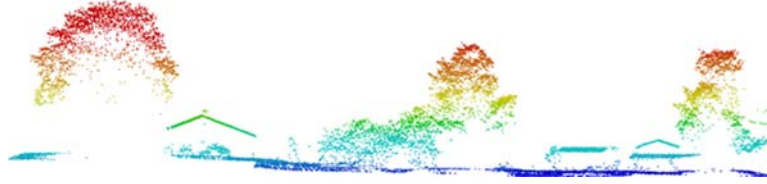


# Quick Terrain Modeler

LiDAR Exploitation Software by Applied Imagery



August 2016

Applied Imagery is pleased to announce the release of Quick Terrain Modeler v8.0.6. We have added many things our users have been asking for – subfolders in the layer tree, marker icons, KMZ imagery support, etc. – but, by far, the biggest thing we changed was “under the hood”. We completely revamped the way Quick Terrain Modeler handles point clouds (LAS/LAZ/BPF files), enabling users to load much larger point clouds. Strangely, we (almost) hope users never notice this at all. Everything will look and feel the same, all of the analytical tools will work the same, but you might just notice that you are loading way more data than you did before.

Read on for more details. As always, we thank you for using QT Modeler and for providing your extremely valuable feedback and suggestions.

Sincerely,

The Applied Imagery Team

## **What’s New for Quick Terrain Modeler Version 8.0.6:**

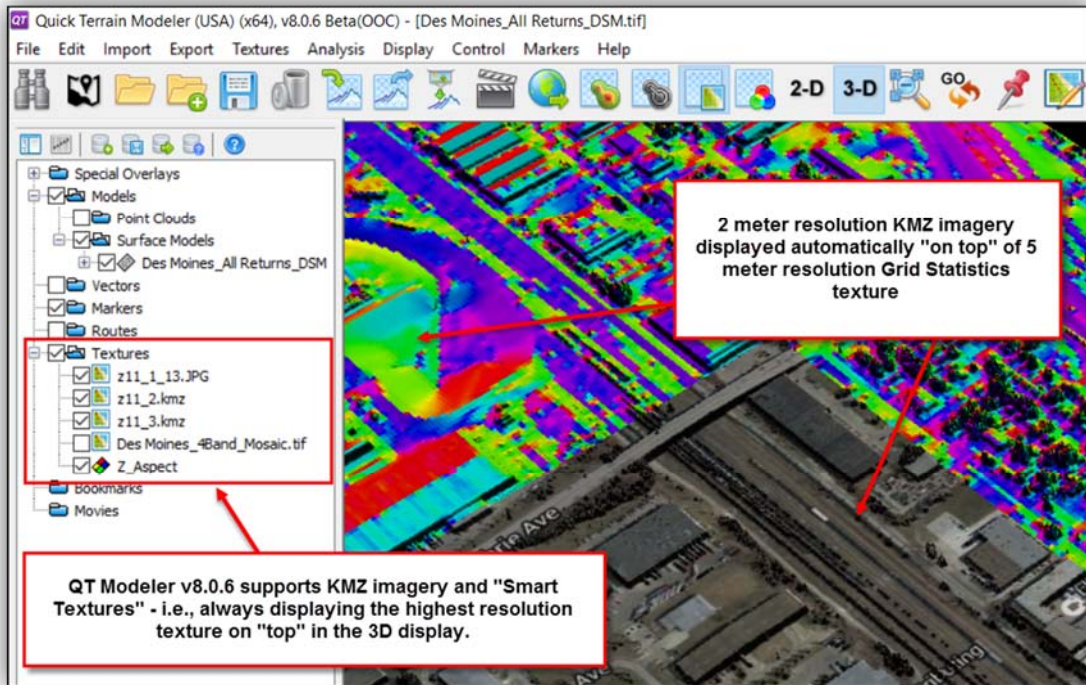
**Bigger Point Clouds!** Quick Terrain Modeler v8.0.6 dramatically reduces the memory footprint of point clouds, also known as LAS, LAZ, and BPF files. Depending on the point cloud data and what attributes are included (e.g., intensity, RGB color values, etc.), the memory footprint for point clouds will be between 30% and 50% of what it used to be, enabling the loading of point clouds two to three times the size (measured in number of points) in the same amount of memory. All of this should be invisible to you. All the visualization and analytical tools work the same, QT Modeler still loads and renders every single point, and you will still get the effortless interaction and navigation you have come to expect from us.

**Smart Textures – No Need to “Stack Rank” Your 2D Images!** In QT Modeler terminology, “textures” are 2D imagery files that you overlay on your 3D data (or just load by themselves). In v8.0.6, Quick terrain Modeler will assess areas where multiple textures overlap, and automatically display the “best” texture (i.e., the one with the highest resolution). There is no longer a need to manually organize the texture list in the layer tree to display the best texture (unless you want to). See image below.

# Quick Terrain Modeler

LiDAR Exploitation Software by Applied Imagery

**KMZ Image Support** QT Modeler now supports the overlay of a wide variety of KMZ imagery, even KMZ images that consist of many small “chips” or “tiles” – like imagery from MOBAC or applications that export to GPS devices. If possible, QT Modeler will merge the small tiles together into a single texture in the layer tree. In addition, QT Modeler will find KMZ imagery during searches. See image below.



**Layer Tree – Get Organized!** You asked, we listened. The layer tree now supports subfolders and drag & drop of items. It will be easy to organize your markers, vectors, models, and routes into subfolders, then turn them on/off as a group. Right click on a folder (e.g., the “Markers” folder in the layer tree) to create a subfolder. Drag and drop items into and out of folders as needed. See image below.

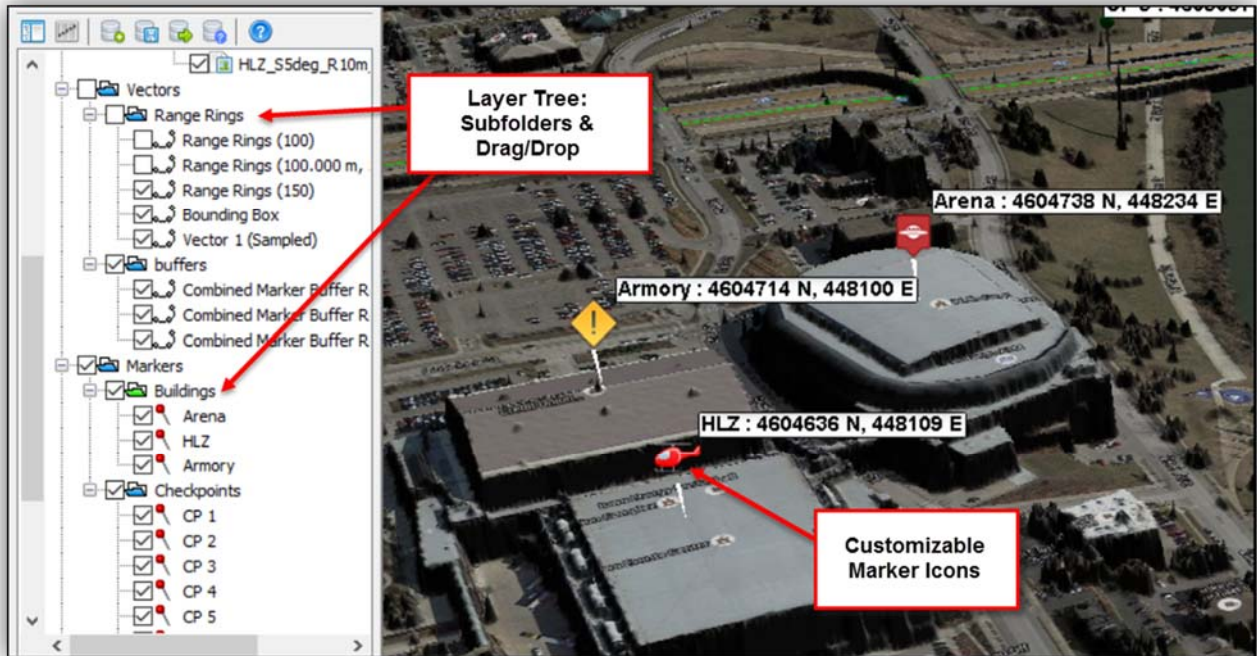
**Markers:** Tired of every marker just looking like a push pin? V8.0.6 offers unlimited possibilities for marker display. We have 3 basic “Styles” now: Pushpin (the way it has always been), Text Tag, and Icon, which opens up a world of annotation possibilities. In Icon style, you can choose any image to be the marker icon. We have included many useful icons, but you will be able to use any image as an icon by dropping it into the QT Modeler “icon” folder. See image below.

More good stuff for markers:


- Double right click on any marker to open the Edit Marker window.
- Rename/resequence entire marker subfolders (quickly resequence route check points).
- Set marker coordinate display precision to any number of decimal points (File Menu > Options/Settings > Set Display Units).
- Marker Manager can now highlight only the markers visible in the current scene/view.

# Quick Terrain Modeler

LiDAR Exploitation Software by Applied Imagery



**Google Earth Sync – Easier & Syncs More Stuff!** Google Earth continuous synchronization has been enhanced dramatically:

- Now you can just click the Google Earth button to synchronize Google Earth. We have a new button icon:  No need to go to the Control Menu > Control mode. One-time Google Earth synchronization still works by typing “G” on the keyboard.
- Range Rings, flight surfaces, bounding boxes, and routes now automatically sync to Google Earth. I.e., as you add these items into QT Modeler, they immediately appear in the Google Earth window. Any edits to names, folder structure, colors, or positions of these items will immediately be reflected in Google Earth
- Note: Any other vector types will need to be manually exported by right clicking and exporting to KML.

**Route Planning Enhancements:** A couple new enhancements for planning routes:

- When placing a route and there is a need to go “off the screen”, QT Modeler’s movement mode will pan the scene when the mouse cursor hits the edge. No need to hold down ALT and move the model.
- When automatically placing checkpoint markers, the checkpoints can be created in their own folder in the layer tree, making it easier to add check points in the middle of a route, reset the order in the layer tree, and rename/renumber them sequentially.

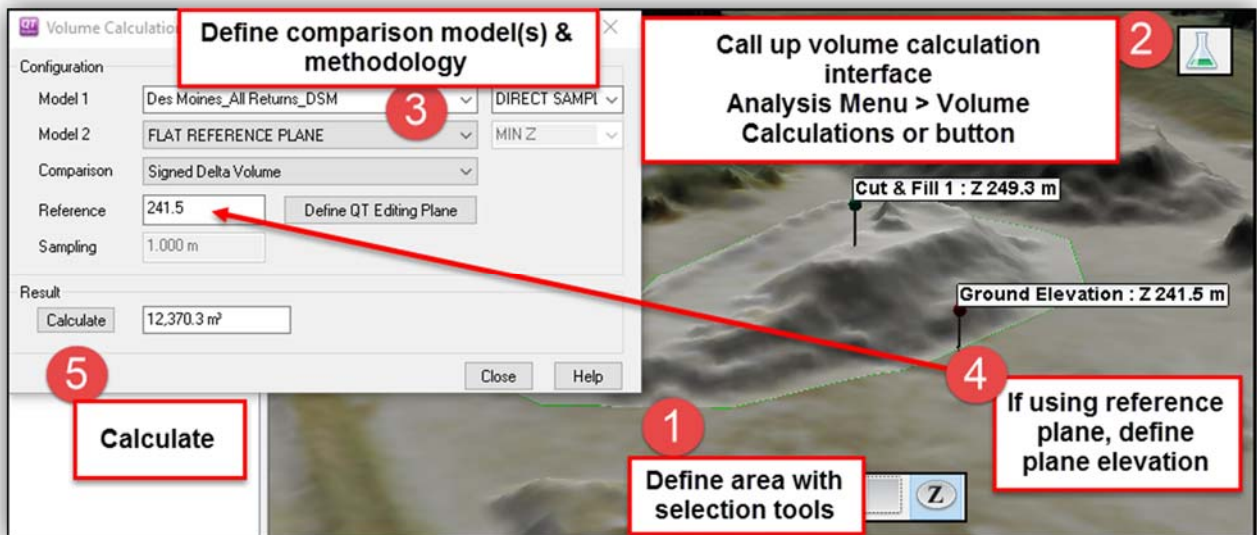
**Resize Legend – Make Presentations Easier to Understand!** You can now resize the legend by clicking on the legend icon in the Layer Tree > Special Overlays folder. Slide the slider to resize the legend. This will make QTM briefings and exported PowerPoint slides easier for your audience to understand.

# Quick Terrain Modeler

LiDAR Exploitation Software by Applied Imagery



**Volume Calculations – Better for Point Clouds:** Volume calculations have been completely revamped to allow choices in how point cloud volumes are calculated (surface model methods are unchanged). You can now select Min/Mean/Max Z to create the temporary surface from which QTM calculates volumes. Point cloud volume calculations should be much more accurate and flexible.



**Setting Display Precision:** QT Modeler v8.0.6 allows users to set the precision (i.e., number of decimal places) of various display readouts. Found in File Menu > Options/Settings > Set Display Units.

**LAS File Enhancements – Editing Synthetic and Withheld Points:** QT Modeler v8.0.6 adds the ability to set/edit Withheld, Synthetic and Keypoints from three places: The Point Query Tool (SHIFT + Click on a Point), from the Point Select Menu (CTRL + SHIFT multiple points, then CTRL + Right Click), and from the Profile Tool (in Edit Mode in the Profile window).

# Quick Terrain Modeler

LiDAR Exploitation Software by Applied Imagery

## **Miscellaneous Enhancements & Tweaks:**

- Editing Plane: Users can now create an editing plane (i.e., a “tilted” plane to edit DEM’s or calculate volumes) from markers that are already placed in the scene. Also added Roll and Pitch section to Edit Plane Tool. This can be used to determine the transform angles necessary to flatten a model. The Edit Plane Tool will also allow negative slopes.
- When adding KML vectors, QTM should no longer ask about Coordinate System interpretation.
- Active Texture limit no longer applies to textures in 2D mode with no model data loaded.
- Slope Analysis and Line of Sight Analysis will now obey selection area (i.e., only perform the analysis and display results within the selection area).
- Added ability to define plane by selecting markers in the marker manager
- Should be faster at opening multiple LAZ files
- Revamped Export Model and Export Model Image widgets
- Added "Flat Selection" display option for a terrain hugging selection effect.
- Added option to export individual routes to KML/SHP
- APASS export should include height color regardless of current settings.
- ATAK file structure export fixed to reflect imagery in the “GRG” folder.
- Attempted to improve target rotation behavior in datasets with lots of empty space
- Vertical CS will no longer count for determining if a CS is compatible for purely 2D vectors.
- Color by FIRST/LAST/IM now consolidated with other QTA color routines
- Tweaked range ring hot key (R + Left Click) to prevent “RRR...” from populating in range value.
- Added popup in cases where you try to mix data where one set has a vertical CS and the other does not.
- QTC/QTA preserves flatten/smooth Z operations for export.
- Added spin controls (up/down arrows) to Marker Edit dialog.
- “Manager” interfaces (marker manager, feature manager, etc.) should autosize columns and have alternating color rows.
- Quick Colors: Quick AGL/Z no longer clears active RGB layer
- GridStats should honor selected/deselected models.
- "Convert Models" should use "Current RGB" rather than "Original RGB"
- Tweaked auto-size columns behavior for feature manager
- Added support for BT (Binary Terrain) model format (DEM format).

## **Support Files, Plugins, API, etc.:**

- Fixed broken QT\_PLUGIN\_SURFACE\_SET\_COLOR\_TYPE API message
- Implemented QT\_PLUGIN\_SET\_CPU\_THREADS message
- Fixed issue properly supporting old API data access routines (GET\_DATA\_POINTERS)

## **Bug Fixes**

- Fixed crash bug importing ASCII to vector.
- Fixed import bug with very wide point clouds.
- Fixed issue with limiting LOS to selection area when model scale is not 1.0.
- Fixed broken fullscreen option in some builds.
- Fixed threat dome in International builds.
- Fixed issue handling differing vertical/horizontal units in Georegister Models.

# Quick Terrain Modeler

LiDAR Exploitation Software by Applied Imagery

- Fixed issue with QT sometimes thinking it needs to include a model in a local workspace when it does not.
- Fixed LASlib issue handling long descriptions.
- Fixed issue with "Swap AGL into Z".
- Fixed issue reading LAS files with improper point record sizes in the header.
- Fixed some issues properly rendering uncompressed point clouds with Advanced Shaders off.
- Tweaked libLAS dll to handle bad LAS1.4 EVLRs from QT 8052.