

TOC

Global Mapper Mobile Help-Android	1
Introduction	8
Requirements	9
Additional Recommendations	9
Enabling Location Services	9
App Permissions	10
Technical Support	11
What's New	11
Global Mapper Mobile version 2.1	11
New Features	11
Pro Module New Features	12
New Features	12
Pro Module New Features	13
Pro Module	14
Register Pro	15
Getting Started	18
Open Map	18
Online Sources	18
Configuration	18

Load Default Data	19
Pan and Zoom	19
Control Center	20
Visibility	20
Layer Options	20
Full Extent	20
Additional Info	20
Layer Options	21
Vector	22
Raster and Elevation	22
Landian Biodes	24
Location Display	24
Main Menu	
-	26
Main Menu	26
Main Menu Open Map File	26 28 28
Main Menu Open Map File Download	2 6 282828
Main Menu Open Map File Download Folder	26 28 28 28
Main Menu Open Map File Download Folder Options	26 28 28 28 28 28
Main Menu Open Map File Download Folder Options Add Layer(s) From File	26 28 28 28 29 30

ESRI RESTful/Google Maps Tiles and OSM	
(OpenStreetMap Tiles)	32
WMS and WMTS	32
Save Map to File	33
Map File Format Options	33
Global Mapper Mobile Package file (*.GMMP)	33
GeoPackage (*.gpkg)	34
Export Map to File	34
Unload Map	35
Advanced GPS	35
Connect to Device	36
Location	37
Satellites	37
NMEA Stream	37
	38
Configuration	38
Pro Module	39
Display	39
Shader	41
GPS Settings	42
Digitizer	44

Miscellaneous Settings	44
Information	45
Tools	47
Digitizer	47
Create Points	48
Manual Tap	48
GPS Tap	48
GPS Auto Distance	48
GPS Auto Time	48
Pictures	49
Create Lines	49
Manual Tap	49
GPS Tap	50
GPS Auto Distance	50
GPS Auto Time	50
Create Areas	50
Manual Tap	51
GPS Tap	51
GPS Auto Distance	51
GPS Auto Time	51

Feature Editing and Properties	52
Edit Feature	52
Layer	52
Type	52
Name	52
Description	52
Vertices	53
Add Vertices	53
Edit Vertex	53
Delete	53
Attributes	53
Edit Attributes	54
Notation	54
Attach New Photo	54
Camera- attach new image from camera	54
Gallery - attach existing image from gallery	55
Add Attribute	55
Working with Feature Templates	55
Measure	56
GPS Average	56

Search	57
Loading Data	59
Data Recommendations	60
	60
Adding Data to an Android Device with Finder	60
Adding Data via Email	61
Adding Data with other File Sharing Apps	62
Feature Templates	62
Exporting Data	70
	70
Exporting Data with Finder	70
Additional Resources	71
Webinars	71
Online Help	71

Introduction

The Global Mapper Mobile® Android application allows you to take your Global Mapper data into the field, work with it, edit it and share it back to the Global Mapper desktop application. The mobile app includes many of the basic data viewing and editing features found in Global Mapper desktop, as well as some features unique to the mobile app.

Map data can be shared from the desktop by loading a Global Mapper Mobile Package (*.GMMP) generated from the Global Mapper desktop application. In this way many of the file formats, analysis and GIS Tools accessible through Global Mapper desktop can be viewed on the mobile device in the field.

Vector features may be collected manually or automatically using the mobile app. Global Mapper Mobile® can create GPS track features, tag photos taken with your mobile device to features, and allow for manual creation of points, lines and polygons. Features may also be added using predefined feature templates exported from the desktop application, making remote data collection easy and consistent, which is critical when conducting field work.

Global Mapper Mobile® can also connect to online sources, such as imagery, basemaps, terrain data and charts. Global Mapper Mobile® includes a list of built-in online data sources, and, with the Pro Module, can support custom added sources. With the addition of the Pro Module, this online data can also be saved on the device, for later use in the field away from a network connection.

Requirements

- Android device such as tablet (highly recommended) or Android phone
- Global Mapper Mobile® installed. Available from the Google Play Store.

Additional Recommendations

- Host machine (Windows desktop, laptop, etc)
- Licensed version of Global Mapper installed on that machine. We will refer to this as "Global Mapper desktop" in this document.

Enabling Location Services

The operating system will ask you to grant Global Mapper Mobile® permission to access location data the first time you enable this feature. Global Mapper Mobile uses location data for live position display and the creation of vector features only. It is not transmitted or saved in any other way.

If Location Services are not currently enabled, you can enable them in the system settings, by going to Global Mapper Mobile application settings in the application list at the bottom of the main settings page. Global Mapper Mobile® will still work and open map data if location services are disabled, but you will be unable to use tools that require GPS location. You will receive some GPS error messages, but you will still be able to use the other functionality.

Your mobile device uses a technology called Assisted GPS. When you first enable a tool that uses GPS, the device will use local WiFi hotspots or cell towers (if the device is equipped with a cellular option) to get an immediate estimation of your location. If your device is equipped with GPS hardware (comes with the cellular option), it will then attempt to lock your position using actual global positioning satellites. This may take a few minutes. Thus, reported locations may be of low accuracy or may not work until a satellite lock is established.

App Permissions

The Global Mapper Mobile Android application will request the following permissions:

- Approximate Location (Network-based)
- Precise Location (GPS and network based)
- Modify or delete the contents of your SD card
- Read the Contents of your SD card
- Full Network Access

If location permissions are not given, the app will not be able to use the GPS mode to display current location, or create features from any of the GPS options.

SD card access is not required, but is recommended for storage of Global Mapper Mobile Package files (*.GMMP).

Network access is used in the application to view the help files and other web links in the application info. It is also used when loading online data sources.

To share from the device via <u>email</u>, the setup of the default mail application on the device is required.

Technical Support

Technical support can be obtained on our website, by emailing support, or by sending an email through the mobile application.

E-mail Support: mobilehelp@bluemarblegeo.com

To email an error log from the mobile application, tap the <u>information</u> button in the Main Menu, and choose the <u>Email Error Log</u> option.

Please provide us with the following additional information:

- Type of data you are working with
- Error messages encountered (if applicable)
- Actions being Performed
- Expected Outcomes

Global Mapper is user-data driven. Each support issue is unique to that problem. The information in the support request form is essential to solve each support request.

Website: http://www.blue-marblegeo.com/support/index.php

What's New

Global Mapper Mobile version 2.1

New Features

- Vector Feature Styling
 - Feature Types can be previewed in the Edit Feature window

- Terrain Layer Support
 - Hill shading
 - Terrain shader display as Atlas shader
 - View layer elevation at a specific location
- Layer Transparency Settings
- Improved color picker for color settings in Configuration
- Support for Dark Mode display

Pro Module New Features

- Advanced GPS Support Connect to external high accuracy Bluetooth GPS devices
 - Ability to view satellites, detailed location information, and NMEA Stream
 - External GPS can be used for location based feature creation
- Terrain shader selection/change within the app
- · Water level display on terrain data

Global Mapper Mobile version 2.0

New Features

- Redesigned user interface for easier access to app features
- Streaming Online Data (Word Street Map, many more available with Pro Module)
- Additional Projection Support
 - World Mercator
 - Web Mercator
 - Transverse Mercator
 - Lambert Conformal Conic

- Custom Projection Support
- Quick Picture Point
- Create picture points from geotagged images saved to your device
- Integrated cloud file sharing (iCloud, Dropbox, Google Drive and others)
- Feature Labels retained in GMMP
- Create new custom layers when creating features
- Feature index layer attributes
- Measure Tool
- Feature Search Tool
- Coordinate format options
- Task progress reporting with cancel
- Diagnostics export options

Pro Module New Features

Global Mapper Mobile® now offers a paid Pro Module that unlocks additional features and functions in the app. Single user and enterprise licensing is available through the <u>Blue Marble Geographics web page</u> or by contacting our sales team at <u>orders@bluemarblegeo.com</u>.

- Extensive selection of build-in online sources
- Custom online data souces
- Download streaming online sources for offline use
- GeoPackage Import/Export
- GeoPDF Import
- GPS Averaging
- Ability to select global projection and modify projection parameters in app
- Add layers to existing map from file
- Distance and Bearing from location to selected point displayed



Global Mapper Mobile® offers a Pro Module for the application that opens up additional feature and function of the app.

Additional Features included with the Pro Module are:

- Additional Built-in Online Data Sources
- Add Custom Online Sources
- Save Online Imagery for Offline Use
- GPS Averaging
- Advanced GPS Options
- Projection Options
- Distance and Bearing from Point
- Terrain Shader Options
- Water Level Display
- Add Layers from File
- Import GeoPDF
- Import/Export GeoPackage

Purchase a Pro Module license from the <u>Blue Marble Geographics web page</u>, or by contacting our sales team at orders@bluemarblegeo.com.

Single and enterprise licenses are available through Blue Marble Geographics. Pro Module licenses are subscription based and should be renewed every year.

The Purchase Pro Module option in Configuration leads to an in-app purchase of the Pro Module. For full license support or for enterprise licensing please contact our sales team at orders@bluemarblegeo.com to purchase your Pro Module license.

To register the Pro Module, choose <u>Purchase Pro Module</u> from Configuration.

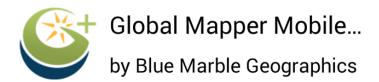
Register Pro

The Pro Module for Global Mapper Mobile® requires a purchased license. To Register the Pro Module the device must have an internet connection. Purchase a Pro Module license from the <u>Blue Marble Geographics web page</u>, or by contacting our sales team at <u>orders@bluemarblegeo.com</u>.

 Tap on Purchase Pro Module from Configuration and tap Register.

Purchase Pro Module

Done



The optional Global Mapper Mobile Pro Module adds a number of advanced features including: GeoPDF import, GeoPackage input and export, an extensive collection of built-in online data sources, custom online data sources, the ability to save online imagery for offline use, and support for additional projections. Pro Module capability can be purchased as an autorenewing annual subscription. Enterprise licensing options are available.

Contact sales to purchase Pro Module: orders@bluemarblegeo.com

Register

2. Tap Login and enter your Blue Marble account log in information.

3. Enter the full order number (XXXXXX-XXXXXXXX) received when you purchased the Pro Module and tap Confirm.

Pro Module Registration Cancel

BMG Account Login Required

Login

Create Account

Registration Code (case-sensitive):

123456-A2CDE6F8

Confirm

When the Pro Module is registered, tapping on the Purchase Pro Module option in Configuration will show the email, order number and expiration date of the Pro Module license.

To unregister a device, select the option to Purchase Pro Module from Configuration and choose to unregister. If you are offline when you unregister you will not be able to register your license for the Pro Module on a new device until the previous one has connected to the internet and completed the unregistration.

Getting Started

The Start Page of Global Mapper Mobile provides quick access to start viewing and creating geospatial data. To get started mapping, open a map, or create a new map using the Online Sources option. To view a basic map of the world countries, load the default data. The default data may not be saved.

To get back to the start page at any time, choose <u>Unload All</u> from the main menu.

The Start Page provides access to the Main Menu, as well as the following quick buttons:

Open Map

This opens the Maps list. Select a map package from the list to open it. For more information see "Open Map File" on page 28

From the maps list, return to the start screen by choosing the back arrow on the top left.

Online Sources

Load data from an online data source. The app provides a list of sources, or custom ones can be added. For more information see "Add Online Data Layer" on page 30.

Configuration

This provides access to all the global settings in the App. See "Configuration" on page 38

Load Default Data

The 'Getting Started' map is installed with the application. You may use this map immediately to explore the features of Global Mapper Mobile®.

The main screen contains several tools that provide quick access to the most commonly used functions. Many of these tools are very similar to Global Mapper desktop tools.

Pan and Zoom

The image can be panned by dragging your finger along the screen.

The image can be zoomed in or out by using a pinch gesture. Placing two finger on screen and move them closer to zoom out. Move them apart to zoom in.



This button is analogous to the Control Center button found in Global Mapper desktop. Tap to display a dialog listing the various data layers currently loaded. Drag your finger to scroll the layers if needed.

Visibility

Tap a layer name to toggle hiding or showing the layer. Hidden layers are indicated with a lighter color text and icon.

∴ Layer Options

Tap that appears after a layer name to bring up the <u>Layer</u> <u>Options</u>. You may hide layers, change the ordering of the layers, edit the layer name, and display the layer metadata.

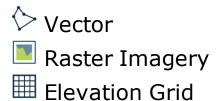
full Extent

Tap the home button in the top right of the Control Center to zoom to the full data extent.

Additional Info

You may move the dialog by touching the title bar and dragging. Tap the Close button at the bottom of the dialog, or tap the Overlay Control Center button again to close the dialog.

The icon next to each layer indicates the type of data:



Layer Options

Press the button in the Control Center to display the layer options.

Move layers up or down in the drawing order using the move options. The layer at the top of the list will be the first layer drawn, and appear underneath subsequent layers on the map.

Choose the Zoom option to zoom to the extent of the current layer

Use the Move Up and Move Down arrows to move the current layer in the drawing order.

Use Move to Top to have the current layer be the first drawn layer, or Move to Bottom to make the current layer the last drawn layer.

Use the Hide option to turn off the visibility of the current layer. Hidden layers will display in the Overlay Control Center with a lighter color text and icon.

X Use the Remove option to remove the current layer form the map.

The Metadata for the layer is displayed when this option is tapped. Metadata includes information about the layer such as the geographic extent of the data, the count of features for vector layers, or the number of rows and columns for raster layers.

The Description is the name of the layer that appears in the Control Center. Tap the description to edit.

The Assign Index Attributes option will assign a numeric index attribute value to each feature.

The Renumber Index Attributes option will update the existing index attributes.

Vector

The Allow Feature Selection option can be turned off for vector features. These makes vectors in the layer not selectable.

Assign Index Attributes will create a new attribute assigning a numeric index number to each

Renumber Index Attributes will update the index attributes for a layer of features.

Raster and Elevation

The Translucency setting controls how the layer displays the layers beneath it. A lower translucency percentage will make the layer more see-through, while a higher percentage will make the layer more opaque.

- The Resampling Method determines how the color/elevation is displayed for each location based on the values in the file.
 - **None (Nearest Neighbor)** simply uses the value of the sample/pixel that a sample location is in. When resampling an image this can result in a stair-step effect, but will maintain exactly the original color values of the source image.
 - **Bilinear Interpolation** determines the value of a new pixel based on a weighted average of the 4 pixels in the nearest 2 x 2 neighborhood of the pixel in the original image. The averaging has an anti-aliasing effect and therefore produces relatively smooth edges with less stair-step effect.
 - **Bicubic Interpolation** a more sophisticated method that produces smoother edges than bilinear interpolation. Here, a new pixel is a bicubic function using 16 pixels in the nearest 4 x 4 neighborhood of the pixel in the original image. This is the method most commonly used by image editing software, printer drivers and many digital cameras for resampling images.

Note: Elevation shader and hillshading are controlled for all layers in the App Configuration "Shader" on page 41 options.

Location Display

Touch this button to display your location on the map. The location display icon will appear with an orange background when location is active. A blue dot on the map indicates your location, and a blue arrow indicates your heading. A larger, translucent blue circle may also be visible, indicating the current GPS location accuracy.

The Latitude and Longitude are displayed on the bottom of the screen. The location information will also report the elevation and accuracy.

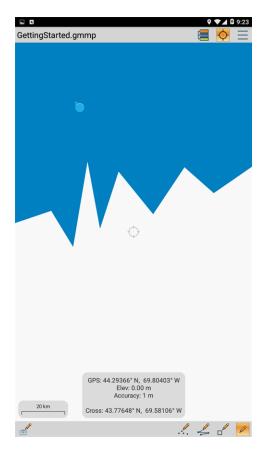
GPS - This will show only the blue dot icon showing the GPS location.

Crosshair - This will show only the crosshair symbol in the center of the screen. If elevation data is loaded and displayed, the layer elevation at the crosshair location will be displayed.

GPS and Crosshair - This will show both the GPS location and show the crosshair symbol and location in the center of the screen.

GPS Centered - This will center the blue dot icon showing the GPS location on the screen. As you move and the GPS location changes, the blue dot icon will remain centered on the screen as the loaded data pans behind it.

Drag the map and a crosshair symbol will be placed at the screen center. The Latitude and Longitude of the cross hair center are displayed on the bottom of the screen.



Location Display option GPS and Crosshair enabled.

The crosshair and coordinate display can be disabled in <u>Configuration</u>, so that only the blue GPS location is displayed. Turn of <u>Show Coordinate Info</u> to disable the crosshairs and coordinate information for the center of the map. If <u>Always Show GPS Info</u> is enabled, the GPS and crosshair locations will always be displayed when they are active.

\equiv Main Menu

The Main Menu contains the following options.

Open Map File	28
Download	28
Folder	28
Options	28
Add Layer(s) From File	29
Add Online Data Layer	30
Save Online Imagery	30
Add Custom Sources	31
Save Map to File	33
Map File Format Options	33
Export Map to File	34
Unload Map	35
Advanced GPS	35
Connect to Device	36
Location	37
Satellites	37
NMEA Stream	37
	38

Configuration	38
Pro Module	39
Display	39
Shader	41
GPS Settings	42
Digitizer	44
Miscellaneous Settings	44
Information	45

Open Map File

Tap this option to open the list of saved map packages.

Select a map package from the list to open it. If there is already a map open, that map will be unloaded first, with a warning to save any changes that have been made to the loaded map.

Tap the back arrow at the top of the list to go back to the previous screen.



Download

Tapping on the download icon in the bottom right of Maps screen will allow you to browse for *.GMMP files on your Android device and in file sharing apps.



Folder

This indicates the path to the current working directory. The list of available maps in the menu displays the Global Mapper Mobile Package files (*.GMMP) located in this folder.

To navigate to a different location, use the up $^{\uparrow}$ arrow next to the folder icon.

Note: Save and Save As operations in the Export options will save the map package to the currently active directory.

Options

For map package options press the vertical dots at the end of the package name. This provides a set of options for the

selected map.

- Tap the **Info** option to display map package information.
 This will display the file name, file size of the package, and the contained layers.
- Tap Copy to make a copy of the selected map. You will be prompted to name the copy and it will be saved to your mobile device. If the open map contains unsaved changes you will not have the option to make a copy.
- Tap **Rename** to enter a new name for the selected map. You cannot rename a currently opened map.
- Tap **Delete** to delete the currently selected map. It is not possible to delete the Getting Started map or the currently opened map.
- Options export from this menu are <u>Upload to File Location</u> or <u>Email</u>. If the open map contains unsaved changes, you will not have the options to upload or email the map. Before sharing the map, return to the Main Menu and select to <u>Save Map to File</u>.

Add Layer(s) From File

+ This tool requires a Pro license

This option from the main menu allows you to load layers from a file downloaded on the device.

Accepted file formats are:

- Global Mapper Mobile Package file (*.GMMP)
- GeoPDF
- GeoPackage

Add Online Data Layer

Select the download online imagery option to connect to a streaming data source.

Free Sources

OpenStreetMaps.org Global Street Maps

Additional built-in online sources are available with the Pro Module.

• Custom Sources - + This feature requires a Pro license

This folder will appear when custom online sources have been added using the + button at the bottom of the source selection list.

The added source requires an internet connection to load. To save a subset of the map tiles to the device for use off-

line, go to the — Main Menu and choose the Export option, then choose Save Online Imagery.

• <u>Saved Sources</u> - + This feature requires a Pro license

The saved sources folder appears when sources have been downloaded for use offline. To remove a downloaded online source, select it from the saved sources list, and then use the $\overline{\mathbb{D}}$ at the bottom of the dialog.

Save Online Imagery

+ This tool requires a Pro license

The **Save Online Imagery** option is available from the — Main Menu, by going to Export . This will download data from online sources open in the current map.

If multiple online layers have been added to the current map, first select an online source to save in the *Select a layer to Save* dialog, and press OK to continue.

Then select the number of map zoom levels to save. The map zoom levels are based on the current map display extent, and additional higher level data will be downloaded based on the number of zoom levels selected. Between 1 and 4 zoom levels may be saved.

Name the saved online source. The source is location specific, so it is best practice to indicate both the source name and a location description to identify the saved data.

The saved source will not load automatically in the current map.

To add the saved source to a map, select it by going to the — Main Menu and choosing Online Sources, then finding the source in the Saved Sources folder. The saved source will be available to add to any map with or without network connection now that it has been saved to the device.

Add Custom Sources

+ This tool requires a Pro license

From the Add Online Data Layer screen, tap the + button at the bottom of the screen to add a new custom online source. Select the source type you would like to add. The following source types are supported:

- ESRI RESTfil/Google Maps Tiles
- OSM (OpenStreetMap Tiles)

- WMS (Web Map Service)
- WMTS (Tiles WMS)

With a source selected tap the $\overline{\mathbb{U}}$ delete button to delete the source. Built-in sources cannot be deleted.

ESRI RESTful/Google Maps Tiles and OSM (OpenStreetMap Tiles)

For these source types a the base URL must be entered. The base URL is the URL where the data for the tiled source can be found.

Image File Type - Select the file type for the tile images, jpg or png

Max Zoom Level - Provide the maximum zoom level for the source

Tile Size - Specify the tile size in pixels

Native Projection - Select the projection used for the tiles

Lat/Lon Bounding Box - Set the bounding box for the data specified in degrees latitude and longitude

Click OK at the top of the screen to add the new online source. The custom sources you create will be stored in a Custom Sources folder on the Online Sources List.

WMS and WMTS

For WMS and WMTS source types, enter the Get Capabilities Server URL. After entering the Server URL, tap *Get Layers* at the bottom of the screen to query the server and list the available layers.

Service Name - Specify the Service Name if different than WMS or WMTS

Projection - Specify the projection for a selected layer

Image Format - Specify the image format for the selected layer

Click OK at the top of the screen to add the new online source. The custom sources you create will be stored in a Custom Sources folder on the Online Sources List.

Save Map to File

This option allows saving map data to a Global Mapper Mobile Package file (*.GMMP)

Save Map stores changes to the current GMMP file on the device.

Save Map As creates a new GMMP file. The new name will appear on the Maps list.

Save Online Imagery - + *This feature requires a Pro license* - allows downloading the streaming online sources for use offline.

Map File Format Options

Global Mapper Mobile Package file (*.GMMP)

Include Hidden Layers - All layers, visible or hidden, from the open map will be saved.

Double-Precision Vector Coordinates - Double precision format will be used to save vector data. This will increase accuracy in the coordinate values but increases the file size.

GeoPackage (*.gpkg)

This format requires a Pro Module license

Include Hidden Layers - All layers, visible or hidden, from the open map will be saved.

Table Name - Allows you to customize the table name

Max Zoom Level - Choose the maximum zoom level from a list (zoom levels 3 to 23)

Number of Zoom Levels -Enter the number of zoom levels

Tile Image Format - Choose to save tiles in JPG or PNG format.

Tile Image Size - Select the tile size in pixels

JPG Quality - Enter the JPG quality (1 to 100)

Export Map to File

Tapping the Export Map to File option from the Main Menu will show two options for exporting the currently loaded map

- **Upload to File Location** With this option you can upload the map to any file sharing service or shared drive you have set up on the device.
- **Email** The email of data from Global Mapper Mobile requires setup of the default mail application on the device.

Note: If the current map contains changes that are not saved, you will be asked to save the map, using the Save Map To File menu option, before exporting.

Unload Map

The unload all option closes the open map and returns to the start screen.

There will be a prompt to save the current map if new vector features have been added to the map that are not saved. Note the adding of online sources does prompt to save the map before closing, but can be saved by manually saving from the — Main Menu Export options.

Advanced GPS

+ This tool requires a Pro license

The Advanced GPS options allows you to view detailed location information and manage a NMEA stream from a connected external GPS device. This location information will also be used for GPS based digitizing.

Setting up a New Device

An external GPS unit used with Global Mapper will replace the internal location services information on your device with the NMEA stream from the external GPS unit.

Using a bluetooth connected external GPS device with Global Mapper Mobile® requires a companion app for the GPS device to be installed on your mobile device. The appropriate companion app is most likely produced by the GPS unit's vendor, refer to the device's manual to determine the specific app to download.

In order to use an external GPS device in Global Mapper Mobile on Android, the device must be set to Developer Mode with Allow Mock Locations enabled. This allows the external GPS to

take over the location service and be visible to Global Mapper Mobile.

Follow these steps the make the GPS device location accessible to the Global Mapper Mobile app.

1. Enable Mock Locations for your Android Device in *Settings* > *Developer Options* > *Allow Mock Locations*. The location of this setting may vary for your particular mobile device.

Note: Some devices may first require you enable developer mode by going to *Settings > About* and tapping the *Version* several times. Refer to your device's manual for details.

- 2. Ensure the GPS device is on an in bluetooth pairing mode.
- 3. On your Andriod device, *Settings > Bluetooth* and find your device listed under *Available Devices*.
- 4. Download the companion app appropriate for your GPS device. Refer to the device's manual to determine the specific app to download. Once installed, use the app to connect to the device prior to opening Global Mapper Mobile®.

Connect to Device

Open the GPS companion app and confirm your GPS device is connected prior to opening Global Mapper Mobile®.

Note: Some Android devices require the GPS companion app to be closed to stream and record data. Please refer to the GPS device manual and companion app for the settings specific to your GPS setup.

From the Main Menu in Global Mapper Mobile®, tap Advanced GPS > Connect to Device.

Location

View advanced location information gathered from the external GPS.

Satellites

View the satellites being used by the external GPS to determine location.

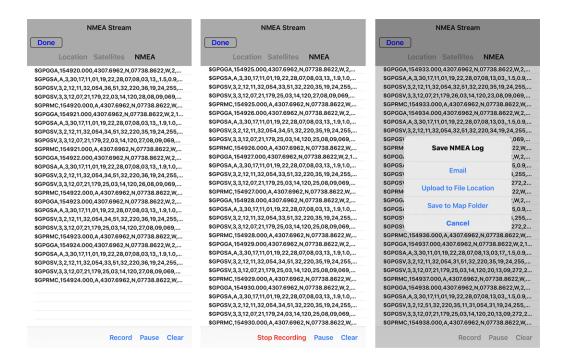
The satellite map will display satellites within range based on their location, with those to the north at the top of the screen. Those closer to the center of the map have a higher altitude on the horizon. Satellites not being used for location (that have a low signal to noise ratio) will appear as hollow circles.

Below the satellite map expand the section to see the signal to noise ratio for each satellite in range, represented as a bar and a number. Each list shows a count of how many satellites are in range for that constellation.

NMEA Stream

Shows the NMEA Stream as it comes from the external GPS. On this screen you can Record the NMEA stream to a text file, Pause the data stream, and Clear the data stream shown.

Tapping to Record in the bottom right of the NMEA Stream screen will begin recording the data. Upon selecting this option the Record option will change to Stop Recording. Tapping to Stop Recording will prompt you to Save NMEA Log.



From the Save NMEA Log options, select to either Email, Upload to File Location, or Save to Map Folder.

- **Email** This option requires configuration of the default mail application on the device in order to generate the email. The NMEA Stream text file will be attached to the generated email.
- Upload to a File Location This option will save the NMEA Stream text file to a selected file location. The locations available will be the file sharing methods you have set up on the device.
- Copy to Map Folder This option will save the NMEA Stream text file to the folder location of the open Global Mapper Mobile Package file (*.GMMP) map file.



Configuration

Taping this button will display a menu that allows you to set global application settings.

Pro Module	39
Display	39
Shader	41
GPS Settings	42
Digitizer	44
Miscellaneous Settings	44

Pro Module

<u>Purchase Pro Module</u> - Register the Pro Module with an order number from Blue Marble Geographics. If the Pro Module is registered this will show the user, order and expiration data of this registration.

Display

Background Color - Select this to show the background color picker dialog. Select the background color with the color picker and tap OK to apply the color.

Map Orientation - Specify the orientation of the map. Choose from the following options:

- Rotate North Up This is the default settings. When the
 device is rotated, the orientation of the application will
 switch between landscape and portrait orientation.
- **Fixed Landscape** Select this option to lock the application to the horizontal/landscape orientation.
- **Fixed Portrait** Select this option to lock the application to the vertical/ portrait orientation.

Show File Name - When enabled the project name will be displayed at the top of the map.

Show Coordinate Info - When enabled the Position Display will show coordinate values in Latitude, Longitude at the bottom of the map for the current GPS location, or the center of the map view inside the crosshairs.

Coordinate Info Location - Specify where the coordinate info is displayed.

Coordinate Format - Specify the format of the displayed coordinate info. For each type listed below there is a lower and higher precision option.

- Decimal Degrees (Example: 44.29384° N, 69.80408° W)
- Degrees Minutes Seconds (Example: 44° 17' 37.824" N, 69° 48' 14.688" W)

Linear Units - Use this option to set the linear unit display to either meters or feet.

Show Scale - This option will display a scale bar on the map. This is turned on by default.

Scale Location - Specify the location where the scale info is shown.

Show Shortcut Bar - This option will display a vertical shortcut bar along the left size of the screen.

Shortcut Items - Customize the options shown in the shortcut bar when enabled.

- Advanced GPS + This tool requires a Pro license Enables

 ★ bluetooth, location, satellites, and NMEA stream options for quick access to the Advanced GPS options
- Pan Enables four direction arrows $\leftarrow \rightarrow \uparrow \downarrow$ to pan
- Zoom Enables ⊕zoom in and ⊖zoom out icons

Crosshair Color - Select this to show the color picker dialog to change the color of the crosshairs displayed on the map when <u>position display</u> is enabled. The default color is gray.

Show Feature Labels - When enabled labels for vector features will be displayed.

Shader

Shader Name - + *This feature requires a Pro license* - Select the sader used to display loaded elevation data.

Available Shaders

- The **Atlas Shader** is the default shader. Like many other shader options the color ramp will scale to the data range.
- The **Color Ramp Shader** displays a ramp from blue for the low elevations to red for the highest elevations.
- The **Daylight Shader** colors all elevations the same and is only useful when hill shading is enabled.
- The Global Shader uses fixed elevation values so elevations will be colored the same from map to map. This shader is designed for datasets covering large areas.
- The Gradient Shader uses a gray scale to color the elevation with lower elevation values colored darker than higher values.
- The **HSV Shader** maps the elevations onto the HSV (hue saturation value) color space.
- The NDVI Shader (Normalized Difference Vegetation Index) is used for layers with the NDVI calculation applied.
- The NDWI Shader (Normalized Difference Water Index) is used for layers with the NDWI calculation applied.
- The Slope Shader displays loaded elevation data by slope rather than elevation using a gray scale shader. This shader allows you to identify areas that are flat versus those that are steep.

• The **Slope Direction Shader** colors loaded elevation data by the direction in which the terrain faces. This shader uses green for north, blue for east, red for south, and white for west.

Enable Hill Shading - Enable hill shading to show loaded elevation data shaded with relief. With this option off elevation data appears flat with elevations shown only with the set shader.

Display Water Level - Enable to display water on loaded elevation layers.

Water Level - + *This feature requires a Pro license* - Set the water surface level in meters for the water level display.

GPS Settings

Enable GPS As Needed - To obtain the highest accuracy, GPS services are always in use by default. Enable this option to only turn on GPS when needed, which will help preserve battery life.

GPS services can take time to obtain accuracy when first enabled, so if this setting is enabled, then we recommend waiting to obtain accuracy before digitizing new features. For more information see "Enabling Location Services" on page 9

Best Accuracy - This is enabled by default. The device will return the most accurate location data the hardware is capable of. This will be on the order of 10 m with an internal GPS unit.

When disabled, the device will not work the hardware as hard, prolonging battery life. (This may disable GPS and use only Wi-Fi location services.) However the accuracy will be on the order of 100 m.

We recommend enabling best accuracy when using GPS related functions, such as displaying the current location and creating features using location data. Disable Best Accuracy if you are not using higher accuracy GPS related functions and battery life is an issue.

Show Accuracy - When enabled, a light blue circle will be drawn around the GPS <u>position display</u> symbol, indicating the accuracy range.

Always Show GPS Info - When enabled coordinates and accuracy of the GPS location will be shown regardless of display settings.

Show Distance and Bearing - + *This feature requires a Pro license* - When enabled the distance and bearing from the GPS location to the selected point feature will be shown below the GPS Info.

Record Distance Interval - The distance interval is used with the **GPS Auto Distance** option for creating <u>Points</u>, <u>Lines</u> or <u>Areas</u>.

Record Time Interval - The time interval is used with the **GPS Auto Time** option for creating <u>Points</u>, <u>Lines</u> or <u>Areas</u>. The time interval is set in seconds.

Default Point/Line/Area Types - Use these options to set the default feature type and style for features created using a GPS mode.

Added Vertex Sound - Specify the sound to use when adding points. Note the sound will not play if the device is set to silent.

GPS Average Min Horz Accuracy - Specify the minimum horizontal accuracy of point to be included in GPS average calculation.

GPS Average Show Data Points - When enabled all points used to calculate average will be displayed.

Digitizer

Add Index Attribute – This option will add a numeric index attribute to digitized features

Copy Attached Photos to Library – This option saves pictures taken within the application attached to a vector feature to the device photo library. When this option is enabled it will be indicated by a check mark at the end of the setting.

If this setting is not enabled, a temporary copy of the picture will be created, and attached when the map data is saved to a *.GMMP file. The temporary image will be deleted when the current map data is unloaded.

Notation Editor Auto Capitalize – When enabled, this setting will automatically capitalize letters at the start of a line or beginning of a sentence.

Notation Editor Auto Correct – When enabled, this setting will automatically correct the spelling of typed words using the built in auto correction tool. I will also highlight unrecognized words with a red underline, and show possible recognized replacements when clicked.

Miscellaneous Settings

Projection - + *This feature requires a Pro license* - With the Pro Module licensed the projection for a map can be changed.

Supported projections in Global Mapper Mobile® are:

- Geographic (Latitude/Longitude)
- Lambert Conformal Conic
- Mercator
- Transverse Mercator

Keep Application Awake - When enabled the device will not go to sleep while the Global Mapper Mobile application is open and displayed on the device. This uses more battery power.

Error Log Detail Level - Set the level of detail recorded in the error log on a scale 0 to 4. A higher number will record a higher level of detail.

Restore defaults - Select this option to return all settings to the default values.

Information

About Global Mapper Mobile - Select to show the Global Mapper Mobile About dialog. This will indicate the application version and provide links to sales and support.

Quick Start - The quick start guide is available when first opening the app. This is a short introduction to the app, available offline.

Online Help - Select to show the Global Mapper Mobile® help documentation. To view on the web navigate to http://blue-marblegeo.com/knowledgebase/global-mapper-mobile-android-beta/

Global Mapper Forum - Select to show the Global Mapper forum website. The Global Mapper User Forum is an independent forum for users of Global Mapper to provide support to each other. While Blue Marble Geographics is active on the

forum, it is intended for peer-to-peer support. To reach the application support team email geohelp@bluemarblegeo.com or submit a request via our website: http://www.blue-marblegeo.com/support/support.php

Diagnostics - Select this option to view the error log or send diagnostic information to the Blue Marble Geographics application support team. The error log detail can be set in App Configuration. <u>Usage and error tracking</u> needs to have been enabled previously for the error log to exist.

- Email Diagnostics This option requires configuration of the default mail application on the device in order to generate the email. The error log will be emailed to our application support team. Please include any additional information about the error you are receiving when sending the error log.
- **Upload Diagnostics to a File Location** This option will save the error log as a file that you can then share through file sharing methods you have set up on the device.
- Copy Diagnostics to Map Folder This option will export a copy of the error log to the location of the open Global Mapper Mobile Package file (*.GMMP) map file.
- **View Error Log** This option will open the Global Mapper Mobile® error log for viewing in the app.

View License Agreement - View the app software license agreement.

View Privacy Policy - View the Blue Marble Geographics privacy policy.

Tools

The Tools Menu can be found in the bottom left corner of the screen. The tool that is selected will be shown in this corner. Tapping on the current tool will open the Tools Menu that will allow you to choose from the Global Mapper Mobile® tools.

Digitizer	47
Measure	56
GPS Average	56
Search	57
Digitizer	

The Digitizer tool can create new features and edit existing features.

Create Points	48
Create Lines	49
Create Areas	50
Feature Editing and Properties	52
Working with Feature Templates	55

··· Create Points

The point creation tool is used to create new point features. This button is available in the bottom bar of the opened map.

Point features can be created by tapping the map, using the internal GPS, or auto-collecting with GPS location using distance or time.

Manual Tap

This creates new points where the screen is tapped. The New Feature dialog will appear to allow editing the attributes.

SGPS Tap

Tap anywhere on the screen to place a feature vertex at the current GPS location.

GPS Auto Distance

This option will automatically create new points using the GPS location. A new point will be created once the specified distance interval is reached from the last placed point. The distance interval is set in the <u>configuration</u>. Use the check button or click the create point icon again to stop collecting point features. Select features with the Feature Edit tool to edit the attributes.

GPS Auto Time

This option will automatically record vertex points at a fixed time interval. The time interval is set in the <u>configuration</u>. Use the \checkmark Confirm button or click the create point icon again to stop

collecting point features. Select features with the Feature Edit tool of to edit the attributes.



This options will allow you to choose a picture taken on your device and place a picture point according to the EXIF information from the image. Global Mapper Mobile® will search for pictures on your device that were taken within the current screen bounds of the displayed map. To add a picture point with this method, you must allow Global Mapper Mobile® to access the pictures on your device.

To take a picture and add directly add it to the map, tap and hold on the map. This will open the device camera and allow you to take a picture that will then be added to the map as a picture point at the GPS location. This action can be taken when any tool is selected in Global Mapper Mobile®.



The line creation tool is used to create new line features. This button is available in the bottom bar of the opened map.

Manual Tap

This creates feature vertices where the screen is tapped. Double tap or click the Confirm \checkmark button to complete the feature and begin editing the attributes.

SGPS Tap

attributes.

Tap anywhere on the screen to place a feature vertex at the current GPS location. The distance interval is set in the <u>configuration</u>. Use the Undo button to remove a vertex, and the Confirm button to complete the feature and begin editing the

GPS Auto Distance

This option will automatically create features using the GPS location. The time interval is set in the <u>configuration</u>. A feature vertex will be created once the specified distance interval is reached from the last placed vertex. Use the Undo button to remove a vertex, and the Confirm buttonto complete the feature and begin editing the attributes.

GPS Auto Time

This option will automatically record vertex points at a fixed time interval. Use the $^{\circ}$ Undo button to remove a vertex, and the $^{\checkmark}$ Confirm button to complete the feature and begin editing the attributes.

Create Areas

The area creation tool is used to create new areas features. This button is available in the bottom bar of the opened map.

Manual Tap

This creates feature vertices where the screen is tapped. Double tap or click the Confirm \checkmark button to complete the feature and begin editing the attributes.

SGPS Tap

Tap anywhere on the screen to place a feature vertex at the current GPS location. The distance interval is set in the con-figuration. Use the Undo button to remove a vertex, and the Confirm button to complete the feature and begin editing the attributes.

GPS Auto Distance

This option will automatically create features using the GPS location. The time interval is set in the <u>configuration</u>. A feature vertex will be created once the specified distance interval is reached from the last placed vertex. Use the $^{\bullet}$ Undo button to remove a vertex, and the $^{\checkmark}$ Confirm buttonto complete the feature and begin editing the attributes.

GPS Auto Time

This option will automatically record vertex points at a fixed time interval. Use the $^{\circ}$ Undo button to remove a vertex, and the $^{\checkmark}$ Confirm button to complete the feature and begin editing the attributes.

Feature Editing and Properties

Touch the digitizer pencil button to enable/ disable the Feature Edit tool. The button will be tinted orange when enabled.

This tool enables editing of selected features. Tap a feature to select it, tap the feature again to edit it. The <u>Edit Feature</u> dialog will appear. As with the Global Mapper desktop, the feature will be highlighted on the map.

Edit Feature

This menu displays properties of the currently selected feature and provides options to edit the feature. The same options will be see on the New Feature screen when creating new features.

Layer

Displays the name of the layer the selected feature is associated with.

Type

Displays the point, line, or area feature type. Tap to display the Feature Type menu to change. Feature Types will change the visual styles of a feature.

Name

Displays the name/ label of the feature. Tap to edit.

Description

Displays the description of the feature. Tap to edit.

Vertices

Tap to display the vertex locations of the current feature. Vertex values in Global Mapper Mobile Package file (*.GMMP) and newly created features are stored in Latitude, Longitude in WGS84. Select a vertex to enable adding after, editing, or deleting.

Vertex Editing



Add Vertices

Tap this button to open a dialog for entering latitude and longitude coordinates. If an existing vertex is selected, the new vertex will be inserted after it. Otherwise the vertex will be add at the end.



Edit Vertex

Tap a vertex and then tap this button to edit the Latitude and Longitude values of the vertex.



Delete

Tap a vertex and then tap this button to delete the selected vertex.

Attributes

Lists the feature attributes. Touch any attribute to edit. The Feature Attribute dialog will be shown. Specify a new name or

value or delete the attribute.

Edit Attributes



Notation

Feature Notations are special attributes designed for storing longer descriptions. Feature Notation will display with line breaks and Tap the notation option to add, view or modify the feature notation. The notation will also appear in the attribute list once added.



Attach New Photo



Camera- attach new image from camera

Tap this option to display the default camera control. Take a photograph and select "Use Photo". The photo will be placed in your library and a copy will be embedded in an exported package file. The photo will automatically be geotagged if the GPS Tool is enabled during the attach operation. For settings see Files Settings.



Tap this option to display the photo gallery. Choose an image to attach to the selected feature. A copy of the photo will be embedded in an exported package file. The photo will automatically be geotagged if the GPS Tool is enabled during the attach operation.

+ Add Attribute

Tap to create a new attribute. The Feature Attribute dialog, shown below, will be displayed allowing you to specify the attribute name and value.

Working with Feature Templates

If a layer has been defined in the Global Mapper Mobile package file to use a feature template, it may include required attributes, and/or lists of possible attribute values.

When adding a feature to a layer with a feature template, you must conform to the template settings. Attributes with a defined list of possible values will show a pick list of possible values when edited, rather than the standard edit attribute dialog.



Tap the desired value in the list to update the attribute. The current value will appear with a check mark.

After clicking OK to complete the feature, you will be prompted to confirm any required attribute values for the feature.



Selecting the Measure tool will show a crosshair symbol in the center of the screen and the coordinates of the crosshiar will be show on the screen.

Tap anywhere on the map to place a yellow measure point in the center of the crosshair. Pan and zoom to move the crosshiar to a different location on the map and tap anywhere to add another measure point. The Segment Length and Total Length of the line being drawn with the measure tool will be shown below the coordinate location of the crosshair.

Use the Undo button to delete the last measure point. Use the Confirm button to complete the measurement.

Switching to a different tool or starting a new measurement will clear the current measurement.



+ This tool requires a Pro license

When in use the GPS Average tool collects positional information constantly and when stopped will average that information for increased GPS accuracy.

With the GPS Average tool selected, tap the play button to start collecting positional data. Tap the stop button to stop the data collection, and the undo button to clear collected data and reset the tool.

The GPS Averaging tool will show the current GPS location info as well as the running average, accuracy, elapsed time, and number of points collected.

When using the GPS averaging tool, tap the create a point feature button to digitize a point at the location determined by the GPS Average.

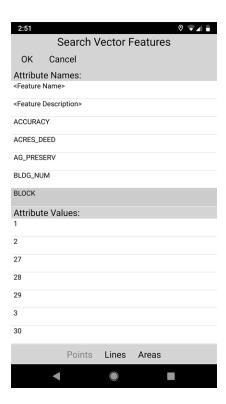


Select Search to search loaded vector features by an attribute.

Tap the Search button to launch the search.

At the bottom of the search screen, tap Points, Lines and/or Areas to select the type(s) of features you would like to search. Select multiple features types here to search multiple types.

Tap an attribute name from the top section of the screen to begin defining your search. With an attribute name selected from the top portion of the screen, select attribute values from the bottom section of the screen to search for and select all features with the selected values for the given attribute.



Tap OK to complete the search and return to the map view. Features that meet the search conditions will be selected. Clicking the \Box Delete button will delete the selected features.

Loading Data

Data for Global Mapper Mobile® can be prepared in Global Mapper desktop, then exported to a Global Mapper Mobile Package file (*.GMMP).

Users with the Pro Module for Global Mapper Mobile® can also import GeoPDF and GeoPackage files.

- 1. Prepare data for export in Global Mapper desktop.
- 2. Select File > Export > Export Global Mapper Mobile® File...
- 3. Specify the desired export options. The format is a variant of the Global Mapper Package (*.GMP) file format, and many of the export options are similar.
- 4. Click "OK" and specify file name (*.GMMP).

There are multiple methods for transferring data from a computer to the Android device, including connecting the device to the computer and <u>using file browser</u>, <u>emailing</u> the file, and other <u>file sharing</u> apps that allow loading files on the Android device. See more information below about these methods and other recommendations and data options.

Data Recommendations	
	60
Adding Data to an Android Device with Finder	60
Adding Data via Email	61
Adding Data with other File Sharing Apps	62
Feature Templates	62

Data Recommendations

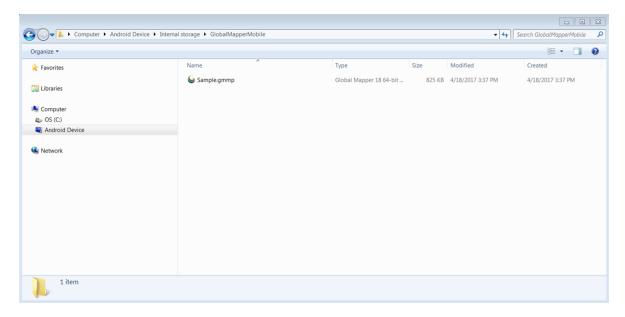
Mobile devices are typically not as powerful as the desktop or laptop machine you probably run Global Mapper desktop on. In particular, run-time memory available to applications is quite limited. The operating system will shut the application down if it consumes too much memory.

It is recommended that you simplify data to be used in your mobile app as much as practical. This means possibly reducing the resolution of raster and grid layers. Large Lidar data sets are simply not practical and it is recommended that you grid any large data for use in the mobile device. The app does not currently support Lidar data.

Adding Data to an Android Device with Finder

- Connect the mobile device to a computer using a USB sync cable.
- 2. Use the file browser and navigate to the location on your machine where you have stored your *.GMMP file. Copy this file.
- 3. Use the file browser to navigate to the folder on the Android device where you would like to copy your *.GMMP file and paste the copied file to that location.
 - **NOTE:** The 'GlobalMapperMobile' directory (shown below) was manually created on the device.
- 4. To access data in a specific directory within the application navigate to:

- Configuration > Files: Package Directory and set the intended directory
- This directory will remain the active directory until changed. Any *.GMMP files added to that directory will be available within Global Mapper Mobile®



Adding Data via Email

Data can be loaded into Global Mapper Mobile® by emailing a Global Mapper Mobile Package file (*.GMMP) as an attachment. Load the email in a Mail application, and tap on the attachment. You will then need to save the *.GMMP to a specific directory on your device or tap the *.GMMP file to download it and launch Global Mapper Mobile®.

When you launch Global Mapper Mobile, the *.GMMP will be visible if it was saved to the active directory. Refer to Step 4 of Adding Data to Android Device with File Browser to change/set the active directory within the application.

Adding Data with other File Sharing Apps

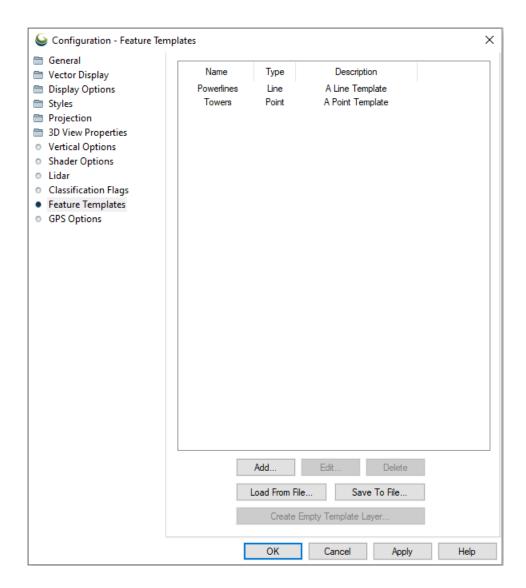
A Global Mapper Mobile Package file (*.GMMP) can also be shared via common file sharing apps such as Dropbox or Google Drive. Open or select the *.GMMP file inside of the file sharing application, then chooseto save it to a specific directory on your device or select the Open With... option launch Global Mapper Mobile® and open the Map Package.

When you launch Global Mapper Mobile, the *.GMMP will be visible if it was saved to the active directory. Refer to Step 4 in Adding Data to Android Device with File Browser to change/set the active directory within the application.

Feature Templates

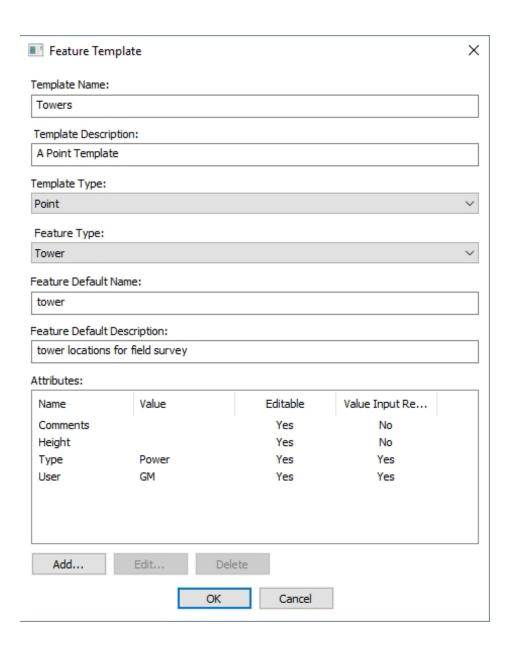
Features may be created according to a pre-defined template. Applying a template will automatically assign various feature properties and attributes to a new feature. An example of an application of feature templates is using Global Mapper Mobile to take an inventory of various assets in the field. A feature can be created at the asset location, using the GPS functionality, and desired information about the asset can be entered into preconfigured attributes.

Feature templates are defined in Global Mapper desktop. Click on the Configuration button, and select the "Feature Templates" tab to create and edit templates.

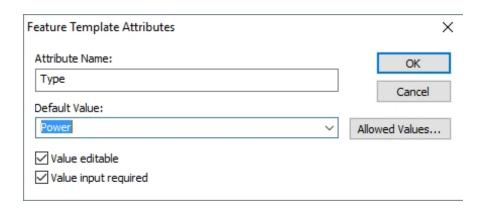


Like custom feature types, the feature template descriptions are saved in the user's data folder (see Help | About). Feature template definitions can be imported/exported for backup or sharing with other users. (When you import a package file containing feature template layers, described shortly, the templates described in that file will be added to the user's template collection.)

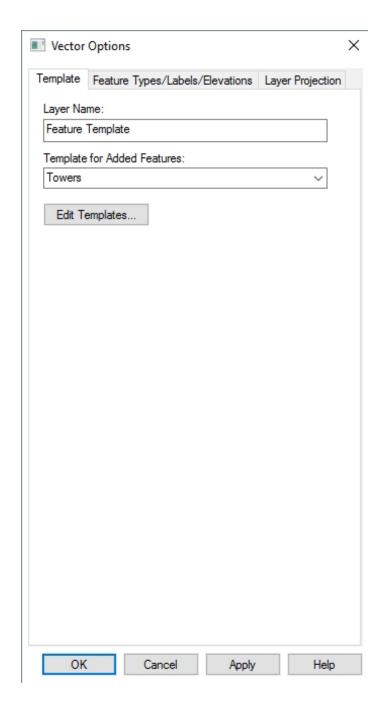
Feature templates are defined with the following dialog:



Attributes are defined using the Feature Template Attribute dialog:



Attribute values may be "free form", allowing the user to enter any string value, or enumerated allowed values. Allowed values are attached to the attribute by clicking the "Allowed Values..." button. You may allow users to edit attributes, or define them as constant with the "Value editable" checkbox. If the "Value input required" check box is checked, the user will be prompted to enter a value for the attribute when a new feature is created. (The user may add additional attributes to a feature if desired.)



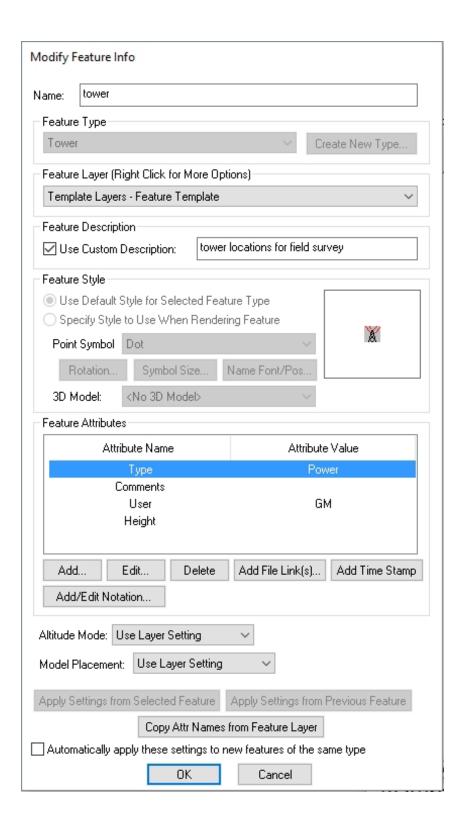
Once the desired feature templates have been defined, layers that can apply the templates must be added to your project. From the "Feature Templates" dialog in Configuration, select the template and choose to "Create Empty Template Layer..." from the bottom of the dialog. Another method to add an empty template layer to a project is to click on the Overlay Control

The user may only add features of the type defined by the feature template to the layer.

Center button, and right click on the layer list area. Select the menu option "Create a feature template layer...". A new layer will be created and a layer property sheet will be displayed. Select the "Template" tab to specify which feature template that layer will apply to new points added to that layer.

Once the feature template layers have been defined, the project is exported to a Global Mapper Mobile Package file (*.gmmp).

Users of Global Mapper desktop may also create features in a template layer. To do so, use the Digitizer to create a new feature. Select the feature template layer to place the new feature. (Only those template layers with compatible template types, point, line, or area, will be included in the layer list.)



If there are any attributes with the "Value input required" option set, the user will be prompted for those values after clicking OK.

A similar procedure is conducted to create features using the mobile application.

Exporting Data

The main methods for getting saved data off of the mobile device are via email, uploading to a file location, , or transferring files to a connected computer with file browser.

Export the currently open map with the <u>Export Map File</u> option from the Main Menu, or to export a map from the <u>Maps</u> list, tap

the Map Options. With either method you will see the following two options for export:

- **Upload to File Location** With this option you can upload the map to any file sharing service or shared drive you have set up on the device.
- **Email** The email of data from Global Mapper Mobile requires setup of the default mail application on the device.

Exporting Data with Finder

The procedure is similar to <u>loading data</u> to the Android device.

With the Android device plugged into your computer, use File Explorer to navigate to the directory on the device where the *.GMMP is stored. This file can then be copied to a location on your computer.

Additional Resources

Webinars



Online Help

Online Help Global Mapper Mobile ios
Online Help Global Mapper Mobile android