

GEOTAGGING AND TIME-TAGGING IN QDA MINER 4

QDA Miner 4 introduces a tagging feature that may be used to attach to qualitative information, geographic coordinates as well as time data, allowing one to locate a specific piece of information both in space and time. Geotags or time-tags can be attached to coded text segments or image areas or inserted anywhere in a document. Those tags may then be used to:

- quickly jump to a geographic map in Google Earth, ArcView or other GIS software;
- retrieve relevant pieces of information (coded segments) related to a specific location or to a time period;
- display multiple geotags on a map to identify potential patterns in their spatial distribution or time-tagged data on a timeline to reconstruct a temporal sequence of events;
- create animated maps, showing how the spatial distribution of events changes over time;
- export geotagged data (text segments and images) to a database of geographic data points (in the form of a single KMZ file) allowing anybody to get easy access to selected pieces of qualitative data from Google Earth or similar software.

This document will introduce you to the various ways geographic tags, and time-tags can be attached to coded text segments and coded image areas or how to insert such a tag into a document. It contains six sections:

1. Creating and using geotags
2. Retrieving information associated with geotags
3. Exporting geotags to Google Earth
4. Creating and editing timelines
5. Importing geographic coordinates
6. Miscellaneous tips and tricks

This tutorial assumes that you have Google Earth already installed on your computer. Although we will refer in this document to Google Earth, one may also use similar GIS-capable software.

1. Creating and Using Geotags

The geotagging and time-tagging features of QDA Miner are part of its hyperlinking capability so that, in order to attach geographic coordinates or a time stamp to a piece of qualitative information, you must first create a hyperlink. Hyperlinking is typically conceived as a way of creating links that allow one to jump to another document or another location in the same document or to access external resources such as a web page or another computer file. In QDA Miner, hyperlinks are also used to store geographic and time coordinates. In the case of geographic information, one may then use such a hyperlink to quickly jump to a mapping tool like Google Earth and view the exact location corresponding to the geographic coordinates. This section will show you how to create those links.

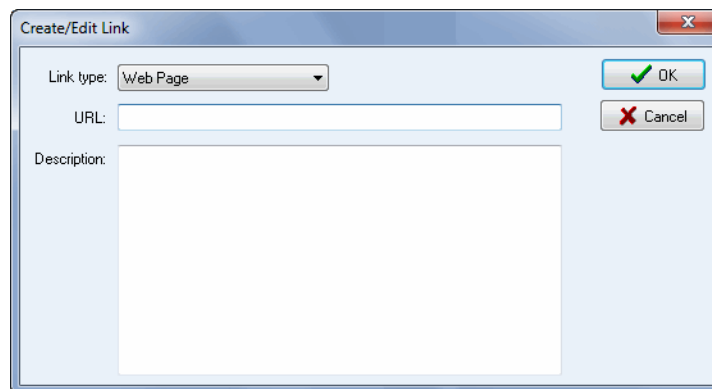
To add a geographic or time tag to a text segment (Document variables only)

- Select the text to which you want to attach a tag.
- Right-click to display the shortcut menu and select the ADD command from the HYPERLINK menu item.

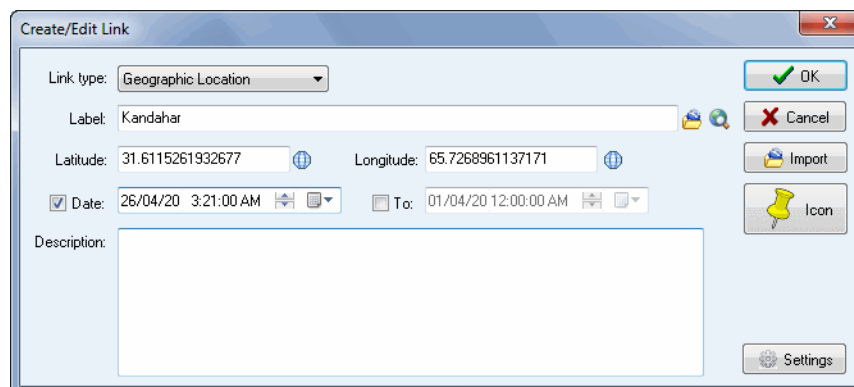
NOTE: Because of the way hyperlinks are stored in the document, they cannot include the start or the end of a coded segment. For this reason, when such a text segment is selected, the command to create a hyperlink is disabled. An alternative solution is to attach the hyperlink to a code rather than to the text itself.

To add a tag to a coded segment (Document and Image variables)

- Select the coded segment to which you want to attach a tag by clicking its code mark.
- Click a second time to display the shortcut menu.
- Select the ADD command from the HYPERLINK menu item. A dialog box like this one will appear:




- The **Link Type** list box allows you to specify which type of link to create. The available options may differ depending on the selected link type. Set this list box to **Geographic Location**. The dialog box should now look like this one:




The **Label** edit box allows one to add a short description for this geographic tag. Such a label will be used as the placemark name in Google Earth and in other locations to identify these specific coordinates so that you may later retrieve them by name. We recommend entering a concise but unique label. The **Description** edit box could be used to enter a longer description. It may also be used to enter some keywords or key phrases that may later be searched for.

The most crucial information needed to locate a piece of information in space is its geographic coordinates. Those coordinates can be defined by specifying **Latitude** and **Longitude**. There are four ways to specify a geographic coordinate:

1. By entering data manually

You can specify the latitude and longitude manually by either entering the floating-point values associated with the geographic coordinates or by clicking the  button and entering the geographic coordinates in degrees, minutes, seconds and cardinal compass point.


2. By importing coordinates from a Google KMZ or KML file

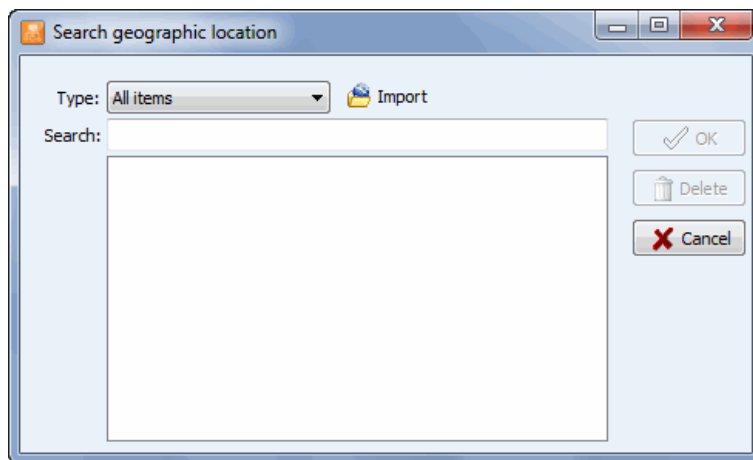
Click the  button. An **Open File** dialog box will appear, allowing you to select either a Google KMZ or KML file. If several geographic locations are stored in the selected file, you will be asked to choose which geographic location to import. The placemark label and description (if any) will also be imported.

3. By cutting and pasting Google Earth placemarks

One of the easiest methods to identify the geographic coordinates of a specific location and to import these coordinates into QDA Miner is to use Google Earth to find the proper location and create a placemark in Google Earth itself. Once the placemark has been created, select it and press **Ctrl C** (to copy it to the clipboard) then move back to QDA Miner and paste it (using the **Ctrl-V** key combination).

4. By searching previously entered or imported locations

All geographic coordinates entered by the user in QDA Miner are automatically stored in QDA Miner along with their associated labels allowing one to search previously typed or imported coordinates. To access a search dialog box, click the  button located to the right of the **Label** edit box. A dialog box similar to this one will appear:



This dialog box allows one not only to search previously entered geographic locations but also to import geographic coordinates from ESRI Shapefiles, GPX file, or Google Earth KMZ or KML files (see page 13 for the procedure to import those files).

To select a geographic location, simply locate its label in the main list box, select it, and then click the **OK** button. Listed locations may be limited to those obtained from specific sources by setting the **Type** list box to a desired value. Setting this option to **All** will display coordinates from all sources. One may also filter coordinates by entering a specific keyword or key phase in the

Search edit box. The list of locations is updated while typing so as to display only those entries with labels containing the typed string (note that the search is not case sensitive).

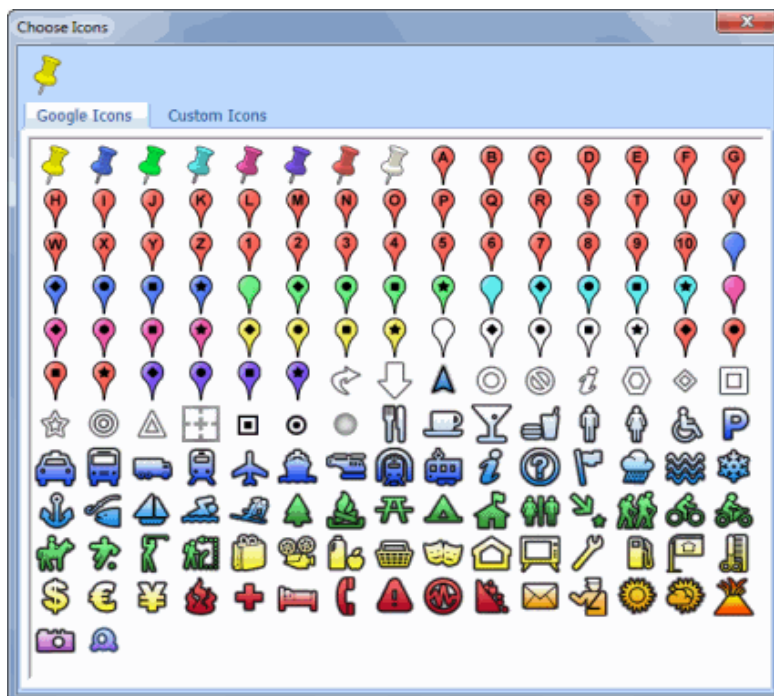


TIPS - Importing in advance all geographic coordinates relevant to a specific project or importing a database of potentially useful coordinates (such as a list of countries, of major cities or other relevant places) can reduce frequent moves back and forth between QDA Miner and Google Earth and can speed up the geotagging process. It also allows one to search geographic locations without the need of an Internet connection.

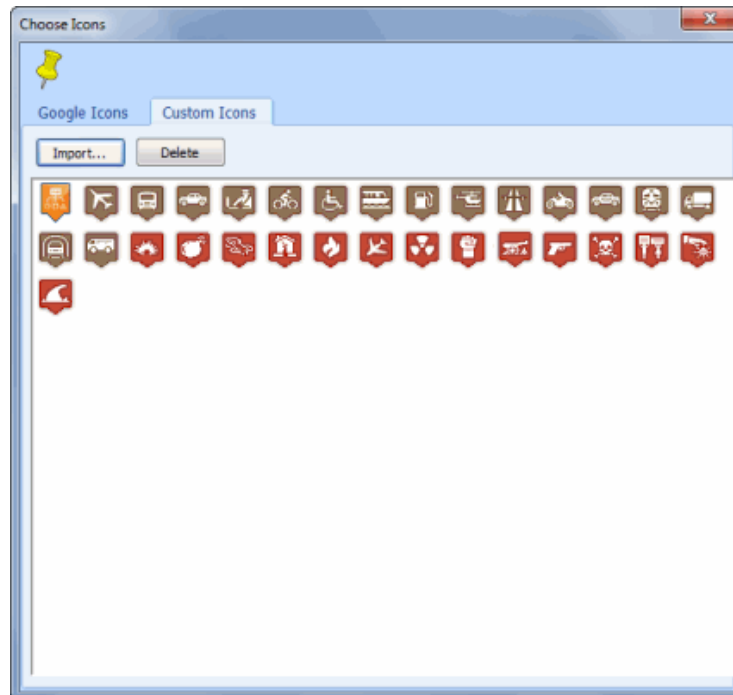
A date stamp or range may also be associated with the geographic location by selecting the **Date** check box and by specifying the date and time information. To specify a time range, set the **To** check box and then type the ending date and time.

Google Earth displays placemarks using a set of icons that may be customized by the user. These icons may also be displayed in timelines created by QDA Miner. You can change the icon of a specific geographic location by following these steps:

- In the hyperlink editing dialog box, click the  button. An icon palette dialog box similar to this one appears:



- To select an icon from the Google icon collection, click the desired icon and close the dialog box.
- To select a custom icon, click the **Custom Icons** tab.



- Click the desired icon and close the dialog box.
- To create a custom icon from an existing image file, click the **Import** button. An **Open File** dialog box will appear, allowing you to select this image file. Once selected, the image will be transformed into an icon, inserted into your list of custom icons and selected.
- To delete a custom icon, click it and then click the **Delete** button.
- Once all options have been set, click the **OK** button to create the hyperlink containing geographic information.

To follow a geo-link

- Move the mouse cursor over the code mark or the coded segment containing the geo-link.
- Hold the Control key down and click the link. One may also right-click to display the shortcut menu and select the FOLLOW LINK command from the HYPERLINK menu item.

This operation will create a temporary KMZ file and will open it using Google Earth or any other application associated with this file type (for example, ArcGIS Explorer).

To edit a geo-link

- For links associated with a coded text segment, select its code mark from the right margin of the document. For coded images, you can select the coded area either from the right or the bottom margin. For links associated with a text segment, position the cursor anywhere within the text.
- Right-click to display the shortcut menu and select the EDIT command from the HYPERLINK menu item.
- Close the dialog box when finished editing.

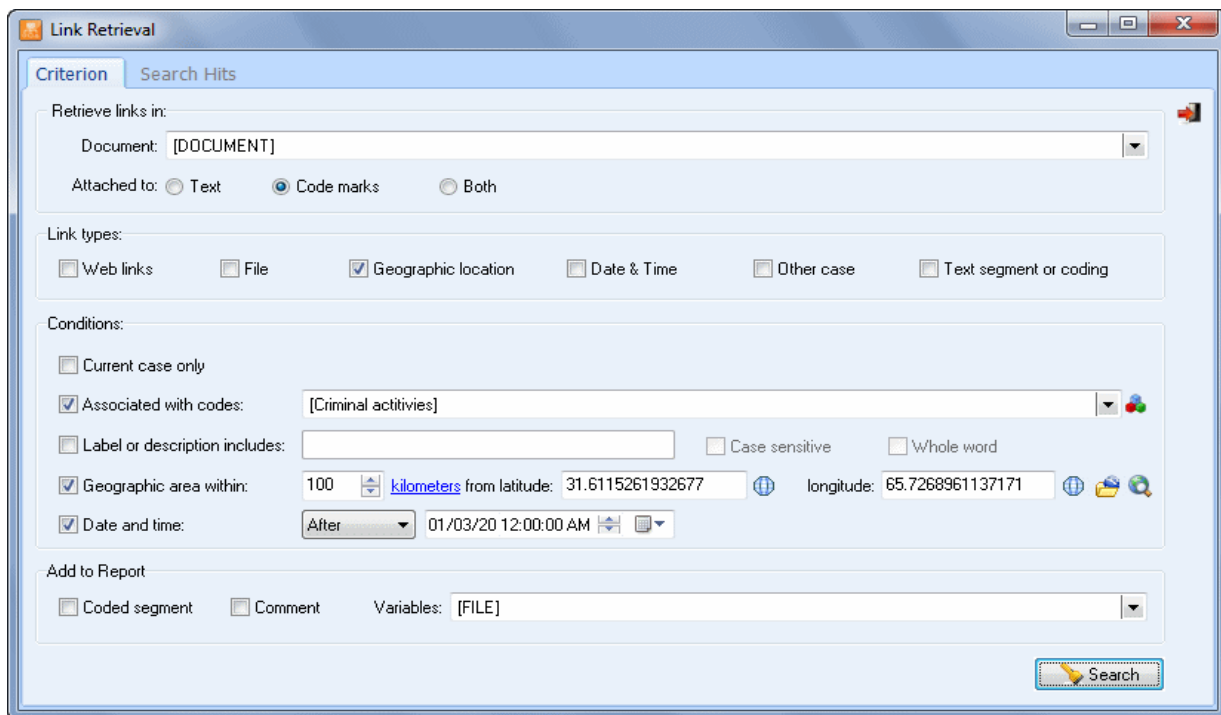
To delete a geo-link

- For links associated with a coded segment, select its code mark in the right margin of the document or in the right or bottom margin of an image. For links associated with a text segment, position the editing cursor anywhere in it.
- Right-click to display the shortcut menu and select the DELETE command from the HYPERLINK menu item.

2. Retrieving Information Associated With Geotags

Once geographic coordinates have been attached to coded segments, one may then perform searches to retrieve coded segments based on their distance from a specific geographic location or on some keywords within their name or description. For example, one may retrieve all evidence of activities coded as “bullying” occurring within one kilometer of a specific school, or all descriptions coded as “burglary” within a geo-tag containing the name of a specific neighborhood or a specific type of retail store. If time data have been associated with those geographic coordinates, one may also restrict the retrieved coded segments to events occurring within a specific time period.





To perform such types of search, choose the LINK RETRIEVAL command from the RETRIEVAL menu. A dialog box similar to this one will appear:




The **Document** option allows you to specify from which document variables to retrieve hyperlinks. If the current project contains more than one document variable, you will have a choice of selecting either one or a combination of them. By default, all document variables are selected. To restrict the analysis to only a few of them, click the Down arrow key at the right of the list box. You will be presented with a list of all available document variables. Select the variables on which you want the search to be performed. One may also retrieve links attached to **Text** segments only, **Code marks** only, or **Both**.

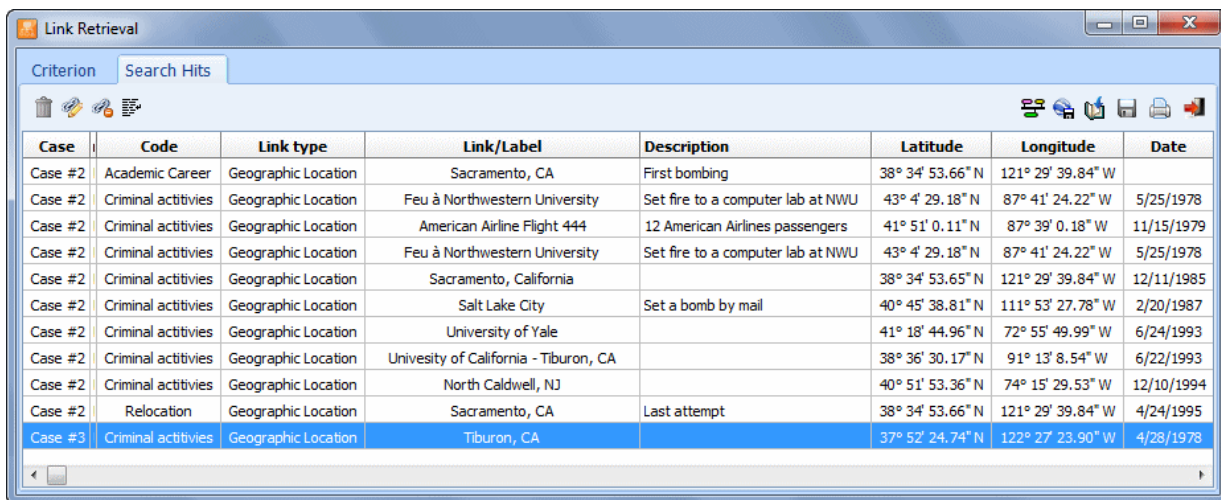
The **Link Type** option box lets you specify which types of links should be retrieved. One may choose any one of the six types available in QDA Miner or a combination thereof.

The **Condition** option box is used to filter links meeting additional conditions. Five types of filters may be applied:

- **Current Cases Only** will restrict the retrieval to links associated with documents or images in the current case.
- The **Associated with Codes** condition allows one to restrict the retrieval of links to those attached to specific codes. When this option is chosen, you will be required to click the down arrow key and select the codes from list. These codes can also be selected from a tree representation of the codebook by clicking the  button.
- One may also retrieve only links containing specific keywords or key phrases in their label or description by selecting the **Label or Description Includes** box and entering a search term. The **Case Sensitive** option defines whether the search is case sensitive, while the **Whole Word** box allows you to define whether the typed words or phrases can match part words or only whole words.
- Geographic tags make it possible to filter those tags based on their distance from a specific geographic location. To enable this feature, the **Geographic Area Within** box should be selected. One then needs to specify a geographic point using its latitude and longitude and the distance either in miles or in kilometers from this location within which the geographic tag should be located. You may click the  button to type the geographic coordinates in degrees, minutes, seconds and cardinal compass point rather than decimal values, or paste the location from Google Earth. You may also import a geographic location from a KMZ or KML file by clicking the  button, or search previously entered or imported ones by clicking the  button.
- It is possible to filter date and time as well as geographic links with time information by setting the **Date and Time** box. One then needs to select whether the associated dates should occur **Before**, **After**, or **Between** a specific date-and-time range. In the latter case, two dates need to be provided.

The **Add to Report** section allows you to append to the table of retrieved segments additional information such as the text from the original document associated with this link, any comments attached to the coded segment, or any values stored in one or more variable for the specific case from which the links originate.


Once the search conditions have been set, click the  button. The results of a search are displayed in a table located on the **Search Hits** page similar to this one:



| Case | Code | Link type | Link/Label | Description | Latitude | Longitude | Date |
|---------|---------------------|---------------------|--|-----------------------------------|------------------|-------------------|------------|
| Case #2 | Academic Career | Geographic Location | Sacramento, CA | First bombing | 38° 34' 53.66" N | 121° 29' 39.84" W | |
| Case #2 | Criminal activities | Geographic Location | Feu à Northwestern University | Set fire to a computer lab at NWU | 43° 4' 29.18" N | 87° 41' 24.22" W | 5/25/1978 |
| Case #2 | Criminal activities | Geographic Location | American Airline Flight 444 | 12 American Airlines passengers | 41° 51' 0.11" N | 87° 39' 0.18" W | 11/15/1979 |
| Case #2 | Criminal activities | Geographic Location | Feu à Northwestern University | Set fire to a computer lab at NWU | 43° 4' 29.18" N | 87° 41' 24.22" W | 5/25/1978 |
| Case #2 | Criminal activities | Geographic Location | Sacramento, California | | 38° 34' 53.65" N | 121° 29' 39.84" W | 12/11/1985 |
| Case #2 | Criminal activities | Geographic Location | Salt Lake City | Set a bomb by mail | 40° 45' 38.81" N | 111° 53' 27.78" W | 2/20/1987 |
| Case #2 | Criminal activities | Geographic Location | University of Yale | | 41° 18' 44.96" N | 72° 55' 49.99" W | 6/24/1993 |
| Case #2 | Criminal activities | Geographic Location | University of California - Tiburon, CA | | 38° 36' 30.17" N | 91° 13' 8.54" W | 6/22/1993 |
| Case #2 | Criminal activities | Geographic Location | North Caldwell, NJ | | 40° 51' 53.36" N | 74° 15' 29.53" W | 12/10/1994 |
| Case #2 | Relocation | Geographic Location | Sacramento, CA | Last attempt | 38° 34' 53.66" N | 121° 29' 39.84" W | 4/24/1995 |
| Case #3 | Criminal activities | Geographic Location | Tiburon, CA | | 37° 52' 24.74" N | 122° 27' 23.90" W | 4/28/1978 |

This table is synchronized with the main window, so moving from one row to another will move you to the case and document/image containing the selected link and will highlight the associated text or image area to which the link has been attached, allowing you to access its full context.


To remove a link from the list of hits:

- Click the  button. Removing a link using this method does not delete the link itself but simply removes the associated row from the list of hits.

To edit a link:

- Click the  button.


To delete a link:

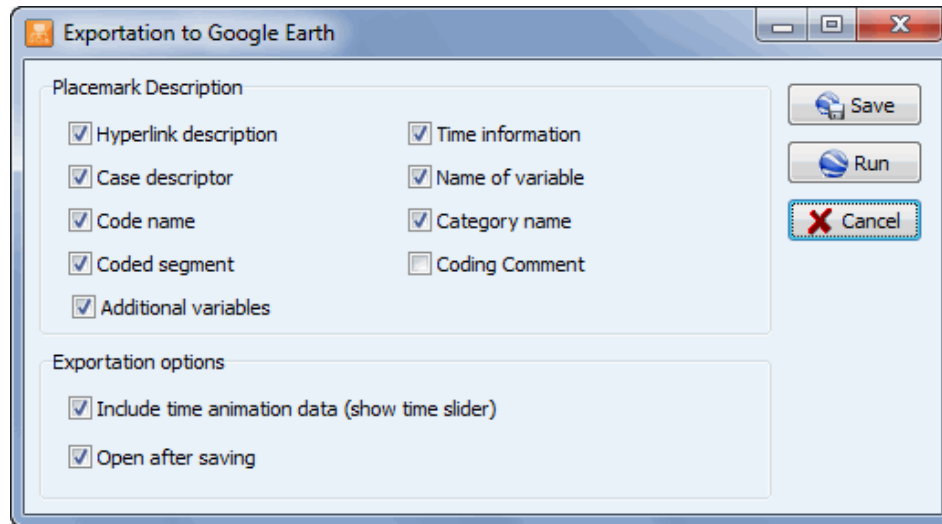
- Click the  button. This operation will not only remove the row from the list of hits but will also delete the associated hyperlink.

This page of the **Link Retrieval** dialog box also offers standard QDA Miner commands for printing and saving to disk or, in the Report Manager, the obtained table of hits. It also offers two additional commands for creating a timeline representation of time data and to export geographic tags to a Google Earth KMZ file. The following two sections will describe these two features.

3. Exporting Geotags to Google Earth

QDA Miner allows one to associate geographic coordinates with specific text segments or codings and to quickly jump to a map indicating the exact position of this specific location. To perform such an operation, one just needs to click its associated hyperlink while holding the Control key. The previous section described how to retrieve text segments and image areas associated with geographic coordinates based on various search criteria. This section will show you how to export those retrieved locations into a single KMZ or KML file in order to display all of them simultaneously in Google Earth, as well as how to create time animation.

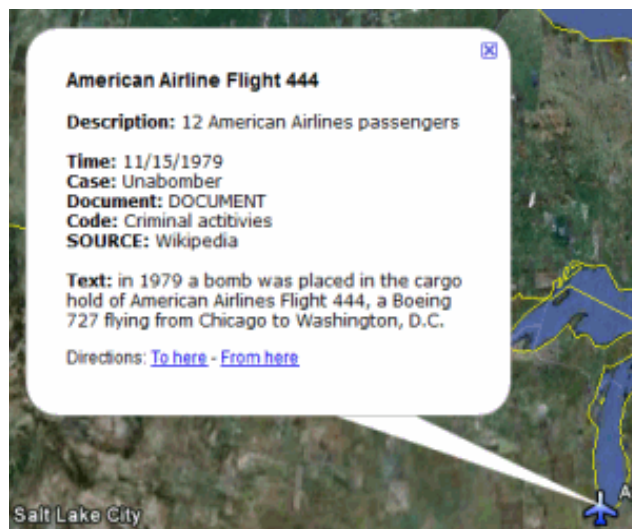
To create such a list, you first need to retrieve links containing geographic coordinates by running the LINK RETRIEVAL command from the RETRIEVAL menu. Once links have been retrieved, click the  button located in the upper-right corner of the Search Hits pages. A dialog box similar to this one will appear:



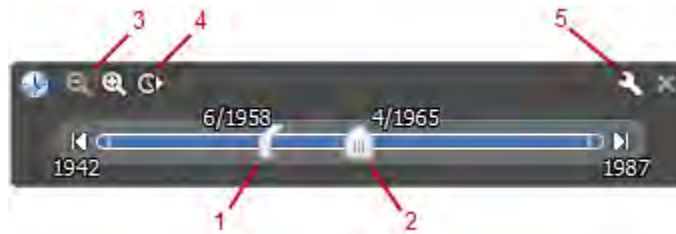
The label associated with the geographic tag in QDA Miner will be used as the placemark name in this KMZ file. In Google Earth. Each placemark is also associated with a description that is displayed when one clicks it.

The **Placemark Description** section of the above dialog box allows one to choose what information should be displayed in this comment box, such as the **Hyperlink Description**, the **Time Information**, the **Case Descriptor** or the **Name of the Variable** from which this tag comes. If the geographic tag has been attached to a code mark, one may also include the **Code Name**, its containing **Category** and any **Comment** attached to the code mark. If the tag has been attached to a text segment, either directly or through a code mark, or to a coded area of an image, selecting **Coded Segment** will append this coded text segment or image area to the placemark description window. Finally, if variables have been added to the link-retrieval table, then selecting **Additional Variables** will retrieve the values of those variables for the containing case and append those to the description.

The image below gives an examples of a placemark description containing not only the tag label and its description but also the associated time, the case and the variable from which this information comes, as well as the code name and the coded text segment to which this geo-tag has been attached.





The **Exportation Options** section offers two additional options. The **Include Time Animation Data** option inserts in the exported geographic placemarks their associated time stamp or time range (if any), causing Google Earth to display a time slide control like the one shown below.



This slide control may be used to restrict the display of placemarks to those appearing within a specified time period or to create animations showing the change in the spatial distribution of events over time. Features of the Google Earth time slider include:


1. Drag this range marker to the right or left to re-define the time range of data displayed.
2. Drag this to move the time range earlier or later.
3. Zoom in or out to shorten or lengthen the date range covered by your timeline.
4. Click this to play an animation of a sequence
5. Click this to set options for the time slider, such as the time range, the animation speed or the time format.

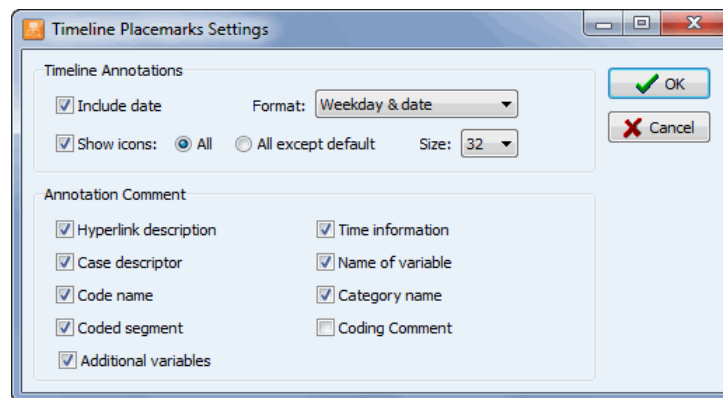
Selecting the **Open After Saving** option instructs QDA Miner to run Google Earth and to display the exported data.

Once the option has been set, one can either run Google Earth by clicking  or save all placemarks to a specific file by clicking the  button.

4. Creating and Editing Timelines

QDA Miner allows one to associate date-and-time information to specific text segments or code marks. Since such events may not necessarily be presented chronologically in a project's various documents, the possibility of ordering them can represent a powerful method to identify sequences of related events. A timeline graphic fits this purpose perfectly since it is a visual representation of the sequence of events arranged in chronological order and displayed along a single line.

To create a timeline in QDA Miner, you first need to retrieve links containing time information by running the LINK RETRIEVAL command from the RETRIEVAL menu (see section 2 of this document). Once links have been retrieved, click the  button located in the upper-right corner of the SEARCH HITS page. A dialog box similar to this one will appear:



A timeline in QDA Miner stores text and graphic information in two different locations: the **Timeline Annotations** and the **Annotation Comments**.

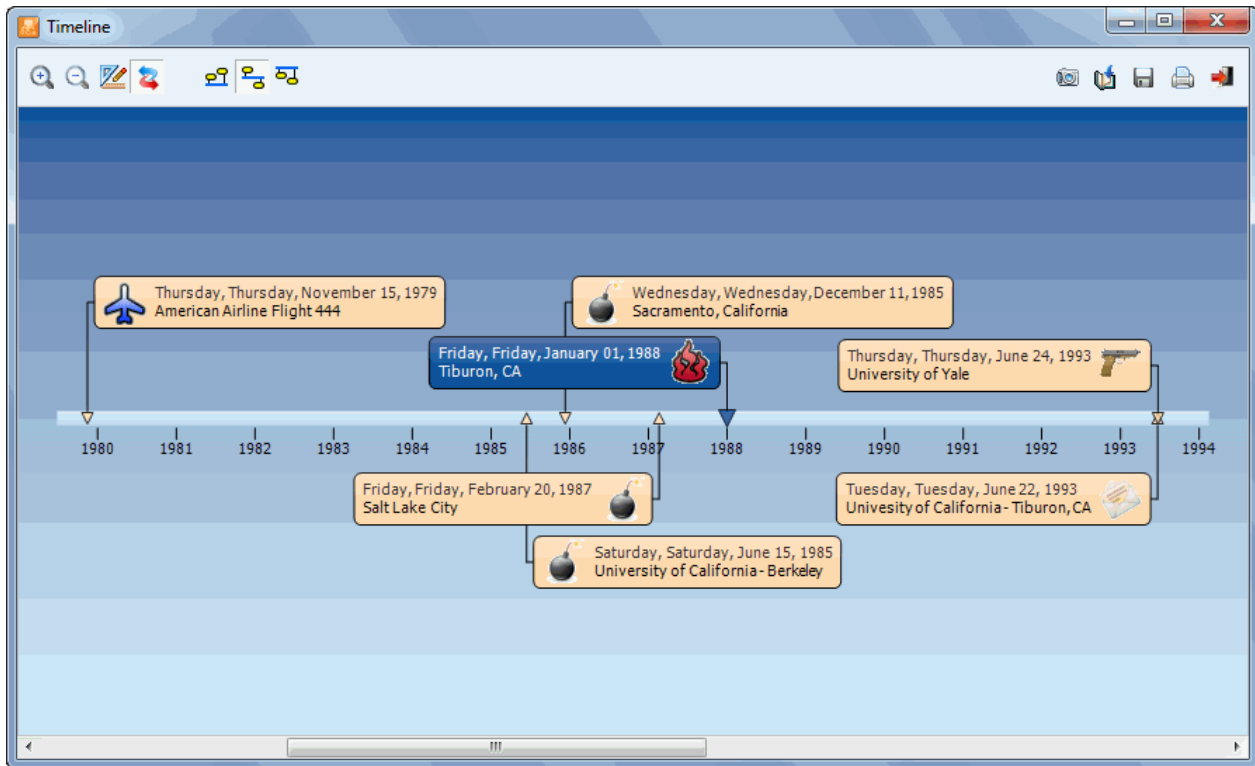
Timeline Annotations are small text boxes displayed above and below the timeline. They contain basic information about the event being plotted. By default, this box contains the label used to identify this time-tag or geo-tag. Selecting the **Include Date** option will add the stored date to this label. The **Format** for this date may be adjusted to include the weekday and to use either the short-date or long-date format settings of your Windows system. One may also append to this annotation the associated icon by selecting the **Show Icon** check box. By default, all icons will be shown, but one may instruct QDA Miner to display only icons that have been changed. The icon **Size** may also be adjusted by choosing a value between 8 and 64 pixels.

Each timeline annotation is also associated with a comment box containing more detailed information such as the link description, the associated code and category names, and the underlying text. This comment is displayed when the mouse cursor is moved over the timeline annotation.




The **Annotation Comment** section allows one to choose what information should be displayed in this comment box, such as the **Hyperlink Description**, the **Time Information**, the **Case Descriptor** or the **Name of the Variable** from which this time tag comes.

If the time tag has been attached to a code mark, one may also include the **Code Name**, its **Category** as well as any **Comment** attached to the code mark. If the time tag has been attached to a text segment, either directly or through a code mark, selecting **Coded Segment** will append this coded text segment to the annotation comment. Finally, if variables have been added to the link retrieval table, then selecting **Additional Variables** will retrieve the values of those variables for the containing case and append them to the comment.



Once the options have been set, clicking the **OK** button creates a timeline dialog box similar to this one:





The first three buttons on the top-left of the dialog box allow one to choose the location of the scale line and timeline annotations. Three options are available:

-  Click this button to display the scale line at the bottom of the screen. All timeline annotations will be displayed above this scale line.
-  Click this button to vertically centre the scale line and positions the timeline annotations above and below this scale line. The vertical position of those annotations is set automatically. One may, however, override such values by setting the vertical position of specific annotations manually (See below).
-  Click this button to display the scale line at the top of the screen and positions all timeline annotations below it.

By default, the time range of the timeline is spread so that all events can be displayed on the one screen.

Click the  button to focus on a shorter time period. When zooming in a timeline, only a portion of the entire time period is displayed on-screen. One can adjust the time period displayed by moving the scroll bar located at the bottom of the dialog box. Clicking the  button increases the time range, allowing one to obtain a broader view of the sequence of events.

Pressing the  button forces QDA Miner to synchronize the graphic with the main window so that selecting one timeline annotation will cause the main window to display the corresponding case and document from which the selected time tag comes. The corresponding text or image in the original document will also be highlighted, allowing one to easily view the full context of the selected event.

Clicking the  button displays a dialog box that allows one to customize the physical appearance of various elements of the timeline such as the color of the background, the horizontal line and annotations,

as well as the font size and style of the date labels and timeline annotation. One may also customize the display of any annotation, by selecting it, right-clicking to display a pop-up menu and selecting the appropriate command. The available commands allow one to **Remove** this event, change its background **Color** or force its **Position** relative to the timeline so that it will appear above or below it. Note that this last option is available only when the scale line vertical position is set to be displayed in the middle of the dialog box.

The following table provides a short description of additional buttons:

| Control | Description |
|--|--|
|  | This button is used to create a copy of the timeline to the clipboard. When this button is clicked, a pop-up menu appear, allowing one to select whether the timeline should be copied as a bitmap or as a metafile. |
|  | Press this button to append a copy of the timeline in the Report Manager. A descriptive title will be provided automatically. To edit this title or to enter a new one, hold down the SHIFT keyboard key while clicking this button. |
|  | Press this button to save an image of the timeline on disk. Timeline may be saved in BMP, JPG or PNG graphic file format.. |
|  | Pressing this button prints a copy of the displayed timeline. |
|  | Pressing this button closes the timeline dialog box and returns to the QDA Miner link retrieval dialog box. |



This button is used to create a copy of the timeline to the clipboard. When this button is clicked, a pop-up menu appear, allowing one to select whether the timeline should be copied as a bitmap or as a metafile.



Press this button to append a copy of the timeline in the Report Manager. A descriptive title will be provided automatically. To edit this title or to enter a new one, hold down the SHIFT keyboard key while clicking this button.



Press this button to save an image of the timeline on disk. Timeline may be saved in BMP, JPG or PNG graphic file format..




Pressing this button prints a copy of the displayed timeline.

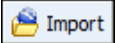


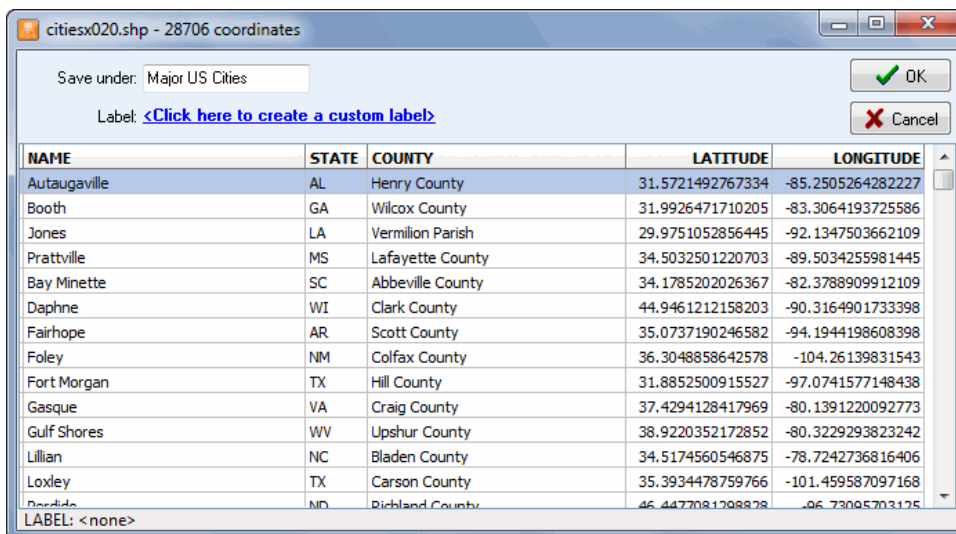
Pressing this button closes the timeline dialog box and returns to the QDA Miner link retrieval dialog box.

5. Importing geographic coordinates

Geographic coordinates may be entered one at a time either by typing those coordinates, by cutting and pasting Google Earth placemarks, or by importing a single geographic coordinate stored in a KMZ or KML file. It is also possible to import multiple coordinates from Google KMZ or KML files, ESRI Shapefiles or GPX files so that they become readily accessible for searching in QDA Miner. This importing feature of QDA Miner is available through the **Search Geographic Locations** dialog box. This dialog box can be accessed by clicking the  button found in Geographic Hyperlink Editor or in the Link Retrieval dialog box.

To import new geographic coordinates:

- Click the  button. An **Open File** dialog box will appear, allowing you to view all files with a .kml, .kmz or .shp file extension.
- Select the file containing the coordinates to be imported and click **Open**. QDA Miner will read the selected file and display extracted coordinates and other information about each location in a dialog box similar to this one:



The screenshot shows a dialog box with the following fields and table:

Save under: Major US Cities

Label: [Click here to create a custom label](#)

| NAME | STATE | COUNTY | LATITUDE | LONGITUDE |
|--------------|-------|------------------|------------------|-------------------|
| Autaugaville | AL | Henry County | 31.5721492767334 | -85.2505264282227 |
| Booth | GA | Wilcox County | 31.9926471710205 | -83.3064193725586 |
| Jones | LA | Vermilion Parish | 29.9751052856445 | -92.1347503662109 |
| Prattville | MS | Lafayette County | 34.5032501220703 | -89.5034255981445 |
| Bay Minette | SC | Abbeville County | 34.1785202026367 | -82.3788909912109 |
| Daphne | WI | Clark County | 44.9461212158203 | -90.3164901733398 |
| Fairhope | AR | Scott County | 35.0737190246582 | -94.1944198608398 |
| Foley | NM | Colfax County | 36.3048858642578 | -104.26139831543 |
| Fort Morgan | TX | Hill County | 31.8852500915527 | -97.0741577148438 |
| Gasque | VA | Craig County | 37.4294128417969 | -80.1391220092773 |
| Gulf Shores | WV | Upshur County | 38.9220352172852 | -80.3229293823242 |
| Lillian | NC | Bladen County | 34.5174560546875 | -78.7242736816406 |
| Loxley | TX | Carson County | 35.3934478759766 | -101.459587097168 |
| Northside | MD | Baltimore County | 46.4477081798878 | -96.73095703125 |

LABEL: <none>

- In the **Save Under** edit box, enter the name of the list in which those locations will be saved. If an existing list name is typed, the new locations and their coordinates will be added to that existing list.
- A **Label** for each location also needs to be specified. This label consists of data from a single column or a combination of several columns. When importing KMZ or KML files, this label is automatically set to the NAME of the placemark. For ESRI Shapefiles containing several text data, one needs to select columns that will be used to construct the label. To build such a label, click the **Click here to create a custom label** link. A dialog box similar to this one will appear:



The label may be changed by editing text in the **Label String** edit box. To insert the value stored in a specific field into the description, simply enter the column name (in uppercase letters) enclosed between braces. Alternatively, you can insert a column name at the current location by clicking the corresponding item in the **Column Names** list located just above the edit box.

If you enter the following string:

```
{NAME} , {STATE}
```

The `{NAME}` and `{STATE}` strings will be replaced with their corresponding column value for each location.

- To prevent the importing of specific locations, simply select those locations and press the **Del** key.
- Once all options have been set, click the **OK** button to proceed with importing.

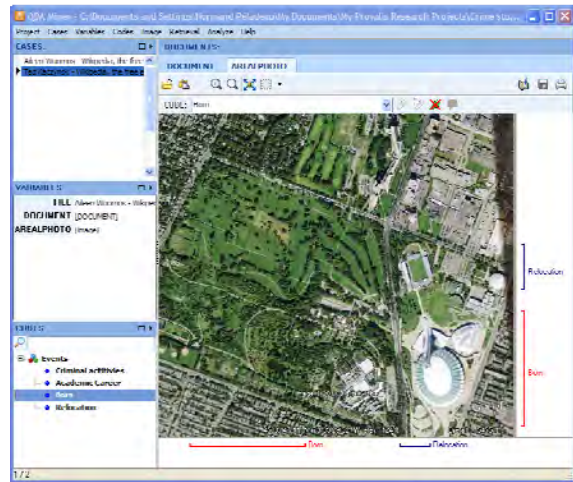
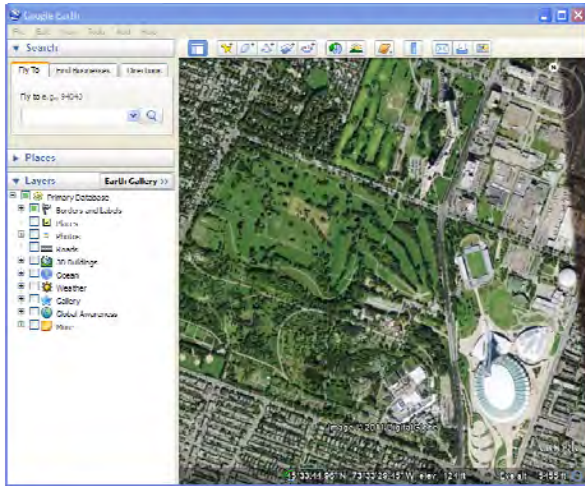
6. Miscellaneous Tips and Tricks

Support of advanced GIS features


The QDA Miner geo-tagging function only supports the assignment of a single geographic data point to a coded segment. One cannot assign any coding or text segment of multiple geographic locations, paths, shapes or any other advanced features available in geographic information programs such as Google Earth or ArcView (animations, layers, image overlays). One way around this limitation is to store those advanced features in a single KMZ or KML file or any application-specific file, and to create a hyperlink that will point to this file. Once created, clicking this hyperlink will automatically open the application associated with the file type and display the information stored in this file.

Geo-tagging satellite images

QDA Miner supports the coding of images. One typical application of image coding involving geographic information is the coding of satellite images to identify specific areas. To import and code satellite images, one simply needs to move images from GIS software like Google Earth into QDA Miner. One way to do this would be to save the satellite image to disk in a standard graphic format (JPG, BMP or PNG) and then import this file into an image variable in QDA Miner. A much easier way is to cut the image from the GIS software, move to QDA Miner, and paste it either in a document or in an image variable. Pasting it into an image variable allows one to tag specific sections of the map.



The screenshot on the left provides an example of an aerial view from Google Earth. To move this image from Google Earth (left) to QDA Miner (right):

- In Google Earth, cut this image by selecting the COPY IMAGE command from the EDIT menu, or use the CTRL+ALT+C shortcut.
- Switch to QDA Miner and select an image variable.
- Select the PASTE BITMAP command from the IMAGE menu, or click the  button located on the toolbar above the image area.