

# Analysis Enabled by 3D

See new ways to analyze geospatial data in 3D.

<http://video.esri.com/watch/20/analysis-enabled-by-3d>

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## Video Transcription

**00:04** Simulating scenarios in 3D allows us to assess the impacts of a real-life project or plan.

**00:10** Using ArcGIS 10 and the 3D Analyst extension, we can do better analysis that saves time, helps us be more efficient...

**00:17** ...and in the case of security or military applications, can even save lives.

**00:22** So I'm really excited to show you what I think is some fantastic analysis. Let's take a look.

**00:27** Some problems just can't be solved in the 2D world, and I think this is a great example of one of those problems.

**00:34** Here we're looking at a development that is going to be built on top of this hill.

**00:38** Now the requirements are that from these observation points we see in the background, the buildings can't be visible at all from these points of observation.

**00:48** So we have some unique tools at ArcGIS 10 that we can use to address this.

**00:53** So I'm going to search for the skyline tool, so we're going to see the skyline tools.

**01:00** And I can run this tool on one of these observation points or I can use these tools in a geoprocessing model.

**01:08** So I'm going to open up my geoprocessing model, and here we can see the Skyline and the skyline barrier tools.

**01:16** So I'm bringing in the points of observation, all six of them, so I can run them at once, and elevation.

**01:22** And what we're going to get is a really interesting analysis.

**01:25** So let's take a look.

**01:26** So here we see the skylines that have been created and these 3D fans that have been placed from the observation to the mountains.

**01:34** Let's turn those fans off, and here we can see the skylines.

**01:39** So from each point of observation, this is the maximum horizon that can be seen from that point.

**01:46** So you can see these blue lines correspond with the blue observation point.

**01:52** So I'll turn those barriers back on, and these fans are actually shown from the observation point, meaning that this is what we see from this point.

**02:01** Anything underneath these fans will not be displayed or viewed from these points of observation.

**02:08** So to continue answering our question of building heights, we can come in and turn on or generate some random lines, and I can just do a simple intersection.

**02:18** So here we see these 3D lines extruded.

**02:21** I can take these 3D fans and just intersect them right across these lines.

**02:26** The ending result is going to be the maximum height at which I can view or not see these buildings.

**02:36** So here we see those lines, and to better represent what we're looking at, I'm going to convert this line out to a raster surface, which I have already done.

**02:46** So let's take a look at that final result and turn off our lines.

**02:49** And here we can see a map showing where we can build and what height we can build in these particular zones.

**02:57** So I'll turn on my table of contents, come out. Here you can see that the area in green, any structure over four meters tall is visible from my observation point...

**03:07** ...on to the pink and white area; we can go up to 30 to 40 meters and not be visible from the road.

**03:14** So this is certainly a unique scenario that we can use the powerful analytical tools in ArcGIS to solve.

**03:22** Your decisions have real-world 3D impact, so why use 2D to solve them?

**03:27** Take advantage of the analytical capabilities of ArcGIS 10 to extend your analysis to the 3D world.

**03:34** Thank you.