

# EarthExplorer Help Documentation

Version 2.0

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## **Document History**

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## I. Introduction

EarthExplorer (<u>http://earthexplorer.usgs.gov</u>) provides online search, browse display, metadata export, and data download for earth science data from the archives of the U.S. Geological Survey (USGS). EarthExplorer provides an enhanced user interface using state-of-the art JavaScript libraries, Hypertext Preprocessor (PHP), and the advanced Oracle spatial engine.

#### A. Key Features

Key features in EarthExplorer include:

- Fast, geospatial search engine
- Map viewer for viewing overlay footprints and browse overlays
- Simple, fast Graphical User Interface (GUI)
- Data access tool to search and discover data
- Textual query capability
- Keyhole Markup Language (KML) export capability to interface with Google Earth
- Save or export queries, results, and map overlay for reuse
- Request on-demand products
- Access to browse images from standard products
- User authentication service for access to specialized datasets and tools
- Access to Landsat Data Continuity Mission (LDCM) quality band data
- Standard product downloads
- User notifications of new acquisitions and available products through subscription services
- Updated software code base supporting JavaScript and PHP

#### B. System/Browser requirements

The following are the hardware and software requirements for using EarthExplorer:

- Hardware Requirements Windows:
  - o 233 Gigahertz (GHz) processor 2GHz or better recommended
  - Minimum of 256 Megabyte (MB) Random Access Memory (RAM) 4 Gigabyte (GB) recommended
  - Minimum of 20GB of free space 100GB recommended
  - Display capable of 800x600 with 256 colors and 32MB of video RAM
  - o Mouse
  - Keyboard
- Hardware Requirements Apple Mac:
  - o Intel x86 or PowerPC G3, G4, or G5 2GHz or better recommended
  - Minimum of 256MB RAM 4GB recommended
  - Minimum of 20GB of free space 100GB recommended
  - Display capable of 800x600 with 256 colors and 32MB of video RAM
  - o Mouse
  - Keyboard
- Support handheld and tablet devices via browsers

- Network Requirements:
  - Broadband connection 15 Megabit per Second (Mbps)
  - o 3G network impacts display speed
- Software Requirements:
  - Operating System: Windows XP, Windows Vista, Windows 7, Windows Server 2000, Windows Server 2003, Windows Server 2008
  - Mac OS X
  - o Unix
  - o Linux
  - $\circ$  Solaris
- Browsers supported:
  - Internet Explorer (7.x, 8.x, 9.x)
  - $\circ$  Firefox (3.x, 4.x)
  - Chrome (10.x)
  - Opera (10.x)
  - o Safari (5.x)

### II. User Interface

The EarthExplorer user interface provides the overall capability for users to interact with the EarthExplorer components and services. The EarthExplorer user interface (Figure 1) is composed of the following key elements:

- Standard USGS header/footer elements
- EarthExplorer menu bar
- Body

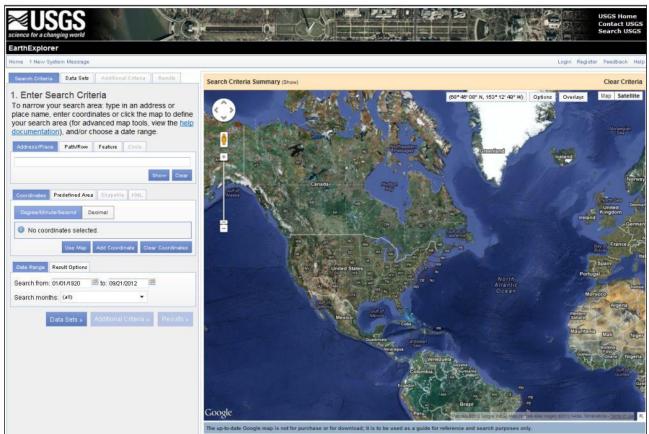


Figure 1 - EarthExplorer User Interface

#### A. Header/Footer Elements

The EarthExplorer header/footer elements are based on the <u>USGS Visual Identification</u> <u>Policy</u> standard guidelines. The EarthExplorer client is compliant with Section 508 guidelines.

#### 1. Header

The EarthExplorer client header (Figure 2) is located at the top of the web page. The header is common across all web pages in EarthExplorer but may be different based on your user role or 'branding' applied to the EarthExplorer client.



Elements of the header include:

- USGS Logo (upper left corner) reflects the relevance of the Bureau's work in today's world and communicates USGS's purpose to the public.
- USGS Links (upper right corner) reflect links to the USGS website, USGS contact information, and the USGS search tool.
- Title Bar is a standard bar describing the website; in this case, 'EarthExplorer'.
- EarthExplorer Menu Bar.

#### 2. EarthExplorer Menu Bar

The EarthExplorer menu bar (Figure 3) is directly below the header. The EarthExplorer menu bar supplies a common starting point to access additional functionality, options, and preferences for the EarthExplorer client via dropdown menus.

EarthExplorer				
Home 1 New System Message	Login Re	gister	Feedback	Help

#### Figure 3 - EarthExplorer Menu Bar

The common menu items in the menu bar include:

- Home Returns you to a common starting point within the application.
- System Message Provides links and information regarding system status and upcoming events/changes.
- Login Provides a link to the EarthExplorer Login.
- Register Provides a link to the EarthExplorer Registration Service.
- Feedback Provides a link to the feedback form.
- Help Provides information about EarthExplorer.

Additional menu bar items display when you register or log in. Some of these additional features include:

- Profile Provides access to your profile preferences and allows you to customize your profile.
- Save Criteria Allows you to save your search criteria for future searches.
- Load Favorite Allows you to load/apply a saved search criteria.
- Manage Criteria Allows you to modify previously saved search criteria.

These options are described in further details in the EarthExplorer Profile (Section III).

#### 3. Footer

The EarthExplorer client footer (Figure 4) is located at the bottom of the web page. The footer is common across all web pages in EarthExplorer but may be slightly different based on your user role or 'branding' applied to the EarthExplorer client.

#### Figure 4 - Footer

The common menu items in the footer include:

- Accessibility Provides a link to the <u>USGS Accessibility Policy (Section 508)</u>. The USGS Accessibility Policy ensures that all electronic and information technology developed, procured, maintained, or used by the USGS is accessible to people with disabilities.
- FOIA Provides a link to the <u>U.S. Geological Survey Freedom of Information</u> <u>Act (FOIA) Electronic Reading Room</u>. FOIA requests for a copy of USGS records can be made by any individual or public/private organization other than a Federal agency.
- Privacy Provides a link to the <u>USGS Privacy Policies</u>. This information identifies USGS and the Department of Interior (DOI) privacy policies.
- Policies and Notices Provides a link to the <u>USGS Policies and Important</u> <u>Notices</u> website. This information describes the principal policies and other important notices that govern information posted on USGS websites.
- Google Maps API Disclaimer Provides a link to the <u>Google Maps API</u> <u>Disclaimer</u>. This information outlines the Google Map Application Programming Interface (API) terms and conditions for using the Google Map service.

#### B. Body

The body (Figure 5) includes the main EarthExplorer capabilities and is composed of the Data Search Functions and the Google Map components.

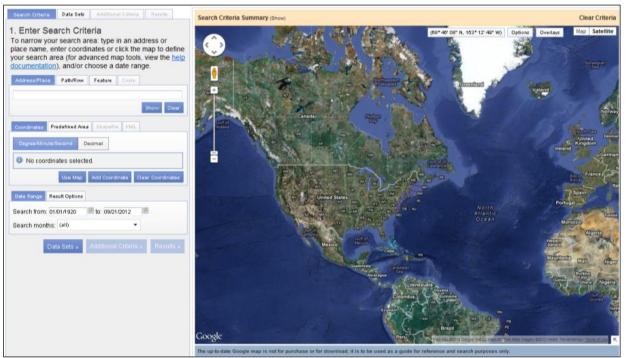


Figure 5 - Body

#### 1. Search Criteria

The EarthExplorer Data Search component is located on the left side of the EarthExplorer body element. The Data Search components are divided among 4 tabs and allow users to enter search criteria, select datasets to query, enter additional criteria, and review results in a tabular window. Additional details on the Data Search component are provided in the 'Perform a Search' in section IV.

#### 2. Google Map

The Google Map component is located on the right side of the EarthExplorer body element. The Google Map application interface embeds Google Maps within the EarthExplorer client. The Google Map is a useful tool for defining a search area and for verifying that results fall in the area of interest.

Before using the Google Map component, you should be familiar with the navigation and location features provided in the Google Map interface for EarthExplorer.

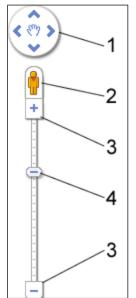


Figure 6 - Google Map Navigation Controls

Use the following controls to <u>navigate Google Maps</u> (Figure 6):

- Pan Control Click the appropriate arrow to move the view north, south, east or west.
- Street View Click and drag to navigate to the street-level view of the interested area.
- Zoom Click the plus sign (+) to zoom in to the center of the map; click the minus sign (–) to zoom out.
- Zoom Slider Drag the zoom slider up/down to zoom in or out incrementally.
- Pan Click and drag the map to the desired location or view.
- Use Page Up, Page Down, Home, and End for faster scrolling up, down, left, and right, respectively.
- Press Control and click the plus sign (+) to zoom in or press Control and click the minus sign (–) to zoom out.

Search Criteria Summary (Show) **Clear Criteria** Map Satellite 58' 53" N, 074° 43' 38" W) Options Overlays Canada Alberta 2 Manito 4 3 British Saskatchewan Edmonton Ontario Calgary couver North Dakota Washington Montana Minnesota Portland Wisconsin South Dakota Toronto Michigan Oregon, Idaho Wyoming New York Chicago lowa Nebraska Pennsylvania Illinois Ohio Ne United States Indiana Nevada Utah Colorado Kansas Missouri Virginia Kentucky California Virginia North Tennessee Oklahoma Arkansas Carolina Ang South Mississippi Dallas Distric Carolina Alabama San Die Georgia Texas Louisiana Houston San Florida Gulf of Mexico Mexico Havana Cuba Guadalajara Guatemala Honduras Guatemala • Nicaragua Google

The Google Map component provides the following custom location features (Figure 7) to aid in locating point of interest.

Figure 7 - Custom Location Features

Google Maps offers the following location features:

- (1) Coordinates Coordinate values update as you move the mouse on the map interface.
- (2) Options
  - Auto-Center Centers the map on the display
  - Polygon Allows entering search criteria by polygon
  - Circle Allows entering search criteria by using a circle radius
- (3) Overlays Displays a grid based on the selection

- Decimal Overlays a decimal degree grid over the map interface. Click to turn on and off.
- DMS Overlays Degrees, Minutes, Seconds (DMS) grid over the map interface. Click to turn on and off.
- (4) Map/Satellite Toggles between the Map View and the Satellite View.
  - Map View:
    - Terrain Shows basic topographic features.
  - Satellite View:
    - $\circ$  45° Zooms to special 45° imagery for certain locations.
    - Labels Displays feature labels.

## **III. Registration and Profile**

Registered users can use all of EarthExplorer's features, including saving search criteria, downloading data, and accessing subscription services. The USGS EarthExplorer system requires users/customers to register to download data. The information gathered from the registration process is not distributed to other organizations and is only used to determine trends in data usage and for certain orders. The same login can be used for the <u>USGS</u> <u>Global Visualization Viewer (GloVis)</u> and <u>USGS Hazards Data Distribution System (HDDS)</u> systems.

To ensure privacy and security, all information entered in the EarthExplorer Registration Service uses Hypertext Transfer Protocol with Secure Sockets Layer (HTTPS) protocol. This privacy ensures that the information is encrypted from your browser to the EarthExplorer application.

A new policy implemented on October 1, 2012 requires all users to update their registration information. There have been additional items added to the registration questionnaire which will provide the USGS with information required to make future decisions for improving the user access experience. After the initial update, users will be prompted every other year to re-verify the user profile.

The EarthExplorer Registration interface consists of the following key elements:

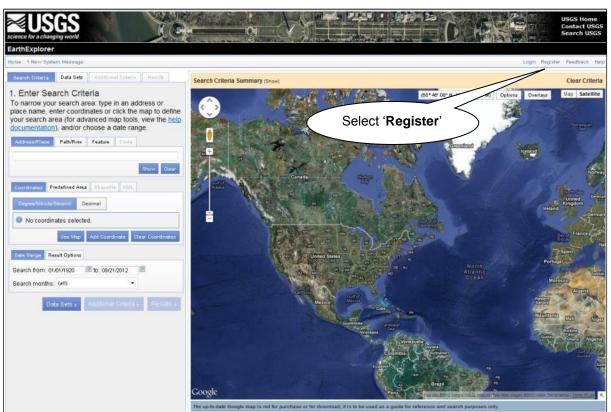
- Registration
- Login
- Profile

User interface features in the registration service include the following:

- Values in **Bold Black** with an asterisk '\*' are required values.
- The 'Continue' button performs an edit check; if the values entered pass the edits for that form, the information is saved and advances to the next page in the registration process.
- An invalid entry produces a popup message explaining the error.
- The 'Cancel' button returns to the initial registration page without saving any information.
- The 'Reset' button clears all information from the current form.

#### A. Registration

To register, select the 'Register' menu item from EarthExplorer menu.



#### Figure 8 - Registration

#### 1. Registration Login Page

The Registration process (Figure 8) requires users to create a username and password, select a secret question, and type a secret answer. Once registered with EarthExplorer, only the 'Login' process is required.

USGS science for a changing world							USGS Home Contact USGS Search USGS
USGS Registration							
Home						Login Regist	ter Feedback Help
		1	.Login 2.Us	ser Affiliation 3. Ad	dress 4. Confirmation	on	
	specific USGS site o search information, i To register, please o	on service allows you to re- r to place orders for USGS nay also be available to re- reate a user name and pa Review our privacy policy.	products. Additi gistered users d	onal features, such a epending on the site	s the ability to save accessed.		
						1	
	Password must b character.	Le between 8 and 16 charac	ogin Informatio eters long, and c		phabetic and numeric		
	Username: Password: Confirm Password:		You may wish t name.	to use your email add	ress for your user		
	Note: All fields a		ancel Continu	le			
Accessibility FOIA U.S. Department of the Interior U URL: https://eedewmast.cr.usgs. Page Contact Information: ppartk Page Last Modified: 09/20/2012	J.S. Geological Survey gov	nd Notices Google Ma	aps API Disclaime			US	

Figure 9 - Registration Login

The Registration Login page (Figure 9) requires users to type the following values:

- \*Username (Required) Type preferred username.
- \*Password (Required) Type a password. The password must be between 8 and 16 characters long and contain at least one alphabetic character and one numeric character.
- \*Confirm Password (Required) Type the password entered in the previous password field.
- Cancel Returns to the initial registration page without saving any information
- Continue Performs a check; if the values entered are valid, the information is saved and you advance to the User Affiliation/Data Usage form.

#### 2. User Affiliation/Data Usage Information Page

The User Affiliation/Data Usage Information page (Figure 10) allows users to enter affiliation and identify uses of the data. This information is used to gather statistics on data applications and types of organizations using remotely-sensed data.

		Login Register Fee
	User Affiliation 3. Address 4. Confirmation	
Enter your user affiliation and data usage information. This your needs.	s information helps us do a better job of addressi	ing
User Affiliation/Data Us	age Information	1
In what sector do you work? (Please select only one ans		
*Sector: U.S. Federal Government *Department: Department of the Interior (DOI)	<b>•</b>	
*Agency: Geological Survey (USGS)		
*Which of the following characterizes you as a use	r of remotely sensed data from USGS?	
(Please check all that apply.) Data provider (provide data for someone else to use)		
Product developer (create products derived from Landsat ima		
Technical user (work on technical issues specifically related End user (apply data or products derived from the data to acc		
education)		
Manager (supervise technical and/or end users; also may ma Other (please specify):	ake decisions based on work which uses the data)	
	<u>^</u>	
	-	
*Does your work use remotely sensed data from th	ne USGS?	
Yes		
© No		
Of your work that uses remotely sensed data fro and non-operational?	om USGS, what percentage is operational	
<ul> <li>Operational work is defined as continuous or ongo</li> </ul>	oing work that either relies on the consistent	
availability of remotely sensed data or is mandated or mapping, monitoring).		
<ul> <li>Non-operational work is defined as one-time proje example, most scientific research).</li> </ul>	ects or other work that is not mandated (for	
Operational Work Percentage:50%		
(Use slider to set the Operational Percentage.)		
What is the <b>primary</b> application for which you have use	d remotely sensed data from USGS in the past	
year? (Please select only one answer.)	d remotely sensed data from USGS in the past	
	d remotely sensed data from USGS in the past	
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Figure 10 - User Affiliation/Data Usage Form

The User Affiliation/Data Usage (Figure 10) form identifies affiliation along with the primary and secondary uses of the data. The USGS uses this information to determine data usage trends, which provide target specific user groups.

The User Affiliate/Data Usage page requires users to type the following values:

- \*Sector: Indicates the organization affiliation (Required)
  - U.S. Federal Government
  - U.S. State/Provincial/Department Government
  - U.S. Local Government
  - Tribe/Nation/Indigenous Group
  - Non-U.S. Federal/National Government
  - Academic Institution
  - Non-profit Organization
  - Private Business
  - General Public
  - Other
- Additional Department/Agency: Based on the value selected above, additional information may be required, such as:
  - \*Department (Required)
  - \*Agency (Required)
- User of remotely sensed data: \*Which of the following characterizes you as a user of remotely sensed data from USGS? Select the characteristic that identifies your role as a user of remote sensed data. (Required)
  - Data provider
  - Product developer
  - Technical user
  - End user
  - Manager
  - Other (please specify)
  - \*Data Use: Does your work use remotely sensed data from the USGS (Y/N) (Required)? If yes, select the operational percentage that identifies the percentage used for operational support.
  - \*Primary application: Select the primary application for which you have used remotely sensed data from the USGS in the past year. Select one (1) item from the drop down item box. (Required)
  - \*Secondary use of data: In addition to the primary application, in what other areas have you used remotely sensed data from USGS in the past year? (Please check all that apply.) (Required)

- Other Application If none of the secondary values match, enter the other application(s) of the data.
- \*Distribution characteristics: Over the next year, approximately how much of the remotely sensed data you acquire from USGS will you distribute to others to use as opposed to using it yourself? (*Please select only one answer.*) (Required)
- \*Importance of free and open access to data: Over the next year, how important will free and open access to remotely sensed data from USGS be to conducting your work? (*Please select only one answer.*) (Required)

Cancel – Returns to the initial login page without saving any information.

Continue – Performs validation of the information entered; if the values entered are valid, the information is saved and you advance to the User Affiliation/Data Usage form.

#### 3. Address page

Type the address information in the Address page (Figure 11). The address information is used only for contact information; however, some data products require shipping information to deliver products. Address information is not shared with any commercial or other government agencies. Please refer to the <u>USGS/DOI</u> <u>Privacy Policy</u> concerning how this information is used.

Science for a changing world						USGS Home Contact USGS Search USGS
USGS Registration		the second density of Physics				
Home					Login Regi:	ster Feedback Help
		<u>1. Log</u>	in 2. User Affiliation	3. Address 4. Confirmation		
	Steps for entering Addre Enter the address where we	e can contact you.	not share any information	n you enter here!)		
	Click the "Continue" button	when you are done.				
	Contact Customer Services	if you are a business par	tner or if you qualify for	special ordering options.		
		Contact	Information			
	*First Name:					
	*Last Name:					
	Company/Organizatio	n:				
	*Address 1:					
	Address 2:					
	*Country:	Select a country		•		
	*City:					
	State/Province:			Example: SD, South Dakota, sd, south dakota		
	*Zip/Postal Code:			dunotu		
	*E-mail:					
	Alternative E-mail:					
	*Telephone:			Example: XXXXXXXXX, XXXX XXXX XXXX, XXX-XXX- XXXX, (Phone # used only if we have questions about an order)		
	Fax:					
	* = Required Field	Cancel	Continue			
1	- Neganed Field					
Accessibility FOIA Privacy	Policies and Notices	Google Maps API Disclaime	r			
U.S. Department of the Interior U.S. Geological URL: https://eedevmast.cr.usgs.gov Page Contact Information: <u>ppark@usgs.gov</u>					τ	
Page Last Modified: 09/20/2012						Per la filla de

Figure 11 - Address

The Address page requires you to type the following values:

- \*First Name (Required) First name of the user.
- \*Last Name (Required) Last name of the user.
- Company/Organization Affiliated company or organization.
- \*Address 1 (Required) Address line 1.
- Address 2 Address line 2.
- \*Country (Required) Country you are from.
- \*City (Required) City where you reside.
- \*State/Province (Required) State/province where you reside.
- \*Zip/Postal Code (**Required**) Zip code or postal code.
- \*E-mail (Required) Email address.
- Alternative E-mail Additional email address.
- \*Telephone (Required) Primary telephone number.
- Fax Fax number.

#### 4. Confirmation

The Confirmation page (Figure 12) displays after successful registration. Click 'Return to the page where I registered' to return to the page you started the registration process.



Figure 12 - Confirmation Page

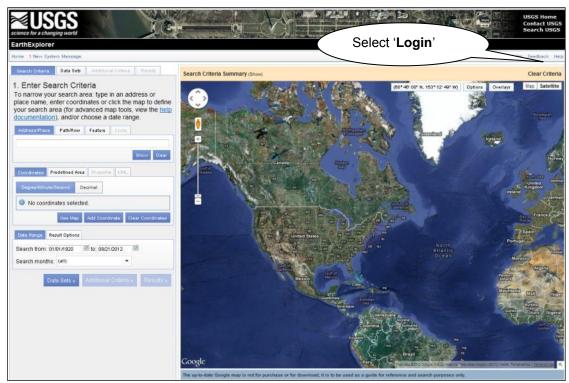
After registering for the first time, you are automatically logged in to EarthExplorer.

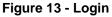
#### B. Login

The Login page allows users to log in to EarthExplorer. A registered user can use all of EarthExplorer's features, including saving search criteria, downloading data, and accessing subscription services.

#### 5. Login Process

a. To log in, select the 'Login' menu item from the EarthExplorer menu (Figure 13). (Note: After registering the first time, you are automatically logged in.)





b. Type the username and password and then click the 'Sign In' button (Figure 14).

When you sign in using your user name and password, information in your profile can be used to access a specific USGS site or to place orders for USGS EROS products.
Sign in using your USGS registered username and password
Username:
Password:
Cancel Sign In
Forgot your password?

Figure 14 - Login/Password

- c. Click the Forgot your password? link to receive directions for updating the password.
- d. Once logged in, additional items appear in the main menu bar:

Figu	re 15 - Menu Bar Iter	ns							
Home	2 New System Messages (Show)	Profile	Save Criteria	Load Favorite 👻	Manage Criteria	Logout	TestUser	Feedback	Help

#### 6. Logout Process

To log out of EarthExplorer, click 'Logout' in the EarthExplorer menu.

#### C. Profile

The Profile menu allows users to modify profile information.

#### 7. Profile Home

The 'Profile Home' option allows users to modify profile information (Figure 16). The Username cannot be modified.

- a. Change Password View and change a password
- b. Contact Address View and modify contact address
- c. User Affiliation View and modify your affiliation

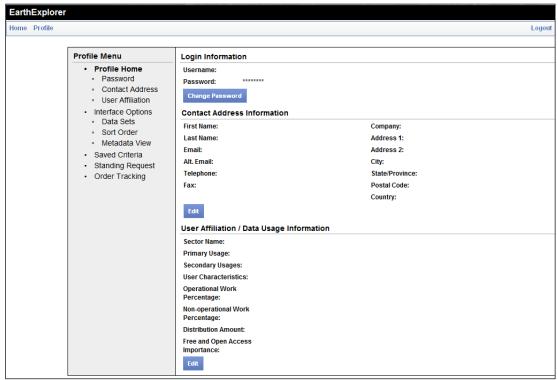


Figure 16 - Edit User Profile

Click the 'Edit' button to modify the desired information.

#### 8. Interface Options

The 'Interface Options' page allows users to modify information associated with the overall system interface. The following options modify the overall EarthExplorer interface:

 Interface options (Figure 17) – Modifies tool tips, the number of metadata results per page, allow standing requests and other specific system options. For some options, only the Application Administrator can modify.

Profile Menu	
Profile Home     Password     Contact Address     User Affiliation     Interface Options     Data Sets     Sort Order     Metadata View     Saved Criteria     Standing Request     Order Tracking	

Figure 17 - Interface Options

e. Data Sets page (Figure 18) – Modifies the list of datasets shown in the Data Sets Component.

Profile	Logout 🔊 RSS	Feedback	(	
Profile Menu				
<ul> <li>Profile Home</li> <li>Password</li> <li>Contact Address</li> <li>User Affiliation</li> <li>Interface Options <ul> <li>Data Sets</li> <li>Sort Order</li> <li>Metadata View</li> <li>Saved Criteria</li> <li>Standing Request</li> <li>Order Tracking</li> </ul> </li> </ul>				

Figure 18 - Data Set List

f. Sort Order page (Figure 19) – Modifies the sort order for each dataset.

Profile Menu	Customized Sort Order				
<ul> <li>Profile Home</li> <li>Password</li> </ul>	Collection Result Metadata				
<ul> <li>Contact Address</li> <li>User Affiliation</li> </ul>	Select a Collection: Aerial Photography: Aerial Photo Mosaics   Clear Save Customization				
<ul> <li>Interface Options</li> <li>Data Sets</li> <li>Sort Order</li> <li>Metadata View</li> </ul>					
<ul> <li>Saved Criteria</li> <li>Standing Request</li> <li>Order Tracking</li> </ul>					

Figure 19 - Sort Order

g. Metadata View page (Figure 20) – Modifies the detailed metadata view for each dataset.

Profile	Logout 💦 RSS Feedbac
Profile Menu	Customized Metadata
Profile Home     Password     Contact Address     User Affiliation     Interface Options     Data Sets     Sort Order     Metadata View     Saved Criteria     Standing Request	Collection Collection Metadata Select a Collection: Aerial Photography: Aerial Photo Mosaics Clear Saved Customization

Figure 20 - Metadata View

#### 9. Saved Criteria

The 'Saved Criteria' option (Figure 21) – Modifies the saved criteria options from previous searches.

Profile Menu	Sa	ved Criteria			
<ul> <li>Profile Home</li> <li>Password</li> </ul>	Saved Criteria Name		Favorite	Operatio	ns
<ul> <li>Contact Address</li> <li>User Affiliation</li> <li>Interface Options</li> <li>Data Sets</li> <li>Sort Order</li> <li>Metadata View</li> </ul>	search_site_1				×
<ul> <li>Saved Criteria</li> <li>Standing Request</li> <li>Order Tracking</li> </ul>					

Figure 21 - Saved Criteria

In Figure 21, the search criterion was saved with the name 'Search\_Site\_1'. Any information can be entered when saving the search criteria.

- Selecting the favorite box icon saves the search criteria to the favorites list
- The load criteria icon loads the search criteria automatically to EarthExplorer

Favorite

The delete *k* icon removes the search criteria from the saved criteria

#### 10. Standing Request

Click the 'Standing Request' (Figure 22) to view a list of entered standing requests.

Home Profile						Logout	S RSS	Feedback	Help
Standing Reques	sts								
jj			« First ‹ Pr	evious 1 Nex	xt> Last »				
			D	isplaying 1 - 1 of	1				
	Name	Status	Frequency	Last Run	Start Date	End Date	Delete		
	Landsat_data	New	Weekly	Not Started	2012-09-17	2012-09-19	0 🗑		
			« First ‹ Pr	revious 1 - Nex	xt→ Last »				

Figure 22 - Standing Request

The Standing Request function sends a notification via email when a new acquisition matches the search criteria for the requested dataset. The metadata and browse can be reviewed for the returned scenes. See Section IV, D, 3, Standing Request for more details on the Standing Request function.

#### 11. Order Tracking

Click the 'Order Tracking' (Figure 23) option to display the list of orders that have been placed.

Profile Menu			Orders Placed				
Profile Home     Password	« First < Previous 1 Next > Last »						
<ul> <li>Contact Address</li> </ul>	Displaying 1 - 1 of 1						
<ul> <li>User Affiliation</li> <li>Interface Options</li> </ul>	Order #		Status	Status Date	•		
<ul> <li>Interface Options</li> <li>Data Sets</li> <li>Sort Order</li> <li>Metadata View</li> <li>Saved Criteria</li> <li>Standing Request</li> <li>Order Tracking</li> </ul>	0121209173049	(	lueued for Processing	09/17/2012			
			revious 1  Next > Last	»			
			revious 1 ▼ Next→ Last	>>			
	Order #	Order Type	Status	Date Order Placed			
	2683	Bulk Download	Ready	09/17/2012			

Figure 23 - Order Tracking

Click the order number to show the order details, the products ordered, and the current status of each item ordered.

### IV.Perform a Search

EarthExplorer allows users to search, download, and order data held in USGS archives through a number of query options. EarthExplorer uses tabs in the search application to move through each portion of the process. The EarthExplorer search process/component is divided into four main areas (Figure 24):

- Search Criteria Tab Provides the interface for entering various search options.
- Data Sets Tab Provides the interface for selecting the datasets to be searched.
- Additional Criteria Tab Provides an interface for entering additional search criteria specific to the selected datasets.
- Results Tab Provides the interface for displaying a textual and graphical view of the query results.



#### Figure 24 - EarthExplorer Search Tabs

#### A. Search Criteria Tab

The Search Criteria tab provides a location to enter search criteria for an area of interest. Users have the option to either type the location criteria via the textual information component or with the Google Map interface. The search criteria options include:

- Google Map Interface Enter the area of interest through the Google Map interface
- Address/Place Type an address or place name
- Area Selected Enter coordinates to define an area of interest. The area selected is updated as changes are made
- Predefined Area Select from a list of predefined areas for a query
- Upload shapefile or KML file Update a ESRI shapefile or KML file as the query area
- Dates Selected Enter a date or date range
- Number of records to return Modify the number of scenes returned from a search.

#### 1. Enter Area of Interest Search using Google Map Interface

Using the Google Map interface, enter the geospatial area of interest using the mouse or other pointing device.

Options for entering location criteria include:

a. Define a single point search (Figure 25) – Click an area on the map once using the mouse to define a single point search. The latitude and longitude of the point selection displays under the 'Coordinates' section. The coordinates can be toggled between Degree/Minute/Second and Decimal degrees.

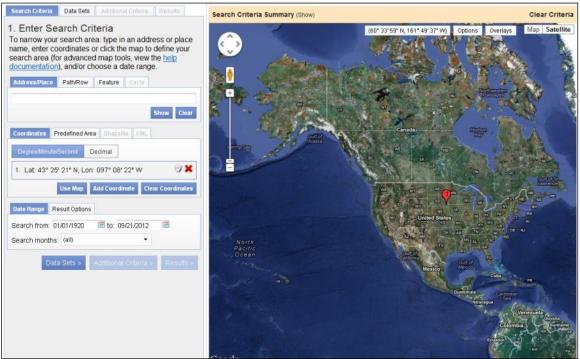


Figure 25 - Point Search

b. Define a line search (Figure 26) – To perform a line search, select two points on the map to define a line segment. The latitude and longitude of the two points selected display under the 'Coordinates' section.

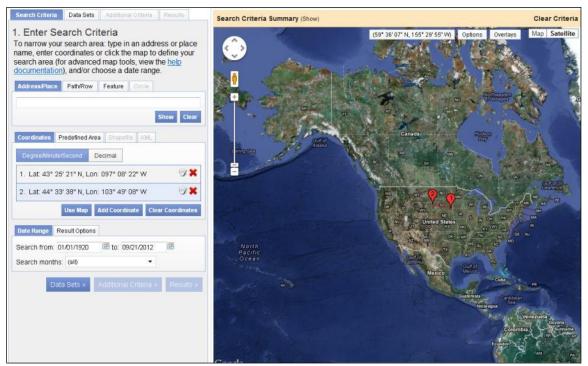


Figure 26 - Line Search

c. Define a rectangle search (Figure 27) – Press the Shift key after starting the selection, and continue to hold the Shift key until the correct rectangle or square is defined. This action defines the constraints of the rectangle /

square. If you press the Shift key before making the selection, the resulting selection is added to the existing selection. The latitude and longitude of the four points selected display under the 'Coordinates' section. To modify the rectangle, click one of the numbered points on the map and drag the point to a new location.

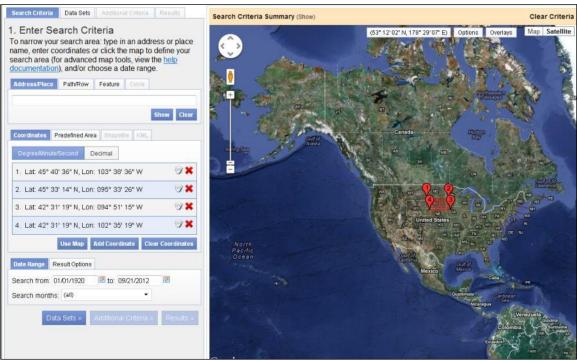


Figure 27 - Rectangle Search

d. Define a polygon – Click multiple times to define an area (Figure 28). As each point of the polygon is selected, the latitude and longitude of the defined polygon displays under the 'Coordinates' section. To modify the rectangle, click one of the numbered points on the map and drag the point to a new location.

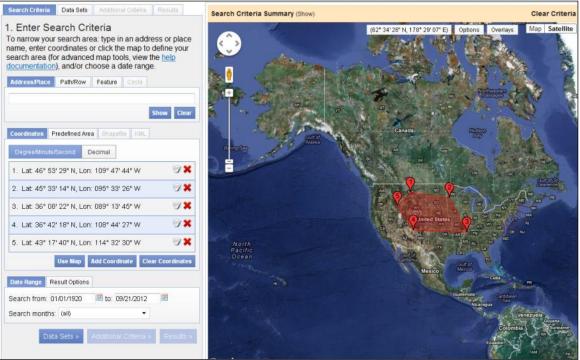


Figure 28 - Polygon Search

e. Define a circle – Select the Options tab on the Google Map display then click the 'Circle' option (Figure 29). The 'Search Criteria' box allow entry of a circle polygon. To define a circle, click two points on the map (Figure 30). To modify the circle radius, click and drag one of the points to a new location. The coordinates of the points defining the circle display under the 'Coordinates' section. Click "Point Polygon Tool" to turn off the Circular Polygon tool.



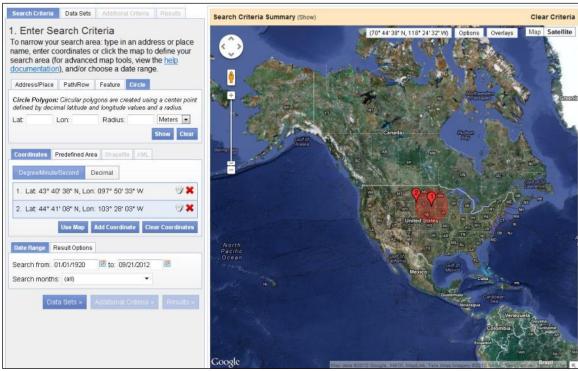


Figure 30 - Example circle area of interest

f. Clear Selection (Figure 31) – Click the 'Clear Coordinates' button to clear the search criteria from the map.



g. Add Map to Selection (Figure 32) – Click the 'Use Map' button to add the current map view as the area of interest.



The color of the screen changes, indicating the area displayed on the map as an area of interest (Figure 33). The latitude and longitude of the map extent display under the 'Coordinates' section.

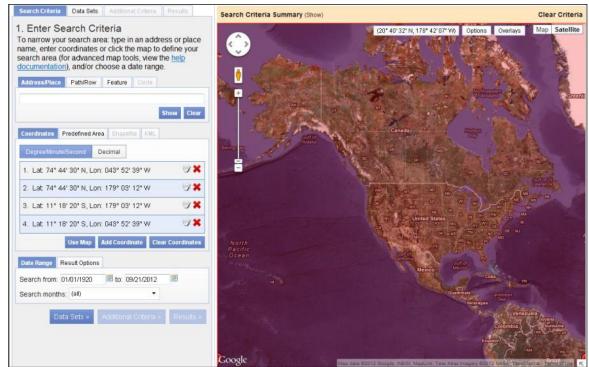


Figure 33 - Add Map to Selection Example

#### 2. Enter Search using Address/Place

The Address/Place subcomponent allows you to enter a specific address, latitude, longitude, United States or World feature, or Landsat Worldwide Reference System (WRS) Path/Row.

a. Address – Enter a specific address; for example, in the Address: field, type 47914 252nd St, Sioux Falls, SD (Figure 34). Press Enter or click 'Show' to display the location on the map along with the latitude and longitude under the 'Coordinates' section (Figure 35).



Figure 34 - Enter Address

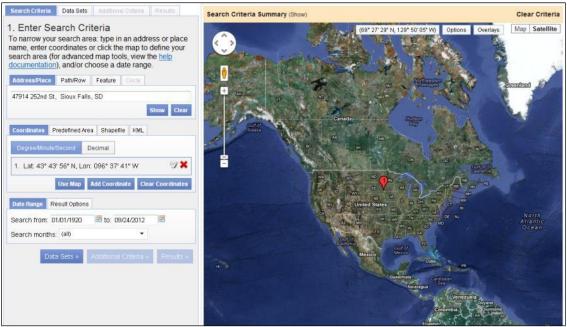


Figure 35 - Enter Address Location

b. Latitude/Longitude – Enter a specific latitude/longitude; for example, type 43 43' 57" N, 096 37' 42" W (Figure 36). Press Enter or click 'Show' to display the location on the map and to populate the 'Coordinates' section. (Figure 37).



Figure 36 - Enter Latitude/Longitude

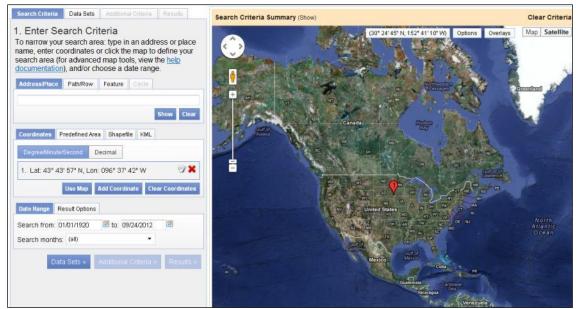
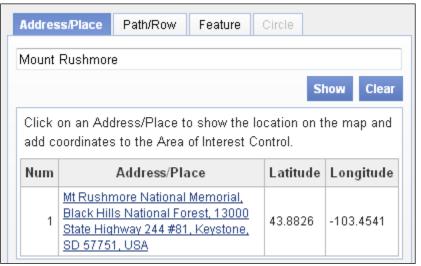


Figure 37 - Enter Latitude/Longitude Location

 c. Place Name – Enter a place name. For example, type Mount Rushmore (Figure 38) and press Enter or click 'Show' to display the location on the map and to populate the 'Coordinates' section.(Figure 39).





If you are unsure of a specific location, type a placename and press Enter (or click 'Show') to display a list of possible options. For example, type EROS and then click 'Show' to display a list of possible places that match EROS.

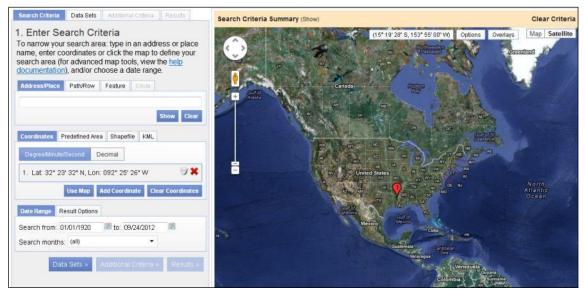


Figure 39 - Place Name - Multiple Options

Click an item in the Address/Place list to show the location on the map (Figure 40).

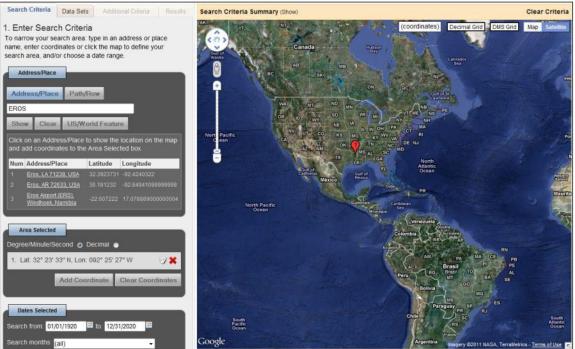


Figure 40 - Place Name - Multiple Option - Selected Place

d. Path/Row – Select the Path/Row option to enter WRS1 or WRS2 path row criteria for the search.

Select the Path/Row button to display the Path/Row WRS criteria dialog box (Figure 41). Select either WRS1 or WRS2 and then type the Path and Row for the desired area. For example, select 'WRS2' and type Path: 31 and Row: 29 to identify the center point for WRS2, Path 31, and Row 29. Click 'Show' to identify the path/row location on the map (Figure 42).

Search Criteria	Data Sets	Additiona	al Criteria	Results				
1. Enter Search Criteria To narrow your search area: type in an address or place name, enter coordinates or click the map to define your search area (for advanced map tools, view the <u>help</u> <u>documentation</u> ), and/or choose a date range.								
Address/Place	Path/Row	Feature	Circle					
Point Polyge	on							
Type: WRS2	<ul> <li>Path: 31</li> </ul>	Ro	w: 29					
				Show Cl	ear			
Coordinates Pr	redefined Area	a Shapefi	le KML					
Degree/Minute/S	Second D	ecimal						
🕕 No coordin	ates selecte	ed.						
	Use Map	Add Coordir	nate Clea	ar Coordina	tes			
Date Range Re	sult Options							
Search from: 01	/01/1920	🗷 to: 09	/24/2012					
Search months:	(all)		•					
Data	a Sets »	Additional	Criteria »	Result	:S »			

Figure 41 - Path/Row

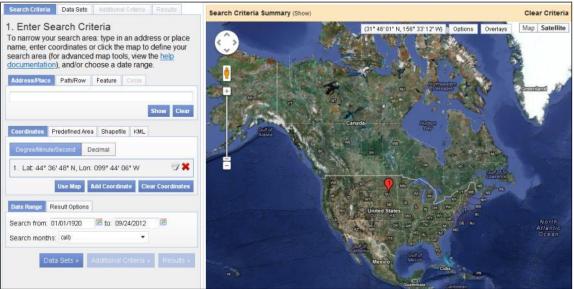


Figure 42 - Path/Row Location

e. US/World Feature – Select either a United States or World feature.

Click the 'Feature' button to display the US/World Feature Search dialog box. Type in a geographic feature name or select a State/Country, Feature Class, or Feature type from a popdown menu (Figure 43).

Search Criteria	Data Sets	Additiona	al Criteria	Resul	ts
1. Enter Se To narrow your name, enter co search area (fo documentation	search are ordinates o r advance	ea: type in or click the d map too	e map to ols, view	define the <u>help</u>	your
	, and the		011010	rda: aala	at a
Search Limits: 1 Country, Feature chances of exce	Class, and/o	or Feature 7		•	
US Features	World Feat	ures			
Feature Name					
State	A				
SOUTH DAKOT	Α				•
Feature Type					
ARFORT					
				Show	Clear

Figure 43 - US Feature Place name Search

For example, on the 'US Features' tab, select 'South Dakota' from the State dropdown, select 'Airport' from the Feature Type dropdown, and click 'Search' to display a list of all airports in South Dakota (Figure 44).

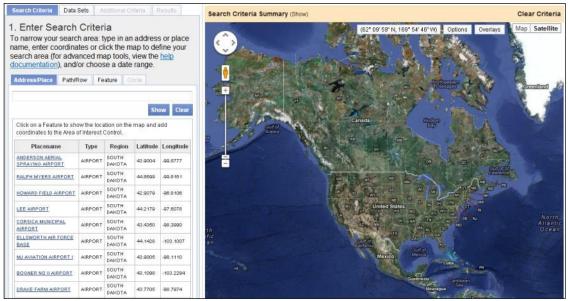


Figure 44 - US Feature Place name Search Results

Click the desired feature from the results list to close the dialog and display the feature location on the map (Figure 45).

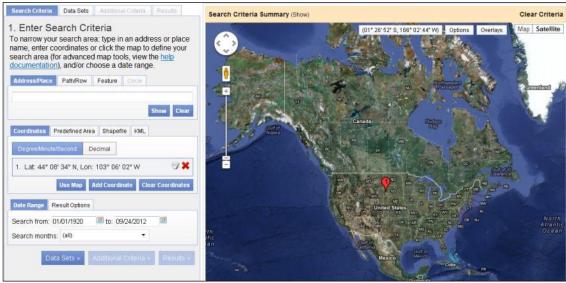


Figure 45 - US Feature Place name Selected

## 3. Enter Search manually using Coordinates or Shapes Area Selected

A second way to define an area of interest is to manually type the latitude/longitude in the Coordinates tab.

To enter latitude/longitude coordinates manually, select the 'Degree/Minute/Second' or 'Decimal' option. This method displays how the latitude/longitude information is entered. Click 'Add Coordinate' (Figure 46).

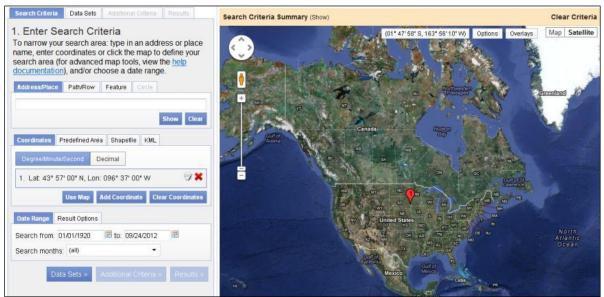
Degree/Minute/Second	Decimal	
No coordinates sele	ected.	
Use Map	Add Coordinate	Clear Coordinates

Figure 46 - Add Coordinate

Click 'Add Coordinate' to display the 'Add new Coordinate' dialog box. As shown in Figure 47, enter degrees, minutes, and seconds of a point in the dialog box. After clicking Add, the dialog disappears, the point displays on the map, and the coordinates are displayed. Use this method to enter multiple points (Figure 48).

Add New Coord	inate		×
Latitude:	•	·	"North 💌
Longitude:	0		"West 💌
			Add Cancel

Figure 47 - Add New Coordinate



Page: 37

Figure 48 - Add New Coordinate Location

Click **X** to delete a coordinate or click *v* to edit a coordinate (Figure 49).

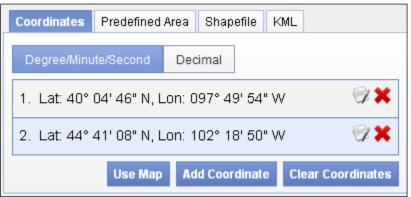


Figure 49 - Delete or Edit Coordinates

#### 4. Predefined Area

The 'Predefined Area' option provides a list of predefined areas to perform a search on. The list of predefined areas includes:

- States
- Counties
- Congressional Districts

Selecting the 'Predefined Area' tab displays the 'Add Shape' dialog box as shown in Figure 50. Select the desired State, Area type (State, County, Congress District), and Area (County name or Congressional District name).

Add Shape	×
United States Area	World Area
State	
South Dakota	•
Агеа Туре	
County	•
Area	
Aurora County	•
	Add Cancel

Figure 50 - Predefined Area - Add Shape

The outline of the selected Predefined area is then displayed on the Google Map interface (Figure 51).

Search Criteria Data Sets Additional Criteria Results	Search Criteria Summary (Show)	Clear Criteria
1. Enter Search Criteria         To narrow your search area: type in an address or place         name, enter coordinates or click the map to define your         search area (for advanced map tools, view the <u>help</u> documentation), and/or choose a date range.         Address.Place       Path/Row         Feature       Circle	(43*22*08*N, 097*10*14*W) Options Overla	W9 Map Satellite Postfore 73
Show Clear Coordinates Predefined Area Shapefile KML	DeliRents	
South Dakota - Minnehaha County Add Shape Clear Shape		
Date Range         Result Options           Standard Search         Bulk Search           Number of records to return:         10		
Data Sets » Additional Criteria » Results »	Sioux Falls	

Figure 51 - Predefined Search Area

## 5. Upload ESRI Shapefile or KML file

The EarthExplorer interface provides the capability to upload either an ESRI Shapefile or Google Earth Keyhole Markup Language file as search criteria.

a. Upload ESRI Shapefile

Selecting the 'Shapefile' tab on the 'Coordinates' dialog box displays the input form for the uploading ESRI Shapefile information for a search area (Figure 52). Shapefiles are limited to one record containing one polygon or line string with a maximum 30 points.

Coord	linates Predefined Area	Shapefile	KML
•	<b>efile:</b> Shapefiles are lim olygon or line string with		Ţ
.shp			Browse
.shx			Browse
.dbf			Browse
.prj			Browse
			Upload Clear

Figure 52 - Upload ESRI Shapefile

The ESRI Shapefile dialog box requires all of the following files: .shp, .shx, .dbf and .dbf.

b. Upload KML/KMZ file

Selecting the 'KML' tab on the 'Coordinates' dialog box displays the input form for the uploading a KML or KMZ file for a search area (Figure 52). The KML or KMZ file is limited to one record containing one polygon or line string with a maximum 30 points.

Coordinates	Predefined Area	Shapefile	KML
	<b>le:</b> KML/KMZ file ne polygon or lin		ed to one record h a maximum of 30
			Browse
			Upload Clear

Figure 53 - Upload KML/KMZ file

Browse to the desired KML or KMZ file, select the desired file, and then select the 'Upload' file button to process the KML/KMZ file to the desired polygon search area. Figure 54 is an example KML file uploaded to EarthExplorer with 4 polygon points identified in the KML.

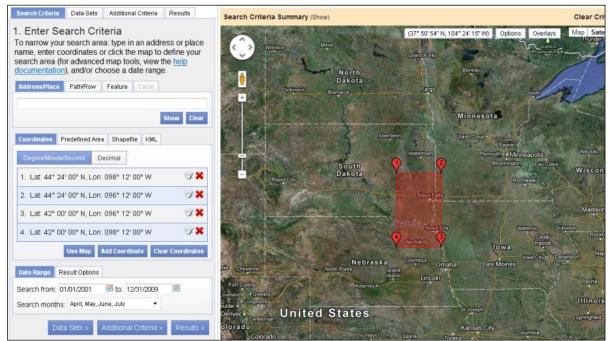


Figure 54 - Example uploaded KML file

The following is the example used to create the KML polygon search example.

<?xml version="1.0" encoding="UTF-8"?> <kml xmlns="http://earth.google.com/kml/2.0"> <Document> <Placemark> <Polygon> <outerBoundaryIs> <LinearRing> <coordinates> -98.2,44.4 -96.2,44.4 -96.2,42 -98.2,42 -98.2,44.4 </coordinates> </LinearRing> </outerBoundaryIs> </Polygon> <Style> <PolyStyle> <color>#a00000ff</color> <outline>0</outline> </PolyStyle> </Style> </Placemark> </Document></kml>

Figure 55 - KML Example

## 6. Dates Selected

The 'Dates Selected' option provides a method for entering a beginning and ending date range to refine the search criteria (Figure 55). You are not required to modify the default date range; however, a date range is highly recommended to reduce the number of search results returned from a search. 'Search Months' allows you to specify which months to search within the date range specified.

For example, Figure 55 shows a search range of 01/01/2008 to 12/31/2009, with selected months of April, May, June, and July.

			r							
				0	Dec		<b>-</b> 20	09	-	٥
				Su	Мо	Tu	We	Th	Fr	Sa
Coordinates	Predefined	Area	Shap	- 29	- 30	1	2	3	4	5
Degree/Minu	ita/Cacand	Dec	imal	6	7	8	9	10	11	12
Degree/Minu	ite/Second	Dec	amai	13	14	15	16	17	18	19
🕕 No coor	In coordinates selected.		20	21	22	23	24	25	26	
				27	28	29	30	31	- 1	2
Date Range	Use Map Result Optio	_	ld Cooi	To	day				Clo	se
Search from:	01/01/2001		🗉 to: 🛛	12/31	ļ2009	9				÷.,
Search mont	hs: April, Ma	iy, Jun	e, July		•					
D	ata Sets »	A	dition	al Cr	iteria	»	Res	sults	»	J.

Figure 55 - Dates Selected

#### 7. Number of records to return

The EarthExplorer interface allows you to select the number of records to return from a search. Use the 'Results Options' tab to select the maximum number of scenes returned (Figure 56).

Date Range Result Options						
Standard Search	Bulk Search					
Number of records to return: 10						
Data S	ets » Additional Criteria » Results »					

Figure 56 - Number of records to return

Once you enter the search criteria, click the 'Data Sets' tab at the top or bottom of the 'Enter Search Criteria' form.

## B. Select Data Set(s):

The 'Data Sets' tab selects which dataset(s) to search (Figure 57).



Figure 57 - EarthExplorer Search Tabs – Data Sets

The 'Data Set' menu (Figure 58) categorizes datasets into similar data collections. EarthExplorer uses a dynamic tree menu with expandable/collapsible links for each major data category. Click the plus sign (I) next to the category name to expand the

list of datasets for that collection. Click the minus sign ( $\Box$ ) next to the category name to collapse the list.

Search Criteria Data Sets Additional Criteria Results						
2. Select Your Data Set(s) Check the boxes for the data set(s) you want to search. When done selecting data set(s), click the <i>Additional</i> <i>Criteria</i> or <i>Results</i> buttons below. Click the plus sign next to the category name to show a list of data sets.						
Use Data Set Prefilter ( <u>What's This?</u> )						
Data Set Search:						
<ul> <li>Aerial Photography</li> <li>AirMOSS</li> <li>AVHRR</li> <li>Cal/Val Reference Sites</li> <li>Commercial</li> <li>Declassified Data</li> <li>Digital Elevation</li> <li>Digital Elevation</li> <li>Digital Line Graphs</li> <li>Digital Maps</li> <li>Eagle Vision</li> </ul>						
<ul> <li>EO-1</li> <li>Forest Carbon Sites</li> <li>Global Fiducials</li> <li>Global Land Survey</li> <li>HCMM</li> <li>JECAM Sites</li> <li>Land Cover</li> <li>Landsat Archive </li> <li>Landsat Legacy</li> <li>Landsat MRLC</li> <li>LIDAR</li> </ul>	ш					

Figure 58 - Data Set Selection Expandable View

Information about a collection is identified with the 'Related Links' icon (<sup>[2]</sup>). Information about each dataset is identified with the Information icon (<sup>(III)</sup>). Moving the mouse pointer over a dataset displays a longer description of the dataset (Figure 59).



Figure 59 - Dataset mouse over example

The majority of the datasets are available for download from the USGS at no cost. A few datasets have a minimal fee to cover the cost of increasing the priority in production. These datasets are identified with a dollar sign icon (<sup>(IIII)</sup>) (Figure 60).

···· 🔲 🕕 🄇	Aerial Photo Single Frames	
··· 🔲 🕕 🌔	This data set may have ordering costs	I

Figure 60 - Dataset with cost of reproduction icon

Data Set Prefilter – Select the Data Set Prefilter option to filter any datasets that do not match a user's search criteria (Figure 61). Apply the prefilter to narrow the list of datasets to include only those based on the area of interest, date range, and months selected on the Search Criteria tab.

Vse Data Set Prefilter ( <u>What's This?</u> )	
76 data sets out of 240 were hidden by the prefilter (Show).	

Figure 61 - Data Set Prefilter

The prefilter does not guarantee results for the defined search criteria.

Clear All Selected button to unselect all datasets that were selected.

After selecting a dataset, click the 'Additional Criteria' tab to enter additional criteria, or click the 'Results' tab to execute the search and view the results for the criteria entered.

## C. Enter Additional Criteria:

The 'Additional Criteria' tab is an optional input area that allows the entry of additional search criteria specific to the dataset(s) selected. Click the 'Additional Criteria' tab to display the additional criteria for the first dataset selected (Figure 62). The type and number of search criteria will vary by dataset.



To narrow the results of a search, each dataset in EarthExplorer has additional specific criteria that can be entered (Figure 63).

Search Criteria	Data Sets	Additional Criteria	Results	
	e than one	a (Optional) data set selected, ditional criteria for		
Data Set: L7 ETM+ SLC-of	f (2003-prese	nt) 💌		
	2003, all La <b>C-off mode</b>	<b>3-present)</b> ndsat 7 scenes hav <u>a</u> . Please visit this <u>v</u>		*
Landsat Scene	ldentifier			
				ш
WRS Path	to			
WRS Row	to			
Cloud Cover All Less than 10%	• II			Ŧ
Reset All Criteri	_		Results	»

Figure 63 - Example Additional Criteria form

Select the dataset from the dropdown (if you only select one dataset, only one dataset appears in the dropdown) (Figure 64).

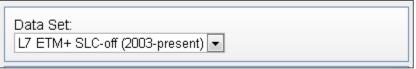


Figure 64 - Data Set Criteria forms

Each criteria page is different and is based on the unique dataset attributes defined for that dataset. In the following example, the specific search criteria include:

- WRS Path
- WRS Row
- Cloud Cover
- Data Category
- Day Night
- Landsat Scene Identifier

Click the title of a search criteria attribute link to the data dictionary for the selected data set to provide information about the particular search item.

Search Criteria	Data Sets	Additional Criteria	Results	
-	e than one	a (Optional) data set selected, ditional criteria for		a
Data Set: L7 ETM+ SLC-o	ff (2003-prese	nt) 💌		
	2003, all La	3-present) ndsat 7 scenes hav 2 . Please visit this <u>v</u>		-
for acquisition				
				Ш
<u>WRS Path</u>	to			
WRS Row	to			
Cloud Cover All Less than 10%	II			
•				•
Reset All Criteri	a		Result	s»

Figure 65 - Unique Criteria Form

Enter the additional criteria as desired to narrow the search (Figure 65). Click the 'Reset' button to clear the page of the current dataset listed. The 'Reset All' button clears the criteria forms for all the datasets listed. Once you enter the additional criteria (if any), click the 'Results' tab near the top of the screen or the button near the bottom of the screen to execute a search.

# D. View Search Results

The 'Results' tab (Figure 66) executes a search using the search criteria and displays the results for the search criteria. The left side of the page displays the results panel with the thumbnail and textual information for each scene returned from the search. The right side of the page displays the Google Map interface with an outline of the identified area of interest (Figure 67).



Figure 67 - Example Results

The Search Results panel includes the following components:

- Show Result Controls Shows all footprints, provides browse options, adds all page results to the shopping basket, and modifies the opacity of browse displayed on the map
- Search Results List Displays the thumbnail, textual information, icons to view details of each scene, view browse, and request downloads of data and other visualization controls for each record returned from the search
- Google Map Interface Displays the search area, views footprints on the map, and reviews a browse image for each scene through the Google Map interface

## 1. Search Result Controls

The Search Results Controls (Figure 68) provide options for:

- Displaying all footprints on the map display from the search results list
- Displaying all browse on the map display from the search results list
- Adding all search results displayed on this page to the item basket

4. Search Results If you selected more than one data set to search, use the dropdown to see the search results for each specific data set.			
Hide Result Controls	•		
<ul> <li>Show All Footprints</li> <li>Show All Browse</li> <li>Add All Results From Current Page to Bulk Downlop</li> </ul>	ad		
Browse Opacity: 100%			
Data Set: GLS 2005 - Export M	letadata		

Figure 68 - Search Result Control

Select 'Show All Footprints' (Figure 69) to display footprints from the current page of results.

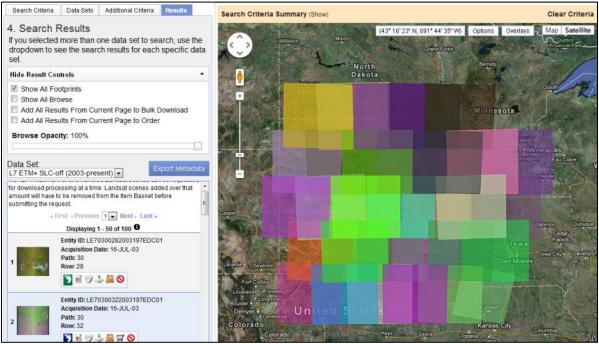


Figure 69 - Show All Footprints

Select 'Show All Browse' (Figure 70) to display all browse from the current page of results.

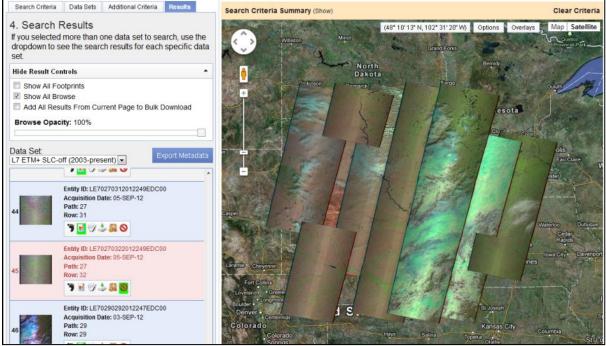


Figure 70 - Show All Browse

Select 'Add All Results from Page to Order' to add all results displayed on the current page to the item selection basket.

The 'Browse Opacity' slider (Figure 71) adjusts the opacity level of the overlay browse images.

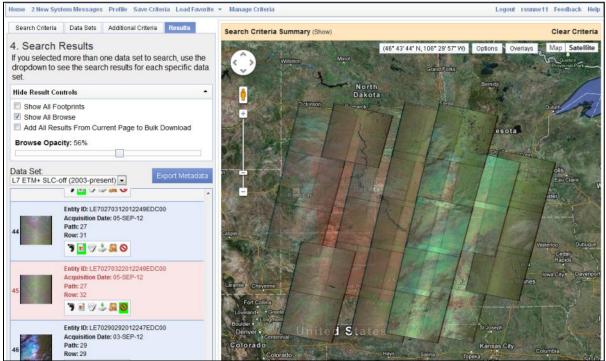


Figure 71 - Browse Opacity Example

## 2. Search Results List

The Search Results List provides the controls for displaying the search results. Each search result includes a thumbnail image, attribute information on each scene, links to view browse and download, and other visualization controls.

c. Multiple Datasets

EarthExplorer searches multiple datasets (Figure 72). The results of the first dataset display in the results panel. Use the "Data Set" selection box to select and view each additional dataset.

Search Criteria	Data Sets	Additional Criteria	Results		
4. Search Results If you selected more than one data set to search, use the dropdown to see the search results for each specific data set.					
Hide Result Con	trols		•		
<ul> <li>Show All Footprints</li> <li>Show All Browse</li> <li>Add All Results From Current Page to Bulk Download</li> <li>Add All Results From Current Page to Order</li> </ul>					
Browse Opacity: 100%					
Data Set: L7 ETM+ SLC-of	ff (2003-pres	sent) 💌	Export Metadata		
GLS 2010 GLS 2005 L7 ETM+ SLC-0	ff (2003-pres	t scenes a	an be requested Added over that		
amount win nave to	Dete Set De				

Figure 72 - Select Data Set Results

Figure 73 displays an example of search results.



Figure 73 - Example Search Results

d. Overlay and Download Controls

Each search result record includes a thumbnail image, attribute information on each scene, links to view browse and download data, and other visualization controls. Based on the dataset and user profile, some controls may not be available (Figure 74).



Figure 74 - Example Scene Level Results

The following is an overview of the overlay and download controls:

• Show Footprint – Select the 'Show Footprint' ( ) icon to display the footprint of the selected scenes on Google Map (Figure 75). When the footprint option is on, the footprint icon is highlighted. Click the highlighted icon to turn off the footprint option. Multiple footprints can be selected and displayed on the map. Each footprint displays in a different color.

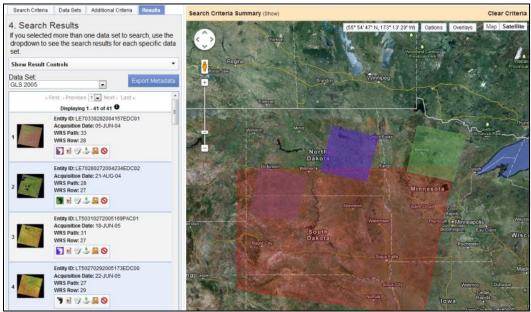


Figure 75 - Footprint Overlay

 Show Browse Overlay – Click the 'Show Browse Overlay' ( ) icon to display a preview image (browse) of the scene on the map (Figure 76). When the browse option is on, the browse icon is highlighted. Click the highlighted icon to turn off the browse option. Multiple browse can be selected and displayed on the map.

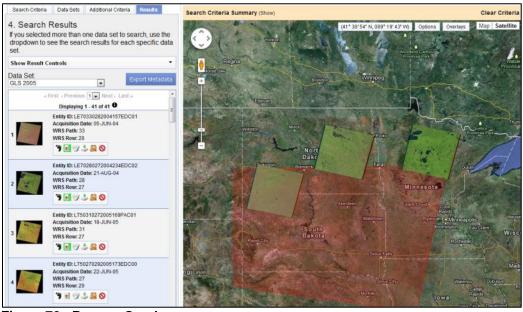


Figure 76 - Browse Overlay

- Show Metadata and Browse Click the thumbnail image or icon to display the browse image and full metadata for the selected scene (Section IV, f).
- Download Options Click the 'Download Options' icon () to allow registered users to download the selected data (Figure 77). Selecting the 'Download Options' icon before registering or logging in displays the following prompt:



Figure 77 - Login before downloading

Click the 'Login' to log in to EarthExplorer.

After logging in and clicking the 'Download Options' icon, a page similar to the following displays (Figure 78):

Download Options	×
Please select from the following download options: CandsatLook "Natural Color" Image (3.6 MB JPEG) LandsatLook Thermal Image (2.2 MB JPEG) LandsatLook Images with Geographic Reference (5.8 MB JF Level 1 Product (230.5 MB Geotiff)	PEG)
	Select Download Option Cancel

Figure 78 - Download Options Dialog

Depending on the dataset, multiple products may be available for download. After selecting the desired product, and clicking "Select Download Option", the following dialog displays (Figure 79):

Download Scene	×
Click the download button to download Scene ID: LE7033028200	04157EDC01
	Download Close

Figure 79 - Download Scene

Click 'Download' to start the download process. A 'File Download' dialog box displays (Figure 80). Select 'Save' to prompt for the location to save the file.

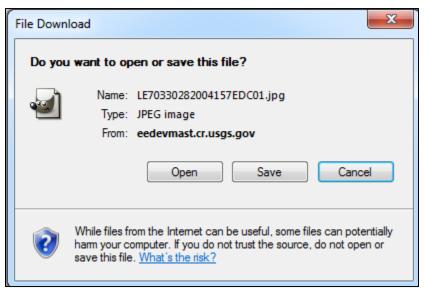


Figure 80 - Download Scene Dialog

 Bulk download – Click the 'Bulk Download' icon (<sup>54</sup>) to allow registered users to bulk download the selected data (Figure 81). Selecting the 'Bulk Download' icon adds the selected scenes to the Item Basket.

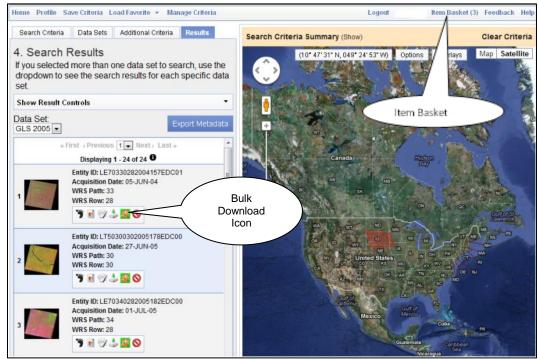


Figure 81 - Bulk Download - Added to Item Basket

Selecting the 'Item Basket' in the menu displays the 'Bulk Download Item Basket' (Figure 82). Based on the dataset, multiple options may be available to select the type of product(s) to download.

Home	Profile Logout rsunnet1 Feed	back
	Please Note: This page will expire at 2:21:02 PM CDT. Once expired, you will be logged out and your order may be lost.	
Bulk	Download	Cle
Vote: L	Data sets may contain items with multiple product options. Expand a data set to view your list of ordered scenes including metadata and product options.	
∧ GL	S 2005 (3)	
ØR	emove All Scenes 🎽 Modify Options For All Scenes	
LE7	0330282004157EDC01	
W	quisition Date: 05-JUN-04 RS Path: 33 RS Row: 28	
Lar Lar Lar	ducts: ddsatLook "Natural Color" Image (3.6 MB JPEG) ndsatLook Thermal Image (2.2 MB JPEG) ddsatLook Images with Geographic Reference (5.8 MB JPEG) rel 1 Product (230.5 MB Geotiff)	
LT5	0300302005178EDC00	•
Ac Wi	tity ID: LT50300302005178EDC00 quisition Date: 27-JUN-05 RS Patit: 30 RS Row: 30	
Lar Lar Lar	ducts: ndsatLook "Natural Color" Image (4.9 MB JPEG) ndsatLook Thermal Image (1.9 MB JPEG) ndsatLook Images with Geographic Reference (6.8 MB JPEG) rel 1 Product (151.7 MB Geotifi)	

Figure 82 - Bulk Download Item Basket

After identifying the type of product desired, select the 'Proceed to Checkout' button to review the bulk request (Figure 83).

Home Profile	Logout	Fe	edback Help
Please Note: This page will expire at 2:37:08 PM CDT. Once expired, you will be logged out a	nd your orde	r may be lost.	
Bulk Download			
Note: File sizes are approximate. Final file size may vary slightly.			
Data Set	Qty.	Products	File Size
GLS 2005	3	3	638.7 MB
		Total Size:	638.7 MB
Return To Item Basket Submit Order			

Figure 83 - Bulk Download Order Review

Selecting the 'Submit Order' button submits the bulk order for processing.

Home Profile	Logout	eedback Help			
Bulk Download					
Your Bulk Download order number 702 has been received. A notification has also been sent to the email provided in your USGS Registration profile. To begin the download process, the <u>Bulk Download Application</u> (BDA) is required. First time users: please download, install and open the BDA. Returning users: please open the BDA installed on your system. You will be required to login using the EarthExplorer username and password used to complete your download request. Information and installation links can also be found at <u>doubthepy</u> .					
If your order is Available, highlight the order number and click Select Order. On the next page, navigate to the download destination, make changes as you see fit for your system, highlight the first item in the list, and click Begin Download. When all items are downloaded you can select another order or close the window. The system will also keep track of failed downloads and retry them.					
Bulk download orders are available for two weeks, after which the they are removed. You will need to place a new order to obtain data products if you do not download them from original order.					
GLS 2005					
Entity ID	Product Description	File Size			
LE70330282004157EDC01	Level 1 Product (230.5 MB Geotiff)	230.5 MB			
LT50300302005178EDC00	Level 1 Product (151.7 MB Geotiff)	151.7 MB			
LE70340282005182EDC00	Level 1 Product (256.5 MB Geotiff)	256.5 MB			
Totals					
	Total File Size:	638.7 MB			
	Return To EarthExplorer				

Figure 84 - Bulk Download Validation

The 'Bulk Download Validation' form (Figure 84) displays the scenes requested through the bulk download interface. To begin the download process, the Bulk Download Application (BDA) is required. First time users: please download, install and open the BDA. Returning users: please open the BDA installed on your system. You will be required to login using the EarthExplorer username and password used to complete your bulk download request.

e. Order Controls

The majority of the products available through EarthExplorer for registered users are available via download. In some cases, order requests are available for selected products. Ordering products usually requires some specialized image or data processing. If a dataset has an option for ordering, the 'Order Scene'

icon (H) displays. This option allows registered users to order or request specialized processing on certain products. The 'Order Scene' icon is greyed out unless you are registered and logged in. In addition, a few products require a small fee for the cost of processing.

Click the 'Order Scene' icon to add the selected scene to the 'Item Basket'. As each scene is added to the 'Item Selection' basket on the menu bar, the number of scenes added to the basket is updated and the 'Order Scene' icon changes to green (Figure 85).



Figure 85 - Order Scene

In some cases, additional ordering parameters may be required to complete an order.

To view items in the Item Basket, click 'Item Basket' in the menu bar or the 'View Item Basket' View Item Basket > button at the bottom of the results page (Figure 86).



#### Figure 86 - Item Basket Example

In the following example, the first item is for an Aerial Photo Single Frame scanning request. There is one option for the micron size of processing parameters. The cost of scanning is \$30 per scene.

The second item is a request for a Landsat 7 Enhanced Thematic Mapper Plus (ETM+) Level 0, Scan Line Corrector (SLC) OFF On-Demand product. Processing parameters are not available for this product; this item is at no cost.

The overall cost is \$30 for the scanned product with a \$5 handling fee per order (Figure 87).

Order Clear A
Note: Data sets may contain items with multiple product options. Expand a data set to view your list of ordered scenes including metadata and product options.
Aerial Photo Single Frames (1)
🖉 Remove All Scenes 🌶 Modify Options For All Scenes
AR1CE0000030050 × x
Entity ID: AR1CE0000030050 Coordinates: 42.645234 , -98.435477 Acquisition Date: 30-DEC-46 Scale: 27200
Product: High Resolution Scanned 9 X 9 in. Options: 25 Micron Output Media: DWNLD Price: \$30.00
L7 ETM+ SLC-off (2003-present) Level 0 (2)     Ø Remove All Scenes  ≠ Modify Options For All Scenes
LE70280312003199EDC02 * x
Entity ID: LE70280312003199EDC02 Coordinates: 41.7572, -96.1515 Path: 28 Row: 31 Acquisition Date: 18-JUL-03
Product: L7 SLC-OFF (2003-present) Level 0 Options: None Output Media: DWNLD
LE70330282003202EDC01 • ×
Entity ID: LE70330282003202EDC01 Coordinates: 46.0287, -102.388 Path: 33 Row: 28 Acquisition Date: 21-JUL-03
Product: L7 SLC-OFF (2003-present) Level 0 V Options: None Output Media: DWNLD
Save Changes Proceed To Checkout »

Figure 87 - Item Basket

Click 'Submit Order' to submit the order for processing. You will receive a confirmation email. The Checkout Summary page displays and you can print or save this summary for your records (Figure 88).

Order		
Data Set	Qty.	Price
Aerial Photo Single Frames	1	\$ 30.00
L7 ETM+ SLC-off (2003-present) Level 0	2	\$ 0.00
	Subtotal:	\$ 30.00
	Handling Fee:	\$ 5.00
	Order Total:	\$ 35.00
Return To Item Basket Submit Order		

Figure 88 - Checkout Summary

Ordering Aerial Photography provides a method for downloading scenes from an

entire roll of film. Select the roll icon () to 'View Related Scenes' to display all of the images that were acquired for the selected scene's roll (Figure 89). These results will show all frames on a roll of film, including untitled images without coordinates.

Related Scenes for: AR1	IFG0001180044	×
	« First ∢ Previous 1 ▼ Next → Last » Displaying 1 - 50 of 162	
1	Entity ID: AR1FG000118X001 Coordinates: 0, 0 Acquisition Date: 30-APR-37 Scale: 0	
2	Entity ID: AR1FG0001180001 Coordinates: 0, 0 Acquisition Date: 30-APR-37 Scale: 0	
3	Entity ID: AR1FG0001180010 Coordinates: 0, 0 Acquisition Date: 30-APR-37 Scale: 0	
4	Entity ID: AR1FG0001180100 Coordinates: 0, 0 Acquisition Date: 30-APR-37 Scale: 0	
5	Entity ID: AR1FG0001180101 Coordinates: 0, 0 Acquisition Date: 30-APR-37 Scale: 0	•
Figure 89 - Roll View	Add/Remove Page to Bulk Order Add/Remove Page to Order Clo	ose

Figure 89 - Roll View

For each scene on the roll, you can download, add to a bulk order, or order images.

f. Browse and Metadata

EarthExplorer displays a thumbnail image, browse, and detailed metadata information for each scene returned from a search (Figure 90).



Figure 90 - Example Scene Level Results

Show Browse and Metadata – On the thumbnail, mouse over to display the 'Show Browse and Metadata' (Figure 91).

1		Entity ID: LE70330282004157EDC01 Acquisition Date: 05-JUN-04 WRS Path: 33 WRS Row: 28
	Sh	ow Browse and Metadata 🔊

Figure 91 - Show Browse and Metadata

Click the thumbnail image or icon to display the reduced resolution browse image and full metadata for the selected scene (Figure 92).

Data Set Attribute       Attribute Value         Acquisition Date       2004/06/05         Entity ID       LE70330282004157EDC01         WRS Path       33         WRS Row       28         Northwest Corner Coordinates       46*5929.40*N, 103*19*35.76*W         Northwest Corner Coordinates       46*5920.28*N, 103*53*19.68*W         Southwest Corner Coordinates       45*01*30.00*N, 101*29*52.80*W         Southwest Corner Coordinates       45*01*30.00*N, 101*29*52.80*W	Full Display of LE70330282004157	7EDC01			×
Acquisition Date2004/06/05Entity IDLE70330282004157EDC01WRS Path33WRS Row28Northwest Corner Coordinates46°59'29.40"N, 103°19'35.76"WNortheast Corner Coordinates46°38'02.04"N, 100°52'01.56"WSouthwest Corner Coordinates45°22'20.28"N, 103°53'19.68"WSoutheast Corner Coordinates45°01'30.00"N, 101°29'52.80"WSatellite NumberLandsat7					E
Entity IDLE70330282004157EDC01WRS Path33WRS Row28Northwest Corner Coordinates46°59'29.40"N, 103°19'35.76"WNortheast Corner Coordinates46°38'02.04"N, 100°52'01.56"WSouthwest Corner Coordinates45°22'20.28"N, 103°53'19.68"WSoutheast Corner Coordinates45°01'30.00"N, 101°29'52.80"WSatellite NumberLandsat7		Data Set Attribute	Attribute Value		
WRS Path33WRS Row28Northwest Corner Coordinates46°59'29.40"N, 103°19'35.76"WNortheast Corner Coordinates46°38'02.04"N, 100°52'01.56"WSouthwest Corner Coordinates45°22'20.28"N, 103°53'19.68"WSoutheast Corner Coordinates45°01'30.00"N, 101°29'52.80"WSatellite NumberLandsat7		Acquisition Date	2004/06/05		
WRS Row28Northwest Corner Coordinates46°59'29.40"N, 103°19'35.76"WNortheast Corner Coordinates46°38'02.04"N, 100°52'01.56"WSouthwest Corner Coordinates45°22'20.28"N, 103°53'19.68"WSoutheast Corner Coordinates45°01'30.00"N, 101°29'52.80"WSatellite NumberLandsat7		Entity ID	LE70330282004157EDC01		
Northwest Corner Coordinates46°59'29.40"N, 103° 19'35.76"WNortheast Corner Coordinates46°38'02.04"N, 100°52'01.56"WSouthwest Corner Coordinates45°22'20.28"N, 103°53'19.68"WSoutheast Corner Coordinates45°01'30.00"N, 101°29'52.80"WSatellite NumberLandsat7		WRS Path	33		
Northwest Corner Coordinates46°59'29.40"N, 103° 19'35.76"WNortheast Corner Coordinates46°38'02.04"N, 100°52'01.56"WSouthwest Corner Coordinates45°22'20.28"N, 103°53'19.68"WSoutheast Corner Coordinates45°01'30.00"N, 101°29'52.80"WSatellite NumberLandsat7		WRS Row	28		
Southwest Corner Coordinates45*22'20.28"N, 103*53'19.68"WSoutheast Corner Coordinates45*01'30.00"N, 101*29'52.80"WSatellite NumberLandsat7		Northwest Corner Coordinates	46°59'29.40"N, 103°19'35.76"W		
Southwest Corner Coordinates45*22'20.28"N, 103*53'19.68"WSoutheast Corner Coordinates45*01'30.00"N, 101*29'52.80"WSatellite NumberLandsat7		Northeast Corner Coordinates	46°38'02.04"N, 100°52'01.56"W		
Southeast Corner Coordinates         45°01'30.00"N, 101°29'52.80"W           Satellite Number         Landsat7			45°22'20.28"N, 103°53'19.68"W		
Satellite Number Landsat7					
			Contraction of the Contraction o		
		- N -	40	- 34	*

Figure 92 - Browse and Metadata View

The Browse and Metadata view includes the following:

• The Browse image of the selected scene displays at the top center of the lightbox display. If multiple browse areas are available for the image, an image control is displayed to allow viewing multiple browse images.

**Figure 93** is an example of multiple browse for an image. Each available image displays as a thumbnail in the lower left corner of the display. To switch between browse, click the arrow (<>) or click one of the thumbnails at the lower left corner for the page.

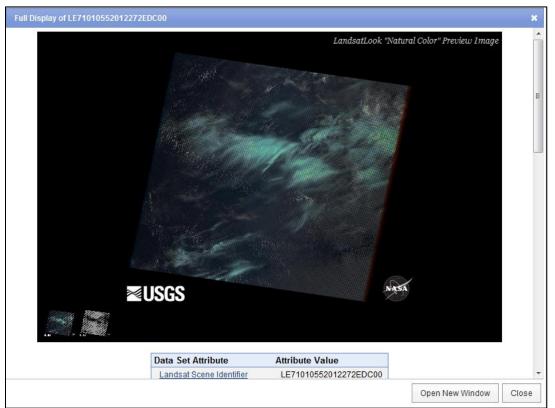


Figure 93 - Multiple Browse Display Example

- Data Set Attributes Each dataset has unique attributes describing the metadata associated with the scene. Each attribute has a hyperlink to the data dictionary to provide detailed information on that particular dataset.
- Attribute Value The information associated with each attribute.
- Open New Window Click 'Open New Window' to display the selected browse in a separate window (Figure 94).

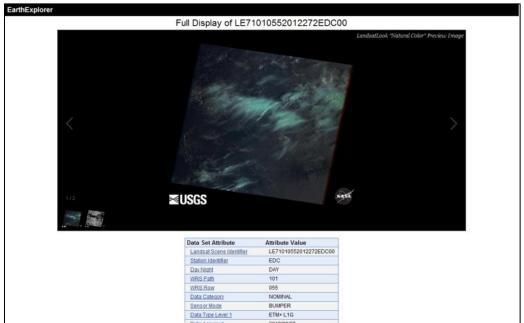


Figure 94 - Open New Window - Display Browse

 FGDC Format – Click the 'FGDC Format' button at the bottom of the Data Set Attributes screen to display the metadata in the Federal Geographic Data Committee (FGDC) format. Scroll down to the bottom of the FGDC view and Click 'Table Format' to return to the 'Browse and Metadata' view (Figure 95).

Identification Information:		
Citation:		
Citation Information:		
Originator: U.S. Geological Survey, Earth Resources Observation and Science		
Center (EROS)		
Publication Date: 20120928		
Title: Landsat ETM+ SLC-off - Path: 101 Row: 55 for Scene:		
E71010552012272EDC00		
Geospatial Data Presentation Form: remote-sensing image		
Publication Information:		
Publication Place: Sioux Falls, SD		
Publisher: USGS Earth Resources Observation and Science Center (EROS)		
Online Linkage: http://earthexplorer.usgs.gov		
Description:		
Abstract: The Landsat-7 satellite is part of an ongoing mission to provide		
quality remote sensing data in support of research and applications activities. The		
J.S. entered into a partnership with NASA in the early 1970's to assume		
responsibility for the archive management and distribution of Landsat data products.		
In July 1972, NASA launched the first in a series of satellites designed to provide		
repetitive global observations of the Earth's land masses. Part of NASA's Earth		
Resources Survey Program, the Earth Resources Technology Satellite (ERTS) Program was		
ater renamed Landsat to better represent the civil satellite program's prime.		
emphasis on remote sensing of land resources. Landsats 1, 2, and 3 carried the		
fultispectral Scanner (MSS) sensor and also included the experimental Return Beam		
'idicon (RBV) cameras. The Landsat-4 satellite carried the MSS and Thematic Mapper		
TM) sensors, as does the still currently orbiting Landsat-5 satellite. The launch		
of Landsat-7 on April 15, 1999 marks the addition of the latest satellite to the		
andsat series. The Landsat-7 satellite carries the Enhanced Thematic Mapper Plus		
(ETM+) sensor. A mechanical failure of the ETM+ Scan Line Corrector (SLC) occurred		
on May 31, 2003, with the result that all Landsat 7 scenes acquired from July 14,		
2003 to present have been collected in 'SLC-off' mode.		
Durnage. The miggion of the Iandest_7 gatellite is to provide a vahiale for		
WUTDOWN, THE MINUTOD OF THE INDOWNEL, OSTALLITA 10 TO DYDUIDA B MADICIA FOR		
	Open New Window	Close

Figure 95 - FGDC Format

g. Search Results Controls

The EarthExplorer user interface controls on the Search Results include:

- Scroll bar Click to view additional items returned from the search.
- Displaying X XX of XX Results Per Page The default 'Results Per Page' is ten records. To show more results on the page, change the 'Results Per Page' in the 'User Profile' to a higher number. The 'User Profile' requires you to be registered. Additional information on the 'User Profile' is covered in more detail in Section III Registration and Profile.
- Information icon ( Displaying 1 10 of 100 ) Click to see the number of records in the dataset. Figure 96 provides an example. In this case, the search returned 50 records but the number of items in the dataset is 2,570 (Figure 97).

«First «Previous 1 Next» Last»	
Displaying 1 - 50 of 50 🕒	
Figure 96 - Default Search Results Returned =	: 100

```
« First < Previous 1 → Next > Last »

Displaying 1 - 50 of 50 (1,036,237 results)

Figure 97 - Total Search Results of query = 2,570
```

To modify the number of search results, refer to the 'Profile' on the EarthExplorer menu. Select the 'Results per Page' in the profile to modify the 'Results Per Page:' on the 'Update User Interface Options' panel (Figure 98).

Profile Menu	Update User Interface Options	
Profile Home     Password     Contact Address     User Affiliation     Interface Options     Data Sets     Son Order     Metadata View     Saved Criteria     Standing Request     Order Tracking	Profile Information Number of Logins 5 Last Login Date 2012-09-17 Results Per Page 10 • Site Access Allow Saved Criteria Allow Ordering Allow Profile Editing f Standing Request Defaults Allow Standing Order	

Figure 98 - Search Criteria - Number of records to return

Paging controls include the following:

- Page Number (1) Selects a different page of results
- Next Displays the next page
- Previous Displays the previous page
- First Displays the first page

- Last Displays the last page
- h. Export Metadata

EarthExplorer provides an option to 'Export Metadata' results in a number of popular formats (Figure 99).

Metadata Export 🗙		
Export Type		
Delimited	Comma (,) 👻	
KML	Include Browse 💌	
© KMZ		
FGDC		
Full Result	ts CSV (What's this?)	
Shapefile		
	Export Cancel	

Figure 99 - Export Options

To export metadata, select the 'Export Metadata' **Export Metadata** button. Select the 'Include Browse' option to include browse images with the metadata. The following metadata formats are supported:

- Delimited Generates a .txt file, with the delimiter of choice (comma or pipe) with the returned, non-excluded results from a search. The information includes the full metadata as displayed in the lightbox.
- KML Generates a .kml file with the returned, non-excluded results from a search. The information in this export includes the full metadata as displayed in the standard metadata dialog. The KML 2.2 standard is used for this KML file. This export format is not available for result sets larger than 1000 results.
- KMZ Generates a .kmz file with the returned, non-excluded results from a search. The information in this export includes the full metadata as displayed in the standard metadata dialog. The KML 2.2 standard is used for this KMZ file. This export format is not available for result sets larger than 1000 results.
- FGDC Generates a FGDC format file in ISO 19115 format.
- Full Results (CSV) Allows a user to enter the number of records to return. The export function uses this number, along with the current search criteria to generate a csv formatted export of search results. The metadata in this export includes the metadata returned on the search result screen. This export does not take into consideration excluded scenes.

• Shapefile - Generates a .zip file with the returned, non-excluded results from a search. Files included in the .zip file include a .shp, .shx, .dbf, and .prj. Shapefiles are generated using the ERSI standards. Limited metadata is included with this export. This export is not available for result sets larger than 1000 results.

Click to exclude a scene from the metadata export. Click (Restore Excluded Scenes) to return the excluded scenes to the list.

## 3. Standing Request

The 'Standing Request' function allows registered users to run searches for new acquisitions, in the background, using the same search criteria. The Submit Standing Request button is only visible if you are logged in to EarthExplorer.

	Submit	Standing	Request	»
--	--------	----------	---------	---

button is at the bottom of

The 'Submit Standing Request' the search results list panel (Figure 100).

1	Entity ID: LE71010552012272EDC00 Acquisition Date: 28-SEP-12 Path: 101 Row: 55
2	Entity ID: LE72290932012272EDC00 Acquisition Date: 28-SEP-12 Path: 229 Row: 93
3	Entity ID: LE72290872012272EDC00 Acquisition Date: 28-SEP-12 Path: 229 Row: 87
4	Entity ID: LE72290892012272EDC00 Acquisition Date: 28-SEP-12 Path: 229 Row: 89
	Submit Standing Request »

Figure 100 - Submit Standing Request

Select the 'Submit Standing Request' button to display the 'Save as Standing Request' form (Figure 101).

Home Profile			Logout	rsunne11	Feedback	Help
Standing Request Submission						
Name:	Landsat_data					
Frequency:	Weekly 💌					
Date range the	standing request will r	un.				
Start Date:		📧 (Format: mm/dd/yyyy)				
End Date:		🗷 (Format: mm/dd/yyyy)				
Search date rai	nge.					
Search Start Da	ate: 01/01/1920	(Format: mm/dd/yyyy)				
Search End Da	te: 09/28/2012	🗷 (Format: mm/dd/yyyy)				
	arch Criteria and Addit with your standing rec Submit Standing Rec					

Figure 101 - Standing Request Form

Enter the following criteria for a standing request:

- Name Enter a name for this request
- Frequency Select Daily, Weekly, Monthly, or Quarterly, which determines how frequent the search runs
- Date range for the standing request will run.
  - Start Date Select the start date for the standing request
  - End Date Select the end date for the standing request
- Search date range.
  - Start Date Select the start date for the search date
  - End Date Select the end date for the search date

Click the 'Submit' button to execute the standing request.

To review standing requests, click 'Profile' on the EarthExplorer Main menu bar (Figure 102).

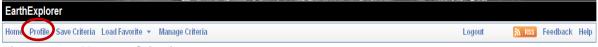


Figure 102 - Manage Criteria

This action displays the 'Profile Menu'. Click 'Standing Request' on the Profile menu to see the list of entered standing requests (Figure 103).



Figure 103 - Standing Request

The Standing Request module sends you an email when a new acquisition matches the search criteria. You can then review metadata and browse for the returned scenes.

Acronym	Description
API	Application Programming Interface
DMS	Degrees, Minutes, Seconds
DOI	Department of Interior
EE	EarthExplorer
EROS	Earth Resources Observation and Science Center
ETM+	Enhanced Thematic Mapper Plus
FGDC	Federal Geographic Data Committee
FOIA	Freedom of Information Act
GB	Gigabyte
GHZ	Gigahertz
GloVis	USGS Global Visualization Viewer
GUI	Graphical User Interface
HDDS	Hazards Data Distribution Systems
HTTPS	Hypertext Transfer Protocol Secure
KML	Keyhole Markup Language
L1G	Level 1 Systematic Correction
L1T	Level 1 Standard Terrain Correction
LDCM	Landsat Data Continuity Mission
MB	Megabyte
Mbps	Megabit per Second
OGC	Open Geospatial Consortium
PC	Personal Computer
PHP	Hypertext Preprocessor
RSS	Really Simple Syndication
SLC	Scan Line Corrector
USGS	United States Geological Survey
WRS	Worldwide Reference System