USGS Emergency Operations Collection Management Tool Help Document

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.

1. Registration and Login

CMT (http://cmt.usgs.gov/) utilizes the USGS EROS Registration service. Open the CMT interface. Select Login on the top tool bar. Enter your username and password then click the Sign In button to access all features of CMT. New users need to click on Become a USGS registered user (https://hddsexplorer.usgs.gov//register/index?RET_ADDR=https://cmt.usgs.gov) to gain access to EO CMT and HDDS Explorer. The Help menu has additional information on the registration process and the Profile link on the top toolbar connects to the Profile Menu in the USGS EROS Registration service.

The Feedback link on the top toolbar can be used to request assistance or to report errors.

2. Events Menu

The left side of the interface provides access to information related to events so all interested users will be aware of image collection plans, status, and availability of data during the course of an event response. Event status and details for historical events can also be access through this menu.

A. Active Events Menu

The Active Events menu lists current Emergency Operations events. The information icon next to the event provides additional information such as Event Type, Status, Start Date, access to public DARs, and a coverage map for the area of interest. The DARs provide information on collection plans for specific image types. They can be viewed to assist with communication, management, and scheduling of data acquisitions.

A coverage map indicating the area of interest can also be viewed in this section. Click on the expand icon next to the event and click in the box to activate the coverage map.

The magnifying glass provides a link to HDDS Explorer and will open to the results page to view data that is currently available for the event including pre-event data if it has been requested. This allows responders to view data that has already been acquired and organized for the natural or man-made disaster.

B. Archived Events Menu

The Archived Events menu provides access to historical events. CMT events that have been closed are moved to this section. The information for the event will list the status as Archived and the Event End Date will be displayed.

C. Event Search Menu

The Event Search section allows users to search the inventory of active and archived events. Search criteria includes date range, geographic location, or type of event.

A search by Temporal Extent can be executed by typing in a date range or by selecting a date using the pop down calendar. Expand the Active Events or Archive Events menu to view search results.

The Spatial Extent search utilizes the Google Map interface to specify a location. The Geometry Type tool is explained in the next section.

Searches can also be done by selecting a natural or man-made disaster from the Event Type menu.

The Map Layers menu on the right side of the Home screen or through the Setting link on the top toolbar provides an option to View or Add WMS Layers.

3. New Data Acquisition Request (DAR)

The DAR provides an interface to initiate data acquisitions for new or existing events. The menu-based form facilitates 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.

A. Event Details Section

Select an HDDS Event from the pop down menu. The list contains all Active Events as well as options for a new natural or man-made disaster (cyclone, debris, earthquake, explosion, fire, flood, hurricane, landslide, oil spill, or other event).

Use the calendar pop down to select the Acquisition Start date.

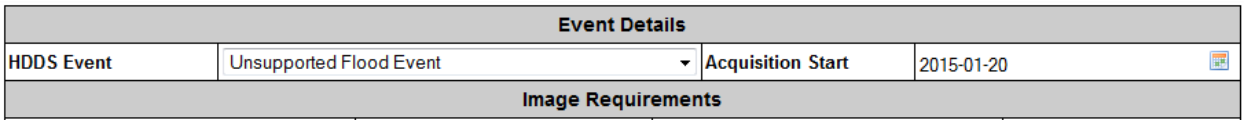


Figure 1 – Event Details

B. Image Requirements Section

Select Type of Imagery from the pop down (Multispectral + Panchromatic, Multispectral, Panchromatic, Hyperspectral, SAR/Radar, or Other). Only one type of imagery can be selected per DAR. An additional request will need to be submitted for each data type.

Select desired Image Resolution from the pop down menu. The Image Resolution options are determined by Type of Imagery and are populated after Type of Imagery has been entered.

Publicly Viewable DARs will be displayed on the event information page so that other responders can view the status of the image request. The username and agency of the requestor are not shown.

Archived/Pre-Event Imagery Needed? The default for this field is no. Use the pop down menu to select Yes if data acquired prior to the event is required. This field is specific to the Type of Imagery. The quantity of pre-event data depends on the availability of existing data for the area of interest.

Repetitive Imaging Required? This field allows for multiple data acquisitions. Select the frequency of requested data acquisition from the pop down (No – Single Collection, Daily, Weekly, Bi-Weekly, or Monthly).

Duration allows the user to select the acquisition end date from the pop down calendar.

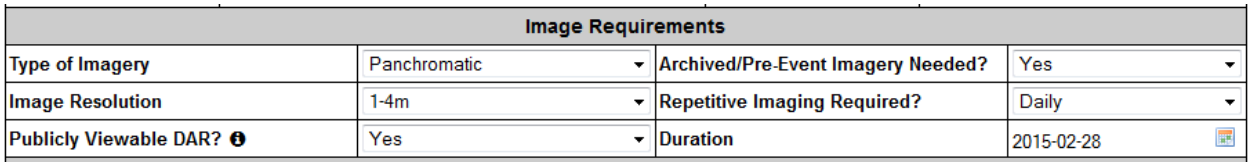
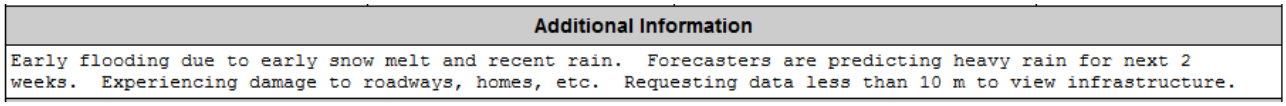


Image Requirements			
Type of Imagery	Panchromatic	Archived/Pre-Event Imagery Needed?	Yes
Image Resolution	1-4m	Repetitive Imaging Required?	Daily
Publicly Viewable DAR?	Yes	Duration	2015-02-28

Figure 2 – Image Requirements

C. Additional Information Section

The Additional Information field allows the user to enter any additional information about the event or data request.



Additional Information
Early flooding due to early snow melt and recent rain. Forecasters are predicting heavy rain for next 2 weeks. Experiencing damage to roadways, homes, etc. Requesting data less than 10 m to view infrastructure.

Figure 3 – Additional Information

D. Spatial Requirements Section

A coverage map for the area of interest will automatically populate for Active Events. A different geographic location may be specified. A smaller area can be selected within the coverage map to focus on a specific area or an area outside the coverage map can be selected to expand the area of interest.

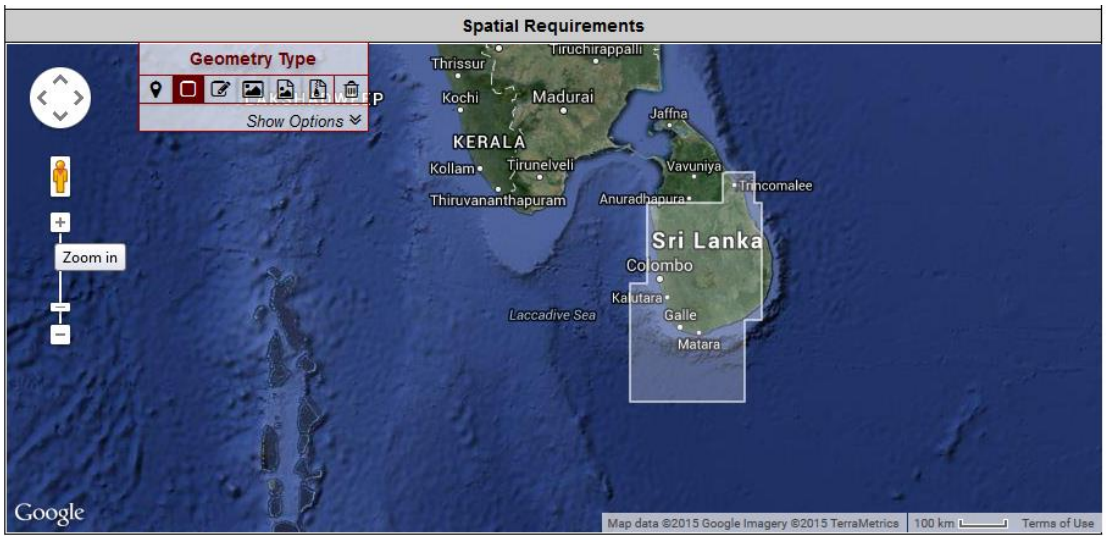


Figure 4 – Coverage Map for Spatial Requirements

The geographic location will need to be defined for new events. Using the Google Map interface, navigate to the area of interest.

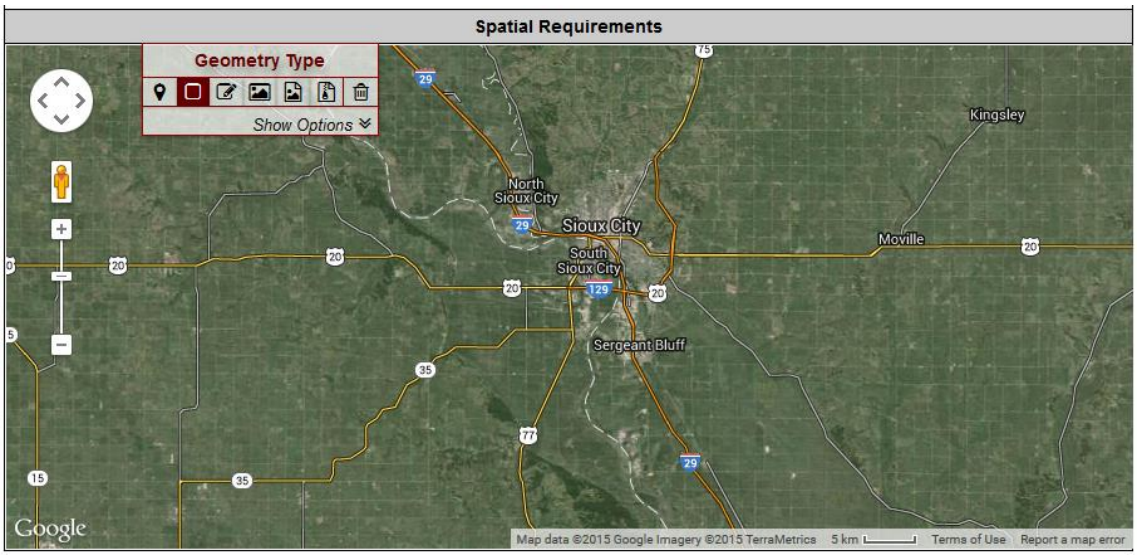


Figure 5 – Google Map interface

The Geometry Type tool allows users to define the area of interest by using the mouse or typing in the latitude and longitude.

Any coordinates that are entered manually need to be in decimal degrees with a valid range of ± 90.00000 for latitude and ± 180.00000 for longitude. Negative values are used for South and West. A longitude of 96.5204 west would be entered as -96.5204.

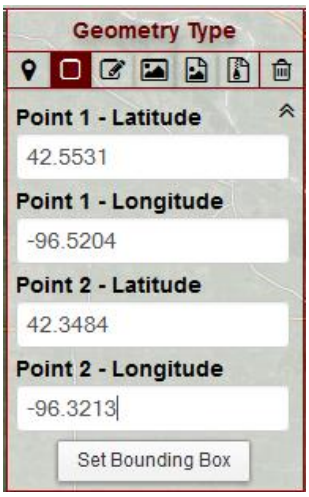


Figure 6 – Manually entered coordinates

Geometry Types include Point, Bounding Box, Multi-Point Polygon, Pre-defined Area (within the United States), KML Upload, or Shapefile Upload.

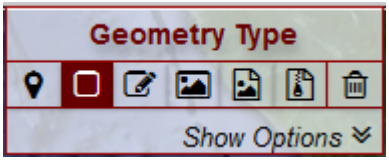


Figure 7 – Geometry Type tool

The trash can icon can be used at any time to clear the map.

1. Point

To define a geographic location using a single point, select Point from the Geometry Type toolbar.

Click an area on the map once using the mouse to define a single point search.

The Latitude and Longitude can also be entered manually. Expand the Show Options window. Enter coordinates in decimal degrees then click on Set Point.

2. Bounding Box

To define a geographic location by creating a box, select Bounding Box from the Geometry Type toolbar.

Two points are used to define a bounding box - click on the map to indicate the upper left corner and the lower right corner for the area of interest (any opposite corners will work).

The latitude and longitude for the upper left corner and the lower right corner can also be entered manually. Expand the Show Options window. Enter coordinates for opposite corners of a box in decimal degrees then click on Set Point.

3. Multi-Point Polygon

To define a geographic location by creating a polygon, select Multi-Point Polygon  from the Geometry Type toolbar.

Click multiple times on the map to define the area of interest. Up to 50 points can be used to create the polygon

The Latitude and Longitude can also be entered manually. Expand the Show Options window. Enter coordinates in decimal degrees then click on Add Point. Add up to 50 points to complete the polygon.

4. Pre-defined Area

To define a geographic location using a pre-defined boundary (within the United States), select Pre-defined Area  from the Geometry Type toolbar.

A menu of states, counties, and congressional districts are available for the United States. Convenient pop downs list all available options.

5. KML Upload

To define a geographic location using a KML file, select KML Upload  from the Geometry Type toolbar.

Enter a Spatial Name for the area of interest. Use the Browse button to upload a Google Earth Keyhole Markup Language (KML) file. The KML file is limited to one polygon with a maximum of 30 points. The uploaded KML file can be accessed through the Setting link on the top tool bar using the Spatial Name if additional data types are requested.

6. Shapefile Upload

To define a geographic location using a shapefile, select Shapefile Upload  from the Geometry Type toolbar.

Enter a Spatial Name for the area of interest. Use the Browse button to upload the shapefile components. The ESRI Shapefile dialog box requires .shp, .shx, .dbf, and .prj files for the upload. The shapefile is limited to one polygon with a maximum of 30 points. The uploaded shapefile can be accessed through the Setting link on the top tool bar using the Spatial Name if additional data types are requested.

E. Submit Request

A status bar appears to indicate that the request was successfully submitted and is awaiting approval (pending).

The DAR may be edited prior to approval. If additional Imagery Types are needed for the event, a copy of the DAR can be used as a template to create additional data requests.

An automated email is sent to confirm the request and to provide a link to the DAR details. After leaving the EO CMT site (http://cmt.usgs.gov/), the request can be edited using the link in the email. DARs can only be edited while in pending status. The DAR can be shared with another emergency responder using the Email DAR Information link. Only one email address can be entered per transaction.

The user will be able to track the status of the request and receive active notifications from the CMT regarding any changes in the status of the request.

F. Data Collection

The CMT Administrator reviews and approves pending requests, making basics modifications if necessary. For each new or impending event, approved requests are converted to an Active Event on the CMT.

As imagery becomes available, the data will be posted on the Hazards Data Distribution System (http://hddsexplorer.usgs.gov). HDDS hosts data files, browse imagery, metadata, and footprints in support of the emergency operation. Notification of new image availability is sent automatically to the requestor.

When the request appears to be satisfied, the user will receive an email from CMT to review the event collection(s). Upon satisfactory completion of the request, the event will migrate to the CMT archive. If the requirements have changed, the request may be extended or modified.