Esri International User Conference | San Diego, CA

Technical Workshops | July 14, 2011

ArcGIS 3D Analyst: 3D GIS for Cities (Data Management)

Craig McCabe cmccabe@esri.com

Agenda

- 3D Virtual City templates
- Supported 3D file formats
- Creating and texturing multipatch features
  - Importing / exporting
- 3D GIS Resource Center

3D Virtual City Templates

ArcGIS Resource Center | Help | Blogs | Forums

Home » 3D GIS 10 http://resources.arcgis.com/content/3dgis/10.0/about Version: 10.0

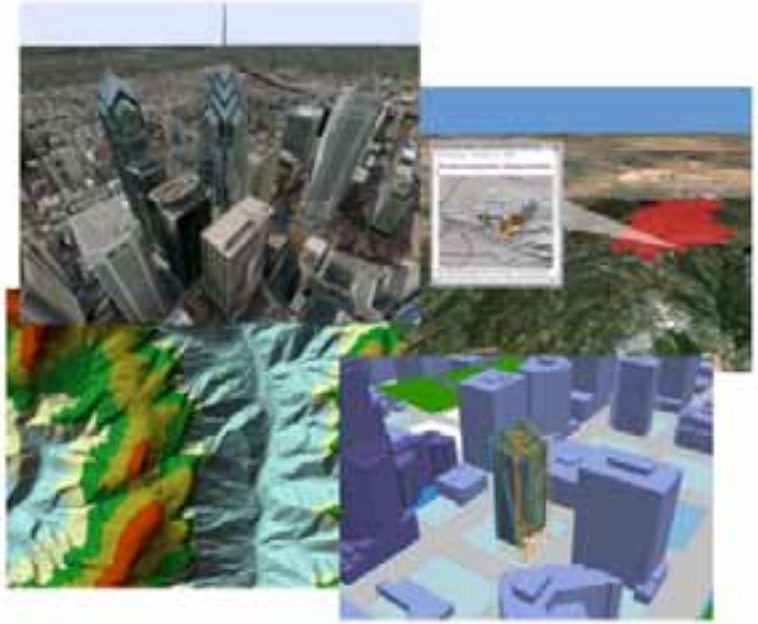
- 3D GIS
  - Visualize
  - Manage
  - Analyze
  - Share
  - Optimize
- Help
- Blog
- Forum
- Template Gallery
- Videos
- Ideas

Get Support

Working with 3D GIS

Many GIS problems can only be solved using 3D. Seeing your data in 3D can very quickly highlight spatial relationships between GIS features, and analytical tools can quantify these relationships into patterns.

The ArcGIS 3D Analyst extension provides tools for creating, managing, visualizing, analyzing, and sharing GIS data in a three-dimensional (3D) context.



Environmentalists, forestry departments, and civil engineers can use 3D Analyst to understand and sculpt terrain to allow for events such as water runoff and flooding. Mining companies, geologists, and researchers can use 3D Analyst capabilities to learn more about subsurface geological bodies, such as the 3D intersections of deviated boreholes and subsurface strata. Local governments, city planners, and military organizations can leverage 3D Analyst to ask complex 3D questions about man-made structures, especially in regard to both current and proposed lines of sight within an urban area.

3D Virtual City Templates

3D Virtual City Template – Philadelphia

3D File Support

Import 3D Files (3D Analyst)

Supported formats:

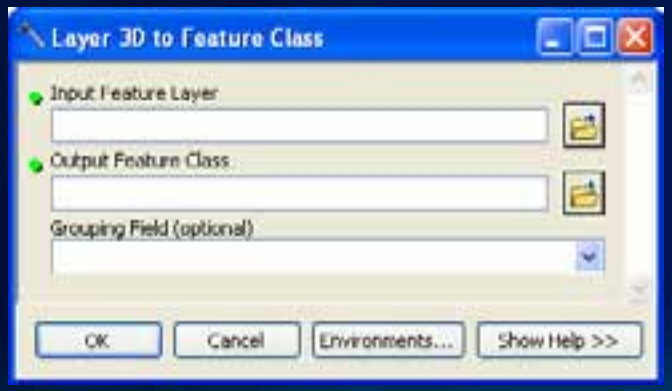
3D Studio	*.3ds
VRML / GeoVRML 2.0	*.wrl
SketchUp v6	*.skp
Openflight 15.8	*.flt
Collada	*.dae

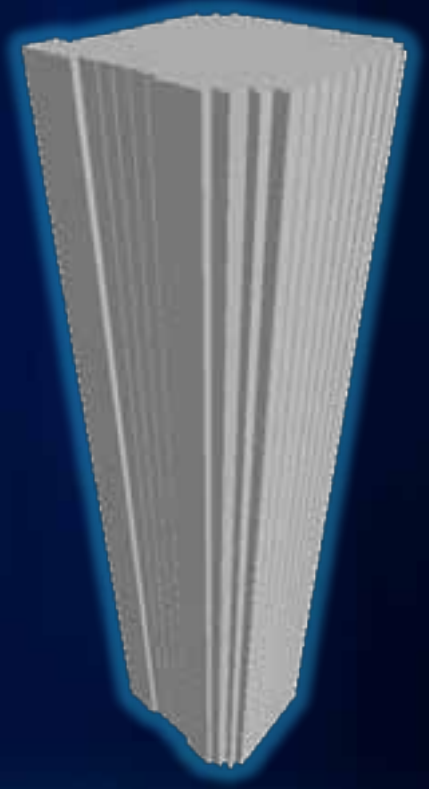
Output = Multipatch

Extruding Building Footprints

Simplest way to create a 3D buildings

1. **Extrude building footprint polygon(s)**
   I. **Estimate height via oblique imagery**
   II. **Height attribute in data**
   III. **Calculate from 1st return LiDAR**
2. ***Layer to 3D to Feature Class*** **(3D Analyst)**



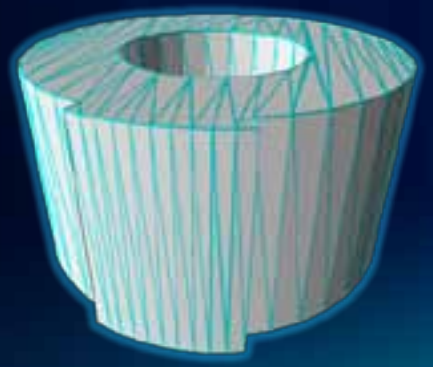


Export > Edit Geometry > Add Texture

Export and Edit Multipatch

1. ***Multipatch to Collada*** **tool**
2. **SketchUp:** ***Import Collada***
3. **Edit geometry**
4. **Apply textures / colors**
5. **SketchUp:** ***Export 3D Model***

Replace with Model**… in ArcGlobe**



Resources

- 3D GIS Resource Center
  - http://resources.arcgis.com/content/3dgis/10.0/about
  - Blog
  - Forum
  - Template gallery →
  - Videos

Multipatch overpass

- SketchUp 3D Warehouse
  - http://sketchup.google.com/3dwarehouse/

Questions?

Submit Evaluations:
www.esri.com/sessionevals