Colorado Forest Atlas – Wildfire Risk Reduction Planner

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## What is the Wildfire Risk Reduction Planner?

The Wildfire Risk Reduction Planner is a web-mapping application designed to support the community wildfire protection planning needs of government officials, hazard mitigation planners and wildland fire professionals. This application contains advanced functionality and additional map themes as compared to the Wildfire Risk Public Viewer. The key features of this application include the capability to define a project area, generate a detailed risk summary report, and export and download wildfire risk GIS data.

How do I get access to the Wildfire Risk Reduction Planner?

Access to the Wildfire Risk Reduction Planner requires a valid user account from the Colorado State Forest Service. You must register for the site using the link on the Sign In page and receive approval from CSFS.

How do I navigate the app?

The Wildfire Risk Reduction Planner application consists of a large map screen with a panel of toolboxes on the left side. The toolboxes can be toggled by clicking the ☰ in the top left of the application bar.
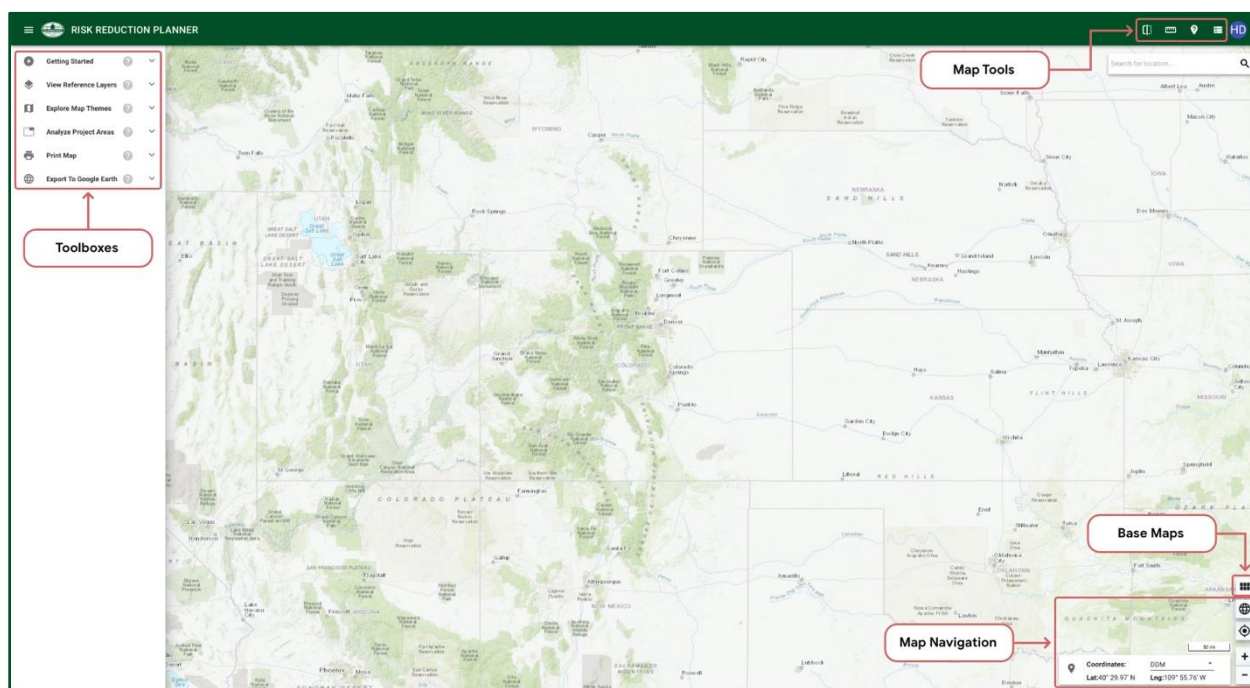
Toolboxes can be toggled open/closed by clicking on the name of the toolbox. Click the ❓ icon to view more information about a toolbox.

Application tools are available in the top application bar of the app. These include identify, measure, swipe, and legend. Base maps can be changed using the base maps button to open the base map selection pop up.

To open the Home, Support, or Contact pages for the Colorado Forest Atlas, click on the Profile icon in the upper right corner of the page.

Map navigation tools are in bottom right portion of the map. These include zoom in/zoom out tools, zoom to default extent, zoom scale and my location.

Use the Legend map tool to see the legend for the active map layers.

What are the Getting Started tools?

The Getting Started tour will introduce you to the basic operation and features of the application. Click the "Next" button to go to the next feature or click the "Skip tour" button to close the tour. The Getting Started tour is always available from the Getting Started toolbox.

How do I navigate the map?
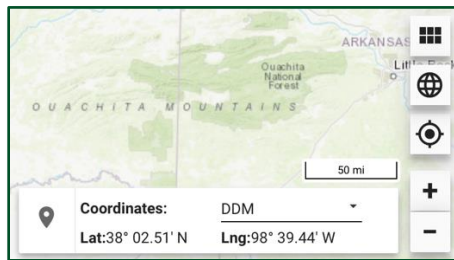
The easiest way to navigate the map is to use your mouse wheel to zoom the map in or out. If you are not using a mouse or do not have a mouse wheel, you can use the + and – buttons in the bottom right corner of the map to incrementally zoom the map in or out. Left click and hold your mouse, then move the mouse to pan the map.

Using the navigation controls, you can:

- Zoom to Colorado – use globe icon to zoom to full extent
- Incremental Zoom – use the +/-
- Zoom to my location – use the crosshair icon

How do I search for a city or county?
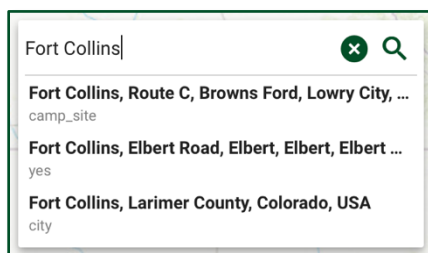
The search bar is located in the top right corner of the map. This search bar allows you to search for a city, county, or other location. When a search result is selected, a point is drawn on the map and you are zoomed to that location.

To clear a search, click the "x" inside the search bar.

What is the difference between Reference Base Layers and other Map Themes?

Reference Layers are supporting map layers or reference information for viewing in conjunction with other risk assessment maps. More than one reference layer can be displayed on the map at the same time.

Map Themes are considered "active" map layers and can only be viewed one at a time. The one that is selected is "active".

How do I view Reference Layers?
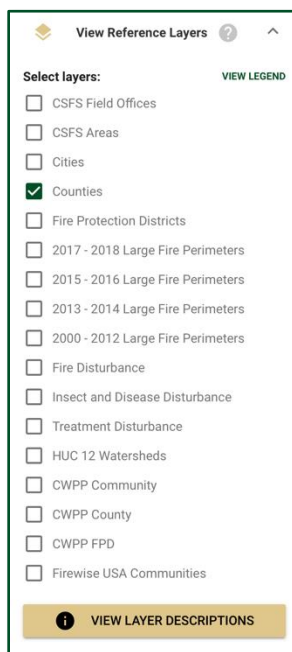
To view the reference layers, click the View Reference Layers toolbox to expand, and click the boxes next to the reference layers you wish to view.

Click View Legend to view the map legend. Click View Layers Description at the bottom of the toolbox to find more information about the reference layers.

How do I view Map Themes?

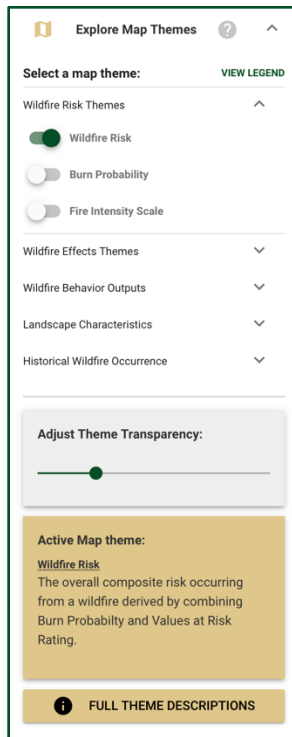To view map themes, click the Explore Map Themes toolbox to expand, click to expand a theme group, then use the toggle buttons to toggle map themes on/off. When you click another toggle on, the last toggle will automatically toggle off. A short description of the active layer is available at the bottom of the toolbox. Click Full Theme Descriptions to see more information about the active layer. Adjust transparency using the slide bar. Click View Legend to view the map legend.

How do I change the base map?
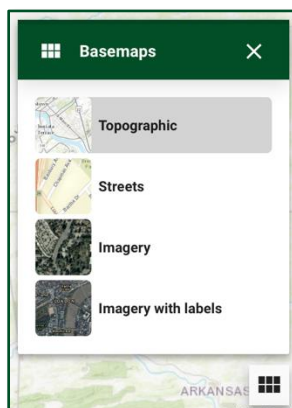
Use the base map tool to change the basemap shown in the application. Options are Topographic (default), Streets, Imagery, and Imagery with labels.

What are Project Areas?

The primary Wildfire Risk Reduction Planner tools require the creation of a project area prior to using them. You must create a project area if you want to generate a risk summary report or export data. Project areas have a maximum size limit of about 3 million acres.

How do manage my Project Areas?
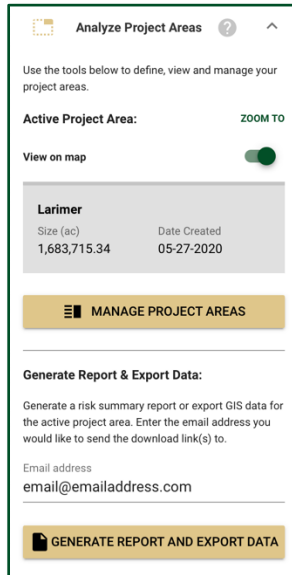
The Analyze Project Areas tool allows you to create, delete, zoom to, and select a project area. Only one project area can be selected or "active" at a time. Multiple project areas can be created and saved across sessions.

The Analyze Project Areas toolbox will tell you what project area is "active". Toggle "View on map" on and off if you want to draw/hide the project area boundary on the map. Click "Zoom To" to zoom the map to the project area boundary. Click "Manage Project Areas" to open the Manage Project Areas dialog.

Manage Project Areas Dialog
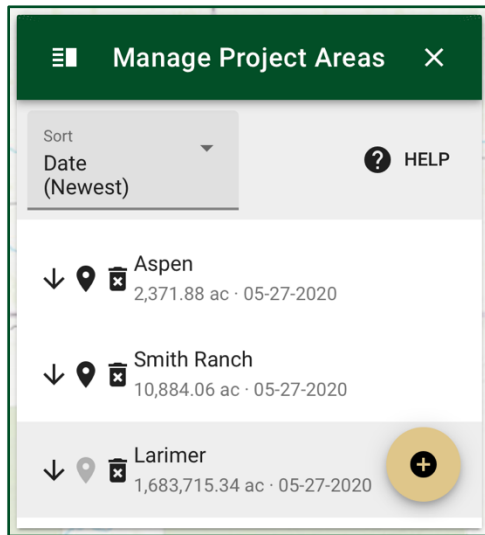
The Manage Project Areas dialog lists the project areas you have created and allows you to create new or delete existing project areas. This dialog can stay open while you work with the map, however, if you would prefer to hide it, click the X in the top right corner of the dialog. This will not deselect your current Project Area.

To select a project, click on it in the list. The active Project Area will be highlighted in grey.

To zoom to a project area boundary (without selecting it), click the 📍 .

To delete an existing project area, click the 🗑 . You will be asked to confirm your decision.

How do I create a new Project Area?

There are 4 workflows for creating a project area:

      1) select an existing county or incorporated city,

      2) select a predefined area from a reference layer,

      3) draw a custom area on the map, or

      4) upload a file from your computer.

These workflows can be accessed through the Manage Project Areas dialog. Click the Create Project button to open these workflows.

Instructions for creating project areas using these workflows are provided below.
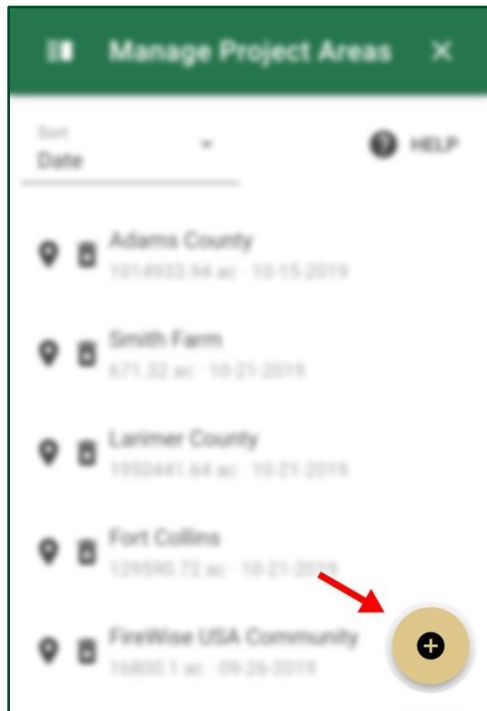
To begin, click the *Create Project* button, found in the Manage Project Areas dialog. This will open a new dialog called, New Project Area. This dialog is where you can create a new project area using any of the workflows outlined below. At any point, you can cancel the creation of a project area by clicking the Cancel button at the bottom of the New Project Area dialog.

Note: Project Areas cannot be larger than 3,100,000 acres.

1. Create from County or City

The County/City option allows you to define a project area using a predefined county or city boundary.

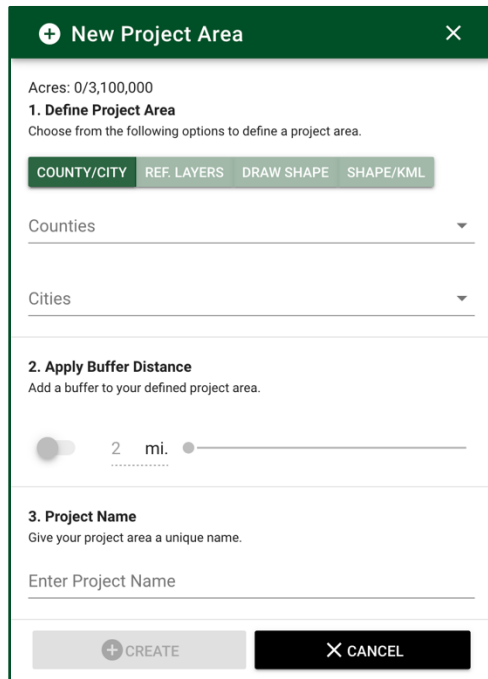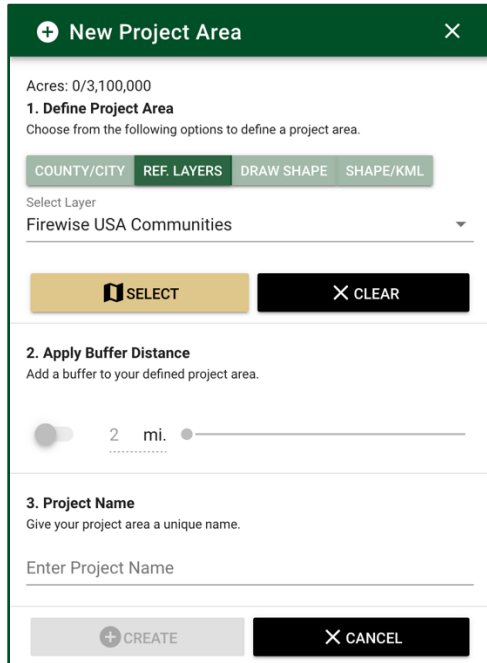To use a county or incorporated city as your Project Area, follow these steps:

1. Select the County/City tab in the New Project Area dialog.
2. Select the County or City
   a. You can select either a city or county using the provided dropdown lists. When you make a selection, the map will automatically zoom to that area and the boundary will be displayed on the map.
   Note: When you select a county, only the incorporated cities in that county will be shown in the city dropdown list.
   b. Start typing the name of the city or county in the dropdown list to filter results
3. Apply a Buffer Distance
   a. This option allows you to define a buffer distance around the selected county or city. Click on the toggle switch to enable a buffer. By default, the buffer is not enabled. If the toggle switch is turned off, no buffer will be applied. The default buffer distance is 2 miles but can be increased or decreased to your desired size.
4. Add a Project Name
   a. A project name is required for all project areas. The Create button will be disabled until a project name is added.
5. Click Create
   a. Once you have defined the boundary of your project area, applied a buffer if needed and given your project area a name, click Create to submit and create your new project

area. Once created, your new project area can be found and selected through the Manage Project Areas dialog.

2. Predefined Area from Reference Layer

The Predefined Reference Layer option allows you define a Project Area using boundaries already defined in certain Reference Layers.

The Reference Layers that you can use to select a Project Area from are:
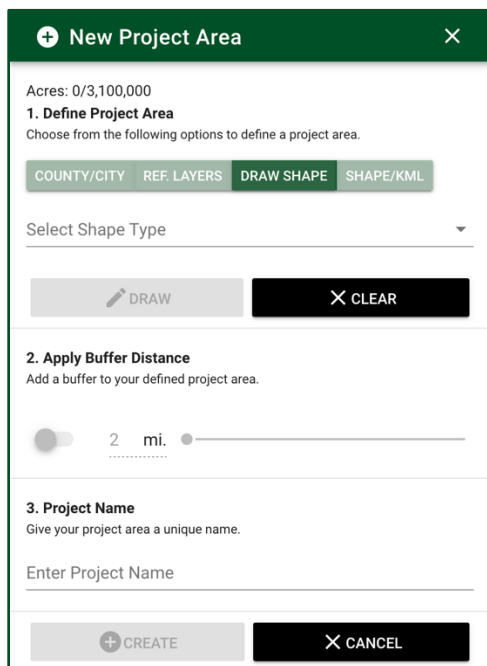
- HUC12 Watersheds
- CWWP Community
- CWP FPD
- Firewise USA Communities

To use an area predefined in a Reference Layer as your Project Area, follow these steps:

1. Select the Ref. Layers tab in the New Project Area dialog.
2. Select Reference Layer
   a. Using the dropdown list, select the reference layer that you would like to use. Once a reference layer is selected, that layer will appear on the map.
3. Select Area on the Map
   a. Click the Select button to enter selection mode. This will allow you to select the predefined area on the map.

       b. Click on the predefined area(s) for that reference layer on the map that you want to use as the Project Area.

       c. If you made a mistake or want to remove your selections, click the Clear button.

       d. Click Finish to exit selection mode.

4. Apply a Buffer Distance

       a. This option allows you to define a buffer distance around the selected area(s). Click on the toggle switch to enable a buffer. By default, the buffer is not enabled. If the toggle switch is turned off, no buffer will be applied. The default buffer distance is 2 miles but can be increased or decreased to your desired size.

5. Add a Project Name

       a. A project name is required for all project areas. The Create button will be disabled until a project name is added.

6. Click Create

       a. Once you have defined the boundary of your project area, applied a buffer if needed and given your project area a name, click Create to submit and create your new project area. Once created, your new project area can be found and selected through the Manage Project Areas dialog.

3. Draw a Custom Shape

The Draw Custom shape option allows you to digitize either a custom point or polygon on the map as your defined project area boundary. A buffer is required for points.

Point
To draw a custom point as your Project Area, follow these steps:

1. Select the Draw Shape tab in the New Project Area dialog.
2. Select Point from the Select Shape Type dropdown list
3. Draw Point on the Map.
    a. Click the Draw button to enter drawing mode. This will allow you to digitize the point on the map.
    b. Click on the map where you want the point to be.
    c. If you made a mistake or want to move the point, click the Clear button to remove the point from the map.
    d. Click Finish to exit drawing mode.
4. Adjust Buffer
    a. Points require a buffer. When you add a point, a buffer of 2 miles will be applied by default but can be increased or decreased to your desired size.
5. Add a Project Name
    b. A project name is required for all project areas. The Create button will be disabled until a project name is added.
6. Click Create
    a. Once you have defined the boundary of your project area, applied a buffer if needed and given your project area a name, click Create to submit and create your new project area. Once created, your new project area can be found and selected through the Manage Project Areas dialog.
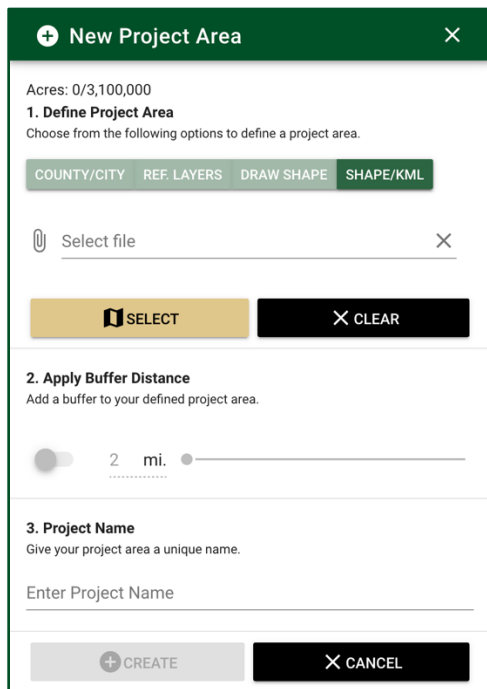
Polygon

To draw a custom polygon as your Project Area, follow these steps:

1. Select the Draw Shape tab in the New Project Area dialog.
2. Select Polygon from the Select Shape Type dropdown list
3. Draw Polygon on the Map.
    a. Click the Draw button to enter drawing mode. This will allow you to digitize the polygon on the map.
    b. Click on the map where you want the first point to be.
    c. Continue clicking on the map to draw the boundary of the project area.
    d. To complete the shape, you have 2 options:
        i. Double click to complete the shape. This will automatically close the shape between the first point and the last drawn point.
        ii. Click on the first point. Clicking back on the first drawn point will automatically close the shape, connecting the first point to the last drawn point.
    e. If you made a mistake or want to remove the boundary, click the Clear button.
    f. Click Finish to exit drawing mode.
4. Apply a Buffer Distance
    a. This option allows you to define a buffer distance around the drawn polygon. Click on the toggle switch to enable a buffer. By default, the buffer is not enabled. If the toggle switch is turned off, no buffer will be applied. The default buffer distance is 2 miles but can be increased or decreased to your desired size.
5. Add a Project Name

a. A project name is required for all project areas. The Create button will be disabled until a project name is added.
6. Click Create
a. Once you have defined the boundary of your project area, applied a buffer if needed and given your project area a name, click Create to submit and create your new project area. Once created, your new project area can be found and selected through the Manage Project Areas dialog.

4. Create from File

You can also create a project area using the Shape/KML tool. This tool allows you to upload an existing shapefile or KML file.

The shapefile must meet the following requirements:

- Shapefile must be a .zip file containing all the necessary files.
- Shapefile must be in the NAD 1983 Universal Transverse Mercator (UTM) Zone 13N projection
- Shapefiles may have multiple polygons; you can select **one or more of these polygons**.

To use a shapefile or KML as your Project Area, follow these steps:

1. Select the Shape/KML tab in the New Project Area dialog.
2. Select the File

a. Click the Select File field to open the file browser and navigate to your file. Select the file and click Open. The application will load the shapes and zoom the map to the full extent of all polygons.

3. Select the Polygon

   a. Click "Select" and click to the polygon(s) on the map that you want to use as your defined Project Area.

   b. **Note: You must click "Finished" when you are done selecting your polygons.**

4. Apply a Buffer Distance

   a. This option allows you to define a buffer distance around the selected polygon. Click on the toggle switch to enable a buffer. By default, the buffer is not enabled. If the toggle switch is turned off, no buffer will be applied. The default buffer distance is 2 miles but can be increased or decreased to your desired size.

5. Add a Project Name

   a. A project name is required for all project areas. The Create button will be disabled until a project name is added.

6. Click Create

   a. Once you have defined the boundary of your project area, applied a buffer if needed and given your project area a name, click Create to submit and create your new project area. Once created, your new project area can be found and selected through the Manage Project Areas dialog.

How do I create a custom report or export data?

The Generate Report & Export Data tool will generate a comprehensive risk summary report and export GIS data for the active Project Area. You must select an active Project Area first. The Analyze Project Areas toolbox will show you what project area is active.

The risk summary report includes statistics, maps and charts of all key risk assessment input and output datasets.

The GIS data are provided in a zip file that will contain all key input and output assessment data as well as layer files and a default ArcMap mxd document. Note that to properly view the data you <u>MUST</u> unzip

the data to a folder on your computer. Attempting to open the ZIP file mxd without unzipping will result in broken data links in the ArcMap document.

To create a report and export data:

1. Select the project area you want to use
2. Enter your email address (if different than the one you registered with)
3. Click "Generate Report and Export Data"

You will receive an email when the report and data are ready to download. You can continue to use the application or exit the application without interrupting the creation process.

The report is provided in PDF format. The GIS data are provided in shapefile and tif file formats for compatibility with a wide variety of GIS software. An mxd with correct symbology is included.

How do I view my exported data?

After you submit a request to export GIS data for your project area, you will receive an email message from the system with a link to download. Click the link to download your data. It will be in zip file format. You must extract the data from the zip file to see the data.

1. Right-click the downloaded zip file and select Extract All
2. Confirm the extract location and press extract
3. Navigate to the extract location and open the downloaded ZIP file with ArcMap or your GIS software of choice

Extracted data are in the *NAD 1983 Universal Transverse Mercator (UTM) Zone 13N* coordinate system

Are Project Areas saved between sessions?

Yes, your project areas are saved to your user account. This means you can access your project areas from any computer.

Can I export data for the entire state without creating project areas for each county?

Use the Contact Us form to send this request to the Colorado State Forest Service. Access is evaluated on a case by case basis. You may be required to sign a data sharing agreement.

What map tools are available?

Tools are provided that allow you to view and explore the map layers in more detail.

These include:

- **Swipe** – Use this tool to visually compare two layers by choosing a layer to swipe over the top of the active layer
- **Measure** – Use this tool to measure the distance or area/perimeter on the map

- **Identify** ⬛ – Use this tool to show the values of several map layers for a specific user defined location

- **Coordinates** 📍 – Use this tool to show the current coordinates of the mouse pointer or the coordinates of a user-defined point one the map

- **Legend** ⬛ – Use this tool to identify and become familiar with the symbology and visual colors of each map layer

What are the different tools I can use to identify map features?
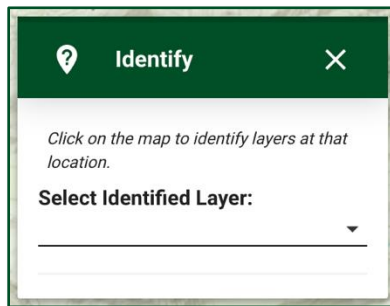
Click the *Identify* button in the application bar to activate the tool. Use the Select identified layer dropdown to select the layer you would like to identify.

==Note: Only layers that you have turned on in the Reference Layers or Map Themes toolboxes will be available in the Identify Tool.==

Once you have selected a layer, click a location on the map. The identify Tool pop up will display any available information for the clicked location.

To deactivate or close the Identify Tool, click the X in the top right-hand corner.

## Can I measure an area or distance on the map?
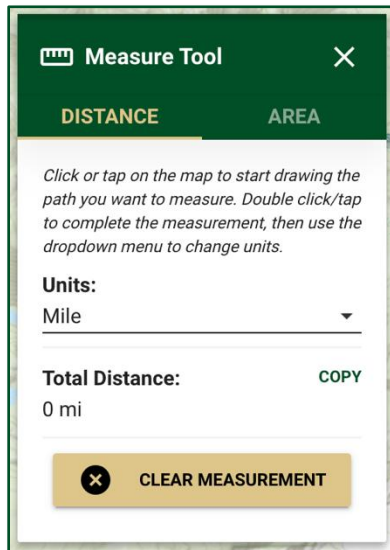
Click the *Measure* button in the application bar to activate the tool. The measurement tools allow you to measure distance or area on the map. When the measurement tool is open you are automatically in "drawing mode" where you can start clicking on the map to measure. To select whether you want to measure distance or area, use the tabs in the Measure Tool pop up. The active tab will be highlighted in gold.

You can copy the measurement results by clicking the *Copy* button. After pressing Copy, you may paste this information into another application, such as a text editor.

If you make a mistake while drawing the measurement or want to clear the map, you can click the *Clear Measurement* button. This will remove the drawn measurement from the map and resets the measurement values to 0.

To deactivate or close the Measure Tool, click the X in the top right-hand corner.

Distance
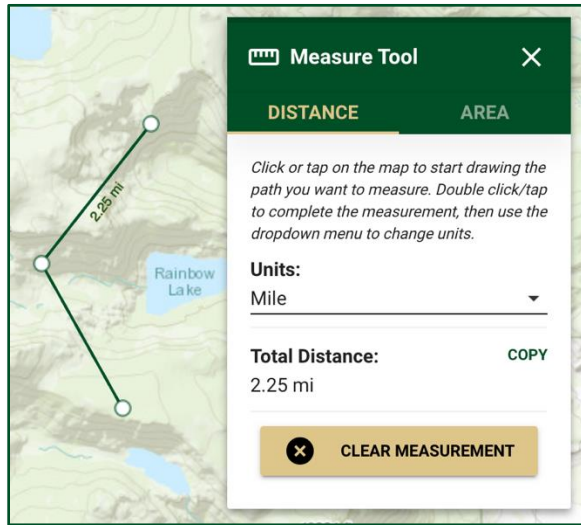
Public Viewer Measure Tool and distance measurement on the map.

To measure the distance, select the *Distance* tap in the Measure Tool. Use the Units dropdown to select the units it which you want the measurement to be displayed.
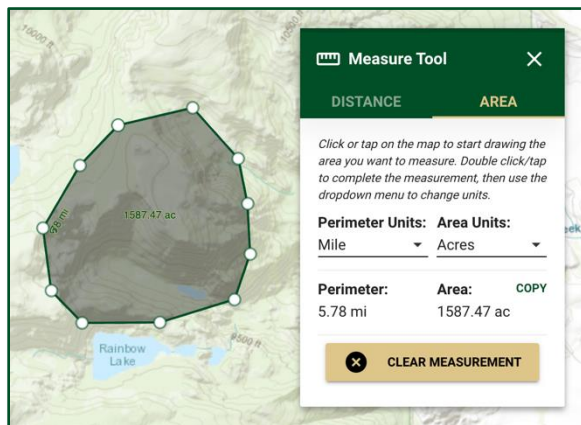
To start drawing a measurement, click on the map. You can draw a single line or draw one line with multiple vertices.

To finish the measurement and stop drawing, double click when you draw your final point.

To edit your measurement, hover over one of the vertices or on the line. A blue dot will appear indicating that you can click and drag to edit.

Displayed units can be changed at any time.

Area

To measure the area, select the *Area* tab in the Measure Tool. Use the Units dropdowns to select the units it which you want the measurement to be displayed.
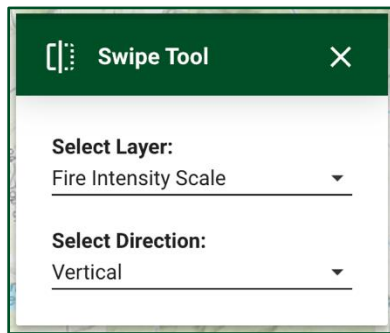
To start drawing a measurement, click on the map.

To finish the measurement and stop drawing, double click when you draw your final point.

To edit your measurement, hover over one of the vertices or on the line. A blue dot will appear indicating that you can click and drag to edit.

Displayed units can be changed at any time.

How do I compare two active layers?

Click the *Swipe Tool* button in the application bar to activate the tool. The Swipe Tool can be used to compare one map theme with another. The "bottom" layer is the active layer selected in the Explore Map Themes toolbox. The "swipe" layer is the layer selected from the Swipe Tool dropdown menu.

When the Swipe Tool is first initiated the Select Layer dropdown will be empty. Selecting a "swipe" layer from this dropdown will activate the swipe mouse control. A line with an arrow will appear on the map that follows your mouse cursor. Move your mouse cursor around the map to swipe on and off the "swipe" layer that is on top of the "bottom" layer.
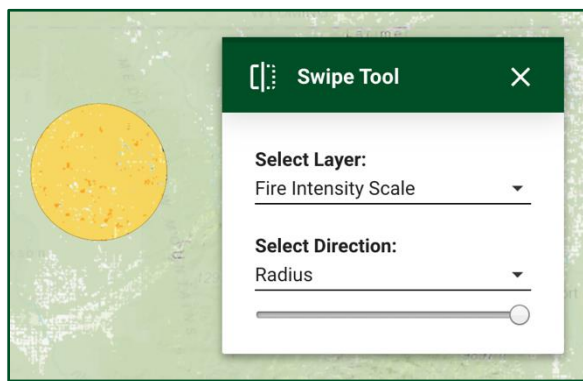
The "Select Direction" dropdown allows you to choose the swipe direction: vertical, horizontal or radius. If you select "Radius", a circle with appear around your mouse cursor. Inside of this circle is where the "swipe" layer will appear. You can adjust the size of the circle by using the radius slider in the Swipe tool pop up.

To deactivate or close the Swipe Tool, click the X in the top right-hand corner.

Can I view coordinates in a specific location?
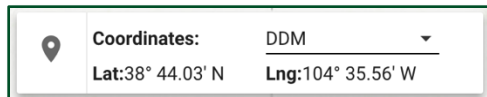
The Coordinates Tool is always visible. It is in the bottom right hand corner of the map. The tool can be used to show the current coordinates of the mouse pointer or the coordinates of a user-defined point one the map.

By default, the Coordinates Tool will show the coordinates of you mouse cursor. You can change the format in which the coordinates are displayed by clicking on the dropdown inside the tool.

To get the coordinates for a specific location on the map click on the map pin icon to turn on selection mode (icon will turn green) and then click on the map. The selected point will be identified by a green dot on the map and the coordinates will be displayed in the Coordinates Tool. To turn off the selection mode, click on the map pin icon again.

How do I Print a Map?
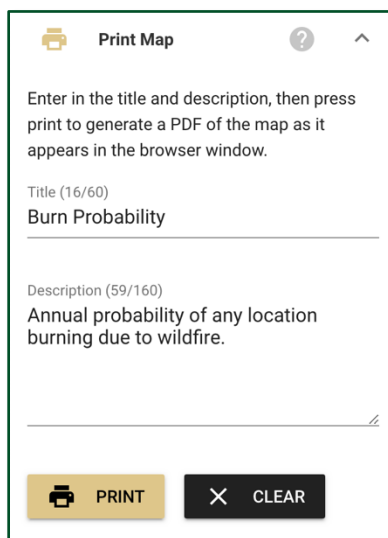
The Print Map tool allows you to create a simple map matching the contents of your browser. The map is created as a PDF and is available for download. You can enter a Title and Subtitle for the map to customize it. By default, the title and subtitle use the Active Map theme title and description.

Press Clear to clear the default text provided. Press Print to generate the PDF document.
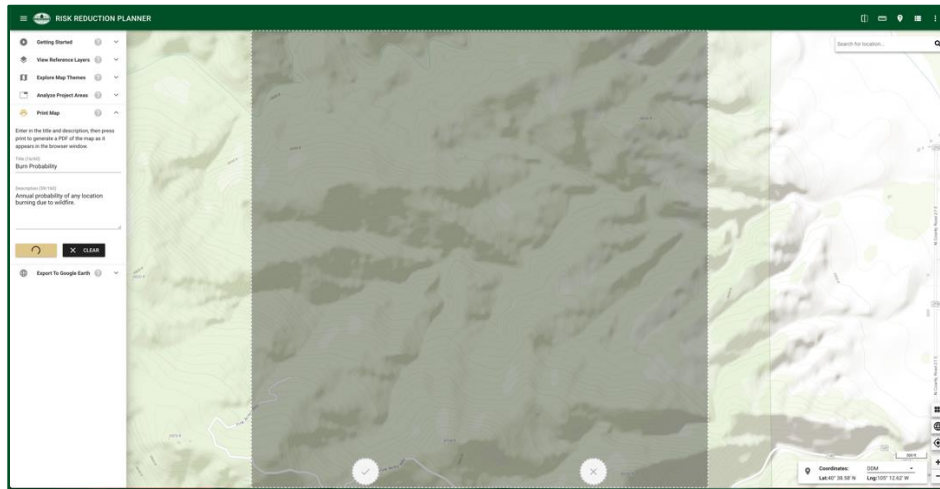
When you press Print, you will be prompted on the map to edit and confirm which area of the map is captured. You can pan and zoom the map to make sure your area of interest is captured. Once you are satisfied with the area being captured, click the checkmark. The PDF will then be generated. A notification will appear in the bottom left hand corner of the screen when the PDF is ready for download. The PDF will be opened in a new browser tab where you can view and save the file.

Note: There is an issue with the Print Map functionality on Safari and iOS devices where a blank map is generated in the Print Map PDF file. Until this issue is solved, we recommend using a different browser (Google Chrome, Mozilla Firefox or Microsoft Edge) to generate a Print Map PDF file.