



TerraExplorer® Pro

Version 6

Datasheet

www.SkylineGlobe.com

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Overview

TerraExplorer Pro is a powerful, easy-to-use tool for editing, analyzing, annotating and publishing geo-referenced 3D terrain databases, created through TerraBuilder. By overlaying unique or proprietary information onto a 3D map, the user creates an exciting, interactive application that highlights specific features of an area, showing function, relation and proximity along with a distinct view of the area.

Product Main Features

TerraExplorer Pro has the following features:

- ◆ The project (.fly) editor that works on terrains built by the TerraBuilder and (optionally) streamed by TerraGate
- ◆ A professional station and also a publisher tool for creating projects that can be viewed by TerraExplorer Viewer/Plus
- ◆ Efficient in streaming terrain and data overlays over any network
- ◆ Provides all the tools necessary to create and publish rich, 3D terrain visualizations
- ◆ Includes interactive drawing tools to create and add geometric shapes, user-defined objects, buildings, text, bitmaps and animations on a 3D terrain model
- ◆ Generates and imports static and dynamic 2D or 3D objects, symbols and geo-referenced information layers
- ◆ Loads standard online and offline GIS layers
- ◆ Saves layers to GIS standard file formats
- ◆ Communicates with external local and web applications using standard COM interface. Controls all static and dynamic objects, information layers and application content
- ◆ Provides a robust set of tools for measurement and terrain analysis
- ◆ Presentation tool enables you to share geographical information with others through dynamic presentations.
- ◆ Controls speed, altitude and viewing angle using any combination of the mouse, keyboard, Ribbon commands, navigation controls, and joystick
- ◆ Creates movies, as AVI from a recorded flight path
- ◆ Takes snapshots of the 3D window and saves them to external files
- ◆ Hyperlink feature links specific areas or objects to web pages, applications, and databases
- ◆ Integrates text and web content messages
- ◆ Publishing tool exports scenes to Internet/Intranet users
- ◆ Provides catalog database which can be searched for layers and projects and updated with changes.

- ◆ Provides improved level of security for local and remote users
- ◆ Includes ActiveX Controls to export the 3D view, information tree, and side map windows as ActiveX controls
- ◆ Records a presentation in which you navigate through the 3D World, showing or hiding objects on the terrain, following dynamic objects, displaying messages and performing different operations.
- ◆ Records and displays warnings, messages, and errors to help you troubleshoot any TerraExplorer issue.
- ◆ Simplifies the translation of user interface text and graphics.

Layers

TerraExplorer Pro features the following layer types:

Feature Layer

Feature layer is a visual representation of a geographic data set like roads, national parks, political boundaries, and rivers using geographic objects such as points, lines, and polygons.

Streaming: TerraExplorer Pro can load the entire content of the feature layer or stream the data directly from a server or local file. Information from the remote layer server or file is retrieved, added to the terrain, and then removed dynamically based on the camera's position. This option enables you to explore the area without waiting for the entire layer to load.

Styling: TerraExplorer Pro can perform layer level operations. On this level, the Properties Sheet can be set for appearance and behaviors of the geographic objects contained within the layer with various other layer parameters. For an imported feature layer with a set of attributes containing object level data, advanced layer information can be displayed in the 3D Window.

Spatial Queries: Perform a spatial query by selecting all features spatially related to a polygon, line, or point, or to an existing object. You choose whether to include only features that entirely overlap with your selected or drawn geometry, or whether to include also those that partially intersect. You also can define a buffer zone to include features within a certain radius of the selection.

Spatial Operations: You can perform various spatial operations on the layer's features, including deleting selected features, merging features into a single feature, creating a multipart feature, clipping one polygon from another, exploding a multi-part feature into its individual component features, and exporting selected features to a new file. Using the Attribute Table Tool, you can search and filter the data in a map layer to obtain and display only the features and information you require. You can then display only the filtered data on the map or create a new layer that includes only this

data. The original layer is not modified. Attribute values can be edited from the Attribute table, so that multiple feature attributes can be easily modified without opening separate property sheets for each feature.

Saving: Since you are always connected to the data source (local or remote), you can easily get the latest source updates by refreshing the layer. For .shp files and SFS/WFS-T (A WFS service with read-write access by enabling transactions), all changes can be saved directly to the original source file. Data source updating is also allowed for streaming layers.

Creating New Feature Layers: You can define a layer type and attribute fields and create a feature layer directly from TerraExplorer. The layer is saved to a local data source in Shape file format.

Non-native Layers: TerraExplorer Pro handles differently layers that are loaded from OpenFlight, FLY, and KML files. TerraExplorer cannot read these layers as feature layers, and is therefore not able to perform layer level and spatial operations on their features.

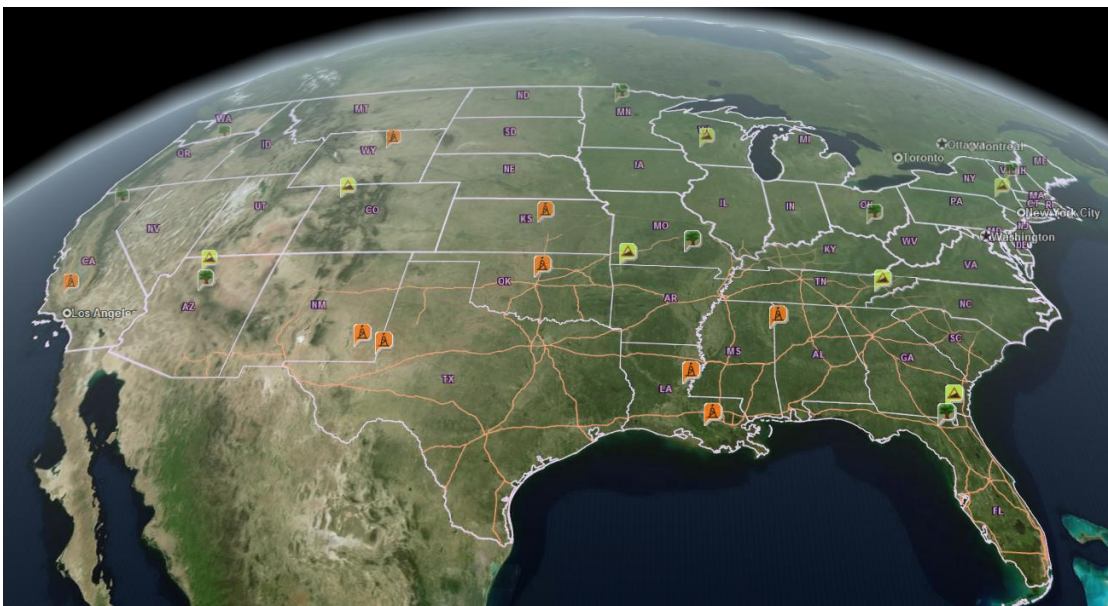


Figure 1: Feature Layers

Layers can be loaded from the following feature files:

- ESRI Shape: .shp
- ESRI Personal Geodatabase - .mdb
- Microsoft Access: .mdb, .accdb
- Excel: .xls
- Text: free format

- MapInfo: Tab, Mif, Mid
- Microstation DGN
- AutoCAD DXF: .dxf
- TerraExplorer Project: .fly
- Google Earth: .kml .kmz
- OpenFlight Reference

Layers can be loaded from the following servers:

- Web Feature Server (WFS)
-
- Skyline Feature Server (SFS)
- ESRI ArcSDE Server
- Oracle Spatial Server
- Oracle Database
- SQL Database
- ODBC Database
- PostgreSQL with PostGIS

TerraExplorer Pro can **save** groups of objects to the following file formats:

- ESRI Shape: .shp
- TerraExplorer FLY Projects: .fly
- KML or KMZ

Imagery Layer

Imagery layer is a geo-referenced, satellite or aerial image that overlays the terrain imagery. The Imagery Layer feature enables the user to add **unlimited size**, geo-referenced, satellite and aerial images directly to a TerraExplorer project. A source file that has multiple resolution levels (e.g., Skyline MPU, MrSID, etc.) is visible from any altitude. The layer can be of better resolution than the area on which it is placed. Automatic morphing between the terrain imagery and the Imagery Layer is performed.

Projection: If the source file is not rectified to the same coordinate system as the Terrain Coordinate system that the TerraExplorer uses, the user can reproject it on-the-fly using the built in mechanism.

Clip Polygon: A subsection of a raster file can be displayed by loading a Shape file containing the required clip polygon.

Imagery Layers from the following files can be loaded:

- Skyline Image MPU (.Ii.mpu)
- MrSid (.sid)
- ER-Mapper (.ecw, .jp2, .jpc, .j2k)
- Erdas Imagine (.img)
- Image files (.bmp, .Tiff, .iTiff, .gif, .Jpeg, .Jpeg200)
- NGA formats (.CIB, .CADRG, .ADRG, .Ntif)
- Tile Text file (.tlt)
- Intergraph MFM raster (.MFM)
- Local Skyline terrain database (.MPT)
- HTC Raster file (.htc)

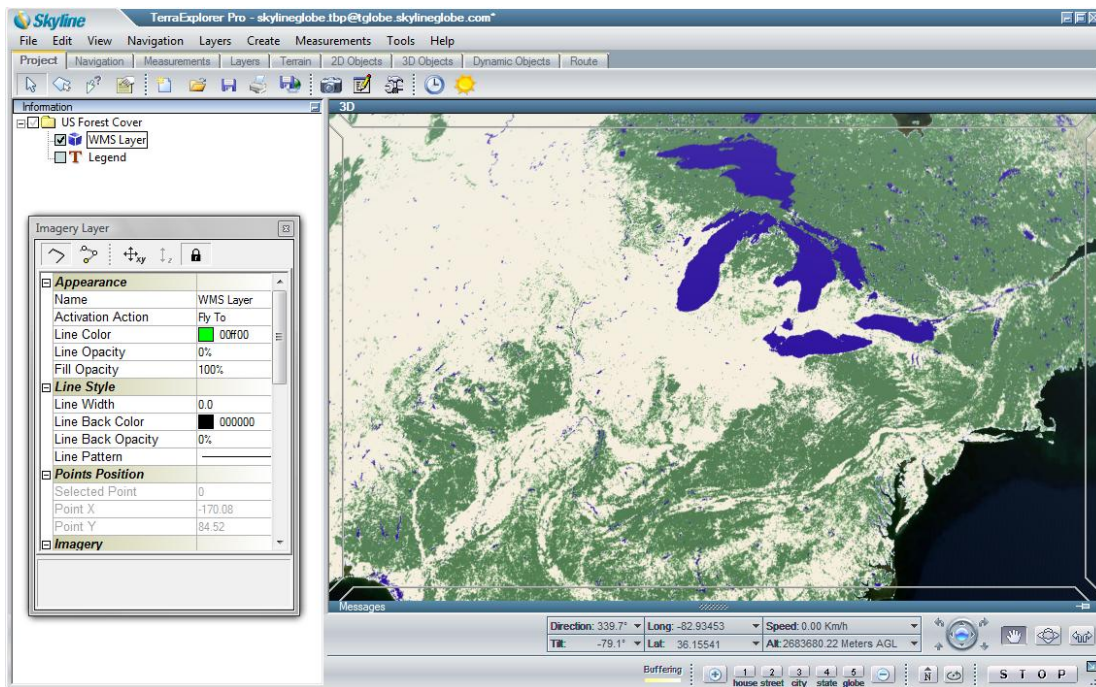


Figure 2: Cloud Coverage Layer from WMS Server

Imagery Layers from the following servers can be loaded:

- Web Map Server
- Oracle Spatial Database
- ECW Image Web Server
- TerraGate Server
- ArcSDE Raster Server

Elevation Layer

Elevation layer is a geo-referenced elevation raster that replaces the elevation data of the terrain database. The Elevation Layer feature enables the user to add **unlimited size**, geo-referenced elevation data directly to a TerraExplorer project. The file can be of better resolution than the area on which it is placed. Automatic morphing between the terrain imagery and the Imagery Layer is performed. A source file that has multiple resolution levels (e.g., Skyline MPU, WMS etc.) is visible from higher altitudes.

Projection: If the source file is not rectified to the same coordinate system as the Terrain Coordinate system that the TerraExplorer uses, the user can reproject it on-the-fly using the built in mechanism.

Elevation Layers from the following files can be loaded:

- Skyline Image MPU (Ii.mpu)
- Window Bitmap (BMP)
- Dted (DT?)
- USGS ASCII Dem (DEM)
- USGS SDTS Dem (DDT)
- Arc/Info Binary Grid (ADF)
- Erdas Imagine (IMG)
- NGA DTED (DMED)
- Tiff Format (TIF)
- Projection Text File (PRJ)
- Intergraph MFM Raster (MFM)
- Local MPT (MPT)

Elevation Layers from the following servers can be loaded:

- Skyline TerraGate Server
- ER-Mapper IWS Server
- Web Map Server (WMS)
- Oracle Elevation SDO_Raster
- ArcSDE Server

Objects

The TerraExplorer Pro provides a set of tools to manually add 2D, 3D, dynamic, and terrain objects to the project. The user can create new objects, edit single or multiple objects' parameters using the properties sheet, edit objects directly in the 3D window, and copy /move/delete objects in the 3D window. The objects are organized in the Project Window's tree structure.

Import 3D Model

The 3D model feature allows you to place a pre-prepared 3D object at any point in the 3D terrain. These models can be created using external design tools. The internal XPL file format provides better performance for Direct X models. TerraExplorer displays the best LOD file based on the viewer position in relation to the object. As a result, the model overall display performance and download rate are improved. XPL2 data structure uses unified textures and model files to dramatically reduce the computer and graphic accelerator device resources. The XPL2 format accelerates loading speed and reduces network traffic.

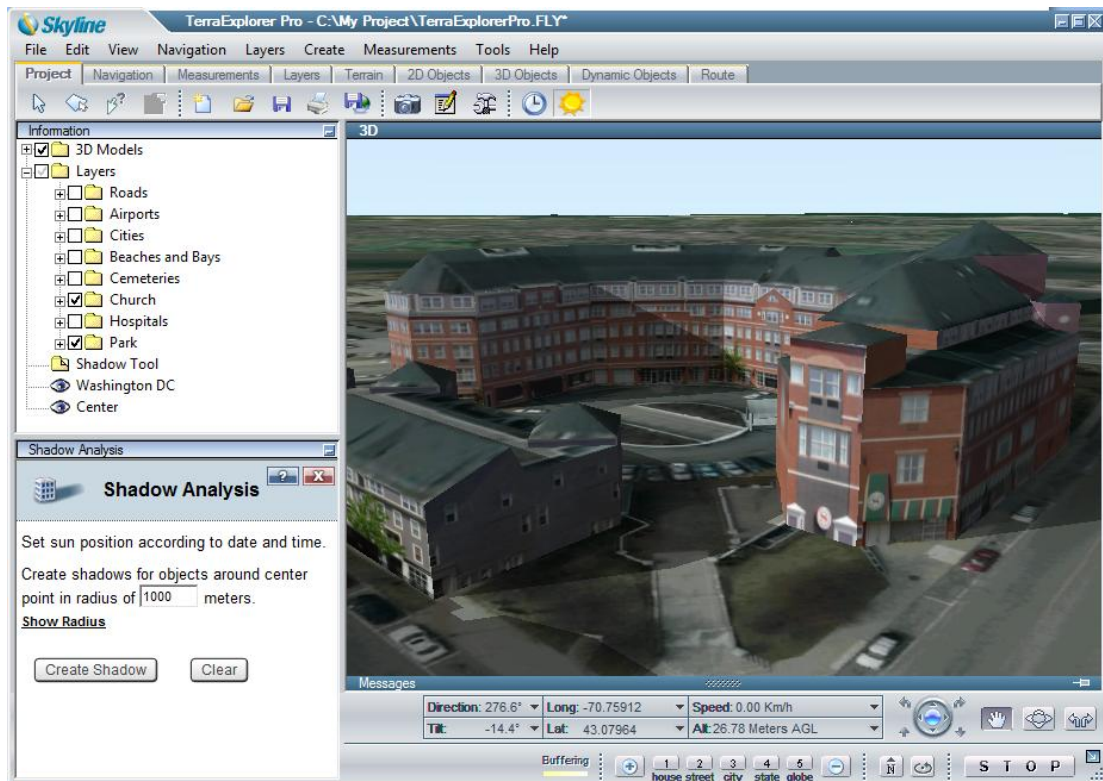


Figure 3: Importing 3D Model Files into TerraExplorer Pro

Supported 3D model formats:

- Microsoft Direct X (.x, .xpc)
- Skyline Multi-Resolution Model (.xpl)
- Open Flights (.flt, .fpc)
- Google Sketchup (.dae , .kmz)

Building Object

The Building feature allows you to add 3D models to the project by manually defining the geometry of the building rooftop and stretching it above the basic terrain, or by importing the rooftop geometry from external feature layers. You can define the shape of the roof as a flat surface, or as an angular surface. After defining the building geometry, you can assign fill color and texture from external files, or apply texture from the terrain to the roof and side walls.

2D Objects

A set of 2D primitives and labels can be placed in the 3D World:

- Text Labels
- Image Labels
- Polylines
- Polygons
- Rectangles
- Regular Polygons
- 2D Arrows
- Circles
- Ellipses
- Arcs

3D Primitives

A set of 3D primitives and models can be placed in the 3D World:

- Buildings
- 3D Polygons
- Boxes

- Cylinders
- Spheres
- Cones
- Pyramids
- 3D Arrows

Dynamic Objects

TerraExplorer Pro features a set of ground and air vehicles the user can add to the project by setting the route of a ground or air vehicle by manually placing way points in the 3D View, or by importing routes from external sources.

There are three types of dynamic objects:

- **Ground Vehicle:** Get pitch and roll angles according to the terrain surface under the object while it moves.
- **Air Vehicle:** Get pitch and roll angles according to the altitude differences between the waypoints, regardless of the terrain surface.
- **Load Dynamic Route:** A Dynamic Route can be created by loading an ASCII file containing a free-format text description of the route's waypoints.

Terrain Objects

A set of objects that affect the terrain model. The user can modify the terrain, create holes in the terrain and play a video file onto the terrain.

- **Modify Terrain Tool:** Changes the elevation values of the terrain based on a polygon. The surface of the terrain is raised or lowered according to the elevation values of the polygon's points. Different elevation behaviors allow replacing or cropping above/ below the original values of the terrain. The interior of the polygon can be flat or irregular in shape.



Figure 4: Modify Terrain Tool

- **Hole on Terrain:** Cuts holes in the terrain based on a polygon that exposes the other side of the terrain through the opening.

Video on Terrain and Video Billboard

Plays a video file either on a selected area of the terrain (Video On Terrain), or on a floating billboard (Video Billboard). A telemetry file can also be used to move the projected video based on recorded readings. Supported video file formats are determined by the codecs that are installed and registered on the computer. Most files that Windows Media Player can play (e.g., .avi, .mpg, etc.), including streaming Microsoft Media Server (MMS) content, can be draped on the terrain.

You can use a telemetry file to hold positioning information for the camera based on time stamps. The information is used to automatically determine the position of the video projector in the 3D window. It allows the projected Video on Terrain to be draped over the same area that is captured in the video.



Figure 5: Display Live Video on Terrain

Import Point Cloud Model

The Point Cloud model allows you to add a pre-processed point cloud model at any point in the 3D Terrain. These models are created from a list of points in a 3D area that are collected by various 3D scanners. The import Point Cloud feature supports Skyline's proprietary Point Cloud files (CPT).

The Import Linear Point Cloud Set allows you to add a pre-processed point cloud model set. These sets are created from lists of points in a 3D area that are collected by various 3D scanners, and GPS route reading of the collecting instrument's movement while scanning the data.

Timespans

Timespans can be set for groups and objects, limiting the display of the object or group on the terrain to the specified start and end time values integrated in the object or group's property sheet. The project's time and date are adjusted using the time slider.

Measurement and Analysis

TerraExplorer Pro provides a robust set of tools for measurement and terrain analysis.

Measurement Tools

- **Information Query Tool:** Displays the exact location and elevation of any point in the 3D World, and additional information about objects.

- **Horizontal Distance Tool:** Displays the horizontal distance, elevation difference and slope angle between two or more points in the 3D View.
- **Aerial Distance Tool:** Displays the aerial distance, elevation difference and slope angle between two or more points in the 3D View.
- **Vertical Difference Tool:** Displays the elevation difference between two points in the 3D View.
- **Area Tool:** Displays the measurement of the horizontal projection of an area in the 3D View.

Terrain Analysis Tools

- **Line of Sight Analysis Tool:** Displays a visual marker for the existence of a line of sight between two points.
- **Viewshed Analysis Tool:** Marks all the visible segments, within a field of view, from a given viewing point.
- **Contour Map Tool:** Creates a topographic map that portrays differences in terrain elevation by connecting points of equal elevation with contour lines or by coloring terrain according to varying altitudes. The contour palettes and/or contour lines can be applied to a specified rectangular area, or to the entire terrain.
- **Slope Map Tool:** Creates a slope map on the terrain that can show degree (steepness) and/or aspect (direction). The terrain is colored according to degree of slope, and arrows display the direction of the slope. The color map and arrows can be applied to a specified rectangular area or to the entire terrain.
- **Flood Tool:** Assesses the land area covered by water in different water flooding scenarios. The result of the flood analysis process is a set of polygons showing the flooded areas.
- **Volume Analysis Tool:** Analyzes the amount of terrain removed or added by selected Modify Terrain objects.
- **Terrain Profile Tool:** Displays the terrain elevation profile along a path.
- **Best Path Tool:** Displays the best path between two locations on the terrain with slope limits.
- **Threat Dome Tool:** Displays the visible volume from a given point on the terrain with a specified scan field and elevation angle.

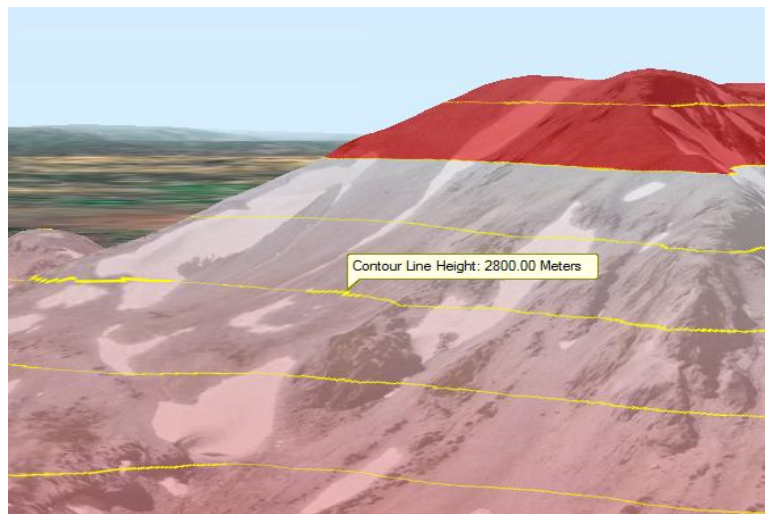
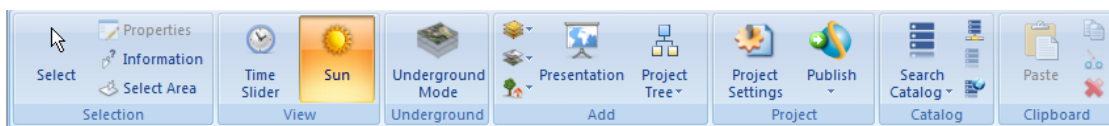


Figure 6: Contour Maps

User Interface

TerraExplorer uses a Ribbon interface designed to help you quickly find the commands that you need to complete a task. Menus and toolbars have been replaced by a Ribbon that organizes all commands in easily-accessible, intuitive groups, which are collected together under tabs. A customizable Quick Access toolbar makes the commands you most frequently use always available to you.

At any time during a TerraExplorer session, the Navigation Map, Project Tree or any of the TerraExplorer Tools can be repositioned on the screen so that you can create the application layout that is most convenient for you.



TerraExplorer Ribbon - Home Tab

Programming with TerraExplorer Pro

TerraExplorer API

The TerraExplorer Application Programming Interface (API) provides a powerful tool for integrating TerraExplorer, TerraExplorer Pro and custom applications. It also provides a way to create extensions that can access external information sources such as databases or Geospatial files. All of the interfaces, based on the **COM** protocol, can be managed through a scripting language (e.g., JavaScript) as well as non-scripting languages (e.g., C++ or C#).

The following main issues are addressed by the TerraExplorer API:

- ◆ Navigating in the 3D world.
- ◆ Project management.
- ◆ Feature and raster layers.
- ◆ Objects management.
- ◆ Terrain analysis.
- ◆ Events notifications.
- ◆ Embedding TerraExplorer ActiveX controls in web pages and windows applications.

In addition, TerraExplorer's API allows a variety of other operations such as controlling the content of the containers, querying the terrain for height information, taking snapshots, controlling the mouse and more.

Embedded Mode

TerraExplorer can run as an embedded **ActiveX control** in any **Windows application** or **Web page**. Using the power of the TerraExplorer API, developers can interact between the application or the Web page and the TerraExplorer controls.

TerraExplorer has three ActiveX controls:

- ◆ The 3D Window
- ◆ The Project Information Windows
- ◆ The Navigation Map Window

TerraExplorer embedded mode is an integrated feature in all TerraExplorer products.

Advanced Functionality

Environment Effects

The Environment Effects sets the appearance of the environment in the 3D Window. You can control the horizon distance, fog color, as well as the sun and moon display. The sun, moon and sun flare objects can be displayed and positioned based on a given date, time and time zone. The sun is used as the light source for the project according to its position. The sunlight affects the lighting on the terrain and on building objects.

Preset or custom sky textures and colors can be applied. An animated cloud layer can be displayed over the entire terrain, with customized altitude, position, density, and movement settings. Reflection and movement effects can be displayed on all sea and ocean terrain.

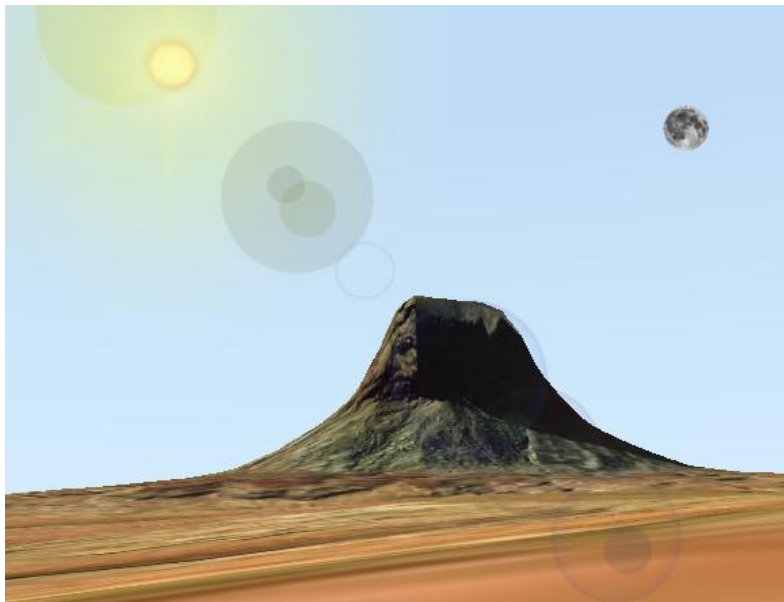


Figure 7: Sun Light Source



Figure 8: Water Effect

Navigation Map Window

The two-dimensional Navigation Map window provides quick and easy navigation through the entire terrain. It displays the location and direction view of the camera. The Navigation Map window offers a simple mechanism to integrate file-based maps into the application. With the support of the TerraExplorer Pro COM interface, web based maps can also be integrated as part of the HTML window.

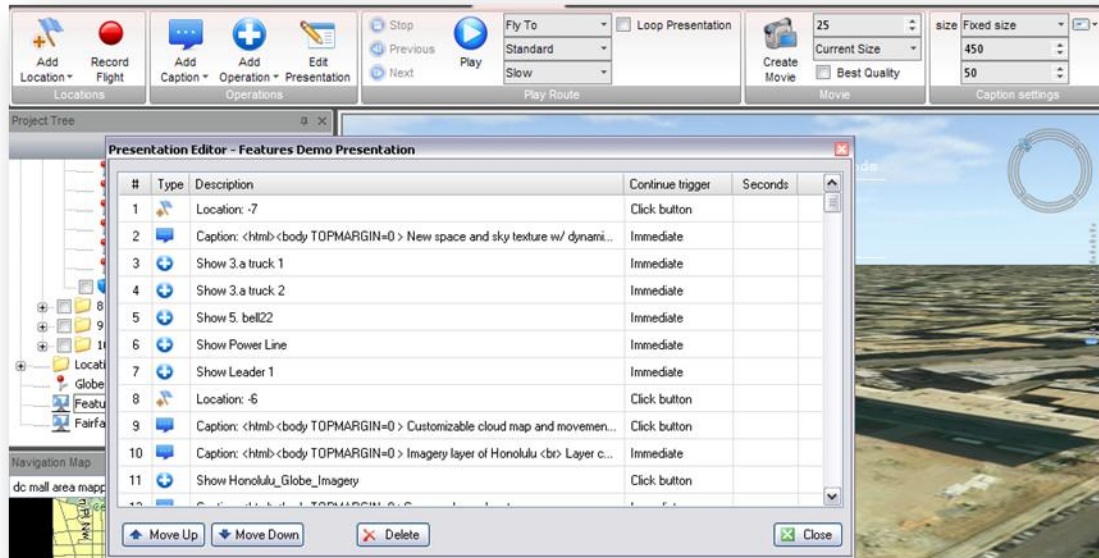
Presentation

Presentation capabilities enable you to record a presentation in which you navigate through the 3D World, showing or hiding objects on the terrain, following dynamic objects, displaying messages and performing different operations. You can create a route either by flying through the terrain recording an exact route or by adding each waypoint separately. For each step in the presentation, you display the map in the state you want:

- ◆ Current camera position and extent.
- ◆ Visibility of raster layers.
- ◆ Visibility of feature layers.

- ◆ Visibility of map items (objects, groups).
- ◆ Popup messages and captions.
- ◆ Set environment variables such as underground mode and system time.

An easy to use editor enables you to set step timings and transitions and modify step sequence. Presentations can be played back according to the transitions set in the Presentation Editor or in Auto-play, advancing from step to step automatically.



Editing a Presentation

Terrain Opacity

You can set the opacity of the terrain in the 3D View. The opacity is defined as a percentage, where 100% is opaque and 0% is transparent. When the opacity is other than 100% (opaque) objects that are submerged in the terrain become visible through it.

Underground Navigation

The underground navigation mode allows you to explore the subsurface of the terrain. You can navigate under the terrain's surface and through buildings. A subsurface grid navigation aid appears when you navigate below the terrain, allowing you to navigate the same way as above ground.

Catalog Database

TerraCatalog is a catalog database that stores, organizes and manages connections to raster and feature layers and projects, located in storage files or on remote servers. When TerraExplorer is connected to TerraCatalog, the catalog can easily be browsed and the required geographic data loaded into a TerraExplorer Project. In addition to connecting to the catalog to load catalog layers into a project, TerraExplorer Pro users can bind a project to the catalog. In this case, every layer or project loaded into a project and all modifications to the project are automatically updated to the catalog every time the project is saved.

Main Capabilities:

- ◆ Lists and maps connections to raster and feature layers and TerraExplorer projects.
- ◆ Stores raster layer properties (UPP, BBOX, Polygons etc.).
- ◆ Search tools enable searches by geographical coordinates or by any data in any of the metadata elements.
- ◆ Layers and projects can be uploaded to the catalog directly from TerraExplorer.
- ◆ Layers and projects can be loaded into your project from TerraCatalog.
- ◆ Users have option to update their project with newer catalog information or to update catalog projects based on their project's changes.

Tools

TerraExplorer Pro provides a set of tools that extend the editing and interoperability functionality. The TerraExplorer Pro Tools use an advanced API to provide an extended set of features to the user.

Shadow Analysis

The Shadow Analysis tool calculates the shadow cast from buildings and 3D objects in a given radius based on the sun's position. The sun is positioned according to the time, date and time zone you set using the Date and Time controls. The shadows dynamically update when the system date and time is changed.



Figure 9: Shadow Analysis of the Golden Gate Bridge

Collaboration

Connects TerraExplorer users on one collaborative network. Connecting over the internet/intranet, users can chat, annotate the terrain with text labels and free hand drawing, toggle information layers for further analysis, point using a virtual cursor, and synchronize their flight. One user serves as the manager of the session, and the rest connect as clients. The collaboration server can also reside on a TerraGate server to better manage and control and solve security problems when accessing end-user computers behind firewalls.

Extract Terrain to MPT

Cuts and creates a subset of a local or remote MPT database for distribution on CD/DVD, and even creates a local MPT from a DirectConnect project.

GPS Tracking

Creates 2D or 3D objects and moves them according to position information, in NMEA format, it reads directly from a GPS or communication device through a USB or COM port or from a local or remote file.

The GPS tool supports multiple entities in a single device and allows fast forwarding capabilities when reading the information from files.

You can display the GPS-moving objects in a variety of 2D or 3D graphic representations, and add trace lines trailing the object routes.

Duplicate Objects

Creates multiple instances of the same object along a broken line, or fills a closed polygon shape area. The tool allows the user to set the basic graphic representation of the object and the spacing between the instances.

Drawing

Creates simple and/or customized objects including markers, free hand lines, **Mil-Std-2525b** symbols, and urban design elements (roads, junctions and traffic lights). The tool allows you to create dashed and thick lines, simply and quickly add notes, draw freestyle lines by tracking the mouse pointer movements, and point to locations on the terrain using the virtual cursor.



Figure 10: Urban Simulation tool

Build Power Line

This tool creates a power line by placing power poles along a user-defined path and connecting them with power lines. The Build Power Line tool allows the user to define distance between poles, pole type and other pole parameters.

Build Pipe Line

This tool creates 3D pipe lines along a user-defined path. The output of a build pipe line operation is either a group of TerraExplorer objects or two Points layers, one for the pipes and the second for the connectors.

Navigation Aid

Displays the Navigation Aid window for Navigation mode and target locator settings. The Navigation Aid tool locks the TerraExplorer camera in 2D mode and continuously tracks the distance and direction to a specific target.

Multiple Coordinate Systems

The Multiple Coordinate Systems tool projects the current camera/cursor coordinates to a user-selectable coordinate system. The tools always display the Lat-Long and MGRS coordinate systems.

Data Library

Set of Graphic elements you can add to your project The Data Library is a set of 3D objects, 2D icons, textures and frames that you can use in your project. TerraExplorer Pro presents the data library objects in a set of HTML pages. The Data Library tool displays 2D and 3D objects and adds them directly to the project.

Snapshot

Copies the current 3D Window to a floating window so you can edit it in a Paint program before saving to image file.

MakeCPT

Converts point cloud data from various formats to a unified, visualization and stream-optimized Skyline-proprietary Point Cloud File (CPT) format.

MakeXPL

Converts a single X file into a set of XPL files, where each file contains data for one Level of Detail (LOD) only to provide better performance for the Direct X models.

Timespan

Restricts the visibility of data to a specific period of time. Timespans are usually used for data sets that appear in multiple locations (e.g., Placemarks moving along a path). The data associated with a timespan is visible only when the time slider is showing the time interval defined in the timespan tag.

The timespan for an individual object, and likewise for a group can be set in its property sheet, when you want all objects in the group and all subgroup objects to have the same timespan. The Timespan Tool is necessary when you want to evenly split a timespan, either between a group's subgroups or between all the objects in all of a group's subgroups.

Create Resolution Pyramid

Generates a resolution pyramid for a layer source file that does not include resolution levels or has an insufficient number of them. TerraExplorer Pro requires a number of resolution levels per layer, also known as a Resolution Pyramid or a Multi-Resolution file, in order to display the layer in different altitudes. Without a resolution pyramid, the layer will not be displayed when attempting to zoom out from the original resolution level.

Block Width

Calculates an appropriate Block Width for streaming a layer efficiently. The selection of the Block Width for a layer is determined based on the maximum height at which you want the layer to be visible, as well as the required density and precision level of the data.

TerraExplorer Pro Extensions

TerraDeveloper Extension

The Skyline TerraDeveloper software development kit is a set of ActiveX controls that provide full customization of TerraExplorer Pro applications. Utilizing the TerraExplorer Pro environment, developers can build their own applications in 3D by integrating many of the TerraExplorer Pro capabilities into any application or HTML page.

TerraDeveloper enables the addition of powerful 3D geospatial interfaces to any application for Windows-based systems, (including desktops, laptops, wireless and land lines) solutions.

C2MP Extension

A set of Command & Control and Mission Planning features for Military and Defense users. The C2MP extension can be added to TerraExplorer Pro or TerraExplorer viewer. The extension includes the following tools:

- ◆ **MultiTracking** (Cursor-on-Target, Predator, Blue Force Tracking): Extensions to the core MultiTracking interface to support Cursor-on-Target, Predator, and Blue Force Tracking protocols. Allows user to identify choice of representation per-feed, and combine multiple tracking feeds into one full common operational picture.
- ◆ **FalconView** Interface: Provide links between FalconView UI and TerraExplorer, including synchronizing display across GUIs and importing of common FalconView types such as Threats and Local Points.
- ◆ **MilStd2525B Annotator**: Gives the user the ability to annotate the terrain with many common MilStd2525B symbols.
- ◆ **ACO Import**: Gives TerraExplorer the ability to import most Air Combat Order (ACO) features directly, to allow users to interpret objects in a full 3-dimensional view.
- ◆ **GRG Creation**: Tool to initiate the creation of official Gridded Reference Graphics (GRG) using TerraExplorer. Assist in outlining the grid with varying distance (meters or feet) offsets, labeling objects, and preparing the view for a snapshot, ready for printing or further annotation as needed.
- ◆ **Coordinate Marker**: Tool for interrogating and annotating the terrain. Assist in simplifying MGRS coordinate usage for military users, as well as provides very quick and intuitive coordinate drop capability for locations.
- ◆ **Link-to-GeoPDF**: Tool to simplify creating project links to GeoPDFs, which will integrate the GeoPDF into your TerraExplorer project and seamlessly allow swapping between views.

C2MP extension for TerraExplorer Viewer also adds the following TerraExplorer Pro tools:

- ◆ Draw Tool
- ◆ Collaboration Tool

Note: C2MP extension is subject to export restrictions

System Requirements

Operating System	TerraExplorer Pro runs on any Windows® XP, Vista or 7.
Browser	Internet Explorer: TerraExplorer Pro requires version 6 or higher of Internet Explorer.
Processor	TerraExplorer should be run on a Pentium IV processor or equivalent.
Memory (RAM)	For optimum performance, the computer should be equipped with 4GB of RAM, although it can run on machines with 1GB of RAM.
Video Card	TerraExplorer Pro supports video cards with 128MB of memory, although it is recommended to use video cards with 512MB or more. Note: A video card with pixel shader v3.0 and vertex shader v3.0 is required for the display of dynamic water effects, animated cloud map, and sky texture.
Internet Connection	Broadband connection is recommended for optimum performance.

