

ATTACHMENT 1 Primary Interface of the Index

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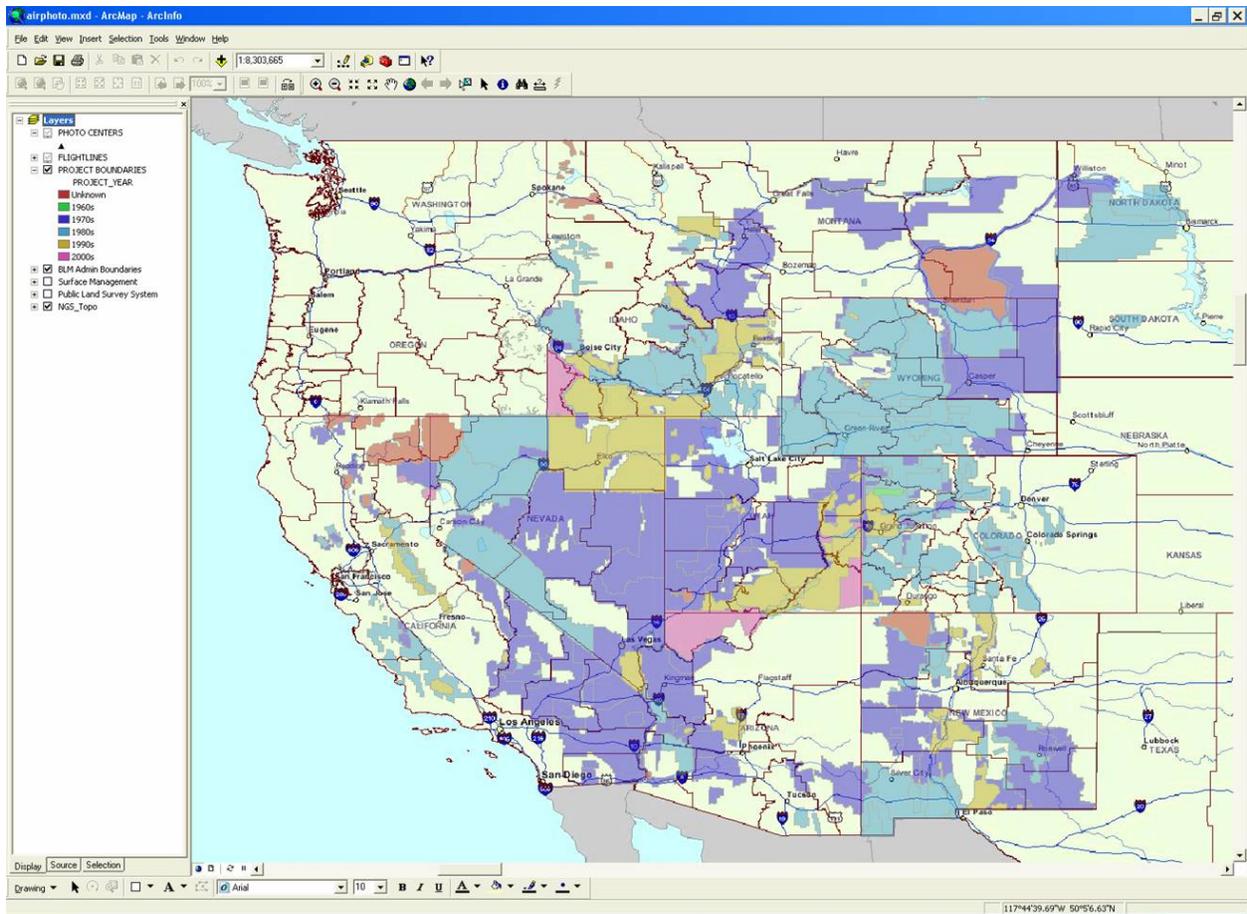
1 Aerial Photography Spatial Index Application Overview

The Aerial Photography Spatial Index (APSI) is an ESRI ArcMAP project. ArcMap is an application that allows the user to geographically view a dataset's information while also being able to interact with the data from the dataset's table and add layers to generate electronic or hardcopy maps. Having datasets interlinked between a "visual" and a "table" enable users to find their imagery quickly through either spatial or tabular searches/queries. In the case of opening APSI, the user will visually see where aerial photography is available. The user will learn how to access all the available linked dataset tables. These tables are useful to gather, query, or select information regarding the aerial imagery the user may want.

2 Connecting to the Aerial Photography Spatial Index (APSI)

1. Login to the APSI – Type the web address <https://citrixnr.blm.doi.net> into Internet Explorer.
 - a. Note: You need to have the Citrix ICA Client installed on your local workstation and have permission to login to the APSI. Requests can be made to your Help Desk for both items. You will be notified via email when you have permission to access the APSI.
2. Enter your Windows username and password in the 'Log in' page.
3. Click the 'Aerial Archive' on the 'Applications' page.
4. A 'Warning' message will appear, Click 'OK'.
 - a. If everything is working correctly, an ArcMap dialog box will appear that indicates the APSI is loading. If no ArcMap dialog box appears then most likely you do not have Citrix installed on your workstation. Contact your Help Desk to have the Citrix client installed.
 - b. Another indication that Citrix is not installed is if a dialog box opens asking you to save a file. If this happens, Click 'Cancel' and contact your Help Desk.
 - c. Note: First time users will encounter a reduction in performance time as preferences are loaded. Once initiated, response times are only a bit slower than for locally served data.
5. ArcMap opens and you can start interacting with the data. The default map view will look similar to the figure below. Based on user settings there may be some variability in the number of icons visible in ArcMap. The Map Window will always open to the same Western U.S. extent.





Opening screen to APSI

3 APSI Quick Overview

The APSI Quick Overview will briefly explain what a user will see upon first opening the APSI. Users not familiar with ArcMap are encouraged to continue reading below about ArcMap tools and ways to interact within the application.

The APSI is read-only, which means that any changes the user makes to the map will not be saved to the layout or database. While working in the map, data can be saved locally by ‘exporting’ layers and attribute tables to your local workstation. The Citrix aerial archive application provides all the functionality of ArcMap such as information queries, changes to display parameters, and the creation of map plots. Other resource databases can be added to the ArcMap session and displayed along with the aerial archive data.

When APSI opens there are three groups of datasets or “layers” that are turned on (indicated by the black checkmarks). The layers you see are 1) a view of the western U.S., 2) Aerial photography project boundaries, which are color coded by decade, and 3) National Geographic Society (NGS) interstate highways, jurisdictional boundaries, and several other layers. The grayed checked boxes to the left of the layer names are visible at larger scales. At any time you can go back to the Western US initial extent by going to View>Bookmarks>Western US in the menu at the top.

Additional aerial archive database layers are present and display at predetermined scales:

- Flight lines display at a scale of 1:1,000,000 and are color-coded by project name
- Photo Centers display at a scale of 1:400,000
- Individual exposure labels display at a scale of 1:250,000 – The code for the labels are <Flight Line Number>-<Roll Number>-<Exposure Number>. An example is 10-1-5, which is Flight Line 10, Roll 1, and Exposure 5.
- A topographic base maps, streamed from a web service, provide a back drop at a scale of 1:200,000

The flight lines, photo centers, and project boundaries are all individual layers that are hosted by the BLM’s centralized EGIS database at NIRMC. There are also four separate sets of layers BLM Admin Boundaries, Public Land Survey System, Surface Management, and NGS_Topo that are referred to as map services. These map services are data hosted on other remote servers. The BLM Admin Boundaries, Public Land Survey System, and Surface Management services are served from GeoCommunicator and the NGS_Topo is served from ESRI. Though the user cannot manipulate the symbology in a map service, the various layers that make-up the map service can be turned on and off.

4 ArcMAP Concepts

4.1 Map Window

The Map Window is the area on the right-hand side of ArcMap that visually displays the “datasets” or layers.

4.2 Table of Contents

The Table of Contents is the area on the left-hand side of ArcMap that has a list of datasets.

4.2.1 Layers

The datasets in the TOC are called Layers. They are stacked one on top of another, are either “on” or “off” and contain the foundation to the APSI.

4.2.2 Right-clicking Layers

When you right-click on a Layer, you are given several options. These include “Open Attribute Table”, “Zoom to Layer” & “Properties”.

4.2.3 Turning Layers On & Off

Within the TOC, users can turn “Layers” on and off by checking the boxes to the left of their titles.

If a layer has a grayed-out check box, that layer is only displayable in the Map Window at certain scales.

4.2.4 Re-ordering Layers

Users can place one layer on top of another by highlighting a dataset title and dragging it to the top of the list.

4.2.5 Symbology & Expanding Layers

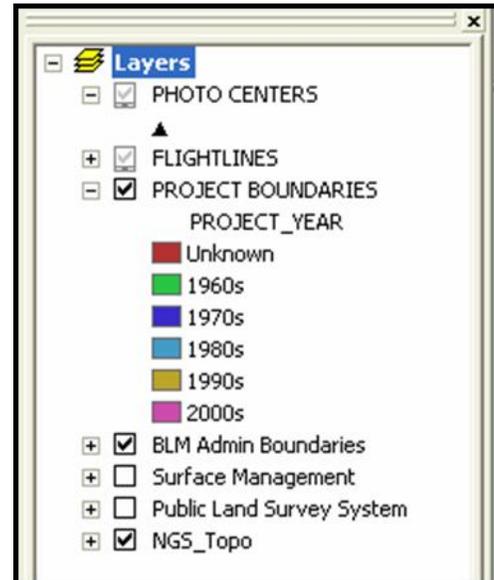
To the left of each dataset title is a + or – sign declaring the dataset “expanded” or “contracted”. If the dataset has a minus sign next to it (Like AIRPHOTO.FLIGHTLINES) its symbology will be visible and explained. Once again, users can turn the expanded sub-datasets on and off by checking the boxes to the left of their titles. The fewer checked boxes, the faster your map window will refresh.

4.3 Coordinates

If you move your cursor around and look at the bottom right corner of the screen, coordinates are displayed in degree, minutes and seconds.

4.4 Map Service

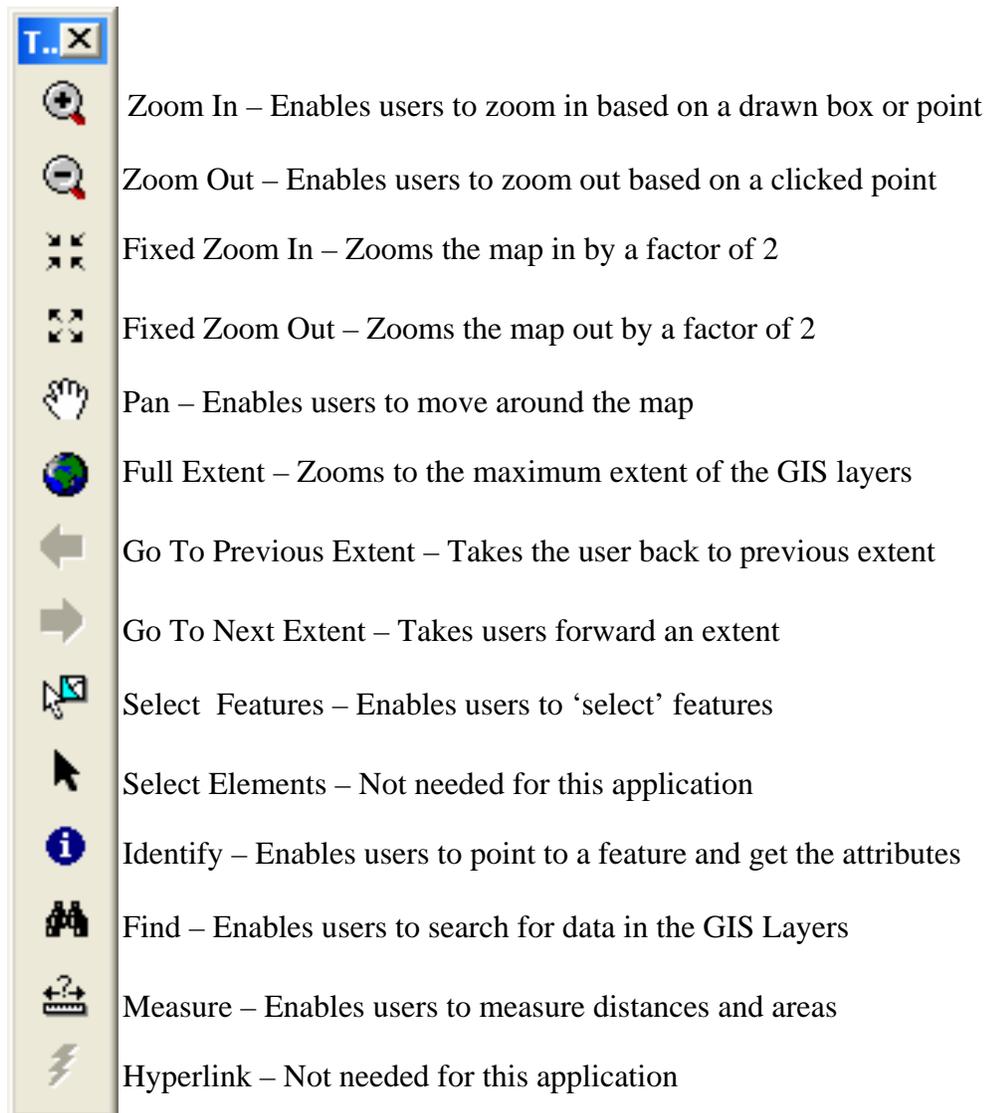
Map services are groups of map layers that are served from a remote location. Users do not have control over the symbology for these layers, but can turn individual layers or the whole service



on or off. As stated above, the APSI is using four Map Services to display reference content: BLM Admin Boundaries, Surface Management, Public Land Survey System, and NGS_Topo. These map services are included in the APSI to provide background spatial reference information in order to assist the user in locating the photography of interest.

5 ArcMap Tools Quick Reference Guide

Here is a short explanation of the icon tools you will need when using the Aerial Photography Archive Index Application.



6 Working with the APSI in ArcMap

Below are instructions for common functions you might want to perform in the application.

6.1 Export Spatial Data Locally

1. Right click the Layer you are interested in and select Data->Export Data
2. Once the Export Data Window pops up you can either export the whole Layer and all its features or just selected features you can see in the View Extent.
3. Note: It is best to use this function in conjunction with a selection, which is described below.

6.2 Retrieving Information

When you right mouse click on a layer, you can access the option “Open Attribute Table”. This opens all the data associated with that dataset. A table is setup similarly to a table in excel in terms of sorting. However, data is called a “record” and columns are called “fields”. Right mouse click on a column title provides sorting, properties and more options. The bottom of the table box provides movement among the records, displays total amount of records, and displays how many records are selected.

Note: Most project codes are separated by hyphens in the name and documented with a state and year code. For instance, CO-80-FC stands for Colorado 1980.

Attributes of AIRPHOTO.PROJECTBOUNDARYS								
AIRPHOTO.PROJECTBOUNDARYS.AREA	PERIMETER	OBJECTID	PROJECT_CODE	PROJECT_NUMBER	PROJECT_YEAR	PROJECT_TYPE	STATE	ARI
0.00249	0.22199	81	NM-91-CC		17	1991	NM	
0.01034	2.64469	82	NM-91AI-1		0	1991	NM	
0.00027	0.10825	82	NM-91AI-1		0	1991	NM	
0.00625	1.46516	83	NM-91AI-10		0	1991	NM	
0.00142	0.40002	84	NM-91AI-11		0	1991	NM	
0.00086	0.51727	85	NM-91AI-12		0	1991	NM	
0.00046	0.27768	86	NM-91AI-13		0	1991	NM	
0.0019	0.61179	88	NM-91AI-15		0	1991	NM	
0.00006	0.04044	89	NM-91AI-16		0	1991	NM	
0.00106	0.292	89	NM-91AI-16		0	1991	NM	
0.00254	0.70081	89	NM-91AI-16		0	1991	NM	
0.00016	0.10744	90	NM-91AI-17		0	1991	NM	
0.00009	0.08731	91	NM-91AI-18		0	1991	NM	
0.00084	0.22003	92	NM-91AI-19		0	1991	NM	
0.00043	0.12193	94	NM-91AI-20		0	1991	NM	
0.00051	0.15582	95	NM-91AI-21		0	1991	NM	
0.00028	0.11225	96	NM-91AI-22		0	1991	NM	
0.00098	0.33875	97	NM-91AI-3		0	1991	NM	
0.00009	0.10331	98	NM-91AI-4		0	1991	NM	

Record: 1 | Show: All Selected | Records (0 out of 1465 Selected.) | Options

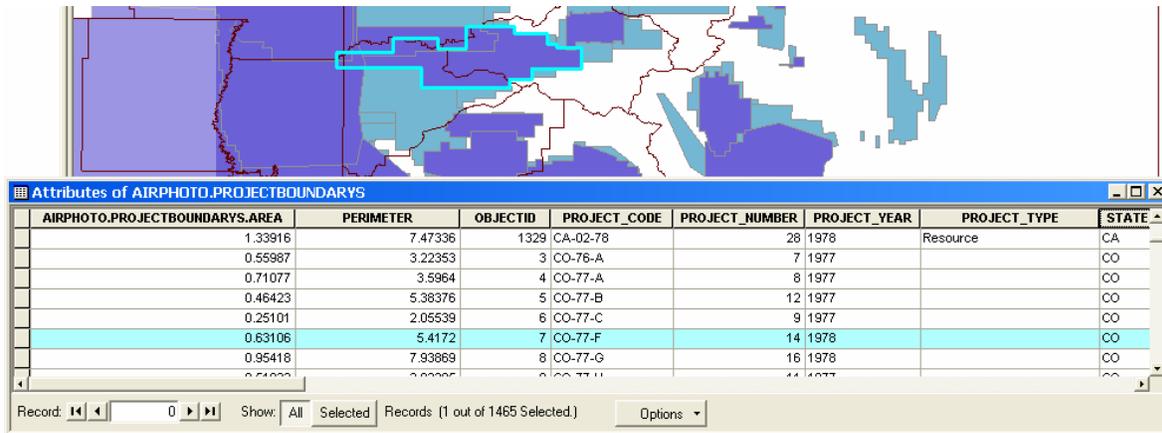
6.3 Selecting Features

You can perform two types of selections; either by spatial or attribute; both are described below.

6.3.1 Making a Selection with the Select Feature Tool

Use the Select Feature Tool  from the Tools toolbar and click on the map, a boundary will become highlighted in light blue. You can also draw a box by clicking the mouse, holding, and

dragging; select an individual object with a single click; or select multiple objects by clicking while holding down the shift key. Now look at the table and if you click on the “Selected” button at the bottom of the table, the corresponding data row will also display in light blue.

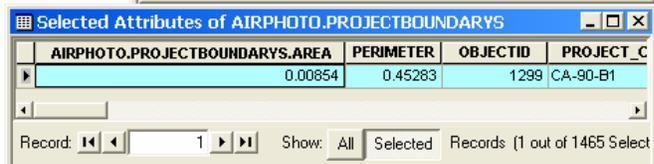
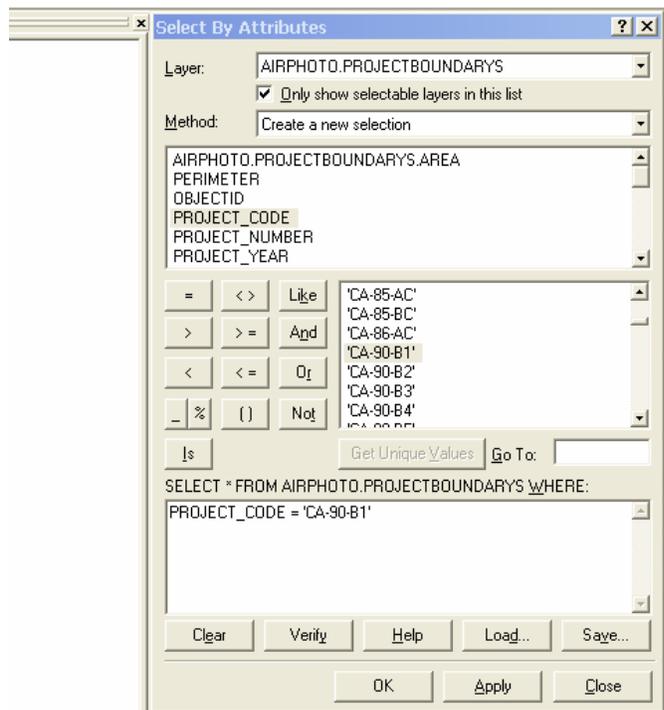


Seeing the connection between the ArcMap window and a database table note the selected item in the map and table are highlighted in blue.

The same can be done if a row, or several rows (using the Ctrl key) are highlighted in the table. Their corresponding geographic boundaries in the Map Window will be highlighted. This helps select out all images of a particular state or a selection that can be gathering simply by sorting the table.

6.3.2 Making a Selection with the Selection Query Tool

- Look for the Selection->Select by Attribute drop down menu at the top menu bar. It is above the Table of Contents and Map Window.
- Layer: must be on the layer you want to query data from. e.g. AIRPHOTO.PROJECTBOUNDARYS layer
- Method: Create a new selection. (There are three more options you can explore further and are not discussed in this paper).
- The listbox below the Method section will display fields from the AIRPHOTO.PROJECTBOUNDARYS table.
- Double click the field name you want to inquire upon. e.g. PROJECT_CODE



- If you click on the “Get Unique Values” button, only the records from that table will display.
- Fill in your query by double-clicking your options and click, Apply.
- If you click the “Selected” button at the bottom of the AIRPHOTO_PROJECTBOUNDARY table, the query item will display.

6.3.3 Notes on Performing a Selection

- You can also **Zoom** to selected features by going to the top Menu Bar and going to Selection->Zoom to Selected Features. The map window will be zoomed to the extent of all features highlighted in light blue.
- You can also use the **Find** Tool to make selections. If you use the Binoculars Tool  from the Tools toolbar a Find window will pop up.

6.4 Exporting a Table

1. Right Click the Layer whose attributes you want to export.
2. Select Open Attribute Table.
3. Once in the Attribute Table, you can view only Selected records or All records by clicking one of the two ‘Show:’ buttons.
4. Selected feature appear in light blue
5. Go to Options->Export... and save the file. You have the option of several file formats, but the two easiest to work with are either text or DBF file. Both file types can be easily opened with Excel. Note that if there is a selection made only those selected features will be exported.