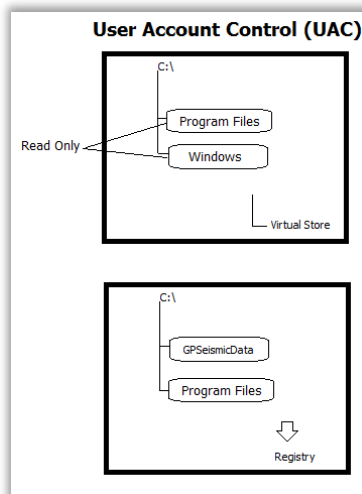


## GPSeismic Version 2010.4 Release

This is the last 2010 release. We will review the following:

- 1) Changes to accommodate Windows UAC
- 2) Changes to the PREPLOT table structure
- 3) Changes to Project Manager
- 4) QuikView changes to handle post processed data
- 5) SRTM utility in QuikMap
- 6) Pack operator workday utility in GPSQL
- 7) Creation of KMZ files that can be used in selected Garmins

### Changes To Accommodate Windows UAC

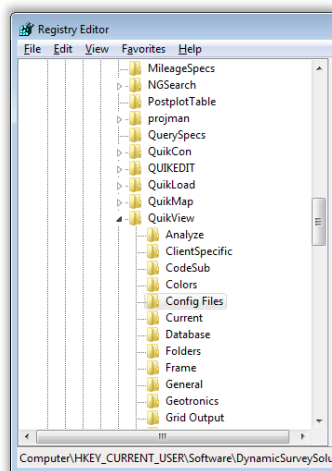


UAC stands for User Account Control and is a feature of Windows 7 (and Vista). When you purchase a new computer, UAC will be turned on. When it is on, several folders become read-only. This includes the 'Program Files' and 'Windows' folder.

If you try to open a database that exists in the 'Program Files' folder with UAC on, it fails. This is because we open databases with read and write capability.

If you save a file in the Program Folder or the application tries to save a setting to an INI file in the Windows folder, it will actually be saved in a folder buried very deep in the Users folder structure.

The answer is to either turn off UAC or accommodate it by saving all files in a folder structure that is not under Program Files.



We have taken the first step by saving all application settings to the registry and not INI files. There are actually advantages including the ability to more easily view settings and an increase in application speed, especially for those that do a lot of settings saving and retrieving (like GPSQL).

The second step will be the 2011 release that will install the GPSeismic Geodesy folder and Sample Data under a newly created folder called 'GPSeismicData' immediately off the root folder. Also in the 2011 release, the default project creation will be under this folder.

### Changes To The PREPLOT Table Structure

PREPLOT	Station (text)	Text	16	1
	Station (value)	Double	8	2
	Track	Long	4	3
	Bin	Long	4	4
	Descriptor	Text	32	5
	WGS84 Latitude	Double	8	6
	WGS84 Longitude	Double	8	7
	Local Latitude	Double	8	8
	Local Longitude	Double	8	9
	Local Easting	Double	8	10
	Local Northing	Double	8	11
	WGS84 Height	Single	4	12
	Distance Units	Text	16	13
	Distance Factor	Double	8	14
	Populate Time	Date	8	15
	Local Datum	Text	16	16
	Local System	Text	16	17
	Processor	Text	16	18

When you create a database with 2010.4 (or populate an existing one), four additional fields will be created. These include Populate Time, Local Datum, Local System and Processor. These allow for better quality control and overall integrity in your operations.

Note that there is no problem in upgrading since the fields are added automatically if they are not found and the presence of additional user fields is not an issue.

### Changes To Project Manager

Note to user...  
Backup current project settings for DMT?  
Yes No

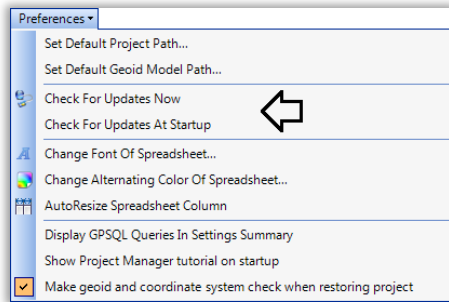
Restore project sequence begun.  
Making settings file for DMT  
Adding main section to DMT.set  
Adding QUIKLOAD section to DMT.set  
Adding QUIKVIEW section to DMT.set  
Adding QUIKMAP section to DMT.set  
Adding QUIKCON section to DMT.set  
Adding QUIKEDIT section to DMT.set  
Adding GPARC section to DMT.set  
Adding GPSQL section to DMT.set  
Adding GPNAV section to DMT.set  
Adding GPLOCATOR section to DMT.set  
Adding geodetic database to DMT.set

Note to user...  
This settings file has a geodetic database. It should not normally be used to replace your current one.  
Press YES to keep your current geodetic database and NO to replace your current one with the one in the file.  
Yes No Cancel

There are a couple of fundamental changes to Project Manager that you should know about. The first is that restoring a project used to prompt for backing up settings of the current project. This is still the case but you don't have to navigate to and replace the current project settings (.SET) file.

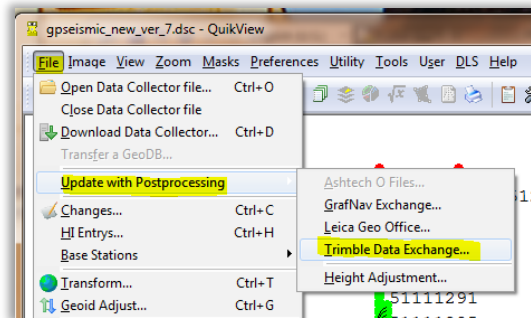
You will notice on the main interface the status of the settings backup activities. During this process, the settings from the registry are being extracted and placed in the .SET file.

Next, the settings file of the project you want to restore is examined. In almost every case, there will be a geodetic database backup. You will be prompted to press YES if you want to keep the current geodetic database! If you press NO, you will be warned that this is not the normal course of actions and asked if you want to proceed. If you do, the size and date of the geodetic databases are compared. If different, you are warned and again asked whether to replace the current one with the one in the settings file.



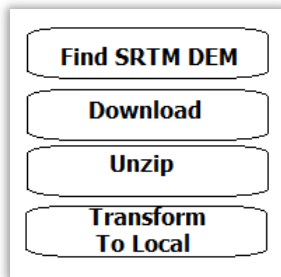
The other change in Project Manager is that it is now responsible for checking for updates that might be available from our website. This action is taken every time Project Manager is started unless the user de-selects it. The user can check for updates manually if desired.

### QuikView Changes To Handle Post Processed Data

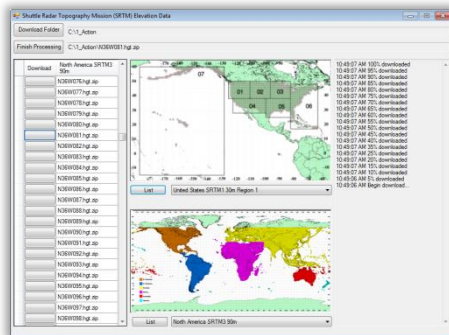


It should be noted that we continue to add the ability to update real time coordinates in QuikView with post-processed results from other sources. The latest is Trimble Data Exchange (TDE) files available from Trimble Geomatics Office and Trimble Business Center. There are a few QuikView settings that relate to post-processing. You should read the help for the Display/Output tab page of the Miscellaneous Settings dialog closely.

### SRTM Utility In QuikMap



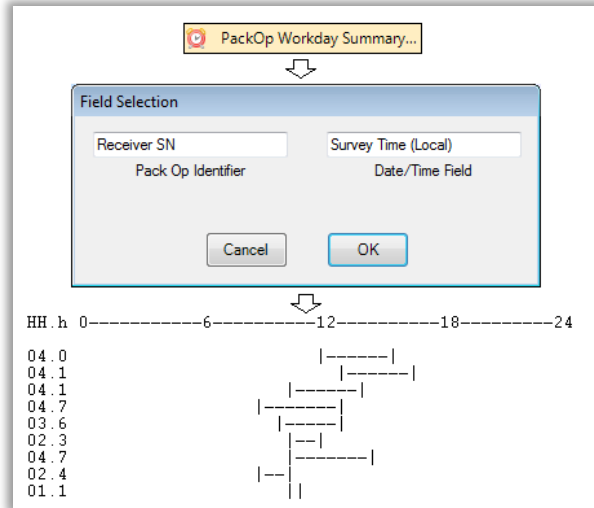
Version 2010.4 includes an SRTM utility to facilitate converting SRTM elevation files to a GRD Digital Elevation Model. SRTM stands for Shuttle Radar Topography Mission and what the mission did was to collect elevation data for the world. The elevation data has 30 meter resolution in the US and 90 meter resolution everywhere else. Each file on the USGS website represents one degree of latitude by one degree of longitude. The file 'N38W112.hgt.zip' for example, is a zipped file where 38 degrees latitude,



-112 longitude represents the southwest corner of the area covered. Prior to this utility, if you wanted to convert this to a GPSeismic GRD Digital Elevation Model, you would have to download the file (assuming you could find it), unzip it, use the DEM conversion tool to convert it from an 'HGT' format to a 'GRD' format, then finally transform it to the desired system using the DEM Tools dialog utility.

This new tool displays a dialog where you click on a map of the area you want. This lists all files in that area. Then you press the button next to the file you want and this action downloads the file. Next, press the Finish Processing button. You specify the local coordinate system and the GRD file is created.

## Pack Operator Workday Utility In GPSQL



There is a utility in the Query-B menu to look at a query and provide a list of work days for all pack operators (as identified by a user specified field). It asks for the field to identify the operator and a date field (This would normally be Survey Time (Local)). It also prompts for a text file to create. The file depicts date, operator, hours worked and a graphic representation of that time period within the day. Because it uses the query criteria, you can specify a day or range of days, or you could limit it to one or more operator.

## Creation Of KMZ Files That Can Be Used In Selected Garmins



We have added the ability to create a Google Earth KMZ image overlay files. Embedded in the KMZ are one or more images and registration information in the WGS84 format. A KMZ file can be used in Google Earth and will drape the image over the Google Earth map. Also, and most importantly, the KMZ files can be used in newer Garmins which have the 'custom maps' feature. This allows the tiles to be georeferenced in the Garmin and appear as a background image. The Garmins that support include the Oregon, Dakota, Colorado, GPSMAP 62, GPSMAP 78, and Edge 800.

The two ways to make KMZ files are from the Google Maps utility or from a registered image you might have.

### Making A KMZ From The Google Maps Utility

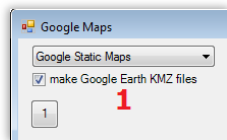
We first have to mention that there have been several changes made to the Google Maps utility. First, the Google Maps API Key is no longer required. This is nothing we did. Rather, Google decided the key was no longer necessary.



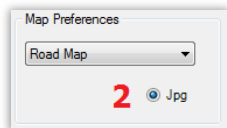
Second, we have added an option to request imagery from OpenStreetMap. This imagery is roadmap only and could be useful around populated areas since it is an open source project in which users donate map information that is used to

edit the available map data. There is some risk in using this data in that road information in areas such as the United States is based on Tiger files which are becoming somewhat dated. If possible, Google map data should be used. However, OpenStreetMap is a useful alternative (in populated areas) when Google Maps has temporarily denied use.

Here are the items to address if you want to make a KMZ:



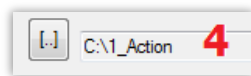
1) There is a checkbox immediately under a dropdown towards the top of the dialog. Checking this indicates that you wish to make a KMZ file. The KMZ file can be used in Google Earth or be placed in the /Garmin/Custom Maps/ folder of the Garmin 'drive'.



2) You should note that the imagery used in Garmin Custom Maps must be in the form of JPGs. When you elect to make KMZ files, the JPG selection is made for you. Note that a Garmin cannot have more than 100 tiles total. If you try to use more than 100 tiles for a KMZ, you are warned. The name of the KMZ created will be something like, '4\_835\_36\_tiles\_.kmz'. The name is Julian Day followed by hours and minutes of the time created and the number of tiles.



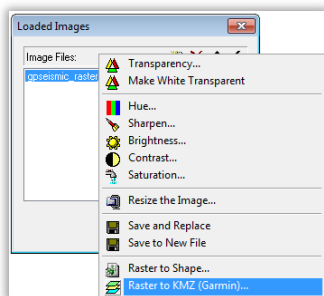
3) We have not seen where Draw Order makes much difference in the custom maps viewed in the Garmin. Perhaps on models other than that tested (Oregon 550t) or perhaps in the future, this will be implemented. In any case, several sources report the following: “With a Draw Order of 1-49, the custom map will display on map page under vector data like roads and contour lines in any enabled Garmin vector maps, but it will be visible on top of any ground cover in the vector maps. With a Draw Order of 50-100, custom maps will display on top of all Garmin vector map data.”



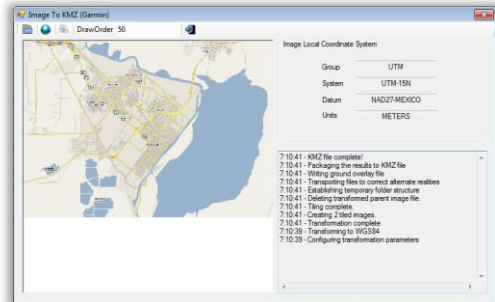
4) The final item is that you must specify the path where the KMZ file is to be created.

Once the items above are addressed, the utility is used as it is when you are creating a registered image.

### Making A KMZ From A Registered Image

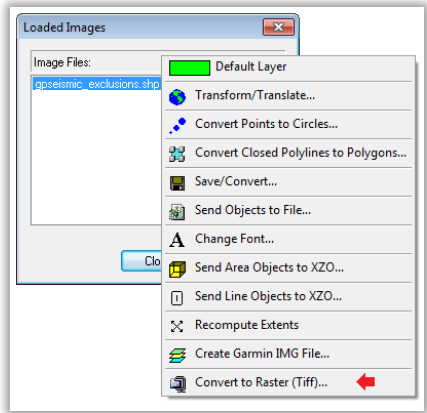


There are new Image Layer menu and Vector Layer menu items. The Image Layer item is called, Raster to KMZ (Garmin). This item allows you to convert the registered image to a KMZ file.



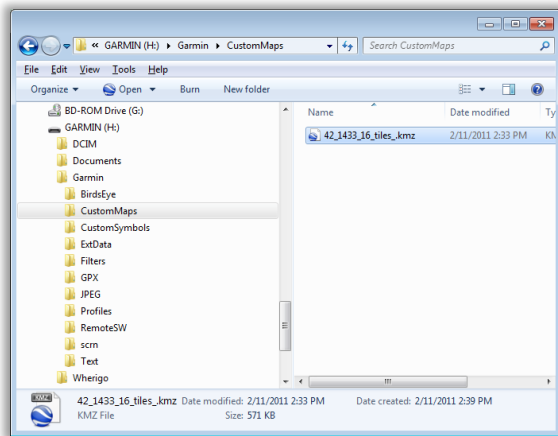
Once you select this item, a dialog is displayed and the image is opened automatically in it. There is a two-step process to convert to a KMZ. The first is to select the local coordinate system that the image is registered in. The second is to create the KMZ. The KMZ file will be created in the same folder as the image and will have the same name as your image but have a KMZ extension. You should note that the KMZ in a Garmin is limited to 100 tiled images. We

create 1000 pixel tiles so the limitation for any KMZ is 10000 by 10000 pixels.

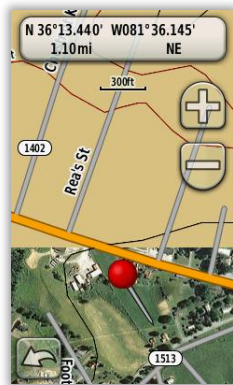
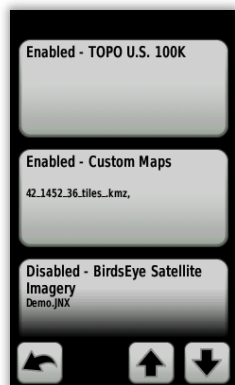


The Vector Layer menu item is called Convert To Raster (TIF). It converts the vector entities to a registered image. It prompts for image resolution and then creates the file in the same folder as the vector file with the same name as the vector file but an extension of TIF. Note that this could allow you to take a vector file that depicts items like pipelines and wells and ultimately use it as a background image in the newer Garmins. Our own experience has been that this cannot be used for point vector files or line vector files where the lines are single pixel.

### Copying Custom Maps To The Garmin



When the Garmin is attached to your computer, it becomes another drive and various folders are available. You should simply copy your KMZ file into the Custom Maps folder.



On our test Garmin Oregon, the KMZ can be enabled along with any existing base map or the base map.