



LIGHTNING VIEWER USER GUIDE

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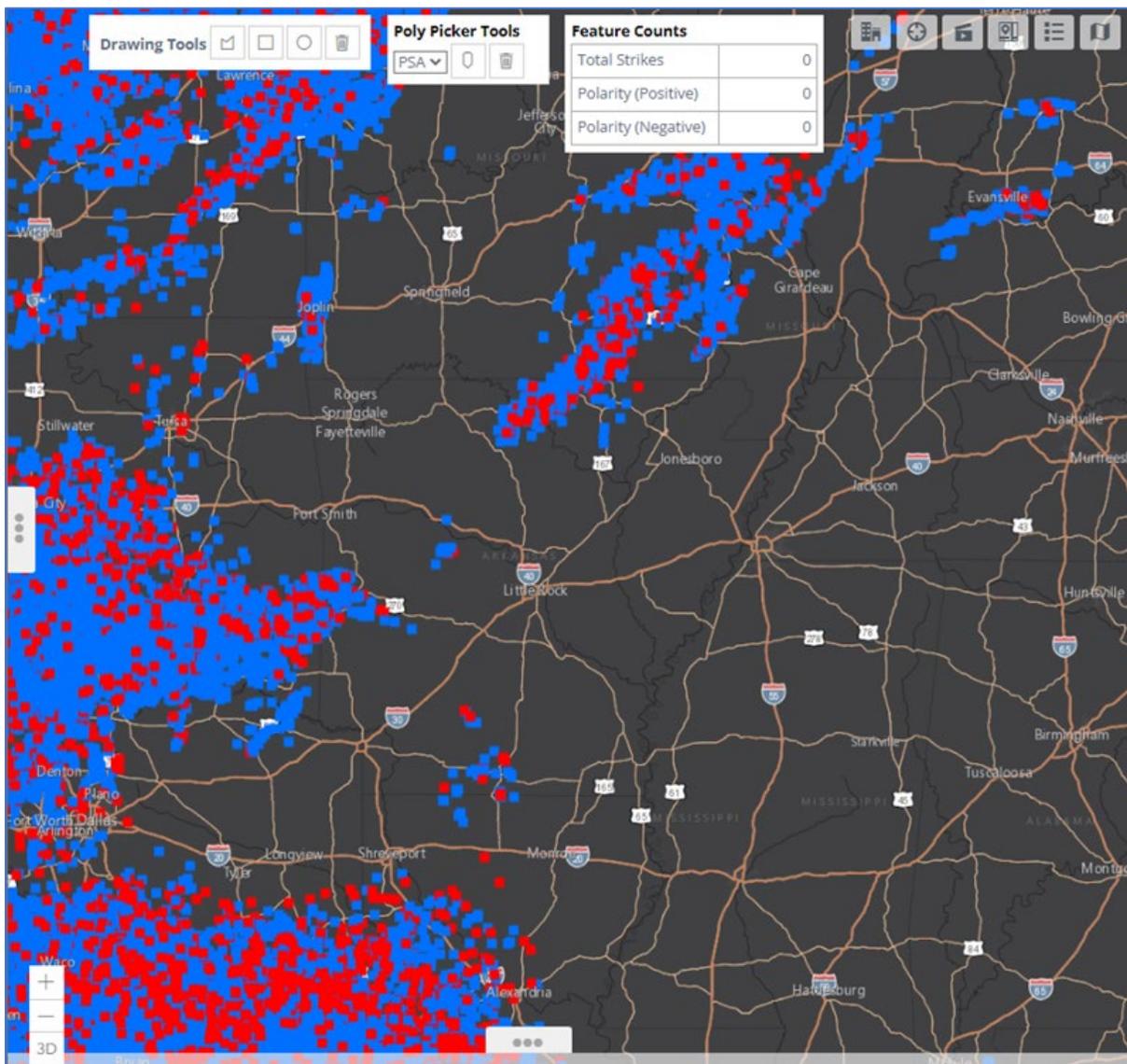


OVERVIEW

Enterprise Geospatial Portal (EGP) Lightning Viewer is a web application developed for EGP to provide lightning strike counts, weather patterns, mapping, and geospatial data with animation capabilities for lightning strikes up to seven days. Lightning strikes are depicted using blue dots for negative strikes and red dots for positive strikes. Data is maintained by the Bureau of Land Management (BLM).

Lightning Viewer's basic functionality also includes the Lightning Feature Counts and lightning strike pop-up window for specific lightning strikes.

NOTE: The Enable Strike Counts checkbox, under Query tools, must be selected for the Feature Counts table to populate.



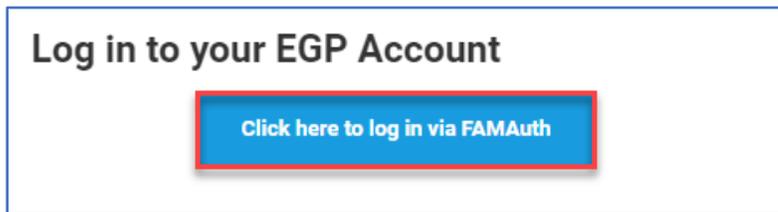


HOW TO ACCESS LIGHTNING VIEWER

OPTION 1: EGP HOME PAGE

Step 1: Go to <https://egp.wildfire.gov/egp/Default.aspx>

Step 2: Click or tap on **Click here to log in via FAMAAuth**

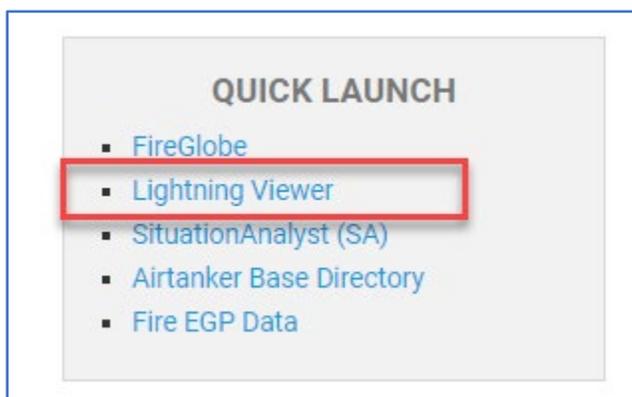


Step 3: Authentication access using the appropriate option.

- a. All Public Partners without govt. credentials click or tap the green arrow for Login.gov
- b. All Government credential users click or tap the red arrow for e-Auth



Step 4: On the EGP page click or tap the **Lightning Viewer** link under Quick Launch

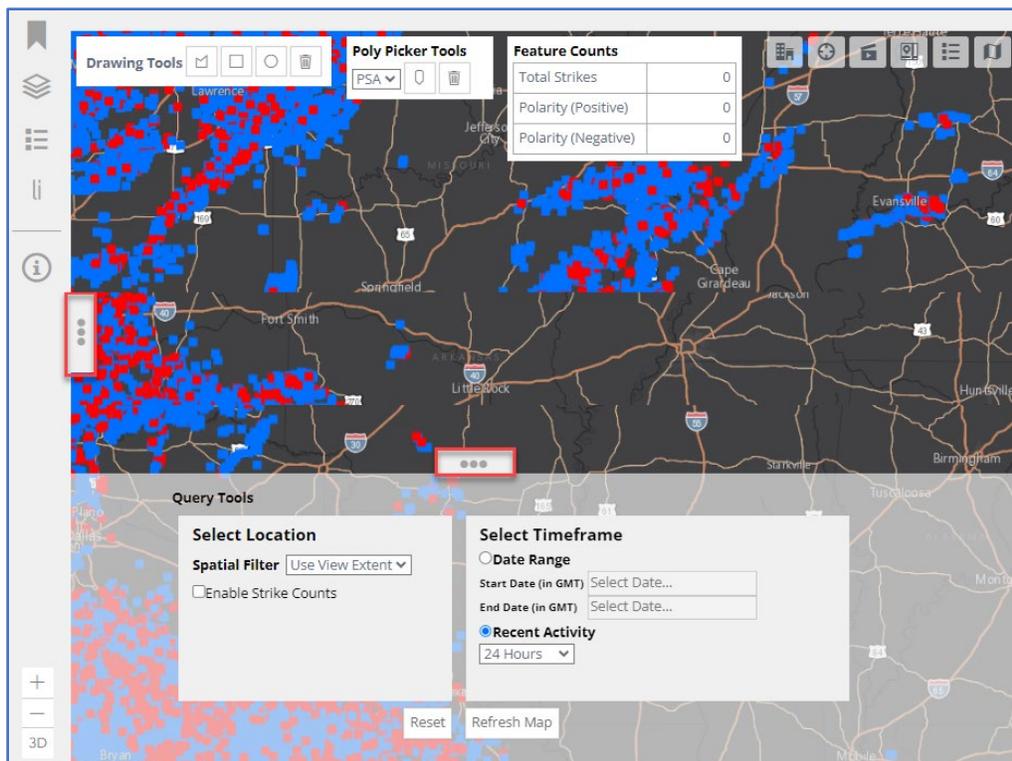




BASIC MAP FUNCTIONALITY

The Navigation menu within Lightning Viewer is broken up into three sections. The map's functional navigation menu found at the top of the screen is always visible. The two slide-out navigation menus: the left side of the screen for layering options, and the one at the bottom of the screen for reporting features.

An additional benefit available to the user is the ability to view specific lightning strike data by clicking or tapping on the blue or red dot.



LIGHTNING STRIKE DATA

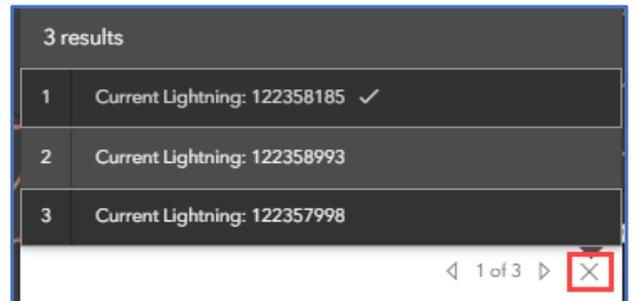
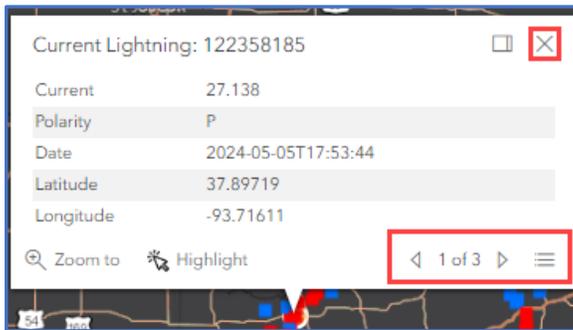
1. Click or tap the **blue** or **red** dot
2. The lightning strike pop-up window will appear and provide the following data:
 - Current: Intensity/magnitude of the strike
 - Polarity: Positive or Negative strike
 - Date/time
 - Latitude
 - Longitude



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3. Click or tap the arrows or list icon at the bottom of the pop-up window to view other nearby lightning strikes.



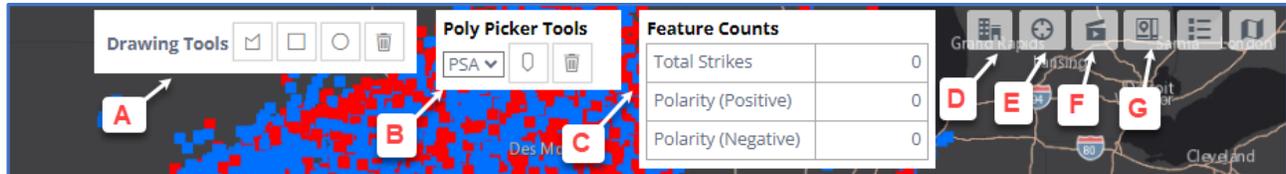
4. Click or tap the **X** to close each window.



TOP MENU: MAP FUNCTIONALITY

The map's functional navigation allows the user to narrow their search to a specific location or region and its relevant data.

NOTE: The Enable Strike Counts, under Query Tools, must be selected for the Feature Counts table to populate.

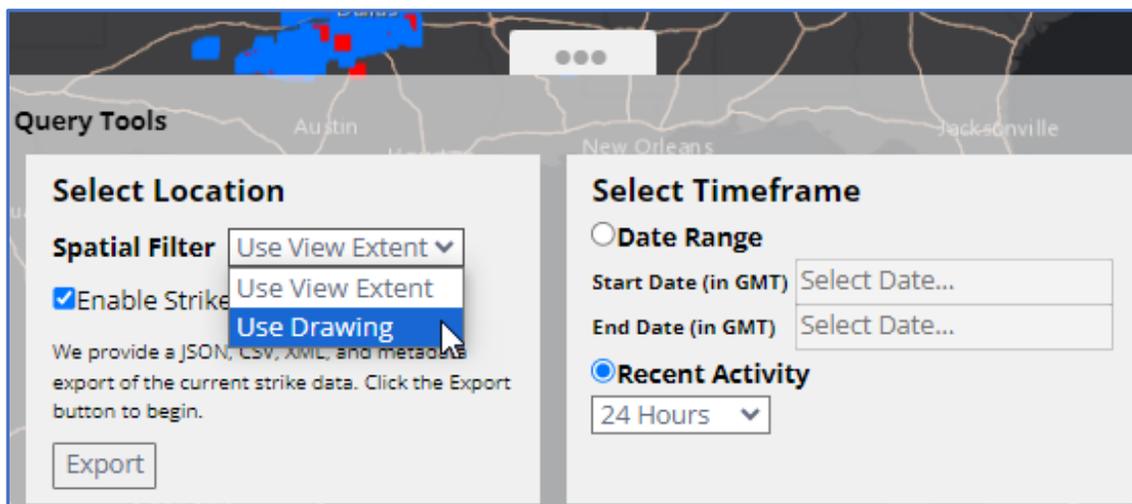


- A. Drawing Tools
- B. Poly Picker Tools
- C. Feature Counts table
- D. Set Default
- E. Goto Default View
- F. Animation Icon
- G. Basemap Icon

DRAWING TOOLS

The drawing tool is used to select a specific area or region on the map obtain the lightning strike data in the Feature Counts table. To use this feature the Spatial Filter must be changed to Use Drawing; once the data has been collected change the Spatial Filter back to Use View Extent.

1. Go to Query Tools → Select Location → Spatial Filter → and select Use Drawing



2. Select either the **polygon**, **square** or **circle** shape
3. Click or tap on the map and draw the preferred area



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4. Complete the polygon by double clicking or double tapping on the map
5. The Feature Counts table will update with the areas lightning strike data
6. Once the data is collected change the **Spatial Filter** back to **Use View Extent**

POLY PICKER TOOLS FOR PREDICTIVE SERVICE AREA (PSA)

- Go to the **Poly Picker Tools**
- Click or tap the **Pick a Polygon** icon
- Click or tap on an area of the map
- The Feature Counts table will update based on the PSA

FEATURE COUNTS FOR LIGHTNING STRIKES

The Feature Counts data is used to provide fire intelligence and can be used for investigative purposes. The Enable Strike Count checkbox in the Query Tools menu must be selected for the Feature Counts to be populated.

1. Select **Enable Strike Counts** under **Query Tools**
2. The Feature Count will automatically populate based on the Contiguous United States (CONUS) unless a pre-selected default area has been set.
3. To narrow the scope of lightning strikes, click or tap on a specific region or area of the map or use one of the following options:
 - a. **Bookmarks:** Select a pre-assigned geographical area
 - b. **Drawing Tools:** Draw an area on the map
 - c. **Poly Picker:** Click or tap the **Pick a Polygon** icon and then click or tap on the map



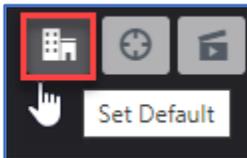
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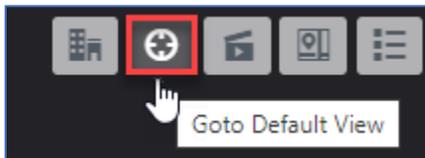
SET DEFAULT

A user can set a default location based on their region. When the Lightning Viewer is opened it will automatically open to the set default location.

1. Click or tap the **Bookmark** icon and select a geographical location
2. Once the map focuses on the area click or tap the **Set Default** icon



3. Return to the default location at any time by clicking or tapping the **Goto Default View** icon





ANIMATION

Users can create a time-based animation for lightning strikes using the Animation feature to understand current and previous lightning paths and their impact on the terrain. To create an animation, determine the number of hours or days needed, then multiply the Interval timing by the number of frames to build the animation for the specific timeframe.

Timeframe examples: 15 minutes interval x 6 frames = 1.5 hours; 15 minutes interval x 24 frames = 6 hours; 1 hour interval x 24 frames = 1 day; 3 hour intervals x 18 frames = 2 days, 6 hours.

The screenshot shows the 'Animation' control panel. At the top right, there are three icons: a grid, a refresh/clock icon, and a play button icon. The panel has a title 'Animation' with expand/collapse and close icons. Below the title are three input fields: 'Start Date (in GMT)' with a 'Select Date...' dropdown, 'Interval' with a dropdown menu, and 'Frames' with a dropdown menu. To the right of these fields is a 'Build' button with a gear icon. Below the input fields are playback controls: a play button, a stop button, a previous frame button, a next frame button, and a refresh button. To the right of these is an 'Options' dropdown menu set to 'Default', a 'Speed' control with minus and plus buttons, and a 'Reset' button. Below the playback controls is a 'Progression' section with 'From: 0000-00-00' and 'To: 0000-00-00' labels, a progress slider, and an 'Enable Strike Counts' checkbox. A 'Cancel' button is located at the bottom right of the panel.

Use the following steps to create an animation:

1. Go to the **Layers** menu and **deselect the Current Lightning** layer
2. Click or tap the **Animation** icon
3. Select **Start Date** and time in Greenwich Mean Time (GMT)
4. Select **Interval** time: 15 minute, 1 hour or 3 hours
5. Select **Frames**: 6, 12, 18 or 24
6. Click or tap **Build**
7. Once the build is complete the **Progression** status will change from **Building** to **Ready to Animate**.



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8. Select **Options**: Default (shows progressive movement of lightning strikes) or Cumulative (shows all lightning strikes on the screen from beginning to end)
9. Click or tap **Enable Strike Counts**
10. Click or tap **Play** to see the animation or **Loop** to continually replay the animation

BASEMAP: COMMONLY USED MAP TYPES

Changing the Basemap will change the view of the main map to provide the user with more context surrounding the location. The common basemaps are:

- **Aerial Map**: Imagery of land or terrain with no roads or structures
- **Topo Map**: Map that shows elevation contour lines to show the shape of the Earth's surface
- **Dark Gray** (default view): Map that shows state boundaries and cities
- **USGS Topo Map**: Map that shows terrain and water



LEFT NAVIGATION MENU

The navigation features allow users to change what data is visible on the map. To open and close the navigation menu on the left side of the screen click or tap the vertical ellipses/sidebar.



1. **Bookmark:** Geographic regions including Contiguous United States (CONUS) and Geographic Area Coordination Center (GACC) regions
2. **Layers:** Available layers
3. **Legend Menu:** Key that lists symbols used within the layer
4. **View Available Viewstate:** Lightning (li) viewstate only
5. **Help:** Link
6. **Vertical Ellipses:** Opens and closes the left navigation window
7. **Zoom In**
8. **Zoom Out**
9. **3D or 2D Map View:** Changes the displayed map from a 2D map to a 3D map

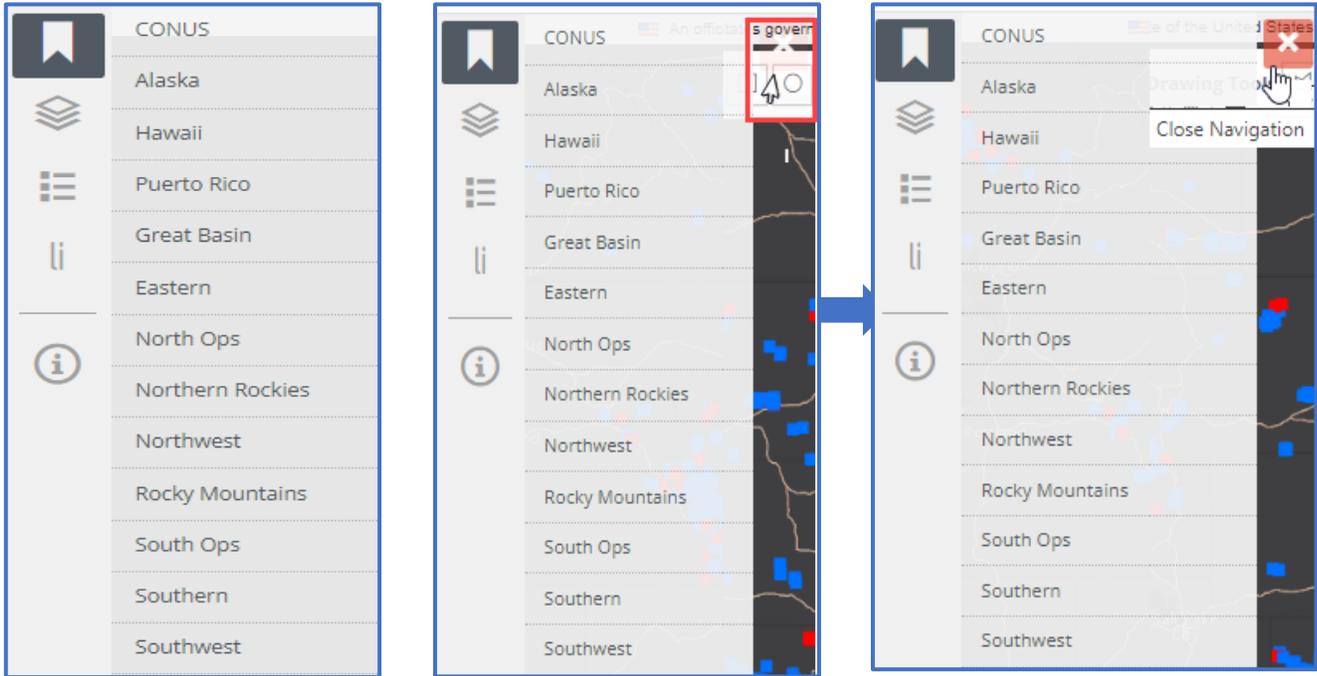


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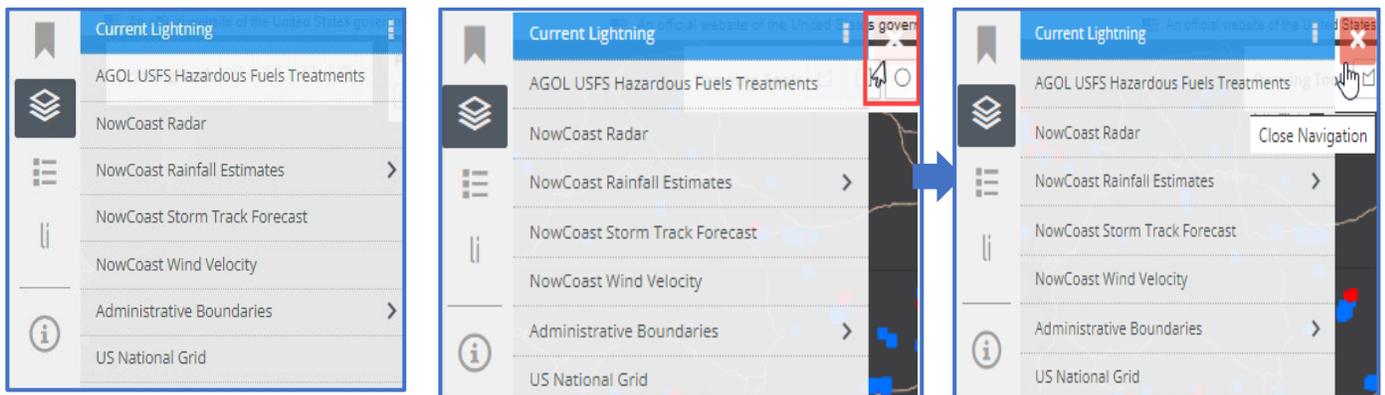
BOOKMARK

The Bookmark menu is comprised of preset geographic locations to allow users to zoom to a designated area on the map. Click the “X” to close the Navigation window.



LAYERS

The Layers menu is dynamic and allows the user to overlay additional data on the map. A highlighted blue layer indicates it is turned on. Click or tap the Legend icon to see what the symbols represent. Click the “X” to close the Navigation window.





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COMMON LAYERS:

CURRENT LIGHTNING

- Pinpoints lightning strikes, their polarity, and contextual details

AGOL USFS HAZARDOUS FUELS TREATMENTS

- Identifies recent fuels treatments

NOWCOAST RAINFALL ESTIMATES

- Identifies moisture level estimates

NOWCOAST WIND VELOCITY

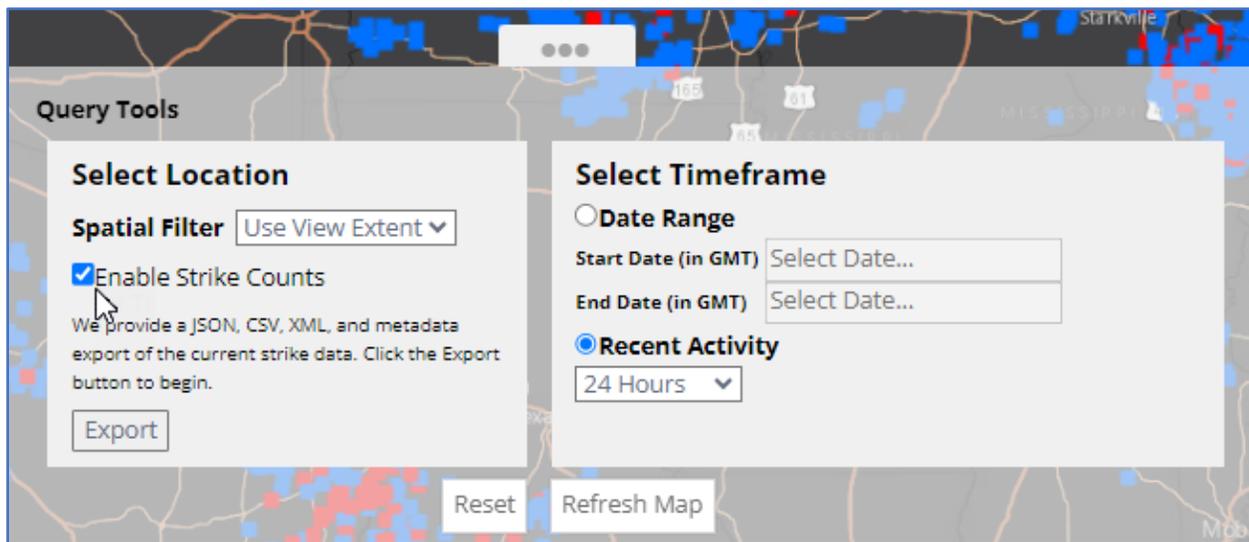
- Identifies current wind velocity levels



BOTTOM MENU: QUERY TOOL

The Query Tool allows the user to select a location, click the Enable Strike Count option, and select a timeframe to narrow the scope of the strike counts to a specific date within the last seven days and export a lightning data file.

To open the Query Tool, click or tap on the three ellipses at the bottom of the screen to display the menu. Be sure the **Enable Strike Counts** checkbox is **always selected**.



ENABLE LIGHTNING STRIKES

1. Click or tap the three ellipses/sidebar at the bottom of the screen to open Query Tools.
2. Check the **Enable Strike Counts** if it's not already selected
3. Click or tap the three ellipses at the bottom of the screen to close Query Tools.
4. For the Spatial Filter, choose either the default option **Use View Event**, or **Use Drawing** if a drawing has been created using the Drawing Tool.

EXPORT LIGHTNING STRIKE DATA

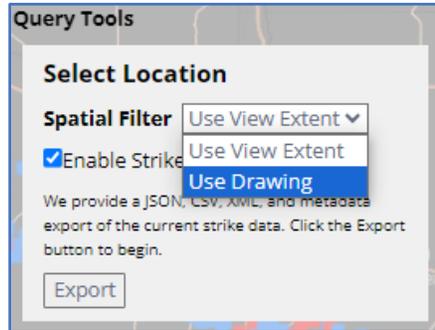
1. Click or tap the three ellipses/sidebar at the bottom of the screen to open **Query Tools**.
2. Check the Enable **Strike Counts** if it's not already selected
3. Select a Spatial Filter option.
 - a. **Use View Extent**: exports the entire map lightning strike data



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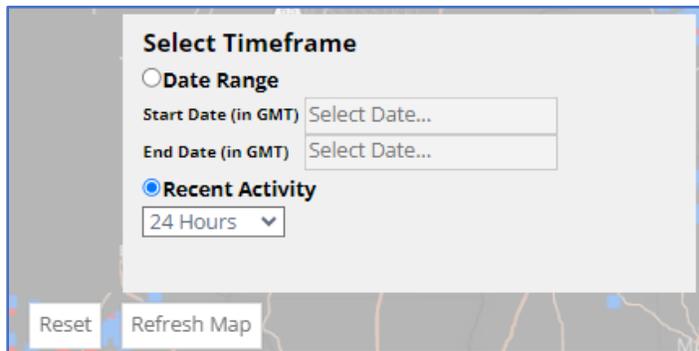
- b. **Use Drawing:** export lightning strike data from the drawing feature



4. Click or tap Export
5. Rename and save each file
6. Click or tap the three ellipses/sidebar at the top of the **Query Tools** menu to close.

HISTORICAL DATA

This feature allows the user to view lightning strikes based on a specific timeframe on the map.



DATE RANGE

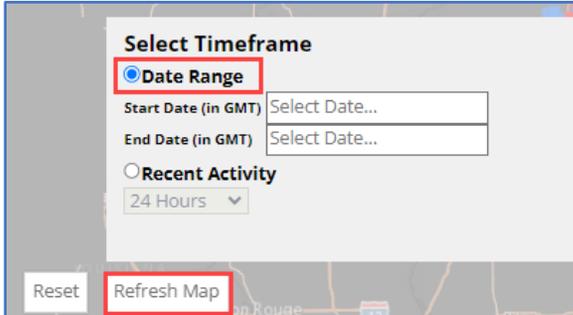
1. Click or tap the three ellipses at the bottom of the screen to open Query Tools.
2. Select Timeframe → Date Range
3. Select Start Date
4. Select End Date



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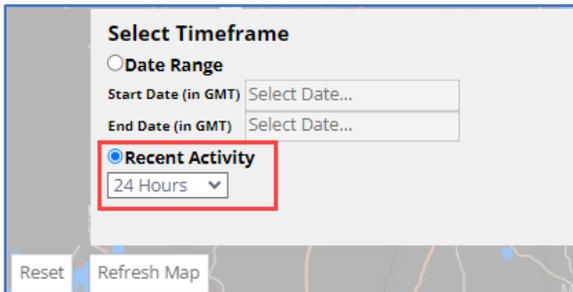
5. Select **Refresh Map** and the map will refresh with the new parameters



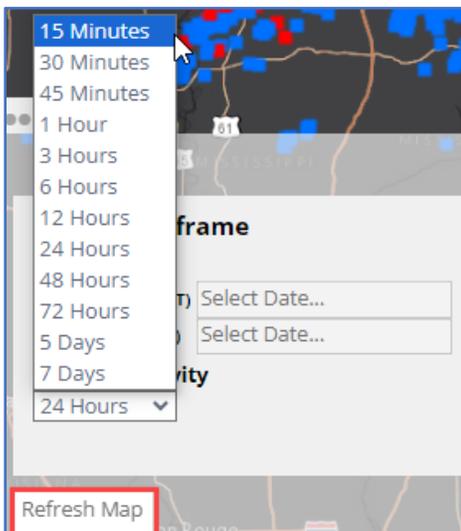
6. Click or tap the three ellipses at the bottom of the screen to close Query Tools.

RECENT ACTIVITY

1. Click or tap the three ellipses at the bottom of the screen to open Query Tools.
2. Select Timeframe → **Recent Activity**



3. Select the timeframe from 15 minutes up to 7 days, the maximum timeframe available.





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4. Click or tap **Refresh Map** and the map will refresh with the new parameters
5. Click or tap the three ellipses at the top of the **Query Tools** menu to close.



VERSION CONTROL TABLE

This provides details of what changes were made to the document, when and by whom. The version control table must be updated each time a change is made to the document.

Document Name:	Lightning Viewer User Guide
File Location/Path:	EGP Help Page

Version Number	Effective Date	Author	Purpose/Change	Approved By
V1.0	05/28/2024	N. Mead	Published	D. Tate/ C. Belongie/ M. Cibicki