling Technologies

GMV Geophysics GPS Modeling Digital Photogrammetry 3D Scanning Equipment Data and Projects by Region

ArcScene to Sketchup to ArcScene

Getting Started

Open ArcScene

Add your polygon data from shapefile, geodatabase, or SDE connection

"Right Click" on the layer in the Table of Contents ->

"Select" = 'Properties...' (very last option)

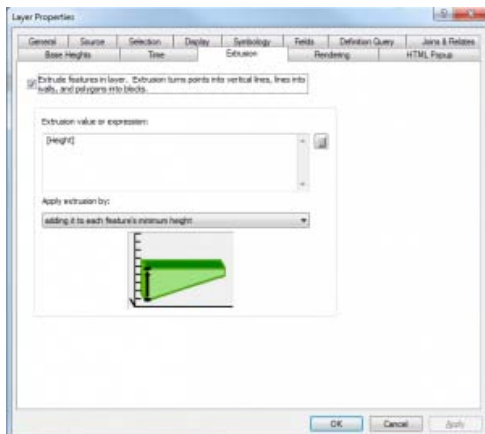
Extruding Features

"Select" 'Extrusion' tab on the Layer Properties

Menu

Check the box and then either extrude feature by a set value or pre-determined expression. (You can also select and/or construct attribute expressions using the 'Expression Builder' button)

Visually inspect extruded features in the Dataframe and ensure they look to be correct.

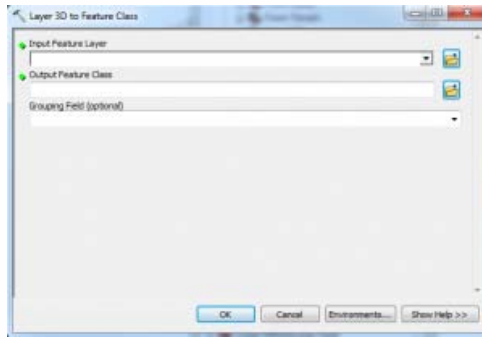
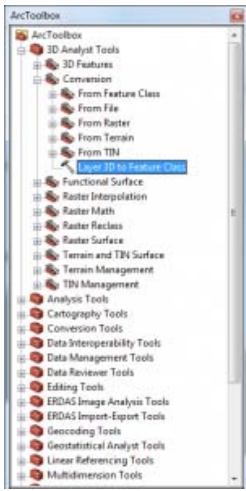


Convert to feature class

In ArcToolbox > 3D Analyst Tools > Conversion >

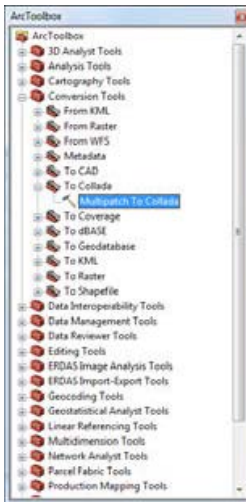
"Layer 3D to Feature Class" is the tool we will use to convert the extruded features to a 'Multipatch' feature class.

Input the corresponding Feature layer to be converted into a Multipatch, put it in a familiar directory for output.



Convert to Collada

Again in the ArcToolbox > Conversion > To Collada > 'Multipatch to Collada' tool is what we will use to output a file in a format Google Sketchup® will recognize.



Import to Sketchup

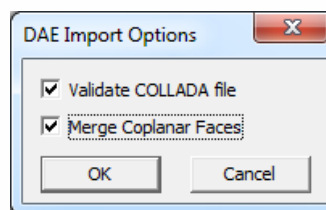
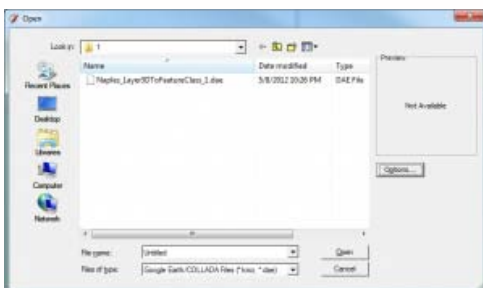
Open Google Sketchup® and choose a template that is in the same units as your projection in ArcScene (i.e. meters, Feet and Inches, etc.)

In Sketchup > File > Import...

Navigate to where you just exported the Collada file from ArcScene and make sure your file type is COLLADA in the drop down menu

"Select" > Options...

Here you will want to decide if you want to merge coplanar faces – typically for texturing the outsides of builds you do want to merge



Rendering tasks

Perform all necessary rendering tasks. Be sure to group all elements before saving.

Returning to ArcScene

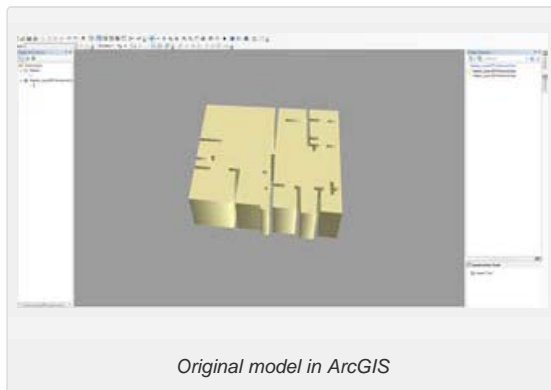
Getting the model back into ArcScene is almost the exact opposite first we want to export our finished model in Sketchup by "Selecting" File > Export > 3D Model

- Name the File something relevant and save it in a familiar directory as a COLLADA .dae file
- Add an empty or populated multipatch feature class into ArcScene or ArcGlobe.
- Begin a 3D edit session by clicking the 3D Editor drop-down and click "Start Editing".
- Click the Edit Placement tool on the 3D Editor toolbar.
- Click the multipatch feature in the Create Features window.
- The Insert tool will appear in the Construction Tools window.
- Select the Insert tool under Construction Tools.
- Click the desired location of the multipatch model in the 3D view.
- When prompted, navigate to the location of the supported 3D model file on disk.
- Select the model and click Open.

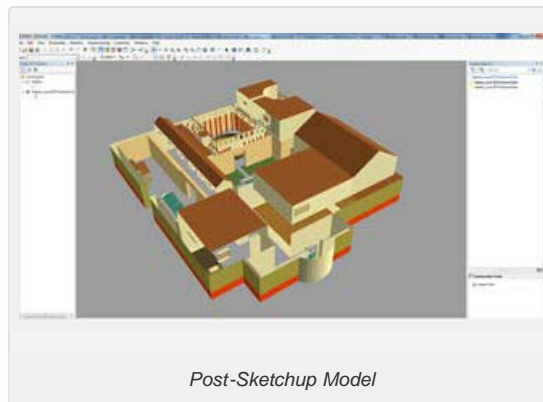
***Note you will add the same model over and over again with ever click until you deselect the "Insert Tool"

The Result

By following these steps you can bring your model back and forth between the two programs.



Original model in ArcGIS



Post-Sketchup Model

Please cite this document as: Tenney, Matthew. 2012. ArcScene to Sketchup to ArcScene. CAST Technical Publications Series. Number 9534. <http://gmvc.cast.uark.edu/modeling/software-visualization/sketchup/workflow-sketchup/arcscene-to-sketchup-to-arcscene/>. [Date accessed: 27 April 2013]. [Last Updated: 9 May 2012]. *Disclaimer: All logos and trademarks remain the property of their respective owners.*

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