July 2021

Idaho Transportation Department (ITD) _ Snow Operations MCE Live Viewer User Guide

Prepared for:

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1.0 Introduction

The MCE 'Live' view app allows TTOL, Foremen, Operations Engineers or other ITD personnel the ability to view live RWIS information and performance on the three most recent storm events for predefined MCE geofences on either a computer or mobile connected device.

2.0 Accessing the MCE Live Viewer

The MCE Live Viewer can be accessed through this URL:

https://gisp.itd.idaho.gov/portal/apps/sites/#/snowops

When prompted to login, select the '**ITD Employees**' option (Figure 1). Enter ITD credentials in the ITD **Sign in** window (Figure 2). This method uses single sign on which passes credentials from the ITD organization to the application.

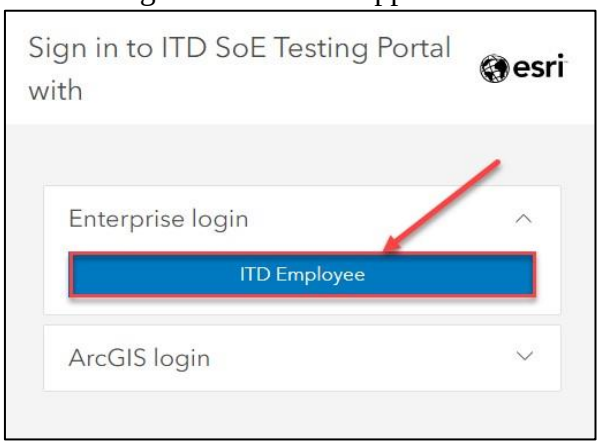


Figure 1(a): ITD Portal Sign in Page

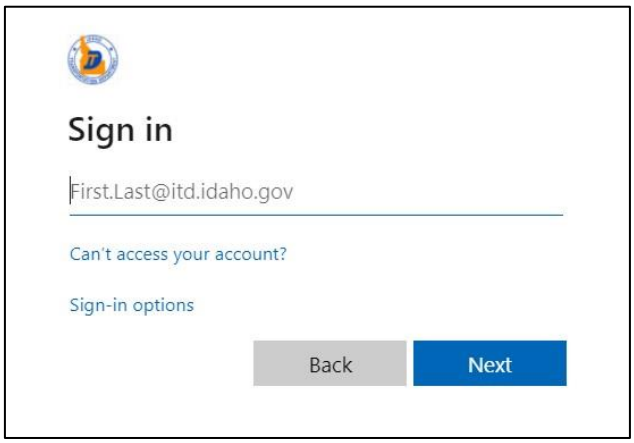


Figure 1(b): ITD Single Sign on Page

3.0 MCE Live Viewer Homepage

The MCE Live Viewer homepage provides the user with:

1. A brief overview of the application,
2. Access to the application itself,
3. User Guides,
4. ITD Important Links,
5. Breadcrumb – Return to Home Page

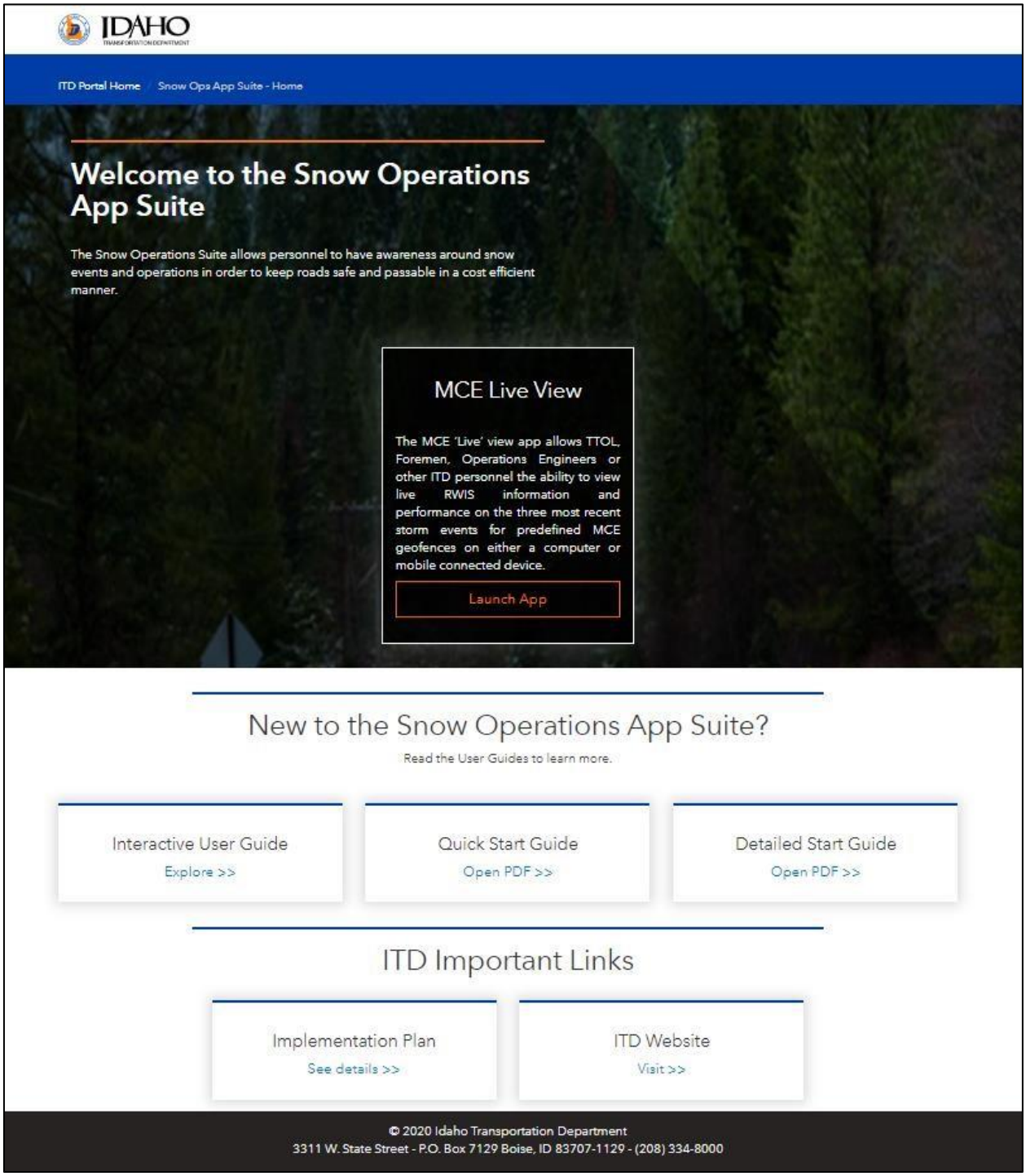


Figure 2: App Launch Site

3.1 Launching the app

Clicking on the "**Launch App**" button opens the Snow Operations MCE Live Viewer app in a separate browser tab.

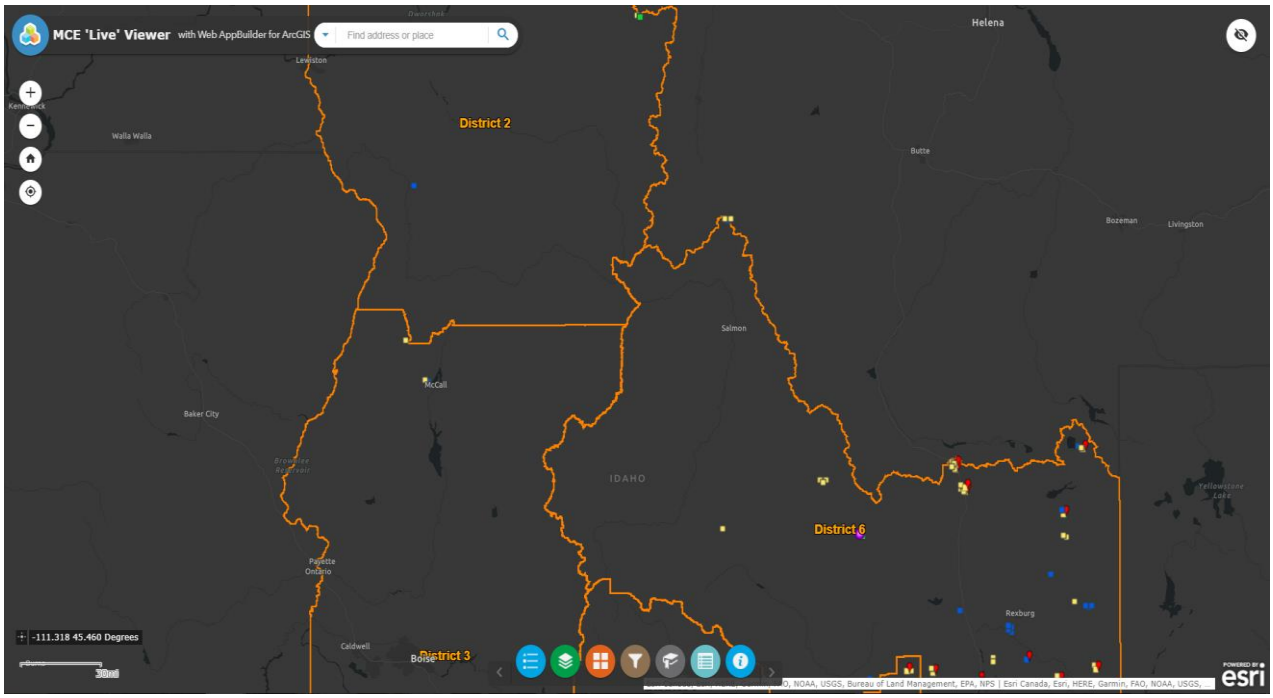


Figure 3: MCE Live View Default View

3.2 User Guides

The user has access to three types of user guides:

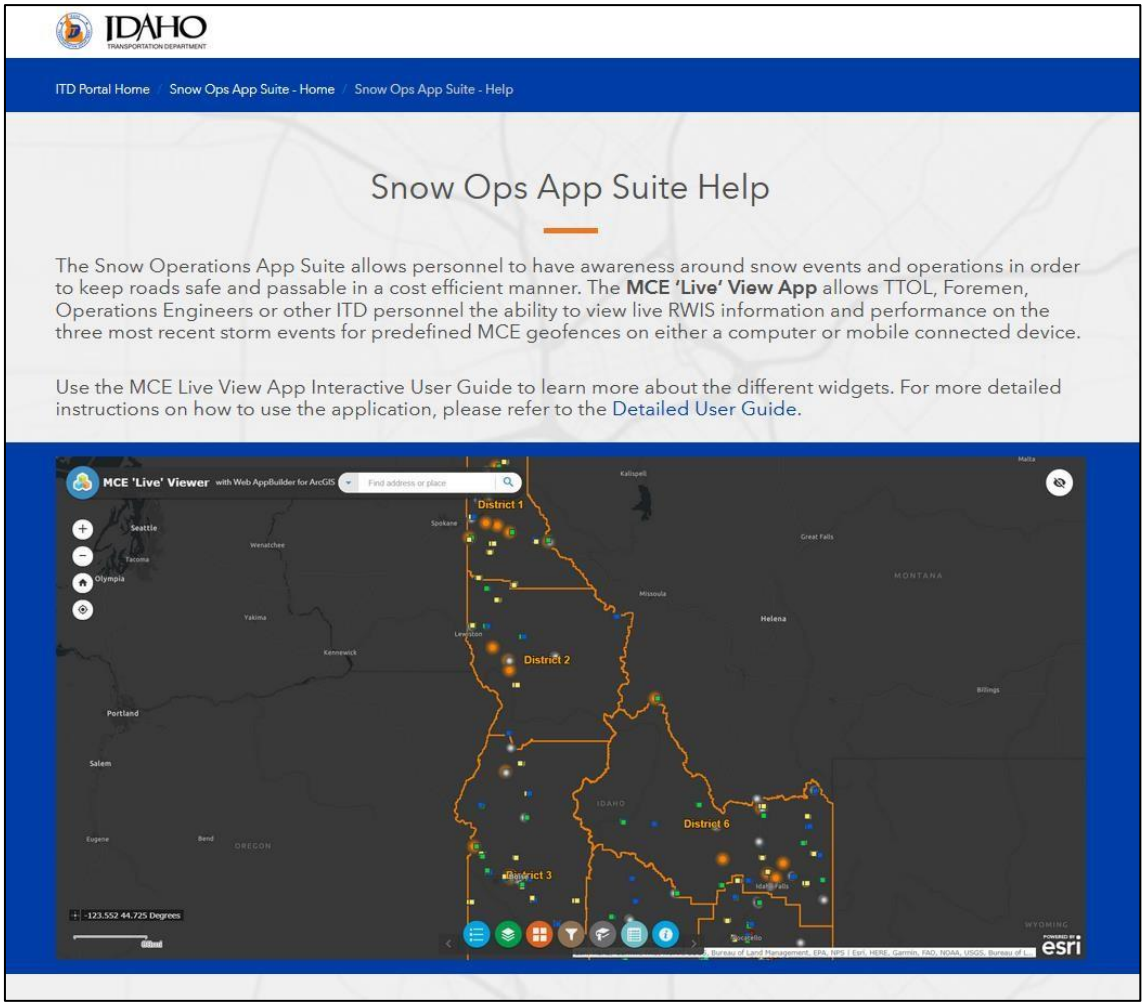
- **Interactive User Guide**: an online user guide that allows the end user to explore the different application widgets
- **Quick Start Guide**: a high-level overview of the app functionality and main workflows
- **Detailed User Guide** (this document): a detailed overview of the application, its functionality and workflows.

3.2.1 Interactive User Guide

The "**Interactive User Guide**" allows users to explore the different application widgets in a dynamic way and learn how to use them.

The following link can be used to access the interactive user guide:

https://gisp.itd.idaho.gov/portal/apps/sites/#/snowops-1/pages/interactive-user-guide


IDAHO
TRANSPORTATION DEPARTMENT
ITD Portal Home / Snow Ops App Suite - Home / Snow Ops App Suite - Help
Snow Ops App Suite Help
The Snow Operations App Suite allows personnel to have awareness around snow events and operations in order to keep roads safe and passable in a cost efficient manner. The MCE 'Live' View App allows TTOL, Foremen, Operations Engineers or other ITD personnel the ability to view live RWIS information and performance on the three most recent storm events for predefined MCE geofences on either a computer or mobile connected device.
Use the MCE Live View App Interactive User Guide to learn more about the different widgets. For more detailed instructions on how to use the application, please refer to the Detailed User Guide.
MCE 'Live' Viewer with Web AppBuilder for ArcGIS
Find address or place
District 1
District 2
District 3
District 6
Seattle
Spokane
Wenatchee
Tacoma
Olympia
Yakima
Kennewick
Portland
Salem
Eugene
Bend
OREGON
Kalispell
Great Falls
MONTANA
Missoula
Helena
Billings
IDAHO
Idaho Falls
WYOMING
-123.552 44.725 Degrees
esri


Widget Explanation
Zoom Slider Widget
Home Widget
My Location Widget
Search Bar Widget
Legend Widget
Layer Widget
Basemap Widget
Filter Widget
Bookmark Widget
Attribute Table Widget

Figure 4(a): Interactive User Guide

3.2.2 Quick Start Guide

The "**Quick Start Guide**" provides a high-level overview of the main functionality and workflows of the application.

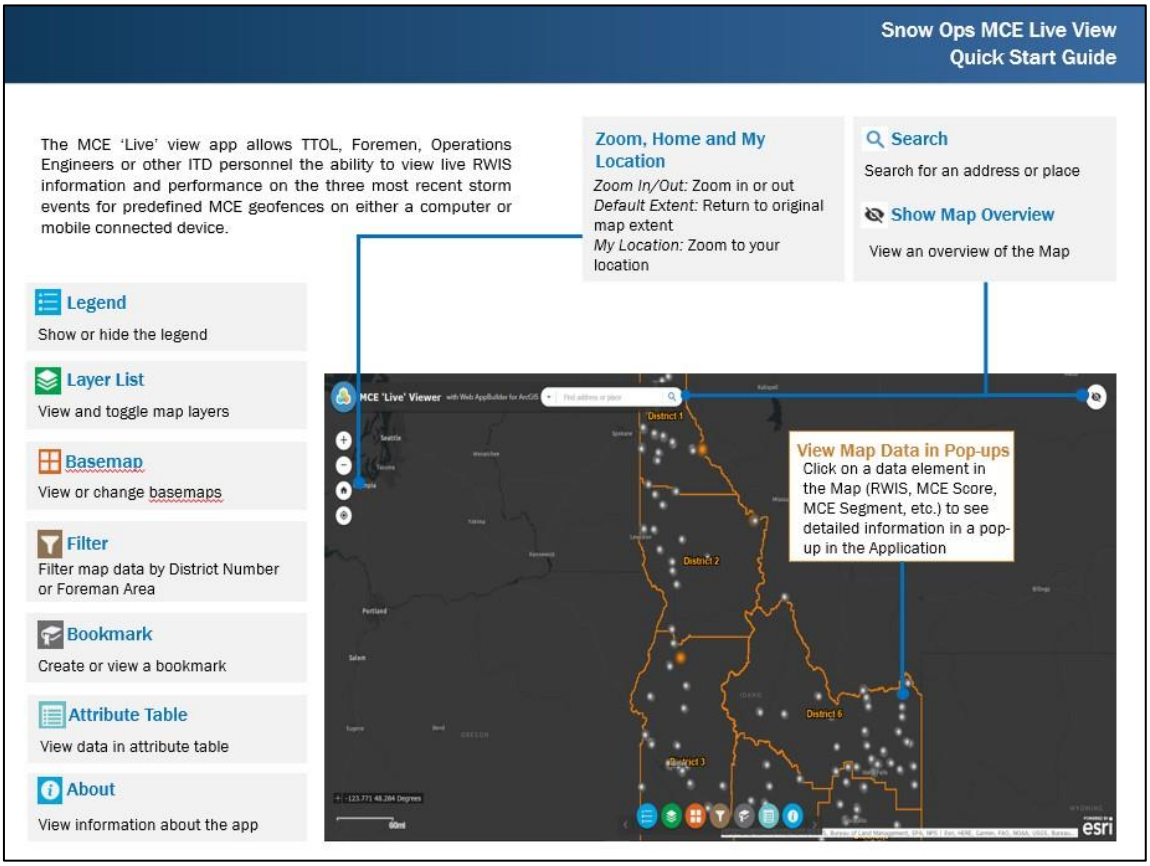


Figure 4(b): Quick Start Guide

3.2.3 Detailed User Guide

The "Detailed User Guide" links to this document and provides an in-depth overview of the different app components and how these can be used.

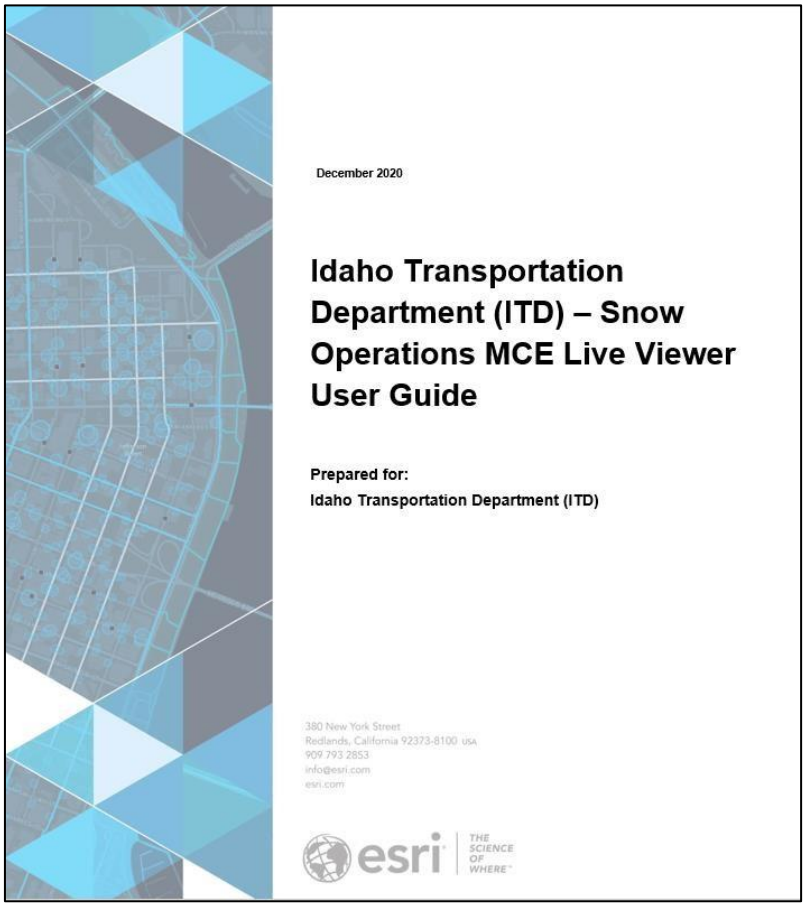


Figure 4(c): PDF User Guide

3.3 Important Links

ITD important links include the following links:

- Implementation Plan
- ITD Website

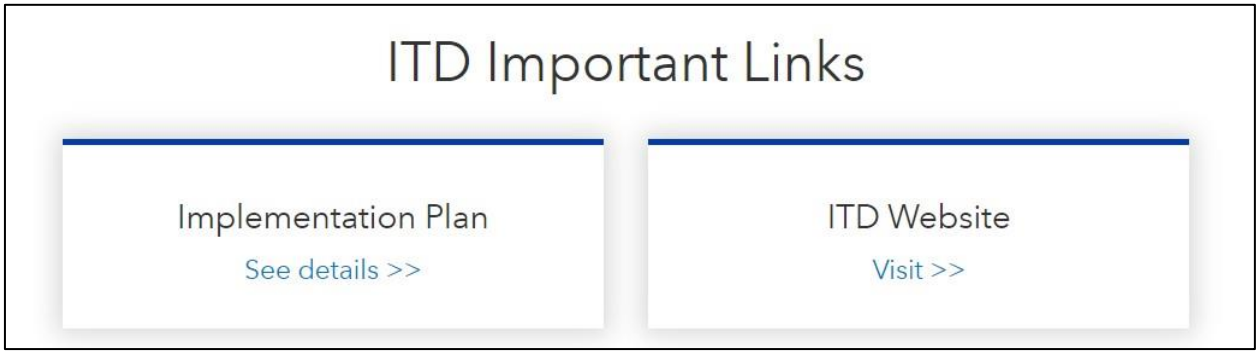
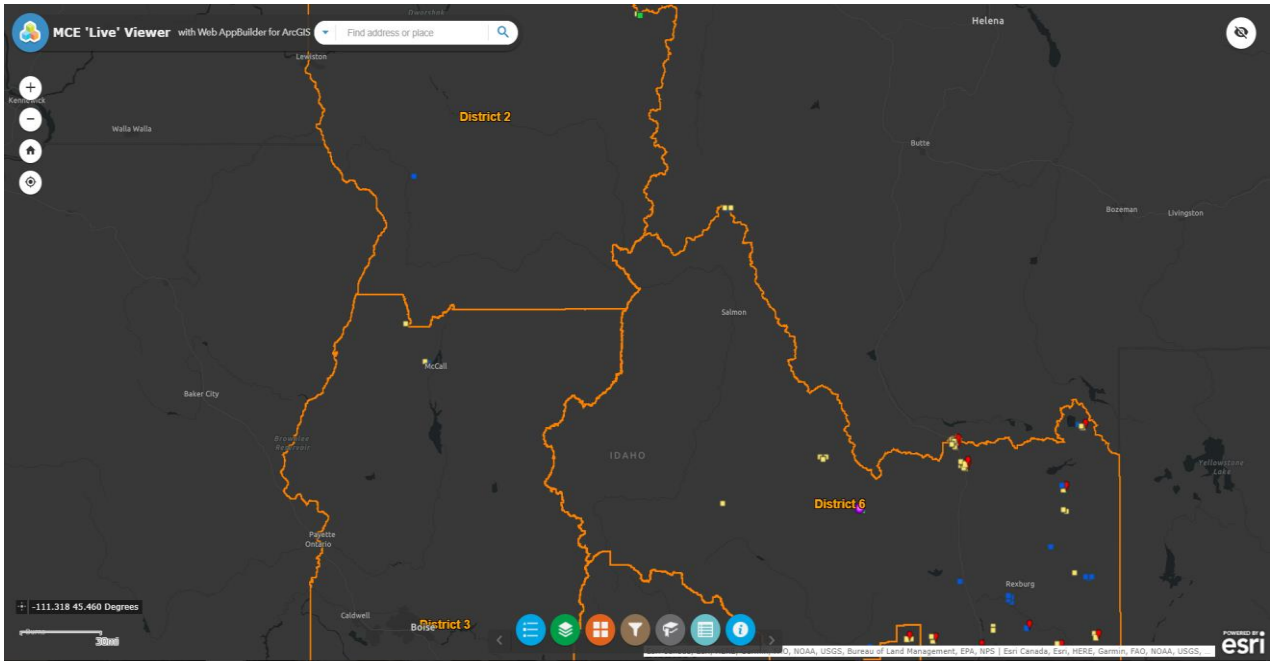


Figure 5: ITD Important Links

4.0 Using the MCE Live Viewer

The application provides a system combining information required to complete reporting process. It allows users to see road information with all its associated attributes on a map. It provides the end users with the ability to access information to make decisions quickly and easily.



MCE Live View Default View

The MCE Live Viewer includes the following widgets:

Map Element Widgets		Header Widgets	
	Zoom widget		Layer List widget
	Home widget		Legend widget
	Location widget		Basemap Gallery widget
	Search widget		Filter widget
	Attribute Table		Bookmark widget

4.1 Widget Overview

4.1.1 Zoom Slider widget

The **Zoom Slider widget** provides interactive zoom controls in the map display.

Use the Zoom Slider widget

Click the zoom slider button to zoom in or out on the map. User can also double click in an area to zoom in to the map.

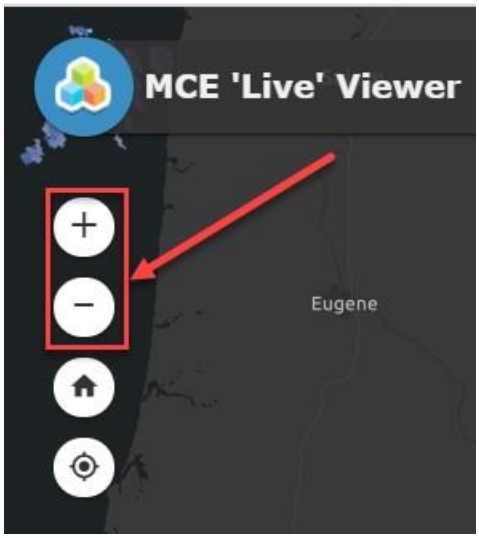


Figure 1: Zoom Widget

4.1.2 Home Button

The **Home Button widget** zooms the map to the initial map extent – in this case, the extent of Idaho State.

Use the Home Button widget

The Home Button widget is automatically enabled when the app starts. Clicking the widget resets the map extent to the map's initial extent.

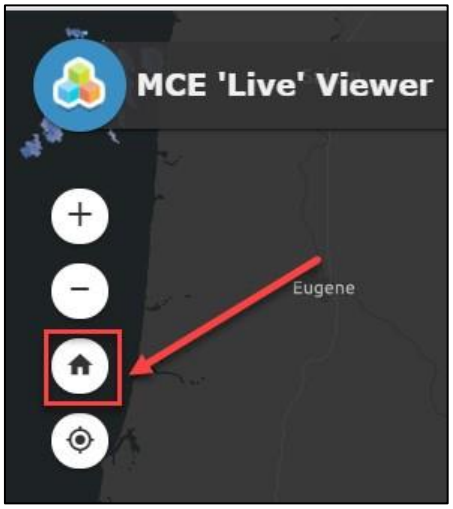


Figure 2: Default extent of the Map

4.1.3 My Location widget

The **My Location widget** allows the network to detect your physical location and zoom the map to it. The widget takes advantage of HTML geolocation. When the app runs on desktops, it uses the browser on the network to detect the location. When the app runs on mobile devices, by default, it uses GPS on the device to determine your location.

Use the My Location widget

When the application starts, the My Location widget is automatically enabled to access your physical location. Clicking Find my location zooms the map to your current location.

Note: User may need to allow the browser to access their location.

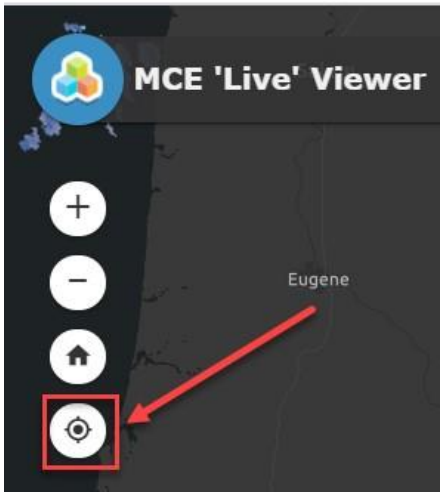


Figure 3: My Location

4.1.4 Search

The **Search widget** enables end users to find geographic or RWIS/MCE locations on the map.

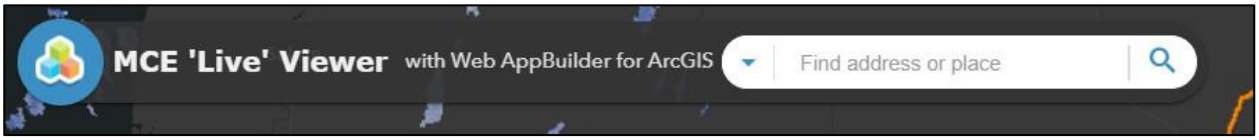


Figure 4(a): Search a location

Users can search by the following categories:

- RWIS/MCE Location
- Address

Using the Search widget

When you enter a place-name or a keyword in the search box, you see suggestions as you type. You can search on all sources or click the arrow and choose a specific layer from the drop-down list.

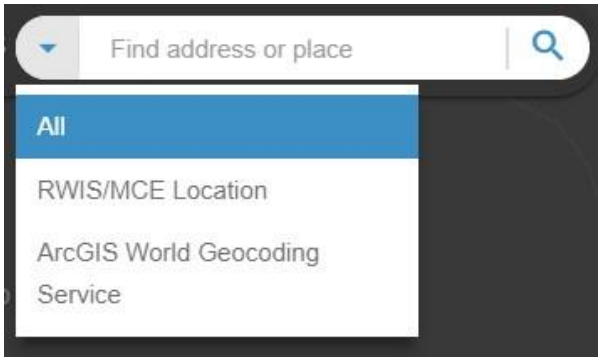


Figure 4(b): Search within categories

For example, the user searched for RWIS Station Lost Trail Pass under RWIS/MCE Location. A pop-up appears at the location of the place-name or the feature and displays any available attribute information in the pop-up window.

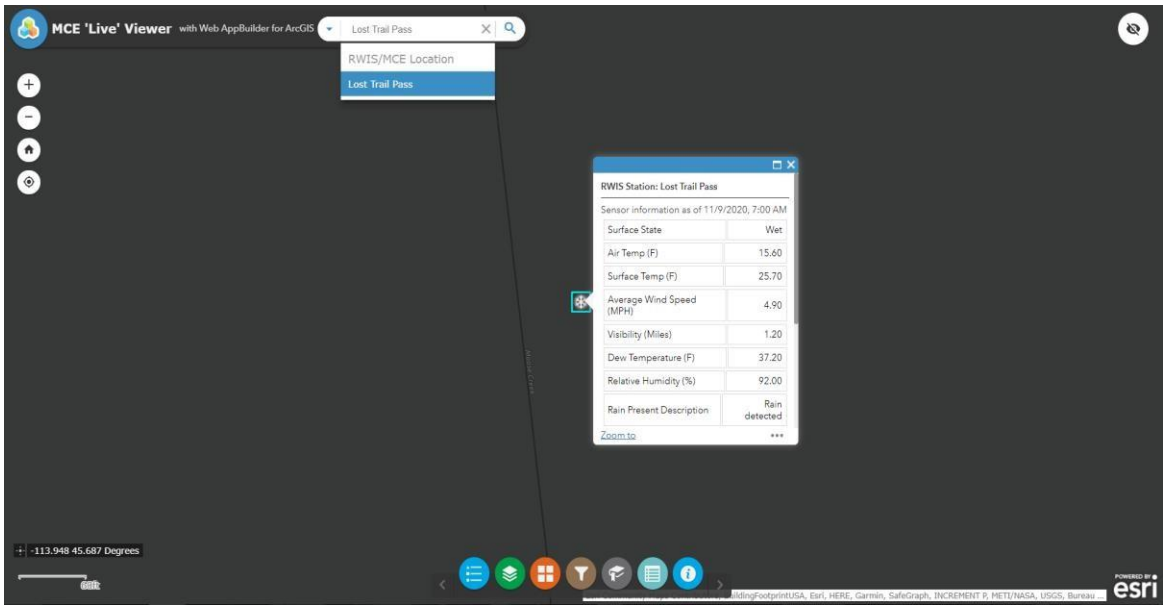


Figure 4(c): Search for a RWIS Station

4.1.5 Pop-up Windows

Pop-ups bring to life the attributes associated with each layer in the map, such as MCE Live Events, MCE Segments or RWIS Locations.

4.1.5.1 Pop-up Content

For example, the user clicks on an RWIS Station in the map and a pop-up is displayed on screen:

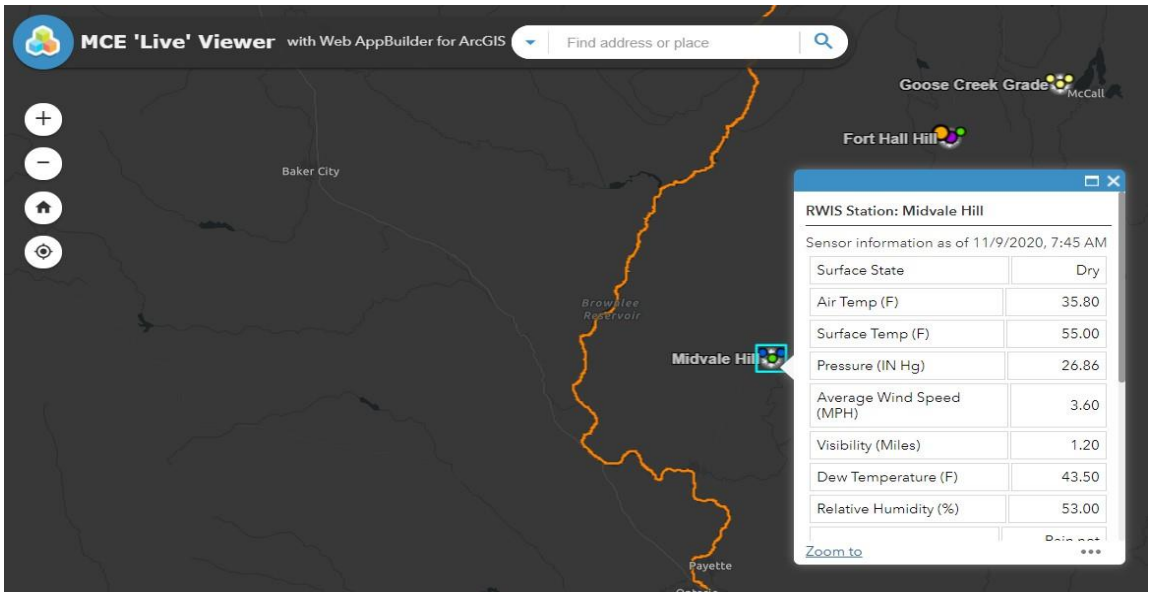


Figure 5(a): Pop-up content

RWIS Station pop-ups display the following information unless there is no value for that item coming from the sensor in which case that row is not shown in the pop-up:

Air Temperature (F)
Surface Temperature (F)
Present Weather Description
Pressure (IN Hg)
Surface State Description (1)
Average Wind Speed (MPH)
Visibility (Miles)
Dew Temperature (F)
Relative Humidity (%)
Ice Layer 1 (Inch)
Ice Layer 2 (Inch)
Grip Level Percentage (1)
Grip Level Percentage (2)
Rain Present Description
Rain Intensity (Inches/Hour)
Rain State Description
Snow Layer On Roadway (Inches) (1)
Snow Layer On Roadway (Inches) (2)
Surface State Description (2)
Wind Direction Degree (Average)
Wind Speed (Gust) (MPH)
Water Layer (Inches) (1)
Water Layer (Inches) (2)
Water Thickness (Inches)
Sensor Value Date-Time (Local)

4.1.5.2 Pop-up Tools

Following tools are available in the pop-up window:

- Navigation Arrows: View multiple pop-ups using left and right arrows
- Maximize pop-up window
- Close pop-up window
- Zoom to: Zoom to the selected event/station in the Map

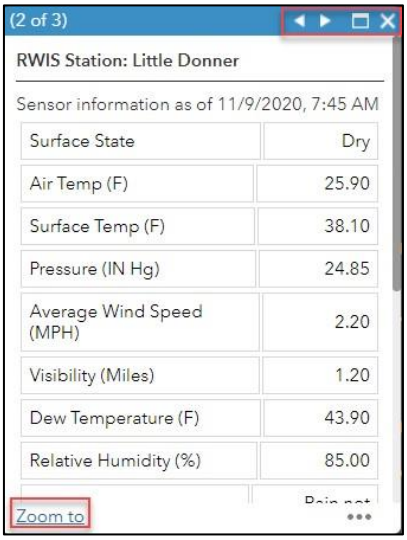


Figure 5(b): Pop-up tools

4.1.5.3 Pop-up Actions

Click the ellipsis (…) button under the low right of the pop up, the following list of actions are displayed:

- Pan To: Map pans to the selected data point location
- Add a Marker: Marker can be added at the location of the selected data point
- View in Attribute Table: Select data point can be viewed in the Attribute Table which will be displayed at the bottom of the App

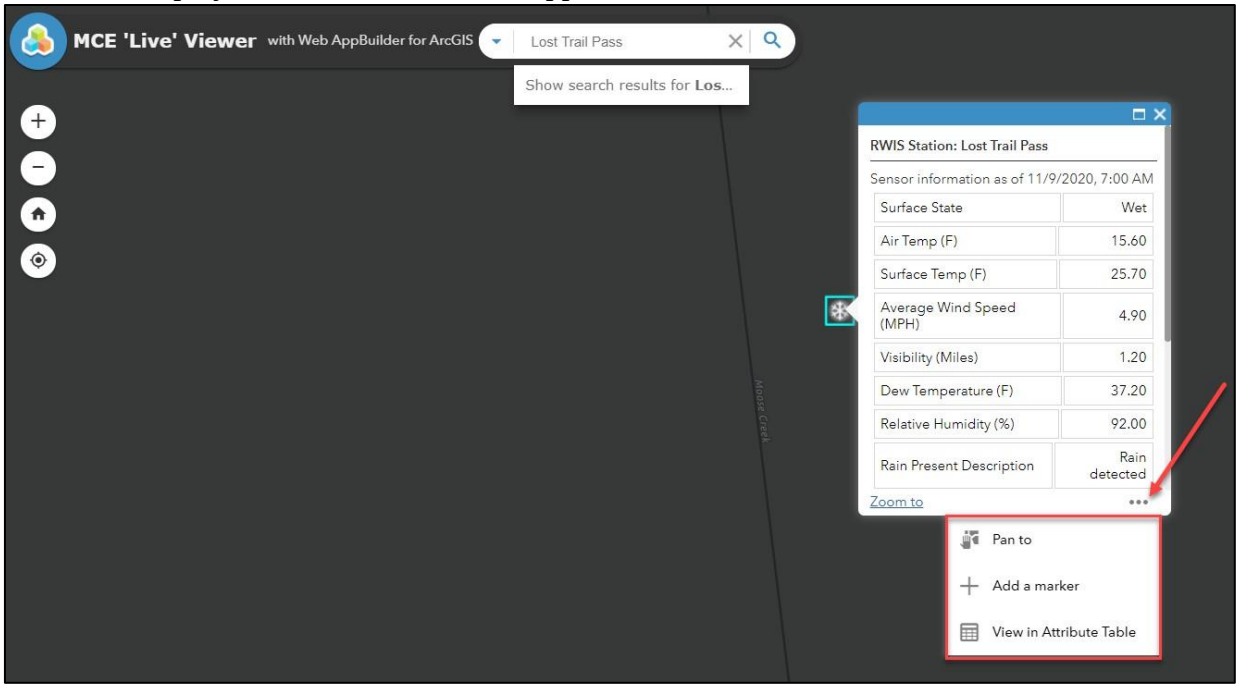
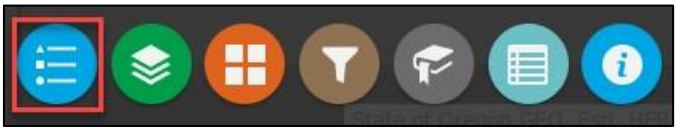


Figure 5(c): Pop-up actions

4.1.6 Legend

The **Legend widget** displays labels and symbols for layers in the map.



Use the Legend widget

When the application starts, the Legend widget is automatically enabled. Clicking the Legend widget displays the Legend window. Clicking the x in the upper right corner of the Legend window closes it.

Note: Certain layers are "scale dependent" and only appear once the user zooms in. When zooming in, the layers appear in the map and the Legend widget and when zooming out, the layers disappear in the map and the Legend widget.

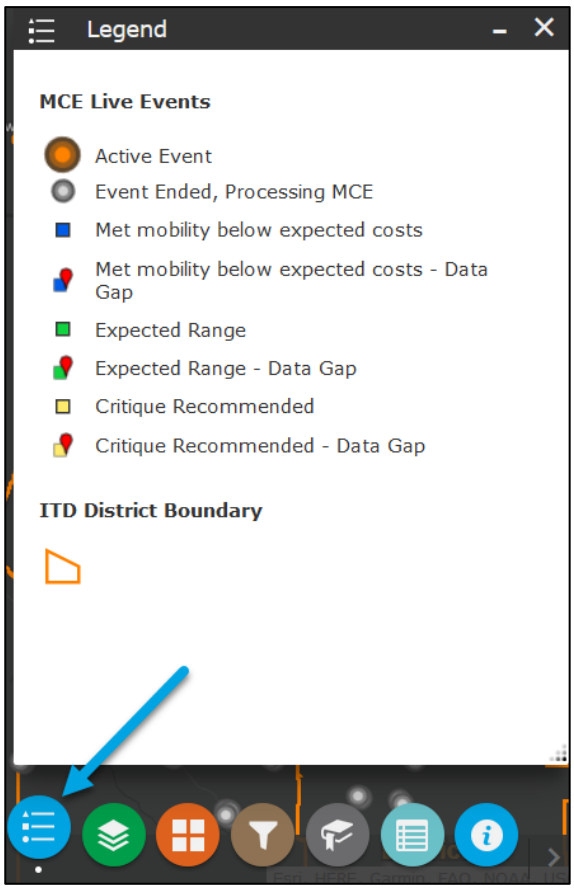
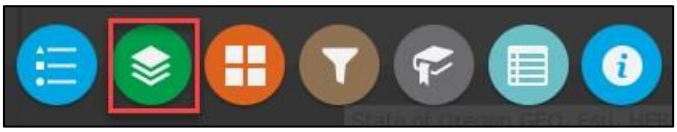


Figure 6: Legend

4.1.7 Layer List Widget

The **Layer List widget** provides a list of operational layers and their symbols and allows you to turn individual layers on and off. Each layer in the list has a check box that allows you to control its visibility.



Scale Dependent layers:

Certain layers are scale dependent and will only be displayed once the user zooms past a certain scale.

Reference layers:

The following reference layers are included in the Application:

- ITD District Boundaries
- ITD Foreman Boundaries
- Reflectivity Radar - nowCOAST.

Use the Layer List Widget

1. Click the Layer List widget in the app to display the layer list window.
2. Click an individual layer to show its symbols.
3. Click the three dots on the right side of a layer to display the layer menu with the following options:

   Zoom To, Transparency, set visibility range, disable pop-up, hide labels, move up, move down, view in Attribute Table and Description

   - **Zoom To**—Sets the map extent to the extent of the layer.
   - **Transparency**—Sets the transparency for the layer.
   - **Set visibility Range** – Change the applied visibility range for your session.
   - **Enable Pop-up/Remove Pop-up**—Enables or disables the pop-up for the feature layer.
   - **Move up**—Moves the layer one level up.
   - **Move down**—Moves the layer one level down.
   - **View in attribute table**—Opens the attribute table for the feature layer.
   - **Show Item Details**—Opens the service description or the item details page for the service or the item associated with the layer if available.

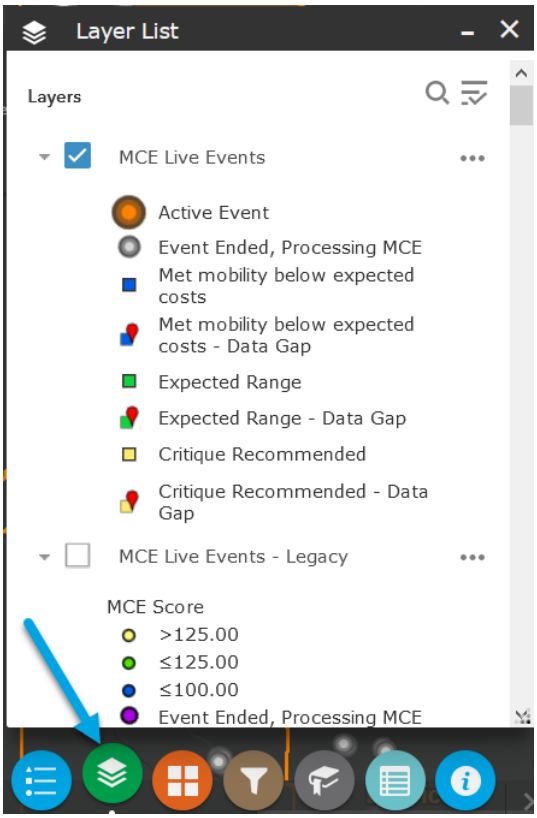
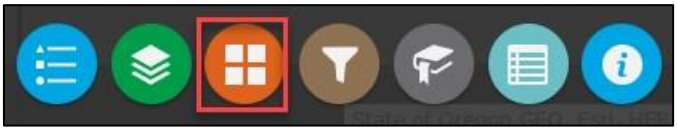


Figure 7: Layer List

4.1.8 Basemap Gallery Widget

The Basemap Gallery widget presents a gallery of basemaps and allows you to select one from the gallery as the basemap for your app.



Use the Basemap Gallery widget

Clicking the **Basemap Gallery widget** displays all the available basemaps. Clicking a basemap thumbnail sets it as the active basemap for the app. Click the x in the upper right corner of the Basemap Gallery window to close it.

The following basemaps are displayed in the tool:

Dark Gray Canvas, Imagery, Imagery Hybrid, Light Gray Canvas, National Geographic Style, Navigation, Oceans, OpenStreetMap, Streets, Streets (Night), Terrain with Labels and Topographic.

The Imagery basemap is displayed by default in the map.

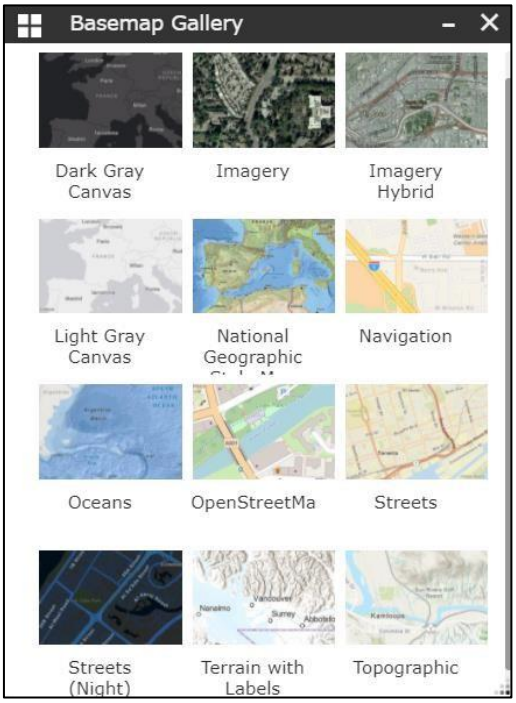
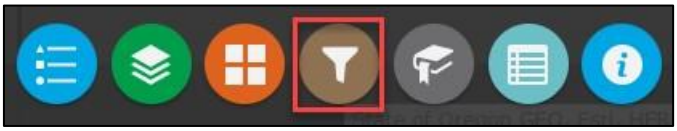


Figure 8: Basemap Gallery

4.1.9 Filter Widget

The **Filter widget** allows you to zoom to a particular section in the Map by selecting a District Number or Foreman Area. The selected filter can be toggled on or off using the toggle button corresponding to it.



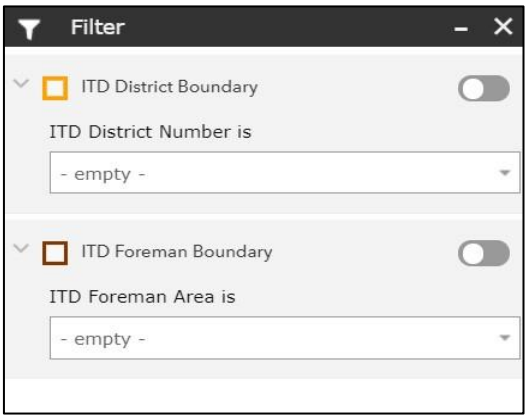


Figure 9(a): Filter Widget

Use the Filter widget

1. Click the Filter widget icon to open it.
2. Click on the ITD District Boundary dropdown to display all the available district numbers
3. Select one of the districts from the drop down, say District 4
4. Toggle the filter On by clicking on the button next to ITD District Boundary
5. The map pans and zooms to District 4

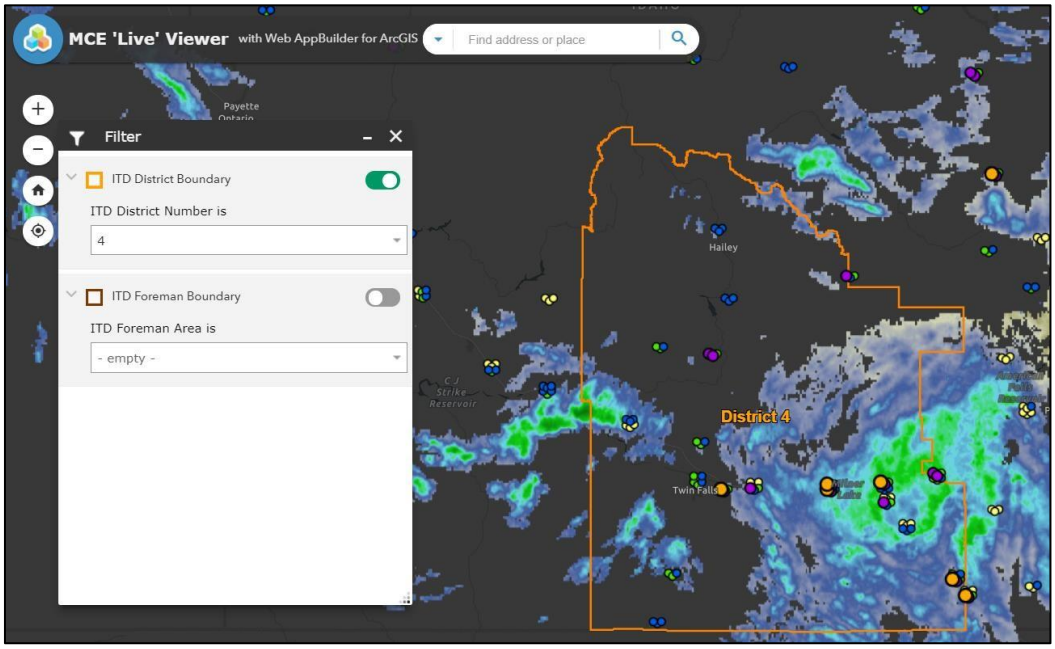
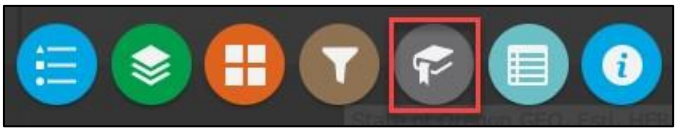


Figure 9(b): Using the Filter Widget

4.1.10 Bookmark Widget

The **Bookmark widget** provide shortcuts to places on a map. As a user, you can create them based on the current location and scale of the map. When you click on a bookmark, the map zooms to that location. A bookmark for Idaho State is already created and can be clicked on to zoom to the extent of the State of Idaho.

Along with map extent and zoom levels, layer configurations are also retained when a bookmark is created



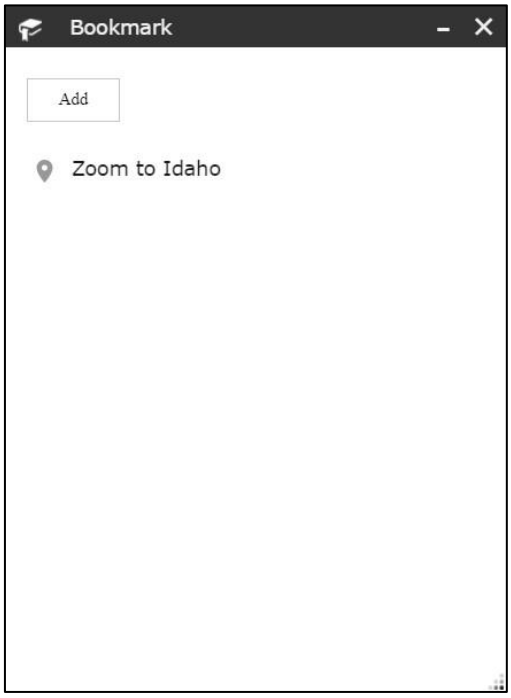


Figure 10(a): Bookmark Widget

Use the Bookmark widget

A user wants to create and use a bookmark for District 4.

1. Click on **Bookmark icon** on bottom of the App to open the widget.
2. Zoom in to the Map to District 4
3. Click on **Add** button in the widget
4. A bookmark is created with default name "bookmark". Delete the name and enter a new name for the user created bookmark, say District 4.
   User can rename the bookmark by clicking in the pencil icon next to the bookmark created.
5. Pan and zoom a different area in the Map.
6. Click on the District 4 bookmark. The Map pans and zooms to the extent of District 4.
7. Click on the cross button next to the bookmark created to delete that bookmark.

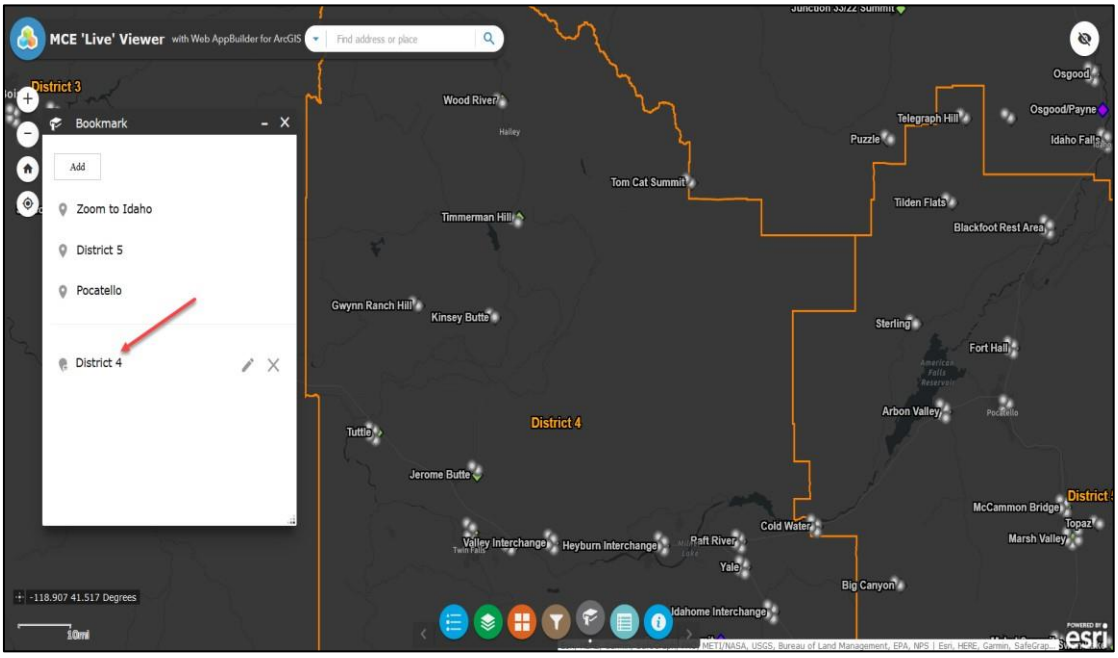
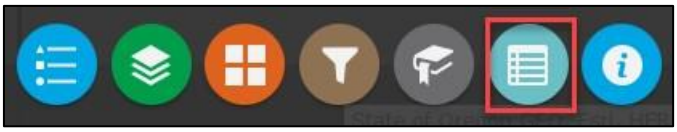


Figure 10(b): Create a new bookmark

4.1.11 Attribute Table Widget

The Attribute Table widget displays a tabular view of operational layers' attributes. It displays at the bottom of the web app and can be opened, resized, or closed.



Use the Attribute Table widget

The following options to turn on and off the attribute table are as follows:

1. To turn it on, click the **Attribute Table button** at the bottom of the App. To turn it off, click the attribute table button again.

2. Go to the Layer List menu, click the three dots next to a specific layer and click **View in Attribute Table**.

3. Go to data point in the map and click on it to open the pop-up. Click on the three dots in a pop up and click **View in Attribute Table.**

The following options are available for the user in the attribute table:

- **Select a record**—Click a record in the table to select it and highlight the corresponding feature in the map with the color specified in the Attribute Table widget configuration

window. Double-clicking a field in the selected record zooms to the feature on the map. Press the Shift or Ctrl key to select multiple records.

- **Clear selections**—Click the **Clear Selection** button to clear all selections.
- **Zoom to selected features**—Click Zoom to reset the map extent to center around selected features.
- **Copy the field value**—Double click the field value to highlight it, and right-click it to copy the value.
- **Refresh**—Click Refresh to refresh the table.
- **Sort a field**—Click a field heading to sort the records by this field.

Options are as follows:

- **Show Selected Records**—Displays selected records.
- **Show Related Records**—Displays related records if a selected record has a related table.
- **Filter by Map Extent**—Displays attributes for features within the current map extent.
- **Show or Hide Columns**—Equivalent to clicking the plus button on the right side of the panel to set visibility for individual fields.
- **Export to CSV**—Exports the attributes to a CSV file. The x,y coordinates are included for the point feature layer and maintain the same spatial reference as the data regardless of the map projection. If records are selected, only the selected records are exported. If no records are selected, all the records are exported. To support this function, the Export Data property must be enabled for the corresponding feature service.

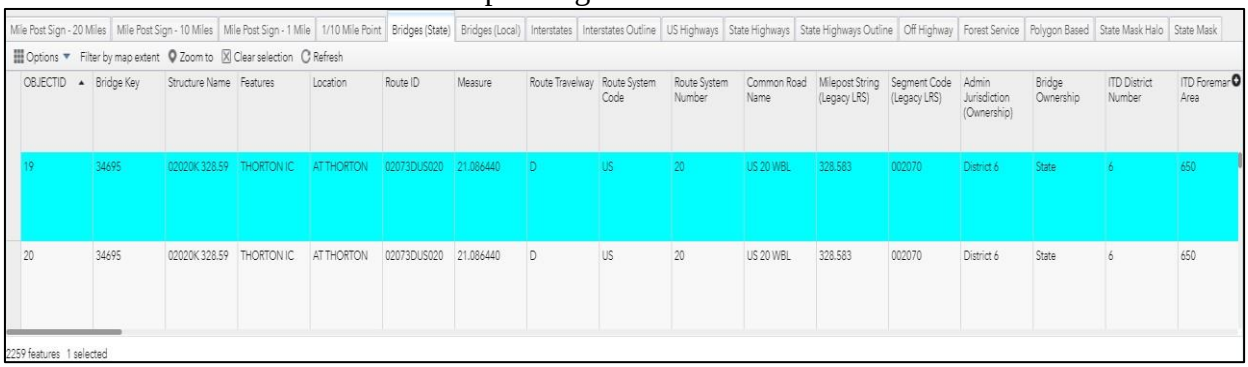


Figure 11: Attribute Table

- **Filter**—Filters records in the table.

An expression can be created using the Add Expression tool in the attribute table to filter out the records in the Application based on selected attributes and the associated values.

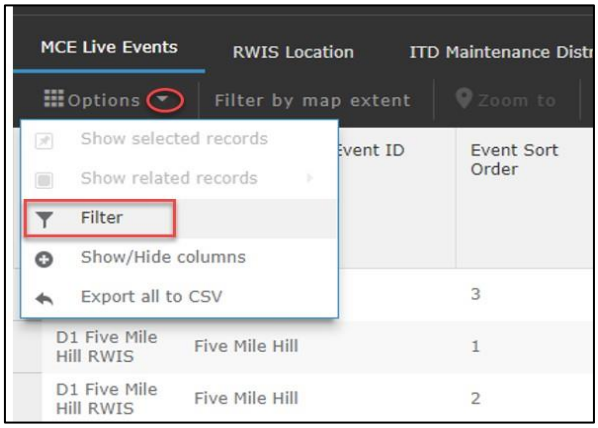


Figure 12(a): Attribute Table Filter Tool Location

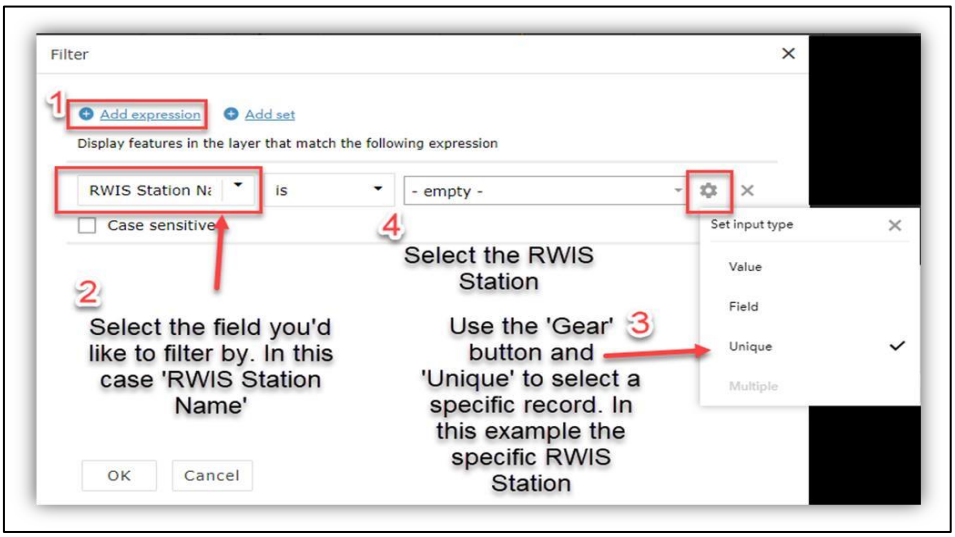


Figure 12(b): Attribute Table Filter Tool Expression

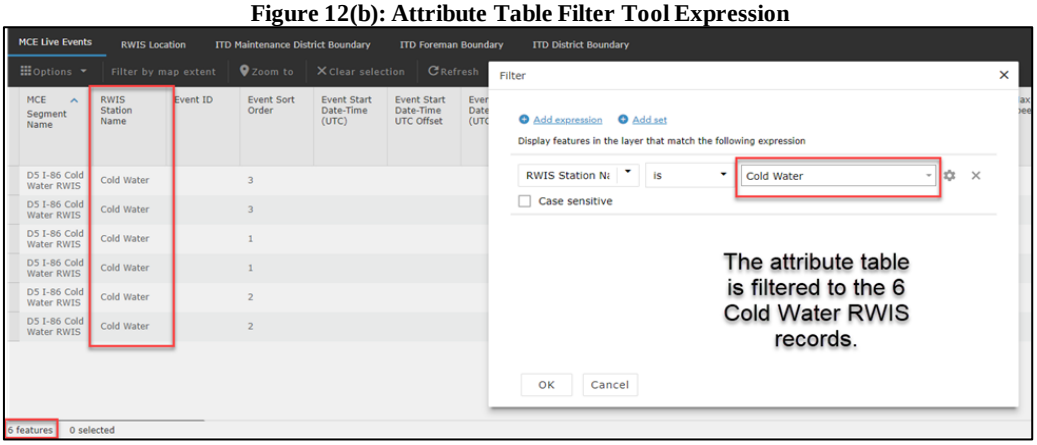


Figure 12(c): Filter Applied via Attribute Table Filter Tool Expression