Picture Mapper Pro

NRG Surveys Ltd

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Foreword

Picture Mapper Pro is a desktop application that allows a user to display georeferenced photos on a map and add custom comments to further classify the photos.

Picture Mapper serves as a tool to allow your project to achieve BIM compliance by providing the means to keep an up to date record of assets and their noteworthy attributes.

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Other NRG Software

NRG also develops a suite of Topographic and Ground Modelling software for Civil Engineering.

Details of the NRG software system can be found at http://www.nrgsurveys.co.uk/

The website contains a full download of the system and many supporting tools can be found within it that can be used in demo mode.

1. Creating a Project

It is recommended that users create a project when using Picture Mapper. A Project can be created by clicking the “Create Collection” Icon found on the “File” tab. After entering a valid name a project file will be created.

A project file allows you to keep track of various attributes of your collection so that they may be reapplied when loading your project. Such attributes include; Alignment, Grid Transformation, A collection of all photos loaded and the current state of the data grid.

1.1 Add a Photo

To add a photo to a collection. Click the “Import Picture” button and select the photo to be loaded. Currently Picture Mapper provides support for .jpg images.

Once a photo is selected you should see it populate the grid with the photo name and various other information. If the photo has valid geo location data, the photo will also be drawn onto the provided map.

Folders of photos can be added at once by clicking the “Import Folder” button and selecting a folder. Any .jpg photos found within the folder will be loaded into the collection.

1.2 Add an Alignment

Picture Mapper Pro provides the ability to view the location of photos in relation to a Geometric Alignment. This allows you to view the Chainage/Station and offset of any photo with a valid geo location without any additional calculation required.

To add an alignment to your project click the “Alignment” button found under the “View” Tab. Picture Mapper is capable of loading alignments from .XML (Land XML Format) and .NST (NRG Format) files.

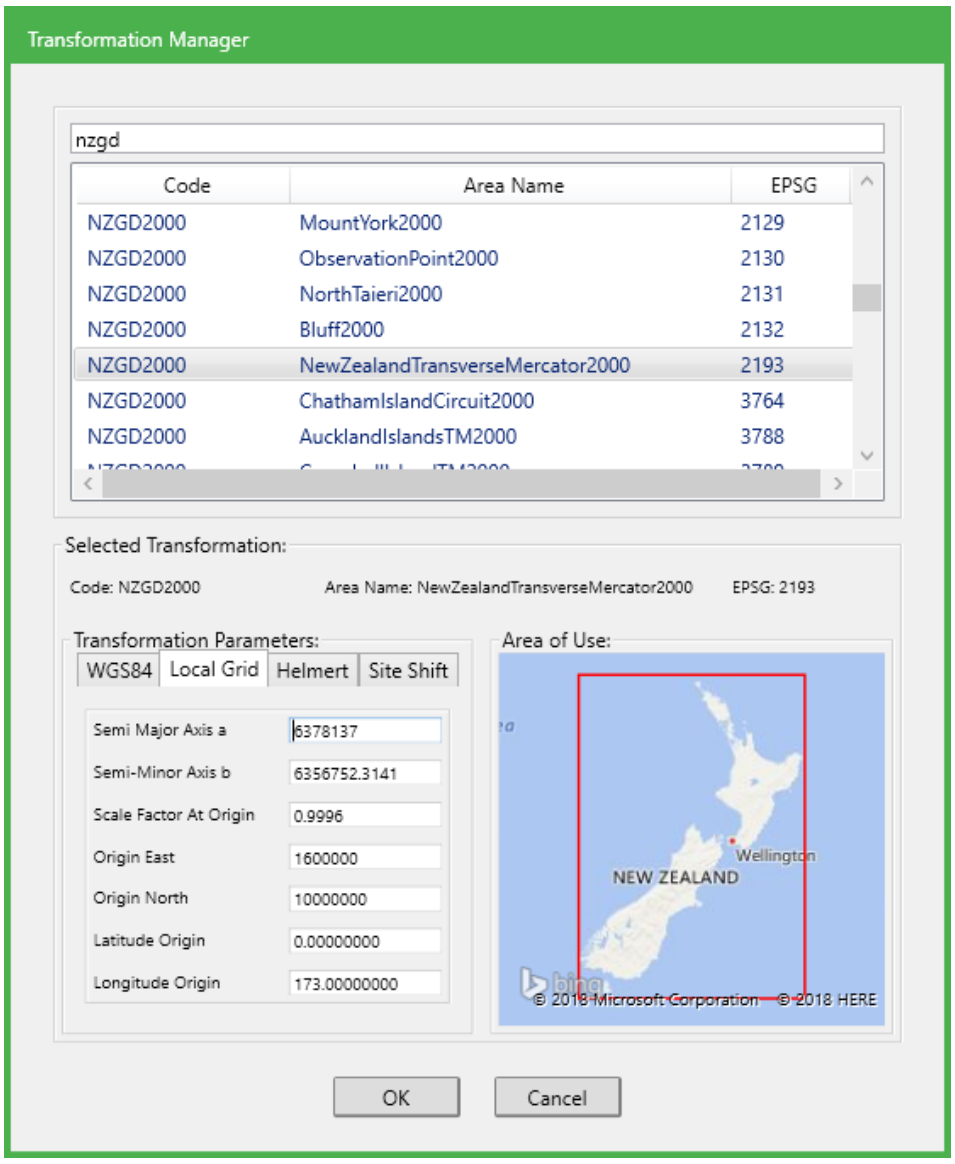
Once selected a visual representation of the alignment will be drawn on the map.

1.3 Choose a Transformation

Grid transformations allow Geodetic (Latitude, Longitude) coordinates to be converted to Cartesian (Easting, Northing) Coordinates. In order to ensure the Easting, Northing, Chainage/Station and Offset Coordinates displayed by Picture Mapper are accurate and relevant it is important to ensure you are using the correct Transformation.

By default, Picture Mapper will use the OSGB 36 Transformation, this can be changed by clicking the “Transformation” button found on the “View” menu.

You will then be presented with the Transformation Manager which allows you to select new grid transformations, viewing their area of use. The transformation manager allows you to create custom transformation with your own site scale and shift, if required. To do this select the base transformation you wish to use, then modify the parameters in the provided panel and click “Ok” to confirm the custom transformation.

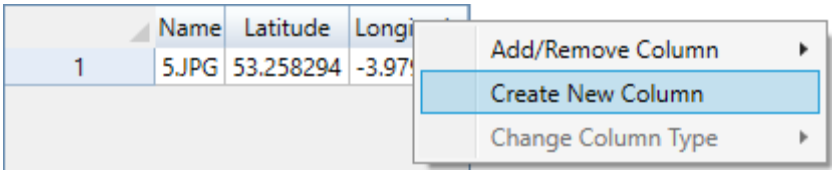


2 Photos

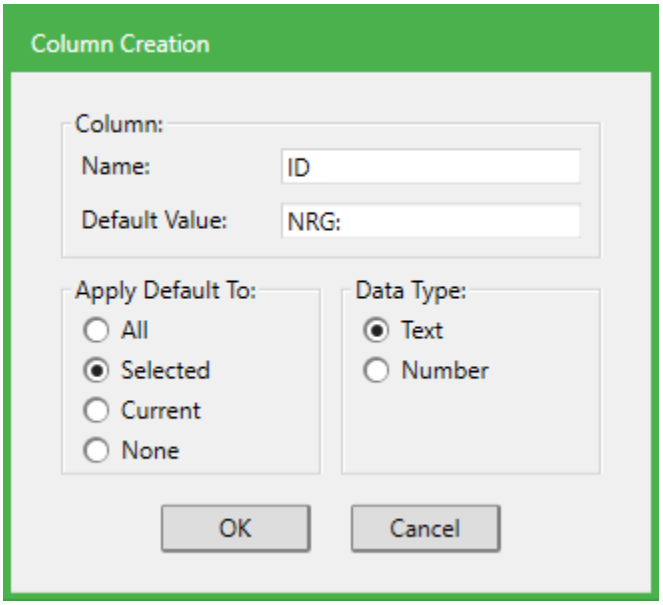
The primary objective of Picture Mapper is to make is simple and quick to add custom comments to further identify and describe your photos. To this end Picture Mapper has added a variety of features to assist in adding, removing and viewing photo data. All comments added to a photo through Picture Mapper is stored on the image itself removing the need to copy additional files with each image.

2.1 Adding Comments

To add a comment to a photo right click on one of the table column headers and click the “Create New Column” button as shown below:



You will then be prompted to enter information regarding the new column as shown below:



Name: Represents the name of the new column.

Default Value: This is an optional value that if set will be provided as the value for all photos you wish to apply the new column to.

Apply Default: Allows you to select which photos to apply the column to.

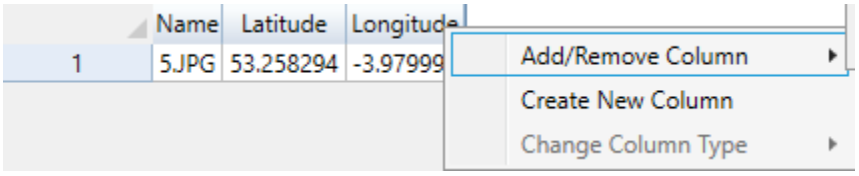
Data Type: Allows you to set whether the data should be text or a number, this determines what values you can enter into a column and how they are sorted.

3 Data Table

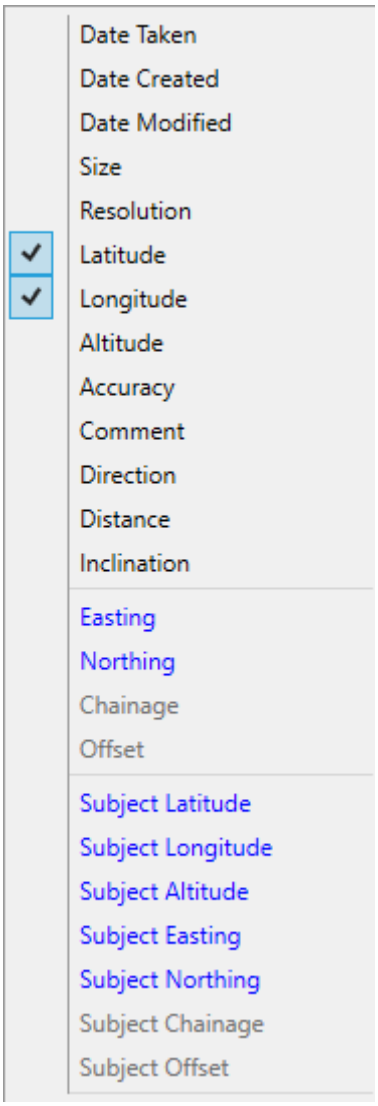
The data table is where all the information regarding each photo is shown. This is a key component of Picture Mapper and allows you to select which data should be displayed and in which order.

3.1 Adding / Removing Columns

Adding and removing columns from the Data table allow you to decide which information of each photo you wish to view. To add or remove a column, right click on a column header and hover over the “Add/Remove Columns” button as shown below:

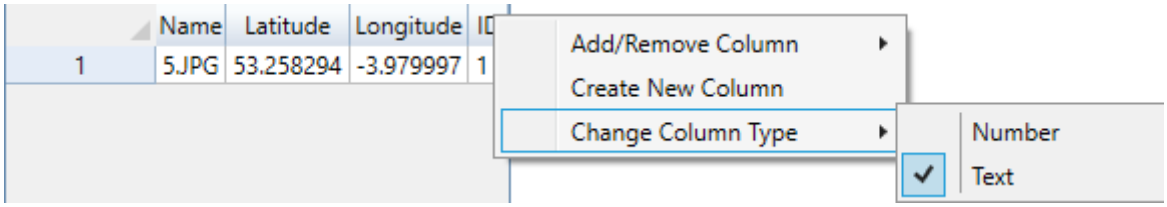


This will pop-out a menu like the one shown below. From here columns can be toggled on an off as required. Columns shown with Blue text are calculated values and won’t be stored on the photo itself.



3.2 Changing Data Types

The data type of a column can be changed by right clicking a column header and hovering over the “change data Type” button. From there the data type can be changed from text to number. This change can only be made on custom comment columns.

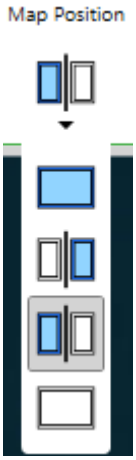


4. Map Window

The Map window provides an implementation of Bing Maps that allows the user to view their photos location in the world. In addition to this the Map window allows several more features including displaying the estimated subject location should a subject distance and bearing be provided. Clicking an image on the Map

4.1 Map Position

The position of the Map window can be changed by clicking the dropdown menu called “Map Position” as shown below:



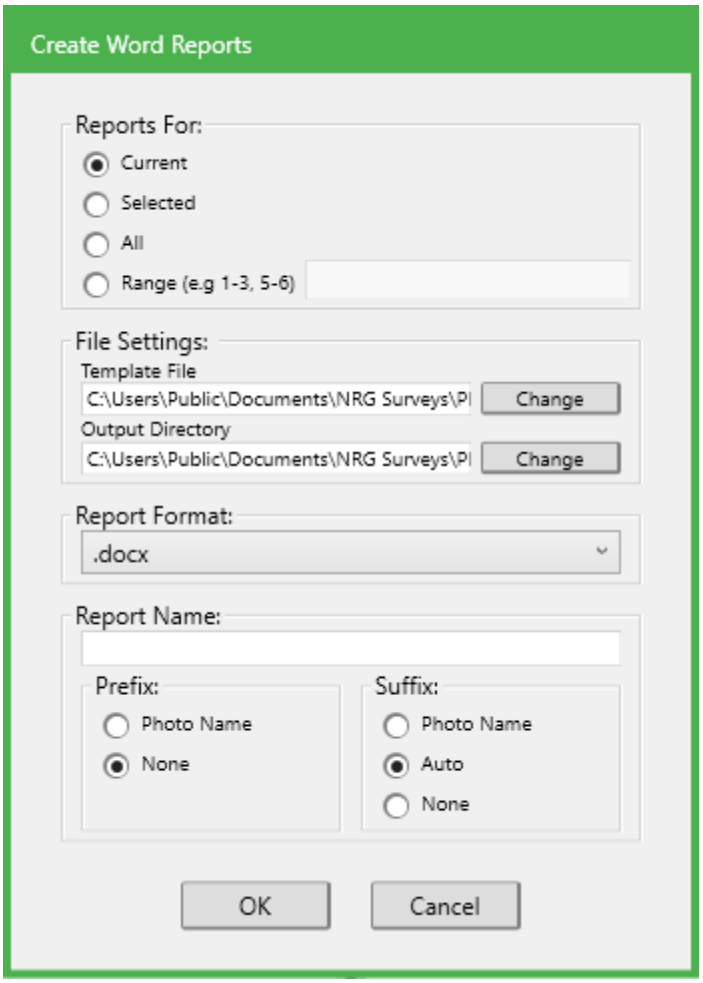
Currently there are 4 different Map positions; Left, Right, Full screen and No Map.

4.2 Map Mode

Picture Mapper currently supports 3 Modes; Satellite, Road and None. The mode can be toggled by clicking the “Map Mode” button and selecting the required mode

5. Report

Picture Mapper provides the ability to create reports for each photo through Microsoft Word (Word must be installed on the computer for this to work).



5.1 Templates

To create a report a template must be selected. We have provided an example template with the application for reference. This template can be found at "C:\Users\Public\Documents\NRG Surveys\Picture Mapper Pro\Templates". For ease of use it is recommended that templates be placed in this folder. Alternatively, a default template folder may be set in the options.

In order to create a template, the document must adhere to the following rules:

- To place an image on the document a text box containing the [Photo] tag must be created
- To place a location map on the document a text box containing the [Location Plan] tag must be created

- Adding a scale to the location plan must be done as follows: [Location Plan Scale@12500] where 12500 is the desired scale.
- Comments or parameters must be displayed within “<” and “>” in order to be replaced by the photo variable. For example <Name> will be replaced by the photo name.

A full list of the available comments is:

<Date Taken>

<Date Created>

<Date Modified>

<Size>

<Resolution>

<Latitude>

<Longitude>

<Altitude>

<Accuracy>

<Comment>

<Direction>

<Distance>

<Inclination>

<Easting>

<Northing>

<Chainage>

<Station>

<Offset>

<Subject Latitude>

<Subject Longitude>

<Subject Altitude>

<Subject Easting>

<Subject Northing>

<Subject Chainage>

<Subject Station>

<Subject Offset>

<Project>

<Transformation> -- Grid Transformation name

<String> -- Alignment String name

In addition, any custom comments added to a photo can be added to a template using the same format.