

Geocoding in NVivo with Google Earth

This document outlines the approaches for handling geocodes from geographic information systems in NVivo.

A GIS application (such as Google Earth) allows users to query, analyze, and edit spatial data against maps; and present the results of these operations. A geocode (geospatial entity object code) is a geospatial representation format that provides details of the exact location of a geospatial point, including latitude, longitude, and altitude.

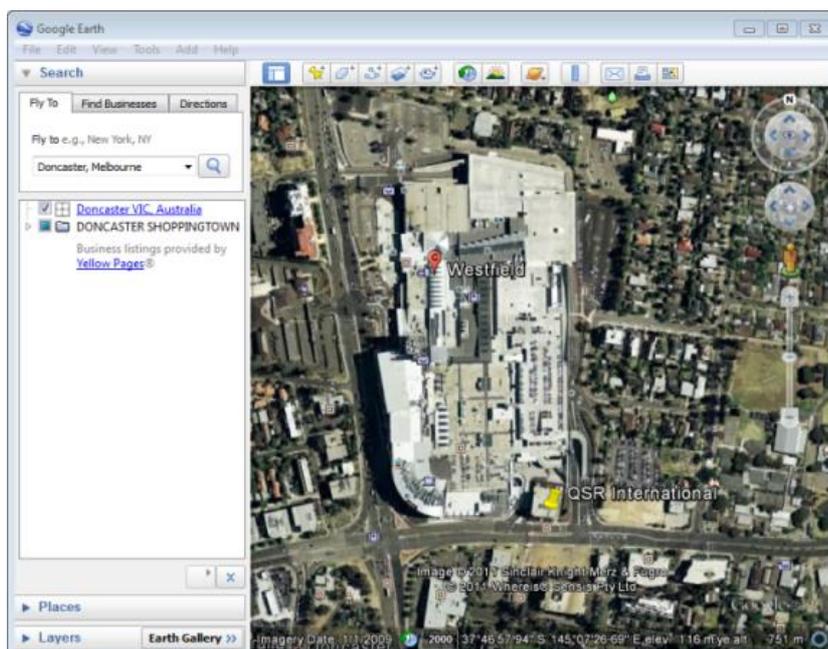
GIS may be used for resource management, archaeology, environmental impact assessment, urban planning, criminology, geographic history, and many other purposes. For example, GIS can be used by a researcher to help understand the impact of sustainable water management practices.

Installing Google Earth

- 1 Install Google Earth from <http://earth.google.com>
- 2 To access help and tutorials on using Google Earth, refer to the Help menu within Google Earth.

Creating geocodes within Google Earth

Within Google Earth, search for the location of interest. You can add Placemarks, Polygons, Photos or other adornments to a location within the map.



Once you have the information displayed in Google Earth that you would like to access within NVivo, you can save the location, with adornments of interest, as a KML (keyhole markup language) file or KMZ (compressed KML) file. Use a KMZ file if you intend to use overlays. Additionally, you can save the image as a JPG file.

To save the locations as a KML or KMZ file, on the **File** menu, click **Save**, and then click **Save Place As**.

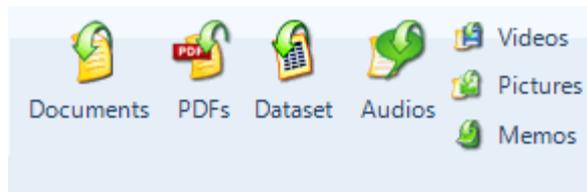
To save the image as a JPG file, on the **File** menu, click **Save**, and then click **Save Image**.

It is recommended that you save these files in a specific folder to easily access them, e.g. C:\Users\YourName\Documents\YourProject\.

Working with geocodes within NVivo

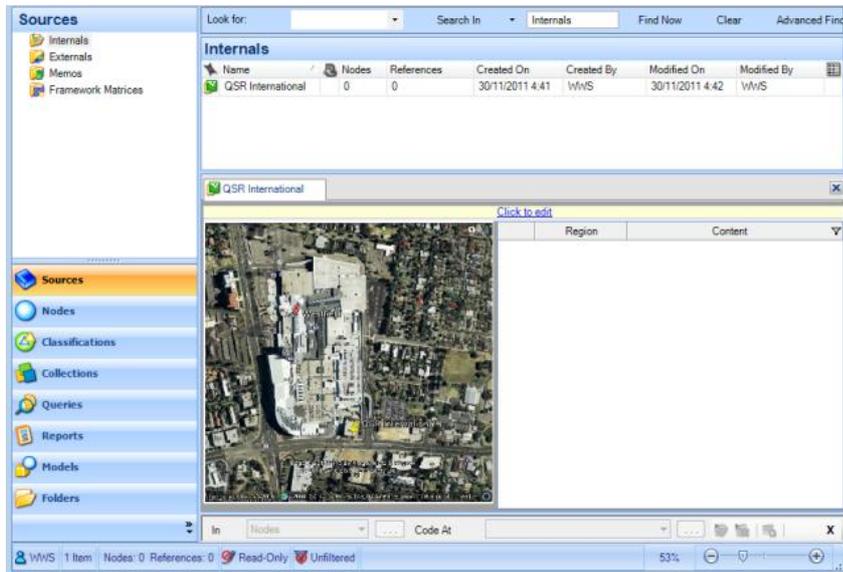
As an image source

- 1 On the **External Data** tab, in the **Import** group, click **Pictures**.



The **Import Internals** dialog box opens.

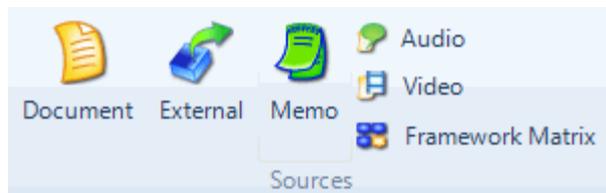
- 2 Under **Import from**, click **Browse** and then select the file you want to import.
- 3 Click the **Open** button.
- 4 Click **OK**. The **Picture Properties** dialog box opens.
- 5 (Optional) Change the name or enter description of the new picture source.
- 6 Click **OK**.



You can now code, annotate and link regions of the image.

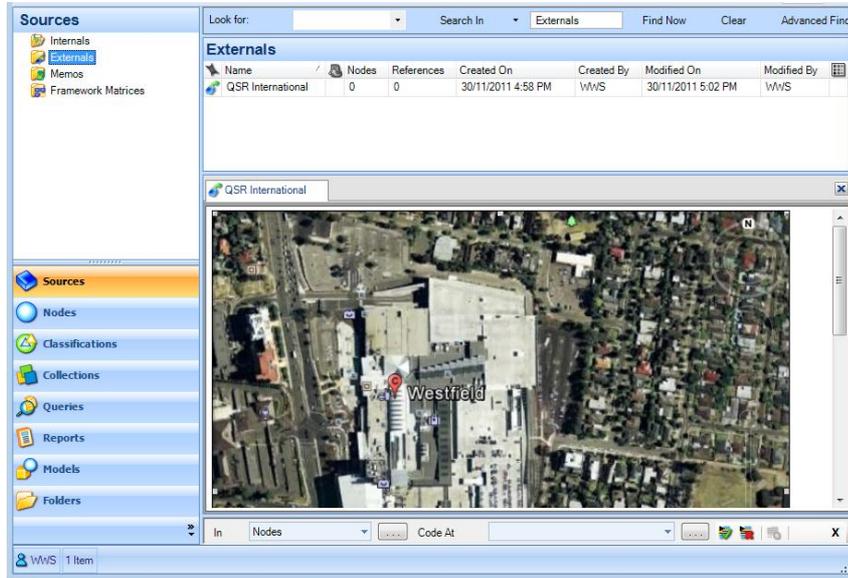
As an external source

- 1 On the **Create** tab, in the **Sources** group, click **External**.



The **New External** dialog box opens.

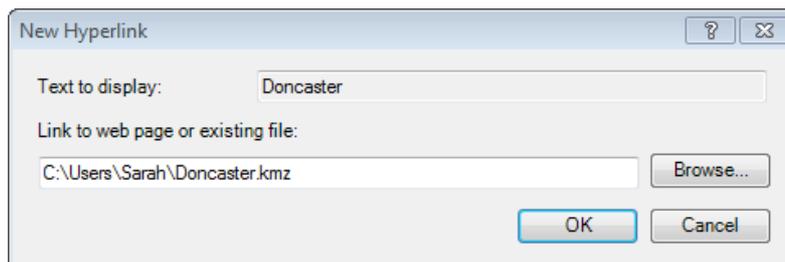
- 2 Enter a name for the external.
- 3 (Optional) Enter a description for the external
- 4 On the **External** tab, ensure that **File Link** is selected in the **Type** list.
- 5 Click the **Browse** button, and then locate and select your KML (or KMZ) file.
- 6 Click **OK**. The external is opened in Edit Mode and you can enter the content.
- 7 (Optional) The external is linked to the KML (or KMZ) file, but you can also include the location image as content within the External. To include the image, on the **Home** tab, in the **Editing** group, click **Insert**, and then click **Insert Image**, and then select the .jpg image file.



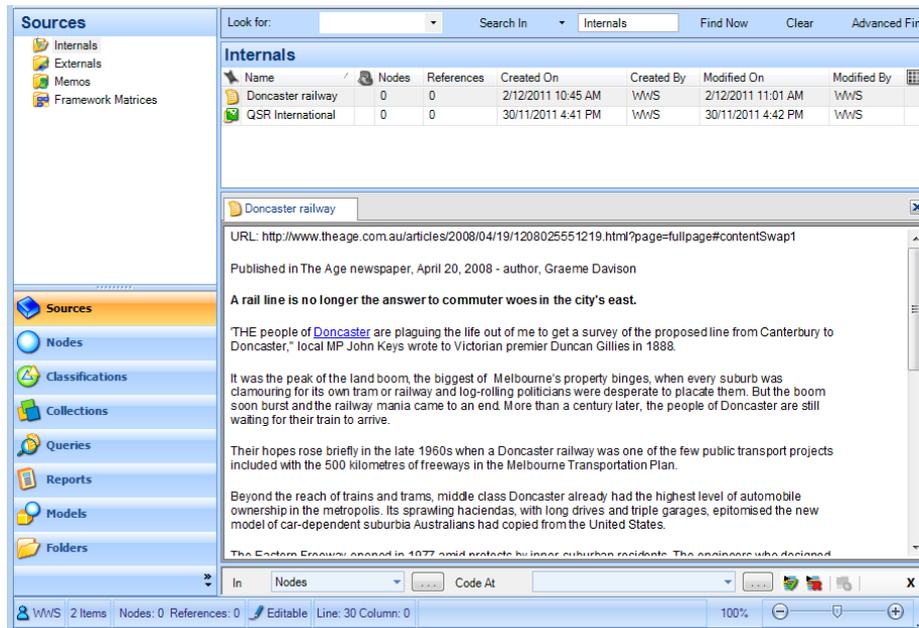
You can now add further content to the **External**, as well as code, annotate and link the content within the **External**. To open the location within Google Earth, right-click on the external and click **Open External File**.

As a hyperlink within a source

1 Select content within a Source Document and then on the **Analyze** tab, in the **Links** group, click **Hyperlink**, and then click **New Hyperlink**. In the **New Hyperlink** dialog box browse for the location of your KML (or KMZ) file and then click **OK**.



The selected content will now be displayed as a hyperlink within the Source Document.

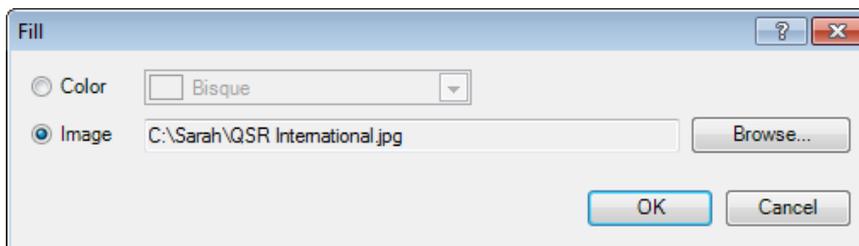


To open this location within Google Earth, click on the hyperlink, then on the **Analyze** tab, in the **Links** group, click **Hyperlink**, and then click **Open Hyperlink** (or alternatively hold down the control key and click the hyperlink).

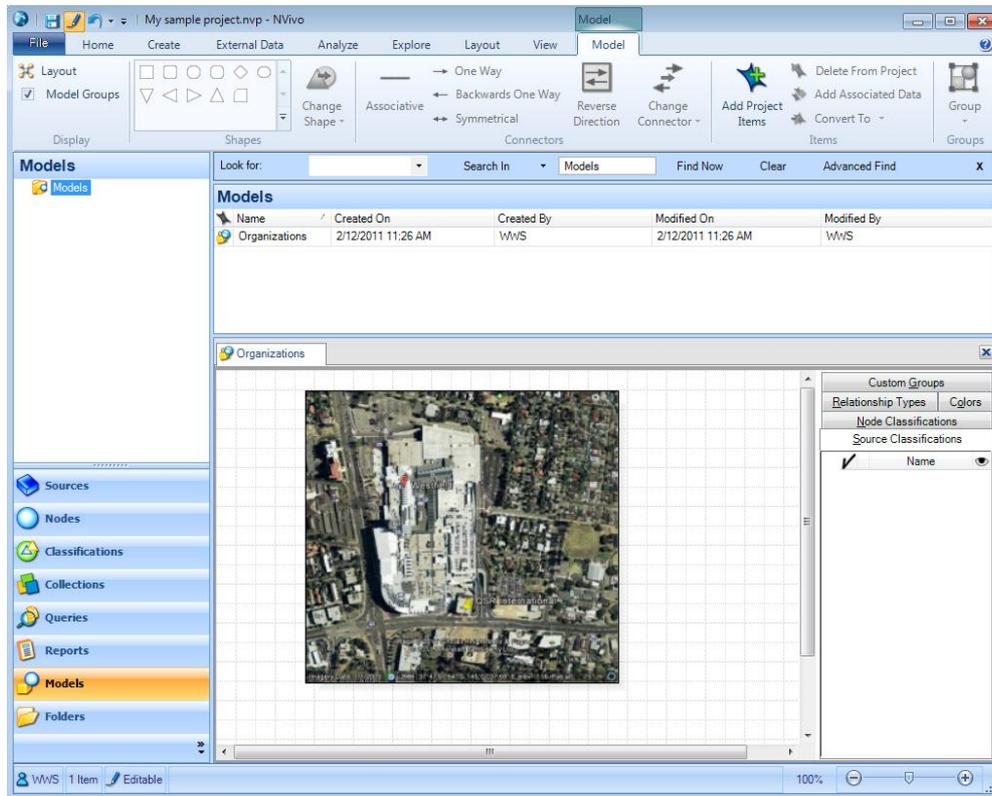
Other Source Types (audio, video, and pictures) can also contain hyperlinks within their transcript or log entries.

As an image within a model

- 1 Create a shape or add a project item (which can include sources) to a model.
- 2 Select the shape or project item within the model. On the **Home** tab, in the **Format** group, click **Fill**, and then browse for the location of your image (.jpg) file.



You can now link the shape or project item with other elements within the model.



Sharing geocodes with different project users

If your project is stored on a shared network location, other project users will be able access your project including your geocodes within KMZ files, if these are stored on a shared file location, e.g. N:\OurProject.nvp or N:\OurProjectExternals\.

If your project is stored on your own computer, you will need to copy both the project file and the externals folder to a device such as a USB key to enable other users to access both the project and the geocodes within KMZ files, e.g. copy the file
C:\Users\YourName\Documents\YourProject.nvp and the folder
C:\Users\YourName\Documents\YourProjectExternals\.

Sharing results

A Source Document can be exported as a document (.doc, .docx, .pdf, .rtf) or as a web page (.html) and all content is retained, including hyperlinks to GIS data. Additionally, an audio, video, or picture source can be exported as a web page (.html) and all content is retained, including hyperlinks to GIS data.

A model can be exported in a number of graphic formats including; jpg, bmp, gif or svg.

Issues to consider

It is important to acknowledge that satellite imagery and maps are updated over time and therefore things such as buildings may be demolished, refurbished, or built at different points in time. If the current state of the images is important to your research, then it is recommended that you save these as images and import them into your project.

It is important that you are aware of Google's end-user license agreement <http://earth.google.com/intl/en-US/license.html> and privacy policy <http://www.google.com/privacy.html> to ascertain if any ethical issues are raised in how you manage and store your spatial data.

Acknowledgements

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