Using the County Outline Overlay Files

There are two ways to obtain files for presenting a state's county outline overlay on a Google map.

1. If you have a copy of CQ/X you can use the menu item **QPTools | QSO Party Admin Tools | Prepare County Overlay Files.** The resulting dialog provides a means of selecting the state to be outlined, defining the KML and PHP files to be created, and specifying the website on which the files are to reside. Internal county boundary data contained within CQ/X is then used to prepare the outline.
2. You can download a zip file containing the KML and PHP file for outlining a selected state from the [CQ/X website](#) by using the menu item Download Overlays, right-clicking on the desired state and electing to save the link. Once the download of the zip file is complete extract the files.

In either case you will obtain the following two files:
1. a KML overlay file showing the county outline and which can be used as a layer on a Google map.
2. an optional PHP file containing java script which will allow a web site developer to over lay the KML file and to control its presentation including selection of the counties from a drop down selection box, and a link to the web site of the QSO party.

As indicated the PHP file is primarily for use of a QSO party website developer so the main focus in this note is on the use of the KML file. Here are two of the main uses of the KML file which will be described in this note.

1. Use as an overlay during route development for a mobile operation
2. Use as an overlay to show location of aprs-capable mobiles during a QSO party.

 Use as an Overlay During Route Development – For this use it is assumed that you have a Google account (it's free) and are planning to use Google Maps as one of the tools in developing a route and of course you wish to be able to see which counties can be activated by your proposed route and whether there are some possible tweaks to the route to pick up additional counties. For this use it is necessary that you have a copy of the KML file on your computer. Here are the steps involved

1. Log into your Google account
2. Select the Maps option from the menu array
3. Once maps opens up select Your Places from the resulting menu
4. Under Your Places click on the MAPS item
5. If you have a map already drawn click on its entry in the drop down and once it opens click on **Open in My Maps** which will allow you to make changes to the map. If you do not already have a map click on the **Create Map** which will open a blank map for editing.
6. In either case resulting from the previous step you will want to bring in the county line overlay as an additional layer. Click on Add Layer and then use the Import link to bring up a dialog for browsing to the desired KML file on your computer.
7. Browse to the file and once found double-click on it to begin the upload
8. Once the upload is complete you should see an outline of the counties on the Google map along with a list of counties and their abbreviation. Hovering over a county name will cause the

county to be highlighted on the map. Clicking on an entry will allow you to perform various operations on the county. Be aware that one of the operations is to remove the county from the map. Be careful in using that operation since it will be necessary to reload the KML in order to retrieve that county onto the map. Using the Individual Styles link you can, for example, cause the name of the county to appear on the map – be aware that this can create a good bit of clutter.

9. As you design your route it may be useful to remove the county outlines from time to time. You can do this using the menu on the right hand side of the layer. Once removed you will need to reload the layer as you did in Step 6 in order to make the county outlines reappear.

10. Once your route is developed you will have the option to download a KML file containing the lat/lon of the route. If you are using CQ/X you can then import the resulting file into CQ/X and have it determine the lat/lon of each of your county line crossings. Another use would be as an input route to the GPS simulator (SimGPS). To obtain the lat/lon download from Google maps you should first turn off the county outline layer, since you no longer need all of that data, and click on the Share link since only shared maps can be downloaded. Once this is done you can click on the top menu (across from the map title) and elect to Export to KML. In the resulting dialog check the box Export to KML in order to get a KML file as opposed to a KMZ (zipped version).

11. Once you have the downloaded KML file of lat/lon values there are a number of things you can do with that data depending on what applications you have at your disposal. For information on how to use this data with CQ/X please consult the item labeled **Developing a Crossing File Using Google Maps** which can be found on the [Documentation page](#) of the CQ/X web site.

Use as an Overlay to Show location of APRS-capable Mobiles During a QSO Party. – For this use you do not need a Google account. It is assumed you want to track aprs-capable mobile(s) including which county they are in and want to be able to determine when they are about to enter a new county. For this use it is not necessary that you have a copy of the KML file on your computer but that you at least have a link to a county outline KML file residing on the internet. So the link could either be the result of you placing the KML on your website or it could be a link to the appropriate KML on another site. In the following this link will be referred to simply as KmlUrl. In the following assume that we wish to track K5YAA in the Oklahoma QSO Party. So the KmlUrl will be a link to a KML containing outlines of Oklahoma counties. Here are the steps required

1. Go to [aprs.fi](#) and locate K5YAA as the station you want to track.
2. At the end of the URL on that page type in "&kml=" without the quotes and then paste the KmlUrl location of the Oklahoma county outlines. You'll end up with a long URL like
3. [http://aprs.fi/#!](#)
   [mt=roadmap&z=11&call=a2FK5YAA&timerange=3600&tail=3600](#)**&kml=KmlUrl** Notice the &kml= and the KML you pasted in.
4. Press enter. The URL will rearrange itself and you will have K5YAA shown with the county overlays for Oklahoma.

Tip: As mentioned above, in this use of the KML it is not necessary to have the KML file on your computer, it is only necessary that you have a URL to the desired KML file. Here is how you can obtain such a link from the [CQ/X website](#). Click on the County Overlays menu item and on the resulting page

click on the state of interest to bring up a county outline map of that state. Expand the window so that a region outside of the map is showing. Right-click on that region and elect to View Page Source. Toward the top of the page source you should see a line containing reference to overlayUrl similar to the one below. The URL contained within the quotes is the URL that you would append to the aprs url.

```
var overlayUrl = "http://www.no5w.com/OverlayOklahomaRev3.kml";
```

Of course, you can do this for any state for any station on APRS. You can also display multiple stations by entering all of them in the aprs.fi search box separated by a comma.