072023

Emergency Operations (EO) Collection Management Tool (CMT) Help Documentation

July 2023

Table of Contents

072023

Introduction

The Emergency Operations (EO) Collection Management Tool (CMT) was designed to assist information providers in the response to natural and man-made disasters. CMT links to the Hazards Data Distribution System (HDDS) allowing users to preview existing data for active EO events, allows users to view public requests for additional data acquisitions, and provides an interface to place new Data Acquisition Requests (DARS). The DARs facilitate the collection of remotely sensed data in the aftermath of a disaster as well as coordinating imagery of the same region prior to an event.

The information in this help document is also covered in the following videos:

NOTE: These videos were created September 2016. The concepts are the same, but the CMT interface has been updated.

Registering for the USGS Emergency Operations Collection Management Tool

Navigating the USGS Emergency Operations Collection Management Tool

Submitting a Data Acquisition Request in the USGS Collection Management Tool

EROS Registration System (ERS)

The U.S. Geological Survey (USGS) Earth Resources Observation and Science (EROS) Registration System (ERS) centralizes all existing user profile and authentication for USGS EROS Web services into a single independent application. Registration and login credentials are required for Emergency Operations Collections Management Tool (CMT) to request DAR's and download data from Hazard Data Distribution System (HDDS) Explorer.

Existing login credentials from EarthExplorer (EE), Global Visualization Viewer (GloVis) and/or Hazard Data Distribution System (HDDS) Explorer. may be used to access CMT.

Help Page	Description
EROS Registration System (ERS)	The U.S. Geological Survey (USGS) Earth Resources Observation and Science (EROS) Registration System (ERS) centralizes all existing user profile and authentication for USGS EROS Web services into a single independent application.

ERS Password Expiration Information	The ERS system requires a login with a username and password. The password may have an expiration date assigned. The documentation will explain the process and how a user can reset their expiration date.
M2M Application Token Documentation	The Machine-2-Machine (M2M) Application Programming Interface (API) is a JSON-based REST API used to interact with USGS/EROS data inventories. The application token is a 64-bit encrypted string that can be used in the M2M API 'login-token' endpoint to authenticate with this token instead of your ERS password.

Register for ERS Account

Visit the ERS site (https://ers.cr.usgs.gov/register) to create a new account. ERS consolidates user profile and authentication for all USGS EROS web services into a single independent application. Existing login credentials from EE, GloVis, HDDS Explorer, or CMT may be used to access any of the EROS web services.

Users having problems creating an account can contact EROS Customer Services at custserv@usgs.gov

User Interface Overview

Emergency Operations Collections Management Tool (CMT) user interface provides access to events and many functions to assist in searching, downloading, and requesting data. A general overview of the sections (Figure 1) include:

A. **Menu Bar**
B. **Map Navigation**
C. **Active Events List**
D. **Archived Events List**
E. **Filter Function**

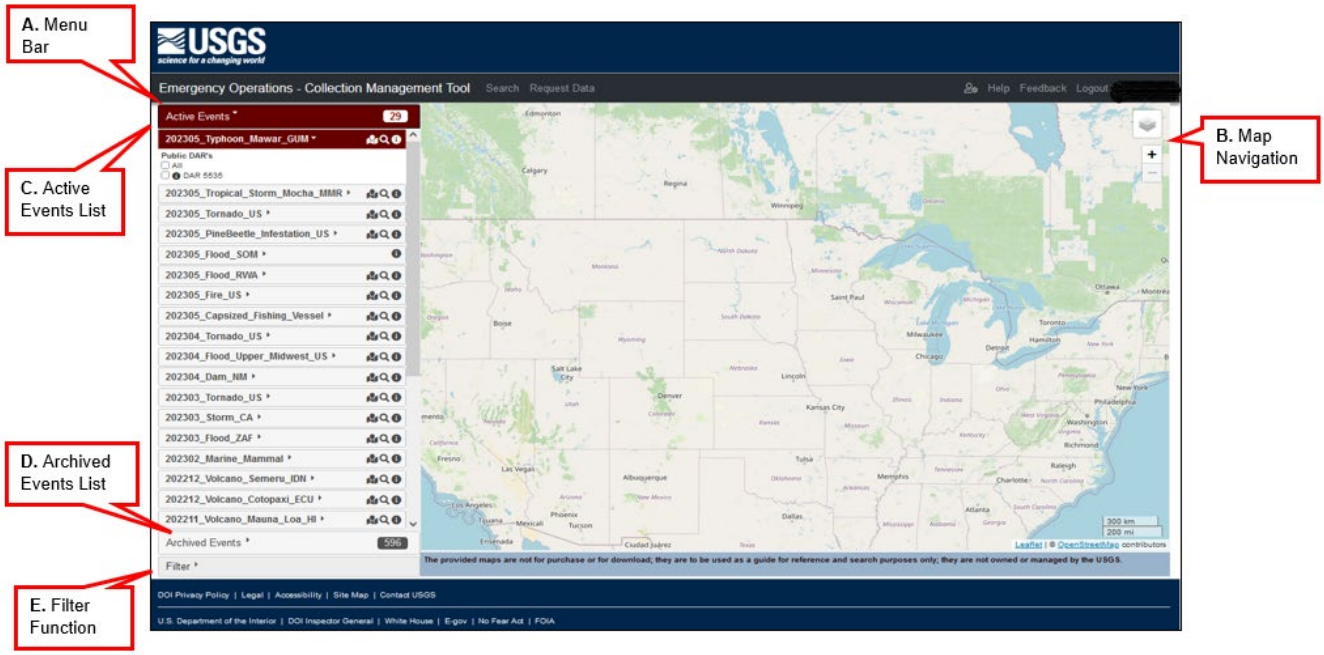


Figure 1: User Interface

A. **Menu Bar -** The CMT menu bar (Figure 2) is directly below the header and provides a means to navigate to different functions.

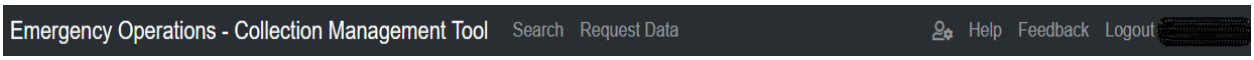
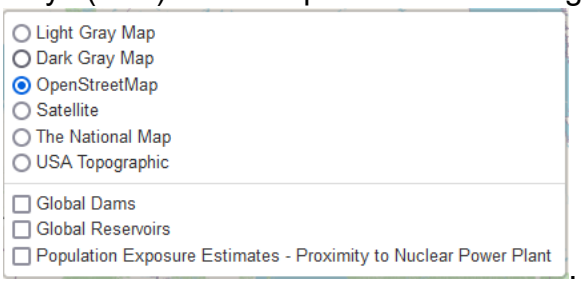


Figure 2: Menu Bar

The menu bar includes (left to right):

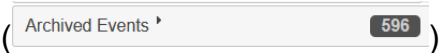
- **Emergency Operations – Collection Management Tool -** Returns you to the map interface within the application.
- **Search -** Displays the map interface and the event lists to find data.
- **Request Data -** *Must be logged in to access this function.* Allows users to request/create a Data Acquisition Request (DAR)
- **User Settings** ( ) - Provides link to user uploaded extents and WMS layers.
- **Help** - Provides information and instructions for CMT.
- **Feedback** - Provides a link to the feedback form.
- **Login/Logout** – Login will access ERS webpage to enter username and password. Login name will display on right side. Logout will log user out of CMT.

B. **Map Navigation -** The map navigation and layer controls are zoom in/out () and overlays () include options for the background map. The overlay options are: 

.

C. **Active Events List –** The list consists of active events, newest on top, that continue to receive Data Acquisition Request's (DAR's) and ingested data. The number on the right indicates the number of active events. (

).

D. **Archived Events List –** The list consists of past events, by year, that are closed and no longer receive DAR's. The data is still accessible via the Hazard Data Distribution System (HDDS) Explorer, but no data is being ingested. The number on the right indicates the number of archived events. (

)

E. **Filter Function –** Users can narrow down searches by the use of filters. The filters include:
   - Temporal Extent - Acquisition Date
   - Spatial Extent - Point, Box, Polygon, Circle, Predefined Areas, User Uploaded Areas
   - Event Type - Refers to Hurricane, Fire, Flood, Typhoon, etc.
   - Status - DAR Status

Search

CMT search capability provides the means to find data for active and archived events. The interface entry page defaults to the Active Events listing and search capability.

Active Events

Events in the Active list have active Data Acquisition Requirements (DARs). Data is ingested that fulfill the active DARs. Functions within the Active Events list for search and download (Figure 3) are:

A. **Event Name**
B. **Public DARs**
C. **Event Coverage Area**
D. **HDDS Explorer Link**
E. **Event Information**

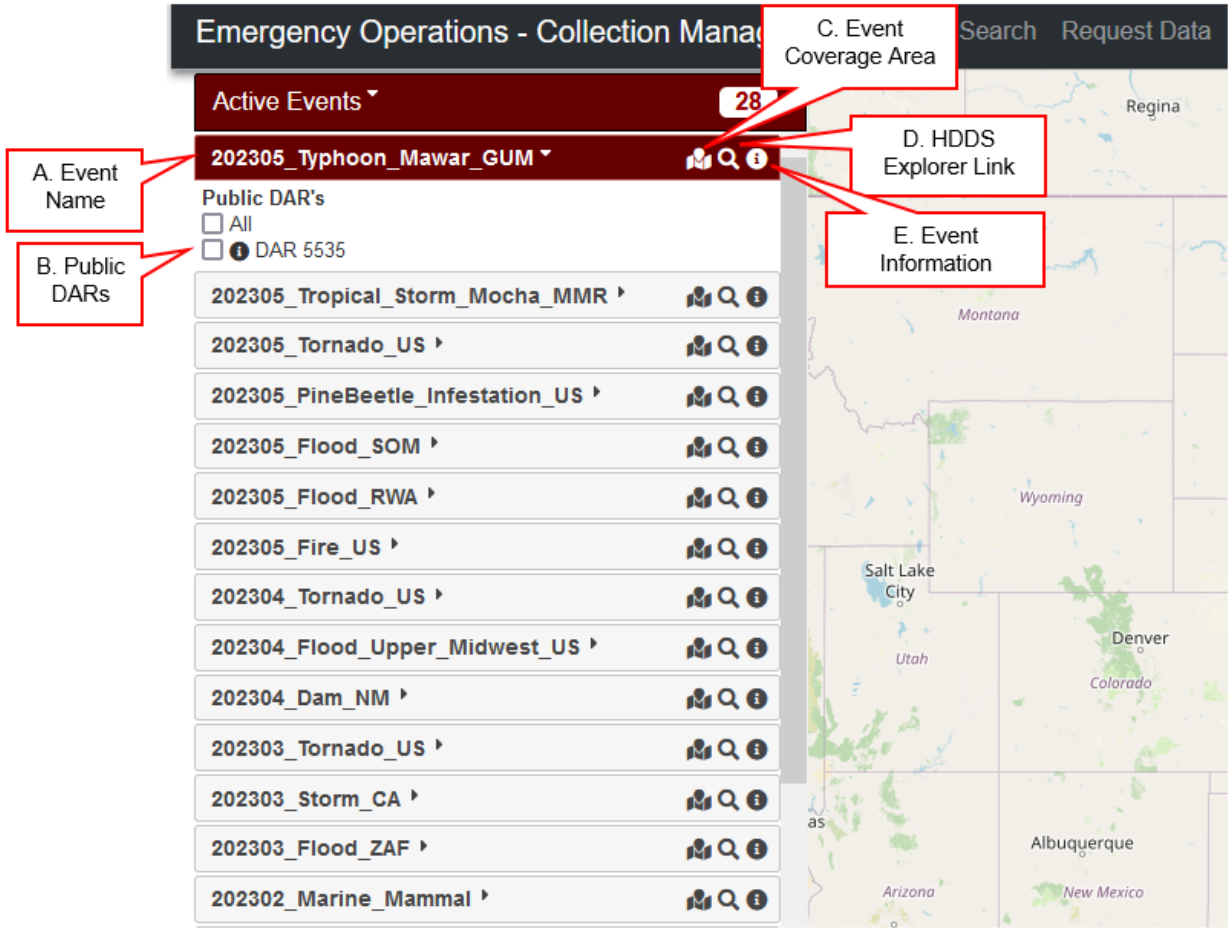


Figure 3: Active Events Functions

A. **Event Name -** The naming convention of and event follows a general format.
Format: YYYYMM_Type_Name_Location

YYYYMM = Year and Month event started
Type = The type of the event. i.e., Tropical_Storm, Flood, Hurricane, etc.
Name = Applies to the names of hurricanes, typhoons, etc.
Location = Abbreviation or short name indicating location of event

Examples:
202305_Typhoon_Mawar_GUM = Typhoon Mawar in Guam May 2023
202303_Tornado_US = Tornadoes for the US in March 2023

The arrow next to the name will expand the event and compress any other events that are open. (Figure 4)

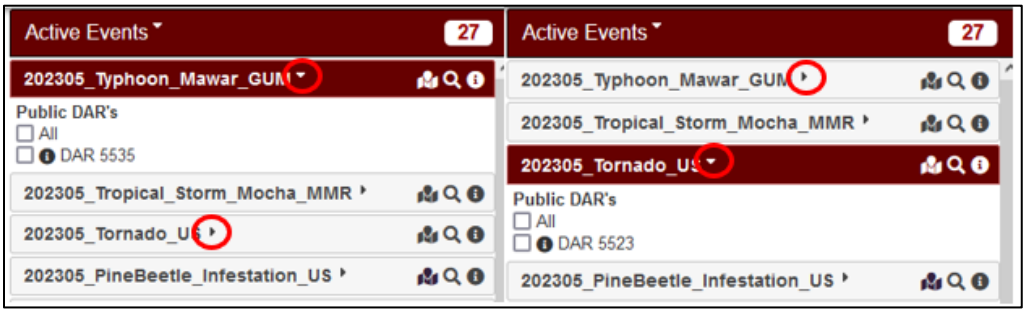


Figure 4: Expand/Compress Events Listing

B. **Public DARs -** Listed under an event are the requests for data. The data is acquired and ingested to HDDS Explorer for access.

1. **DAR List and Coverage -** Click the box next to the DAR(s) to display DAR coverage area. (Figure 5)

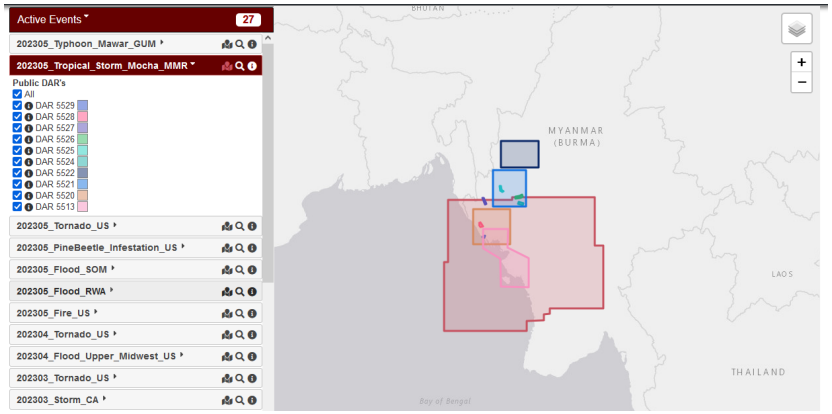


Figure 5: DAR Coverage Area

2. **DAR Information -** Click on the information icon or the coverage area on the map to access details of the DAR. (Figure 6) The page includes details of the data entered in the Request Data function. (See Request Data section below) i.e., Export DAR to KM, Email DAR information, General DAR Information, Event Details, Imaging Requirements, and map displaying coverage area.

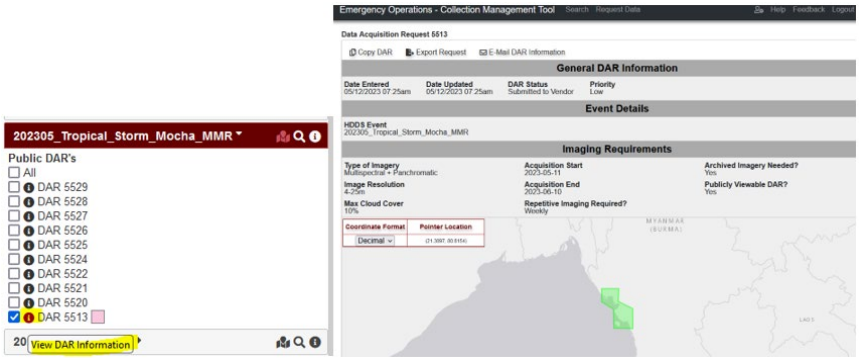
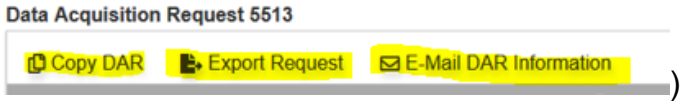


Figure 6: DAR Information

3. **DAR Actions -** The DAR page provides users the options to:

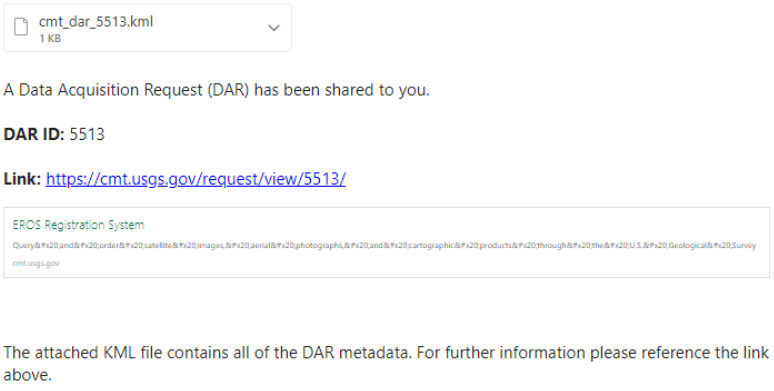


Copy DAR - Create a copy of the DAR, but only with specific permissions

Export Request - A KML exported to be saved by the user.

E-Mail DAR Information - The DAR information, including KML, can be sent to the entered email address. The email information would be:

Sender: EO Collection Management Tool (eocustserv@usgs.gov)
Subject: CMT DAR 5513 has been shared with you



Body: The attached KML file contains all of the DAR metadata. For further information please reference the link above.

C. **Event Coverage Area -** Click the icon () to display the data coverage assigned to the event. The coverage area will display on the map and the icon color will change to match. (Figure 7)

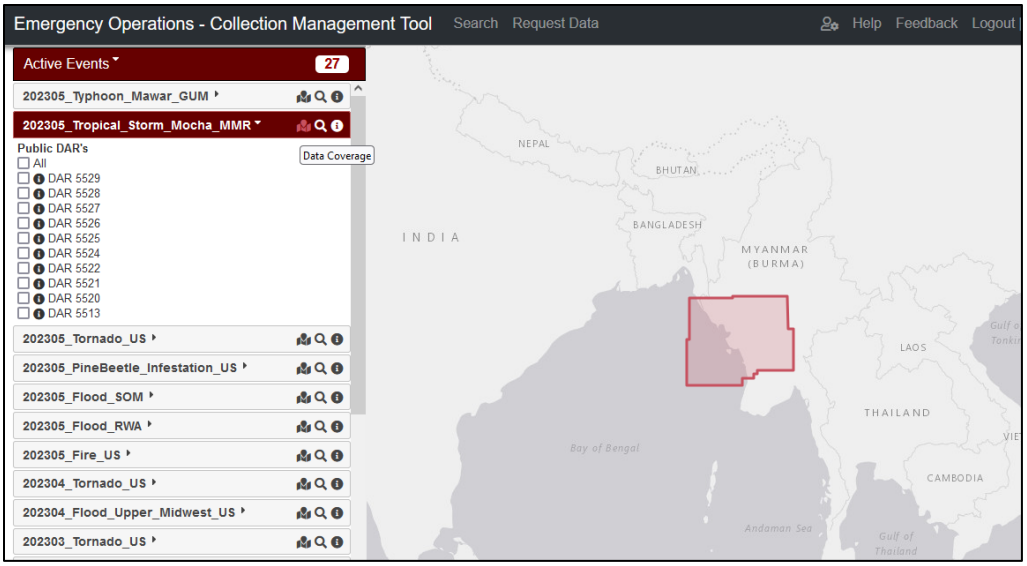


Figure 7: Data Coverage (Light Gray Map Layer)

D. **HDDS Explorer Link -** Click the icon ( ) to access data on HDDS Explorer for the specific event. Users must be logged in to download data from HDDS Explorer. HDDS Explorer includes data from all DARs associated with the event, not just specific to a DAR. (Figure 8)
Note: The more data associated with an event the longer it takes to load HDDS Explorer.

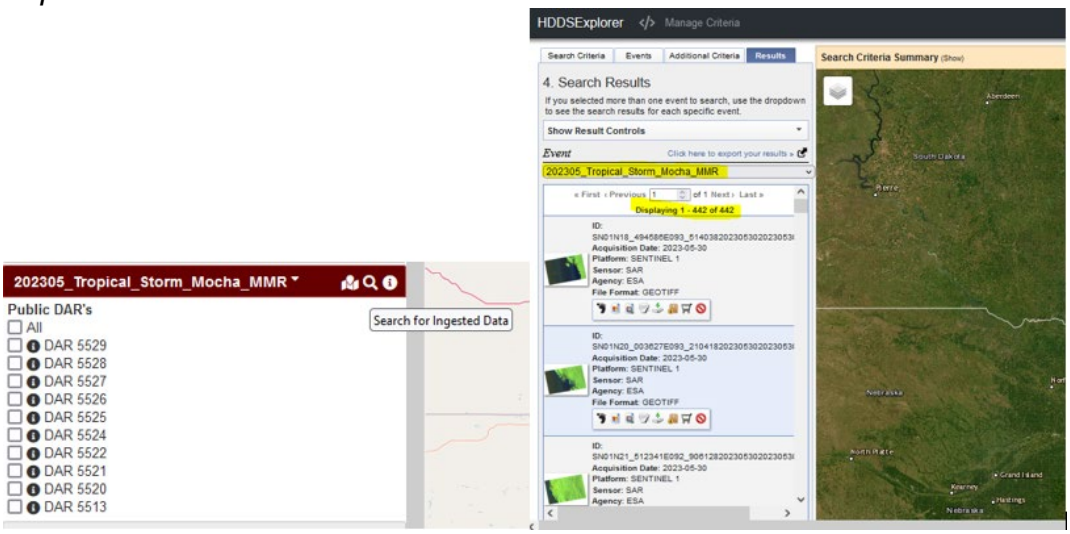


Figure 8: CMT to Event to HDDS Explorer

E. **Event Information -** Click the icon ( ) to view information for the event. Displays the Event Type, Event Status (Active vs Archived), Event Start, Event End, and Data Coverage Map. (Figure 9)

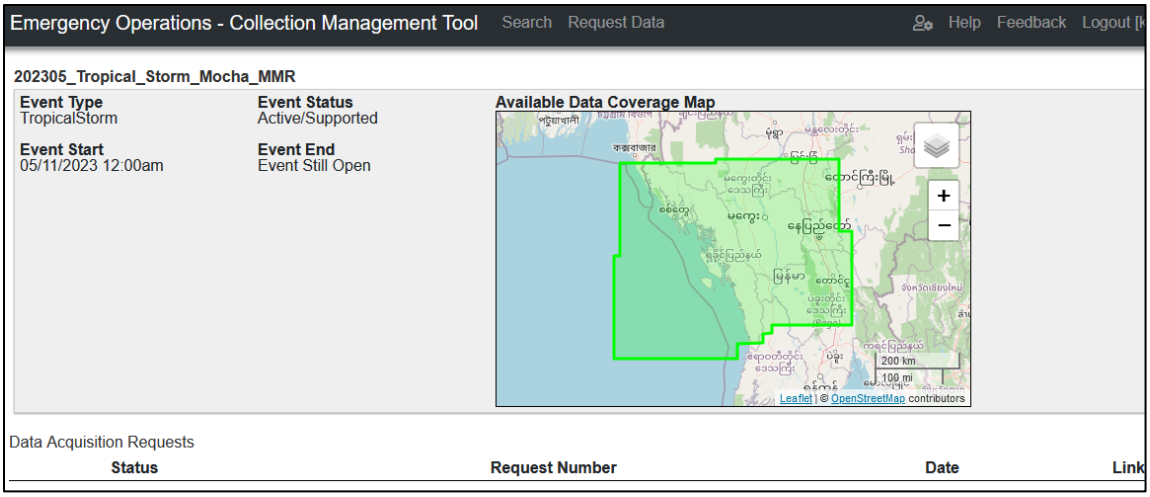


Figure 9: Event Information

Archived Events

Events in the Archived list no longer have active Data Acquisition Requirements (DARs) or no new data. Once the Active Events is considered closed, then it migrates to the Archived Events list. The list includes events back to 2013. Functions within the Archived Events list for search and download are essentially the same as the Active Events, just more events and DAR Status is Closed. (Figure 10)

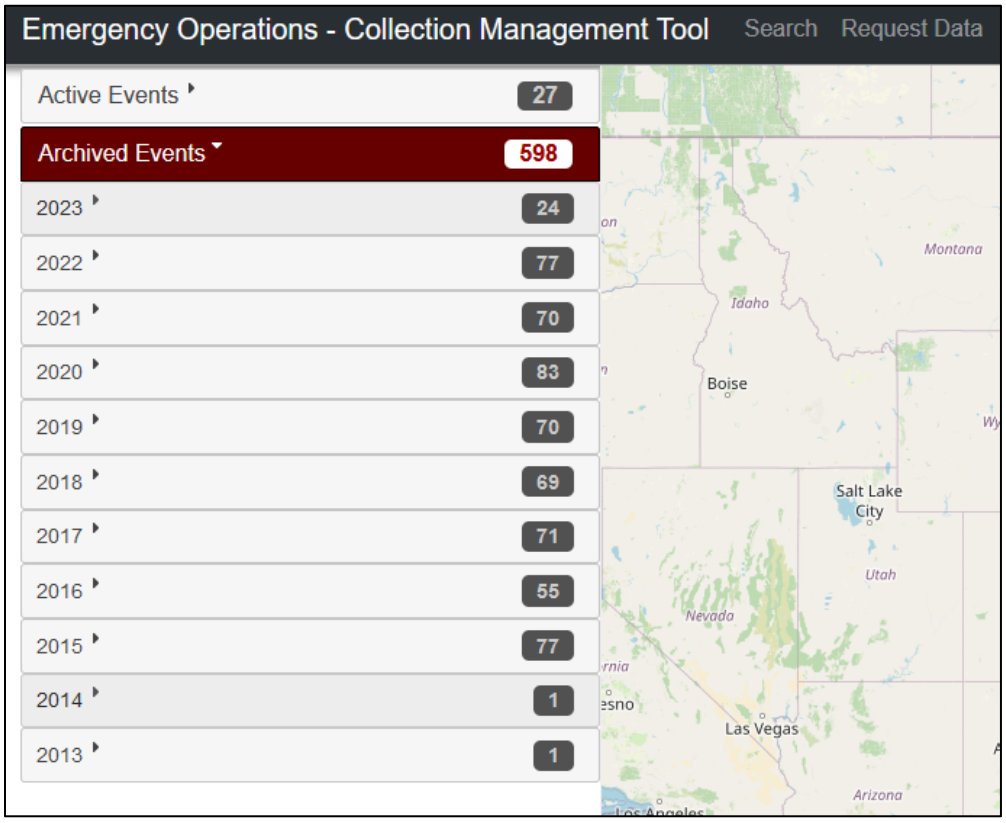
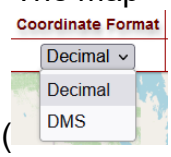
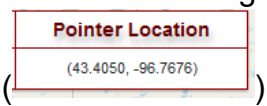


Figure 10: Archived Event List

Filter

CMT interface provides the capability to apply filters to narrow searches. The map interface in filter mode provides the option to change Coordinate Format (

) in Decimal or Degrees Minutes Seconds (DMS). The Pointer Location (

) displays the coordinates for the location of mouse on map. There are different methods to utilize filters. (Figure 11)
They include:

A. **Temporal Extent**
B. **Spatial Extent/Geometry**
C. **Event Type**
D. **Status**

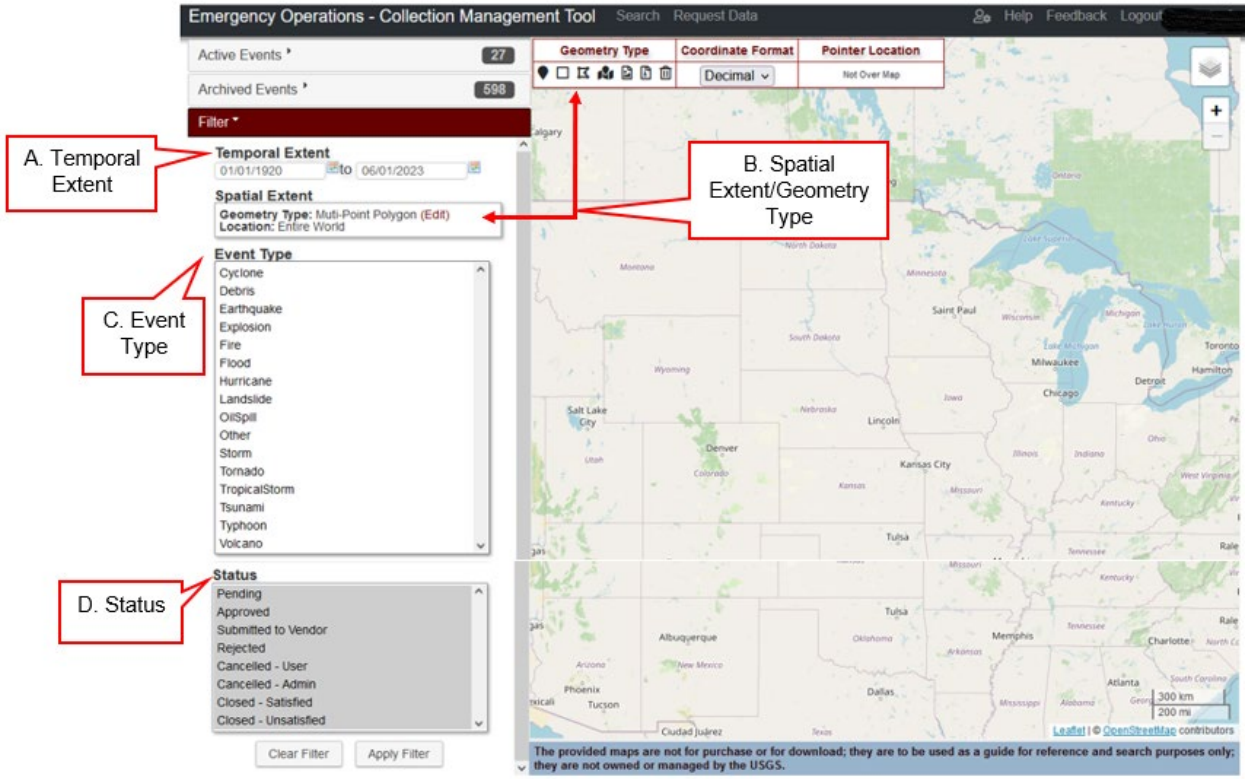
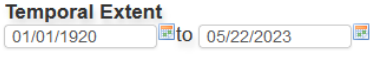


Figure 11: Filter Functions

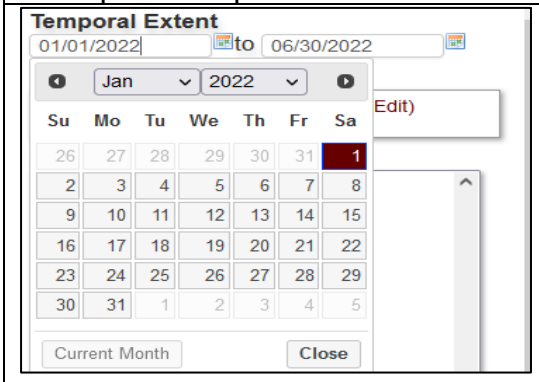
A. **Temporal Extent** - Filter based on acquisition date of the DAR data.

(

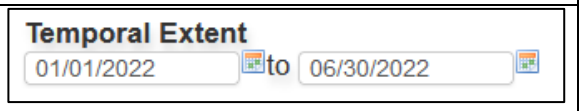
) Example of Temporal Extent filter and search.

(Figure 12)

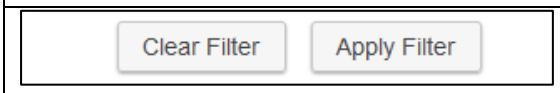
Example: Temporal Extent Filter



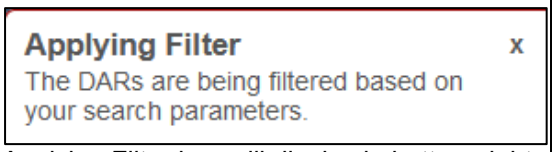
Enter desired start date or click the Calendar Icon to choose date. Repeat for end date.



Acquisition dates for desired time period.

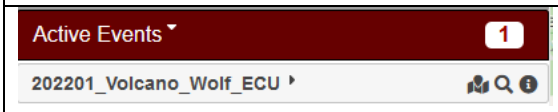


Click Apply Filter



Applying Filter box will display in bottom right corner. If search failed, it will be displayed in the box.

The Active and Archive Events will only contain events with data between the entered Acquisition Dates.

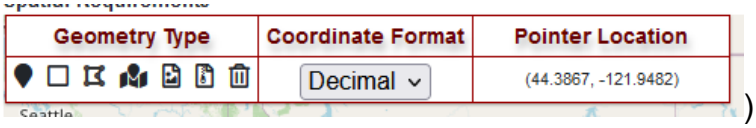


Active Events displays one event. To view and download data go to HDDS Explorer by clicking on magnifying glass

Archived Events displays 36 total events over the different years. To view and download data for each event go to HDDS Explorer by clicking on magnifying glass

Figure 12: Temporal Extent Example

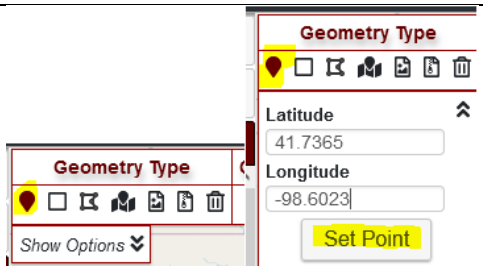
B. **Spatial Extent -** Filter based on geographical areas. Using the tools on the map, select the Area of Interest (AOI) to filter and search. The Coordinate Format dropdown has choices for Decimal or Degree, Minutes, Seconds. The Pointer Location shows coordinates of the pointer on the map.

(

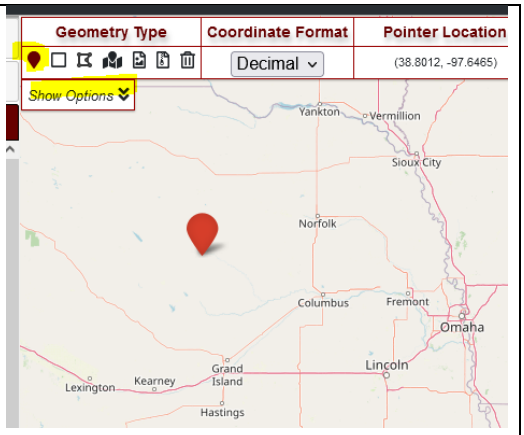
)

Note: Spatial Extent Filters search against the DAR coverage areas, not the Event coverage areas. This could affect searches utilizing the Point, small Box and Polygon in returning no results.

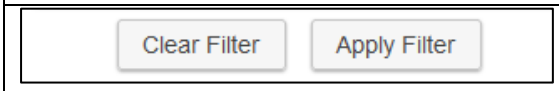
1. **Point** - Area of Interest (AOI) is a point on the map. Click on the , then click the map to designate AOI. Or enter Latitude and Longitude in the Show Options dropdown. Click the trash can icon to remove selections. Figure 13



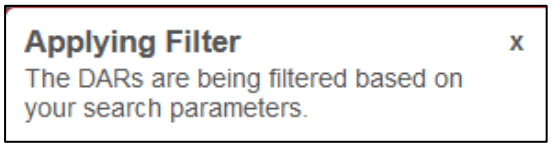
Click on map to designate AOI or click the Show Options dropdown and enter a specific coordinate. Click Set Point.



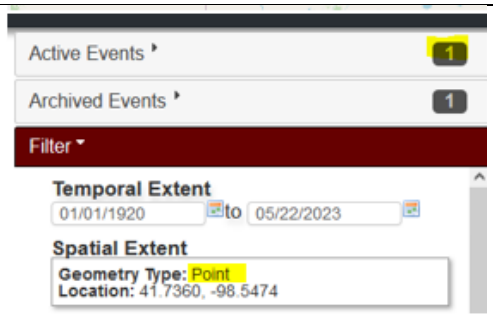
Point displays on the map where clicked. Using coordinates map will zoom into the point.



Click Apply Filter

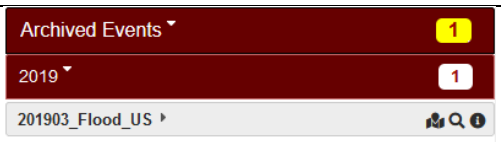


Applying Filter box will display in bottom right corner. If search failed, it will be displayed in the box.



The Active and Archive Events will only contain Events with DARs that intersect the AOI.

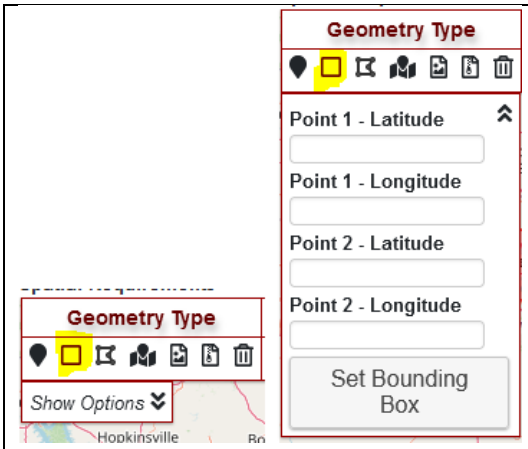
Active Events displays one event. To view and download data for the event go to HDDS Explorer by clicking on magnifying glass.



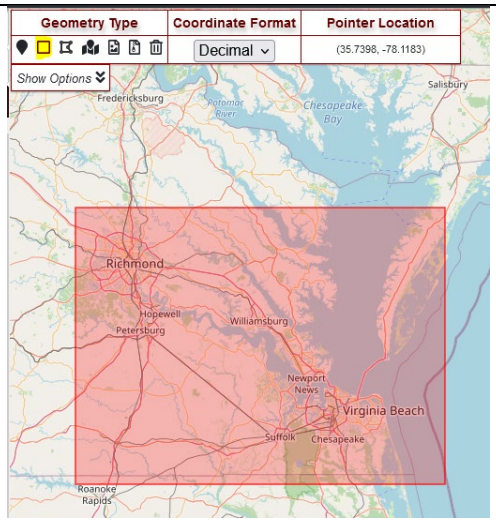
Archive Events displays one event from 2019. To view and download data for the event go to HDDS Explorer by clicking on magnifying glass.

Figure 13: Point Geometry Type

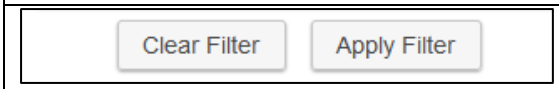
2. **Box** - Set the AOI by using the box method. Click on the ☐, then click on the map to begin box, click another point on map to create a box. Or enter Latitude and Longitude in the Show Options dropdown. Click the trash can icon 🗑 to remove selections. (Figure 14)



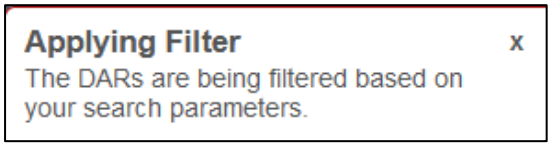
Click the box icon. Click two points on the map to form a box. Or enter coordinates in Show Options.



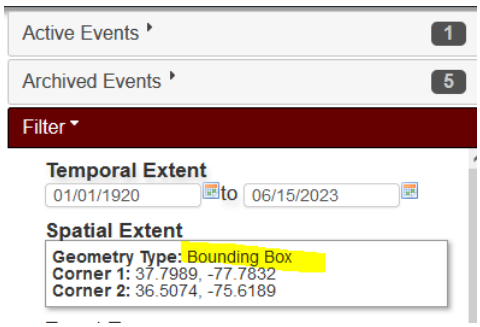
Map displays the AOI for the search.



Click Apply Filter



Applying Filter box will display in bottom right corner. If search failed, it will be displayed in



The Active and Archive Events will only

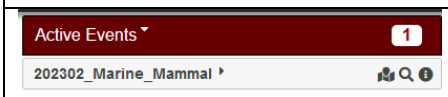
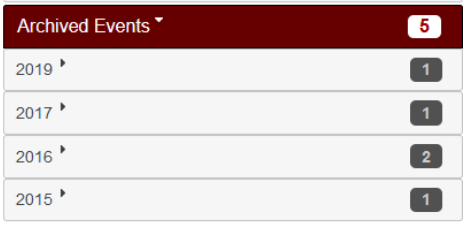
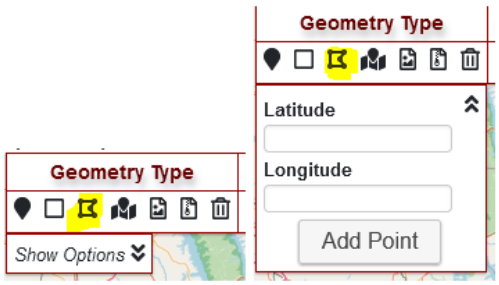
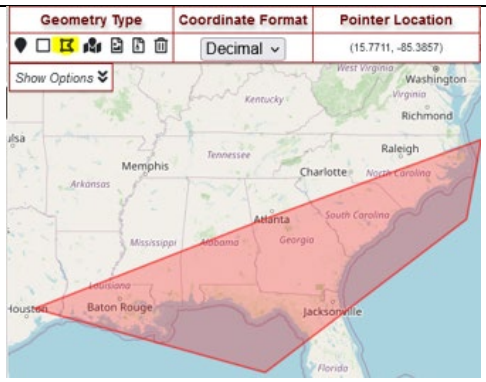
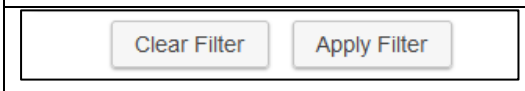
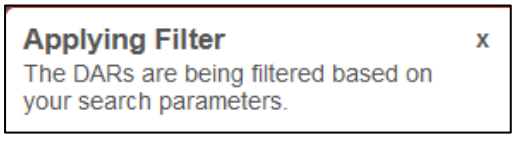
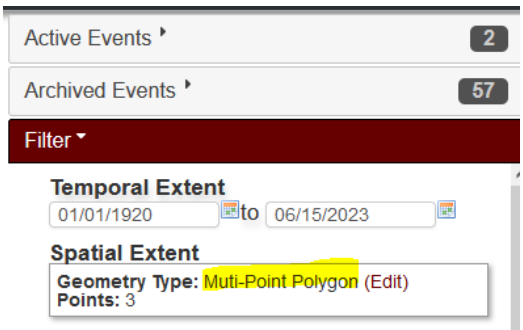
the box.	contain Events with DARs that intersect the AOI.
 Active Events displays one event. To view and download data for the event go to HDDS Explorer by clicking on magnifying glass.	 Archived Events displays five total events over the different years. To view and download data for each event go to HDDS Explorer by clicking on magnifying glass for an event.

Figure 14: Box Geometry Type

3. **Multi-Point Polygon** - Set the AOI by using many points to form a polygon. Click on the , then click multi points on the map to form a polygon. Or enter coordinates in the Show Options dropdown. Add one set at a time to form the polygon. Click the trash can icon to remove selections. Figure 15

 Click the multi-point polygon icon. Click multi points on the map to form a polygon. Or enter coordinates in Show Options.	 Map displays the AOI for the search.
 Click Apply Filter  Applying Filter box will display in bottom	 The Active and Archive Events will only

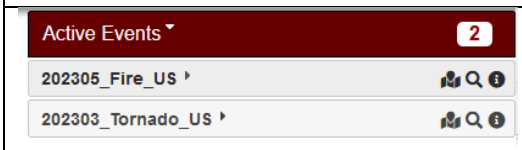
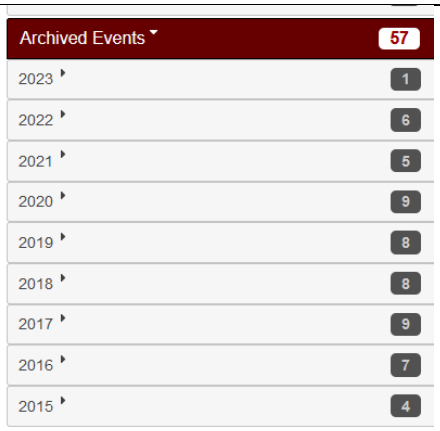
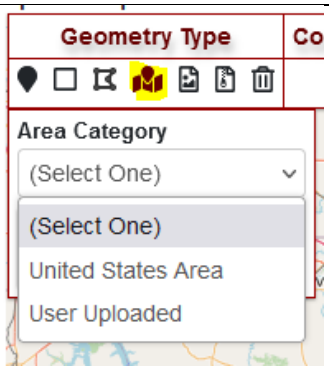
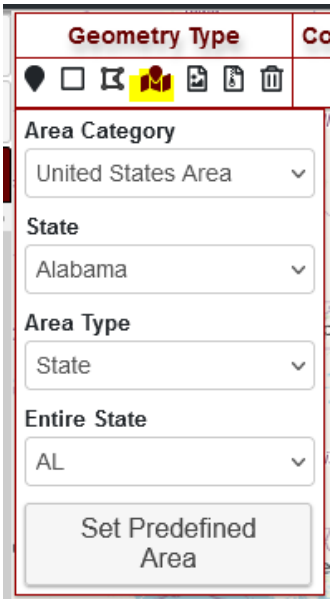
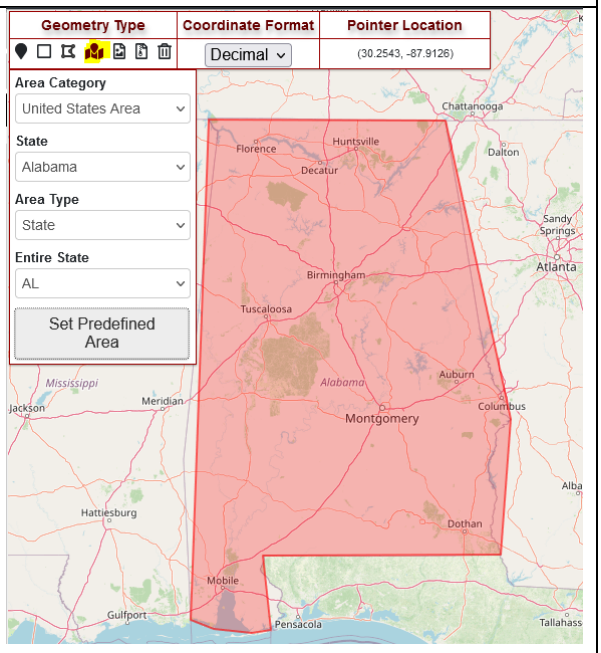
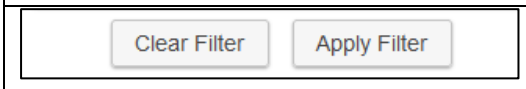
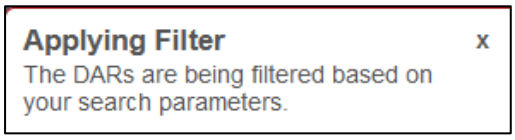
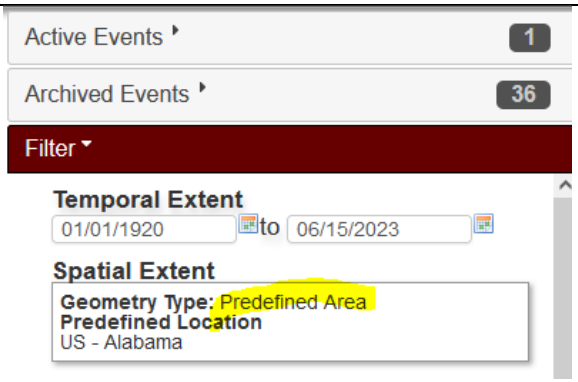
right corner. If search failed, it will be displayed in the box.	contain Events with DARs that intersect the AOI.
 Active Events displays two events. To view and download data for the event go to HDDS Explorer by clicking on magnifying glass.	 Archived Events displays 57 total events over the different years. To view and download data for each event go to HDDS Explorer by clicking on magnifying glass for an event.

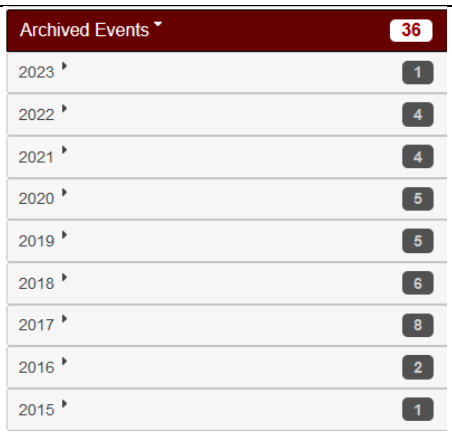
Figure 15: Multi-Point Polygon Geometry Type

4. **Predefined Area** - The tool offers predefined areas for the U.S. (Figure 16) and User Uploaded (Figure 17) areas (shown in 5. KML Upload and 6. SHP Upload below). Click on  to see the options. Click the trash can icon  to remove selections.

 Click on the Predefined Area icon to see the choices. Choose United States Area, which will open up more options. Or choose an area that was previously uploaded.	

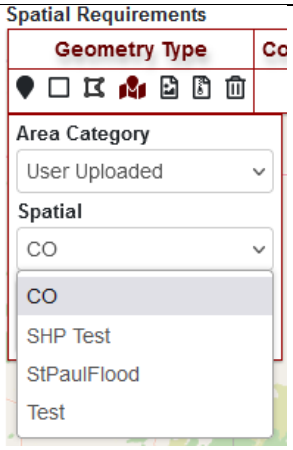
	Choose Area type, i.e., Congressional District, County, State to further define AOI.
 The last option will be based on the Area Type selection. List of Congressional Districts, List of Counties, or State. Click on Set Predefined Area.	 Map displays the AOI for the search based on the chosen predefined options.
 Click Apply Filter  Applying Filter box will display in bottom right corner. If search failed, it will be displayed in the box.	 The Active and Archive Events will only contain Events with DARs that intersect the AOI.

Active Events displays one event. To view and download data for the event go to HDDS Explorer by clicking on magnifying glass.

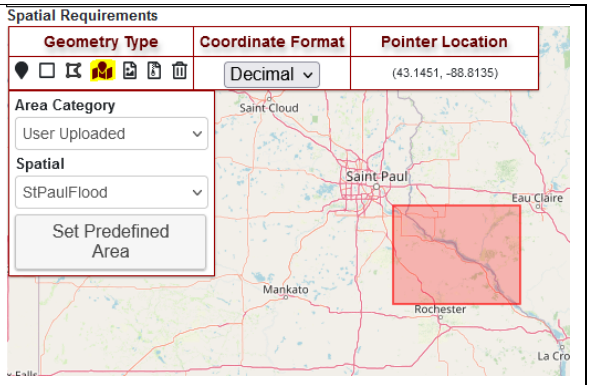


Archived Events displays 36 total events over the different years. To view and download data for each event go to HDDS Explorer by clicking on magnifying glass for an event.

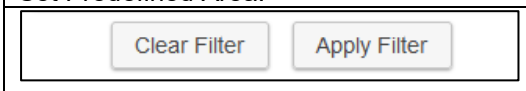
Figure 16: Pre-Defined Area Geometry Type



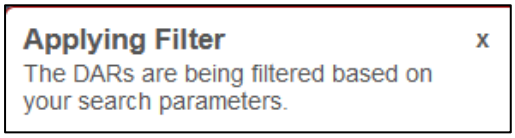
User Uploaded Area Category will provide the option under Spatial to choose a KML or SHP that was previously loaded. Click Set Predefined Area.



Map displays the AOI for the search based on the chosen user uploaded area.



Click Apply Filter



Applying Filter box will display in bottom

The Active and Archive Events will only contain Events with DARs that intersect the AOI.

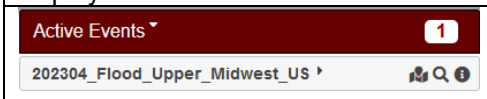
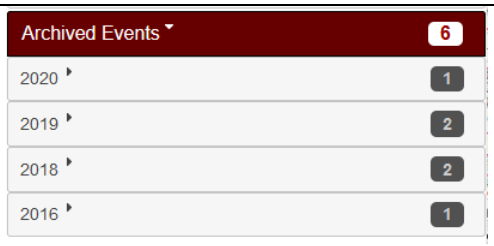
right corner. If search failed, it will be displayed in the box.	
 Active Events displays one event. To view and download data for the event go to HDDS Explorer by clicking on magnifying glass.	 Archived Events displays six total events over the different years. To view and download data for each event go to HDDS Explorer by clicking on magnifying glass for an event.

Figure 17: User Uploaded Areas Geometry Type

5. **KML Upload** - The tool provides a means for users to upload a KML of their own AOI. Click the trash can icon to remove selections. Figure 18

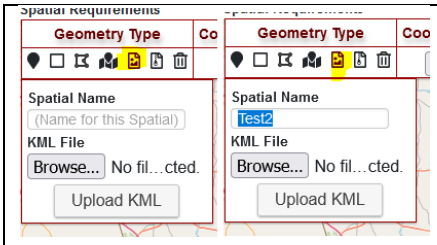
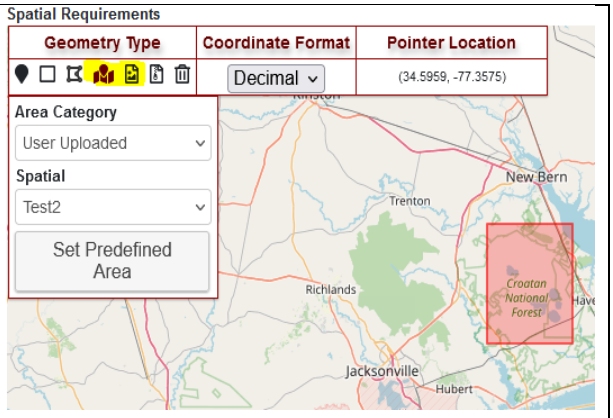
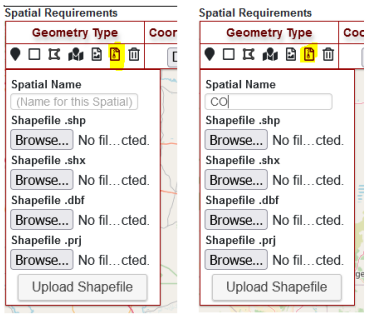
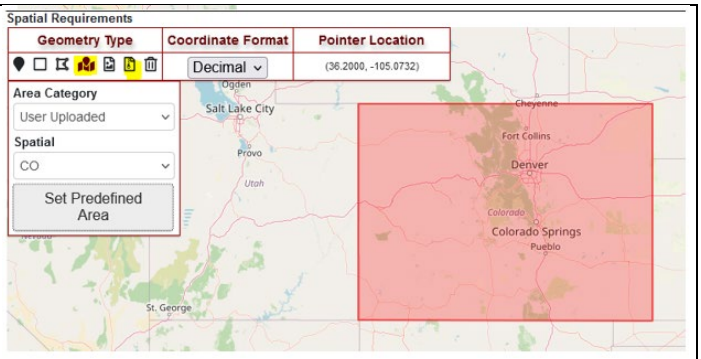
 Click KML Upload icon. Provide a name for the KML. Browse to add the KML. Click Upload KML.	 After the Upload KML is clicked, the area is uploaded and displayed on the map. The type changed to the predefined options.

Figure 18: KML Upload Tool

6. **SHP Upload -** The tool provides a means for users to upload a SHP of their own AOI. The SHP upload requires the four components of a shapefile. (.shp, .sbx, .dbf, .prj) Click the trash can icon to remove selections. Figure 19



Click SHP Upload icon. Provide a name for the shapefile. Browse to add the four shapefile files. Click Upload SHP.

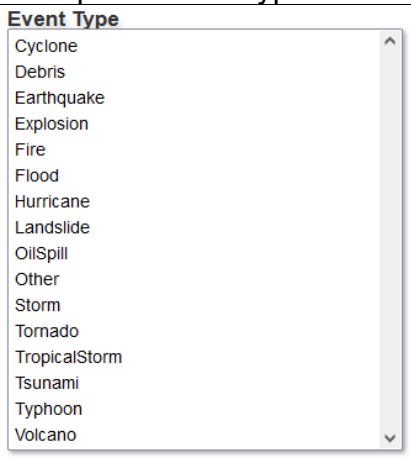


After the Upload SHP is clicked, the area is uploaded and displayed on the map. The type changed to the predefined options.

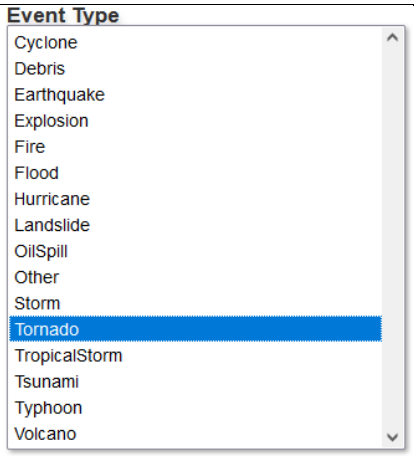
Figure 19: SHP Upload Tool

C. Event Type - The event type associated with the Emergency Operations event. Example of Event Type filter and search. (Figure 20)

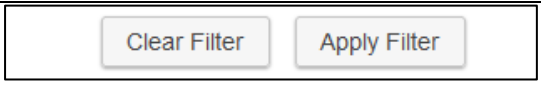
Example: Event Type - Tornado



List of Event Types

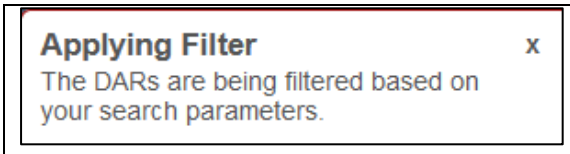


Highlight Event Type. One or more can be selected by holding Control and click the type.



Click Apply Filter

The Active and Archive Events will only



Applying Filter box will display in bottom right corner. If search failed, it will be displayed in the box.

contain events associated with Tornado.

Active Events displays three events. To view and download data for each event go to HDDS Explorer by clicking on magnifying glass.

Archived Events displays 72 total events over the different years. To view and download data for each event go to HDDS Explorer by clicking on magnifying glass.

Figure 20: Example of Event Type Filter

D. **Status** – The filter refers to the status of the DAR. The default is all statuses are selected. (Figure 21)

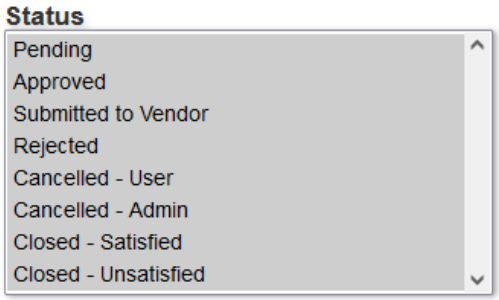


Figure 21: Status Filters

Request Data

The Request Data (Request Data) tool provides the option for users to request data for active events. There are four sections within Request Data to acquire the desired data. Figure 22

A. Events Details
B. Imaging Requirements
C. Request Details
D. **Spatial Requirements**

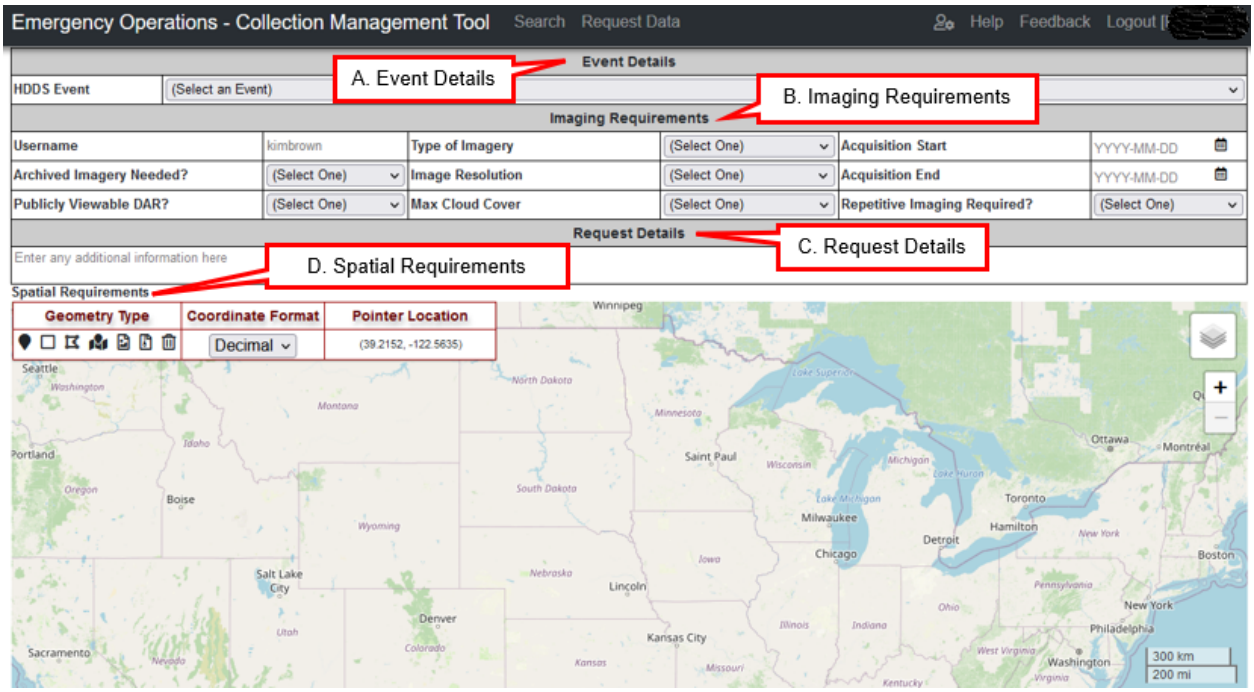


Figure 22: Request Data Tool

A. **Event Details** – Choose an active event from the dropdown menu. Newest is at bottom of list. The map under the Spatial Requirements will recenter over the coverage area assigned to the event. Figure 23

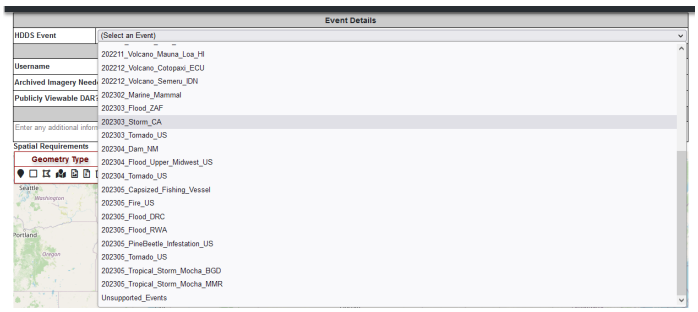
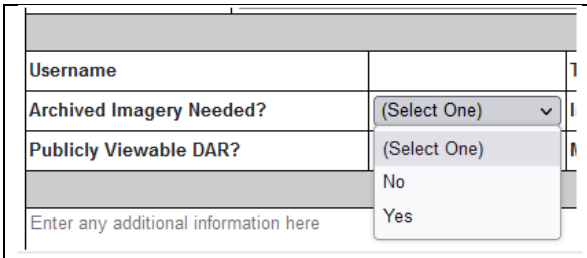
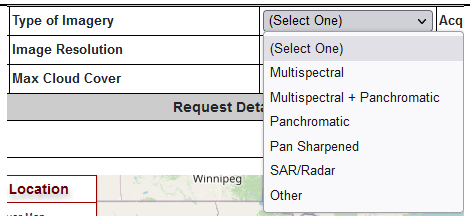


Figure 23: Active Event List

B. **Imaging Requirements** – Enter the specific information pertaining to the request. (Figure 24)



Archived Imagery Needed – No (not in current archive) Yes (in current archive)
Publicly Viewable DAR – No (private) Yes (viewable on CMT and HDDS Explorer)



Type of Imagery – Select from list
The type of imagery selected will determine the choices for Image Resolution.

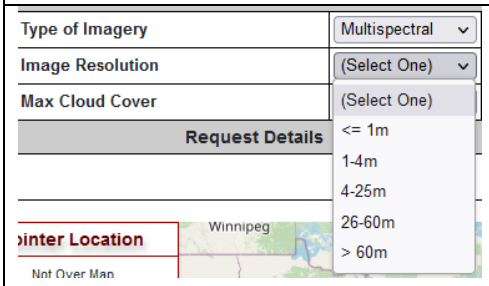
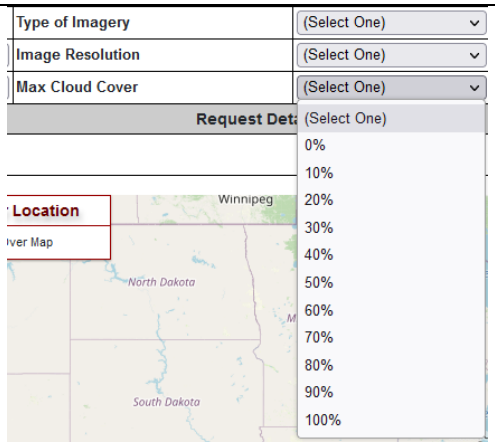
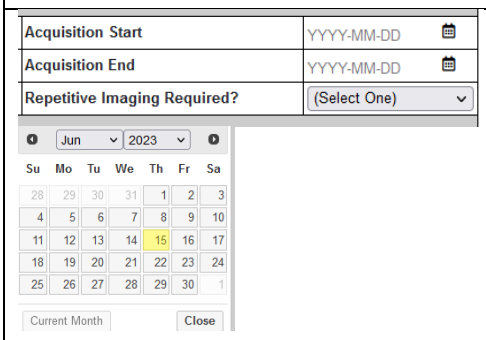


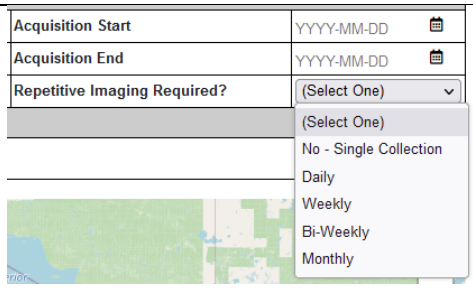
Image Resolution – Select from the listed provided based on the Type of Imagery selected.



Max Cloud Cover – Select the desired Cloud Cover coverage.



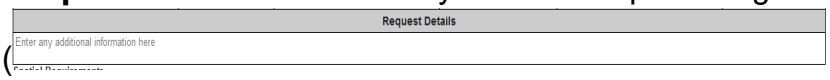
Enter or use the calendar icon for beginning and ending acquisition dates.



Repetitive Imaging Required – Select from the list the number of times to collect data.

Figure 24: Details of Imaging Requirements Input Fields

C. **Request Details** – Enter any information pertaining to the request, event, etc.

(

)

This section is optional.

D. **Spatial Requirements** – The map, once the event has been selected, displays the coverage area of the event. Figure 25

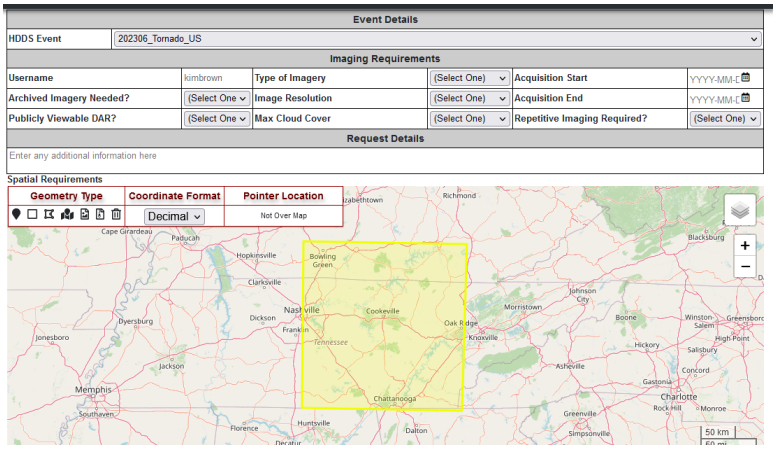
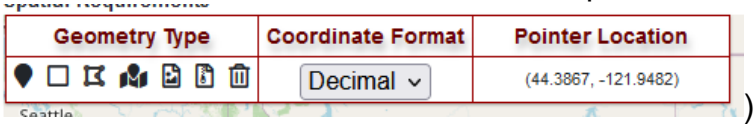


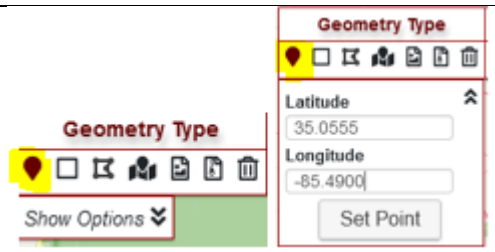
Figure 25: Spatial Requirements Map with Event Chosen

Using the tools on the map, select the Area of Interest (AOI). The Coordinate Format dropdown has choices for Decimal or Degree, Minutes, Seconds. The Pointer Location shows coordinates of the pointer on the map.

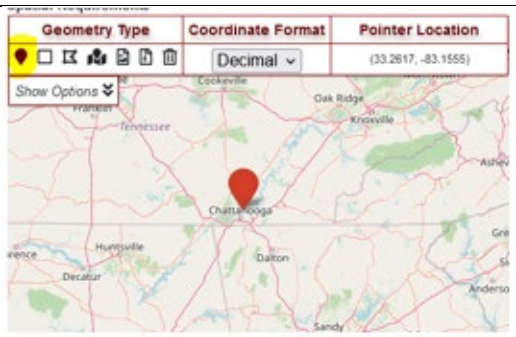
(

)

1. **Point** - Area of Interest (AOI) is a point on the map. Click on the  , then click the map to designate AOI. Or enter Latitude and Longitude in the Show Options dropdown. Click the trash can icon  to remove selections. Figure 26



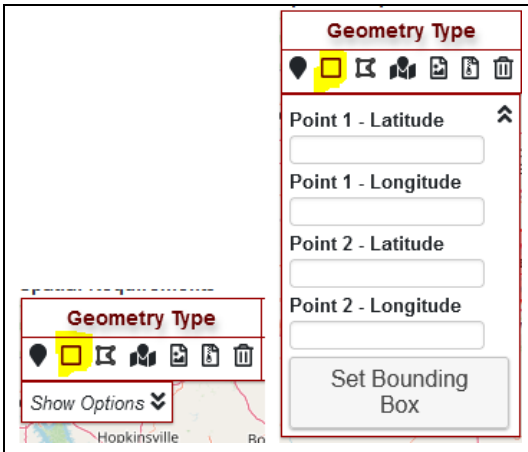
Click on map to designate AOI or click the Show Options dropdown and enter a specific coordinate. Click Set Point.



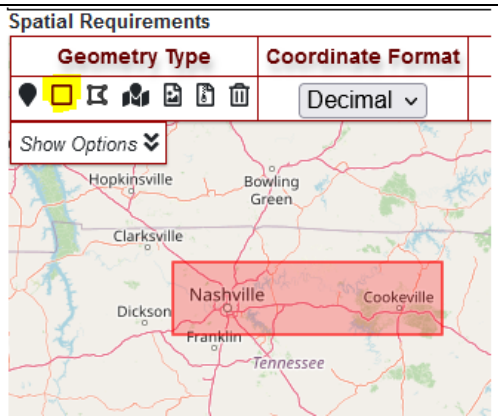
Point displays on the map where clicked. Using coordinates map will zoom into the point.

Figure 26: Point Geometry Type

2. **Box** - Set the AOI by using the box method. Click on the ☐, then click on the map to begin box, click another point on map to create a box. Or enter Latitude and Longitude in the Show Options dropdown. Click the trash can icon 🗑 to remove selections. Figure 27



Click the box icon. Click two points on the map to form a box. Or enter coordinates in Show Options.

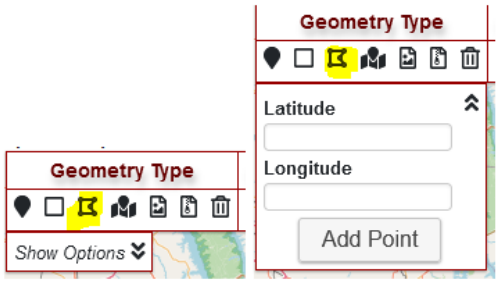


Map displays the AOI for the DAR.

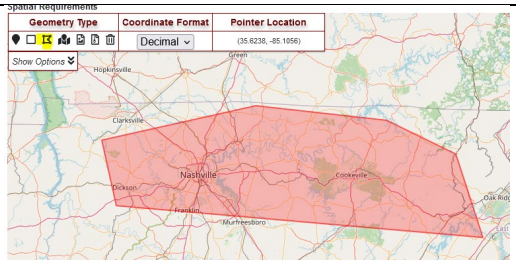
Figure 27: Box Geometry Type

3. **Multi-Point Polygon** - Set the AOI by using many points to form a polygon. Click on the ⌑, then click multi points on the map to form a polygon. Or enter coordinates in the Show Options dropdown. Add one set at a time to

form the polygon. Click the trash can icon to remove selections. Figure 28



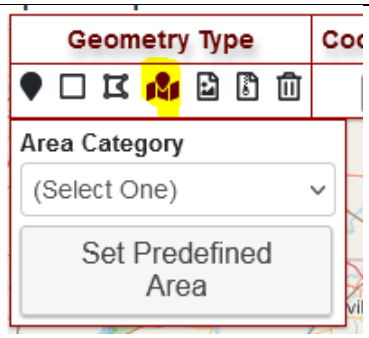
Click the multi-point polygon icon. Click multi points on the map to form a polygon. Or enter coordinates in Show Options.



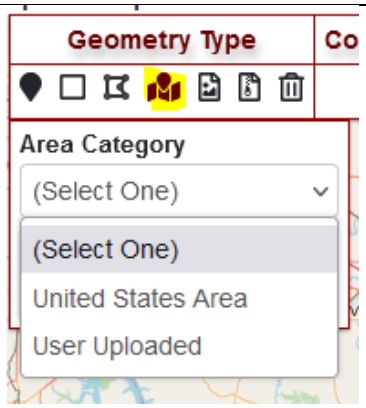
Map displays the AOI for the DAR.

Figure 28: Multi-Point Polygon Geometry Type

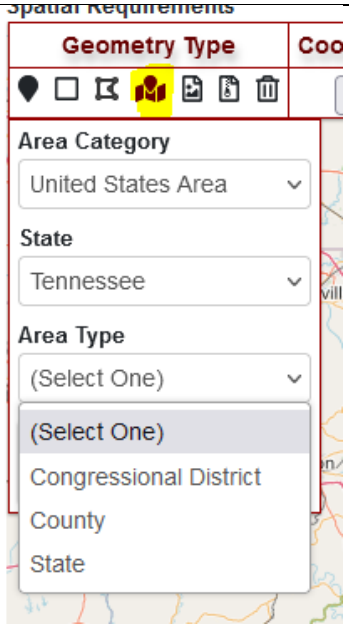
4. **Predefined Area -** The tool offers predefined areas for the U.S. and User Uploaded areas (shown in 5. KML Upload and 6. SHP Upload below). Click on to see the options. Click the trash can icon to remove selections. Figure 29



Click on the Predefined Area icon to see the choices.



Choose United States Area, which will open up more options. Or choose an area that was previously uploaded.



Choose Area type, i.e., Congressional District, County, State to further define

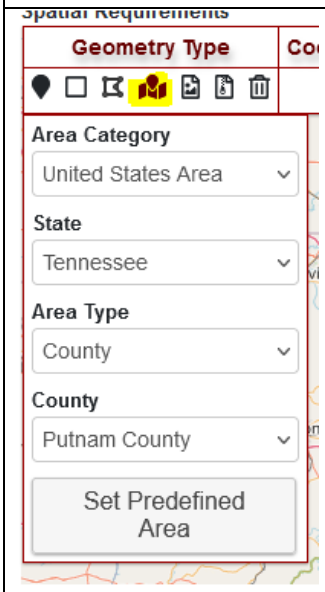
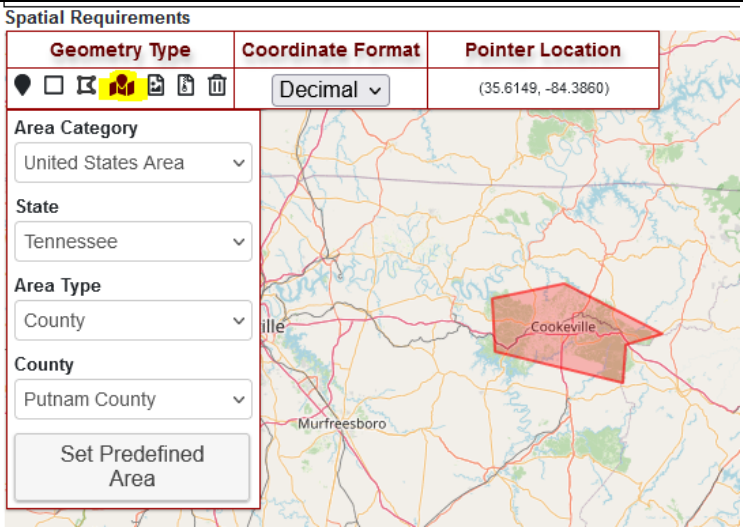
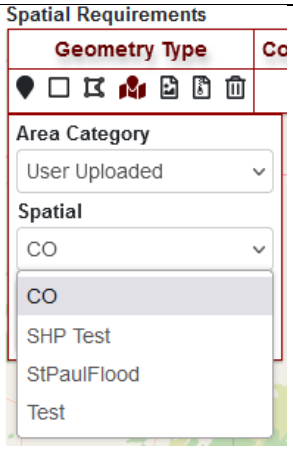
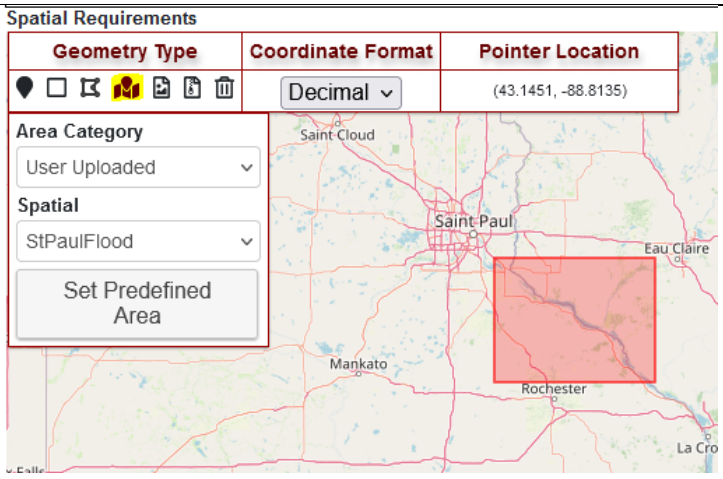
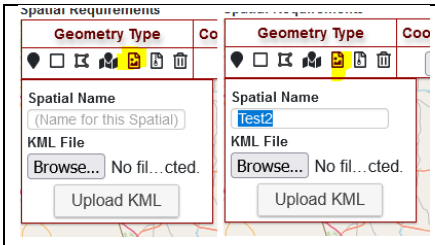
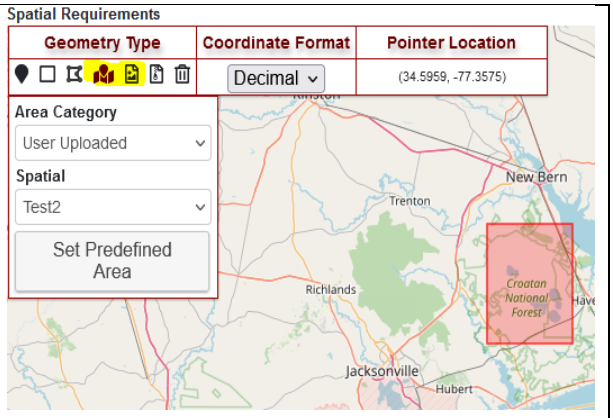
		AOI.
 The last option will be based on the Area Type selection. List of Congressional Districts, List of Counties, or State. Click on Set Predefined Area.	 Map displays the AOI for the DAR based on the chosen predefined options.
 User Uploaded Aera Category will provide the option under Spatial to choose a KML or SHP that was previously loaded. Click Set Predefined Area.	 Map displays the AOI for the DAR based on the chosen user uploaded area.

Figure 29: Pre-Defined Area Geometry Type

5. **KML Upload** - The tool provides a means for users to upload a KML of their own AOI. Click the trash can icon to remove selections. Figure 30



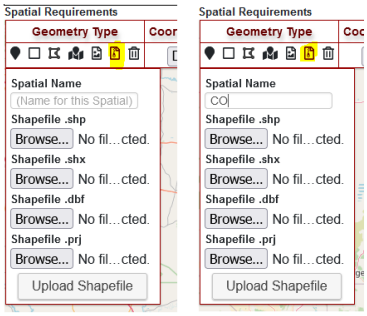
Click KML Upload icon. Provide a name for the KML. Browse to add the KML. Click Upload KML.



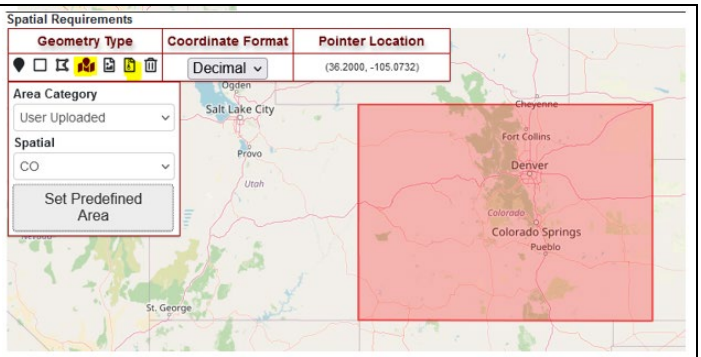
After the Upload KML is clicked, the area is uploaded and displayed on the map. The type changed to the predefined options.

Figure 30: KML Upload Tool

6. **SHP Upload -** The tool provides a means for users to upload a SHP of their own AOI. The SHP upload requires the four components of a shapefile. (.shp, .sbx, .dbf, .prj) Click the trash can icon to remove selections. Figure 31



Click SHP Upload icon. Provide a name for the shapefile. Browse to add the four shapefile files. Click Upload SHP.



After the Upload SHP is clicked, the area is uploaded and displayed on the map. The type changed to the predefined options.

Figure 31: SHP Upload Tool