Final Technical Report

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Delaware Geological Survey
Digital Imagery Inventory

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Abstract

Data preservation is an important part of the Delaware Geological Survey (DGS) mission. Images are an important part of these data. In the past, photographs and slides preserved on photographic paper and film (analog format) were the primary means of image documentation. More recently, digital images captured by digital cameras or digital scanning of photographs and slides have supplanted the paper and film formats. Most images, whether analog or digital, do not carry along with them vital information (metadata) that allow for the greatest use of the image as well as provide documentation that will outlast the person who captured the image. Over the past few years, one data preservation effort of the DGS has been to scan analog images into a digital format.

Funding from this project has allowed for creation of metadata for these images possible. Information such as date, location, contact and copyright information, descriptive captions, and subject-based keywords have been added to the nearly 14,000 digital images in the DGS inventory. The information has been embedded inside each of the digital image files to ensure the metadata stays with the image. This was primarily done through the free program GeoSetter. Each image was also imported into a web-based package (a free and open source package called Gallery) that allows for DGS staff to search the inventory based on the metadata fields as well as view multiple scaled versions. The choice of software and the methodology employed allows for the continued growth of this inventory, through a distributed approach, without the additional need for funding or development. This will aid future use by DGS in research and in making these images available to others by populating the National Digital Catalog maintained by the U.S. Geological Survey.

Purpose and Justification

Data preservation is an important part of the Delaware Geological Survey (DGS) mission. Images are an important part of these data. In the past, photographs and slides preserved on photographic paper and film (analog format) were the primary means of image documentation. More recently, digital images captured by digital cameras or digital scanning of photographs and slides have supplanted the paper and film formats. Digital images allow for easy transfer of information, simple storage, and easy availability to the public through internet access. Ease of acquisition has created a need to document digital photos with digital information, metadata.

Most images, whether analog or digital, do not carry along with them vital information (metadata) that allow for the greatest use of the image as well as provide documentation that will outlast the person who captured the image. Over the past few years, one data preservation effort of the DGS has been to scan analog images into a digital format. To date, approximately 14,000 images are in digital format in the DGS image repository. These images, however, lack the necessary metadata for efficient use by researchers and future users.

The goal of this project is consistent with the goals of the National Geological and Geophysical Data Preservation Program: to create metadata for geologic data that can populate the National Digital Catalog. Specifically, this project focuses on creating basic metadata for the digital image holdings of the Delaware Geological Survey. The metadata to be created includes, but not limited to, date, location, contact and copyright information, descriptive captions, and subject-based keywords.

It was critical to create metadata for the data holdings of the Delaware Geological Survey digital photographic archive before any more of the legacy personnel retired. Much of the images contained in the archive could still be identified and located through existing contacts with these key personnel. The DGS has invested time and effort of numerous DGS staff members over the past several years to convert analog slides, photographs and other hard-copy documents into a digital format. Scanning of many of these data was especially important, primarily for those taken with color film because they are subject to deterioration and color degradation with time. Many of these images record natural hazard events such as stream and coastal flooding, core images, drill site images, documentation of data collection projects such as coring, and significant events in the history of the DGS. It is vital to create metadata for these images while those that took the photographs or have institutional memory of the events are still connected to the DGS or can easily be contacted. Unlike geologic samples, which if the primary information is available (sample site, date of collection, depth of sample, etc.) can stand alone for use for future research, digital images require the personal touch in metadata creation in order that the proper documentation is stored with the image.

Digital images are used by our stakeholders for a variety of purposes. Teachers commonly ask for general images related to various aspects of the geology of Delaware. Images of damage and geologic change related to natural hazard events are used by both state and federal agencies for documentation of the events and documentation related to reimbursement for disaster funds and future mitigation projects related to similar events. Images are also used by the press for relating information regarding geology to the public and public service events in which the DGS participates. Within DGS, rock core photographs are an important part of our research flow both in documenting

the cores and in referring to photographs rather than having to pull the core box from the repository once it is filed. Images are also used in our publications to document outcrops, sedimentary structures, stratigraphic contacts and other features.

Methodology

DGS maintains numerous types of hard-copy documents that were capable of being digitized and in need of documentation. These include slides, B&W photos, color photos, figures, maps, charts, newspaper articles, and others. All paper photos and slides were assembled, sorted by theme (i.e. fieldwork, field trip, outcrop, etc.), and scanned at 300 DPI in TIF format and then converted to JPG format. A similar process was done for other hard-copy documents. These items were then stored in a shared network location labeled as "marked for metadata creation". Initial information regarding the scanned images (known at the time of scanning) was incorporated into the folder and file names. This provided the first step in the metadata creation process. For example, a folder of slides showing fieldwork for a project involving the resetting of the Delaware – Pennsylvania Boundary Monument 3 folder was named "Resetting_DE-PA_3_3-14-1990." If more information was available than could fit in the folder and file names, a readme text file was created and included within the folder, documenting as much information as possible. This provided major information components for workers to use later in the actual metadata process. The digitization took place for approximately 2000 – 3000 documents.

As well, the DGS digital image inventory contains thousands of images in several different file formats, such as tif, gif, jpg, etc.... Since the final destination of thees images (the Gallery application) supports primarily TIF and JPG file formats, all images were converted to JPGs where necessary. All of the existing images, readme files, etc..., were thoroughly reviewed and summarized into major categories. Even though a folder structure was already in place, and had been for many years, several versions of categorizations were created. Interviews were done with several key DGS staff members to determine the most appropriate organizational structure. Scanned images were also reviewed at this point to determine if they could fit into the proposed structures. A two-level structure was selected and implemented as folders in the "marked for metadata creation" location.

During this time, training of several student workers by the project PIs took place on the process of editing EXIF and IPTC metadata. Individual elements were reviewed and prioritized. Vocabularies of keywords were also created as starting points. Technical training in two software packages, GeoSetter (http://www.geosetter.de/) and XnView (http://www.xnview.com/), was also done.

Once we had a collection of digital images, from both existing images and scanned documents, which were sorted and contained initial metadata information, and the workers trained in metadata creation

software, consultations were arranged with current DGS staff to gather as much information regarding the photos as possible. Numerous one-on-one meetings, emails, phone calls, etc.., were used to complete this task. In many cases, the same image, or set of images, required contact with several DGS staff members. For example, one person may have known the location of the event, while another may have recognized the people or objects within the image. Images stayed in the "marked for metadata creation" folder (and NOT uploaded to the online Gallery; see next section) until a satisfactory amount of information was gathered and the metadata created. The goal was to create as much metadata as possible for as many images as possible while maintaining at least the minimum set of metadata elements.

Minimum set of metadata elements required before being uploaded into the DGS digital image inventory (Gallery):

Metadata Element	DGS or USGS required
Date of the event	USGS
Location of the event as GPS coordinates	USGS
Title or short caption	DGS
Topical keywords	DGS
Contact information	DGS
Copyright	DGS

Gallery (http://gallery.menalto.com/) is a web-based, free and open source digital image management and distribution package. According to their website, Gallery has been operationally in existence for 10 years (initially released in June 2000.) Gallery was chosen for several reasons:

- it's in active development with a relatively large user community
- it's an open source project allowing modification of the source code when needed
- Gallery is built on PHP and MySQL, two applications currently in use at DGS
- Gallery provides search capability for main metadata elements
- Gallery is a multiuser application with individual user albums and uses both a role-based and user-based authentication system

- the interface is easy to use, allowing non-technical DGS staff to create albums and upload digital photos without much effort
- theme/layout is kept separate from core content

As each set of images were documented, they were uploaded into the Gallery application. Usually, this represented a complete folder or collection of folders of images. Gallery provides numerous tools for creating albums and populating them with images. One of the tools allowed for direct import of numerous folders at once, automatically creating albums, creating thumbnails, and ingesting metadata elements in its database. Gallery also offers methods for moving albums, moving photos, and uploading individual images. This work was performed by the project Pis and a collection of trained student workers. The actual process of importing into Gallery was relatively painless, that is, if the proper metadata existed in the image.

DGS's implementation of Gallery included a few customizations. DGS staff members have the ability to upload albums of photos into their personal, private album in Gallery. Only that user can view images in their private album. Once uploaded, that album can then be moved to other parent albums anywhere within Gallery. Individual images/albums can be edited only by the owner of that album. (The "owner" is the user account that initially imported the images.) This prevents conflicts and confusion among staff members. Some customizations were done in the Gallery theme template files to simplify the display. Gallery's search mechanism was also lacking in several key features requested by DGS staff. A new search module was developed to include searching by owner, by geographic location, and date ranges as well as full text searches in the captions, keywords and title fields.

Toward the end of the project, a workshop was conducted to demonstrate the entire process, from editing metadata in GeoSetter, to uploading the images into Gallery, to using Gallery to browse/search for images. This software combination and methodology, together, create a sustainable system. New images are continuously being collected and must be documented and uploaded into Gallery. It was decided to give that responsibility and capability to each DGS staff member. The owner (or primary contact) of the images/photos usually has the necessary knowledge and it is most efficient (and less disruptive) for that person to manage the photos, as opposed to working through a select few trained staff members, for the good of all DGS.

Creation of Metadata and Workflow

The following is an overview of the process used to encode and store metadata within each digital image in the DGS inventory. The method worked for both existing digital photographs from digital cameras as well as digital images from scanned documents. Valid file formats in this process are TIF and JPGs.

Basically, there are two major parts to this process each using a different software package:

1. *Edit the images on the image owner's local computer. (METADATA CREATION)*
    - If required, edit the digital representation of the photos, such as removing red-eye, cropping, contrast, etc... This could be done in a variety of packages (Adobe Photoshop, GIMP, Picasa.)
    - Add or edit image metadata using XnView or GeoSetter. GeoSetter was the overwhelming choice to use, particularly because of the integration of Google Maps for identifying locations and ease of use in its interface.

2. *Upload the images to Gallery (IMAGE ARCHIVING)*
    - First, upload albums or individual photos to the user's private online album
    - Then, move that album to another location within Gallery for access by others.

Initially, this was performed by the project PIs or a few trained student workers. As training took place, this responsibility has begun moving to the individual staff members.

The information below will provide basic instructions and background information for each step. For more detailed instructions, see the attached appendices for Creating Metadata (Appendix A) and Adding Photos to Gallery (Appendix B).

1. Creating Metadata:

1. Apply the base DGS metadata template to all photos. A DGS template file has been created in GeoSetter format. This adds basic DGS specific information to the metadata of each photo: copyright, contact info, etc. GeoSetter also provides a tool where you can extract a template from any existing photo. The template file, as well as photos with only the template applied, is placed in a shared network location for all to access. (T:\Photo_Upload\DGS_Template in the current environment.)

   The current DGS Template, in XMP format:

<?xpacket begin='' id='W5M0MpCehiHzreSzNTczkc9d'?>
<x:xmpmeta xmlns:x='adobe:ns:meta/' x:xmptk='Image::ExifTool 8.11'>
<rdf:RDF xmlns:rdf='http://www.w3.org/1999/02/22-rdf-syntax-ns#'>

 <rdf:Description rdf:about=''
  xmlns:Iptc4xmpCore='http://iptc.org/std/Iptc4xmpCore/1.0/xmlns/'>
  <Iptc4xmpCore:CountryCode>USA</Iptc4xmpCore:CountryCode>
  <Iptc4xmpCore:CreatorContactInfo rdf:parseType='Resource'>
   <Iptc4xmpCore:CiAdrCity>Newark</Iptc4xmpCore:CiAdrCity>
   <Iptc4xmpCore:CiAdrCtry>USA</Iptc4xmpCore:CiAdrCtry>
   <Iptc4xmpCore:CiAdrExtadr>University of Delaware
257 Academy Street</Iptc4xmpCore:CiAdrExtadr>
   <Iptc4xmpCore:CiAdrPcode>19716-7501</Iptc4xmpCore:CiAdrPcode>
   <Iptc4xmpCore:CiAdrRegion>Delaware</Iptc4xmpCore:CiAdrRegion>
   <Iptc4xmpCore:CiEmailWork>DelGeoSurvey@UDel.Edu</Iptc4xmpCore:CiEmailWork>
   <Iptc4xmpCore:CiTelWork>302-831-2833</Iptc4xmpCore:CiTelWork>
   <Iptc4xmpCore:CiUrlWork>http://www.dgs.udel.edu</Iptc4xmpCore:CiUrlWork>
  </Iptc4xmpCore:CreatorContactInfo>
 </rdf:Description>

 <rdf:Description rdf:about=''
  xmlns:dc='http://purl.org/dc/elements/1.1/'>
  <dc:creator>
   <rdf:Seq>
    <rdf:li>Delaware Geological Survey</rdf:li>
   </rdf:Seq>
  </dc:creator>
  <dc:description>
   <rdf:Alt>
    <rdf:li xml:lang='x-default'>caption here</rdf:li>
   </rdf:Alt>
  </dc:description>
  <dc:rights>
   <rdf:Alt>
    <rdf:li xml:lang='x-default'>Please give proper credit to the Delaware Geological Survey for
any images marked as such.</rdf:li>
   </rdf:Alt>
  </dc:rights>
  <dc:subject>

```
   <rdf:Bag>
    <rdf:li>tempkey2</rdf:li>
    <rdf:li>templatekey1</rdf:li>
   </rdf:Bag>
  </dc:subject>
  <dc:title>
   <rdf:Alt>
    <rdf:li xml:lang='x-default'>objectname goes here</rdf:li>
   </rdf:Alt>
  </dc:title>
 </rdf:Description>

 <rdf:Description rdf:about=''
  xmlns:photoshop='http://ns.adobe.com/photoshop/1.0/'>
   <photoshop:AuthorsPosition>Delaware Geological Survey</photoshop:AuthorsPosition>
   <photoshop:Country>United States</photoshop:Country>
 </rdf:Description>
</rdf:RDF>
</x:xmpmeta>
<?xpacket end='w'?>
```

2. Add photo/event specific metadata to each file. This primarily includes keywords, date, GPS coordinates, etc. This can be done with either GeoSetter or XnView, although GeoSetter is much easier to applying location based information through the embedded Google Maps. You can modify any metadata elements that you wish for documentation purposes, however, only a few elements are directly ingested and assigned to attributes in the Gallery application:

Metadata Element	Gallery Attribute
IPTC Object Name	Item Title
IPTC Caption	Item Description
IPTC Keywords	Item Keywords
EXIF GPS: Latitude and GPS: Longitude	GPS Coordinates (managed by the Google Map extension)

Metadata Element	Gallery Attribute
EXIF Date Created	Photo Date and Time

3. For each image, metadata elements were prioritized in the following manner:
   a. DGS Template (required)
   b. Date (required)
   c. GPS Coordinates (required)
   d. Keywords (required)
   e. Caption/Description (required)
   f. Altitude, Country Code, Country, State, City, Sub-location
   g. any other metadata element

4**.** For more detailed information on this process see Appendix B.

2. Adding Photos to Gallery

1. Logon to the online photo gallery. Navigate to your personal, private album.

2. Use the **Add Album** or **Add Items** options to create an album of photos or upload photos to an existing album, respectively.

3. Upload an entire folder, including all sub-folders, using the **From Local Server** option. Upload individual photos to an existing album using the **Upload Applet** option.

4. Move the album to another location within Gallery. Care must be taken to move albums to the "most logical" location based on the subject matte of the images.

5. For more detailed information on this process see Appendix B.

Results

Approximately 14,000 images were cataloged and had metadata created for them. Approximately 12,000 were hard copy media that had to be scanned first before metadata creation and archiving into the Image Archive. The metadata for the images includes Collection ID, Title, Abstract (caption), Supplemental Information if available, Geographic location, and date. Other information captured was DGS Copyright and contact information and Keywords for searching. The following list is a breakdown of the types of Images described.

Number of Images	Description of Images
1493	DGS Buildings and Displays, Logos, People, Events, Staff Albums
377	Education and Outreach Articles, Awards, Building Tours, Teaching, GeoAdventures
1514	Events Coast Day, Fieldtrips, Conferences, Workshops
2847	Geology Aerial Photos, Coastal Plain, Equipment, Fossils, Outcrops, Sand and Gravel Mining, Quarries, Wilmington
1910	Hazards 2002 Drought, Earthquakes, Coastal Erosion, Pollution, Sinkholes, Storms and Flooding, River Ice
3719	Hydrology Piedmont, Aquifer Slug Tests, Coastal, Drilling-Coring-Well Installation, Irrigation, Marshes and Wetlands, Offshore Drilling, Reservoir Sites, Rivers and Creeks, Wastewater, Wells and Well fields
2891	Projects Archeology, Benchmarks, Boundary, Brandywine Wetland, C&D Canal, CISNET, Cypress Swamp, DIAG, Murderkill Marsh, NRCS Trenching, Seismic, Statemap, UD
134	Miscellaneous

The project was a great success accomplishing the goal of uploading all images into the DGS Image Archive (Gallery) and creating metadata for all of those images. The metadata for these images is being provided in the attached CSV file in the USGS specified format for upload into the NGGDPP data base. DGS staff will continue to use the procedures set up by this project to continue creating metadata for future photos uploaded in the DGS Image Archive. Those procedures are documented in the attached appendices. Future dumps of image metadata may be requested by the NGGDPP

staff for inclusion in the NGGDPP data base at any time through contacting William Schenck via phone at 302-831-8262 or via email at rockman@udel.edu.

Appendix A

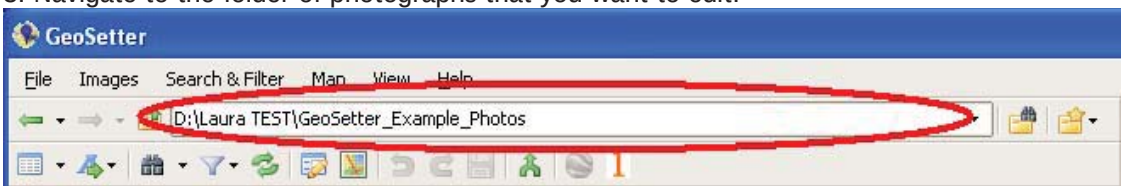
GeoSetter: Introduction to Adding Metadata to Photos

GeoSetter is a program that can add/edit metadata to photographs and digital images. It allows you to "tag" photos with location and other keywords for better and easier image searching within our image database. Having the ability to tag photos with this information will make the way we store and search for images more user-friendly.

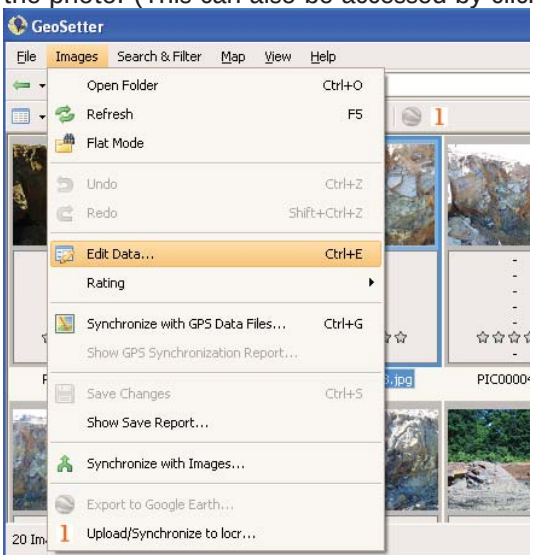
Getting Started:

1. Organize your photos into folders that are easily accessible.
2. Open the GeoSetter program.

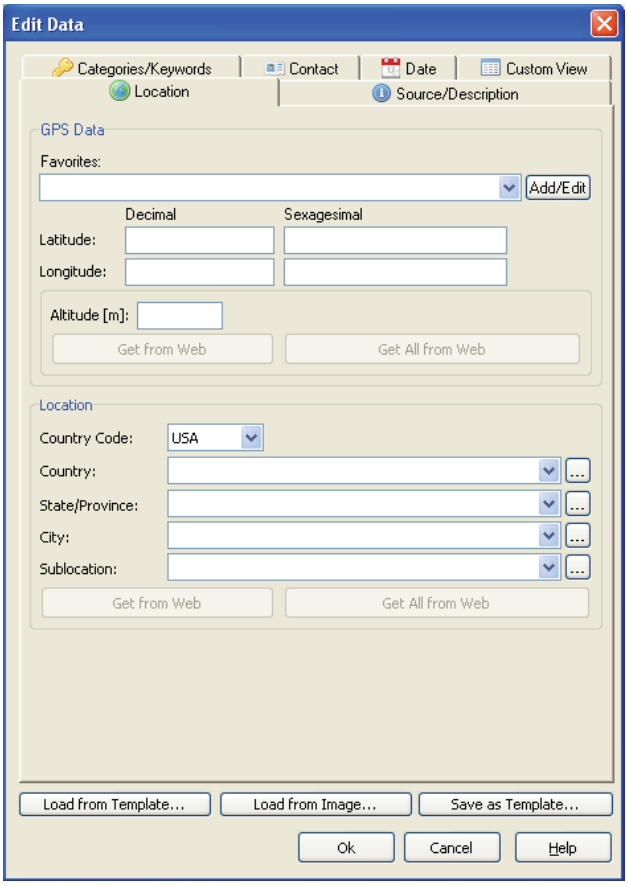
3. Navigate to the folder of photographs that you want to edit.



4. Double-click on any photo and an “Edit Data” box will appear with tabs allowing you to edit various information about the photo. (This can also be accessed by clicking “Edit Data” under the “Images” drop-down menu.)

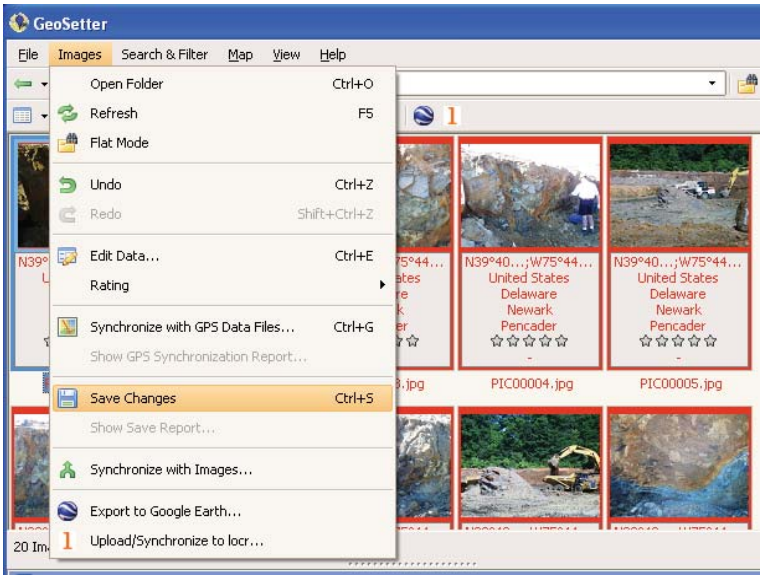


5. There will be tabs at the top of the window allowing you to navigate and add/edit metadata.



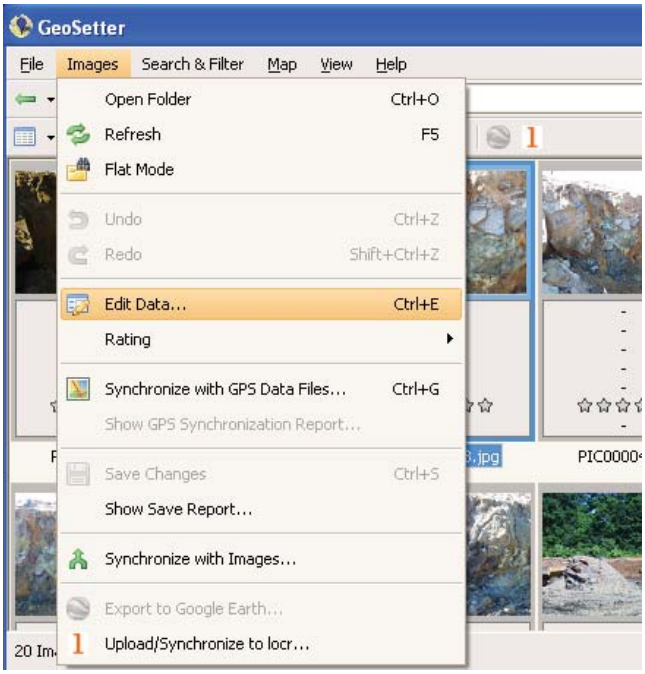
6. The most simple way to add or edit metadata is manual entry in this window, by just selecting the tabs and entering information. However, there are some shortcuts and helpful hints to geotagging and adding information to multiple photos.

7. Don't forget to save before exiting the GeoSetter program, by clicking "Save Changes" under the "Images" drop-down menu.



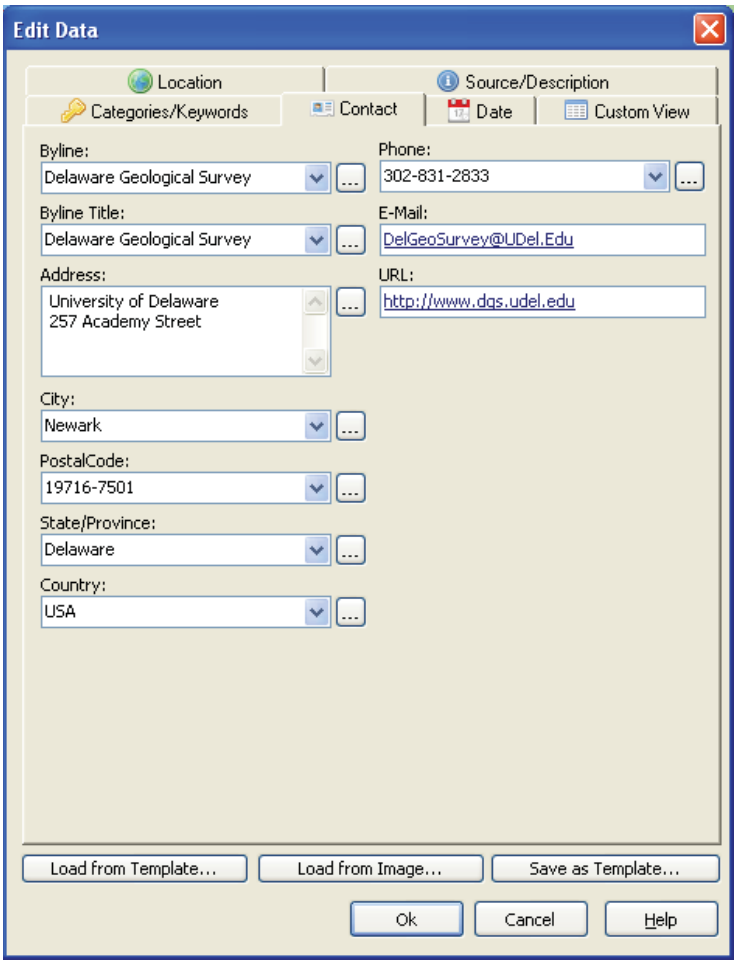
Adding the DGS Contact/ Copyright Information to Photos:

1. Double-click on the first photo and an “Edit Data” box will appear with tabs allowing you to edit various information about the photo. This can also be accessed by clicking “Edit Data” under the “Images” drop-down menu.

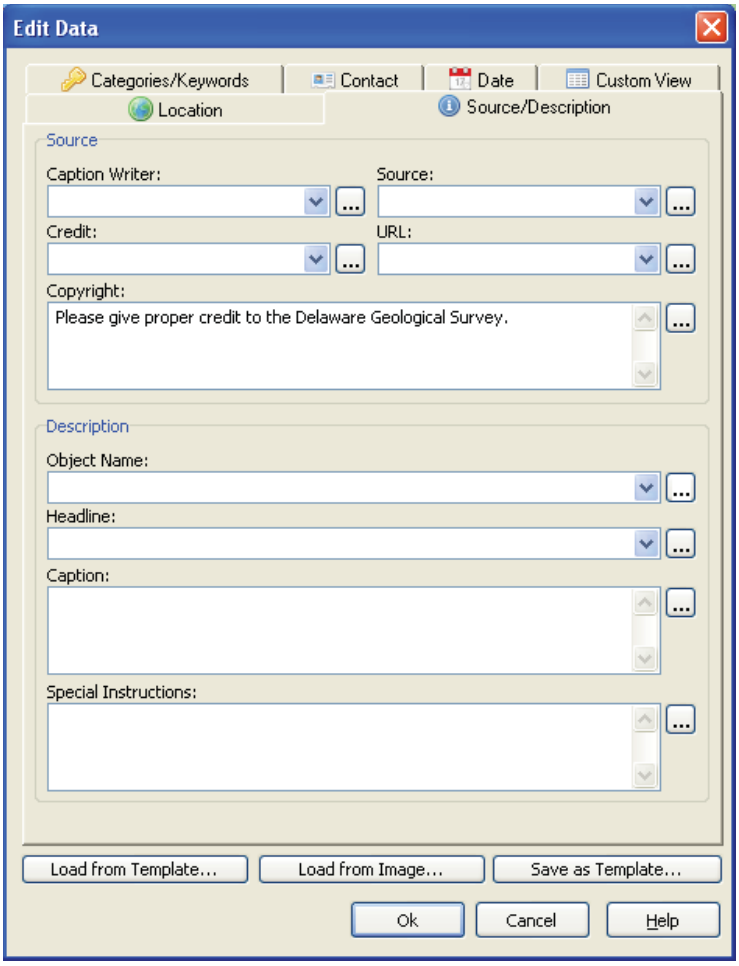


2. First choose the “Contact” tab. Each photo must have the DGS information as contact information.

This Information is as follows:
Byline: Delaware Geological Survey
Byline Title: Delaware Geological Survey
Address: University of Delaware
257 Academy Street
City: Newark
Postal Code: 19716-7501
State: Delaware
Country: USA
Phone: 302-831-2833
Email: DelGeoSurvey@UDel.Edu
URL: http://www.dgs.udel.edu



3. Next choose the “Source/Description” tab. In the copyright field, the text “Please give proper credit to the Delaware Geological Survey” must be added.



4. You can now click "Ok" to save the contact and copyright information to that photo.

5. Instead of manually entering the contact and copyright information for every photo, you can make a standard template containing this information. This will make it easier to add this inofrmation to multiple photos at once. For a tutorial on how to create a template, refer back to Managing Digital Images and Photographs at DGS.

** DGS contact and copyright information needs to be included with every photo **

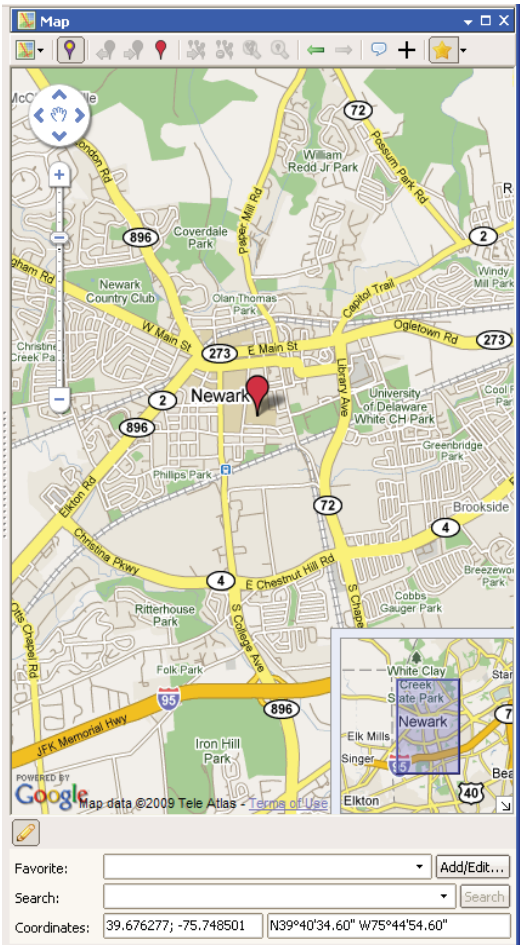
GeoSetter: GeoTagging Photos

One main benefit of using GeoSetter as a metadata adding/editing program is that it connects with Google Maps to allow users to geotag their photos. This allows you to simply click a location on the map, and tag photos taken at that location. This embeds a detailed location into the photo as metadata including the latitude, longitude, elevation, country, state, city, and sublocation. Having all of this information will allow for easier searching of images by location. Geotagging can either be done manually for a few photos or you can save a location if you have large quantities of photos taken from that location.

Geotagging Photos Manually in GeoSetter:

1. The main GeoSetter window has a map on the right hand half of the window.

2. Find the location of the photograph(s) on the map, click, and a point will appear. You can drag the point to adjust it where you want.



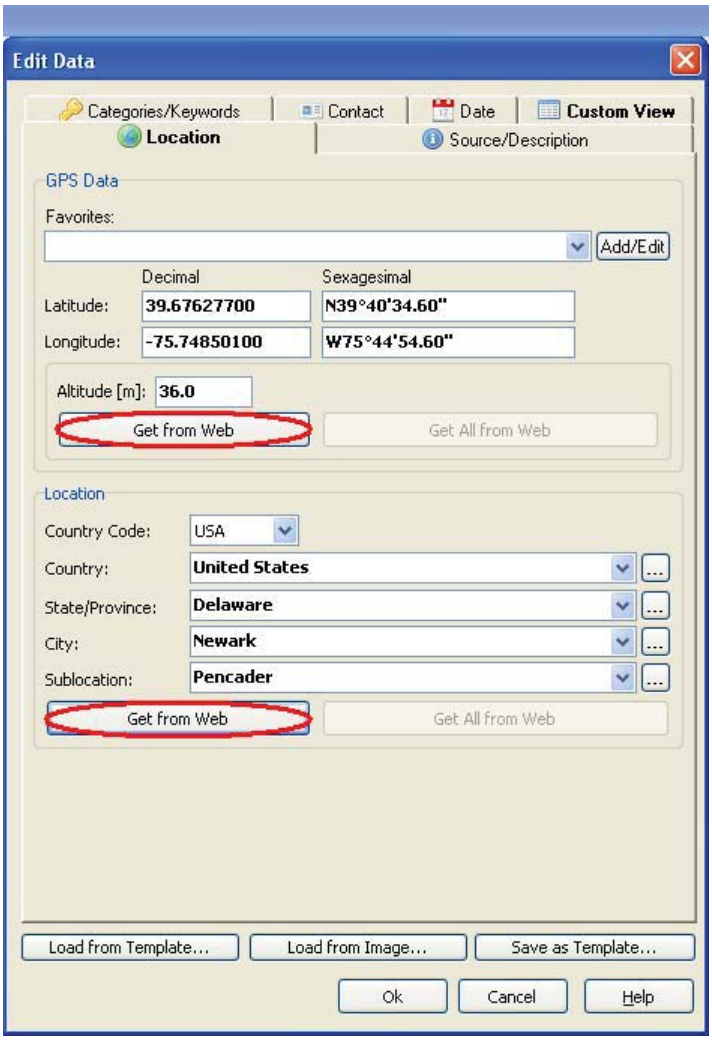
3. Click the photo or photos that you want to geotag with this location.

4. Click the "Assign Marker to Selected Images" icon.

5. This will input the latitude and longitude information into the photo(s).

6. Then, select the "Edit Data" from the Images dropdown menu, and go to the Location tab.

7. Clicking “Get from Web” below the altitude and location data will automatically fill in altitude, country, city, state, and sublocation based on the latitude and longitude coordinates.



8. Click “Ok” and this information will all be saved in your photo(s).

GeoSetter: Keywords, Notes, and Other Tags

It is important to add keywords to your images for searching purposes. Keywords or "tags" can be used to search for images and groups of images in our database that would not be as easily found within the album hierarchy. Keywords, along with caption and title, are important to add to the photos. Adding metadata as the IPTC Object Name and Caption will give your images a title and description.

IPTC Object Name ==>> Image Title

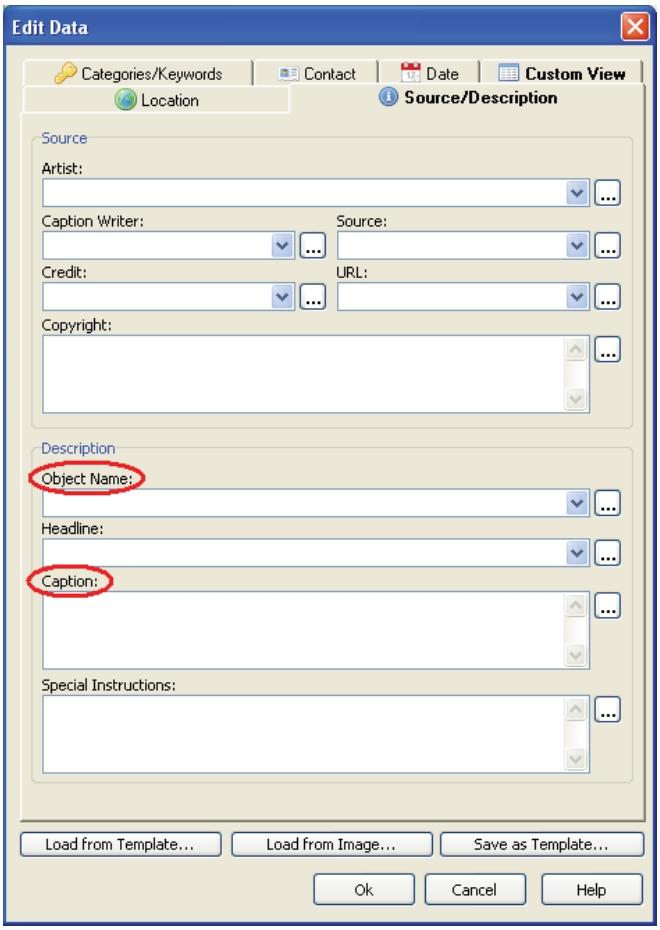
IPTC Caption ==>> Image Description

IPTC Keywords ==>> Image Keywords

How to Tag Photos with Object Name and Caption in GeoSetter:

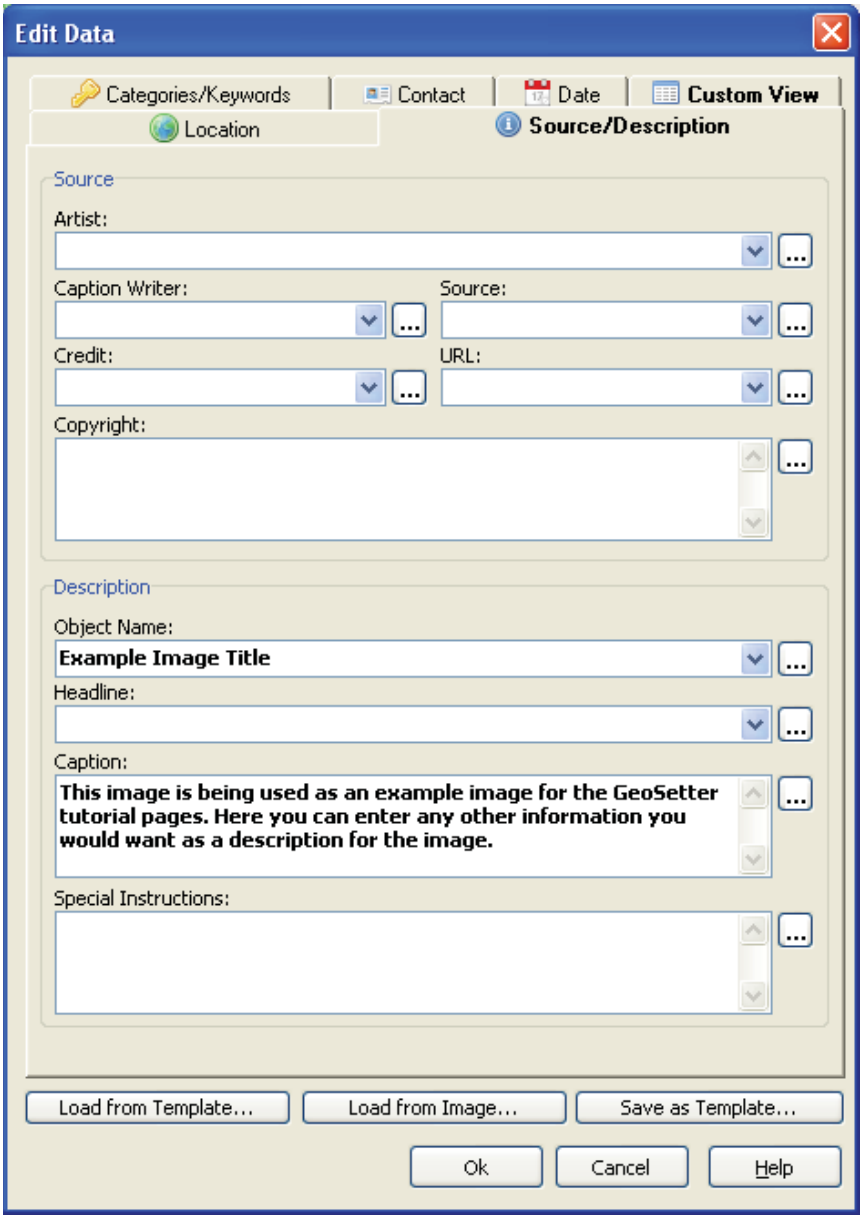
1. To add object name and caption, select the photo(s) that you want, chose the “Edit Data” button under the “Images” drop-down menu, and the data editing window should appear.

2. Choose the “Source/Description” tab. Under Description you should see where to enter the Object Name and Caption.



3. As previously stated, the IPTC Object Name corresponds to the image title, so enter whatever you want that particular image to be titled.

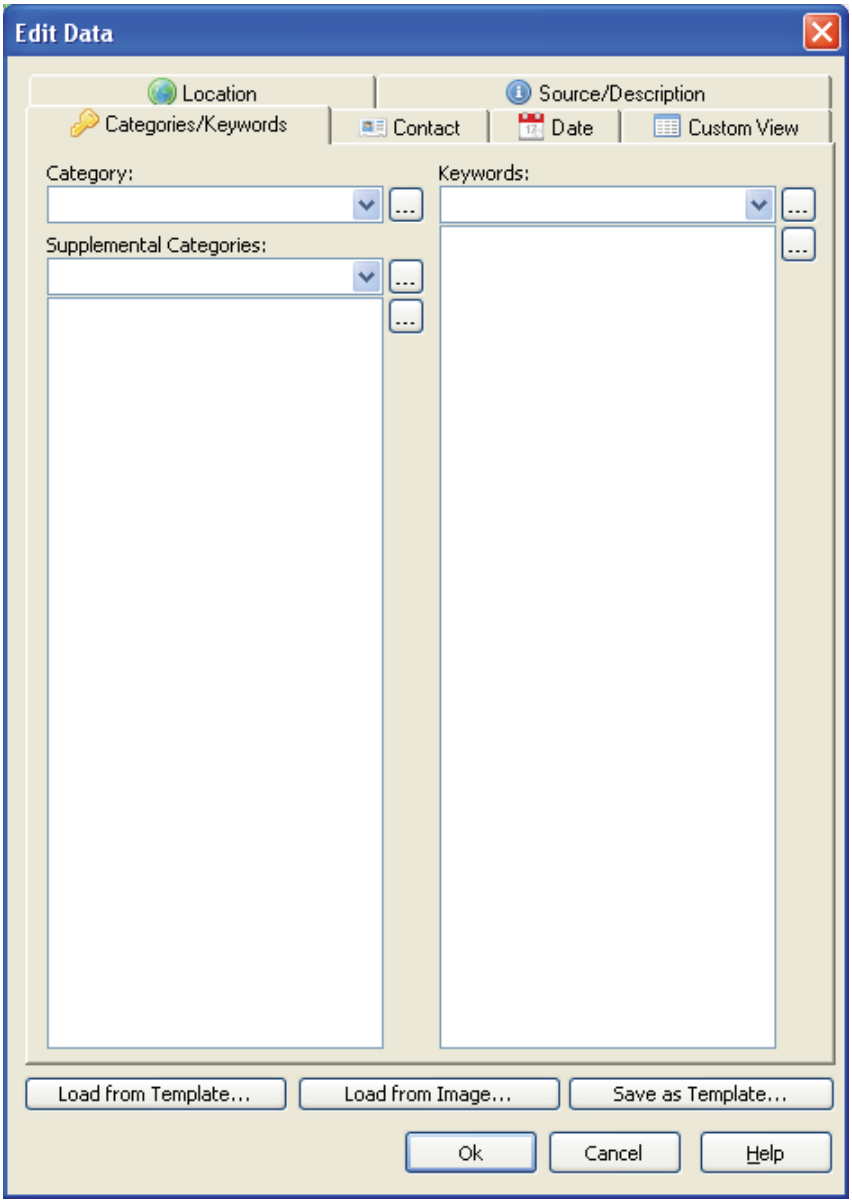
4. The IPTC Caption corresponds to the image description. In this field, enter any other information about the image. This could include date and location (even though this will also be embedded in the image), who is in the photo, why the photo was taken, who took the photo, or anything else that is relevant to the image.



How to Tag Photos with Keywords in GeoSetter:

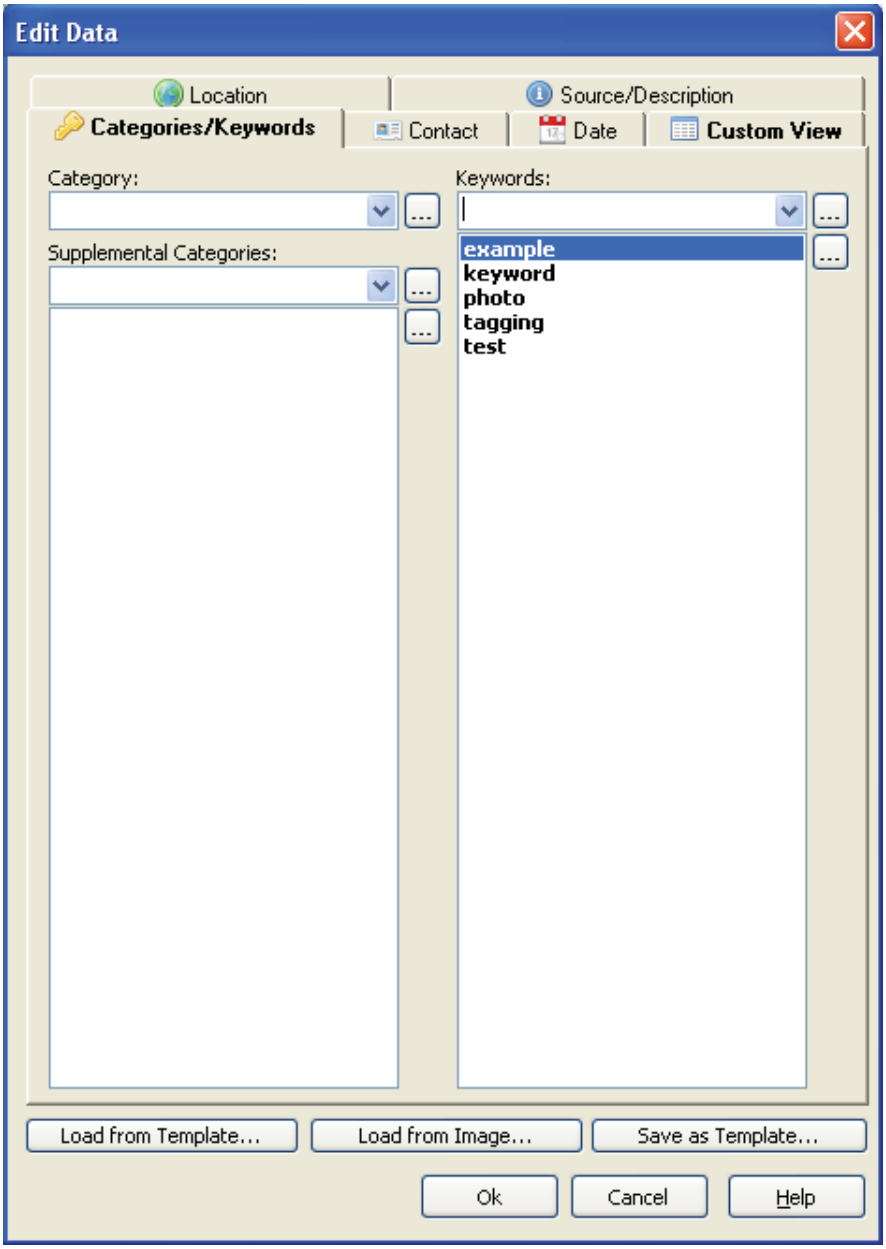
1. To add keywords, select the photo(s) that you want, chose the “Edit Data” button under the “Images” drop-down menu, and the data editing window should appear.

2. This time, choose the “Categories/Keywords” tab. The keywords section is where you will add any keywords you want your photo to be found under in a search.



3. Keywords must be chosen from a list of DGS approved keywords, which can be found here: http://dev.dgs.udel.edu/keywords.

4. You may tag your photos with as many or as little keywords as you like, but keep in mind that users will find it easier to search for photos if they are properly tagged.



5. Every time you add a keyword to a photo, that keyword will be available in the keyword dropdown list for other photos. This way, you only have to manually enter a keyword once, and it will be available to choose to tag other photos with it.

6. As with any of the metadata, you can add tags to multiple photos at once by going to “Edit Data” when all of the photos are selected.

Appendix B

Gallery: Introduction to Adding Photos to Image Archive

Introduction:
The DGS Photo Gallery is available to all DGS employees to upload photos with metadata. Powered by Gallery, the DGS Photo Gallery is excellent for cataloging, displaying, and searching for photos. This page will serve as an overview of Gallery: how to use it, navigate it, and some of the other basic functions of Gallery.

Gallery:
Gallery defines itself as "the open source web based photo album organizer". It serves as a collection of photo albums containing the photos and their metadata that have been uploaded by any of its users; in our case, DGS employees. When photos are uploaded to Gallery they exist on the local server at DGS but are viewed and managed through Gallery's web interface.

Structure:
The online DGS Photo Gallery houses all its photos within a network of albums. When you log on to the gallery, you will notice 12 initial albums (Logos, Buildings and Displays, People and Parties, etc.). Within those albums exist more albums and/or individual photos, and there could even be more albums within those albums. Its similar to the way you would access files on a hard drive: folders that house more folders, which contain more files and/or folders and so forth.

Interface:
Gallery's interface is very user friendly. After you login, you will see a side bar, on the left, full of gallery administrative controls (Add Album, Add Album to Cart, Add Album to Favorites, etc.). This side bar is the initial step to executing many of the functions in Gallery (see *Figure 1*).

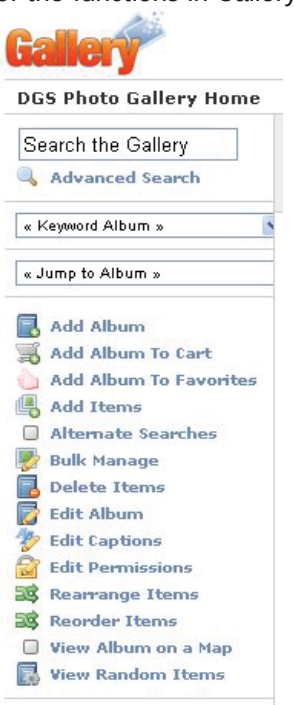


Figure 1: Side bar with search bar, keyword and navigation drop-down menus located above.

Some of the same controls in the side bar can also be found in a drop-down menu located just below each album as << album actions >>. (See *Figure 2*).

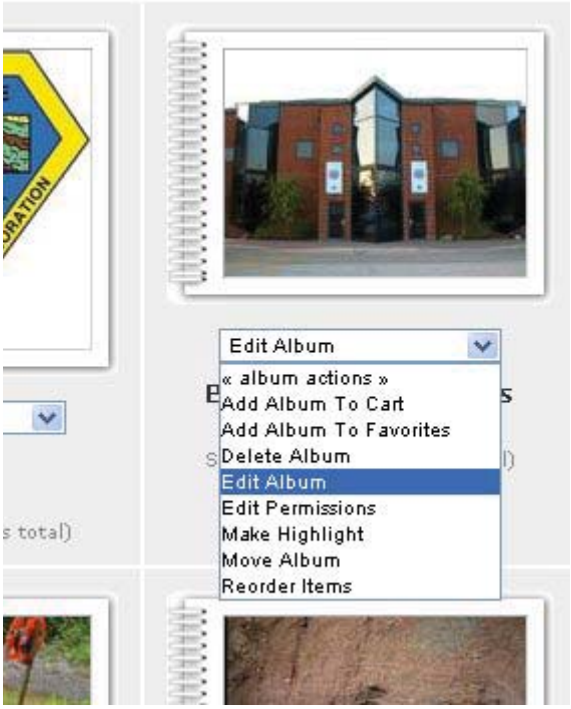


Figure 2: Album drop-down menu.

You will also notice that each photo has a similar drop-down menu called << item actions >>. This menu contains basic photo management controls (Add Photo to Cart, Add Photo to Favorites, Delete Photo, etc.).

Above the main side bar, you will find a search bar, an album keyword drop-down menu called << Keyword Album >>, and an album navigation drop-down menu called << Jump to Album >>. These tools will be discussed further in the sections below. (See *Figure 1*).

One more control bar to be familiar with in Gallery, is your personal account bar in the top right corner of the interface. This bar gives you the options to access Your Account, Your Album, Login or Logout, and some of the basic controls found in the left side bar: Add Album, Add Photo. (See *Figure 3*).

Figure 3: Account bar.

Navigation:
Navigating the gallery can be done easily by using the drop-down menu called << Jump to Album >>. (See *Figure 4*). This will list every album available on the DGS Photo Gallery. This is an easy way to find an album within the album network/hierarchy.

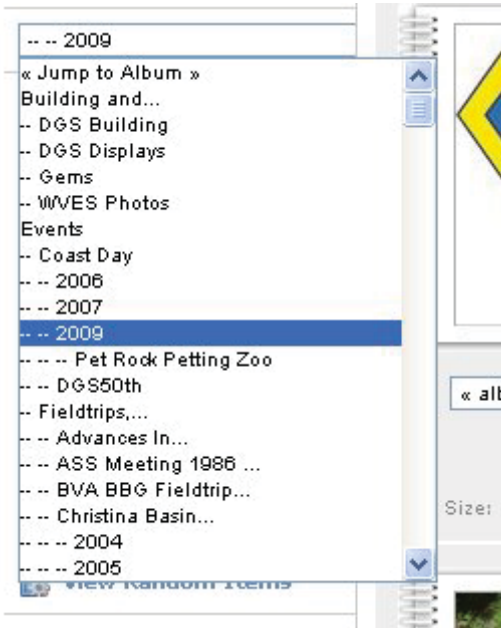


Figure 4: Navigation drop-down menu.

After accessing an album, you can continue to navigate using the navigation hierarchy bar that appears in the top left of the interface. Here you can easily click back to the albums you just navigated through to access your current album.

Searching:
Searching a word in the search bar will search for descriptions, keywords, summaries, titles and Google Map Fields for each image in the gallery. After initially searching, you will be able to select or deselect these search fields to help narrow your search.

Creating an Album

Creating an album of pictures in Gallery is very similar to uploading photos in that the only difference being the upload takes place one level higher in the photo catalog hierarchy.

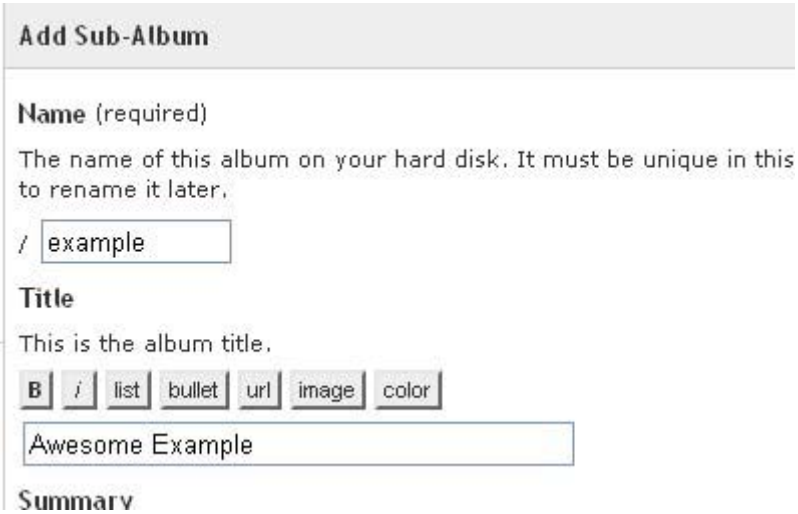
This page will discuss how to simply create an album (without uploading photos) and two different methods to upload an album with photos on the DGS Photo Gallery.

When uploading an album with photos, the From Local Server method will automatically save you a step in naming your album because it creates a name based on the uploaded folder's name. However, you may find the Upload Applet to be more convenient to upload your album depending on where your folder exists on your computer or another drive.

Simply Creating an Album

1. Logon to the online photo gallery and navigate to where you want to add your album.
2. On the left sidebar, click on Add Album to create a new album in the album you are currently viewing.

3. Give the album a Name (required) and a Title. *When viewing your finished album only the **Title** will be the name of your album in the gallery.*



4. Click the Create button.

Uploading an Album with Photos

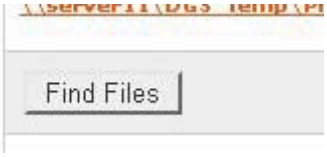
As discussed earlier, the main difference between uploading photos and an entire album is where the upload occurs in the hierarchy. Usually when you are uploading an album of photos, you are uploading an entire folder. Below are two methods for uploading an album of photos.

Method 1: Uploading your Album From Local Server

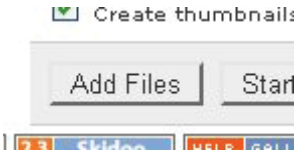
1. Copy your images from your local computer to T:\Photo_Upload.
2. Logon to the online photo gallery and navigate to where you want to add your new photo album.
3. On the left sidebar, click on Add Items to add and album within the album you are currently viewing.

4. Click on the From Local Server tab.

5. Click the \\server11\DGS_Temp\Photo_Upload link and then click the Find Files button. *The page will reload and you will see a checklist of the files and folders in T:\Photo_Upload.*



6. Check the folder you wish to upload and then click the Add Files button.



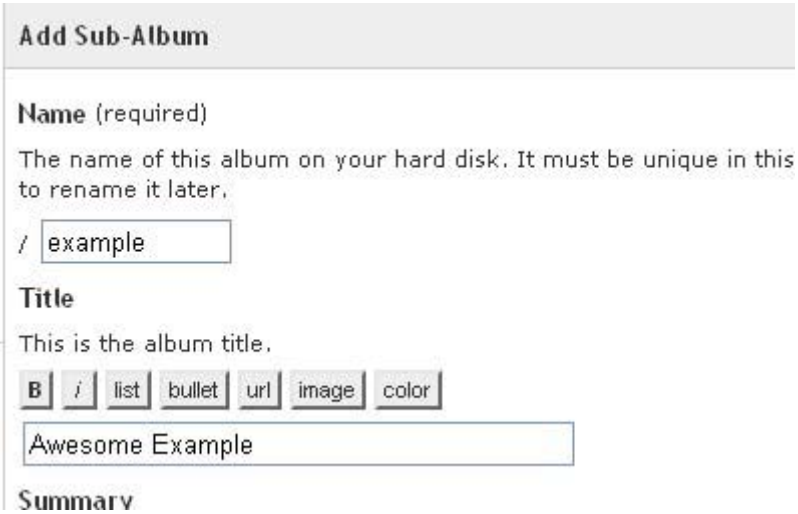
By using this method, your album's Name and Title are automatically created based on your uploaded folder's name.

Method 2: Uploading your Album using the Upload Applet

1. Logon to the online photo gallery and navigate to where you want to add your album.

2. On the left sidebar, click on Add Album to create a new album in the album you are currently viewing.

3. Give the album a Name (required) and a Title. *When viewing your finished album only the* ***Title*** *will be the name of your album in the gallery.*



4. *Click the* Create *button. Your album is now created.*

5. On the left sidebar, click on Add Items to add photos to the album you just created.

6. Click on the Upload Applet tab.

7. Click the Add Pictures... button to browse for your photos on the drive they are stored.

8. Select an entire folder of photos, individual photos or multiple photos.
9. Click the Upload button to upload your selected folder or photos to the album.