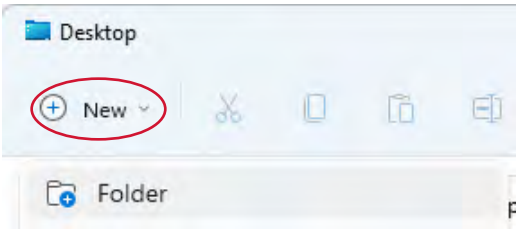
ArcGIS Pro: Geotagged Photos to Point

ArcGIS Pro 2.9.2

Welcome to the Essential GIS Task Sheet Series. This series supplements the Iowa State University Extension and Outreach Geospatial Technology Training Program's workshops and short courses by providing quick and easy instructions for performing a variety of mapping, data science, analysis and data visualization tasks.

The GeoTagged Photos To Points tool in ArcGIS Pro allows you to visualize the locations of images taken with a GPS-enabled camera or mobile device (including platforms such as an iPhone or Android). It works by creating points from the x-, y-, and z-coordinate information stored in the EXIF (Exchangeable Image File Format) metadata that accompanies each photo. In this tutorial you will test out the Geotagged Photos to Points tool on your own photos and learn how to match .gpx logs to photos without location metadata. Keep in mind that this tool supports .jpg and .tiff files, but not .png, .heic, or .jfif.

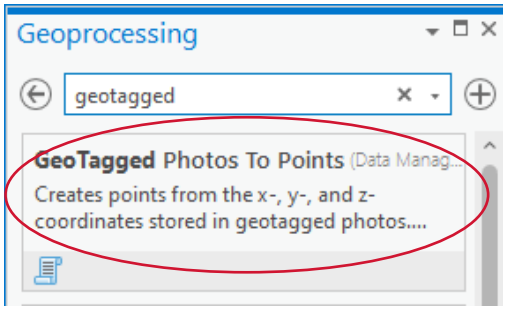
1. Create a Folder Containing Geotagged Photos



a. Choose a pre-existing folder on your computer that has photos in it. Otherwise, browse to an appropriate location and create a new folder by following the process in the location of your choosing (such as the desktop).

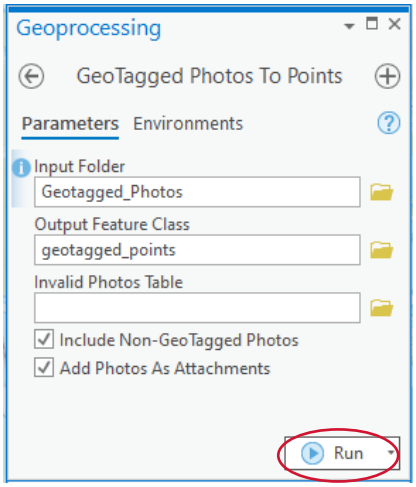
b. Copy and paste (or drag) photos into this folder.

2. Getting Started with ArcGIS Pro



a. Open ArcGIS Pro. Create a new project by clicking **Map** under the **New - Blank Templates** column in the start page.

3. Running the Geotagged Photos to Points Tool



a. In the **Analysis** tab, select the **Tools** icon in the **Geoprocessing** group.

b. In the **Geoprocessing** pane, begin typing **Geotagged Photos to Points** and select it when it pops up as an option.

c. In the **Geotagged Photos to Points** tool, select the folder you placed your saved images in for the **Input Folder**. Set the **Output Feature Class** to **geotagged_points**. Sometimes ArcGIS Pro will not be able to geotag an individual photo based on its XY data (or lack thereof). You can create a table of these photos by filling out the **Invalid Photos Table** with the location on the computer where ArcGIS Pro can compile them. You can also choose to add photos as attachments to each entry in the new feature class. These options are enabled by default. Click **Run**.

d. Your points should now be on the map! A new feature class will have been added to the **Contents** pane. Right-click it to open the attribute table and view the new fields added to your photos.

4. Accessing Mapped Photos

a. Option 1: In the **Attribute Table** for your feature class, **ctrl + click** the **hyperlink** for an individual photo in the **Path** field.

b. Option 2: Click on one of the point markers on the map. The **Pop-up** pane opens. Again you see the **Path** field with a hyperlink to the photo file. This time, you can just click it normally and the photo will open.

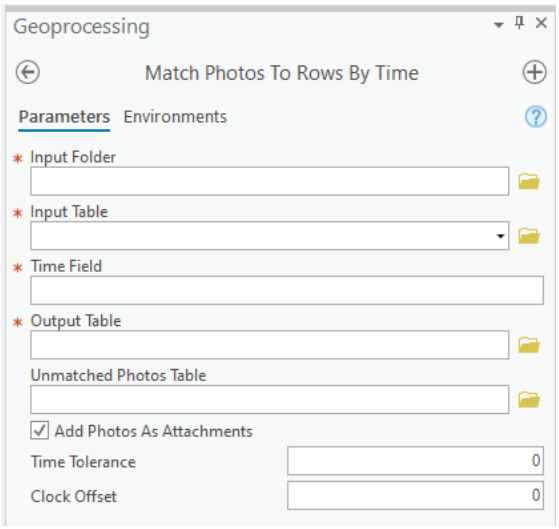
5. Matching Photos to Rows by Time Tool

a. Many modern cameras, including DSLRs and mirrorless models, do not contain GPS receivers. Photographers can use a phone app such as Geotag Photos to create GPS logs (.gpx files) while taking photos and then use those logs to add location metadata to photos. This is a great time to use the **Match Photos to Rows by Time** tool!

b. Click the **Tools** icon in the **Analysis** tab. Begin typing **Match Photos to Rows by Time**. When it pops up, click it, and the tool will open.

c. To run this tool, you will need an **Input Folder** (of photos), **Input Table** (a .gpx file with timestamps), **Time Field** (from your Input Table) and **Output Table** (new table to be generated). Then click **Run**.

d. Once the tool has finished, photos in the **Input Folder** will have location metadata attached and will appear on the map.



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