

Gmap4 Help File

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Look for the tag “**(new)**”

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1. Overview

Gmap4 is a map viewing program that runs online, is **100% free** and has **no ads**. There is nothing to buy, nothing to download, nothing to install. It runs full screen or in an iframe which you can embed on your website or blog. Gmap4 is based on Google Maps and in addition to the normal map views provided by Google Maps, Gmap4 also displays the latest detailed topographic maps from <http://www.mytopo.com>. These maps cover the US at 1:24,000 and Canada at 1:50,000. One great feature about these topographic maps is that they include the US Forest Service updates to the USGS 7.5 quadrangles.

Gmap4 can read and display data from the following types of files:

- KML/kml files
- KMZ/kmz files
- GPX/gpx files
- TPO/tpo files **(new)**
- Google MyMap files

Maps based on KML files can include much more information than maps based on GPX files. This additional information includes icons that display text and/or clickable photo thumbnails. There are links in this 'Help' file to sample KML files that you can copy and use as templates for your own maps.

A map can display data from just one file or from more than one KML, KMZ and/or Google MyMap file.

Any Gmap4 map that you see on your screen can be identified with a clickable link which you can:

- Email to someone
- Add to a website
- Include in a trip report

KML, KMZ, GPX and TPO files can be placed online by using Google Sites. This 'Help' file includes step-by-step instructions for using this free service.

Gmap4 is produced and maintained by its author as a public service and a small way to 'pay it forward' to honor those who have provided its author with kindness and help in the past.

Tech note: Gmap4 is also intended to be a teaching tool for those learning version 3 of the Google Maps Application Program Interface (API) at the beginner to intermediate level. There are numerous comments in the code to help the reader understand the API commands that are used as well as the xhtml, css and javascript commands in Gmap4. To see and copy the javascript portion of the Gmap4 source code - display any Gmap4 map and then use your browser's menu to view ==> source. You are welcome to copy and use any of this code in your own project, however please honor the request for a 'Thank You' that you will see near the top of the source code.

There is a lot of info in this help file so the advice is: **Start slow**. If you already have GPX files then start by putting them online using either the free service known as Google Sites or your own website. That's all you need to do in order to view your GPX files with Gmap4. Then later if you want to improve the quality of your maps you can come back to this 'Help' file and learn about:

- Converting your GPX file to a KML file
- Editing KML files

Important change: Beginning with Gmap4 version 1.6.001 the default map view is the Google Terrain view and not the detailed topographic maps from MyTopo. This change was made so Gmap4 will always display a map irrespective of the location in the world that is being viewed. This change also reduces bandwidth consumption. If you have previously established links using Gmap4 for locations in the USA or Canada and want those links to continue to display the topographic maps when the map opens on the user's screen, then you will need to add '&t=t2' to the end of each of those links. I apologize for any inconvenience.

Thank you for looking at this 'Help' file and I hope you find these instructions to be informative and easy to follow. Please take a look at the "**Quick Start**" section since it might help you decide if Gmap4 can be useful to you. And keep in mind that conditions on the land and surrounding area may have changed since the aerial photos were taken and/or since the topographic maps were made. When you head out to the field, remember to bring along your common sense.

2. Will Gmap4 help you?

Well, maybe not. You may already have a set of topo maps on cd or dvd for the state where you live and which adequately meet your needs. There is certainly room in the world for many different tools. But what if you want to look at a detailed topographic map for a spot in a state where you don't own any such maps? Below is a link to a map of the USA. Just drill down on something that you want to see in the USA or Canada and when you find it then open the menu in the upper right and click 'MyTopo' in order to see a detailed topographic map for that spot: <http://www.mappingsupport.com/p/gmap4.php?ll=52.48278,-114.785156&z=3&t=m>

Or maybe you have a bunch of GPX files that you recorded with your GPS. No doubt you know that Google Maps itself cannot display those files. Good news: Gmap4 can display them just fine.

Or perhaps you would prefer to email or post a link to an interactive map with your GPS track instead of just a static jpeg map. Gmap4 lets you do that.

3. Supported browsers

Beginning with version 1.6.001 (dated 7-18-2010) Gmap4 uses version 3 of the Google Maps API (Application Program Interface). This API officially supports the following browser and operating system combinations:

- IE 7.0+ (Windows)
- Firefox 3.0+ (Windows|Mac|Linux)
- Safari 4+ (Mac|iPhone)
- Chrome (Windows|Mac|Linux)
- Android

Other browsers, such as Opera, might work but are not officially supported

Firefox note: If you see a mostly blank screen then open Firefox Tools ==> Options ==> Content ==> Colors. Check the box captioned “Allow pages to choose their own colors, instead of my selections above”. Click OK a couple of times and you should see your map. This may be a Google bug since earlier versions of the Google Maps API are not affected by this setting.

No special programming has been done (yet) to support the use of Gmap4 on phones. If it works at all, be happy.

4. Quick start guide

Here is a list of some of the things you can do with Gmap4 and basic instructions for doing them.

a. You want to look at a KML/KMZ/GPX/TPO file that is hosted on a website

Copy the complete URL for the KML/KMZ/GPX/TPO file. Paste that URL into the following line where indicated:

`http://www.mappingsupport.com/p/gmap4.php?q=http://URL_to_file`

Copy the above line (with the URL to the KML/KMZ/GPX/TPO file) and paste it into a browser bar.

At the present time Gmap4 will reject URLs that include a question mark. This is for security purposes.

Your map will appear and be zoomed such that all of your data appears on the screen. If your data file is quite large it might take a few seconds for your map to appear.

If you want more control over how your map initially appears, then read about “URL parameters” in this ‘Help’ file. The default map that appears is the Google Terrain map. If the map is for part of the USA or Canada and you want the screen to show the topographic maps when the map opens, then add this url parameter “&t=t2” to the string you paste into the browser bar.

Example using a KML file:

http://www.mappingsupport.com/p/gmap4.php?q=http://www.mappingsupport.com/p/gmap4/helpfile/Stafford_Creek.kml&t=t2

Note: Gmap4 cannot display data files residing on your local hard drive. A data file must be online somewhere before it can be displayed by Gmap4. Google will host your data files for free and this 'Help' file shows you how.

b. You want to look at a KML/KMZ/GPX/TPO file hosted on Google Sites

Anyone can upload KML/KMZ/GPX/TPO files to this free service. Google provides a "download" URL for each file. Here is an example download URL:

http://sites.google.com/site/gmap4files/p/helpfile/county_line_trail.kml?attredirects=0&d=1

Delete the "?" and everything that follows. The download URL now looks like:

http://sites.google.com/site/gmap4files/p/helpfile/county_line_trail.kml

Paste that URL into the following line where indicated:

http://www.mappingsupport.com/p/gmap4.php?q=http://URL_to_kml_kmz_gpx_file

Copy the above line (with the URL to the KML/KMZ/GPX/TPO file) and paste it into a browser bar.

Example using a GPX file:

http://www.mappingsupport.com/p/gmap4.php?q=http://sites.google.com/site/gmap4files/p/helpfile/Johnson_Ridge.gpx&t=t2

c. You want to look at a Google MyMap

Using Google Maps, you can make a Google MyMap. You can either make a MyMap from scratch or you can 'import' a KML file from your local hard drive. Google assigns a unique file id code to each MyMap. If you know the file id code then you can use Gmap4 to look at any MyMap anyone has made.

The owner of the MyMap can obtain that id code by (1) starting Google Maps, (2) displaying their MyMap, (3) clicking the "link" button in the upper right of the screen, (4) copying the URL that appears under the heading "Paste link in email or IM", (5) paste that URL into Notepad, and (6) copy just the id code from that URL.

Here is a typical "link" URL for a Google MyMap. The id code is underlined:

<http://maps.google.com/maps/ms?ie=UTF8&hl=en&msa=0&msid=105432215366276592381.0004897737811ac6a6a05&z=14>

Paste that id code into the following line where indicated:

http://www.mappingsupport.com/p/gmap4.php?q=mymap,id_code_assigned_by_google

Copy the above URL (with the file's id code) and then paste it into a browser bar.

Example:

<http://www.mappingsupport.com/p/gmap4.php?q=mymap,105432215366276592381.0004897737811ac6a6a05&t=t2>

d. You want to look at a specific latitude, longitude

Paste the following command into your browser bar, replace “latitude,longitude” with the latitude,longitude you wish to view, and press your enter key. The command should have **no spaces**. In North America the longitude has a **minus sign**.

<http://www.mappingsupport.com/p/gmap4.php?ll=latitude,longitude>

Here's Old Faithful, Yellowstone National Park

<http://www.mappingsupport.com/p/gmap4.php?ll=44.461721,-110.832396&z=14&t=t2>

Here's an example that displays a map of Mount Rushmore:

<http://www.mappingsupport.com/p/gmap4.php?ll=43.877015,-103.45087&t=t2>

e. You want to see a map for a specific section, township and range

1. Use this site to obtain the latitude/longitude for the approximate center of the section:
<http://www.esg.montana.edu/gl/trs-data.html>
2. In the report from the above website, find the line that starts: “The location as decimal degrees (X,Y;Z)” The location is stated as **longitude, latitude**, altitude.
3. Launch Gmap4 while taking care to **reverse** the coordinates:
<http://www.mappingsupport.com/p/gmap4.php?ll=latitude,longitude>
Remember to include the minus sign in front of the longitude.

f. You want to search

1. Use standard Google maps to search. <http://maps.google.com/>
2. After you find the location you want, you can obtain its latitude/longitude:
Point the cursor at that location ==> right click ==> select “What’s here?” ==> copy the lat-lon from the map search window.
3. Launch Gmap4 and tell it the latitude/longitude to display.
<http://www.mappingsupport.com/p/gmap4.php?ll=latitude,longitude>
See the examples just above.

g. You want to surf KML/KMZ/GPX/TPO files posted by others

1. Google for what you want. For example: california kml hiking files
2. Click one of the hits. For example:
<http://www.mikeonthetrail.info/pmwiki/pmwiki.php?n=Hiking.PCTDataFiles>
3. Point to a KML or GPX file ==> Right click ==> Copy the URL
4. Paste the URL after the = sign in the following command:
`http://www.mappingsupport.com/p/gmap4.php?q=paste_URL_here`
5. Copy the entire command, paste it into your browser bar, hit enter.

Example from mikeonthetrail. This map shows **a track on the PCT starting at the south end.**
<http://www.mappingsupport.com/p/gmap4.php?q=http://www.mikeonthetrail.info/tracks/PCT/D ata/PCT-CAA1.gpx&t=t2>

Remember that you can flip to aerial view, zoom in and count the cactus. See the surfing tips later in this file.

For security reasons, Gmap4 cannot use URLs that include a question mark.

h. You want to look at maps for locations outside of the USA and Canada

Everything works exactly the same with only one exception. You will not see the detailed topographic maps for locations outside of the USA and Canada. Here is a map showing the 2010 Tour de France route:

<http://www.mappingsupport.com/p/gmap4.php?q=http://paris.thover.com/images/blog/tdf/2010/tdf2010.kml>

i. You want to use Google Earth to make KML files

Using Google **Earth** to make a KML file works fine:

1. Click path icon
2. Do **not** close the dialog popup
3. Draw your path
4. Go to the popup and adjust Name, Description and Style/Color
5. Click OK
6. Select your path in left sidebar
7. File ==> Save ==> Save place as ==> Save as type - select KML
8. Replace each space in the file name with an underscore: _
9. Save the KML file
10. Place your file online
11. Launch gmap4 and tell it where to find your file

j. You want to use Google Maps to make KML files

Using Google **Maps** to make a KML file works fine:

1. Use the “MyMap” feature of Google maps to make your map
2. Click the Google map ‘link’ button (upper right) and copy the link
3. Paste the link into a browser bar
4. Add this additional URL parameter to the end of the link: &output=kml
5. Hit enter and save the KML file

If your browser asks if you want to save the KML file then great - do so.

But instead if Google Earth tries to start then you may wish to go into your browser's file associations and turn that behavior off for KML files. In Firefox these associations are found under Tools ==> Options ==> Applications.

k. You want to look at the default map

The default map displays an aerial view of Google’s campus at Kirkland, Washington (USA).

Enter this into your browser bar and press your enter key:

<http://www.mappingsupport.com/p/gmap4.php>

l. Things you can do while viewing the map

- GPS coordinates: right-click anywhere. GPS coordinates are shown in decimal degrees, datum = WGS84
- Drag the map: left-click-and-hold then drag
- Zoom the map in/out: mouse wheel or control near upper left corner
Mouse-wheel-zoom is disabled when Gmap4 is running in an iframe.
- Center the map at cursor position: Point and then double-left-click
- Your browser settings can change the text size (Page ==> Text size; or View ==> Text)
- If you use Internet Explorer and the data added to the map appears to not agree with the aerial image, then check your Window's DPI setting. Control Panel ==> Display ==> Settings ==> Advanced ==> DPI Setting. Try using either 96 DPI or 120 DPI.

m. ‘Actions’ drop down menu

The following choices appear on the ‘Actions’ drop down menu:

- Data ON/OFF Toggle the map data on and off
- Map URL Display the URL for the map view on the screen
- Map zoom/center Display the current zoom level and map center coordinates
- Tips Display some tips for working with the map

- Search/Directions Open a new window and display a standard Google maps. If Gmap4 was displaying any data, then that data also appears in this new window.
- Full screen Open a new window and display Gmap4. Useful if you are seeing Gmap4 in a small iframe and want a larger view.
- Help Open a new window and display this pdf Help file.
- About Display the Gmap4 version number.

You can always navigate by zooming out, panning the map (by dragging it) to somewhere of interest and then zooming in. This method of navigation will work faster if you first select the “Map” or “Terrain” view via the menu button in the upper right. You can shift back to the MyTopo (topographic) view after you adjust the map to show the area you wish to view.

5. Comparison of Google’s map viewer to the Gmap4 map viewer

Feature	Google map viewer	Gmap4 map viewer
Street map	yes	yes
Aerial photos	yes	yes
Terrain	yes	yes
Detailed topographic maps for USA and Canada	no	yes
Search	yes	no
Directions	yes	no
Read Google MyMaps	yes	yes
Read KML files	yes	yes
Read KMZ files	yes*	yes
Read GPX files	no	yes

* During testing it was discovered that Gmap4 can display certain KMZ files that Google Maps refuses to display.

6. A special ‘Thank You’

I am not connected with either of these entities other than as a happy user of their services.

a. MyTopo Company (aka Beartooth Mapping)

The detailed topographic maps that Gmap4 displays by default are only possible as a result of the generosity of the MyTopo Company. These people are located in Billings, Montana (USA) and make the bulk of their living by selling prints of high quality topographic maps that **you** design.

They are providing free access to all of their topographic maps (USA and Canada) via an Application Programming Interface (API). Gmap4 uses that API to show you their maps. The topo maps from MyTopo are superior to the topo maps from Terraserver for two reasons:

1. The MyTopo maps include any updates the U.S. Forest Service made to the USGS quadrangles. These updates include the Forest Service road numbers even for 2-tracks deep in the bush.
2. The MyTopo maps are simply a better quality image on your screen.

I ordered an 18"x24" map on waterproof paper and with a UTM grid. I don't think you can buy a higher quality map anywhere. I particularly like these maps since they show the current magnetic declination. This size map costs (\$9.95+shipping) and service was fast with the map arriving in under 1 week with standard shipping. Do you have some GPS data you would like to see on your printed map? You can upload your data to their site and see it on your map on the screen before placing your order.

You can check them out at <http://www.mytopo.com/>

Please consider using their map printing service the next time you need to purchase a paper map as a "must have" safety backup in case your GPS quits working, or the batteries run low, or you fumble it off a cliff, or....

b. GPSTabel

GPSTabel (<http://www.gpsbabel.org/>) is well known freeware for converting between GPS-related file formats. Gmap4 uses GPSTabel to convert your GPX file into a KML file before displaying your data on the map. This conversion step is essential since the only file format understood by the Google map engine is the KML format.

GPSTabel was originally written by Robert Lipe and is now supported by Robert plus a number of others. As I was installing this software on my server I ran into problems and posted questions on their mailing list. Robert was always generous with his time in helping me get the program installed and I was happy to send him a modest contribution to help support his project.

If you find yourself using Gmap4 to display your GPX files, then you are benefitting from the hard work by Robert and others. If you have the means, please consider making a contribution to support this project. Their main web page contains links that make it easy to donate.

7. Administration

a. Change log

The change log is now on the Gmap4 homepage under the menu item “What’s New?”.

<http://www.mappingsupport.com/p/gmap4.html>

b. Contact the author

For bug reports, typos and/or suggested enhancements, please contact Joseph Elfelt. For an email address please see http://www.mappingsupport.com/p/gmap4_contact.html.

Since Gmap4 is under active development, it is certainly possible that a new feature will accidentally break something that previously worked fine. I cannot fix it unless you tell me it’s broken.

8. Converting your GPS data into KML or GPX files

A lot of recent GPS units automatically produce GPX files. Those files can be displayed by Gmap4 as described in this ‘help’ file without the need to do any file conversion. But if you have a GPS that does not automatically produce GPX files or if you simply want to use KML files (see below for advantages of KML files), then you will need to do a file conversion before you can view your data with Gmap4. Below are four tools that can do file conversions.

a. Software that is included with a GPS purchase

Every handheld GPS comes with some software. Take a look at that software and see if it will let you convert your GPS data into a KML or GPX file.

b. GPSTabel

This free program (<http://www.gpsbabel.org/>) runs on your computer may well be the ‘gold standard’ for doing GPS-related file conversions. This program can read any GPS file format that you are likely to have and produce either a KML (recommended) or GPX file that you can then place online and view with Gmap4. You can run GPSTabel with a graphical interface or from the command line. In fact, **Gmap4 itself uses GPSTabel** to convert a GPX file to a KML file and then displays that KML file on the map.

Here are the options that Gmap4 uses when it executes GPSTabel to convert a GPX file into a KML file. If you are doing your own conversion to a KML file, then you can tweak these options to suit your needs. The option “**points=0**” will prevent each of your trackpoints from also becoming a waypoint in the KML file.

```
gpsbabel -i gpx -f path_to_gpx_file
-o kml,points=0,line_width=5,line_color=990000ff -F path_to_kml_file
```

c. GPS Visualizer

This free website lets you upload your GPS data and convert it online into either a KML file (recommended) or GPX file. Here are some tips:

- Use this page to convert to a KML file:
http://www.gpsvisualizer.com/map_input?form=googleearth
- Under “General map parameters” change “Output file type” from kmz to kml

Tech tip: GPS Visualizer will include some tags in your KML file that mean something in Google Earth but do not mean anything in Google Maps. You can avoid this clutter by (1) using GPS Visualizer to convert your data and then (2) copying the coordinates from the resulting KML file and (3) pasting those coordinates into your own KML template file that only has the tags you want. Please see the Appendix-A for a basic KML template file that you can copy and use.

d. Google Earth

If you have the Google Earth software installed on your computer, then you can use that software to convert a GPX file to a KML file.

Step 1: Open your GPX file in Google Earth

Your file should be on your local drive.

File open ==> Files of type - click down arrow to open the list ==> All files ==> OK

Find your GPX file and click it to open

Step 2: Save your file as a KML file

File ==> Save ==> Save Place as ==> Set ‘Save as type’ to kml ==> save the file

9. Placing your KML/KMZ/GPX/TPO files online

You can place your files online anywhere. If you are putting them online via your own website, make sure the ‘permission’ for the file lets other people read it. If you do not have your own website, then there are free options for placing your files online.

Spaces in file names: Please change any space in your file name into an underscore character. In other words, change your filename from: “Big valley hike.kml” to “Big_valley_hike.kml” Many websites will change a space in a file name into “%20” and Gmap4 then chokes on the “%” character when it shows up in the URL.

a. Place your KML/KMZ/GPX/TPO files online via Google Sites - It's free

Prior versions of this 'Help' file recommended placing KML/GPX txt files online as Google Documents. Google has made a series of changes to the way that Google Documents works and as a result using Google Documents to host your KML/GPX txt files is no longer recommended. If you previously placed files online using Google Documents, then Gmap4 can still display them. But as of early June 2010 (?) Gmap4 can no longer display new KML/GPX txt files from Google Documents.

Now some good news. In June 2010 Google published an article inviting people to place their KML files online using Google **Sites**:

<http://code.google.com/apis/kml/articles/pagesforkml.html>

(Ignore what this article says about "NetworkLink".)

Actually, you can upload any type of file to Google Sites including KMZ and GPX files.

If you use Google Sites to host your KML/KMZ/GPX/TPO files then when you produce a map with Gmap4 you use the **actual file name** instead of a meaningless file 'id' code.

Step-by-step instructions for placing your KML/KMZ/GPX/TPO files online via Google Sites

1. Get a Google account. It's free. <http://docs.google.com/>
2. Connect to Google Sites and login. <http://sites.google.com/>
3. Click "Create new site" and accept the default of "Blank template". In a few seconds the site will be created and you will be looking at a blank "Home" page
4. Click "Create page" near the upper right.
5. Change the "template" to "File cabinet".
Give it a name.
Decide if you want this folder under the "Home" or not.
Click "Create page".
The screen will change and show you the blank web page you just made.
6. Click "Add file". Browse to the file you want to upload to Google Sites, then click "upload".
7. After the file has uploaded, point to "Download", right click and select "Copy link location".
8. Paste the download URL into Notepad. Delete the "?" and everything after it. For example:
Change
http://sites.google.com/site/gmap4files/p/helpfile/county_line_trail.kml?attredirects=0&d=1
Into
http://sites.google.com/site/gmap4files/p/helpfile/county_line_trail.kml

9. Paste the modified download URL into the following line where indicated:
`http://www.mappingsupport.com/p/gmap4.php?q=http://URL_to_kml_kmz_gpx_file`

10. Copy the above line (with the URL to the KML/KMZ/GPX/TPO file) and paste it into a browser bar. Gmap4 will produce a map and display that data file.

Example using a GPX file:

http://www.mappingsupport.com/p/gmap4.php?q=http://sites.google.com/site/gmap4files/p/helpfile/Johnson_Ridge.gpx&t=2

TIP: Let's say you just uploaded a KML/GPX file to Google Sites and then opened another browser tab and used Gmap4 to display your file. Oopsie - You spot a mistake. Edit the KML/GPX file and upload the revised copy. Do not change the file name. When the upload is complete then refresh the browser tab with Gmap4. You will see your revised map.

To learn more about Google Sites:

<http://sites.google.com/support/?hl=en>

b. Place your KML files online as Google MyMaps - It's free

If you do not have your own website to host your KML files, then here is another free alternative for placing your KML files online. This option works with KML files. It might work with KMZ files. It does not work with GPX files.

1. Get a free Google account

<http://www.google.com/accounts/NewAccount?service=local>

2. Start Google maps: <http://maps.google.com/>

3. My Maps ==> Create new map **or** My Maps ==> Get started

4. Click Import

5. Click Chose file and select your KML file and upload it

6. Click "link" (in upper right) and copy the link

7. Paste the link into Notepad. Here's an example ('id' code is underlined):

`http://maps.google.com/maps/ms?ie=UTF8&hl=en&msa=0&msid=105432215366276592381.0004897737811ac6a6a05&z=14`

8. Find where it says: &msid= The 'id' code begins after the equal sign. Here is an example id code:

`105432215366276592381.0004897737811ac6a6a05`

Copy the 'id' code but do not copy the following '&' character.

You are now ready to launch Gmap4 and view the data that you placed online as a Google MyMap. Paste that id code into the following line where indicated:

http://www.mappingsupport.com/p/gmap4.php?q=mymap,id_code_assigned_by_google

Copy the above URL (with the file's id code) and then paste it into a browser bar.

You can include this link in emails, websites, trip reports, etc

Here is an example of the correct way to launch Gmap4 when your data is hosted online as a Google mymap:

<http://www.mappingsupport.com/p/gmap4.php?q=mymap,105432215366276592381.0004897737811ac6a6a05>

Tech note: There is one downside to using Google MyMaps to host your KML files. Assume your KML file uses the <IconStyle> tag to point to the icon image you want your map to use for GPS waypoints. But after saving your MyMap you decide you want to use a different icon. You cannot (to my knowledge) edit a Google MyMap and change the contents of the <IconStyle> tag. Instead you will have to edit each waypoint marker and change the icon image. This comment applies to all types of styles in your KML file. This issue does not apply if you let Google host your files via Google Sites.

c. Other free options for placing your files online

If you use a free file hosting site to place your KML and/or GPX files online, then please let me know whether or not you can view your files with Gmap4 and I will update this section with that info (see below). Some free file hosting sites are not compatible with Gmap4. You can email me by going to <http://www.mappingsupport.com/contact.html>

When you place your file online you will receive a link to your file. If that link includes a “?” then that site is not compatible with Gmap4. For example, this type of link will not work with Gmap4:

<http://www.freefilehost1234.com/filegetter.php?id=as8d6vn4f0cn390>

Any file link that does not include a “?” character should work unless that hosting company has does something to prevent files from being read by tools like Gmap4.

These free file hosting sites work OK with Gmap4

<http://www.fileden.com/>

These free file hosting sites do not appear to be compatible with Gmap4

<http://www.tripod.lycos.com/>

10. User interaction with the map

There are two ways to interact with the map. First, you can use “URL parameters” to control what you see when the map first appears on your screen. Second, there are a number of way to interact with the map after it first displays on your screen.

a. Options for controlling the initial map view with “URL parameters”

Many websites, including Gmap4, allow the user to specify ‘URL parameters’ in order to control the behavior of the website. A URL parameter is simply a way to pass information to an application. Each URL parameter assigns a value to a variable. When the application executes, then it does something with those values.

Often when you click a link to go to a website, URL parameters are already included in that link. Thus, you are already using URL parameters but may not have realized it. Here is how to spot a link that uses URL parameters: Look for a question mark in the link. Consider this hypothetical example:

www.mysite.com/dogs.html?breed=IrishSetter&age=3

That link has:

- * The name of a web page that will display when you click the link: "dogs.html"
- * Two URL parameters. Each URL parameter has (1) a variable name to the left of the equal sign and (2) a value to the right of the equal sign. In the above example, The variable breed is set to the value ‘IrishSetter’ and the variable age is set to the value ‘3’.

Often times just a single character is used for the name of URL parameters.

Here’s a link produced by Google maps for Pegasus Pizza in Kirkland, WA. Note the ‘?’ followed by numerous URL parameters.

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=pegasus+pizze+kirkland&sll=37.0625,-95.677068&sspn=53.167773,79.013672&ie=UTF8&hq=pegasus+pizze&hnear=Kirkland,+WA&t=h&ll=47.679331,-122.171606&spn=0.002698,0.004823&z=18

Gmap4 is designed to use some of the same URL parameters that are used by Google maps.

If you include any URL parameters when you launch Gmap4 then the program will use that information to help determine how the map will look when it first appears on your screen. Here is the list of “URL parameters” that you can use with Gmap4:

- (none) You can launch Gmap4 without any URL parameters at all by entering this into your browser bar: <http://www.mappingsupport.com/p/gmap4.php>
The default map will be displayed. This is an aerial view with an outline around Google’s campus at Kirkland, Washington (USA).
- q The full http://... URL to a KML/KMZ/GPX/TPO file that you have placed online.

OR

A pointer to a Google MyMap file.

If you use the q parameter and do not use the ll parameter, then the map will automatically be centered and zoomed so that all of the data in your file fits on the screen.

- ll Latitude,longitude in decimal degrees and WGS84 datum.
The map will be centered at this spot.
Make sure there is no space after the comma.
North America coordinates must have a minus sign in front of the longitude.
For example: 43.877015,-103.45087
- z Zoom level. The default is 15.
Maximum zoom for MyTopo maps is 16.
Maximum zoom for aerials is usually 18 but maybe higher in urban areas.
- t Map type. The allowable values are:
m Street map from Google
s Aerial photo from Google
h Aerial plus street names from Google
t1 Terrain from Google (default)
t2 Topographic map from MyTopo (USA 1:24,000 & Canada 1:50,000)
- refresh Allowable values are 0 (default) or 1.
See the section below titled “Using the ‘refresh’ URL parameter”

Below is an example of how to specify multiple URL parameters.

- A “?” comes before the first parameter
- A “&” comes before each additional parameter
- There are **no spaces** anywhere in the command
- The URL parameters can be entered in any order

http://www.mappingsupport.com/p/gmap4.php?q=http://www.mappingsupport.com/p/gmap4/helpfile/three_files.kml&ll=47.400482,-120.813062&t=h&z=13

TIP: The first time you look at one of your files with Gmap4, consider just using the q parameter. Then adjust the zoom and pan the map so your map looks the way you want it to look. Then the next time you want to view your map (or if you are posting/emailing a link) you can include the t, z and ll parameters as part of the command that will launch Gmap4 and display your map. You can get the current zoom level and coordinates for the map center by clicking: Actions ==> Map zoom/center. Also, you can get the complete URL that will let anyone replicate the exact way your map looks on your screen by clicking: Actions ==> Map URL.

Gotcha: Even though your map looks dandy on **your** screen with your carefully crafted z and ll parameters, keep in mind that other people will be using screens with fewer/more pixels than your screen.

b. Things you can do after the map is displayed

Basic map operations

Pan Click-hold-drag.

Zoom Use the mouse wheel (if you have one). Or use the plus/minus control near the upper left corner.

Tech note: Mouse-wheel-zoom is disabled if the map is being displayed in an iframe. This allows the mouse wheel to continue scrolling a page past an iframe that is holding Gmap4.

Menu button for map type (upper right corner)

Map Street map from Google
Satellite Aerial photo from Google.
Hybrid Aerial photo plus street names and other labels
Terrain Terrain from Google (default)
Mytopo Topographic map from MyTopo). USA maps are 1:24,000. Canada maps are 1:50,000.

'Actions' menu button (described in the Quick Start section)

Other map operations

Double click will center the map at the point clicked. The zoom level remains the same.

Right click anywhere to display the latitude, longitude of the point clicked. This will display in decimal degrees, WGS84 datum.

11. How to embed Gmap4 in an iframe

Do you post trip reports in a forum that allows “iframes”? If so, then you can embed a ‘live’ topo map and your GPS data right in your trip report. Here is an example from a hiking forum that is popular in Western Washington State. Scroll down just a bit for the map. This is a ‘live’ interactive map. <http://www.nwhikers.net/forums/viewtopic.php?t=7980146>

Since Gmap4 is actually running in the iframe that is part of this trip report thread, you can zoom, pan, flip to the aerial view, select ‘Search/Directions’ from the menu and find out how far this hike is from your home, etc.

Note - Some forums do not allow detailed GPS data to be posted. If you are uncertain then check the rules before posting. Some forums that do not allow GPS data do allow people to post links just showing a topo map for an area without any GPS data.

Here is one example of the basic code to include an iframe map (if allowed) in your trip report. Just paste this code into your report and then substitute the location of your own KML file or GPX file. This iframe will be 400 pixels high and 400 pixels high.

```
<iframe  
src="http://www.mappingsupport.com/p/gmap4.php?q=http://www.mappingsupport.com/p/gmap  
4/helpfile/stafford_creek.kml&t=t2" width="400px" height="400px"></iframe>
```

Note that the ‘action’ menu includes an option to display a full screen version of the map.

Tech notes:

For best results, do not use an iframe smaller than 400 pixels by 400 pixels.

Mouse-wheel-zoom is disabled if the map is being displayed in an iframe. This allows the mouse wheel to continue scrolling a page past an iframe holding Gmap4.

12. Things you need to know if you edit your KML or GPX files

a. Indentation

You should adopt the practice of using proper indentation in order to make your data files more readable. See the example KML files discussed in this ‘Help’ file.

b. Using the “refresh” URL parameter for GPX files

This section only applies if you are displaying your own GPX files with Gmap4.

Gmap4 uses the Google Maps engine. Since that engine cannot read GPX files, Gmap4 converts GPX files to KML files and then temporarily stores that KML file. Thus, if you revise one of your GPX files, then you have to tell Gmap4 that it needs to read the revised GPX file in order to make a new KML file. You do this with the “refresh” URL parameter.

Let’s assume you are viewing one of your GPX files with Gmap4 and you decide to delete one of the waypoints from that file. Here is the recommended workflow:

1. Edit your GPX file by deleting the waypoint.
2. Upload the edited GPX file to where ever your files are hosted online.

3. Go to the browser where Gmap4 is running and add the following to the end of the command in the browser bar:
&refresh=1
Make certain that you do not let any spaces get into the command in the browser bar.
4. Press enter. Gmap4 will display your revised map.

After you revise your data file, you only need to use the refresh parameter **one time**. Since the &refresh parameter causes additional processing, it should not be routinely used. It only needs to be used one time after a data file has been changed. While it will not do any harm, it is still bad practice to post a link that includes the “&refresh” parameter.

Did I mention that you should only use &refresh=1 **one time** after you edit a data file that you created?

NOTE: You cannot change the line width or line color of GPX files. Those values are hard-coded into the portion of Gmap4 that converts your GPX file to a KML file. If you wish to display your GPX file with a different line width and/or line color, then please first convert your GPX file to a KML file. You will then have complete control over how your map looks when displayed by Gmap4.

c. Including clickable photo thumbnails on your map

These are the **new-and-improved instructions**. This is soooooo easy (once you know how). Look at the following map and click each camera icon. Notice how each thumbnail fits nicely within the white info balloon.

http://www.mappingsupport.com/p/gmap4.php?q=http://www.mappingsupport.com/p/gmap4/helpfile/Stafford_Creek.kml&t=t2

Here is a link that lets you download a copy of the KML file that produced the above map:

http://www.mappingsupport.com/p/gmap4/helpfile/Stafford_Creek.kml

Download the KML file, open it in an editor and find the section titled:

“This section has coordinates for each "Pic" icon”

Look inside the first <Placemark> ... </Placemark> tags and find the <![CDATA[...]]> tags. Notice that the CDATA section includes <table> ... </table> tags. These tags help define an html table. Google uses the html tags in this table to format the data that appears in the info balloon when someone clicks this icon on your map.

Notice also that the contents of the <![CDATA[...]]> tags can appear on multiple lines.

This table has 3 cells. The first cell has some text. The second cell is empty and just provides a bit of white space between your text and the photo thumbnail. The third cell holds the thumbnail (which is created automatically).

Notice that the third cell includes:

```
height="100px" width="133px"
```

This data will cause the thumbnail on the screen to be 100 pixels high by 133 pixels wide. Including both a **height and width** for each thumbnail is **essential** so that the white background of the info balloon is the right size to include both the text and the thumbnail.

You should use height and width values that maintain the aspect ratio of your photo. For example, 100 by 133 is the same aspect ratio as the 600 pixel by 800 pixel jpg that is displayed when someone clicks the thumbnail.

There are certainly other ways to write KML info balloons. But starting out, I recommend you adopt this three cell approach.

13. GPX files - Some details

The GPX format was initially developed by the Topografix company which describes it as follows:

“GPX (the GPS Exchange Format) is a light-weight XML data format for the interchange of GPS data (waypoints, routes, and tracks) between applications and Web services on the Internet.”

You can learn more here: <http://www.topografix.com/gpx.asp>

Many current handheld GPS units automatically save their data as GPX files. Since Gmap4 can read these files, you do not have to bother doing any file conversion unless you want the benefits that come from using KML files.

Here is a site where you can download a tool to check your GPX file and make sure it conforms to the specifications that all such files must meet:

http://www.topografix.com/gpx_validation.asp

Unless you have edited the content of your GPX file, you likely do not need to bother with this validation step.

If you are viewing your GPX files with Gmap4 and happy with the way your map looks, then there is likely little reason for you to spend any time to learn about KML files. However, while GPX files are certainly convenient if they are automatically produced by your GPS, they do have a few disadvantages as compared to KML files when using Gmap4. These include:

- You cannot change the line width or line color of your GPS track
- You cannot add a caption to the top of your map
- You cannot display information on your map from multiple GPX files
- You cannot include photo links on your map

14. TPO files - Some details (NEW)

TPO files are produced by certain versions of the popular TOPO! software from National Geographic. Gmap4 might be the only 3rd party software that can display TPO files without requiring the user to first convert their TPO file to some other file format (such as GPX).

TPO files use a non-disclosed proprietary file format and thus are creatures of mystery. If your TPO map looks weird/broken/ugly please send me a link to your tpo file or the file itself. I can't fix it if I don't know it's broken. For an email link see:

http://www.mappingsupport.com/p/gmap4_contact.html

Gmap4 uses GPSBabel to convert your TPO file into a KML file. It is that KML file that is used to actually produce the map that you see.

NOTE: If you display one of your TPO files with Gmap4 and then edit that TPO file, you will **not** see your edit on the map unless you use the \$refresh=1 parameter. Search this 'Help' file for more info about "refresh".

For TPO version 2 files, Gmap4 will only display GPS tracks. (Waypoints in TOPO version 2 are stored in TPG files.)

For TPO version 3 and 4 files, Gmap4 will display GPS tracks and any individual waypoints you set. In addition, if you also made any (1) map notes, (2) symbols, and/or (3) text notes using the TOPO software, then those items should also be displayed on your Gmap4 map as waypoints.

15. KML files - Some details

The KML (Keyhole Markup Language) format was originally developed by Keyhole, Inc. That company was acquired by Google in 2004. Here is Google's description of what KML is all about: <http://code.google.com/apis/kml/documentation/whatiskml.html>

If you want the most flexibility for how your data is displayed by Gmap4, then you will want to use KML files instead of GPX files. By using KML files and doing a bit of editing to your KML file you can:

- Add a caption to your map
- Change line width and/or color
- Use different icons for waypoints
- Break a GPS track into two parts and assign a different color to each part
- Add clickable markers to your map that display text and/or a photo
- Link to other KML files and include their data on your map
- and more I haven't thought of offhand

a. Easy way to convert GPX files to KML files

Gmap4 automatically converts your GPX file to a KML file. This conversion happens because Gmap4 uses the Google Map API and that API cannot display a GPX file. Under the hood, Gmap4 (1) uses GPS Babel to convert your GPX file to a KML file, (2) temporarily hosts that KML file on the Gmap4 server, and (3) produces your map using that temporary KML file. If you know the secret (which I will now tell you) then you can simply download that temporary KML file.

1. Place your GPX file online. If you do not have your own website, then use the free Google Sites.
2. Display your GPX file with Gmap4.
3. Click Actions ==> Search/Directions
4. A new window opens with standard Google Maps which is displaying the temporary KML file. Find the large “Search Maps” button.
5. Copy the URL just to the left of that button. That URL points to the temporary KML file on the Gmap4 server. Since this file is temporary, do not hot-link to it! Gmap4 is not a file hosting service.
6. Paste that URL into a new browser bar, hit enter and download the file. If you do not see the file download dialog box, then you will have to change your browser settings for KML files.

This KML file (which was produced by GPS Babel) has a lot of tags which mean something in Google Earth but which are ignored by Google Maps and Gmap4. These excess tags clutter the file and make it hard to read. That is why you should open this KML file in an editor, find the <coordinates>...</coordinates> tags near the end of the file, copy your track (which is between those tags) and paste your track into one of the sample KML files referenced in this “Help” file. If you do this then you will have (1) a better organized KML file that (2) does not include any tags that are ignored by Google maps and Gmap4. You will also need to copy any standalone waypoint “placemarks” you made.

Of course you can also convert your GPX file to a KML file simply by running GPS Babel on your own computer. There are also other free tools to do this conversion, including GPS Visualizer.

b. Easy way to make better KML files

The Appendix to this ‘Help’ file contains a listing for a basic KML file that displays a GPS track. You can (1) copy that listing, (2) replace the coordinates with your own coordinates, (3) place the

edited file online and (4) view your data with Gmap4. It's just that easy. As you learn a bit more about KML you will be able to enhance your basic KML files with additional features.

You can also download any KML file referenced in the Appendix, open it with an editor and use it as a template for your own maps. For example: This link will display the map produced by KML Demo #1 in the Appendix:

http://www.mappingsupport.com/p/gmap4.php?q=http://www.mappingsupport.com/p/gmap4/helpfile/Boardman_Lake.kml&t=2

Here is the KML Demo #1 file:

http://www.mappingsupport.com/p/gmap4/helpfile/Boardman_Lake.kml

OK, time to 'fess up. I did not actually hike that trail and record my GPS track (although I tried to ski it once). Instead, for demonstration purposes I just very quickly snapped some waypoints with my mapping software, exported the waypoints in the proper format and pasted them into the basic KML file you see in the Appendix as Sample #1.

Guess what? You can do the same thing. All you need is a simple list of the points in your GPS track that are in the right format: **longitude,latitude** or **longitude,latitude,altitude**. Once you have your list of points just paste them into the sample KML file that you copied from the Appendix.

As you work on formatting your coordinates and adding them to a KML file, keep these points in mind:

- In your **track** the **longitude** must come first
- Altitude is optional and will be ignored if present
- In North America longitude must have a minus sign
- Coordinates are in decimal degrees
- Coordinates must be in the WGS84 datum
- A space after each comma is OK but not required
- The coordinates can be on one loooong line in your KML file
- Coordinates must be surrounded by opening and closing tags as follows:
 <coordinates> insert list here </coordinates>
 or
 <coordinates>
 insert list here
 </coordinates>

Are you concerned whether you messed up the KML file with your edits? There are tools discussed below that will check your file.

c. Use the right tool to edit your KML files

If you edit a KML file then it must be saved with something called "UTF-8 encoding". Here is how to do that in Microsoft Word:

Save as ==> Save as type, select “Plain text” ==> File name, change “txt” to “kml” ==> Save
==> Check “Other encoding” and select “UTF-8” ==> OK

Or you could do it the **much easier way** and use a tool designed to help you edit KML files. One such tool is the freeware Notepad++ . You can get it here:

<http://notepad-plus.sourceforge.net/uk/site.htm>

This tool has special features to help with editing KML files. You can configure this program to automatically save your files with UTF-8 encoding.

Any editor intended for use with ‘XML’ files will also be much better than using Word.

d. Validate your KML file

If you have edited your KML file then it is likely a good idea to have your file checked by one of the validation tools in order to be sure that your file still is a valid KML file.

This validator can be used online. You simply upload your file and it will be checked.

<http://www.kmlvalidator.com/home.htm>

Here’s another KML validating tool that Google has posted:

<http://googlemapsapi.blogspot.com/2007/06/validate-your-kml-online-or-offline.html>

You will likely save yourself time and grief if you validate your KML file after you make any edits and before you try to view that file with Gmap4.

e. Let Google Earth help you edit your KML files

Since your time is valuable you should use the best tool for helping you build your KML files in the least time. That tool is Google Earth (GE) since it can read your KML file from your local drive and display the contents on its earth map. You do not have to place your KML file online in order to view it with GE.

Now here’s the best part. After you do another edit to your KML file you can go back to GE and do: File ==> Revert

GE will re-display your KML file with the latest edits you just made.

After you get your KML map looking right on GE, then you are ready to put it online so you can view it with Gmap4.

If you do not already have the GE software running on your computer, then consider adding it. Note that GE requires a broadband connection of some kind.

System requirements: <http://earth.google.com/support/bin/topic.py?hl=en&topic=17077>

Download: <http://earth.google.com/index.html>

If you have included a map caption in your KML file, then that feature will not be displayed by GE. But it will appear on your map after you place your KML file online and view it with Gmap4.

f. Add a caption to your map

One of the simplest edits you can make to a KML file is to add some short text that will appear at the top of your Gmap4 map. Think of this as a caption or title for your map. All that is needed is a quick edit of your KML file. Here's the recipe:

Open your KML file and find the <Document> tag near the top of the file

Add a new blank line **right under** the <Document> tag

Enter this on that blank line: <name>My caption here</name>

Replace the text "My caption here" with the text you want as a caption on your map

Would you like your caption in bold? Do it like this:

```
<Document>
  <name><![CDATA[<b>My caption here</b>]]></name>
```

How about a two line caption? No problem:

```
<Document>
  <name><![CDATA[<b>Caption line1<br>Caption line2</b>]]></name>
```

As long as you use the special CDATA statement and square brackets as shown, then most html tags are allowed with your map caption. To read more about adding html to your KML files, and the CDATA tag, please open this link and scroll down a bit:

http://code.google.com/apis/kml/documentation/kml_tut.html

Demo KML file #1 in the Appendix already has a spot for your map caption. All you have to do is change the text.

g. Resources for learning more about KML files

The KML file specification includes a number of elements (for example, <altitude>) which mean something in Google Earth (a 3D app) but are ignored in Google Maps (a 2D app) and also ignored by Gmap4. If you are building KML files for the purpose of viewing them with Gmap4, then there is no reason to include tags that will be ignored.

In general, here is the list of KML elements that Google Maps and Gmap4 understand:

Placemarks

Icons

Folders

Descriptive HTML

Polylines and polygons

Styles for polylines and polygons, including color, fill, and opacity
Network links to import data dynamically
Ground overlays and screen overlays

Think of a GPS track as a polyline and a GPS waypoint as a placemark.

Tech note: If you want the precise techie details about which KML elements are understood by Google Maps and Gmap4, you can find them here:

<http://code.google.com/apis/kml/documentation/kmlelementsinmaps.html>

Now you don't need to waste any time learning about a KML element that is not going to do anything when you view your file with Gmap4.

Here is a great tool to help you learn about KML.

<http://kml-samples.googlecode.com/svn/trunk/interactive/index.html>

You can edit the short samples of KML code and immediately see the effect of your edit on the adjoining map. Note that this tool requires that your browser have the Google Earth plugin which you can find here: <http://earth.google.com/plugin>

Also, some of the interactive examples demonstrate KML elements that are only recognized by Google Earth. If you use this interactive tool, then the following examples will likely be the most useful ones:

Lines and Paths <== GPS tracks
 Absolute

Placemarks (Points) <== GPS waypoints
 Simple
 Descriptive HTML

Balloons <== Popup text/pic when a waypoint is clicked
 Simple

Styles
 Shared

Here is the ultimate source of info for all things KML:

<http://code.google.com/apis/kml/documentation/>

16. Tips for surfing KML/KMZ/GPX/TPO files

You might want to read this topic in the "Quick Start" section if you have not done so already.

In order for Gmap4 to read a file, the URL pointing to the file must not contain:

- A space

- A “%” character
- A “?” character

KMZ files are simply KML files that have been compressed.

If you try to display a KML/KMZ file and most of the screen is blank, then it is possible that the file is too large. Google imposes the following size-related limits:

Maximum KML/KMZ file size	3MB
Maximum uncompressed KMZ file size	10MB
Maximum number of Network Links	10
Maximum number of total document-wide features	1,000
(A GPS track with many points is still only 1 “feature”)	

Also, if the screen remains blank it is possible that the KML/KMZ file contains errors. You could try downloading the file to your local harddrive and then uploading it to this free tool to check for errors:

<http://www.kmlvalidator.com/home.htm>

17. **Printing (NEW)**

At the present time Gmap4 does not provide any special means of printing paper maps. If you need a high quality printed topographic map please consider ordering one from <http://www.mytopo.com>. After all, this company allows Gmap4 (as well as other software) to show you their topo maps online at no cost. We should return the favor by giving them our business when we need to purchase paper maps.

18. **Future enhancements**

In no particular order, here are some ideas for future enhancements. If you have a suggestion for an enhancement please let me know. You will find my email address here:

<http://www.mappingsupport.com/contact.html>

- Add trip planning features
- Provide a way for the user to click the map and save files with waypoints/routes that the user can upload to their GPS.
- Search
- Toggle lat/lon grid
- Toggle UTM grid
- Display current magnetic declination

19. Appendix

a. Demo KML file #1 - Basic KML file for a GPS track

You can make your own KML file by copying this file and substituting your own (1) coordinates, (2) map caption, (3) track name, and (4) track description. It's OK for the coords to be on one long line. **Validate your file!**

```
<?xml version="1.0" standalone="yes"?>
<kml xmlns="http://www.opengis.net/kml/2.2">
  <Document>
    <name><![CDATA[<b>Map caption here</b>]]</name>
    <!-- ===== -->
    <!-- style section -->
    <Style id="TrackColorWidth">
      <LineStyle>
        <!-- Reminder - colors defined in this order: Opacity-Blue-Green-Red -->
        <color>ff0000ff</color>
        <width>4</width>
      </LineStyle>
    </Style>
    <!-- ===== -->
    <!-- track section -->
    <Placemark>
      <name><![CDATA[<b>Track name here</b>]]</name>
      <visibility>1</visibility>
      <description><![CDATA[Track description here]]</description>
      <styleURL>#TrackColorWidth</styleURL>
      <LineString>
        <coordinates>
-121.685141, 48.033517
-121.684997, 48.032726
-121.683245, 48.030907
-121.683627, 48.030011
-121.684002, 48.029423
-121.684006, 48.027997
-121.684695, 48.027917
-121.684541, 48.027543
-121.686380, 48.025940
-121.686774, 48.024585
        </coordinates>
      </LineString>
    </Placemark>
  </Document>
</kml>
```

b. Demo KML file #2 - Proposed 5 part organization

While there certainly are rules that a KML file must follow, it is also possible to write a valid KML file in several different ways and produce identical maps. Below is a link to a KML file that is divided into five parts with ample comments describing the purpose and operation of each part. If you are new to KML and have not yet adopted a method to organize and label the contents of these files, then you are encouraged to give the method in this demo file a try.

Here is the demo KML file:

http://www.mappingsupport.com/p/gmap4/helpfile/Stafford_Creek.kml

And here is the map produced by this demo file:

http://www.mappingsupport.com/p/gmap4.php?q=http://www.mappingsupport.com/p/gmap4/helpfile/Stafford_Creek.kml&t=2

Please feel welcome to copy this KML file and use it as a framework for your own data. Keeping your KML files internally well-organized will speed your workflow and result in fewer mistakes with less frustration. Remember that when you are editing KML files they must be saved with UTF-8 encoding.

Also, this demo file shows how you can:

- Use **different kinds of icons on the same map**
- Use more than one color for tracks/trails

The comments in the file include links to **hundreds of icons** that are available for you to use on your maps.

c. Demo KML file #3 - Combining multiple KML files

You can produce a Gmap4 map that displays data from more than one data file. Being able to produce a map that shows data from several files is an **extremely intriguing** idea with great potential. If you experiment with this feature and make an interesting combo map, please send me a link. I would enjoy seeing how people use this ability. My contact page has an email link: http://www.mappingsupport.com/p/gmap4_contact.html

Here is a sample map that shows data from three different files:

http://www.mappingsupport.com/p/gmap4.php?q=http://www.mappingsupport.com/p/gmap4/helpfile/three_files.kml

Here is the KML file that produced this map:

http://www.mappingsupport.com/p/gmap4/helpfile/three_files.kml

In order to write a ‘master’ (I made up this word) KML file that refers to an existing **KML file**, then include the following lines in your ‘master’ KML file. Substitute the URL to your KML file in place of the URL that is underlined in this example:

```
<NetworkLink>
  <!-- (consider adding a comment here to help you stay organized) -->
  <Link>
    <href>http://www.mappingsupport.com/p/gmap4/helpfile/Teaway\_Peaks.kml</href>
  </Link>
</NetworkLink>
```

In order to write a ‘master’ KML file that refers to an existing **Google MyMap file**, then include the following lines in your ‘master’ KML file. Substitute the ID code for your MyMap in place of the ID code that is underlined in this example:

```
<NetworkLink>
  <!-- (consider adding a comment here to help you stay organized) -->
  <Link>
    <href>http://maps.google.com/maps/ms?ie=UTF8&hl=en&msa=0&output=nl&mp;msid=105432215366276592381.0004897737811ac6a6a05</href>
  </Link>
</NetworkLink>
```

That’s all there is to it.

The <NetworkLink> ... </NetworkLink> tags need to be inside of <Document><Folder> tags, but they should not be inside of any other tags. See the example KML file.

If you look at the ‘master’ KML data file used in this example then you will see it has three <NetworkLink> tags. Each NetworkLink section refers to a different data file. Here are links that will let you download the three data files:

<http://maps.google.com/maps/ms?ie=UTF8&hl=en&msa=0&msid=105432215366276592381.0004897737811ac6a6a05&z=14&output=kml>

http://www.mappingsupport.com/p/gmap4/helpfile/County_Line_trail.kml

http://www.mappingsupport.com/p/gmap4/helpfile/Teaway_Peaks.kml

If you want to build a KML file that has placemarks for the mountain summits in your area, or coffee shops, or whatever, just copy the “teaway_peaks.kml” file and substitute your own data.

Remember, even if you do not have your own website you can still do all this stuff. Put your individual KML files online using **Google Sites**. Then write your ‘master’ KML file.

Finally, if you hike in the Washington state Teaway area, feel welcome to include the Teaway_Peaks.kml file as a network link on your own maps.

- Enjoy -