

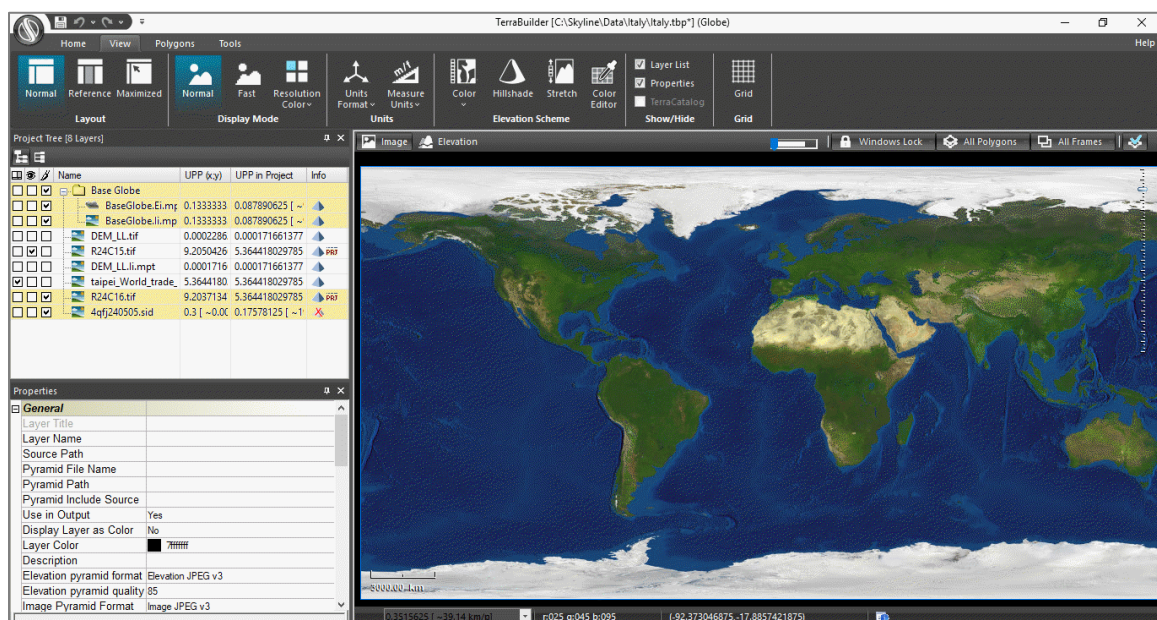
## RELEASE NOTES FOR TERRABUILDER 7.2

### About TerraBuilder

TerraBuilder is a 3D terrain database creator with professional-grade tools for manipulating and merging aerial photos, satellite images, and digital elevation models of different sizes and resolutions. The resulting photo-realistic, geographically accurate terrain database can be made available to local TerraExplorer clients or published directly from TerraBuilder to SkylineGlobe Server for serving to remote TerraExplorer and WMS/WMTS clients.

TerraBuilder supports a wide-range of layer types and automatically reprojects layers that use different coordinate systems. TerraBuilder provides a range of editing tools with which to manipulate the imported raster files, enabling maximum precision in the 3D terrain database result. Possible manipulations include cropping, resizing, moving, feathering, adjustment of geographic coordinates using tie points and modification of color and elevation parameters.

The completed TerraBuilder project can be processed into a single stream-optimized file (MPT) and then loaded directly in TerraExplorer or published to SkylineGlobe Server for consumption by remote TerraExplorer clients via the SkylineGlobe Server Terrain Service. For projects whose source data is constantly being updated or modified, the TerraBuilder project (TBP) can be published from TerraBuilder to SkylineGlobe Server and directly served by SkylineGlobe Server DirectConnect Service, eliminating the need for time-consuming re-creation of complete MPT files. A DirectConnect project can be optimized by referencing MPT source files, which are pre-processed optimized versions of the respective sources in their native formats.



TerraBuilder – Normal View

## New Features in Release 7.2

### High Resolution Imagery and Elevation Layers for Globe Projects

TerraBuilder 7.2 supports the loading of higher resolution layers with a [units per pixel \(UPP\)](#) limit of 1.8 cm, a significant resolution improvement from the previous limit of 7.46 cm. TerraBuilder 7.2's support for higher resolution imagery and elevation layers, including high-resolution Orthophoto, DSM, and DTM produced by PhotoMesh, enables the creation of higher quality globe MPT databases.

### GDAL v3

The new TerraBuilder now utilizes the GDAL v3 engine for improved raster layer support.

### Plug-in Updates

TerraBuilder plug-ins allow TerraBuilder to read an extensive range of imagery and elevation formats and reproject data to a vast number of coordinate systems. The 7.2 plug-in updates are critical for reducing security vulnerabilities, ensuring compatibility and fixing bugs. Many of the plug-ins utilize the updated GDAL 3.0 library for reading data formats.

### SGS Custom Authentication

TerraBuilder now supports a login to SkylineGlobe Server that uses a fully customized authentication and authorization system. This release also includes fixes to the SkylineGlobe Server login mechanism.

### API Improvements

TerraBuilder 7.2 API supports the loading of layers from SGS using the *project.layers.InsertLayer* method.

### Bug Fixes and Improved Stability

This release improves overall stability and performance, and provides several bug fixes including the following:

- Better error handling for coordinate systems
- Prevent infinite call loops to server for blocks with errors

## New Features in Release 7.1

TerraBuilder 7.1 features an infrastructure overhaul with updates to TerraBuilder plug-ins and connectivity to SkylineGlobe Server.

- **Plug-in updates** - TerraBuilder plug-ins allow TerraBuilder to read an extensive range of imagery and elevation formats and reproject data to a vast number of coordinate systems. The 7.1 plug-ins are critical for increasing security by patching vulnerabilities and strengthening against attack, ensuring compatibility and fixing bugs. Many of the plug-ins utilize the updated GDAL 2.4.4 library for reading data formats.
- **SGS custom authentication** - SGS custom authentication is now available also in TerraBuilder. SkylineGlobe Server provides the option for full customization of your server's authentication and authorization system. A server admin can create and provide a custom DLL that will be loaded by

SGS at runtime, which includes a public class controlling user access to SGS. Skyline also offers an out-of-the-box custom authentication implementation. Authentication requests can be forwarded automatically to a microservice based on Identity Server, which was customized for common Skyline customer use-cases, including PKI, LDAP, and OpenID.

- **Bug fix** – TBP projects are loaded successfully from SGS even when View permission is set to My Group (APPS-4218).

## New Features in Release 7.0

### Working with SkylineGlobe Server (SGS)

TerraBuilder 7.0 is seamlessly integrated with SkylineGlobe Server (SGS), Skyline's private cloud solution that provides a comprehensive set of web services for streaming, publishing, and managing 3D spatial data. TerraBuilder clients can upload and publish the completed TBP project or MPT file to the cloud server from TerraBuilder, thereby streamlining your workflow by eliminating the need for any server side login after initial installation. TerraBuilder clients can also access terrain (MPT/TBP) and map (raster-WMS/WMTS) data from SkylineGlobe Server for their TerraBuilder projects.

- **Searching and streaming** - Easily query and search all data layers published to SGS for the geographical data you require for a project. SGS replaces the discontinued TG/SFS server, maintaining detailed information about all uploaded layers and projects. All data on your server is cataloged and referenced so clients can easily find the specific published layer required.
- **User management** – Efficiently set view/edit access to your published layers and projects using the SkylineGlobe Server permissions mechanism.
- **Publishing** – Publish MPT files or DirectConnect (TBP) projects to SkylineGlobe Server directly from TerraBuilder. To prevent unnecessary republishing of layers – especially large layers – TerraBuilder checks the server for similar files (similar MPT files when publishing an MPT and similar layer files when publishing a TBP) before publishing to SGS. The published project is available for use by TerraExplorer desktop, mobile and Web clients and standard geospatial clients such as WMS/WMTS, or as layers for a TerraBuilder project.

### Native 64-bit Application

TerraBuilder 7.0 has been redesigned as a native 64-bit application, enabling TerraBuilder to take advantage of available memory for resource-intensive processes.

### Enhanced Support for Imagery and Elevation Sources

TerraBuilder 7.0 added new or updated support for the following formats and servers:

- Google Earth Enterprise (GEE) Server – imagery sources
- Web Coverage Service (WCS) – imagery and elevation sources
- MrSid – updated library
- ECW – updated library

### API and Automation

TerraBuilder 7.0 provides automated processing and access to most TerraBuilder operations using a JavaScript script file (.js) that is run by TerraBuilder:

- Build and update projects
- Automatically start pyramid and MPT creation
- Publish MPT files to SGS
- Publish DirectConnect projects to SGS

#### Improved Performance and Stability

TerraBuilder 7.0 features accelerated project loading time for projects with a large number of sources and layer manipulation polygons.

## SOFTWARE AND HARDWARE REQUIREMENTS

<b>Operating System</b>	Windows® 10 - 64 bit
<b>System Memory</b>	4 GB of RAM (8 GB or more recommended).
<b>Processor</b>	4 cores (8 cores recommended). <b>Note:</b> TerraBuilder works best in a multi-core environment and can utilize multiple CPU's and hyper-threaded processors.
<b>Video Card</b>	256 MB of video memory (1 GB or more recommended).
<b>User Privileges</b>	Administrator privileges required for installation.
<b>Browser</b>	Microsoft Internet Explorer 9 or higher.

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