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Perform a Search

EarthExplorer allows users to search, download, and order data held in USGS archives through many query options. EarthExplorer uses tabs in the search application to move through each portion of the process. The Data Search Functions on the left side of the main EarthExplorer interface (Figure 1).

Note: August 21, 2019 transitioned from Google Map Interface to Leaflet Map Interface.

Click the overlay icon () and choose the layer(s) () to display on map.

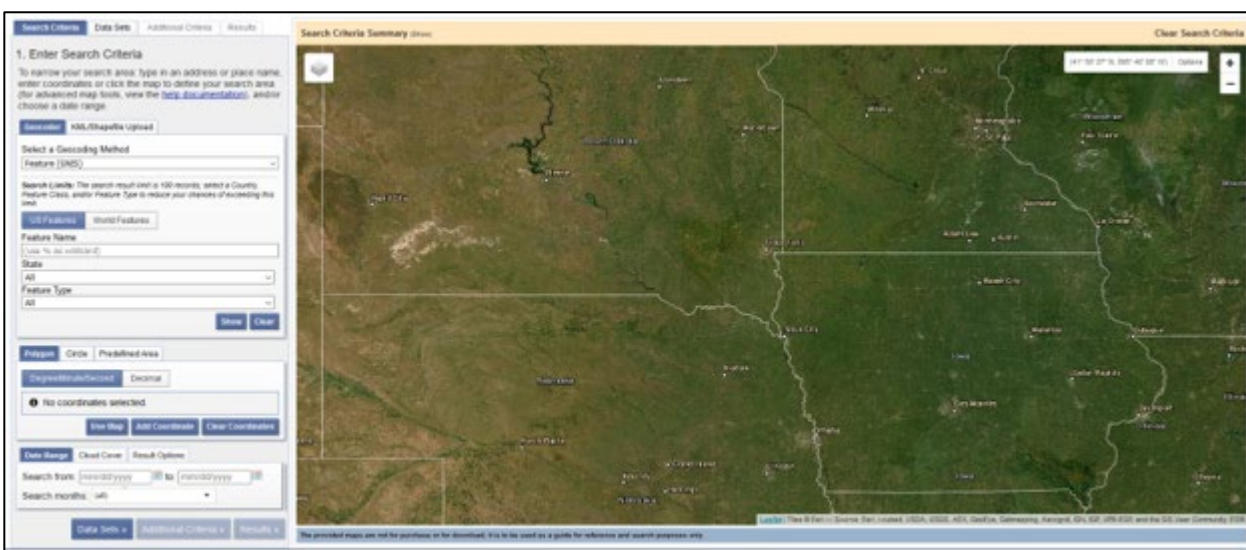


Figure 1 - Body/Data Search Functions on Left

The EarthExplorer search process/component is divided into four main areas (Figure 2):

- **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 2 - EarthExplorer Search Tabs

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 Leaflet Map interface.

The screenshot shows a web interface for search criteria. It is divided into several sections:

- Geocoder:** Includes a dropdown for 'Select a Geocoding Method' (currently set to 'Feature (GNIS)'), search limits information, and buttons for 'US Features' and 'World Features'. Below are input fields for 'Feature Name' (with a note to use % as a wildcard), 'State' (dropdown), and 'Feature Type' (dropdown). 'Show' and 'Clear' buttons are at the bottom.
- Map Interface:** Contains tabs for 'Polygon', 'Circle', and 'Predefined Area'. Below these are tabs for 'Degree/Minute/Second' and 'Decimal'. A message box says 'No coordinates selected.' Below that are 'Use Map', 'Add Coordinate', and 'Clear Coordinates' buttons.
- Dates Selected:** Includes tabs for 'Date Range', 'Cloud Cover', and 'Result Options'. Below are date input fields for 'Search from' and 'to' (both in mm/dd/yyyy format), and a 'Search months' dropdown set to '(all)'.
- Result Options:** Located at the bottom, with buttons for 'Data Sets >', 'Additional Criteria >', and 'Results >'.

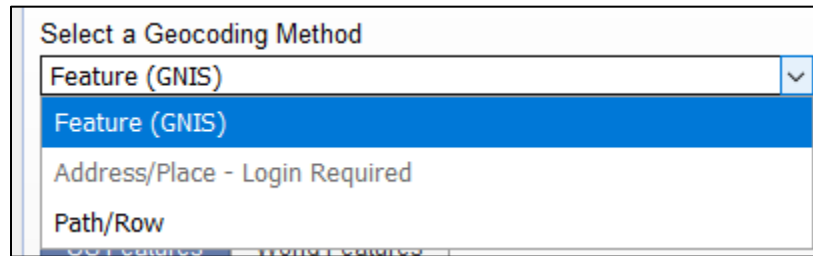
Figure 3 - Search Criteria Tab

The search criteria options include:

- **Geocoder ①** - Choose between Feature (GNIS), Address/Place (Login Required), and Path/Row - Choose search type and enter desired information.
- **Upload shapefile or KML file ②** - Upload a shapefile or KML file as the query area
- **Map Interface ③** - Enter the area of interest through the Leaflet Map interface
 - Polygon - Enter coordinates (Add Coordinates) to define an area of interest. The area selected is updated as changes are made
 - Circle - Enter a center point and radius of area of interest. The area selected is updated as changes are made
 - Define Area of Interest (AOI) - Define a single point or multiple points on the Map Interface
 - Use Map - Zoom to area of interest on map interface
- **Predefined Area ④** - Select from a list of predefined areas for a query
- **Dates Selected ⑤** - Enter a date or date range
- **Cloud Cover ⑥** - Use slider to select desired/undesired Cloud Cover (Scene) filter. It will only be applied to data sets that support cloud cover filtering (☁ in the data set list denotes cloud cover support).
- **Result Options ⑦** - Standard Search Options

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Enter Search using Geocoder ① - The Geocoder component allows you to enter a Features, specific address for United States or World feature, or Landsat Worldwide Reference System (WRS) Path/Row.



- **Feature (GNIS)** - Select either a US 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 dropdown menu. A pin mark will be placed on the map along with the latitude and longitude displayed under the 'Coordinates' section.

Geocoder | KML/Shapefile Upload

Select a Geocoding Method
Feature (GNIS)

Search Limits: The search result limit is 100 records; select a Country, Feature Class, and/or Feature Type to reduce your chances of exceeding this limit.

US Features | World Features

Feature Name

State
All

Feature Type
All

Show Clear

Geocoder | KML/Shapefile Upload

Select a Geocoding Method
Feature (GNIS)

Search Limits: The search result limit is 100 records; select a Country, Feature Class, and/or Feature Type to reduce your chances of exceeding this limit.

US Features | World Features

Feature Name

Country
All

Feature Class
All

Feature Type
All

Show Clear

Geocoder | KML/Shapefile Upload

Select a Geocoding Method
Feature (GNIS)

Search Limits: The search result limit is 100 records; select a Country, Feature Class, and/or Feature Type to reduce your chances of exceeding this limit.

US Features | World Features

Feature Name

State
VIRGIN ISLANDS

Feature Type
AIRPORT

Show Clear

Click on a Feature to show the location on the map and add coordinates to the Area of Interest Control.

Placename	Type	Region	Latitude	Longitude
CYRIL E KING AIRPORT	AIRPORT	VIRGIN ISLANDS	18.3361	-84.6725
STOUFFER GRAND BEACH RESORT HELIPOINT	AIRPORT	VIRGIN ISLANDS	18.3436	-84.9036
CHARLOTTE AMALIE HARBOR SEAPLANE BASE	AIRPORT	VIRGIN ISLANDS	18.3363	-84.9401
SAINT THOMAS WATERFRONT HELIPOINT	AIRPORT	VIRGIN ISLANDS	18.3363	-84.9388
HENRY E ROHLSEN AIRPORT	AIRPORT	VIRGIN ISLANDS	17.7001	-84.7959
CHRISTIANSTED HARBOR-SSB SEAPLANE BASE	AIRPORT	VIRGIN ISLANDS	17.7450	-84.7043
CRUZ BAY SEAPLANE BASE	AIRPORT	VIRGIN ISLANDS	18.3347	-84.7990
FRENCHMANS REEF HELIPOINT	AIRPORT	VIRGIN ISLANDS	18.3177	-84.9215

Geocoder | KML/Shapefile Upload

Select a Geocoding Method
Feature (GNIS)

Search Limits: The search result limit is 100 records; select a Country, Feature Class, and/or Feature Type to reduce your chances of exceeding this limit.

US Features | World Features

Feature Name

Country
INDONESIA

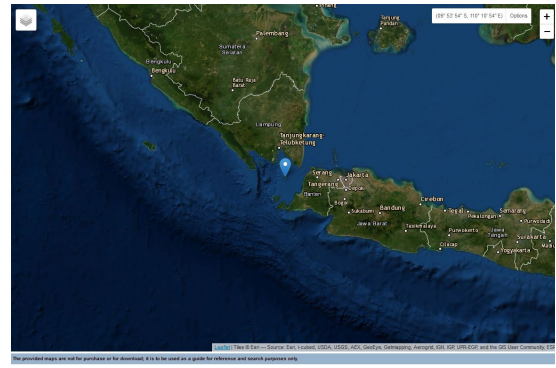
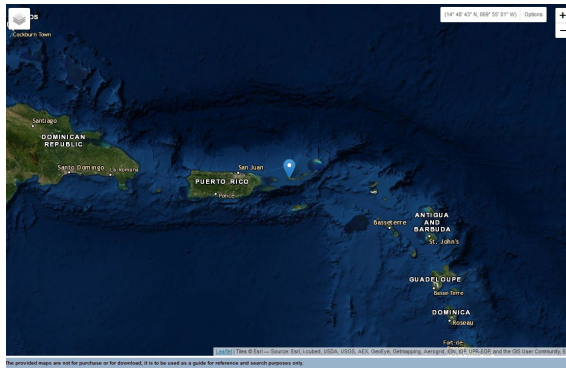
Feature Class
Hypsographic Features

Feature Type
VOLCANO

Show Clear

Click on a Feature to show the location on the map and add coordinates to the Area of Interest Control.

Placename	Type	Region	Latitude	Longitude
K Krakatau	VOLCANO	INDONESIA	-8.1167	106.4000
K Krakatau	VOLCANO	INDONESIA	-8.1167	106.4000
Gungun Krakatau	VOLCANO	INDONESIA	-8.1167	106.4000
K Krakatau	VOLCANO	INDONESIA	-8.1167	106.4000



- Address/Place** – EarthExplorer Login required. Enter a specific address; for example, in the Address: field, type Rushmore. Press Enter or click ‘Show’ to display the list of locations associated with information entered. Click the desired address and pin mark will be placed on the map along with the latitude and longitude displayed under the ‘Coordinates’ section.

Geocoder KML/Shapefile Upload

Select a Geocoding Method

Address/Place

Show **Clear**

Click on an Address/Place to show the location on the map and add coordinates to the Area of Interest Control.

Num	Address/Place	Latitude	Longitude
1	Mount Rushmore National Memorial, 13000 SD-244, Keystone, SD 57751, USA	43.8791	-103.4591

Geocoder KML/Shapefile Upload

Select a Geocoding Method

Address/Place

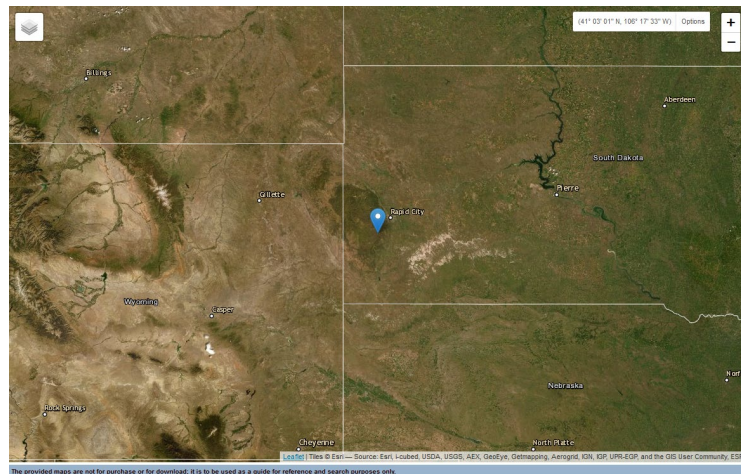
Show **Clear**

Polygon **Circle** **Predefined Area**

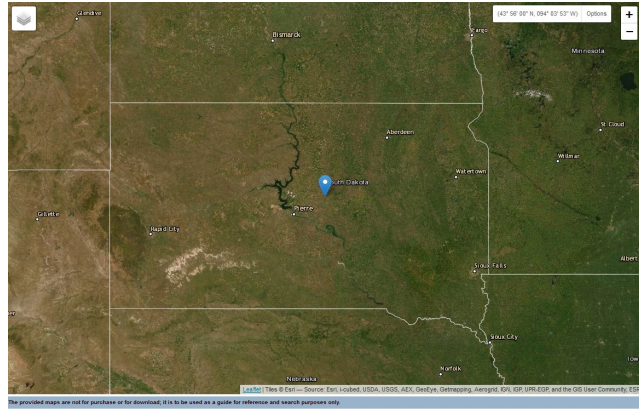
Degree/Minute/Second **Decimal**

1. Lat: 43° 52' 44" N, Lon: 103° 27' 32" W

Use Map **Add Coordinate** **Clear Coordinates**



- Path/Row** - Select the Path/Row option to enter WRS1 or WRS2 path row. Select the Path/Row button to display the Path/Row WRS criteria dialog box. Select either WRS1 or WRS2 and then type the Path and Row for the desired area. Click ‘Show’ to identify the path/row location on the map. A pin mark will be placed on the map along with the latitude and longitude displayed under the ‘Coordinates’ section.



Enter Search Using Uploaded shapefile or KML file ② - Upload a shapefile or KML file as the query area. Files are limited to one record containing one polygon or line string with a maximum of 30 points. [See KML/Shapefile Help](#) for more detail.

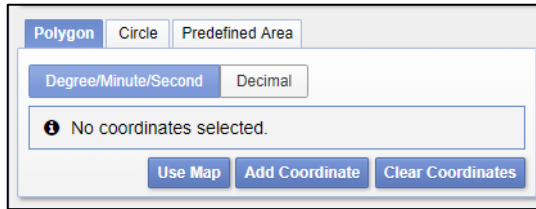
Map Interface ③ - Enter the area of interest through the Leaflet Map interface using Polygon (Add Coordinates), Circle, Define Area of Interest (AOI), or Use Map methods to select area of interest.

- **Polygon** - Enter coordinates (Add Coordinates) to define an area of interest. The area selected is updated as changes are made
- **Circle** - Enter a center point and radius of area of interest. The area selected is updated as changes are made
- **Define Area of Interest (AOI)** - Define a single point, multiple points (Polygon), or Circle on the Map Interface by clicking on the map.
- **Use Map** - Zoom to area of interest on map interface

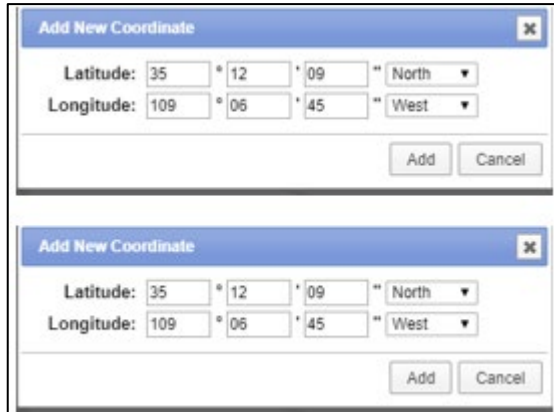
- **Polygon** - Define an area of interest by manually typing the latitude/longitude in the Coordinates tab. To enter latitude/longitude coordinates manually, select the 'Degree/Minute/Second' or 'Decimal' option. This method displays how the latitude/longitude information is entered. Click 'Add Coordinate' to display the 'Add

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new Coordinate' dialog box.



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' to display the 'Add new Coordinate' dialog box. 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



- **Circle** - Define an area of interest by manually typing the center point latitude/longitude in decimal degrees and setting the radius.

Polygon **Circle** Predefined Area

Circular polygons are created using a center point defined by decimal latitude and longitude values and a radius.

Latitude Longitude

Radius Meters
 Meters
 Kilometers
 Miles

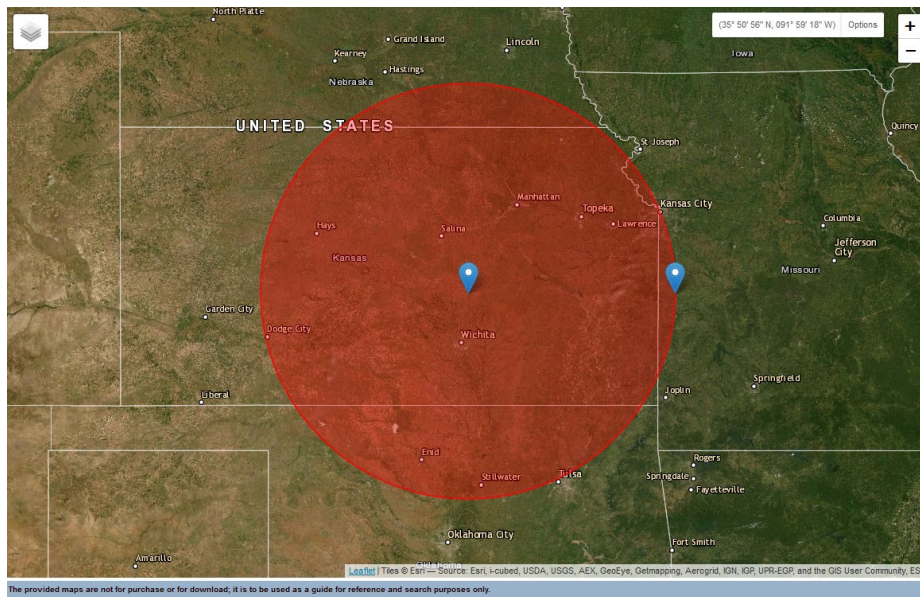
Polygon **Circle** Predefined Area

Circular polygons are created using a center point defined by decimal latitude and longitude values and a radius.

Latitude Longitude

Radius Kilometers

Enter center point coordinates in latitude/longitude in decimal degrees. Choose a unit of measure for the radius and enter desired value.



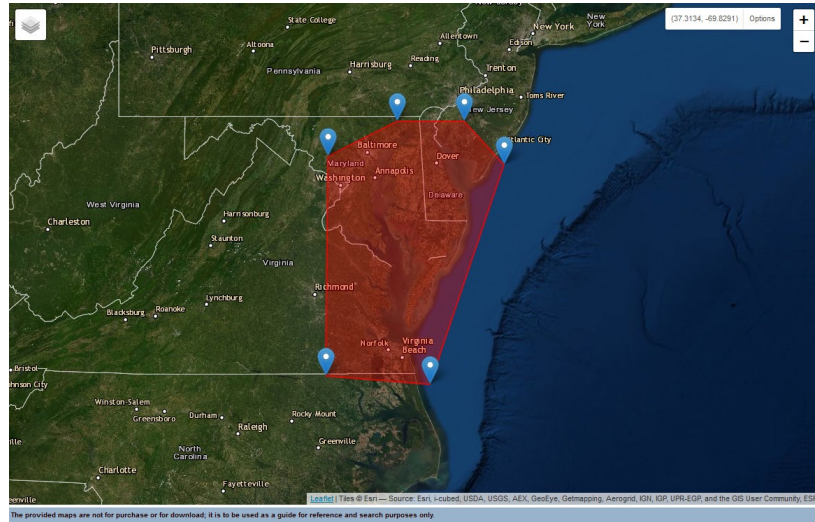
- **Define Area of Interest (AOI)** - Define a single point, multiple points (Polygon), or Circle on the Map Interface by clicking on the map.

Polygon **Circle** Predefined Area

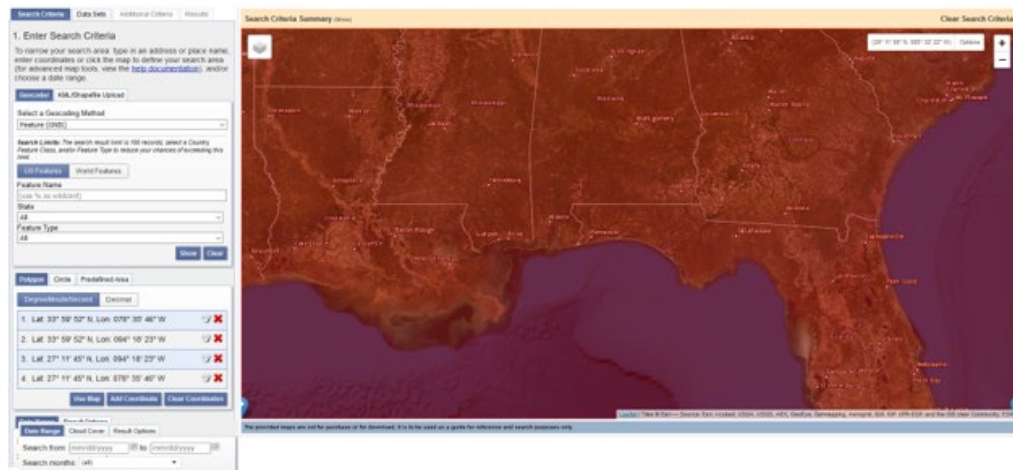
Degree/Minute/Second **Decimal**

1. Lat: 39.6649, Lon: -76.1517	<input type="button" value="trash"/> <input type="button" value="x"/>
2. Lat: 39.2450, Lon: -77.2284	<input type="button" value="trash"/> <input type="button" value="x"/>
3. Lat: 36.5185, Lon: -77.2668	<input type="button" value="trash"/> <input type="button" value="x"/>
4. Lat: 36.4124, Lon: -75.6299	<input type="button" value="trash"/> <input type="button" value="x"/>
5. Lat: 39.1428, Lon: -74.4653	<input type="button" value="trash"/> <input type="button" value="x"/>
6. Lat: 39.6607, Lon: -75.0970	<input type="button" value="trash"/> <input type="button" value="x"/>

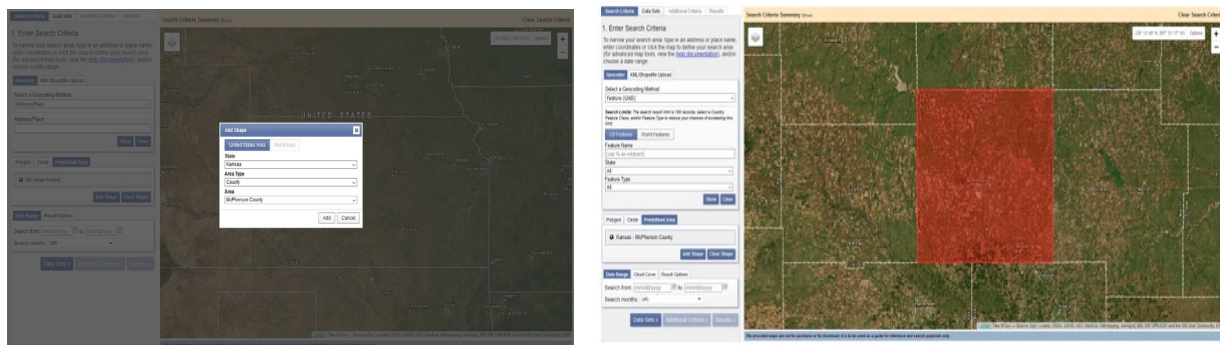
Define Area of Interest by clicking points on the map interface. The points are added in the coordinate section. The coordinates can be removed or edited within this section.



- **Use Map** - On the map interface manipulate the map to display the Area of Interest within the map window. Then Click 'Use Map'

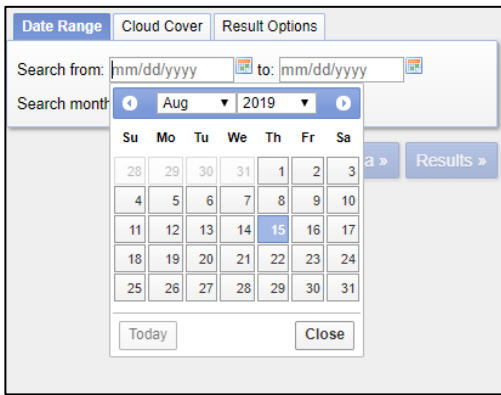


Predefined Area ④ - Select from a list of predefined areas for a query. The available predefined areas include U.S. States, Area Type, and Area. Select desired State, Area Type (Congressional District, County, State), and Area. Click 'Add' and the area will be highlighted on the map and area name displayed in the coordinates section.



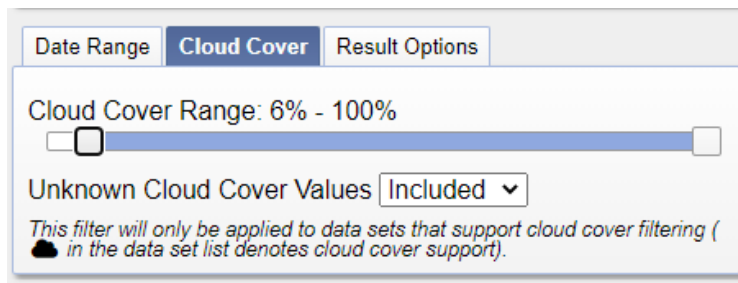
Dates Selected ⑤ - Enter a date or date range

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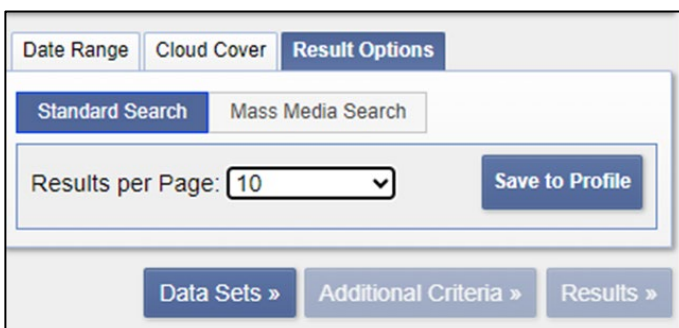
The Date Range option provides a method for entering a beginning and ending date range to refine the search criteria. It is not a required field to modify the default date range; however, a date range is highly recommended to reduce the number of search results returned from a search. 'Search Months' allows you to specify which months to search within the date range specified.

Cloud Cover ⑥ - Use slider to select desired/undesired Cloud Cover for query.



Selection will only be applied to data sets that support cloud cover filtering (☁ in the data set list denotes cloud cover support)

Results Options ⑦ - The Results Options allows you to change the number of results displayed on the Results Tab when completing a search for imagery.



Select the dropdown arrow next to Results per Page
Select the desired number of results per page. (10 is the default.)
Select Save to Profile

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Once you enter the search criteria, you are ready to select the 'Data Sets' tab at the top or bottom of the 'Enter Search Criteria' form. Information on [Select Data Set Help Documentation](#).