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Overview

Welcome to the MOVES (Modeling, Observation and Visualization for Emergency Support) Viewer. This application was created to provide simple online access to various satellite and aerial imagery datasets, LiDAR, Civil Air Patrol photography, accumulated rainfall, and stream gage information for disaster response activities.
Getting Around the Map

When you first open the viewer, you will see the state of Texas, a topographic base map with cities and roads, and the circles representing stream gauging stations. At any time during your session, you may hit the F5 button to return to this default view.

Zoom Tools:

- **Zoom In** – Click this button once or multiple times to zoom in at fixed increments.
- **Zoom Out** – Click this button once or multiple times to zoom out at fixed increments.
- **Pan** – Click-and-drag the hand cursor across the map to pan around.
- **Mouse roller** – roll forward to zoom in, backward to zoom out.
**Data Tools**

**Basemap** - Clicking on this tool will enable you to change your basemap (background) to one of three options as shown below.

- **A** – Aerial Imagery (most recent ESRI aerial imagery)
- **D** – Default Topographic map containing cities, roads, and boundaries, other features.
- **R** – Rivers & Reservoirs

**Stream Gauges** – This tool will allow you to toggle the Gauging station circles on and off by clicking on the red **Coastal Gauges** button.

To close the Stream Gauge tool, simply click on the symbol.
**Precipitation Forecast** – This tool enables the user to display the 1-day and 2-day Quantitative Prediction Forecasts (QPF). To toggle them on and off, click on the QPF 1Day or QPF 2Day.

To close the Stream Gauge tool, simply click on the ⏯ symbol.
Imagery Tool – This tool enables the user to display aerial imagery on the map.

- Google Imagery - Clicking on the button will toggle the Google Statewide Imagery dataset on and off. The imagery is updated approximately every 3 years and more often in the urban areas. It is displayed in natural color (bands 4,3,2). This imagery represents the ground surface in normal conditions and not inundated during flooding.

To close the Imagery tool, simply click on the symbol.

QPE & Flood Navigator – This tool allows the user to select from a list of data layers related to the flood event. The list includes, LiDAR elevation data, contours, DFIRM flood data, and Quantitative Precepitation Estimates (QPE).
• **Opacity Tool** – The Opacity tool is the slider bar at the bottom of each image collection. Sliding to the right will make the selected image more opaque. Sliding to the left will make the image transparent. Choose any two layers to compare and set the slider tool to the desired opacity to see both layers.

To close the Imagery tool, simply click on the symbol.

**TexCAP Photos** – This tool enables the user to access the Texas Civil Air Patrol (TxCAP) photos taken in areas of suspected flood damage. These photos were taken from Cessna 172 aircraft at oblique angles over the course immediately following the flood event.

The photos can be viewed either by **date** or a **selected area of interest**. The coordinates representing the position of the plane were collected for each photo and these locations are displayed on the map as small markers (camera icons). Sorties are represented in different colors.

**By Date:**

• After clicking the button, you are presented with a calendar. The blue highlighted dates represent the dates photos were taken. As you click on the dates, the corresponding markers will appear on the map, typically showing a well-defined flight line (or sortie).
• Zoom in closer to a point along the flight line, then click on one of the markers 📍. A pop-up window will display showing the photo and other relevant information.

• To enlarge the photo, click on the photo or the link below the photo that reads: Get Full Size Image.
• To save the image, right-click on the enlarged photo and select **Save Image As**.
• Close the tab in your browser when finished to return to the main viewer. From here, you can either click on another marker or simply close the pop-up window by clicking the ×.
• At the bottom of the calendar, you will see several number panels. These represent other flight lines (sorties) flown on that same day.

![Select Below to browse Sorties](image)

• As you click through these numbers, the corresponding sortie will appear on the map. Once you have located the sortie you want to see, simply zoom into the area and view the photos as outlined above.
• Click the **Next** and **Prev** buttons to navigate through the entire list.
• To select a specific sortie number, click on the **...** button and type in a number.
• To remove all sorties from the map, click the **button.

**By Selected Area:**
• At the top of the imagery tool panel, click on the **to Spatial** button.
• On the map, zoom in to your area of interest. Note: It is suggested that you zoom to a smaller area to reduce the number of sorties displayed.
• Once the area is set, click on the **Query Envelope** button. At this point, all of the sorties in that area will appear on the map, regardless of the date.
• Navigate through the photos and sorties as outlined above.
Table Listing of TxCAP Photos:

- To see a listing of TxCAP photos in table format, click on the Analytics button in the panel to the left of the screen. (Note: the view information in the table, you must first visually display some sorties on the map as outlined above).
- The collection date, the altitude of the plane, and the geographic coordinates and be found here. Clicking on the file name will display the photo. Photos can also be downloaded here by right-clicking on the file.

- Use the arrows at the top to scroll through the photos in the collection in increments of 500.
- Use the number panels at the bottom to navigate through each set of 500.
- The Search box in the upper right corner can be used to search for any of the data elements displayed in the table.
- To exit the table and return to the map, click on the Maps button in the far left panel.
Notes

Get Coordinates – This tool can be used to obtain the geographic coordinates (in decimal degrees) for any location clicked on the map. Several coordinates may be obtained to create a list.

To collect coordinates on the map:

- Ensure you have zoomed to the area where the coordinate will be taken.
- Click on the red pencil 🖋
- Click on the precise location on the map where the coordinate is to be obtained.
- The coordinate will appear on the list in the Get Coordinates box.

- These coordinates can be copied and pasted into a document, e-mail, or spreadsheet.
- To erase the list of coordinates, hit the red eraser 🗑
- To close the Coordinate tool, click on the ✂️ symbol.