

What's New for Quick Terrain Modeler Version 7.1.4

Release: June 15, 2011

Quick Terrain Modeler v7.1.4 adds the most comprehensive user interface overhaul in our product's history. The most obvious changes will be in the addition of a Layer Tree, an interactive Mini-Map, and new button icons on the button bar. These changes will make it much easier to interact with all the model, vector, texture, and marker layers and to intuitively understand what data is available in the workspace. In addition to these items, there are significant changes to Markers, enabling individual display options and the addition of imagery/user defined symbology to the marker display, tools to temporarily crop the view to a subset of the model, and bookmarks to let you return repeatedly to the same view. Here are the details:

Layer Tree

The purpose of the layer tree is to make it very clear what geospatial elements are loaded into the 3D scene, and to enable easy user operation on these elements. There are many options to left click and right click on each element to expose frequently used tools and actions and left/right click on section headers to expose other commonly used functions for the entire category. The categories are Special Overlays, Models, Textures, Vectors, Markers, Routes, and Bookmarks.

Interactive Mini-Map:

The Mini Map is a static image of the loaded models, vectors, and markers that dynamically displays the view extents as a white vector. Users can change the appearance and use it as a tool to interactively zoom to specific features by double clicking and/or right click/dragging a zoom polygon in the mini map.

Markers:

Markers have been radically upgraded. Users can now have individual markers displayed differently (in the past all markers had to be displayed in the same style). In addition, there are tools to add an image to the marker, enabling an infinite range of possibilities for adding symbology or any other raster effect.

New Point Size Options:

There are modifications available to smooth out the voxel point autosize rendering algorithm for point clouds. Checking the new "antialiasing" checkbox in the point size option window will do two things: 1.) Eliminate the visible "bands" between voxel points of different sizes and 2.) make the point cloud points round instead of square. This requires a moderately new graphics card to work efficiently. This will be the default point rendering mode unless QT Modeler detects the absence of suitable OpenGL version.

Temporary Cutting Cropping:

You can now right-click on the cut/crop buttons to generate cut/crop filters. These are texture layers that hide the points in questions without throwing away points. So visually it's like instant cut/crop/undo.

Buttons and Button Bar:

The Tool Bar has been completely revamped for Version 7.1.4. In addition to all new button icons, there are also new functions that have a button (e.g., HLZ map, slope analysis, grid lines, batch scripting, etc.), we have also added the ability to customize the tool bar in any way you choose. Go to the File Menu...Options and Settings...Configure Tool Bar.

Bookmarks:

Bookmarks take the place of the old Save/Load View/Position. Think of bookmarks in much the same way as you would bookmarks in your internet browser. Bookmarks will always take you back to the same camera position and view, regardless of what data is loaded (i.e., they are not model or data-dependent). Bookmarks will also appear on the Layer Tree to easily return to a given view. Bookmarks can be shared among users.

Scale Bar

Added scale bar when in 2D mode. Just toggle to 2D mode and the scale bar will appear in the lower right hand corner. It is almost impossible to make a meaningful scale bar in 3D mode, due to the perspective/parallax associated with 3D viewing, so a 2D scale bar acknowledges all the user requests we have received for this tool.

Status Bar Options

There is now a "Status Bar Options" dialog. Either in the "Display->Options" menu or by right-clicking on the status bar. Here you can select:

- 1) What coordinate system to use when displaying the cursor coordinate (e.g., display MGRS even if the data is in UTM)
- 2) Whether to show the range from the camera to the cursor position.

New Hot Keys/Shortcuts:

- "Q" Creates Bookmark
- Click "V" to start a vector line, then "V" to end it. The result will be a straight vector line in the default style.
- Click "S" to start a mensuration line, then "V" to end it. The result will be a permanent vector line in the "mensuration" style. Very useful for labeling HLZ's.

Tweaks

- If you open multiple files, and one causes an error, QT will now still open the rest and just tell you at the end which files it couldn't open.
- The "Add Models" function should now better respond to the "cancel" button.
- QTT Importer now scans and corrects for bad NAN values and out-of-range data ($> 1e20$, $< -1e20$)
- GridStats GUI now has separate "OK" and "Cancel" buttons. The difference is that "Cancel" also removes the Texture Image.
- Tweaked "shift-select" point selection a bit. Now should do a better job of detecting which point is directly underneath the cursor.
- QTT Import has some sanity checking on NAN values - if no NAN is embedded in the import file, but the minimum Z comes in exactly equal to -32767.0, -9999.0, or -FLT_MAX then that value will be treated as "NODATA". This will be helpful in loading some DoD-generated DEM files.
- Route Editor can now remove last Route.
- Switched all models over to double precision view frustum
- Added "copy files" function to Model Search.
- Mensuration Export should default to "Mensuration style".
- Image search should now be able to find images that have "no data" fields defined (These were formerly mis-identified as DEMs).
- Image search will now find CADRG/CIB/RPF images during image search and image loading.
- Hidden models should no longer affect GUI responsiveness calculations.
- You can now turn on OpenGL Antialiasing ("Display->Options"). This engages OpenGL's native point/line/polygon anti-aliasing. The most immediately obvious effect is that point-cloud points appear as circles rather than squares. This may or may not have a meaningful performance impact depending upon your video hardware.
- If you draw a vector by starting and ending with 'v' it works like it always did. If you start with 's' like you were doing a mensuration line, and then end with 'v', you get a "permanent mensuration line" style vector.
- Added anti-aliasing check to point appearance dialog.

- LAS georegistration interpretation should be smarter when given ambiguous geokeys (e.g., geodetic data that was tagged as Geodetic with both GeoLinearMeters and GeoAngularDegrees).
- Water Level Contours now generated by same code as other Contours.
- Sentinel Builds should be more informative when failing.

Bug Fixes

- Fixed: Issue tallying return numbers when exporting LAS from QTA LAS.
- Fixed: Issue sampling height after loading vector file.
- Creating an LOS Map will no longer clear the colors of other loaded point clouds.
- Markers set to "Fixed Size in Pixels" will behave properly in 2D mode.
- Fixed some issues with RGB handling on LAS Open/Add
- Switching between 2D/3D will no longer reset which models are visible.
- Fixed issue with export of multiple files to LAS with RGB.
- Fixed issue with QT Reader importing multiple RGBLAS files.
- Fixed an issue with "Export Outline to GE"
- Fixed broken print button
- Fixed Issue reading LAS files where the first point starts with the 0xCCDD header end code.
- Fixed issue with resizing window resetting model visibility.
- Fixed code reading Geokeys from LAS so that it handles odd cases like my sample MD State Planes data while still properly handling custom data sets like our NJ State Planes data.
- Fixed "surface normals" check when importing XYZ Ascii/LAS/FXYZ->QTC/QTA.
- Fixed some issues with Minimap and certain ATI Mobility and Intel video cards.
- Fixed an issue where hidden models which were not drawn to full LOD the last frame before they were "hidden" prevent QT from fully resolving.
- Vector Models should no longer confuse Water/Volume calculations.
- Fixed another precision issue with INI files/Batch Scripts and data in Geodetic meters.
- Fixed bug where Marker editor could get confused about which marker it was editing if you pressed "enter" in the "rename" field.
- Fixed issue with reversed vector arrows.
- Fixed issue where render progress bar didn't always go away.
- Fixed memory leak in "Are you sure you want to close QT?" dialog.
- Fixed issue where last point in a point cloud row was not always rendered when zoomed in.
- Fixed issue with meter-scale import of geodetic data through batch scripting.
- Fixed some issues with direction of vector arrows.
- Fixed memory leak in "Are you sure you want to close QT?" dialog.
- Fixed memory overrun in water level contours.
- Fixed import of KML to Vector
- Fixed bug using legacy triangulation together with "smooth interpolation".
- Fixed hang bug doing "smooth interpolation", legacy triangulation with RGB.
- Fixed issue with QT not properly closing out Sentinel license on shutdown.