
GEO Tagging

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Introduction

Photo Supreme is a **Digital Asset Management (DAM)** software designed to help you organize and manage your image files by categorizing them. It categorizes files based on available metadata, which includes technical details of the photos as well as their location on the disk. In addition to these attributes, you can add tags, enrich files with descriptions, and incorporate custom information. While this process may seem time-consuming at first, the long-term benefits are significant. With Photo Supreme, you can swiftly retrieve your images using various criteria or combinations.

GEO Tagging refers to the process of embedding geographical metadata into your images. This encompasses details like latitude and longitude, altitude, and location information such as city and country (known as geocoding). This manual will outline the GEO Tagging capabilities within Photo Supreme, which includes a dedicated panel for GEO tagging individual images or groups of images. Additionally, there are high-level options available for adding GEO Tag information to catalog labels; by simply assigning a catalog label to your images, the associated GEO Tag details will be applied automatically.

Photographers fall into different categories regarding GEO tagging practices. Some may not use cameras equipped with GPS chips or GPS recorders, opting instead to manually input GEO details by entering coordinates or selecting them from a map.

Another group of photographers utilizes cameras with built-in GPS recording capabilities, which automatically write GPS coordinates to the metadata of the captured images. Some of these cameras also provide additional location information, such as city or country. For those who prefer having GEO Tag information readily available, these GPS-enabled cameras are quite convenient, requiring only minor adjustments to coordinates or location details, especially in areas with unreliable GPS coverage.

Lastly, some photographers use cameras that do not record GPS coordinates and instead rely on separate GPS recording devices. These devices track and log coordinates at specific intervals, creating a series of recorded points over time. For instance, a GPS device might record coordinates every 30 seconds, generating a track-log that can later be used to align photos with their respective track-log entries by matching the timestamps of the images.

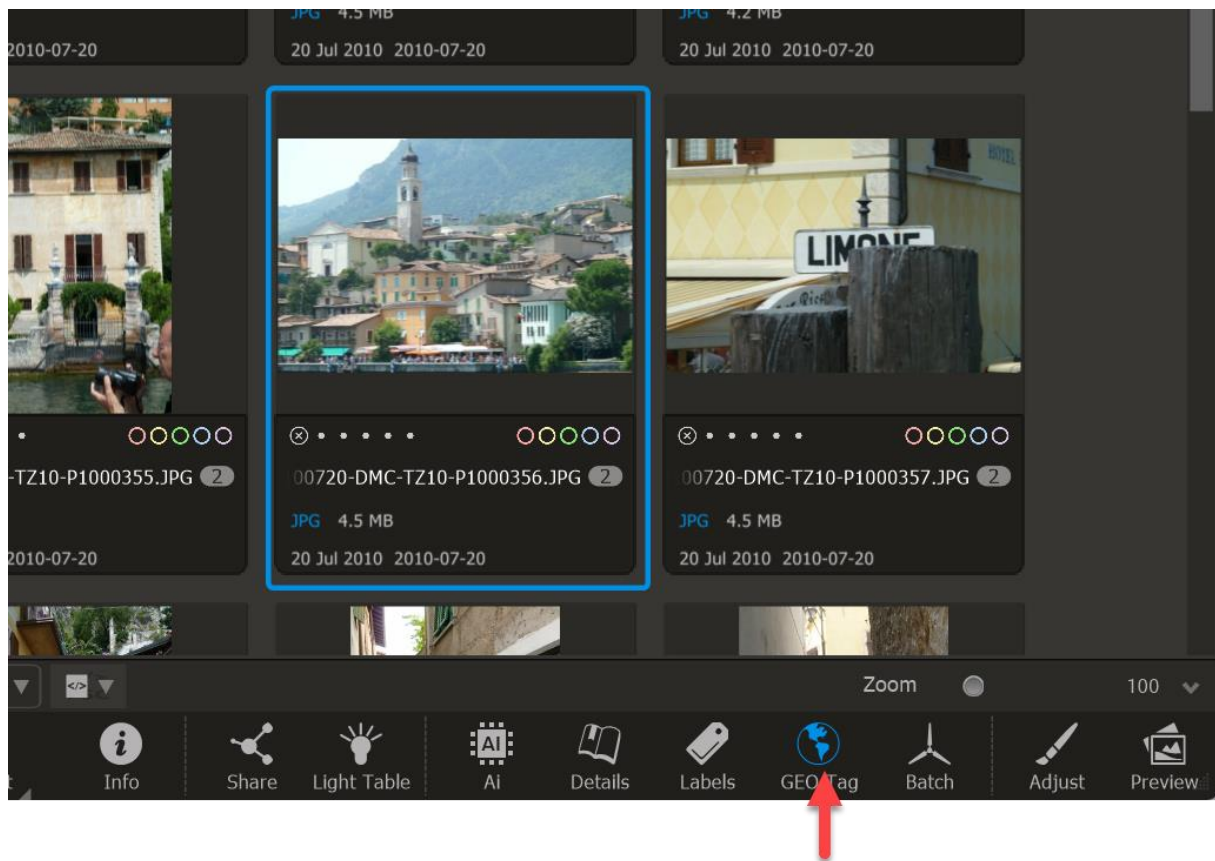
Photo Supreme provides features to support all three types of photographers in their GEO tagging needs.

Preparing the use of Google Maps

As of July 2018, Google mandates the use of an API key to access Google Maps services. To obtain your own API key, you need to sign up for Google Cloud. Instructions for this process can be found in the Quick Start Manual for Setting Up Google API. Once you have your API key, enter it in the Other Settings section of the Photo Supreme Preferences.

GEO Tagging individual images

This section explains how to GEO Tag individual images or groups of images. To generate GEO Tagging information for your images, use the GEO Tag panel. You can access this panel by clicking the appropriate button on the Command Bar located below the thumbnails.



As previously mentioned, there are three categories of photographers with different GEO tagging requirements:

1. Photographers who do not use any GPS recording.
2. Photographers who utilize cameras with built-in GPS chips.
3. Photographers who rely on external GPS recording devices.

Each group has distinct needs, and Photo Supreme caters to all of them. The first group can manually enter GEO coordinates, search for locations, and refine coordinates within Photo Supreme. The second group, whose images already contain coordinates, can use the

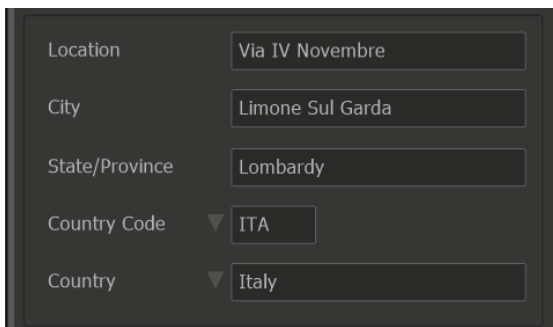
software to adjust those coordinates and look up additional location details, such as altitude. The final group can import GPX track logs into Photo Supreme to adjust coordinates and retrieve location information and altitudes.

The GEO Tag Panel consists of three main sections:

1. The upper section features the Map.
2. The middle section contains the Location Details.
3. The lower section displays the GEO Details.

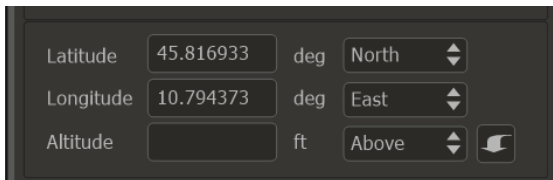


1. Map. The upper section displays the Map, which utilizes Google Maps for GEO tagging in Photo Supreme.



2. Location Details. The middle section presents the Location Details, which provide "real world" information such as the physical location, city, state, and country where the image was captured. You can input this information in two ways:

1. Manually enter the location details.
2. Retrieve the information using reverse lookup based on coordinates.
3. Access details from your saved favorites.



GEO Details. The lower section displays the GEO Details. You can input this information in several ways:

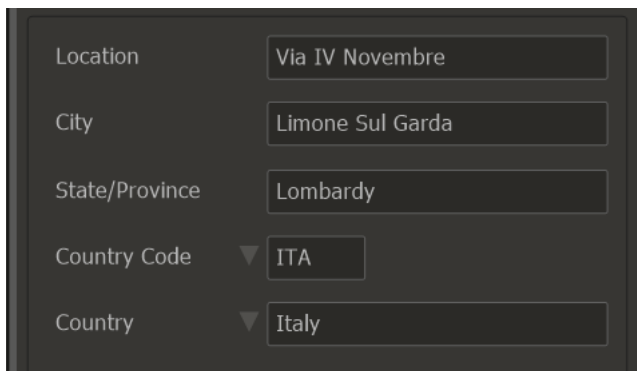
1. Manually enter the coordinates.
2. Obtain the coordinates based on the Location Information (forward lookup).
3. Import coordinates from another image file.
4. Copy and paste the coordinates from another image or mapping software like Google Maps.

5. Retrieve coordinates directly from the map.
6. Extract coordinates from a GPX track-log.
7. Use coordinates from your saved favorites.

The GEO Tag Panel functions for the files you have selected, whether it's a single image or a group of images. It's important to note that the GEO Tag Panel is designed to represent a single set of coordinates. When you select multiple images and input either Location or GEO details, that information will be applied to all selected images.

Manually input the Location Information.

This is the simplest method for entering Location Information. The Location Details section of the GEO Tag Panel is designed for specifying where the image was captured. Conceptually, it's important to differentiate between the actual location where the image was shot and the location depicted in the image. The location information in the GEO Tag Panel refers specifically to the former. Generally, this will align with what the image represents, unless you are using an exceptional lens, such as a 1200mm, or photographing a subject from a considerable distance.



The screenshot shows a dark-themed interface with the following fields:

Location	Via IV Novembre
City	Limone Sul Garda
State/Province	Lombardy
Country Code	ITA
Country	Italy

It is advisable to avoid entering the information manually and instead utilize the reverse lookup feature, which will be explained in the following chapter of this manual. With reverse lookup, the Location Details will be automatically populated based on the provided coordinates (latitude/longitude pair). If you find that the retrieved information is inaccurate or requires minor adjustments, you can always modify the details afterward.

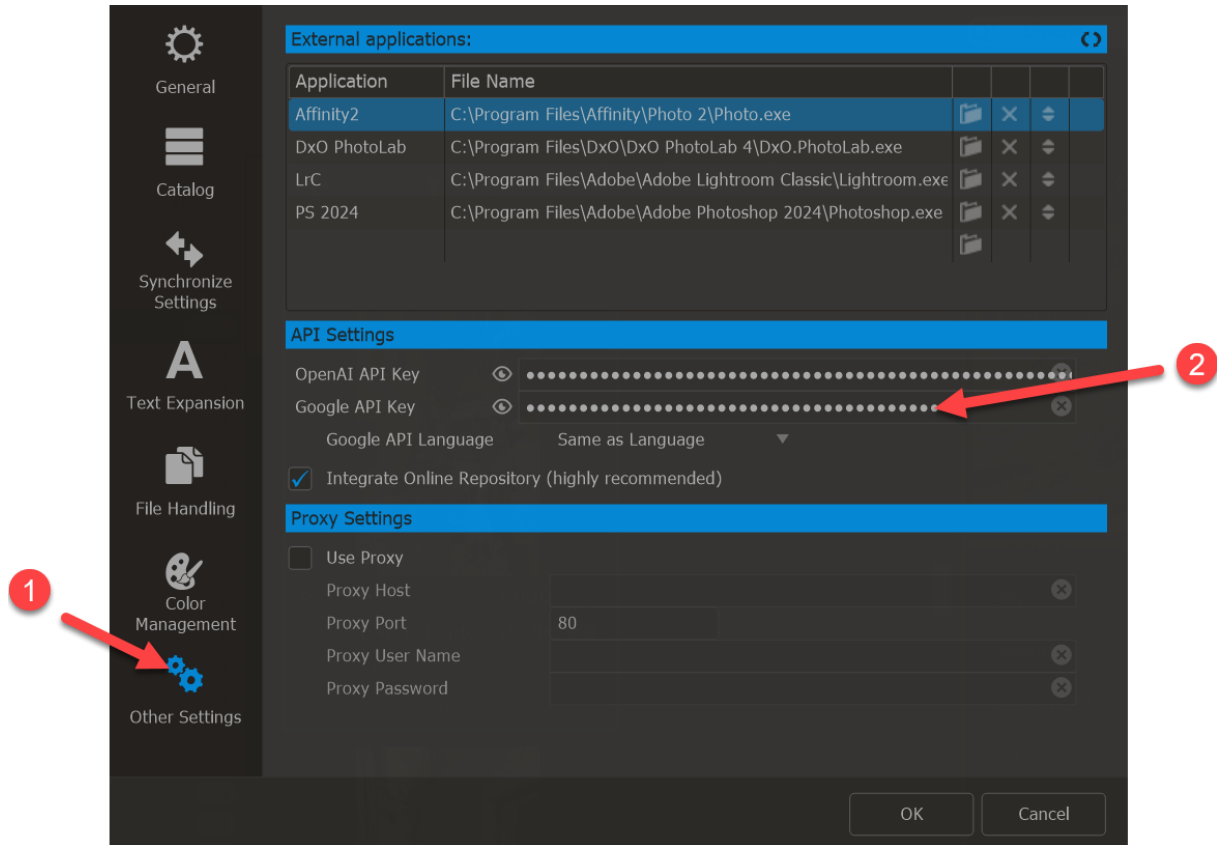
Get the details based on coordinates (reverse lookup).

You can obtain the Location Details using existing coordinates through a process known as a “reverse lookup.” During a reverse lookup, the entered GPS coordinates are queried online, and the corresponding location details are returned. Photo Supreme relies on the Google Geocoding Service for this task, ensuring high accuracy.

To utilize Reverse and Forward lookups in Photo Supreme, you will need to acquire your own personal API key from Google. You can begin this process here:

<https://manualsu.idimager.com/version10/QuickStart-SetupGoogleAPI.pdf>

After obtaining your own Google API key, enter it into Photo Supreme's Preferences. You can find this setting in the Other Settings section.



Performing a reverse lookup is as simple as clicking a button. After entering the GPS coordinates for latitude and longitude, just click the “Reverse” button.



This action will fill in the Location Detail fields by querying the Google Maps Reverse Lookup services.

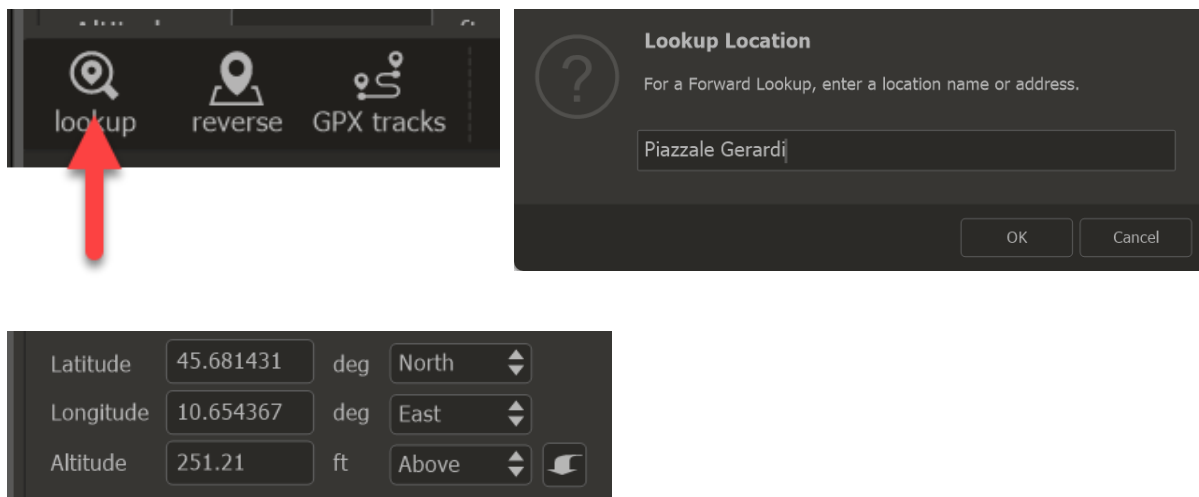
Enter the coordinates by hand

Some photographers may not have a GPS recording device or a GPS chip in their camera, or there may have been no GPS fix available at the time of capture. In such cases, you can manually input coordinates. However, entering long number strings by hand can be cumbersome. You can type the coordinates directly into the Latitude and Longitude fields and specify whether the latitude is North or South and whether the longitude is East or West. After entering the coordinates, click the “Reverse” button to look up the corresponding location details.

That said, manually entering coordinates can be tedious, and there are more efficient methods. You can perform a forward lookup using location information to retrieve coordinates, or simply copy and paste coordinates from your preferred mapping software or website.

Get the coordinates based on the Location Information (lookup)

When you have some basic information about an image, you can use it to find the corresponding coordinates. Simply click the “Lookup” button and input the partial details you possess. This action will query the Google GEO Services to retrieve the matching coordinates, along with any missing Location Details associated with the information you've entered.



Copy/paste the coordinates from either another image or from Maps software like Google Maps

Another method for obtaining coordinates is by copying them from a different image. Here's how to do it:

1. Select the image containing the desired coordinates.
2. Open the GEO Tag Panel.

3. Click the **Copy** button.
4. Select the image to which you want to transfer the coordinates.



You can also copy and paste coordinates from other software. The key requirement is that the coordinates copied to the clipboard must be in the latitude, longitude format (with a comma separating the values) and should use the international “period” decimal separator for both latitude and longitude. For example: **40.691312,-74.04393**.

To copy and paste coordinates from the Google Maps website, follow these steps:

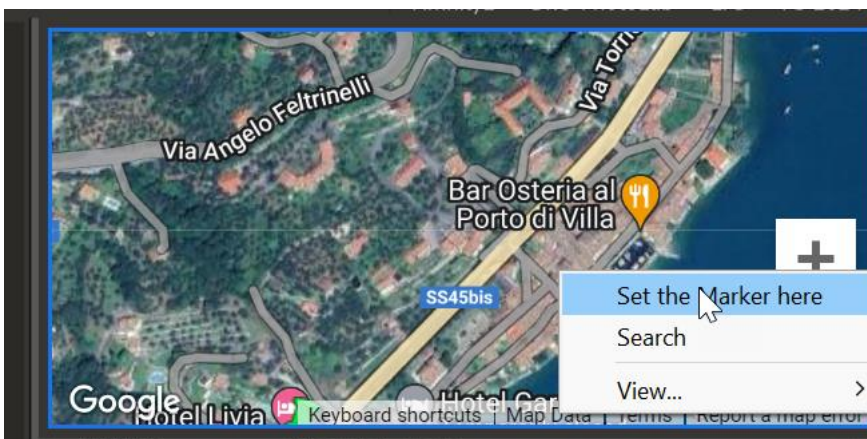
1. Open Google Maps (there’s a button in the GEO Panel).
2. Locate the desired spot on the map as you normally would.
3. Right-click on the map.
4. Select "What's Here."
5. Copy both coordinates from the Maps search bar (ensure you select them both).
6. Paste them into Photo Supreme.

Get the coordinates directly from the map

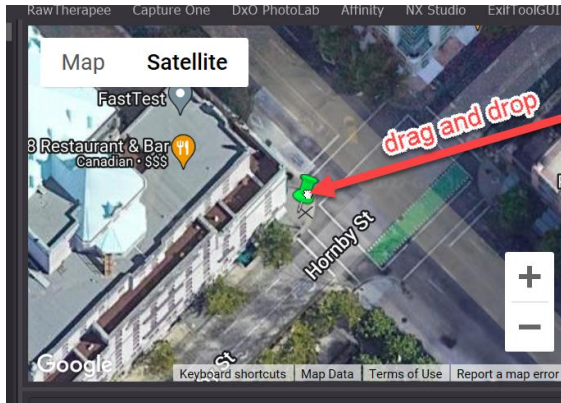
When your computer is connected to the internet, the top section of the GEO Tag Panel displays a map area. You can move the map to any location by dragging it around.

TIP: Right-click on the map and select "Search" to find a specific location.

To copy the coordinates from a precise spot on the map, right-click on the map background and choose “Set the Marker Here”. This action will capture the coordinates of the location where you right clicked.

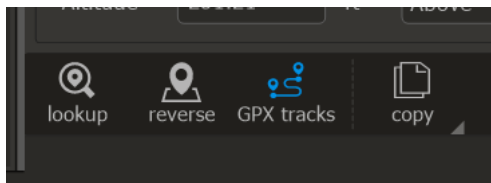


Another method to obtain updated coordinates is by dragging the pin marker on the map. Once you drop the marker, the corresponding coordinates will automatically populate in the GEO Details section.

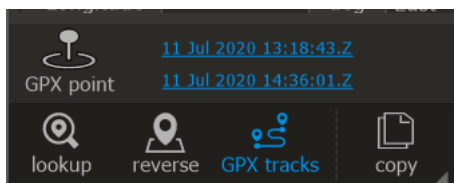


Read the coordinates from a GPX track-log

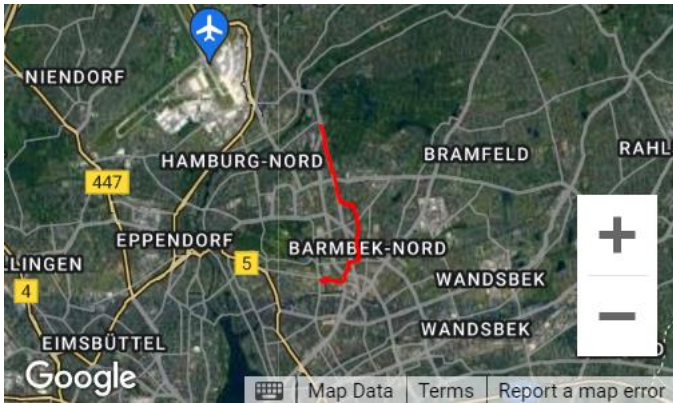
A GPX track log is generally recorded using a separate GPS device, which can either be a dedicated tracker or a highly rated GPS tracking app on a smartphone. Regardless of the type of recorder you use, it generates a file containing a series of coordinates recorded at specific intervals, typically formatted in the widely used GPX format. Photo Supreme can read these GPX files and align your photos with the track log to extract the relevant coordinates for each image. In the GEO Tagging panel, you can load one or more GPX files by clicking the “GPX tracks” button located below the Location Details.



This opens a file selection dialog where you can choose one or more of your GPX track logs.



After loading the GPX tracks, Photo Supreme shows the time range of the entire track log. For example, in this instance, the track spans from July 11, 2020, at 13:12:43 to July 11, 2020, at 14:36:01. The times are displayed in Zulu time, which corresponds to GMT offset 0. Additionally, the track is represented visually on the map.



Since the track log will be utilized to map photos onto it, ensuring that the recorded time of the track log aligns with the camera's recorded time is crucial. If you're uncertain about the synchronization, you can adjust the times accordingly. Click on the time frame of the GPX track to modify the times. This step is necessary only if the time on your camera differs from that of your track log.

When recording time/coordinates with a GPS recording device, it sometimes happens that the time of the camera isn't calibrated and as a result the time of the GPS recorder will not match with the photo timestamps.

Here you can correct your camera time. Enter the current time of your camera and the difference will be calculated

This is the current time on my camera:

This is the time difference needed:

Years	<input type="text" value="0"/>	Hours	<input type="text" value="0"/>
Months	<input type="text" value="0"/>	Minutes	<input type="text" value="0"/>
Days	<input type="text" value="0"/>	Seconds	<input type="text" value="0"/>

In the dialog that appears, you can synchronize your camera's time. Ensure that the time matches the current location. After making the necessary adjustments, click OK.

You are now set to assign coordinates from the track log to your selected photos. The GPX track log will stay loaded, even if you choose different photos.

Next, select a photo thumbnail for which you wish to assign coordinates from the track log. Then, click the “GPX Point” button. This action will align the photo's date with the track log's date and retrieve the most accurate GPS coordinates from the log.

Get the coordinates from a Favorite

The GEO Tagging Panel enables you to create Favorites, which are sets of information that you can save for future use. A Favorite includes not only coordinates but also the location details at the time it was saved. To save a Favorite, click the Favorite button and choose “Store as new Favorite”.

To access the details of your saved Favorites (including coordinates and location information), click the Favorites button and select the desired favorite from the dropdown menu.

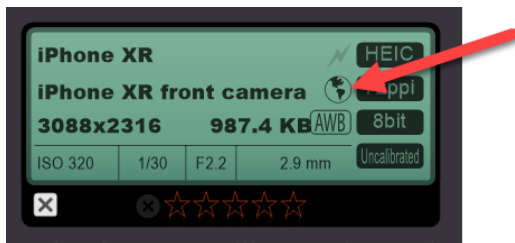
GEO information on thumbnails

Once you have GEO-tagged images, you can easily display this information on your thumbnails using Custom Thumbnail Information. Here's how to do it:

1. Click the Thumb Button in the Settings Bar located beneath the thumbnails.
2. Check the option for “Show custom thumb info.”
3. In one of the lines, click the dropdown arrow on the right.
4. Select “Image.”
5. Choose “Image Has GPS.”

This will display a “Yes” or “No” on the thumbnails, indicating whether the image contains GEO coordinates.

TIP: The Info Panel also features a GPS Indicator that lights up if the selected image has GEO coordinates.



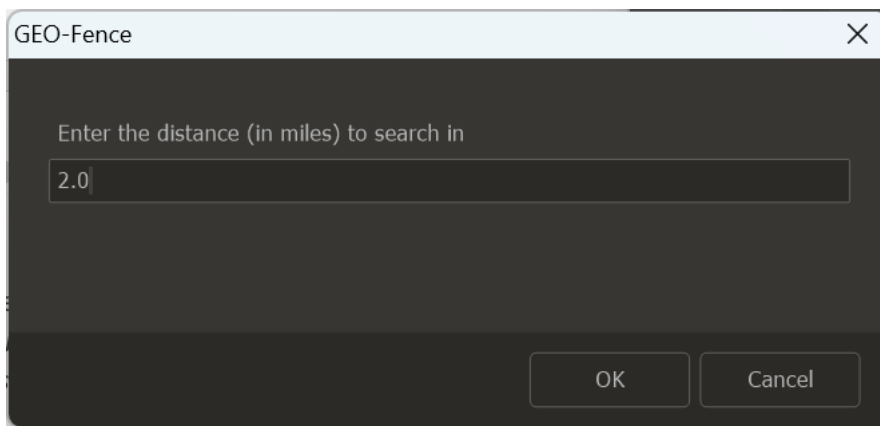
Working with GEO Fences

From Wikipedia: *A geofence is a virtual perimeter for a real-world geographic area. A geofence could be dynamically generated (as in a radius around a point location) or match a predefined set of boundaries (such as school zones or neighborhood boundaries).*

In simple terms, a GEO Fence is like creating a boundary around a specific point or location. It's similar to putting a fence around your garden, with your house at the center. The distance of the GEO Fence represents how far out from the house the fence extends.

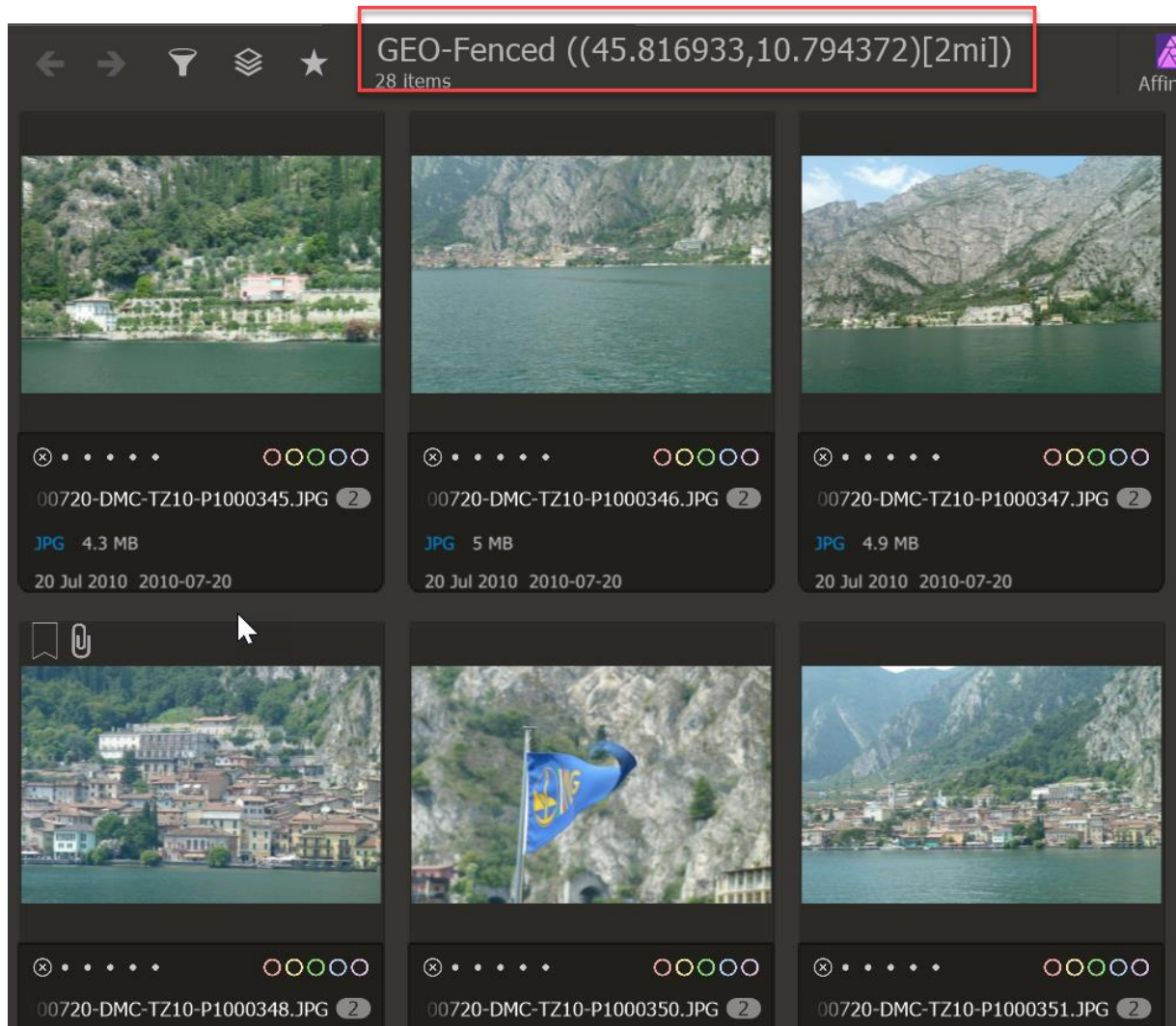
After you have GEO-tagged your images in Photo Supreme, whether using a camera, GPS recorder, phone app, or another method, each image will have a defined point location. Since GEO coordinates can be tricky to remember or work with, it can be challenging to find your GEO-tagged images. This is where GEO Fences become useful.

In Photo Supreme, you can start from a specific location and create a GEO Fence around it. You usually begin with an image that has coordinates. Select the thumbnail of that image, right-click on it, and choose **Show More > Nearby Images (GEO-Fence)**. This will bring up the GEO-Fence dialog.



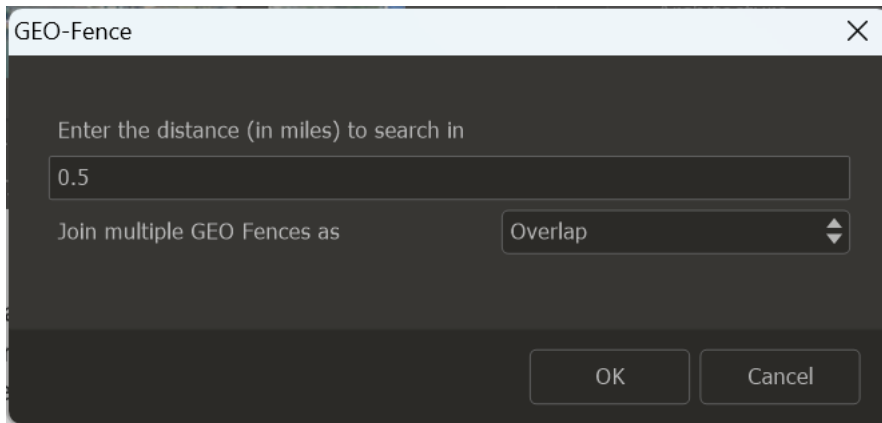
This is where you specify the location for the GEO Fence around the GEO coordinates of the selected image. Enter the desired distance radius for your search; for example, you might choose a radius of 2 miles. Keep in mind that the measurement unit (miles or kilometers) will depend on your settings for the "Measurement System".

Once you've set the distance, click **OK** to begin the search for images within this GEO Fence. The Collection title will display the GEO Fence's center point along with the specified distance radius.



This is the easiest way to utilize GEO Fences. From this point, you can save the GEO Fence as a Favorite, incorporate it into a Dynamic search, or use it as a Catalog Filter to analyze your catalog based on the GEO Fence.

Additionally, you can create GEO Fences for multiple selected images. For example, you might want to define a GEO Fence that combines a radius around your home with a radius around your favorite hangout spot. To do this, select two or more images with GEO coordinates, then right-click on one of the thumbnails and choose **Show More > Nearby Images**.



You can now set the distance and specify how the GEO Fences should be combined. The available options are:

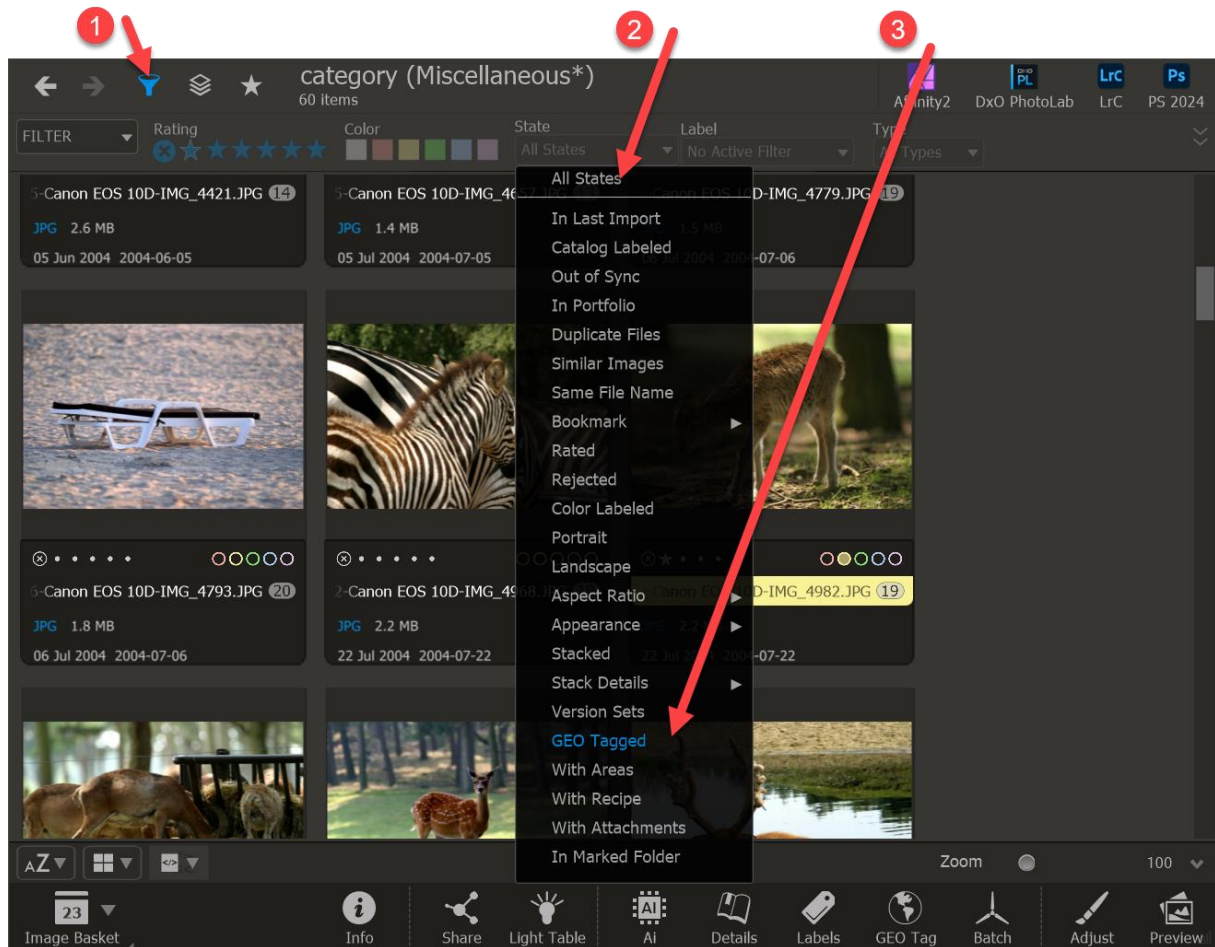
- | | |
|------------|---|
| Overlap | <i>This option will utilize only the intersecting region of the GEO Fences. In other words, if the GEO Fences overlap, the search will focus on the shared or overlapping area.</i> |
| Individual | <i>This option ensures that results from each GEO Fence are returned, regardless of whether the regions overlap.</i> |

Finding images with or without GEO Tagging

You can directly access all images with or without GEO tag information in two ways.

Filter on GEO Tag

Every collection of images can be refined using the Filter Bar. For narrowing down images based on whether they are GEO tagged or not, the Filter Bar offers an option to filter by status. In this section, you can apply a filter for “GEO Tagged” or “Not GEO Tagged”. More details about advanced filtering options are covered in the Advanced Filtering manual.

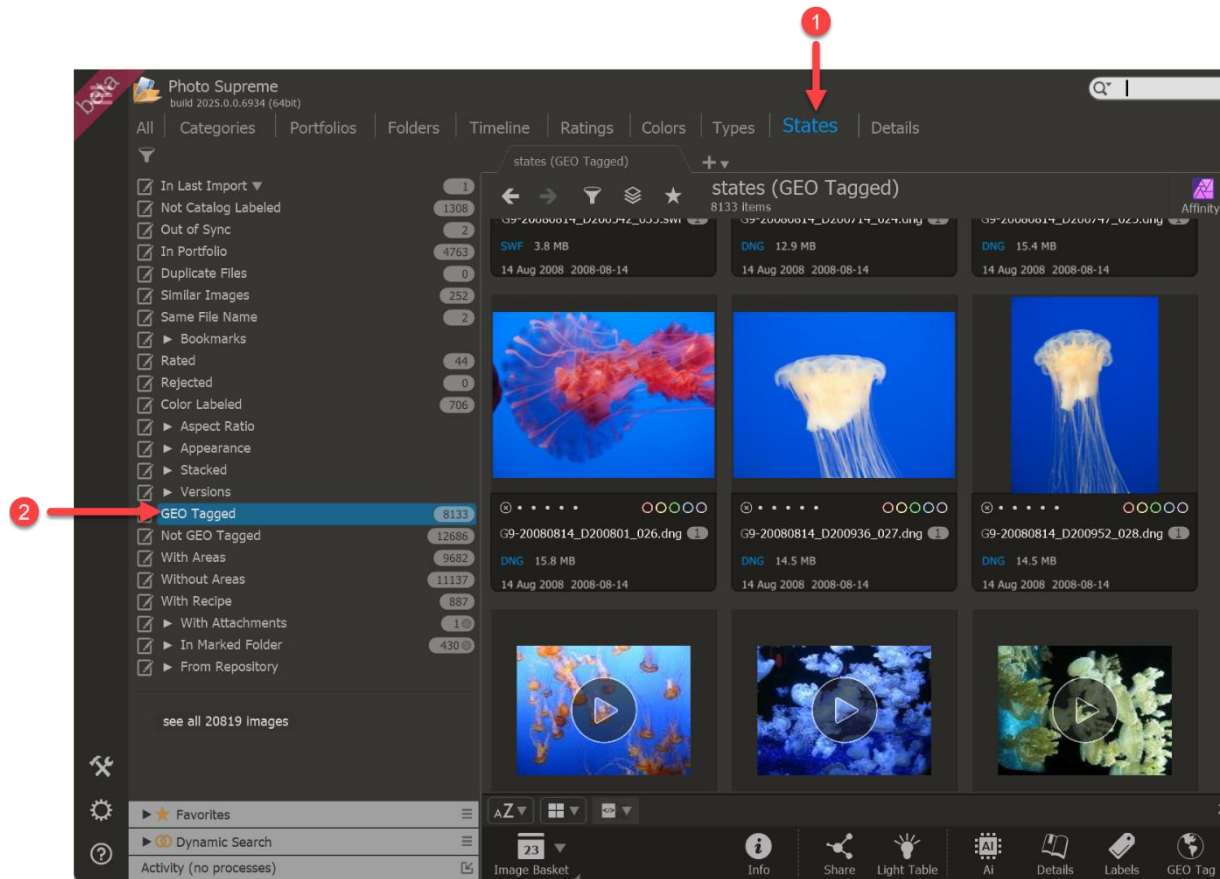


When selecting the state while holding down the **Alt** key on the keyboard, the filter will be inverted. For example, if you originally choose “GEO Tagged”, holding the **Alt** key will switch the selection to “Not GEO Tagged”.

All GEO Tagged images

The fastest way to access all images with GEO tags is through the **Catalog States**. One of the available states allows you to view either **GEO Tagged** or **Not GEO Tagged** images. To open the **Catalog States**:

1. Click on the **States** section in the **Catalog Sections**.
2. Select the entry for **GEO Tagged**.



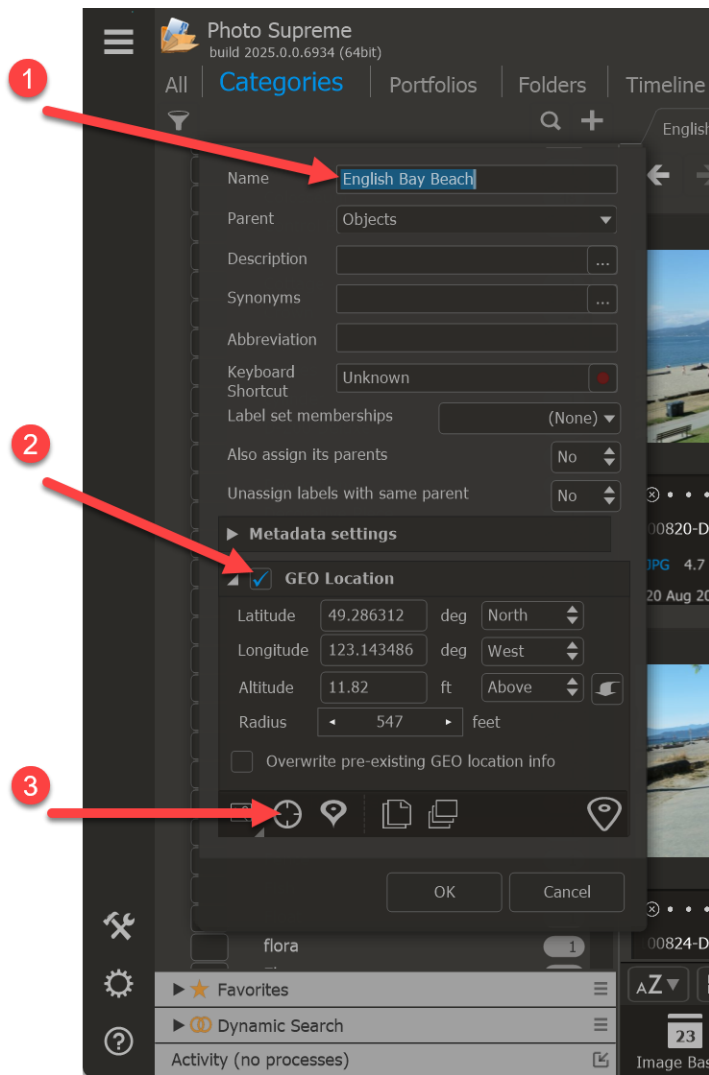
Integrating GEO Tagging with Catalog Labels

Catalog Labels in Photo Supreme act as "tags" for your images, often representing content like people, places, or events. Some of these labels may correspond to physical locations, such as:

- A place, city, or neighborhood (e.g., "Staten Island")
- A specific landmark (e.g., "Space Needle")
- An object (e.g., "Tower")
- A tourist attraction (e.g., "Times Square")

Photo Supreme allows you to assign GEO details to a **Catalog Label**. When that label is applied to an image, the GEO coordinates are added to the file during synchronization. This feature is useful when you don't have GPS coordinates but still want some level of GEO tagging.

To add GEO details to a Catalog Label, either create a new label or open the details of an existing label (right-click on the label and select **Details**).



The easiest way to retrieve coordinates for a Catalog Label is by using the "Lookup" button. This feature will use the details you've already entered to find the corresponding coordinates. For example, when creating a Catalog Label for the English Bay Beach in Vancouver, you can enter this in the **Lookup** option to perform a forward lookup (retrieving the coordinates for a location). The system will instantly find the location, and the coordinates will automatically be filled in.

Alternatively, you can enter the coordinates manually, copy/paste them from the GEO Panel, or copy/paste coordinates from Google Maps.

One important setting to note is the "Overwrite pre-existing GEO location info" checkbox. If this is checked, applying the Catalog Label to an image that already has coordinates will overwrite those coordinates when the metadata is saved. In most cases, you'll want to leave this unchecked to protect any previously recorded coordinates.

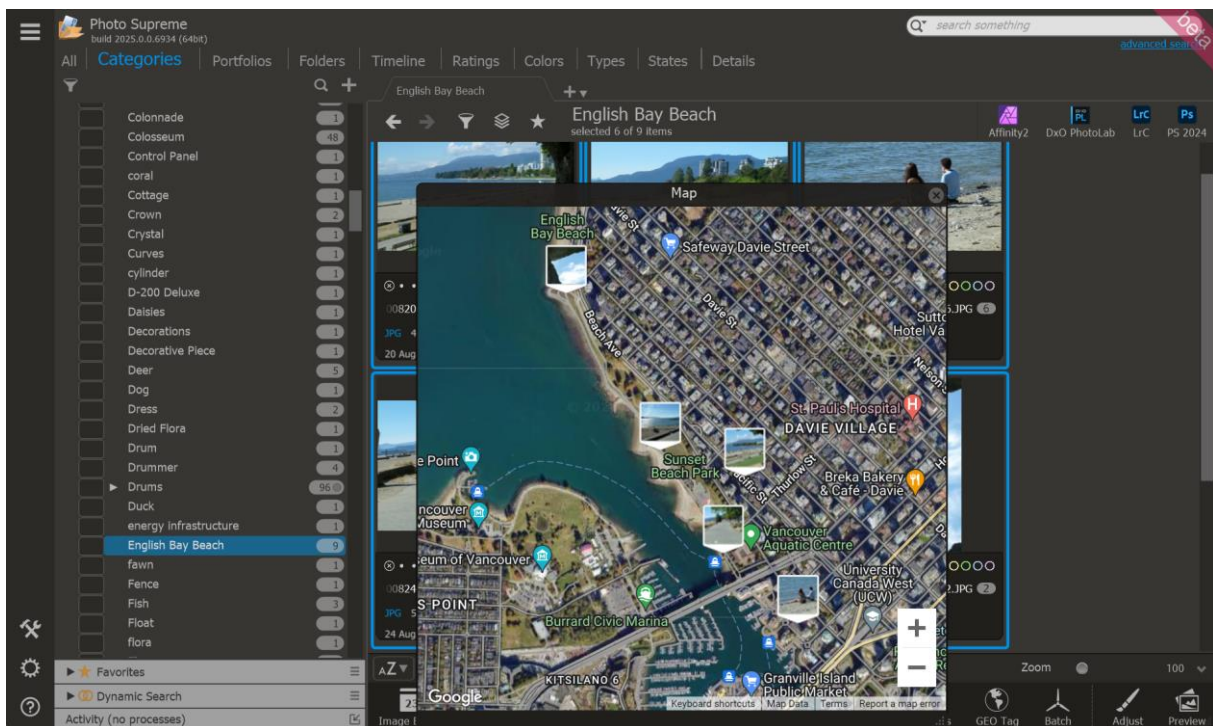
Once you're done, click **Apply**. The Catalog Label is now GEO-tagged and can be assigned to your images. When you assign the label to an image, the GEO tags will be written to the image metadata during synchronization. If you've added coordinates to a Catalog Label that already has images associated with it, and you want these coordinates to be updated in all

the files, select all the images under that label, right-click on a thumbnail, go to **Metadata**, and select **Save Metadata to File**.

Working with the Map

In the GEO Tag Panel, you can add GEO details to one or more selected images, but the panel works with a single set of coordinates at a time, so you can't view multiple images on the map simultaneously within the panel. To address this, Photo Supreme provides a way to display multiple images on the map at once. It uses Google Maps for this functionality.

To display images on the map, select one or more thumbnails, right-click on any selected thumbnail, and choose "**Display on Map**". This will open a map panel where all the selected images will be marked, showing their locations on the map.



Each selected thumbnail is represented on the map as a marker. When you select one or more thumbnails, the map automatically zooms to display all the selected images that have GEO coordinates. Markers on the map can be dragged to a new location, and doing so will immediately update the coordinates for the corresponding image, allowing for easy fine-tuning.

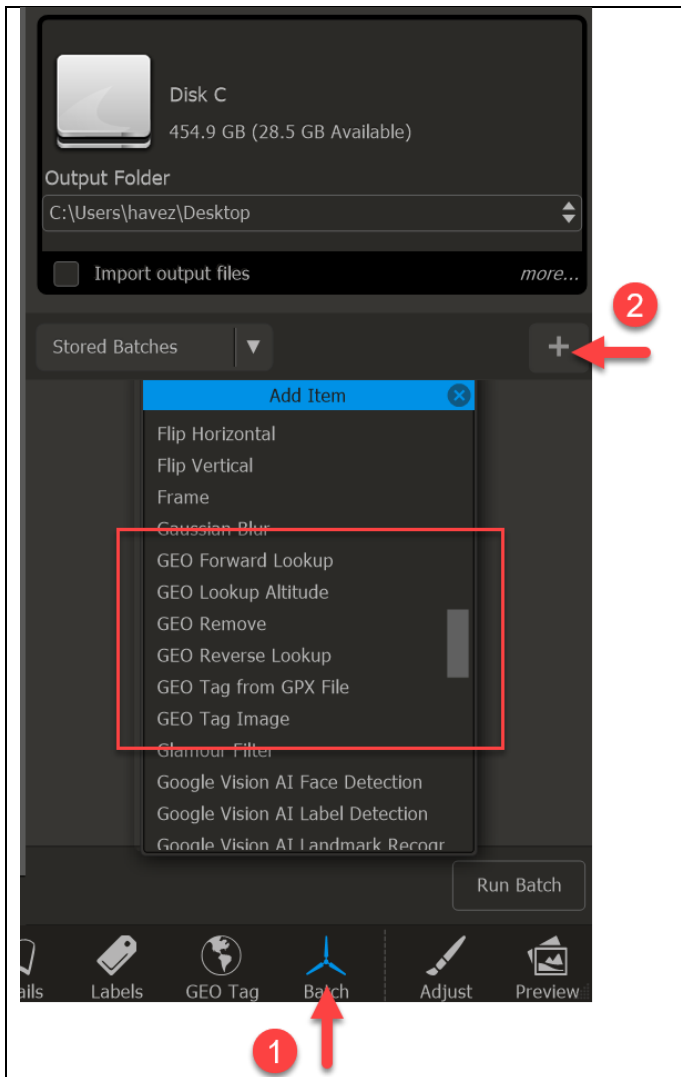
The map can display up to 50 draggable "picture" markers. If more than 50 thumbnails are selected, the additional images will appear as non-draggable drop-markers. To delete the GEO coordinates for a photo, right-click on the marker and choose "**Delete**".

GEO Batch processing

Batch Processing allows you to handle multiple images simultaneously in one operation. Photo Supreme offers a powerful Batch Processor that can batch process various tasks, including GEO Tagging, in numerous combinations. The following commands related to GEO Tagging are available for batch processing:

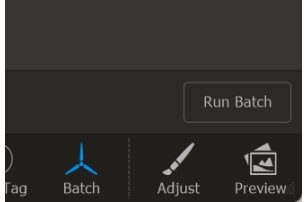
1. **GEO Forward Lookup** - Find coordinates for a specific location name.
2. **GEO Lookup Altitude** – Fill in the Altitude for already GEO Tagged images (lat/lon).
3. **GEO Remove** - Remove GEO tags from selected images.
4. **GEO Reverse Lookup** - Perform a reverse lookup to retrieve location details based on coordinates.
5. **GEO Tag from GPX File** - Apply GEO coordinates from a GPX track log.
6. **GEO Tag Image** - Add GEO tags to selected images.

You can access and use these commands by opening the Batch Panel through the **Batch button** located in the Command Bar below the thumbnails.



Once you open the Batch Panel, it will display the last loaded batch. To start a new batch, click on "Stored Batches" and then select "New Batch..." This will create a new batch, aligning your screen with the instructions in this manual. Next, click the **plus (+) button** to add a new Batch Command. A popup will appear with a list of all available Batch Commands. Scroll through this list to find the **GEO batch commands**, which are grouped together.

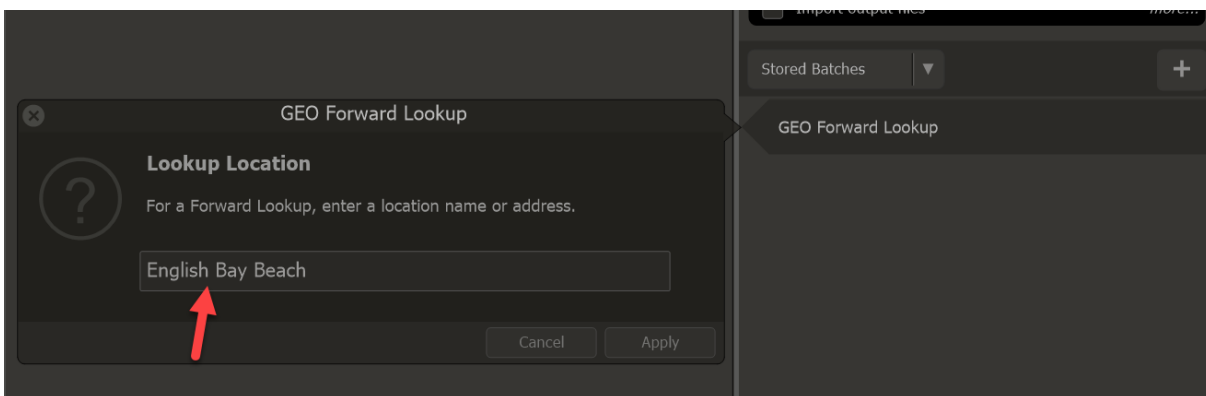
The Batch Panel processes the currently selected thumbnails, so be sure to select only the images you want to include in the batch process.



Once you've added all the relevant batch commands and selected the appropriate images, you can execute your batch by clicking the **"Run Batch"** button located at the bottom of the Batch Panel.

GEO Forward Lookup

Add this command if you want the GEO coordinates to be populated based on a location name. You can specify the lookup name in the settings of this batch command.



The screenshot shows the 'GEO Forward Lookup' dialog box. It has a title bar with a close button. Below the title is a question mark icon and the text 'Lookup Location'. Underneath, it says 'For a Forward Lookup, enter a location name or address.' There is a text input field containing 'English Bay Beach'. At the bottom, there are 'Cancel' and 'Apply' buttons. A red arrow points to the text input field.

GEO Lookup Altitude

For a collection of images that already have their latitude and longitude populated but lack altitude details, you can use this batch command to retrieve the corresponding altitude for those coordinates.

GEO Remove

This batch command is quite useful for removing GPS coordinates from one or more images. When you use this command, only the GPS coordinates are deleted, while the location information remains intact. If you also wish to remove location information, you can do so by using the “GEO Tag Images” batch command to update those fields. You can combine both commands in a single batch process for convenience.

The GEO Remove batch command does not require any additional settings.

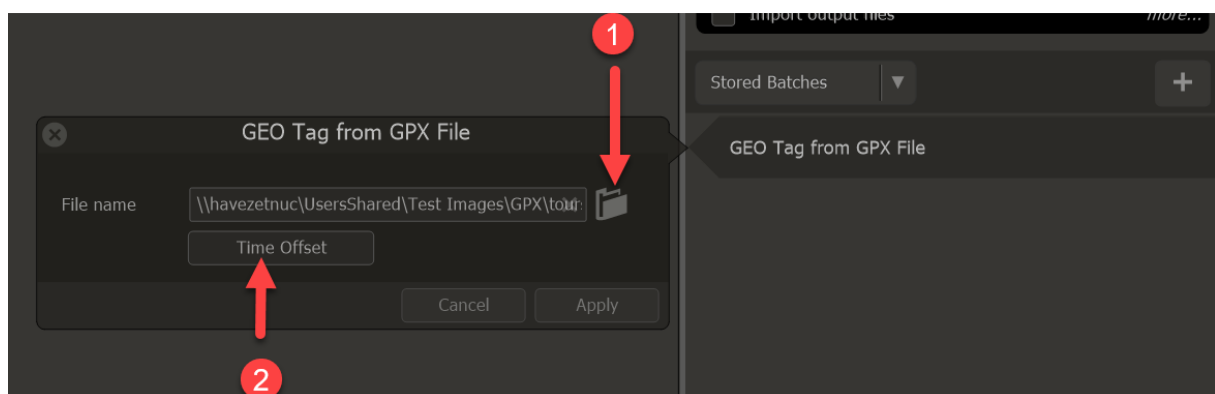
GEO Reverse Lookup

This batch command enables you to perform a reverse lookup for the existing location details (such as street, city, and country) in the metadata of the selected images.

The GEO Reverse Lookup batch command does not require any additional settings.

GEO Tag from GPX file

This batch command allows you to apply a GPX track-log to a selected group of images. When you use it on multiple selected images, the command will load the GPX file, optionally adjust the time, and then find the relevant GEO coordinates in the GPX track-log for each selected image.



When you add this batch command, the editor for the command will open. Click the folder icon to select a GPX file from your disk. If necessary, you can click the Time Offset button to synchronize the camera time with the GPX time. Finally, click Apply to confirm the settings for the batch effect.

GEO Tag Image

When you add this batch command, the editor for the command will appear. This editor resembles the GEO Tagging panel discussed earlier in the manual. In essence, it provides you with the batch functionality to work with the GEO Tag Panel. For a detailed description of its features, please refer to the previous chapters.

