



HoudahGeo 6

User Guide

Table of Contents

1. Introduction	4
2. What's New in HoudahGeo 6?	5
3. Quick Start Guide	7
3.1. Step 1: Load Images & Track Logs	7
3.2. Step 2: Geocode Your Images	9
3.3. Step 3: Export Geotags & Publish	11
4. Step by Step - In-depth	13
4.1. Step 1: Load	13
4.1.1. Adding Images to Your HoudahGeo Project	13
4.1.2. Camera Setup	16
4.1.3. Add GPS Data	21
4.2. Step 2: Process	24
4.2.1. The Map	24
4.2.2. The Images List	25
4.2.3. The Inspector Pane	27
4.2.4. Lift & Stamp	30
4.2.5. Geocoding Options	31
4.2.6. Adding Additional Metadata Information	39
4.2.7. Places	41
4.3. Step 3: Output	43
4.3.1. EXIF / XMP Export & Notify Library	43
4.3.2. Google Earth Export	49
4.3.3. KML Export	51
4.3.4. Flickr Upload	54
4.3.5. CSV and GPX Export	55
5. HoudahGeo Preferences	56
5.1. General Preferences	56

5.2. Advanced Preferences	56
6. Frequently Asked Questions	57
6.1. Does HoudahGeo support RAW files?	57
6.2. Does HoudahGeo support XMP sidecar files?	57
6.3. I don't own a GPS. Can I still use HoudahGeo?	57
6.4. Does HoudahGeo work with DNG files?	57
6.5. Can you recommend a particular GPS device?	58
6.6. How do I ensure the camera's clock is accurate?	58
6.7. Why couldn't some of my images be processed?	59
6.8. Licensing	60

1. Introduction

HoudahGeo is a one-stop photo geocoding and geotagging solution for the Mac. HoudahGeo caters to two very different needs:

- **Geotagging for archival purposes** using EXIF, XMP, and IPTC tags
- **Geocoding for publishing** or presentation

HoudahGeo offers many ways to geocode your favorite photos:

- **Automatically:** Matches photos to a GPS track log
- **Using reference photos:** Matches photos taken using a GPS camera or iPhone
- **Manually using a map:** Pick locations on a built-in map
- **Manually using Google Earth:** Point Google Earth to the desired location
- **Drag-and-drop:** Drag images to a location on a built-in map
- **Known locations:** Attach photos to GPS waypoints or favorite places
- **Manual entry:** Enter coordinates found on Google Earth, Wikipedia, ...

HoudahGeo supports many GPS devices and file formats. It connects directly to different brands and models of GPS track loggers. It reads GPX, NMEA, TES, ... and TCX track log files created by third-party software.

2. What's New in HoudahGeo 6?

Support for JPEG + RAW pairs

Some cameras can save two versions of the same image. One JPEG file and one RAW file. HoudahGeo recognizes such pairs and handles them as a single image.

More XMP sidecar options

When exporting metadata to EXIF/XMP, HoudahGeo offers the option to use, ignore, or create XMP sidecar files. HoudahGeo can now use a different strategy on JPEG and RAW files.

EXIF/XMP time zone

Our #1 feature request: You can now specify how dates and times should appear in EXIF/XMP.

Aperture migration

HoudahGeo now imports much more location data from the recesses of Apple media libraries. You can write to EXIF/XMP for future-proof storage. This can help with migrating away from Aperture.

Images needing export

HoudahGeo flags images whose latitude and longitude coordinates have changed. This flag is cleared when coordinates are exported to EXIF/XMP. The flag is also set when importing from a media library finds that the library has coordinates that differ from those found in the file metadata.

“Automagic” camera clock setup

Camera clock setup has been streamlined in HoudahGeo 6.0. There also is a new option where you can point HoudahGeo to a location on a track log and specify which photo was taken at that location. HoudahGeo can then compute camera clock settings.

Easy import from Apple Photos

HoudahGeo can now get and import the images currently selected in the Apple Photos application.

Enhanced grid view

In addition to thumbnails and names, the grid view can now show timestamps, time zone badges, and flags. Images that need geocoding show with their name in red.

Weather data

HoudahGeo now supports weather data (ambient temperature, humidity, and air pressure). This information can be entered manually or read from [KESTREL log files](#).

Scuba diving

HoudahGeo can record depth below water in EXIF metadata. This information can be entered manually or read from [dive log files](#).

Improved “[Places](#)” feature

Individual places can now be configured to apply only a selection of properties to images. You can, for example, create a place named “Home” and use to assign location names to photos without altering their exact GPS coordinates.

Lift & stamp metadata

You can lift (copy) coordinates and metadata from one image and selectively stamp (apply) these properties to other images.

Beautiful maps

Maps in HoudahGeo look better than ever than before, show more information, and are more interactive. The map can now show photo thumbnails. A click on a track log reveals the coordinates of the location and the exact time you visited it. It is possible to tell HoudahGeo which [photo was taken at that location](#). HoudahGeo can then compute camera clock settings.

3. Quick Start Guide

HoudahGeo structures the geocoding process into three successive steps:

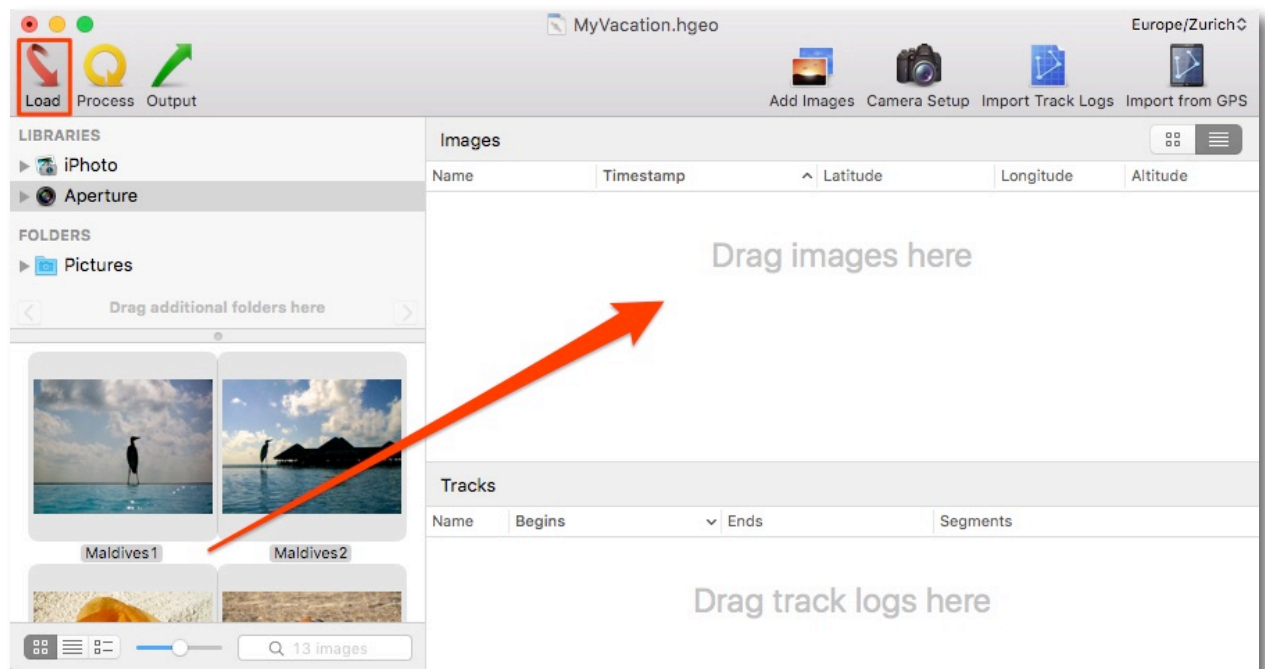
- **Load:** Add images and optionally GPS track logs
- **Process:** Add or update the images' metadata
- **Output:** Export and/or publish the newly created metadata



Use the first three toolbar buttons to switch between states. The toolbar will update to show buttons applicable to the current context.

3.1. Step 1: Load Images & Track Logs

Open HoudahGeo, create a new project and click the “Load” button  in the toolbar.




1. To **load images** into a HoudahGeo project, use one of these options:

- Connect your camera. “[Camera Import](#)” will open. Select a folder where to save the image files. If you want HoudahGeo to delete imported files from the camera, check the applicable option. We recommend you only delete the photos from your camera after having successfully completed the geocoding process. Alternatively,

you may back up your images before geocoding. Click Import to import selected photos or click “Import All”.

We recommend this workflow for users of *iCloud Photos*, [see also note below](#).


- **Lightroom users: If you’ve already added metadata in Lightroom, go to Lightroom and instruct it to write metadata to XMP (save metadata to file) before geocoding.** Then, proceed to the next step.
- **Photos, iPhoto, Aperture, or Lightroom users:** Find your photo library in HoudahGeo’s [media browser](#) on the left side of the window. From there, drag the images to the right into HoudahGeo’s “Images” section.
- **For photos already imported & photos not managed by photo libraries:** [Drag](#) images (or folders containing images) into HoudahGeo’s “Images” section or use “Add Images” . Use the [media browser](#) to load photos managed by Photos, iPhoto or Aperture, even if the image files are only referenced and do not reside within the library application itself. Otherwise, HoudahGeo will not be able to inform the library application about the metadata changes during [step 3: Output](#).





Note for users of iCloud Photos: HoudahGeo can perform two distinct tasks when working with Apple Photos. It can assign locations to and other metadata photos. This information is stored in the Photos library. iCloud Photos can sync this data to the cloud and your other devices. HoudahGeo can also write geotags to your original image files. This ensures that the location information always remains with the files. iCloud Photos will not sync or re-upload your image files after you finished geotagging. The modified files will exist only on your Mac.



We recommend that you geotag your images before adding these to your Apple Photos library. This ensures that only the geotagged photos are uploaded to iCloud Photos. The iCloud server can then sync the files with all their metadata to your other devices. HoudahGeo’s “Camera Import” can be used to copy photos from your camera without immediately adding these to your Photos library.






2. When adding images to a project, “[Camera Setup](#)”  will open automatically. **Set the camera time zone** by choosing one of the following options:

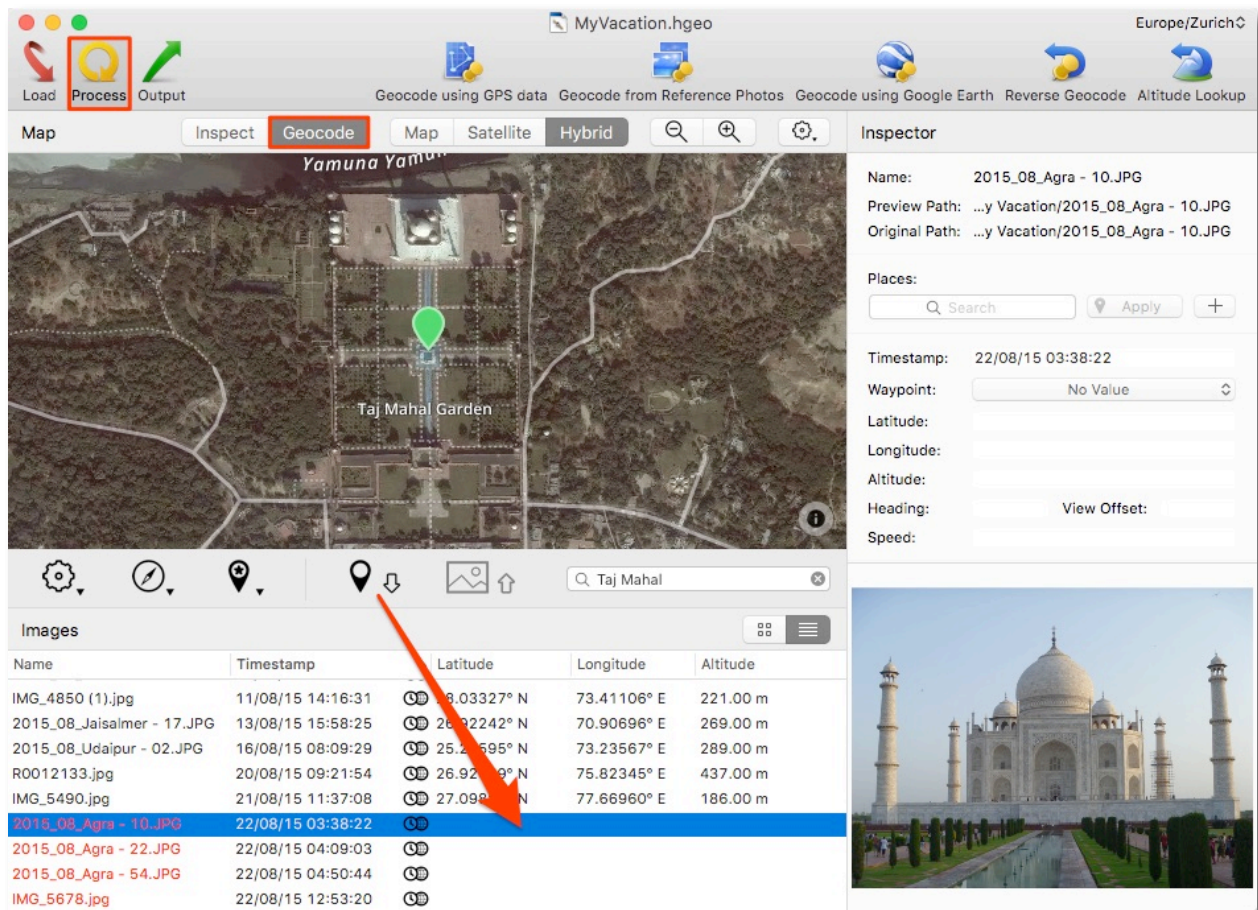
- Select the [Camera Time](#) your camera was set to
- Use a [Photo Time](#) to determine the camera time zone
- Use data from the [gps4cam](#) app


3. If available, **load track log files** into HoudahGeo using “[Import Track Logs](#)” , “[Import from GPS](#)”  or by dragging them (or folders containing them) to HoudahGeo’s “Tracks” section. To add track log files from the gps4cam app, select the respective menu item from the Load menu.



3.2. Step 2: Geocode Your Images

Click the “Process” button  in the toolbar. Then, use one of these options:

- **Geocoding using information from a GPS device:** When a track log file is provided, images within the track log’s time frame will be geocoded automatically. For settings, select “Geocode Using GPS Data” .
- **Geocoding using Reference Photos:** To match photos without geoinformation to reference photos taken with GPS enabled devices like smartphones, select “Geocode from Reference Photos” . This works best if both picture-taking devices were set to the same time. Click [here](#) for more information.
- **Use the built-in map to pick image locations:**
 - Set the Map to “Geocode” (above the map, on the right):  
 - Select an image
 - Use the search field at the bottom of the map to search for the location
 - Click the “Geocode” button . The coordinates of the selected location are applied to the selected images

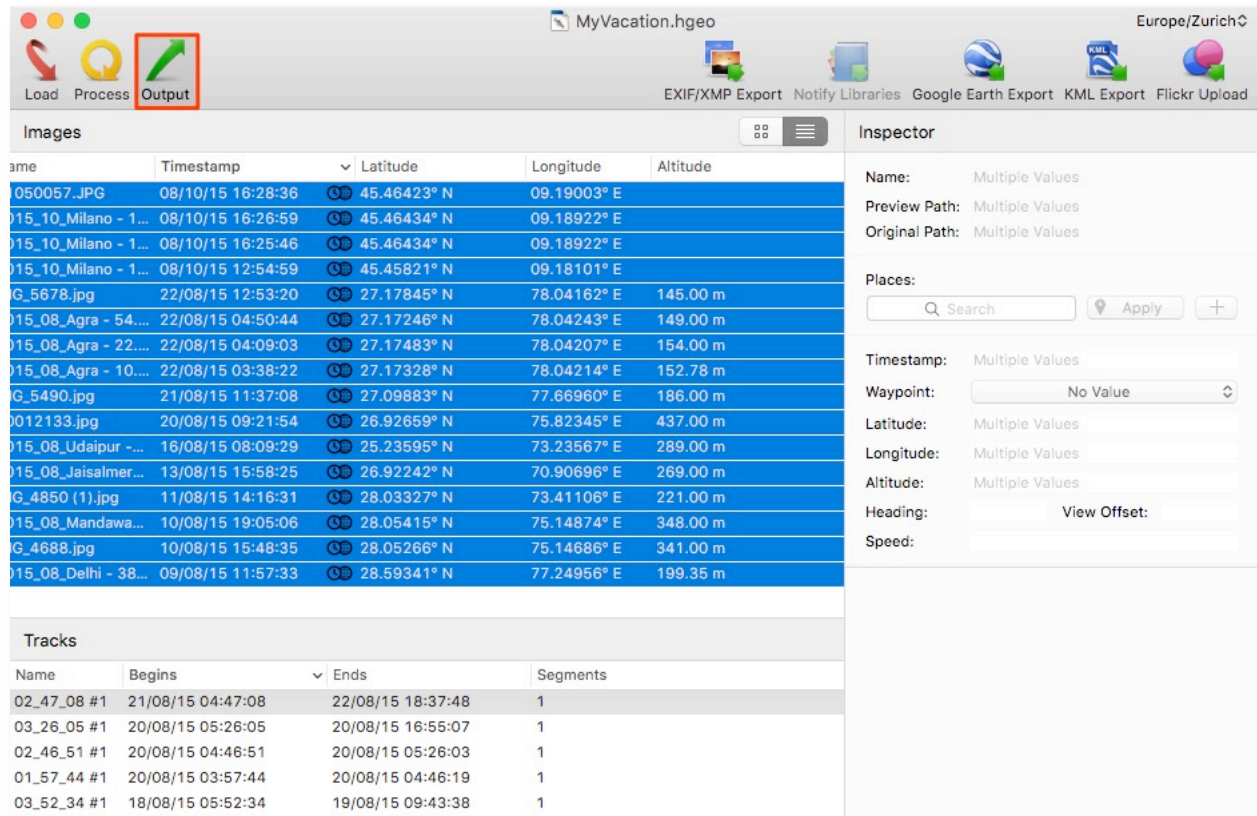


- **Drag-and-Drop Geocoding:** select one or more images and drop them onto the map
- **Geocoding in Google Earth** works like geocoding using the built-in map. Click the respective button  in the toolbar.
- In the Inspector section on the right, you may also save your favorite locations to a **Places** database to choose from. The **Waypoints** drop-down menu lets you choose from waypoints recorded by your GPS device.

After having added geoinformation, you may proceed to **reverse geocoding**  (= deriving location names from GPS coordinates), looking up **altitude information**  and **adding additional metadata** like Keywords, Title, Description ...

3.3. Step 3: Export Geotags & Publish

Click the “Output” button  in the toolbar.



Choose “**EXIF/XMP Export**”  to write the newly created metadata to your image files.



Writing EXIF/XMP/IPTC tags to image files requires modifying the files.

This process is lossless. Image quality is not affected. Modifying files is however not without risk. **We thus recommend you always have backup copies.**

Choose the appropriate settings, depending on how your photos are being managed:




- ☒ Geotag images managed by **Apple Photos / iPhoto / Aperture**:
 - Set “Tag” to “Both Originals”
 - Deselect “Create copies”
 - Set “XMP sidecars” options to “Write to Sidecar if Present”
 - Select “Notify media libraries”



Note for users of iCloud Photos: We recommend that you geotag your photos before importing them into the Photos library.

- Geotag images managed by **Lightroom**:
 - Set “Tag” to “Both Originals”
 - Deselect “Create copies”
 - Set “XMP sidecars” to “Write to Sidecar if Present”
 - After the metadata export has finished, go to Lightroom and instruct it to load metadata from file. **Please note:** If you do this without having instructed Lightroom to share metadata before geocoding, metadata added in Lightroom will be lost.
- Geotag images hosted **outside of supported libraries**:
 - Set “Tag” to “Both Originals”
 - Decide whether to create copies or not. When enabled, image files will be copied and only the copies will be tagged.
 - Decide how you want to handle XMP sidecars. For maximum compatibility, select “Write to Sidecar if Present”. A popular choice is to use XMP sidecars for RAW files and write directly to JPEG files. Unless you have a particular reason to prefer sidecar files, we recommend writing geotags directly to image files. This ensures that the location data cannot get separated from the images.

If you wish to publish and share your geocoded images, HoudahGeo offers the following options:

- Upload to [Flickr](#) 
- Create a [KMZ file](#)  containing your track log and images to be viewed in Google Earth
- Create a [KML file](#)  and a folder of associated images you can upload to your web server or to your Dropbox account .
- To export to [GPX or CSV files](#), select the respective menu item from the Output menu

4. Step by Step - In-depth

4.1. Step 1: Load

During this step, you configure your HoudahGeo project. Load images into the project. Specify the camera clock setup. Optionally, load GPS track logs.



HoudahGeo **project files** may be saved for later use. A project stores metadata for the images it references.

4.1.1. Adding Images to Your HoudahGeo Project

First, you will need to add the images you would like to geotag to your HoudahGeo project.



HoudahGeo supports JPEG as well as a large selection of RAW formats.

Please make use of HoudahGeo's [trial version](#) to make sure it supports the image format produced by your camera.



HoudahGeo only references files. It does not copy them. **You should refrain from moving image files as long as you are working on their metadata in HoudahGeo.**

HoudahGeo offers several options to add images:

4.1.1.1. Camera Import

The camera import feature caters especially to those who like to geocode their photos first thing when they add them to their hard drive.

- Connect your camera or memory card. The “Camera Import” window opens automatically. You can also find it under Load > Camera Import.
- Choose an import location on your hard drive for your photos and select a HoudahGeo project to add them to.
- Select the photos to be imported or click “Import All”.

For many cameras, HoudahGeo offers the option to automatically delete the images from your camera or memory card after import.



We recommend you **only delete the photos after having successfully completed the geocoding process**. Alternatively, you may back up your images before geocoding.

If you like HoudahGeo to start automatically whenever you connect your camera, tick the box on the bottom left corner of the “Camera Import” window.

To prevent the Camera Import window from opening when a camera is connected, untick the appropriate box in [HoudahGeo’s General Preferences](#) pane.

4.1.1.2. Media Browser (Photos, iPhoto, Aperture, Lightroom, Folders)

The media browser connects to your Apple Photos, iPhoto, Aperture, or Adobe Lightroom library as well as your Pictures folder. You may also add any other folder by simply dragging it here.

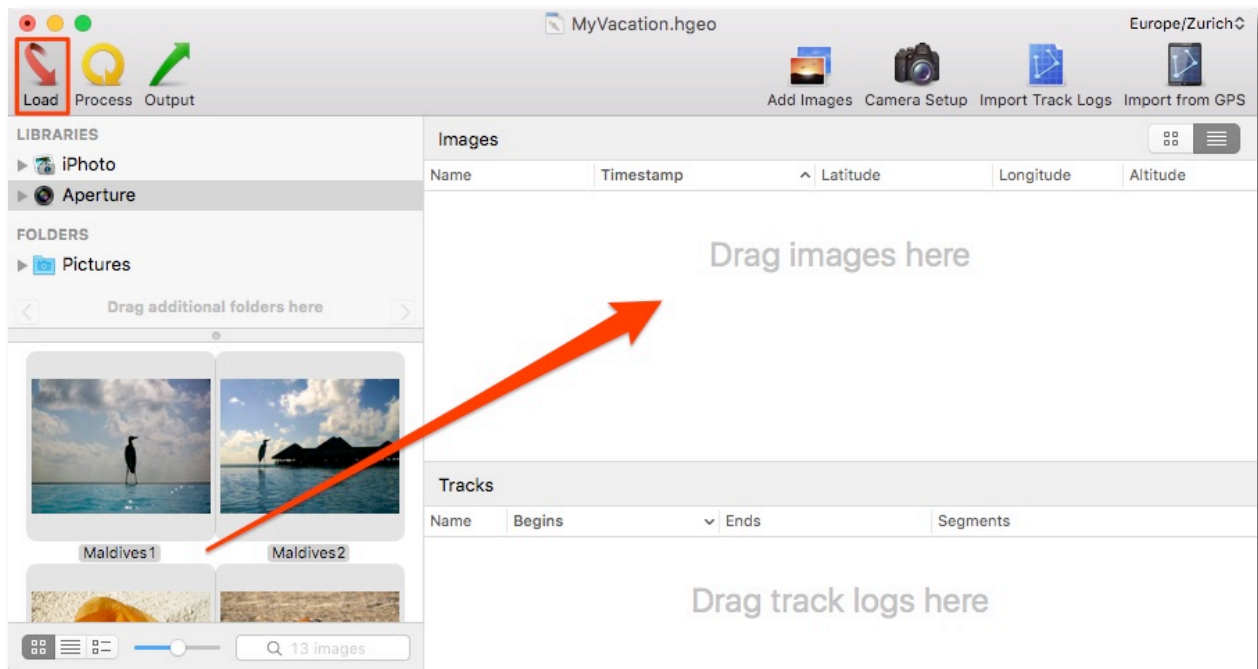
Select the images you want to geotag from the list and drag them to the right into your project’s “Images” section.



Lightroom users: If you’ve already added metadata in Lightroom, go to Lightroom and instruct it to write metadata to XMP (save metadata to file) before geocoding.



Users of Apple Photos with iCloud Photos: Original images need to be available on your Mac to be tagged. If you have enabled “Optimize Mac Storage”, Photos downloads the originals only for the most recently used images.




Dragging images from the media browser gives HoudahGeo additional information needed later on for tagging originals and for notifying media libraries of updated metadata. Therefore, you should use the media browser to load photos managed by Photos, iPhoto or Aperture, even if the image files are only referenced and do not reside within the library application itself. Otherwise, HoudahGeo will not be able to notify the library application about the metadata changes during [step 3: Output](#).

4.1.1.3. Apple Photos application

HoudahGeo can import images directly from Apple Photos. This provides the same benefits as using the media browser. Instead of browsing your Photos library in the HoudahGeo media browser, you use the Apple Photos application to select the images to process. In HoudahGeo, select Load > Add Images from Apple Photos Selection to add the images to your project.

4.1.1.4. “Add Images” Button or Drag & Drop


The “**Add Images**” toolbar button  allows you to browse the file system to add images to your project. You may also load folders containing the images (up to five levels deep).

Alternatively, you may drag images from the Finder and drop them onto HoudahGeo's "Images" section.



Use the [media browser](#) to load photos managed by Photos, iPhoto, or Aperture, even if the image files are only referenced and do not reside within the library application itself. Otherwise, HoudahGeo will not be able to notify the library application about the metadata changes during [step 3: Output](#).

4.1.2. Camera Setup

"Camera Setup" opens automatically when adding the first images to a new HoudahGeo project. You can also access "Camera Setup" by clicking its button  in the toolbar.

Why do I need to specify camera clock settings?

All digital cameras record date and time for the images they take. Most cameras, however, do not store the time zone they are configured for. HoudahGeo asks about camera clock settings so that it can fully understand the date and time values. It combines these values with time zone information to know exactly when each photo was taken. HoudahGeo can then use this information to match images to GPS track logs.



Camera clock setup thus is the single most important information you need to provide to HoudahGeo. **Automatic geocoding is only possible when this information is accurate.**



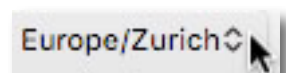
Settings made in "Camera Setup" are, by default, ignored for images that come with time zone information already embedded. A time zone badge  in the Timestamp column marks these images. This includes images for which HoudahGeo has previously updated timestamps during [EXIF/XMP export](#).



HoudahGeo supposes that all photos in a project were taken using the same camera time settings. If you used multiple cameras with different camera clock settings, you need to create separate projects. If you want to manage them in the same project, see the [instructions for Reference Photos](#).



The **Display Time Zone** menu in the top right corner of HoudahGeo's project window (or in the View menu > **Display Time Zone**) controls how timestamps are displayed. This ensures that all times - for images and track logs - are displayed in a consistent



manner. You can thus compare your images' timestamps to the timespans in the track log section to see if the images fall within the track logs' timespans. Changing the Display Time Zone has no influence on the geocoding process as it does *not* change the timestamps on your photos. This setting only changes how times are displayed. Example: You are viewing the same time once seen "from London" (= GMT) and once "from Los Angeles" (= GMT-8). E.g. (during winter) noon in London might show as 12PM using GMT time zone, but as 4AM in Los Angeles using GMT-8. If you set the Display Time Zone to your camera time zone, you should see the exact same timestamps you saw on the camera. If you set the Display Time Zone to the time zone you traveled to, you should see timestamps that match the local time where the photo was taken.


To inform HoudahGeo of your camera's clock setting, you may choose from four options:

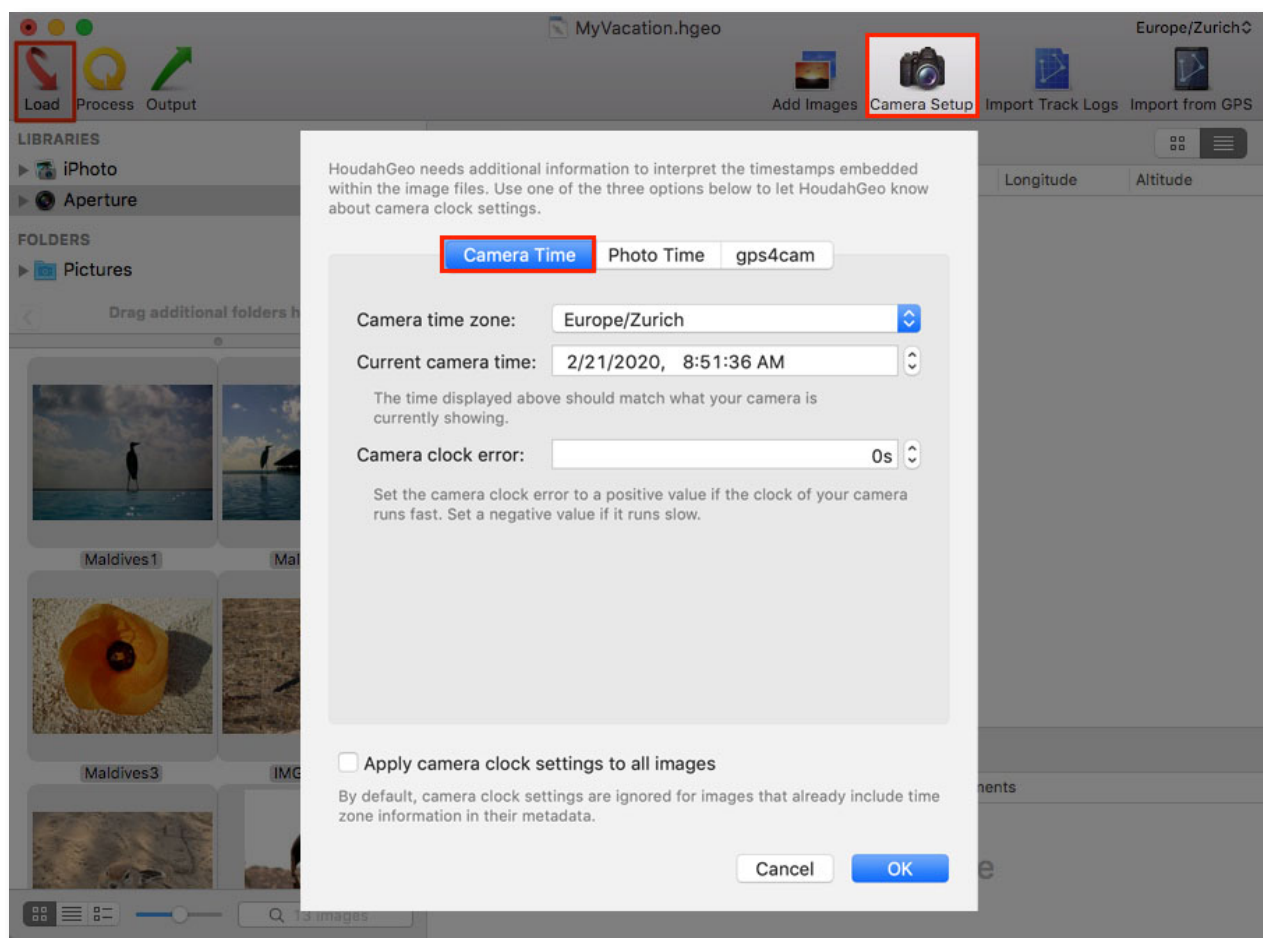
4.1.2.1. Camera Time

Select your **camera time zone**, that is, the time zone the camera was configured to at the time the photos were taken. Typically, this is your home time zone or the time zone you have traveled to.

HoudahGeo will show the date and time as it currently displayed on your camera. This assumes that the camera clock has not been reset since the photos to be geocoded have been taken.

You can adjust the time in HoudahGeo to exactly match the clock on your camera. This will update the setting for **clock error**: the number of seconds your camera's clock was fast at the time the photos were taken. If the camera's clock was slow, set a negative value. If the time on your camera was set accurately, this value should be 0.

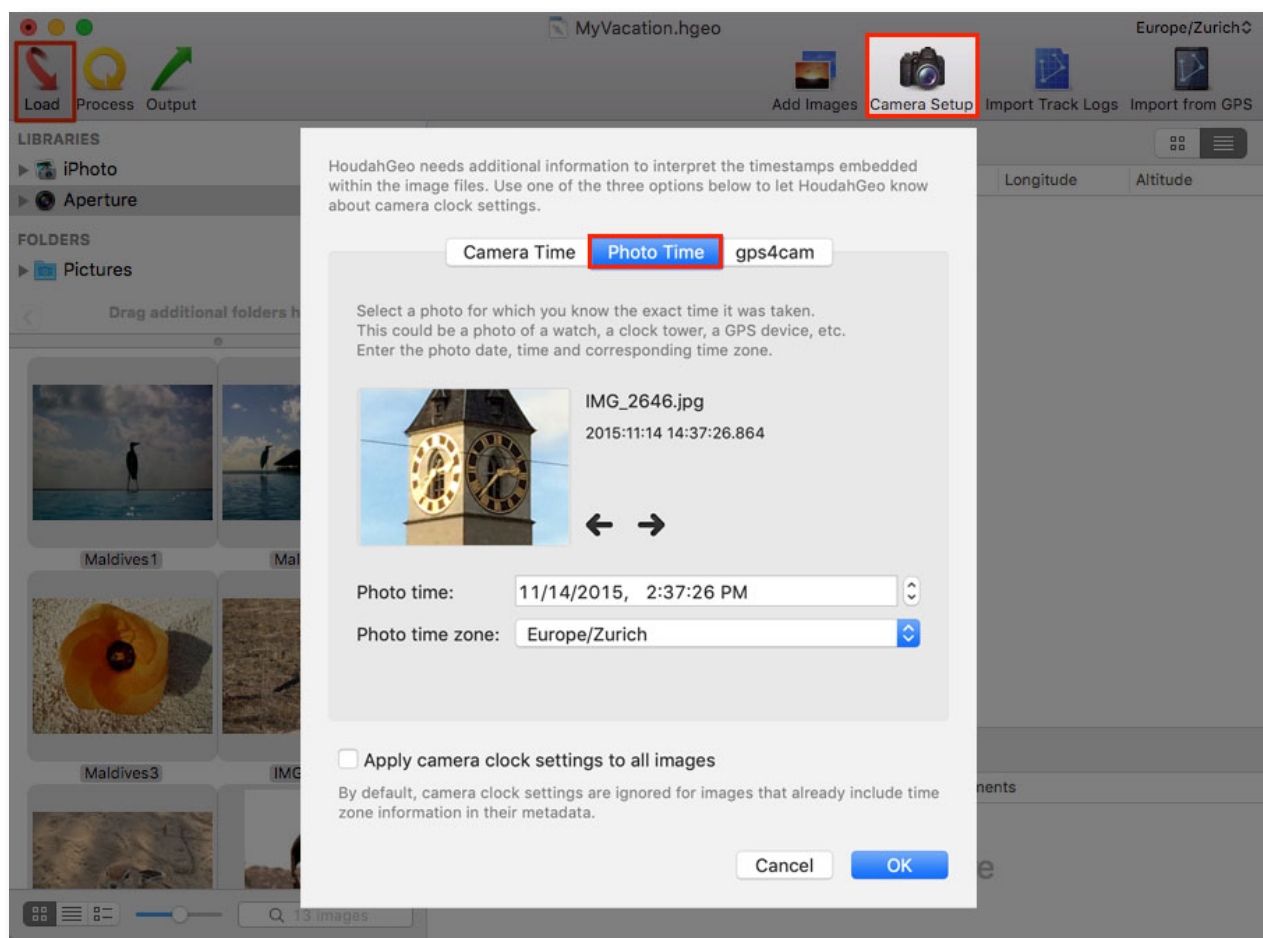
By default, settings made here are ignored for images that come with time zone information already embedded. A time zone badge  in the Timestamp column marks such images. If you would like to override the embedded time zone information, tick the **Apply camera clock settings to all images** option.



4.1.2.2. Photo Time

Select a photo for which you know the exact time and in which time zone it was taken. Enter the time it was taken and set the corresponding time zone information.

E.g. point HoudahGeo to a photo of Big Ben in London. Enter the time shown and select the “Europe/London” time zone.



4.1.2.3. Smartphone App gps4cam



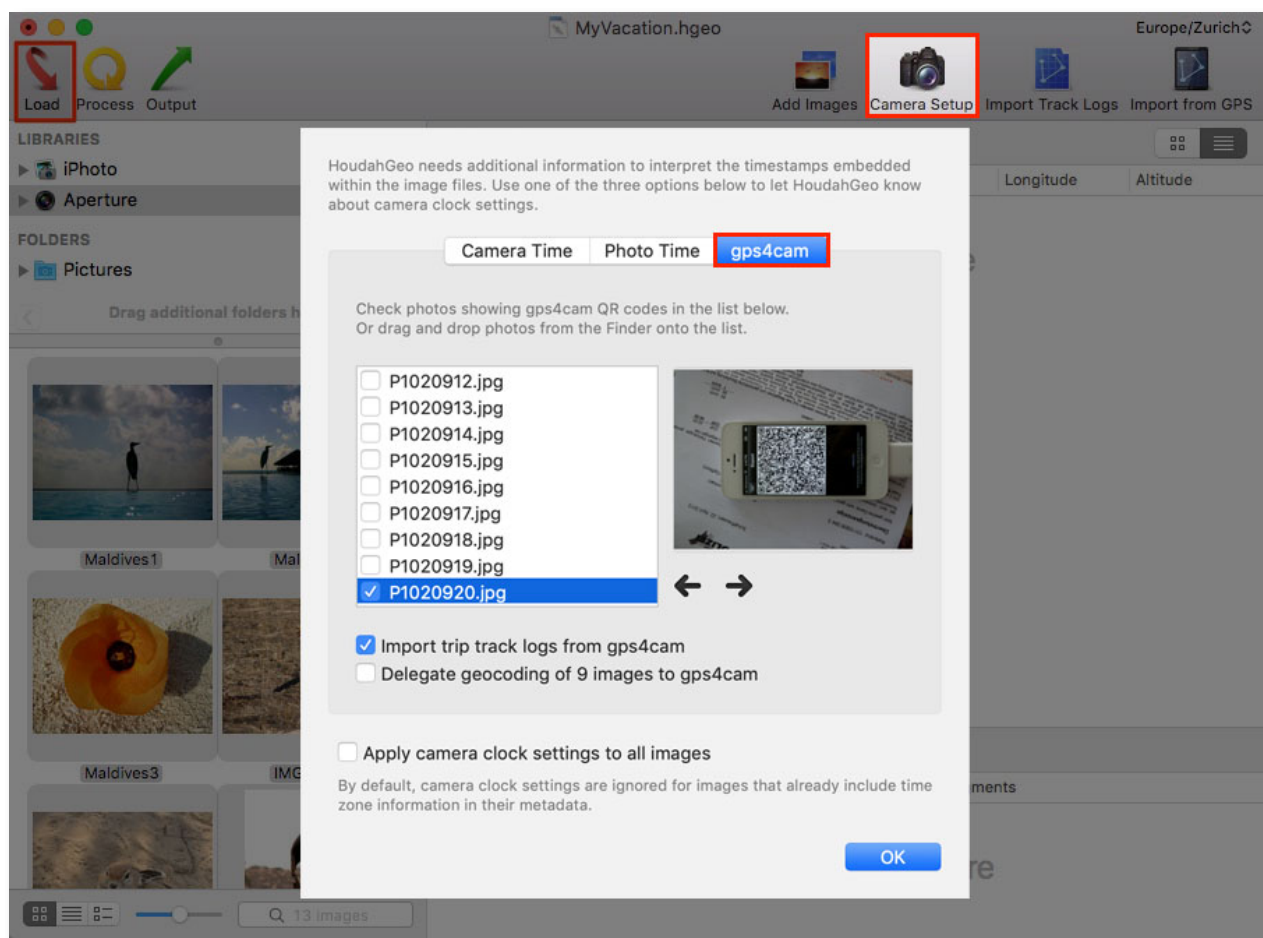
The gps4cam application has not been updated in a while. We do not currently recommend it to new users.

This option allows for geocoding using QR codes generated by the [gps4cam smartphone app](#).

Select all gps4cam QR codes on the list.

If the box “Import trip track logs from gps4cam” is checked, track logs will be imported automatically.

You may opt to let gps4cam handle image geocoding. Otherwise, HoudahGeo will geocode using the imported track log.

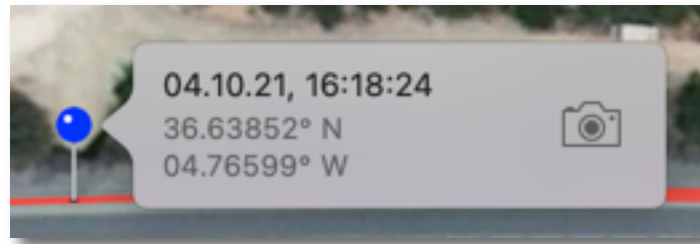


4.1.2.4. Match to track log

HoudahGeo needs you to provide camera clock information at this point so it can proceed show times for the images you import. You can accept the current settings later return to the Camera Setup window to fine-tune or correct settings.

One way to fine-tune camera clock settings is to show HoudahGeo to a point on a GPS track log where you remember taking a particular photo.

After adding GPS track logs to your project, select a photo of which you remember exactly where it was taken. Use the built-in maps to find that location on a GPS track log. Click the track line on the map to point out the exact location. HoudahGeo will show the coordinates of the location as well as the date and time recorded on the GPS track.




Click the **camera** button. HoudahGeo will match the track log time to your photo and figure out camera clock settings. The **Camera Setup** window will open to the **Photo Time** tab for you to confirm the settings.

4.1.3. Add GPS Data

In this step, you may load track log files from GPS devices into HoudahGeo. This step is optional.

4.1.3.1. Import Track Log Files

The “Import Track Logs” toolbar button  allows you to browse the file system to add GPS track logs to your project. You may also load folders containing track log files. Folders are scanned for track log files up to five levels deep.

Alternatively, you may drag track log files from the Finder to HoudahGeo’s “Tracks” section. HoudahGeo supports a large selection of track log file formats. These include: GPX, NMEA, TES, TCX, ...

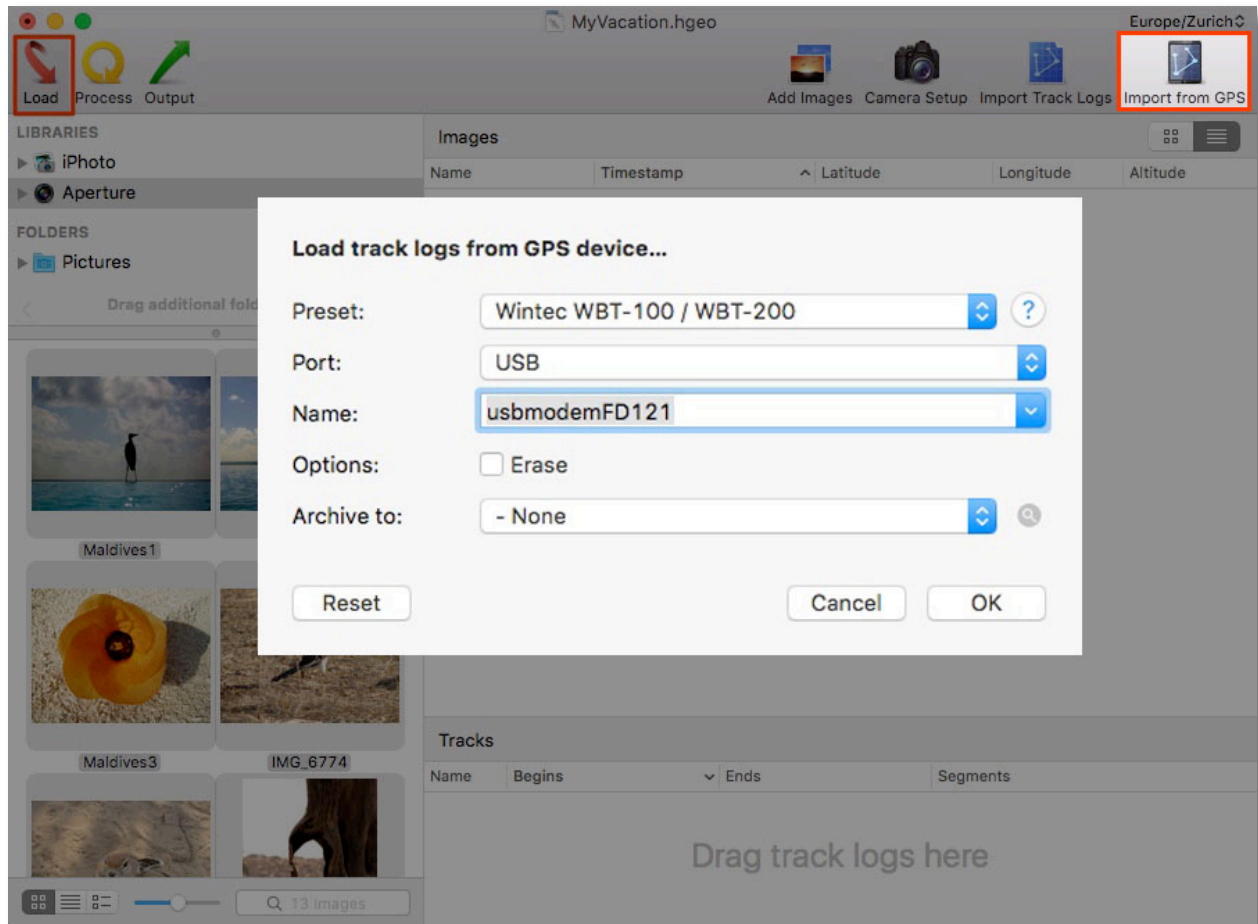



Please make use of the [demo period](#) to make sure HoudahGeo supports the file format your GPS device or its software can provide.

gps4cam users: If not already loaded while specifying the [camera clock setting](#), you may import track logs generated by the gps4cam app by selecting the appropriate menu item from the Load menu. Select all QR code pictures. You can opt to update the camera clock setting using the information provided by gps4cam. You may also opt to let gps4cam handle image geocoding. Otherwise, HoudahGeo will geocode using the imported track log.

3.1.3.2. Import Data from a GPS Device

Click the “Import from GPS” toolbar button .



- From the list, select a **Preset** that best matches your device. Click on  for more information about the currently selected preset.

For many GPS devices, you will also need a **USB driver**. The presets' descriptions will often provide instructions on where to locate drivers. Check the device manual for technical specifications and information on USB drivers. You can also check About This Mac > System Report to find information on connected USB devices. Commonly used USB drivers include [Silicon Labs CP210x](#), [Prolific PL2303](#) and [FTDI](#).

- Select a **Port** type: **USB**, **Serial / Bluetooth**, **WiFi / AirPort**.

- A device **Name** is also required. However, HoudahGeo provides sensible defaults. You will probably not need to modify this value. Situations, where you need to select an alternate value, include:

- Use of custom serial device name during pairing of a Bluetooth device
- Devices which are assigned a name as they are connected



The “OK” button is enabled only when there is a reasonable chance for the device to be available. Please make sure the device name is correct. For USB devices with a "usb:" device name, the “OK” button is enabled only once the device is plugged in.



Please make use of the [demo period](#) to make sure HoudahGeo works as expected with your device. We are unfortunately unable to verify compatibility with all devices that we try to support.



It is always a good idea to download track logs as independent files. These may be kept on archive for future use. Under “Archive to”, you can instruct HoudahGeo to save your track log files to a specified location on your hard drive. Alternatively, you can use a tool like [HoudahGPS](#) or [LoadMyTracks](#) to extract your track log files and save them to your hard drive.

Connecting to a Bluetooth GPS Device

First, make sure Bluetooth is enabled both on your computer and on the GPS device.

Using System Preferences, you will need to pair the device with your computer before first use.

GPS devices that mount like USB drives

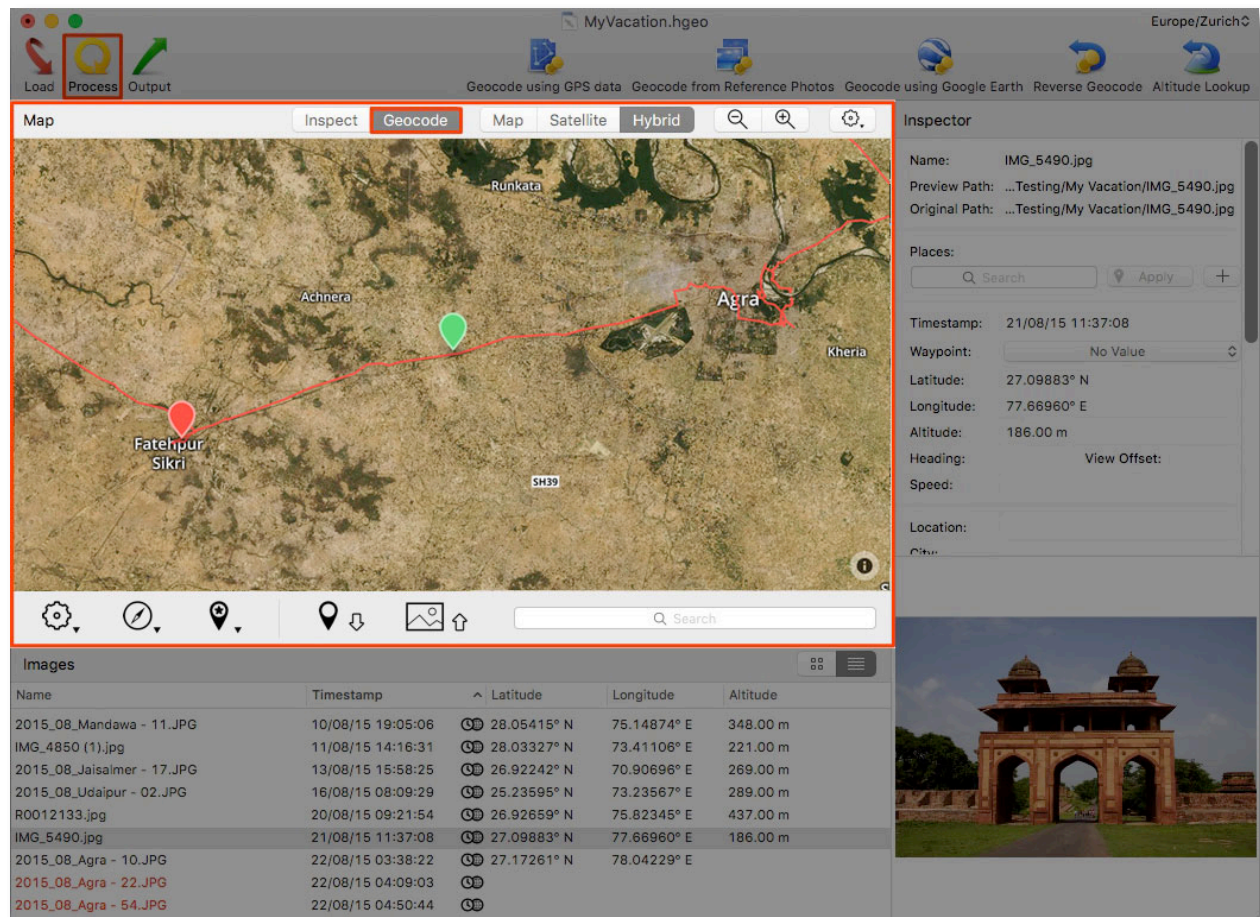
[Some GPS devices](#) support the **USB Mass Storage Device** mode. They mount on your Desktop much like USB drives. The track log files can be found in the device’s folders in the Finder. From there, drag them to HoudahGeo’s “Tracks” section (see also “[Import Track Log Files](#)”). HoudahGeo’s “Import from GPS” feature is not needed and does generally *not* work with this kind of devices.

4.2. Step 2: Process


During this step, you provide or let HoudahGeo compute GPS coordinates and other metadata for the images in the project.



4.2.1. The Map

Using the built-in map, you can set, check and adjust your images' locations.



The first control buttons **Inspect** **Geocode** in the toolbar at the top of the map allow you to switch between inspect and geocode mode:

- In **Inspect** mode, the map shows **red pins**  for all currently selected images. If no image is selected or if the image selected lacks geodata, no pin is shown. Inspect mode serves to verify that images are correctly geocoded. You may freely navigate the map without the risk of accidental editing of image coordinates.

- The **Geocode** mode is used to adjust image positions after automatic geocoding or to manually geocode photos. In this mode, the map shows a **green pin**  **located at its center. Red pins**  are shown for currently selected images containing geodata. In geocode mode, a toolbar with additional controls appears at the bottom of the map. For more information, click [here](#).

If a **track log** is provided, it is displayed on the map as red line. **Waypoints** loaded from GPS logs show as **blue pins**.

To the right of the mode buttons, you can switch between street **map**, **satellite** image and **hybrid** mode as well as change the zoom level.

The **settings** button  allows you to:

- switch the map provider
- show / hide the track log (if provided)
- show / hide waypoints (if provided)
- trigger a reload of the map


4.2.2. The Images List

Below the map, you'll find the list of images in your project. You can switch between list view and grid view using the buttons at the top right of this section.

You can enable or disable columns by selecting "Columns" from the "View" menu. You can sort images by clicking columns headers or by making your selection from the "View > Sort By" menu.

The grid view show image previews, names, and optionally timestamps. You can adjust this and other presentation options from the View menu.



Images lacking latitude and longitude coordinates are shown with their names in red text.

Images for which you have modified latitude and longitude coordinates are shown with a flag  next to their names. This flag is cleared when you export coordinates to EXIF/XMP tags.

HoudahGeo also flags images for which it received coordinates from a photo library that differ from those found in EXIF/XMP metadata.

Images ⌵ ☰					
Name	Timestamp	🕒	Latitude	Longitude	Altitude
IMG_5490.jpg	21/08/15 11:37:08	🕒	27.09883° N	77.66960° E	186.00 m
2015_08_Delhi - 38.JPG	09/08/15 11:57:33	🕒	28.59341° N	77.24956° E	199.35 m
P1030919.jpg	06/10/14 12:50:40				
GOPR0001.jpg	04/10/14 18:16:00				
IMG_6854.jpg	04/09/07 10:02:34				
IMG_6774.jpg	02/09/07 16:50:53				

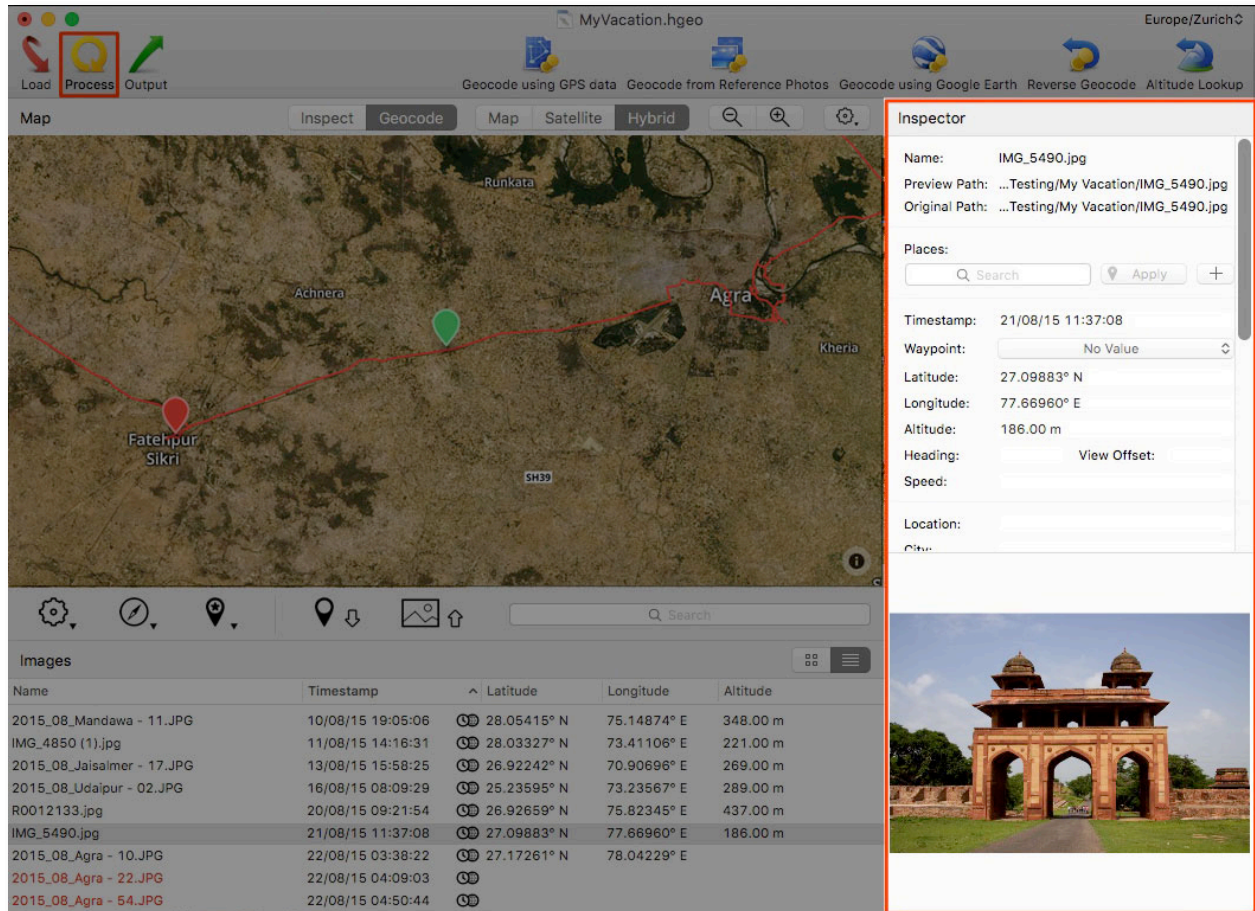
The images' timestamps are displayed in the [Display Time Zone](#) selected.

Images showing the time zone badge  in the Timestamps column have time zone information embedded in their metadata. By default, this takes precedence over settings made in Camera Setup. These timestamps will not be adjusted when you change camera time zone settings. Clock error settings still apply. “[Camera Setup](#)” offers an option to override embedded time zone information. When you choose to ignore time zone information, the time zone badge will show a strikethrough line: .

You can override this setting for individual images. Click the time zone badge to reveal options.

4.2.3. The Inspector Pane


The inspector pane is shown to the right-hand side of the project window. The values in the inspector pane pertain to the currently selected images.



The first segment of the inspector shows information about the image: its name, original path, alternate path, and preview path.

Original Path: This is the path to the original image you took with your camera. This is the file HoudahGeo will tag when you [export EXIF/XMP](#) metadata.


Alternate Path: Some cameras allow for saving two copies of the same photo: one JPEG file and one RAW file. HoudahGeo treats both files as a single photo. You will assign the same location and metadata to both files. You will probably want HoudahGeo to write to both originals when you [export EXIF/XMP](#) metadata.

For images that are backed by two original files, a  button will show next to the original paths. With this you can remove either path from the HoudahGeo project so that HoudahGeo works only with the other file.


Preview Path: When working with media libraries like Apple Photos, this is the path to the latest version of the image with all your edits applied. This is the file HoudahGeo will use for publishing. I.e. when creating [Google Earth KMZ](#) or [KML](#) files, [upload to Flickr](#) and so on.

Click the preview or original paths to reveal the referenced file in the Finder.

The **Places** feature allows you to save frequently used locations as favorites.

- Use the **Places search field** to search for pre-defined places. Search results show both predefined places and suggestions from map search. When you select a place, its location is marked on the map by a **purple pin** . Click the **Apply** button to write the place's coordinates and location information to the image.



- Click the  **Button** to
 - **create a new place** with coordinates and location information of the currently selected image. You can then name the place in the Places window. Here, you can further adjust coordinates and location information.
 - **manage your places list**

The **images' timestamps** are displayed in the [Display Time Zone](#) selected.

Below the timestamp, you can find the **Waypoint** pop-up menu. Some GPS devices offer the option to record waypoints by pressing a button. You can use this to mark the exact locations where you took photos. Select a waypoint from the pop-up menu to apply its coordinates to the image.

In the next segment of the Inspector, you can view and edit **Latitude**, **Longitude**, and **Altitude** values. You can copy-paste coordinates between images using the special commands from the Images menu. Likewise, you can paste coordinates from external sources (e.g. Wikipedia).

Altitude values can be derived from longitude/latitude information using HoudahGeo's [Altitude Lookup](#) feature.

Units and formats for coordinates, altitude and speed can be changed in the View menu.

Heading is the direction of travel at the moment the photo was taken. If your GPS device includes a compass, the heading value is filled in during automatic geocoding.

You may add a **View Offset** if you know that the photo was taken in a different direction from where the GPS compass was pointing. E.g. you took photos out the side window of an airplane. During [export](#), HoudahGeo combines the heading and offset values into the viewing direction value.

If your GPS device records **Speed**, this value will be filled out during automatic geocoding.

Depth refers to the depth below water. This, for example, applies when Scuba diving. HoudahGeo can get this information from [UDDF dive logs](#).

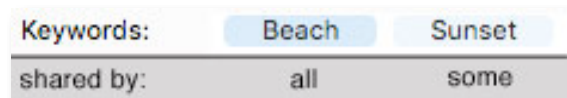
The next section holds **Location** (a sub-location to a city or the name of a well-known location or (natural) monument outside a city), **City**, **Province**, **Country** name and **ISO code**. You may enter those manually or rely on the [reverse geocoding](#) feature to fill those in.

The weather section shows ambient **Temperature**, relative **Humidity**, and air **Pressure**. HoudahGeo can get this information from [weather log files](#).

In the last section, you may view, change, or add additional image metadata like **Title**, **Description**, **Creator**, **Copyright** and **Keywords**.

The **Keywords editor** works as follows:

- ☐ Keywords shared by *all* selected images are shown in blue.
- ☐ Keywords found only on *some* of the images are shown in a lighter shade of blue.
- ☐ Type keywords you want to add to all images selected.
- ☐ Remove keywords you want to remove from all images selected.



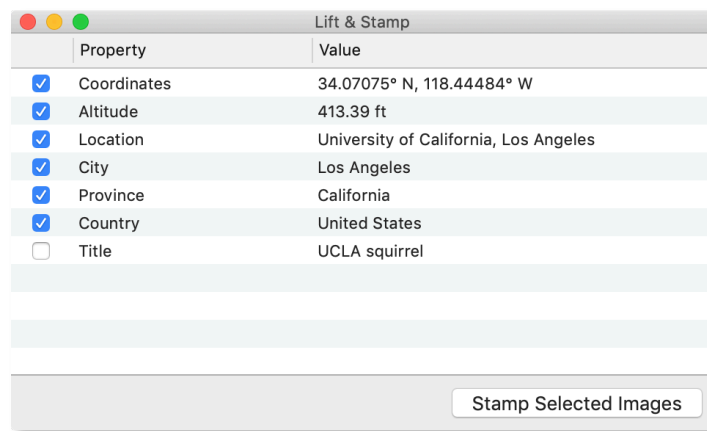
During Step 3: Output > “EXIF/XMP Export”, values set in the Inspector can be saved to your image files’ metadata. Make sure to tick the boxes of all the values you would like to be written to your files.



Tip: You may select several images to write the same information to all files selected. E.g. choose all your images (cmd-A) and fill in the creator information. Or select all your pictures taken in Paris and fill in the city text field.

4.2.4. Lift & Stamp

With the “Images > Lift Metadata” command you can copy coordinates and other properties from a selected image. A floating window will show the information you have copied. From here you can stamp the metadata onto other images.



The checkboxes next to the copied values allow you to select which properties to apply. You may, for example, want to leave the titles and descriptions of target images untouched.

4.2.5. Geocoding Options

4.2.5.1. Automatic Geocoding Using GPS Data & Waypoints

Geocoding from GPS data happens automatically as you load images and matching track logs into a HoudahGeo project. Before geocoding starts, you will see the settings panel described below.


You can verify the coordinates using the [map](#) and [inspector](#) panes.

The screenshot shows the HoudahGeo application window. The top toolbar includes buttons for Load, Process (highlighted with a red box), and Output. Below the toolbar are tabs for Geocode using GPS data, Geocode from Reference Photos, Geocode using Google Earth, Reverse Geocode, and Altitude Lookup. The main interface is divided into two panes: Map and Inspector. The Map pane shows a satellite view of the Taj Mahal in Agra, India, with a red line indicating a GPS track. The Inspector pane displays metadata for the selected image, '2015_08_Agra - 10.JPG', including its name, preview path, original path, timestamp, and geocoded coordinates (Latitude: 27.17261° N, Longitude: 78.04229° E, Altitude: 168.00 m). Below the map is a table of loaded images.

Name	Timestamp	Latitude	Longitude	Altitude
2015_08_Mandawa - 11.JPG	10/08/15 19:05:06	28.05415° N	75.14874° E	348.00 m
IMG_4850 (1).jpg	11/08/15 14:16:31	28.03327° N	73.41108° E	221.00 m
2015_08_Jaisalmer - 17.JPG	13/08/15 15:58:25	26.92242° N	70.90696° E	269.00 m
2015_08_Udaipur - 02.JPG	16/08/15 08:09:29	25.23595° N	73.23567° E	289.00 m
R0012133.jpg	20/08/15 09:21:54	26.92659° N	75.82345° E	437.00 m
IMG_5490.jpg	21/08/15 11:37:08	27.09883° N	77.66960° E	186.00 m
2015_08_Agra - 10.JPG	22/08/15 03:38:22	27.17261° N	78.04229° E	168.00 m
2015_08_Agra - 22.JPG	22/08/15 04:09:03	27.17450° N	78.04232° E	166.00 m
2015_08_Agra - 54.JPG	22/08/15 04:50:44	27.17450° N	78.04232° E	166.00 m
IMG_5678.jpg	22/08/15 12:53:20	27.17450° N	78.04232° E	166.00 m



Providing a GPS track log file is the most convenient way of geocoding photos. You can find a “track logging” feature in many GPS devices and smartphone apps: Every couple of seconds, the device records its position to a file. Pure track loggers are available for less than \$100. Refer to the Frequently Asked Questions for [device recommendations](#).

Click the “**Geocode Using GPS Data**” toolbar button  to start automatic geocoding over or to adjust options of the geocoding algorithm:

Selected images only: Kick-off GPS geocoding only for the currently selected images. Settings made below nonetheless apply to the whole project.

Track log geocoding: Enable automatic geocoding from GPS track logs. HoudahGeo will match up image timestamps to timestamps in the GPS track log and thus compute image locations.

Waypoint geocoding: Enable automatic geocoding from GPS waypoints. This applies only to images for which track log geocoding yielded no result. For each image, HoudahGeo will try to locate a waypoint that is close in time and match the image to that waypoint's location.

Update: Check the properties you want to see updated using track log and waypoint geocoding. HoudahGeo will always update latitude and longitude coordinates. Some GPS devices also provide altitude, heading, and speed information. Likewise, some cameras can provide this information. The geocoding process will set or clear the selected values as it matches images to GPS recordings. Uncheck the properties where you want to see the camera provided values preserved.

Geocode automatically: With this option enabled, HoudahGeo will automatically geocode images when track logs or images are added to the project or when timestamps are updated. Uncheck this option if you prefer to manually kick off geocoding for images you select.

Advanced track log geocoding options:

Extension limit: Number of minutes by which to extend the search for tracks matching a given photo. A photo is considered to match up with a track if it falls within the track's timespan or within the specified number of minutes before the beginning or after the end of that timespan. The default value is 5 minutes.

Merging limit: GPS devices may start new tracks when turned on or after losing GPS signal. Strictly speaking, we cannot geocode a photo that falls between two tracks. HoudahGeo, however, decides to merge two tracks if the time elapsed between the first track's end and the other track's beginning is less than the specified number of minutes. The default value is 30 minutes.


Matching limit: HoudahGeo determines the location where a photo was taken by matching it up with two points on the track: one preceding and one following the time the photo was taken. If the closest point's timestamp is more than the specified number of

minutes before or after the photo was taken, HoudahGeo considers there is no match and does not geocode the photo. The default value of 0 disables this check.

To **manually** select a **GPS waypoint** as an image's location, go to the [waypoint section](#) in the image's [Inspector Pane](#). This will copy all of the waypoint's location properties to the selected images.

4.2.5.2. Using Reference Photos

You may already have a camera that takes geotagged photos, e.g. your smartphone. With HoudahGeo, you can use these photos as references to tag photos taken with another camera within the same time frame.

At each location, you would take one geotagged picture (with your smartphone) as well as a series of regular photos. You then load photos from both cameras into a HoudahGeo project. Click the **Geocode from Reference Photos** toolbar button .

You can specify reference photos to always **precede** or always **follow** the photos you want to tag. E.g. your workflow may include always taking a reference photo before taking the “real” pictures.

You may also simply choose the picture **nearest** in time to serve as reference image for untagged photos.

Coordinates are propagated from a reference photo to the nearest image and from there on to the next until HoudahGeo hits a time **gap** large enough to suppose that you have changed location.



HoudahGeo assumes that all photos in a project share the same camera clock settings. Thus, **you should set the clocks on both your regular and your reference camera to the same time zone.**

If your reference camera was set to a different time zone, you first need to enhance the reference image files with time zone information:

1. Load the images from the reference camera into a HoudahGeo project
2. Specify [camera time settings](#) and verify that times shown in HoudahGeo are correct.
You may want to set the [Display Time Zone](#) to match the time zone at the location where the photos were taken.

3. [Export to EXIF/XMP](#). Set HoudahGeo to write Timestamps to files.

You can now use the tagged images as references in a new project with your other photos. Specify camera time settings to match the clock on your regular camera. Since the reference photos now include timezone information (they show a time zone badge 🌐 in the Timestamps column), they will not be affected by camera clock settings made for this project.

4.2.5.3. Geocode Along a Great Circle Route

Great circles represent the shortest route between two points on the globe. Flight paths usually try to roughly follow great circle routes. Other factors like wind and air traffic are taken into consideration. Knowing the start and end point of a flight, HoudahGeo can make an educated guess at in-flight locations by assuming the flight followed a great circle route.

Set location coordinates on at least two photos on a flight. HoudahGeo will place the remaining images along a great circle route between the known locations.

4.2.5.4. Manually Using the Built-In Map & Places Feature

With HoudahGeo, you can geocode your images manually by picking locations on a map or choosing from a list of favorite places.

To geocode using the built-in map, you will first need to switch to **geocode mode** by clicking the respective button in the map toolbar at the top:



The map now shows a **green pin** 📍 **at its center** (**red pins** 📍 **indicate locations of currently selected images containing geodata**).


At the bottom of the map, a toolbar with additional controls appears:





The Settings button ⚙️ offers options which may help speed up the geocoding process:


- **Automatically proceed to next image:** When this option is enabled, HoudahGeo will automatically select the next image once you are done geocoding one image
- **Automatically jump to selection:** With this option enabled, HoudahGeo will automatically update the map when you select an image

- **Automatically Sync Map and Image Locations:** Automatically updates longitude and latitude information of the image(s) selected when you move the map or enter and select a search term. When selecting a geocoded image, the map will automatically update to show the image's location.

The **Reveal Location** button  shows the map area in Apple Maps, Google Maps, Bing Maps ...

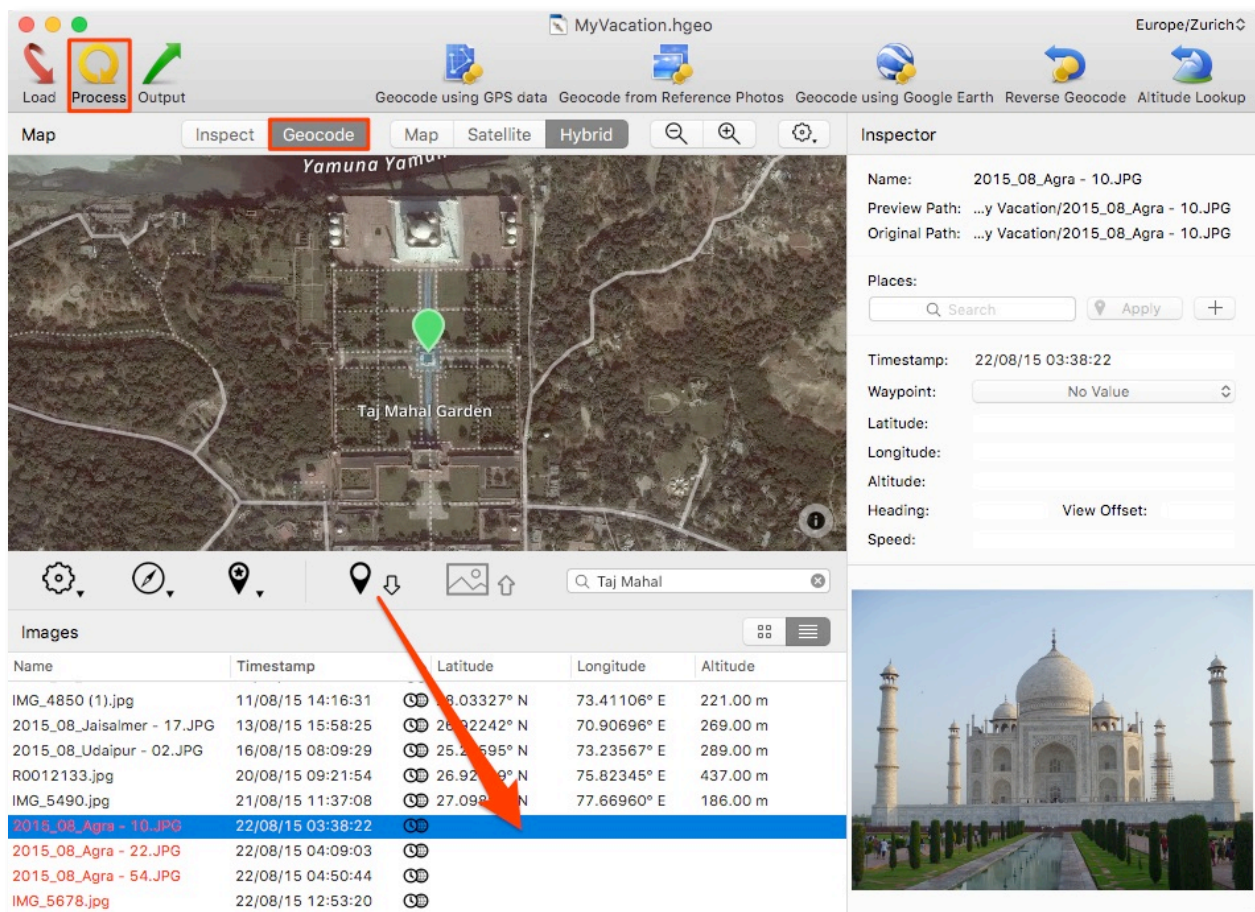
The **Places**  button allows you to select, set and manage [Places](#) on the map.

The **Geocode** button  ↕ copies the coordinates from the **green pin**  **to the selected images.**

The **Jump to Selection** button  ↕ “copies” the coordinates from the image to the map. This means the pin will move to where the image is located.

The Geocode and Jump to Selection buttons are not needed when using Automatically Sync Map and Image Locations. With this option active, these two buttons are disabled.

The **Search Field** allows you to search for locations. Suggestions will appear as soon as you start typing. The search field will also show results from your pre-defined [Places](#) list.





Workflow Examples:



To geocode a series of images:

- Navigate the map to the location of the first image
- Select all images taken at that location
- Click the Geocode button
- Adjust the map slightly to point to the location of the next image
- Select all images taken at that location.
- Click the Geocode button
- ...

To adjust the location of an image:

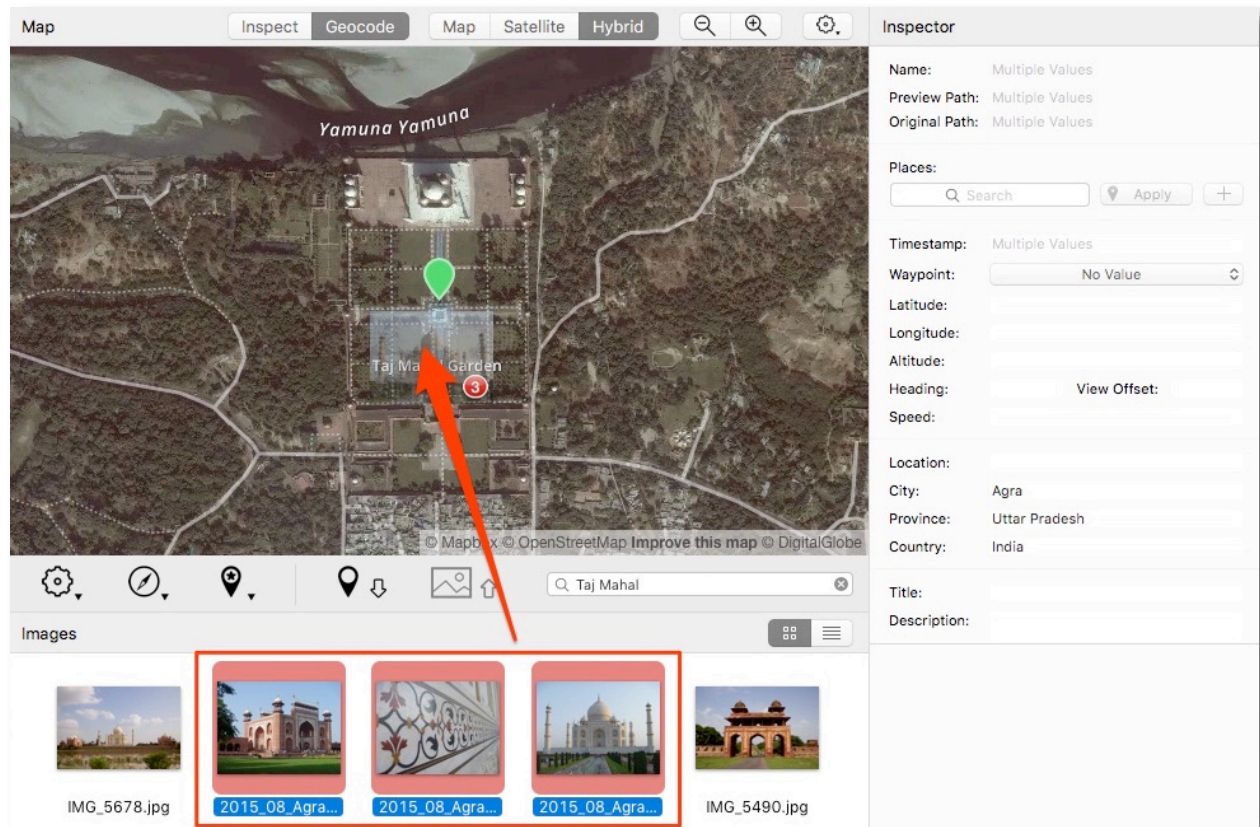
- Select the image from the list at the bottom of the window
- Click the Jump to Selection button . The pin will move to where the image is located
- Drag the pin or the map to select the desired location
- Click the Geocode button 

Make minor adjustments to a series of images faster:

- Click the Settings button  and enable both “Automatically jump to selection” and “Automatically proceed to next image”.
- Select an image. The map will show the pin at that image’s location.
- Adjust the pin and click the Geocode button . The coordinates are updated.
- HoudahGeo automatically moves on to the next image. The map will show the pin at the new image’s location.

4.2.5.5. Drag & Drop Geocoding Using the Built-In Map

Simply drag images from the images list to the map and drop them on the map at the location where they were taken.

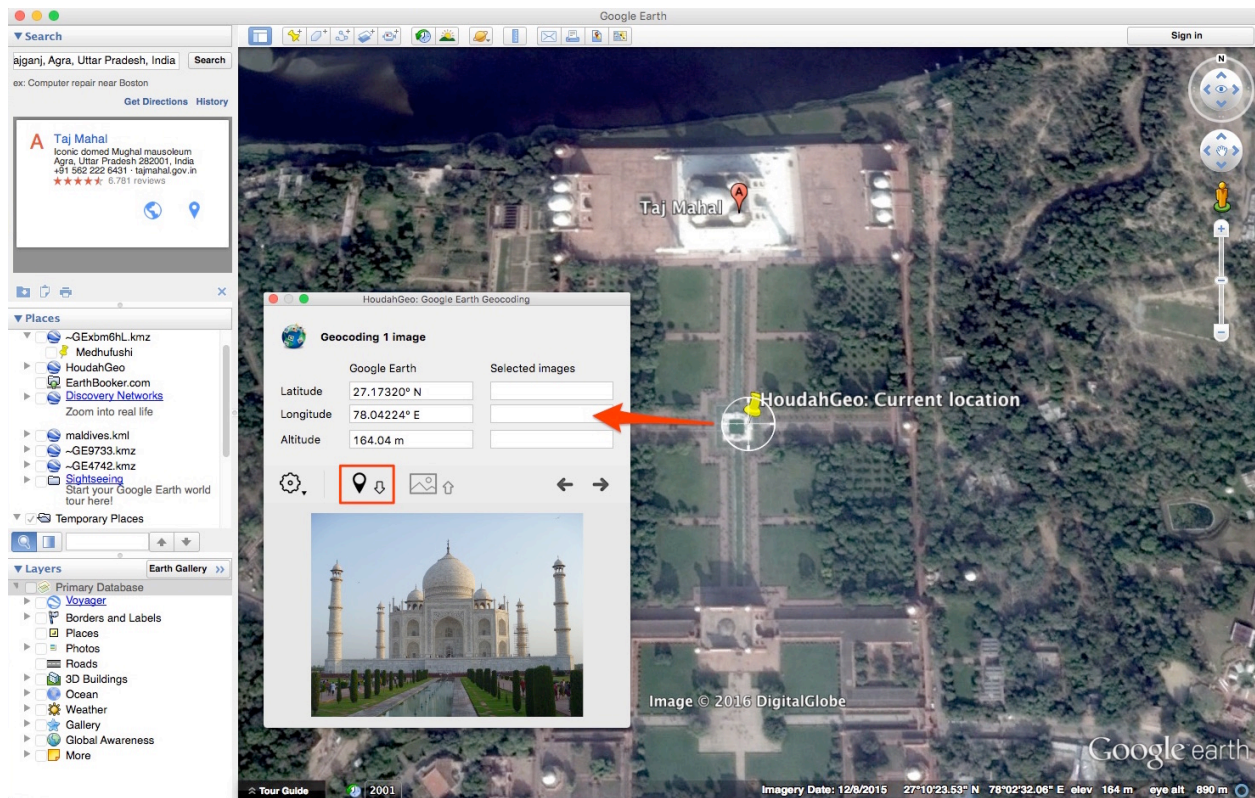


4.2.5.6. Using Google Earth

Click the “Geocode using Google Earth” button  in the toolbar. HoudahGeo will launch [Google Earth](#) and show a floating window with geotagging controls. Geocoding using Google Earth works much the same as geocoding using the [built-in map](#). Please refer to that section for [information about the buttons](#).

Google Earth will show crosshairs at the center of the map view. Adjust the view so that the crosshairs match the location where you want to tag the selected images.

The **arrow buttons** allow you to navigate your images without returning to the HoudahGeo project window.



When you quit Google Earth, you will be offered the option to save the crosshairs to the “My Places” folder in Google Earth. You should decline that offer.

4.2.6. Adding Additional Metadata Information

4.2.6.1. Reverse Geocode

Once you are done geocoding your images, you may proceed to reverse geocoding. This is the process of deriving location names from GPS coordinates.

Select all geotagged images you would like to get location names for, then click the

Reverse Geocode toolbar button  to start.

HoudahGeo supports several services for reverse geocoding. They all produce slightly different results. The quality of the results may vary by region. When reverse geocoding a large amount of images at the same time, this process may take a while.


The fastest reverse geocoding option is “HoudahGeo (offline, fastest)”. You will need to download the GeoNames Database the first time you use this feature. After the initial download, no internet connection is needed to reverse geocode images.

Reverse geocoding offers a choice of languages for place names: English, German, French, or Spanish. Some services also offer the option to use your “Preferred Language”. This option selects from available languages based on the order of preference you have set in System Preferences > Language & Region.



Reverse geocoding is not a required step. Your photo management software may actually ignore location names found in EXIF/XMP metadata. Instead, it will find appropriate names from the location coordinates.

4.2.6.2. Altitude Lookup

This option derives altitude values from GPS coordinates. Select all geotagged images you would like to get altitude information for, then click the **Altitude Lookup** toolbar button  to start.

4.2.6.3. Update from Dive Log File

HoudahGeo can record depth below water in EXIF/XMP metadata. It can read this and other location information from UDDF dive log files. Some GPX files can also provide water depth and temperature information.

For HoudahGeo to be able to match times on your photos with times in the log file, it needs to know what time zone the times in the log file are expressed in. Select a time zone and check that the log start and end times match your recollection. These times are expressed in the display time zone set for the current project.

Next select which image properties to update from information in the dive log.

4.2.6.4. Update from Weather Data File

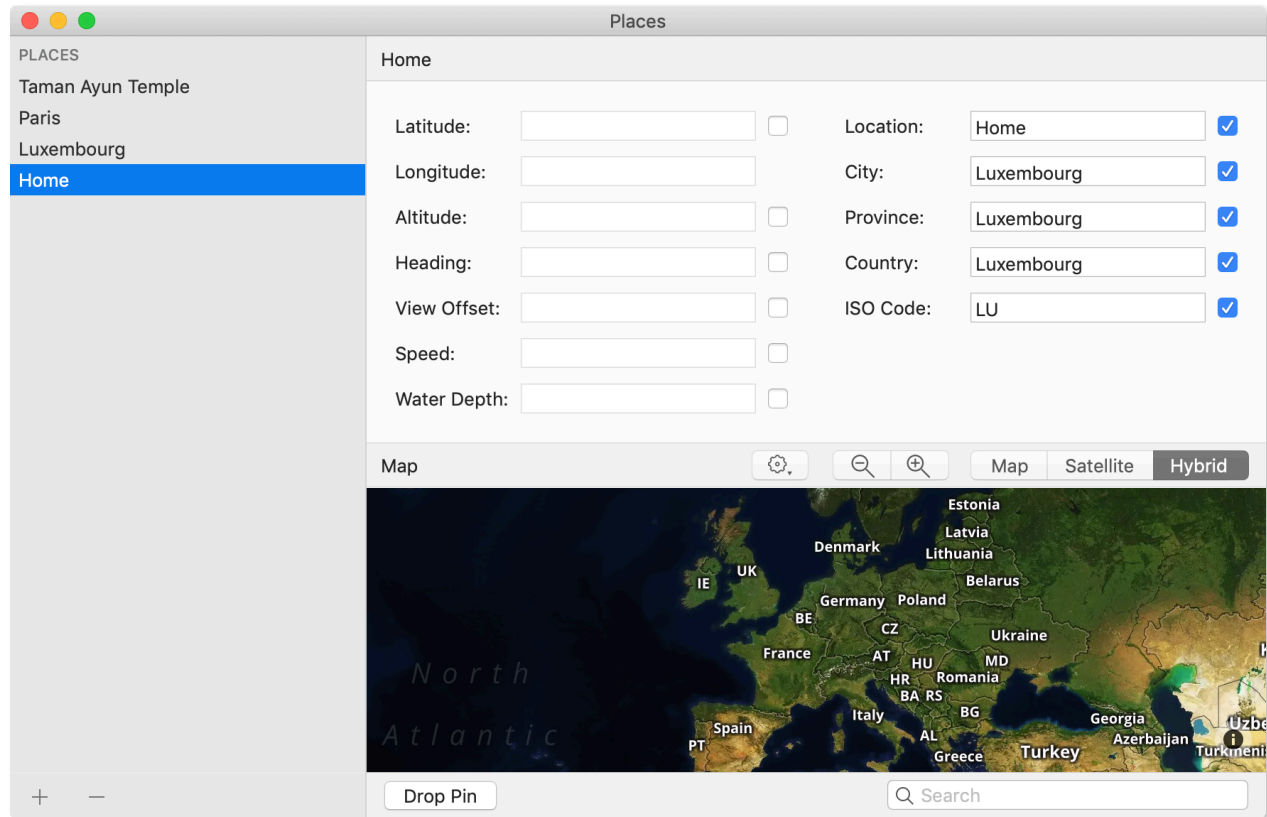
HoudahGeo can record weather information (ambient temperature, humidity, and air pressure) in EXIF/XMP metadata. It can read this and other location information from KESTREL weather log files. Some GPX files can also contain weather information.

For HoudahGeo to be able to match times on your photos with times in the log file, it needs to know what time zone the times in the log file are expressed in. Select a time zone and check that the log start and end times match your recollection. These times are expressed in the display time zone set for the current project.

Next select which image properties to update from information in the weather log.

4.2.7. Places

In HoudahGeo, you can set up a list of favorite places. You can find this list from the “Process > Manage Places...” menu item.



You can assign such “Places” to images from the Inspector pane. Places can also be found when searching the map in geocode mode.

“Places” are much more than bookmarked locations. Besides location coordinates, a place can have many of the same properties as an image. Every such property, including location coordinates, is optional.

For each property, you can decide whether you want it copied to the image when applying the “Place”. For this purpose, you need to tick the checkbox next to the property’s value.

A “Place” is thus a set of saved properties - a rubber-stamp - you can reuse. You can, for example, set up a place named “home” that only sets location name and address, but leaves the exact coordinates of images untouched.

4.3. Step 3: Output

During this step, HoudahGeo exports and/or publishes the metadata collected and generated in the previous steps.

Some settings are shared by most export options:

Images: Select all images, geocoded (having latitude and longitude coordinates), or flagged (modified coordinates).

Selected images only: Only images previously selected in the project window will be processed.

At the top of the output options window, you will see how many images will be processed. This count is updated as you change these settings.

4.3.1. EXIF / XMP Export & Notify Library

EXIF, XMP, and IPTC tags allow for geocoding information to be stored invisibly within image files.



Writing EXIF/XMP/IPTC tags to image files requires modifying the files.

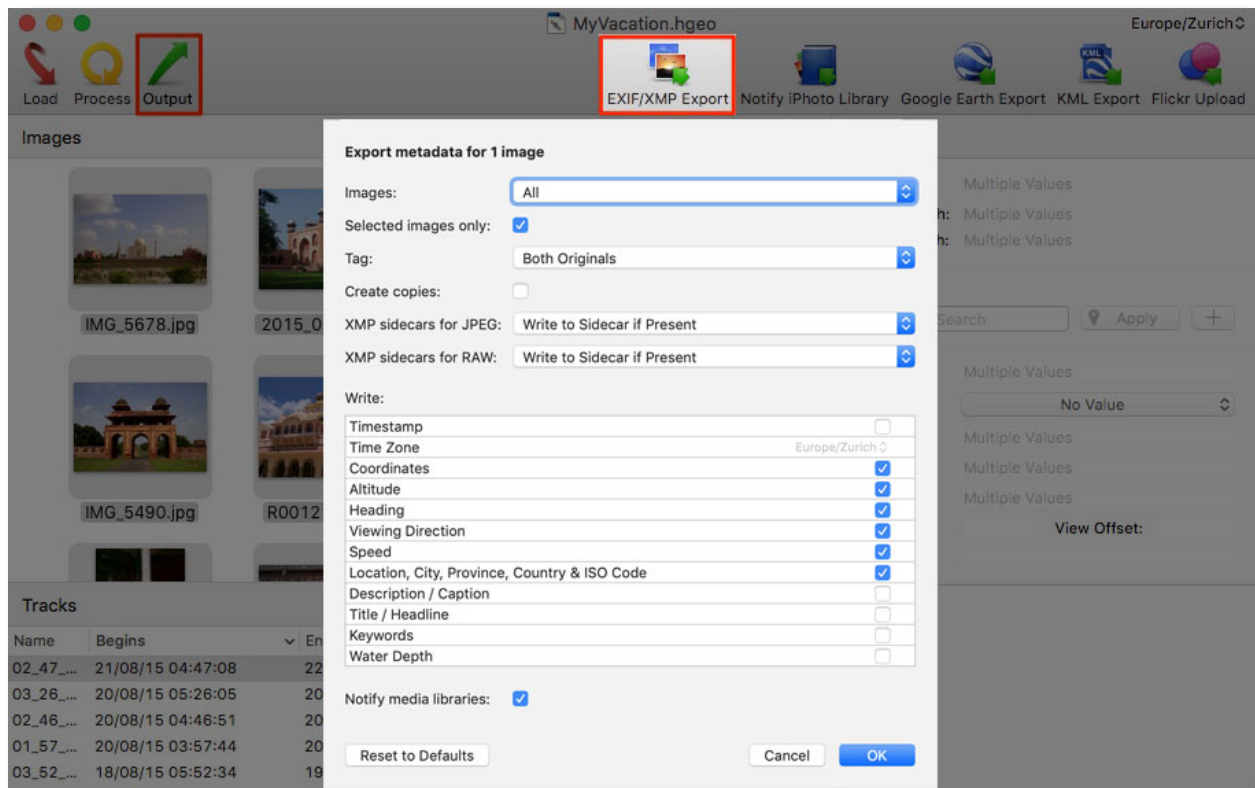
This process is lossless. Image quality is not affected. Modifying files is however not without risk. **We thus recommend you always have backup copies.**



This process requires temporary disk space. **We strongly recommend against tagging files that are still on memory cards.** Tagging files on memory cards is significantly slower than tagging files on disk. Files may get damaged when storage space runs out.



HoudahGeo supports JPEG as well as a large selection of RAW formats. Please make use of the [demo period](#) to make sure HoudahGeo supports the image format produced by your camera.



Choose which image files to **tag**:

- **Main Originals:** When working with media libraries like Apple Photos, this is the original, unedited image you took with your camera.
*Note for users of **Apple Photos with iCloud Photos**:* Original images need to be available on your Mac to be tagged. If you have enabled “Optimize Mac Storage”, Photos downloads the originals only for the most recently used images.
- **Alternate Originals:** When working with JPEG + RAW pairs, a single photo will have two original files. The JPEG version will be the main original. The RAW file will be the alternate.
- **Both Originals:** HoudahGeo will write the same information to the main original and the alternate original where one is available.

The [paths](#) to both original versions of an image can be found in the Inspector.

Create copies: With this option enabled, HoudahGeo will create copies of your image files before tagging those copies. It will ask you where the copies should be saved.

Choose how to handle **XMP sidecars**:

- ☒ **Write to Sidecar if Present.** When XMP sidecars are present, HoudahGeo gives these



- over the actual image files: it will read from and write to the sidecars.
- **Create Sidecar if Missing.** With this option checked, HoudahGeo will create sidecars for images that have no sidecars yet.
- **Write to Image File. Ignore Sidecar.** This option forces HoudahGeo to write to the actual image files instead of sidecars.

You can set different behaviors for JPEG and RAW files. You may, for example, prefer to have metadata written directly to JPEG files, but use XMP sidecars for RAW files.



We recommend you have HoudahGeo write metadata directly to the image files and not use sidecars. This has, among others, the advantage that photos and their metadata cannot get separated.

Write: Check all the properties that you would like HoudahGeo to write to the image files.



HoudahGeo offers the option to write **timestamps** back to image files. This updates timestamps with the selected time zone and clock error. **Please be absolutely sure that the information is correct before committing it to file.**


HoudahGeo gives you the option to specify the **time zone** to use when writing timestamps to EXIF/XMP metadata. By default, HoudahGeo will use the camera clock time zone. With that setting, the dates and times written to metadata will see the least change. Times will only be adjusted to correct camera clock error.

Alternatively, you may select a time zone that will make times look more “natural”. E.g. by selecting the local time zone for the locations where you took the photos will ensure that photos taken around noon will show a 12 PM time. This can also be important when working with software that does not show or even ignores time zone information.

Notify media libraries: HoudahGeo may notify your media library (**Apple Photos**, **iPhoto**, or **Aperture**) that images they manage have updated metadata available.

The “Notify media libraries” option is available only if:

- the images selected are managed by a Photos, iPhoto, or Aperture library
- the images were added to the project using the HoudahGeo media browser
- “Create copies” is disabled

If this option is enabled, HoudahGeo will automatically bring up the “Notify media libraries” dialog box upon completion of the EXIF / XMP export. The dialog box can also be opened by clicking the “Notify Library” toolbar button .

Export settings for:

☒ Images managed by **Photos / iPhoto / Aperture:**

- Set “Tag” to “Both Originals”
- Deselect “Create copies”
- Set “XMP sidecars” options to “Write to Sidecar if Present”
- Select “Notify media libraries”

☐ Images managed by **Lightroom**

- Set “Tag” to “Both Originals”
- Deselect “Create copies”
- Set “XMP sidecars” options to “Write to Sidecar if Present”
- After the metadata export has finished, go to Lightroom and instruct it to load metadata from files. **Please note:** If you do this without having instructed Lightroom to share metadata before geocoding, metadata added in Lightroom will be lost.


☐ **Images hosted outside of supported libraries:**

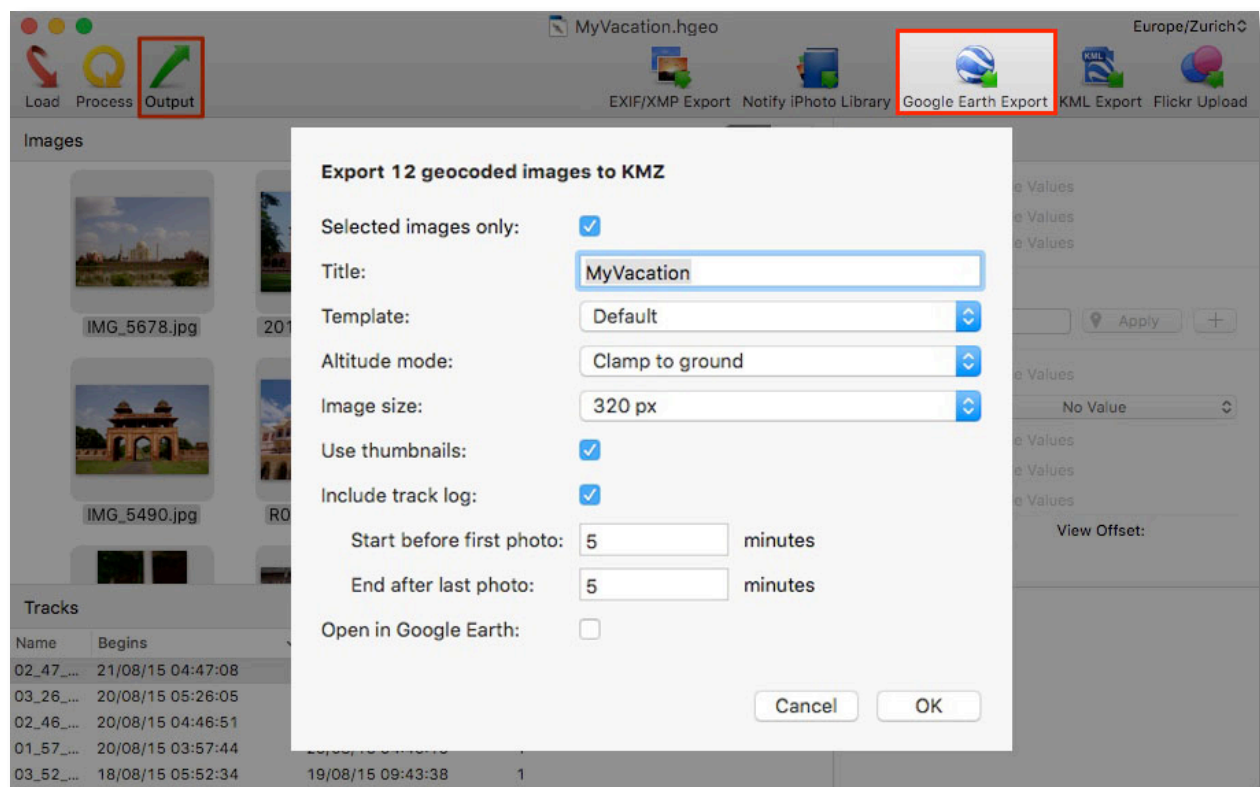
- Set “Tag” to “Both Originals”
- Decide whether to create copies or not. When enabled, image files will be copied and only the copies will be tagged.
- Set “XMP sidecars” options to match your preference

4.3.2. Google Earth Export

HoudahGeo offers the option to create a Google Earth KMZ file. This allows for viewing your photos within [Google Earth](#). This is a terrific way of sharing photos and showing them in context. E.g. a real estate agent may publish photos of available properties pinned to the appropriate locations.

A KMZ file is self-contained: it holds images, thumbnails, location and track information. In order to pass on your photos to someone else, you just need to hand out this single file.

To create a Google Earth KMZ file, select the Google Earth Export toolbar button .



Enter a **Title** for your KMZ file.

HoudahGeo offers two **Templates** to choose from

- ☐ **Default** - fewer details, smaller files.
- ☐ **Extended Track Info** - more details (includes timeline and bounding box), larger files.

Select an option for **Altitude mode**:

- ☒ **Clamp to ground**: Google Earth will assume photos were taken at ground level.
- ☐ **Absolute**: The use of absolute altitude makes sense only if your images have been geocoded with altitude information. There is a risk of images not showing in Google Earth if they are tagged with an altitude below ground level.

Image size: When a marker is clicked, Google Earth will display a preview of the corresponding photo. You may choose between 3 sizes for these preview images. If file size is an issue, you should prefer the smaller size.

Use thumbnails: By default, the KMZ will be configured for Google Earth to display markers at the positions where photos are located. You may choose to display thumbnail images rather than standard markers.

Include track log: HoudahGeo can include relevant parts of a loaded GPS track log. Define for how many minutes before the first and after the last image, the track log should be extended.


Open in Google Earth: The created file will open in Google Earth after the export has completed.

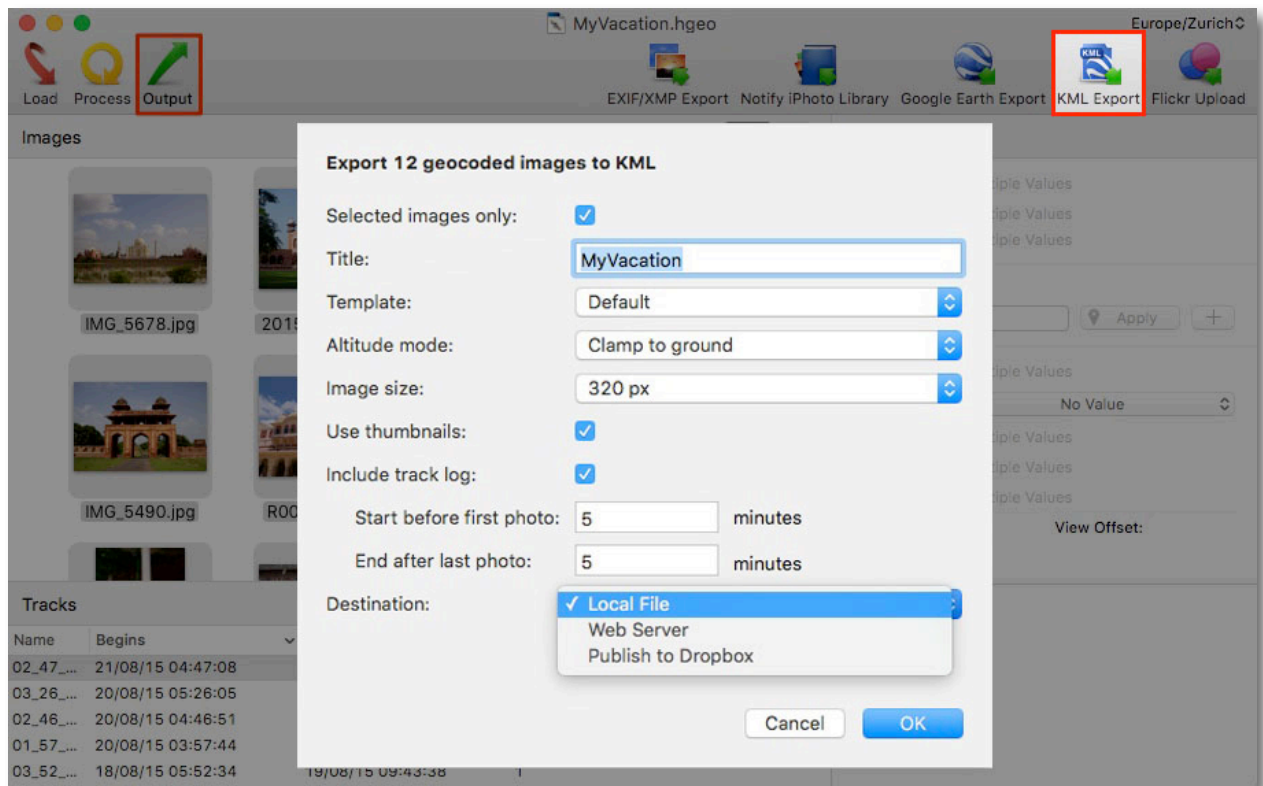
In Google Earth, a timeline will allow for browsing and filtering images by date and time. The track log, showing as a red line, can be switched on and off by ticking the respective box.

A very nice feature of Google Earth is the ability to view photos exported from HoudahGeo as a slideshow. The slideshow is created by flying from location to location. At each location, the slideshow may pause and briefly display the matching photo. Click the “Play Tour” in Google Earth button to start the slideshow.

4.3.3. KML Export

You may opt to generate KML files from a HoudahGeo project. KML is an open standard. It is supported natively by Google Earth and Google Maps. Unlike KMZ, it is not self-contained. The KML file references image files residing next to it or in a specific destination.

To generate a KML file, select the **KML Export** toolbar button . KML export offers the same options as Google Earth export. Please see [above](#) for documentation of these options.



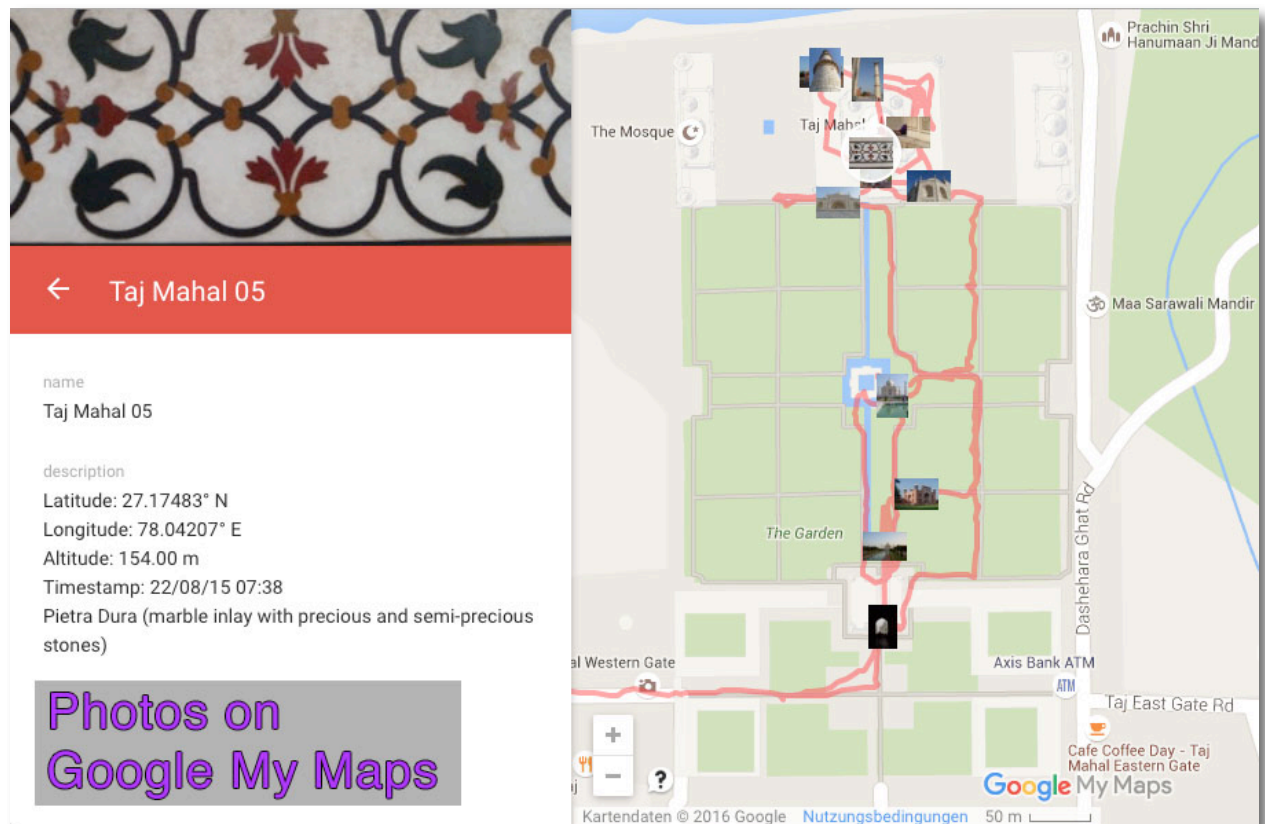
Under “**Destination**”, select one of three options:

- **Local File:** This creates a folder containing geoinformation and images locally on your computer. Do not rearrange elements in this folder. When you move or share this KML, make sure to move the whole folder, because all elements within the folder need to keep their relative positions.
- **Web Server:** This creates a folder containing geoinformation and images ready to be uploaded to a web server. You will need to provide the **Base URL** - this is the location on the server where the folder will be uploaded to. The KML works only once it has been uploaded to said location on the web server.

- **Publish to Dropbox:** To upload a KML folder to Dropbox, you will need to link your [Dropbox Account](#). Within your Dropbox' "Apps" folder, a folder named "HoudahGeo" will be created. Your KML projects will be saved to this location.

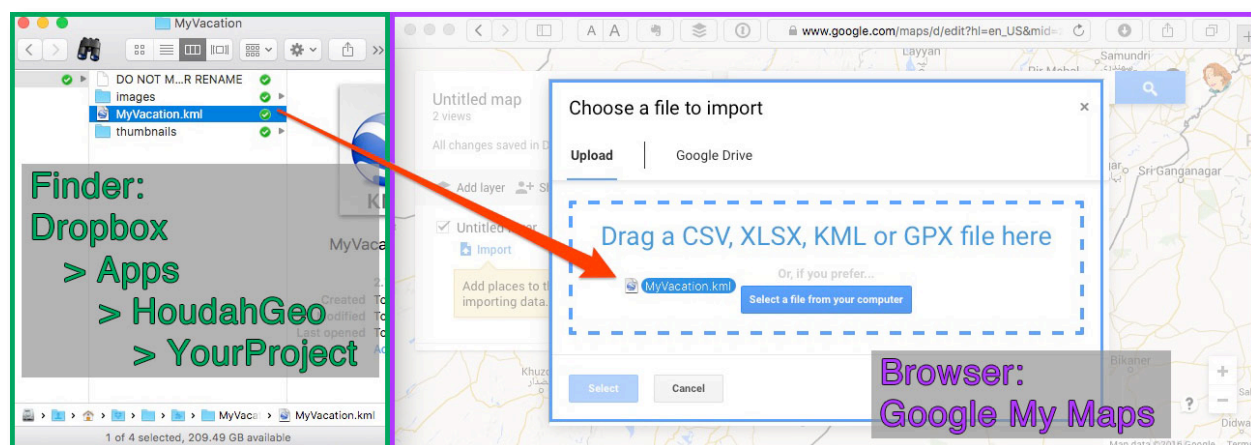
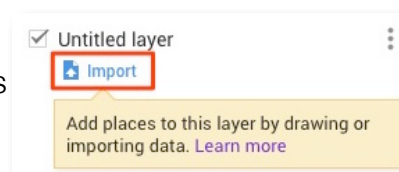
Once the photos are publicly available either on your server or in your Dropbox, you may pass along or make available for download the KML file. You may also use **Google Maps** to view the KML file.

You can also create your own map containing images and path (if provided) by uploading your KML to [Google My Maps](#), for example. For this to work, the images folder (and the thumbnail folder, if "Use thumbnails" was selected) need to be uploaded to a web server or to Dropbox using HoudahGeo's "Publish to Dropbox" feature.



To **create a map with images using Dropbox & Google My Maps**, do the following:

- In HoudahGeo's "KML Export", enter a title (e.g. "MyVacation"), then
 - select **"Template: Default"**,
 - select **"Destination: Publish to Dropbox"**
 - and set the other options as desired. Click OK and enter a folder name (e.g. "MyVacation")
- The file "MyVacation.kml" is saved to **Dropbox > Apps > HoudahGeo > "MyVacation"**, along with folders containing images and thumbnails (if "Use thumbnails" was chosen).
- Open [Google My Maps](#) in your browser. Click **"Create a new map"** or open an existing map.
- Click **"Import"** below a layer. Drag your KML file (MyVacation.kml) from Dropbox into the Google My Maps import window.




It takes a few seconds for Google Maps to import the KML file. Layers containing images and layers containing path information (if provided) will appear. The map will show your track log (path) and pins or thumbnail images. Click on the pins/thumbnails to see the image and additional information. To share your map, click "Share" and change "Access" > "Link sharing" to "On".

Google My Maps accepts KML files up to 5MB. The number of items it accepts is also limited. You may need to split up your project into several smaller KML files.

4.3.4. Flickr Upload

This option uploads photos from your HoudahGeo project to [Flickr.com](https://www.flickr.com).

When choosing “Flickr Upload”  for the first time, you will be asked to authorize HoudahGeo to access your Flickr account. Once you have done this, HoudahGeo stores your Flickr credentials.

Maximum size: HoudahGeo converts your images to the JPEG format before uploading. You may specify a maximum dimension to scale the image down to.



You can freely choose a size during export. Flickr, however, may limit the resolution you may access online if you have a free account.

Include machine tags: Flickr supports two ways of attaching location information to a photo. The first is based on EXIF tags which HoudahGeo automatically attaches to the images it uploads. The second makes use of machine tags. These are special tags which the Flickr server knows to interpret. E.g. `geo:lat=34.073157 geo:lon=-118.452398`

Some Flickr clients rely on the presence of these tags. It is best to let HoudahGeo attach those.



In order to fully benefit from uploading geocoded images to Flickr, you need to enable the "Import EXIF location data" option in your Flickr privacy settings.

Privacy: This setting determines who may see the photos you are about to publish. Possible values are: Public, Friends & Family, Friends, Family, Private.

Clear credentials: Should you want to use HoudahGeo with another Flickr account, you need to first clear the existing credentials.

4.3.5. CSV and GPX Export

To create CSV or GPS files, select the respective option from the Output menu.

CSV Export creates a comma-separated values file listing all images in the project. Such a file may be processed by various tools and applications including spreadsheet applications.

GPX Export creates a GPX file which has one waypoint for each image in the project.

Select whether HoudahGeo should use the image's title, its file name or its path as the **name** of the associated **waypoint**.

Choose whether or not HoudahGeo should **include** relevant parts of a loaded GPS **track log**. Define for how many minutes before the first and after the last image the track log should be extended.

5. HoudahGeo Preferences

You can access HoudahGeo's preferences from the HoudahGeo menu.

5.1. General Preferences

If you would like to prevent the [Camera Import](#) window to open when connecting a camera, untick the first box.

Tick the second box if you would like to check for software updates on startup. Choose whether or not to send an anonymous system profile.

5.2. Advanced Preferences

Preserve image file modification dates during EXIF / XMP export: With this option enabled, HoudahGeo tries to preserve file modification dates while writing metadata. This means: Even though new data is written to image files, their modification dates remain unchanged. While it is desirable in many situations to keep the original dates, this may cause backup software not to pick up the changes.

6. Frequently Asked Questions

For more questions and answers, also check out the Houdah online forums:

<http://forums.houdah.com>

6.1. Does HoudahGeo support RAW files?

Yes. HoudahGeo can read all the same file formats as Apple's Photos, iPhoto and Aperture.

HoudahGeo can write EXIF, XMP & IPTC tags to JPEG as well as many RAW image file formats.

HoudahGeo also works with JPEG + RAW pairs. It detects such pairs and presents these as a single image.

Please use the [trial version](#) of HoudahGeo to test with actual files from your camera.

6.2. Does HoudahGeo support XMP sidecar files?

Yes! When an XMP sidecar file is found, HoudahGeo will read metadata from the sidecar instead of reading from the image file. During EXIF/XMP export, HoudahGeo offers the option to use, ignore, or create XMP sidecar files.

6.3. I don't own a GPS. Can I still use HoudahGeo?

Yes! HoudahGeo offers various ways to geocode images: using a [map](#), using [Google Earth](#), from [reference photos](#), ...

6.4. Does HoudahGeo work with DNG files?

Yes. You may, however, experience problems with incorrect timestamps. At least some versions of Adobe's DNG converter suppose that both the computer and the camera share the same time zone. The computer time zone information is embedded in the DNG at the

time of the conversion. To ignore this potentially incorrect time zone information, select “Override time zone embedded within image files” in the [Camera Setup](#) pane.

6.5. Can you recommend a particular GPS device?

GPS devices come in a wide variety conceived for many different uses. It is a good idea to assess your needs and buy the receiver that matches those.

For the use with HoudahGeo, you need a device that has a track logging feature. This is available in most handheld receivers. Car navigation devices however usually do not have this ability.

Key properties to look for in a GPS track logger:

- Does not need an extra driver. Ideally mounts as USB pen drive
- Writes log files in a format supported by [GPSBabel.org](#), or comes with Mac software to convert the logs to standard GPX or NMEA. Other options for converting log files include applications like [HoudahGPS](#), [GPSBabel](#), or [LoadMyTracks](#).
- Removable battery if you plan longer trips without access to power
- Removable memory card if you plan longer trips without your laptop. A removable SD card also has the advantage of fulfilling the first requirement

6.6. How do I ensure the camera's clock is accurate?

1. Decide on a time zone you will use over the course of the project. Typically, this is either your home time zone or a time zone you travel to.
2. Set your GPS device to display time in the chosen time zone. If your GPS device has no display, use a radio-controlled clock.
3. Start setting the time on your digital camera.
4. If your camera allows for setting seconds to zero, do so when the clock on the GPS device jumps to the next minute. Otherwise, set the time on the camera to the next full minute. Save the newly set time at the very moment the actual time on the GPS device catches up.

6.7. Why couldn't some of my images be processed?

Do your photos have EXIF timestamps?

A photo must have a valid EXIF timestamp in order to be geocoded from a track log.

Remedy: Geocode the photo using the [built-in map](#) or using [Google Earth](#).

Was the camera clock set correctly?

HoudahGeo relies on the camera clock working consistently over the course of a project.

Remedy: If your camera clock was consistently off by a certain number of seconds, you may input this [clock error](#) when importing the first image into the project. If the clock error has changed over the course of the project, you will need to manually edit the timestamps.

Was the time zone configured correctly?

HoudahGeo inquires about the camera time zone when importing the first image into the project. You need to provide accurate information. Typically, this is either your home time zone or the time zone you traveled to.

Remedy: Select [Camera Setup](#) from the Load menu and apply the correct settings.

Do the photo times fall within the time frame of the track log?

In order to geocode a photo, its timestamp must fall between the time of two consecutive track points in a given track log segment. Photos taken outside the timespan covered by the track log can thus not be geocoded. If you expect the photo to fall within the correct time frame, you may want to double-check the camera time zone and clock error settings.

Remedy: Geocode the photo using the [built-in map](#) or using [Google Earth](#).

Why can't Lightroom see the geotags?

After geocoding using HoudahGeo, you need to instruct Lightroom to reload metadata from the files. Please note: If you do this without having instructed Lightroom to save metadata before geocoding, metadata added in Lightroom will be lost.

6.8. Licensing

Demo period

[HoudahGeo](#) is available as a trial version. During the demo period, you will be able to test the full feature set with the exception of export functions. These are limited to 5 images.

Buying HoudahGeo

Is a very good idea! Licenses may be purchased from our [web store](#).

Entering an activation code

Upon purchase, you will receive an activation code. You can enter the activation code, your name and email address in the registration window. HoudahGeo will then connect to our servers and request your license file. The file will be automatically installed. You will also receive a copy of the license file by email. Please keep that file in a safe place. You will need it to install HoudahGeo on your other or future Macs.

Loading a license

HoudahGeo licenses come as files. When you purchase HoudahGeo, you will be mailed your personal license file. There are many ways to load the file into your copy of HoudahGeo. The most convenient being to open the attachment right from your email application. You can also load the license file from the registration window in HoudahGeo.