ArcGIS 3D Analyst
Three-Dimensional Visualization and Analysis

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ArcGIS 3D Analyst
As an extension to the ArcGIS Desktop products, ArcGIS Overlaid on Satellite Imagery
Visualization of Biodiversity Analysis
ESRI–Olympia
ArcGlobe
Overlaid on Satellite Imagery
Terrain Data
Automatic Overlay of Vector Data on Raster and Elevation Data
3D Symbology Representing Point Features
3D Symbology Representing Line Features
3D Symbology Representing Polygon Features
Attribute Data Extrusion
Terrain
Image data sets.
You can view extremely large sets of data in three-dimensions from
visualize and analyze geographic data sets from a local or global
image that drapes raster and vector data over a surface.
introduces whole earth 3D visualization. With ArcGlobe, users can
whole earth 3D visualization. It is a highly interactive 3D visu-
ance enhanced by 3D symbols and realistic texture support. Through its integration
with the geoprocessing framework, tools, models, and scripts can be executed in a
highly dynamic environment.

• Create user-defined animations, using preset flight paths, key
frames, and other interactive tools, to convey a message or concept.
• Construct models via ModelBuilder
• Perform viewshed and line-of-sight analyses, spot height
 attribute data.
• Visualize and analyze extremely large datasets (terabytes).
• View data from a global to a local perspective.

ArcGIS 3D Analyst provides powerful and advanced visualization,
detailed examination of a specific terrain on earth.
features can be extruded using attributes like building height or
derived or existing surfaces, such as elevation or pollution levels. The
same features can be extruded using attributes like building height or
detailed natural color global imagery at 150-meter resolution.
provide answers and solutions for complex problems.

ArcGIS provides the ability to export production quality graphics
allowing users to drape their map in 3D. Annotation can be added as
list of symbols to choose from including houses, cars,
street signs, structures, plants, and more.

Requirements
ArcGIS, including images, shapefiles, geodatabase, and CAD data. ArcGIS 3D Analyst directly supports any data formats that can be used with
ArcGIS 3D Analyst also supports specialized three-dimensional models, such as MultiGen
OpenFlight and 3D Studio MAX formats, to allow for a more realistic representation of their data. 2D symbology can be reused directly in a 3D environment,
interactive three-dimensional navigation tools to explore, display, and
of their data. 2D symbology can be reused directly in a 3D environment,
users to derive specific answers such as determining visibility.
the level of detail provided gives the user precise control over the 3D
environment. Users can derive specific answers such as determining visibility.
the ArcGIS geoprocessing framework and can be used together with
providing answers and solutions for complex problems.
ArcGIS 3D Analyst

Three-Dimensional Visualization and Analysis

ArcGIS 3D Analyst provides powerful and advanced visualization, analysis, and surface generation tools. Using ArcGIS 3D Analyst, you can view extremely large sets of data in three-dimensions from multiple viewpoints, query a surface, and create a realistic perspective image that rides over and vectors data over a surface.

ArcGlobe, a desktop application that is part of ArcGIS 3D Analyst, introduces whole earth 3D visualization. With ArcGlobe, users can visualize and analyze geographic data sets from a local to global perspective. ArcGlobe can easily and intelligently handle raster, vector, terrain, and image data sets.

As an extension to the ArcGIS Desktop products, ArcGIS 3D Analyst allows users to leverage 3D visualization and analysis in ArcView®, ArcEditor®, and ArcInfo®.

With ArcGIS 3D Analyst you can:

• Create three-dimensional views directly using your GIS data.
• View data from a global to a local perspective.
• Navigate seamlessly through multilayered terrain and image data.
• Visualize and analyze extremely large datasets (terabytes).
• Extract two-dimensional features to three dimensions using attribute data.
• Perform visualized linear and road analyses, spot height interpolation, profiling, and swept path determination.
• Model subsurface features (e.g., wells, mines, groundwater, and underground storage facilities).
• Calculate surface area, volume, slope aspect, and hillshade.
• Query data based on attributes or location.
• Construct models via ModelBuilder® and analyze results in three dimensions.
• Add three-dimensional symbols and text to scenes.
• Create user-defined animations, using preset flight paths, key frames, and other interactive tools, to convey a message or concept.
• Save animations to standard video format (MP4, AVI, QuickTime).

Visualization and Analysis

ArcGIS 3D Analyst provides an extensive set of tools to visualize and analyze geographic data sets in three-dimensions. These tools include interactive three-dimensional navigation tools to explore, display, and query data as well as create and analyze sophisticated models that can provide answers and solutions for complex problems.

With ArcGIS 3D Analyst users can create highly interactive visualizations of their data. 3D symbology can be used directly in a 3D environment, allowing users to drag their maps in 3D. Animation and video can be added as billboard text within the 3D display and GIS features can be draped over terrain or existing surfaces, such as elevation or pollution levels. The same features can be extruded using attribute values like building height or well depth. Advanced features such as distance-dependent drawing and the level of detail provided give the user precise control over the 3D visualization. To help share and communicate visualization ideas, ArcGIS 3D Analyst includes the ability to export production-quality graphics and create animations based on industry-standard formats.

More than just 3D visualization, ArcGIS 3D Analyst integrates with the ArcGIS geoprocessing framework and can be used together with ModelBuilder to build and execute complex models from within the 3D environment. Users can define specific answers such as determining visibility from a particular position or calculating signal strength loss.

3D Symbology

ArcGIS 3D Analyst supports three-dimensional symbology, which enhances scientific visualization and real-world simulation. GIS features can be represented using 3D symbology such as trees or fire hydrants by point features, grass or water for polygon features, and tubes or texture lines for line features.

A style library is included as part of the application and provides the user with more than 500 real-world symbols to choose from including houses, cars, street signs, structures, plants, and more.

Data

ArcGIS 3D Analyst includes a series of base data, giving users immediate access to data of the entire world including elevation data, bathymetry data, and detailed natural color global imagery at 150-meter resolution.

ArcGIS 3D Analyst supports any data formats that can be used with ArcGIS, including images, shapefiles, geodatabases, and CAD-data. ArcGIS 3D Analyst also supports specialized three-dimensional models, such as MultiGen, OpenFlight, and 3D Studio MAX formats, to allow for a more realistic representation of three-dimensional features.

Requirements

ArcGIS 3D Analyst requires ArcView, ArcEditor, or ArcInfo.

For more information on ArcGIS 3D Analyst or to request an evaluation, please visit www.esri.com/3danalyst

ArcGlobe: Whole Earth Visualization

ArcGlobe is the next generation of 3D visualization. It is a highly interactive 3D visualization and analysis application for working with large and varied geographic data sets. ArcGlobe literally presents a globe of the earth. It can easily be navigated in detailed examination of a specific terrain on earth.

ArcGlobe allows users to quickly navigate tendrils of data without preprocessing the data. Data is seamlessly merged on-the-fly into a single, fast visualization experience enhanced by 3D symbols and realistic texture support. Through its integration with the geoprocessing framework, tools, models, and scripts can be executed in a highly dynamic environment.
ArcGIS® 3D Analyst
Three-dimensional Visualization and Analysis

ArcGIS® 3D Analyst® provides powerful and advanced visualization, analysis, and surface generation tools. Using ArcGIS 3D Analyst, you can view extremely large sets of data in three dimensions from multiple viewpoints, query a surface, and create a realistic perspective image that drapes text and vector data over a surface.

ArcGlobe®, a desktop application that is part of ArcGIS 3D Analyst, introduces whole earth 3D visualization. With ArcGlobe, users can visualize and analyze geographic data sets from a local to global perspective. ArcGlobe can easily and intelligently handle raster, vector, terrain, and image data sets.

As an extension to the ArcGIS Desktop products, ArcGIS 3D Analyst allows users to leverage 3D visualization and analysis in ArcView®, ArcEditor, and ArcInfo®.

With ArcGIS 3D Analyst you can:
• Create three-dimensional views directly using your GIS data.
• View data from a global to a local perspective.
• Navigate seamlessly through multiresolution terrain and image data.
• Visualize and analyze extremely large datasets (terabytes).
• Extrude two-dimensional features to three dimensions using attribute data.
• Perform viewed and line-of-sight analyses, spot height interpolation, profiling, and swept path determination.
• Model subsurface features (e.g., wells, mines, groundwater, and underground storage facilities).
• Calculate surface area, volume, slope aspect, and hillshade.
• Query data based on attributes or location.
• Construct models via ModelBuilder® and analyze results in three dimensions.
• Add three-dimensional symbols and textures for realism.
• Create user-defined animations, using preset flight paths, key frames, and other interactive tools, to convey a message or concept.
• Save animations to standard video format (MPEG, AVI, QuickTime®).

SD Symbology
ArcGIS 3D Analyst supports the three-dimensional symbology, which enhances scientific visualization and real-world simulation. GIS features can be represented using 3D symbols such as trees or the hydrants that point features, grass or water for polygon features, and tubes or texture lines for line features.

A style library is included as part of the application and provides the user with more than 500 real-world symbols to choose from including houses, cars, street signs, structures, plants, and more.

Data
ArcGIS 3D Analyst includes a series of base data, giving users immediate access to data of the entire world including elevation data, bathymetry data, and detailed natural color global imagery at 150-meter resolution.

ArcGIS 3D Analyst directly supports any data formats that can be used with ArcGIS, including Shapefile, geodatabase, and CDA data. ArcGIS 3D Analyst also supports specialized three-dimensional models, such as MultiGen-OpenFlight and 3D Studio MAX formats, to allow for a more realistic representation of three-dimensional features.

Requirements
ArcGIS 3D Analyst requires ArcView, ArcEditor, or ArcInfo.
As an extension to the ArcGIS Desktop products, ArcGIS 3D Analyst introduces whole earth 3D visualization. With ArcGlobe, users can navigate seamlessly through multiresolution terrain and image data, quickly navigate terabytes of data without preprocessing, and view data from a global to a local perspective.

ArcGIS 3D Analyst supports three-dimensional symbology, which enhances scientific visualization and real-world simulation. GIS features can be represented by detailed natural color global imagery at 150-meter resolution. ArcGIS 3D Analyst includes a series of base data, giving users immediate access to a wealth of information. The ability to export production quality graphics allows users to drape their map in 3D. Annotation can be added as billboard text within the 3D display and GIS features can be draped over an image that drapes raster and vector data over a surface. ArcGIS 3D Analyst also supports specialized three-dimensional models, such as MultiGen™, a desktop application that is part of ArcGIS 3D Analyst.

ArcGIS 3D Analyst includes the ability to export production quality graphics allowing users to drape their map in 3D. Annotation can be added as billboard text within the 3D display and GIS features can be draped over an image that drapes raster and vector data over a surface. ArcGIS 3D Analyst also supports specialized three-dimensional models, such as MultiGen™, a desktop application that is part of ArcGIS 3D Analyst.

With ArcGIS 3D Analyst, you can
- Navigate seamlessly through multiresolution terrain and image data.
- View data from a global to a local perspective.
- Create three-dimensional views directly using your GIS data.
- Navigate through multiple viewpoints, query a surface, and create a realistic perspective.
- View extremely large sets of data in three-dimensions from any viewpoint.
- Allow users to leverage 3D visualization and analysis in ArcView.

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Visualization and Navigation

Whole Earth Visualization

Surface Creation

Fly-Through Animation

3D Symbology

ArchGIS 3D Analyst™ Featuring ArcGlobe™
Three-Dimensional Visualization and Analysis

The following Extensions work with ArcGIS 3D Analyst

ArcGIS Spatial Analyst
ArcGIS Data Interoperability
ArcGIS StreetMap™

View data from a global to local perspective.
Navigate and manage terabytes of data seamlessly.
Easily integrate raster, vector, terrain, and image data sets.
Extrude two-dimensional representations to three dimensions.
Perform viewshed and line-of-sight analyses, spot height interpolation, profiling, and steepest path determination.
Construct models via ModelBuilder™ and analyze results in three dimensions.
Add three-dimensional symbology and texture to enhance scientific visualizations.
Create user-defined, photo-realistic fly-through animations.

To view a demo of ArcGIS 3D Analyst, visit www.esri.com/3danalyst