

Image2PhotoReal

Introduction: Have you ever had an aerial image (ortho-image) of a part or all of your real-life airport or nearby area that you knew would add a good deal of realism to your airport if only there were a way to include it? Well, it has always been possible. But, the task was very tedious and sometimes frustrating.

Not any more! Image2PhotoReal to the rescue!

Image2PhotoReal is a small NET Framework 4.5 application that requires you only to supply the ortho-image and any necessary masks, and accurately locate the real-world position of its/their upper-left and lower-right corners. Image2PhotoReal does the rest! It:

- automatically locates any mask files,
- processes the image,
- generates a file in .BGL format that can be read by Microsoft Flight Simulator® versions FS9 and FSX and all versions of Lockheed Martin Prepar 3D®.

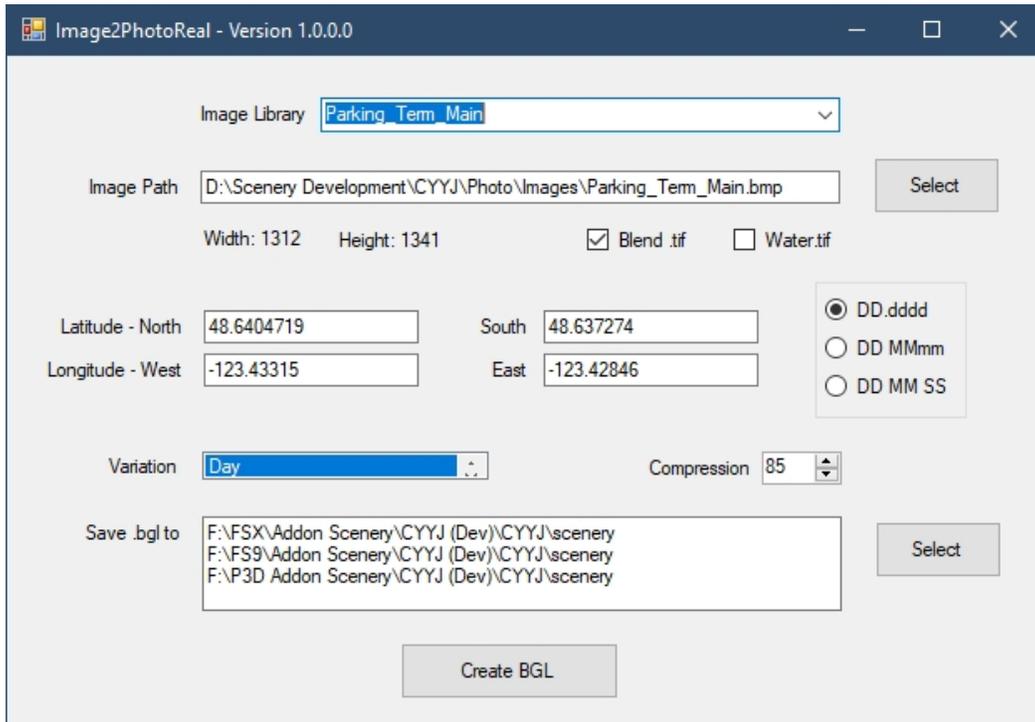


Image2PhotoReal

To install Image2PhotoReal, simply:

- create the folder in which it is to reside
- copy the downloaded archive into that folder, and
- add a copy of *resample.exe* (found in the Terrain section of the SDKs).

Image2PhotoReal does not affect the System Registry and, except as you may direct otherwise, does not affect the contents of any other folders.

To execute Image2PhotoReal, click on, or drag an ortho-image onto, *Image2PhotoReal.exe*. Image2PhotoReal “remembers” key settings from one sessions to the next and restores these settings upon startup. The settings are saved in the file *I2PR.ini*.

Overview: The key to Image2PhotoReal’s functional simplicity is its Library capability. The Library is a simple .XML file in the following format:

```
<?xml version="1.0"?>
<Images xmlns:xsi=http://www.w3.org/2001/XMLSchema-instance
  xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <Image file="D:\Scenery Development\CYYJ\Photo\Images\Parking_Term_Other.bmp">
    <Corners lat_N="48.64237" lon_W="-123.437482" lat_S="48.637276" lon_E="-123.43182" />
  </Image>
  .
  .
  .
</Images>
```

The advantage of the Library is it avoids having to navigate to the specific image file of interest and re-enter the corner coordinates. All files in the Library are held in and selectable from the Image Library combobox at the top of the dialog. Images that reside in the BMP sub-folder are shown as just the filename. Names of images that reside elsewhere are suffixed with the directory path.

You may create *Library.xml* by hand with a text editor or Image2PhotoReal will “bootstrap it for you as described later.

A word now on image file organization. In addition to the .EXEs, *I2PR.ini* and *Library.xml*, your Image2PhotoReal folder will contain three sub-folders: *Images*, *INF* and *BGL*. You are free to access image files from any location, but it may be convenient to save them all in *Images*. Image2PhotoReal creates intermediate .INF files for processing by *resample.exe*. INF files are saved in the *INF* folder and, once processed, the generated .BGL files are saved in *BGL* - , regardless of the location of the associated image files.

Making Photoreal: If your Library exists, select the image filename from the Image Library combobox. The full path to the image will appear in the Image Path textbox and Image2PhotoReal will determine and display the dimensions of the image. As well, the geographic location of the image’s upper-left and lower-right corners will be displayed. If you start by dragging an image onto Image2PhotoReal.exe or by navigating to an image, Image2PhotoReal will display the dimensions of the image but you will have to enter the corner positions manually. The corner positions may be stated in any of the three most common formats, both in the Library and on the screen. Base image files may be in Windows Bitmap (24-bit) format BMP, .TIF or TGA format

In any case, once the image file has been identified, Image2PhotoReal will search the folder in which it resides for associated “mask” files. “Mask” files are used to “blend” the image into the surrounding terrain or to add “water” on top of the base image. Mask files, when used, must be named as, the base image to which they apply suffixed with either “_Alpha” or “_Blend” for blend files and with “_Water” for LWM masks. (See the Terrain SDK for further explanation of these files.) Mask files must be the same size as the base image to which they apply and MUST be in .TIF format.

Images sizes need NOT be binary multiples (as applies to texture files) nor does the 1024 size limit apply in FS9. Image shape should be based on minimizing masked-out areas.

The default Variation entry is “Day”, but you may select any other single entry or combination of entries from the listbox. The Variation listbox expands when the mouse moves over it and contracts back to a single line when the mouse leaves. (Please refer to the resample.exe section of the Terrain SDK for an explanation of the entries in this listbox.)

The default value from Compression is 85 which, according to the SDK is the best compromise between the quality and filesize of the photoreal image. Once again, please refer to the Terrain SDK for a fuller discussion.

The final editable control on the dialog is a multi-line textbox labeled “Save .bgl to:”. The processed .BGL files are always saved to Image2PhotoReal’s *BGL* folder. But Image2PhotoReal will also distribute the .BGLs to one or more of your FlightSim \Scenery folders of your choosing (or anywhere else.) To add a folder to this control, use the associated Select button. Or, edit the field manually. Note, however, copying to these additional locations is not possible if the applicable versions of FlightSim are running or an earlier version of the .BGL is otherwise in use.

When ready, click Create BGL. If all is well, you will briefly see a black box with lots of text. That’s *resample.exe* “doing its thing”. Image2PhotoReal validates data as best it can. But, sometimes errors in data are not apparent. If you simply see a flash of a blank black box, that’s one of those cases and you’ll have to diagnose the error by examining the .INF file. (Reference to the resample.exe section of the Terrain SDK may be helpful.)

Following a successful compile of an image for which you have manually entered positional data you will be asked if you want to add that image to the Library. As well, should you attempt to shut-down or load a new file when the positional data on the dialog does not match the Library entry for the currently loaded file, you will be asked if you want to update the Library. Thus you are able to “bootstrap” and maintain the library without manual editing.

Overlapping/Adjacent Images:

1. Images should cover as large an area as practicable (without unnecessarily expanding image size) to minimize as much as possible the need to “stitching” adjacent images.
2. Position the corners as accurately as possible. Differences in position of the same feature in adjacent images of only 1 ft./30cm are noticeable.

3. The right/bottom edges of the photoreal images do not always appear *exactly* where you expect them to. Many available tools can locate with high precision the user aircraft. So, where images meet or overlap. Check to ensure the edge is where it should be and, if not, adjust the corners as necessary.

Enjoy
Don Grovestine (aka Gadgets)
Victoria BC
don@stuff4fs.com

June 2, 2021

End User License Agreement (EULA)

As used in this end user license agreement, the term "Image2PhotoReal" shall be construed as encompassing the full contents of the downloadable archive (.zip) file containing, without limitation: the executable file " Image2PhotoReal exe" and this user manual and any derivatives thereof.

You are granted a free, non-exclusive right solely to install and use Image2PhotoReal on your computer system(s) for your personal enjoyment to photoreal terrain images for use with Microsoft Flight Simulator® and Lockheed Martin's Prepar3D®, and to distribute such images in association with your own work product intended for use with Flight Simulator or Prepar3D.

You may not:

- upload Image2PhotoReal, whether or not modified, in whole or in part, to any file distribution system,
- reverse engineer, disassemble or decompile any part of Image2PhotoReal,
- incorporate Image2PhotoReal in whole or in part into any commercial product or facility, "shareware" or "freeware", or any other product or facility for which there is a charge of any kind, or
- use Image2PhotoReal in the development, marketing or support of, or incorporate derivative files in, any commercial product

without the express written permission of the author. Use as may be permitted for commercial purposes may be subject to a license fee.

Your use of Image2PhotoReal is entirely at your own risk. The author accepts no liability whatsoever for any damage arising from its use no matter how caused.

By downloading and installing this software, you are deemed to have agreed to the foregoing.

