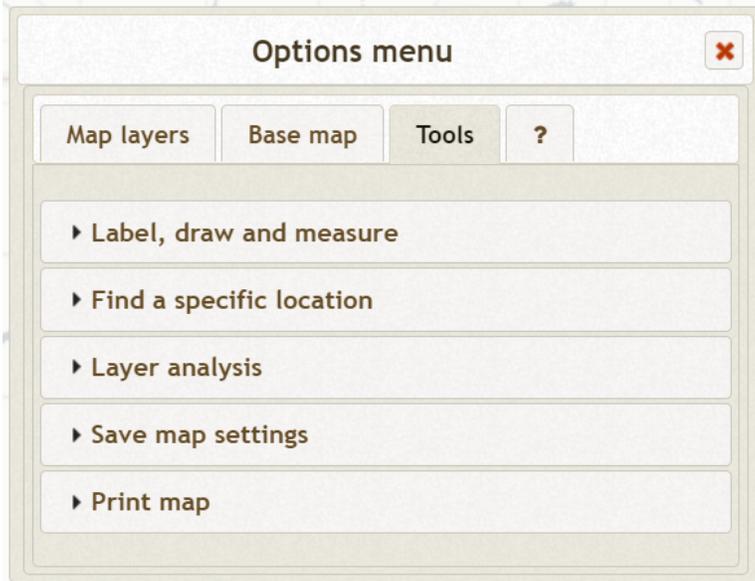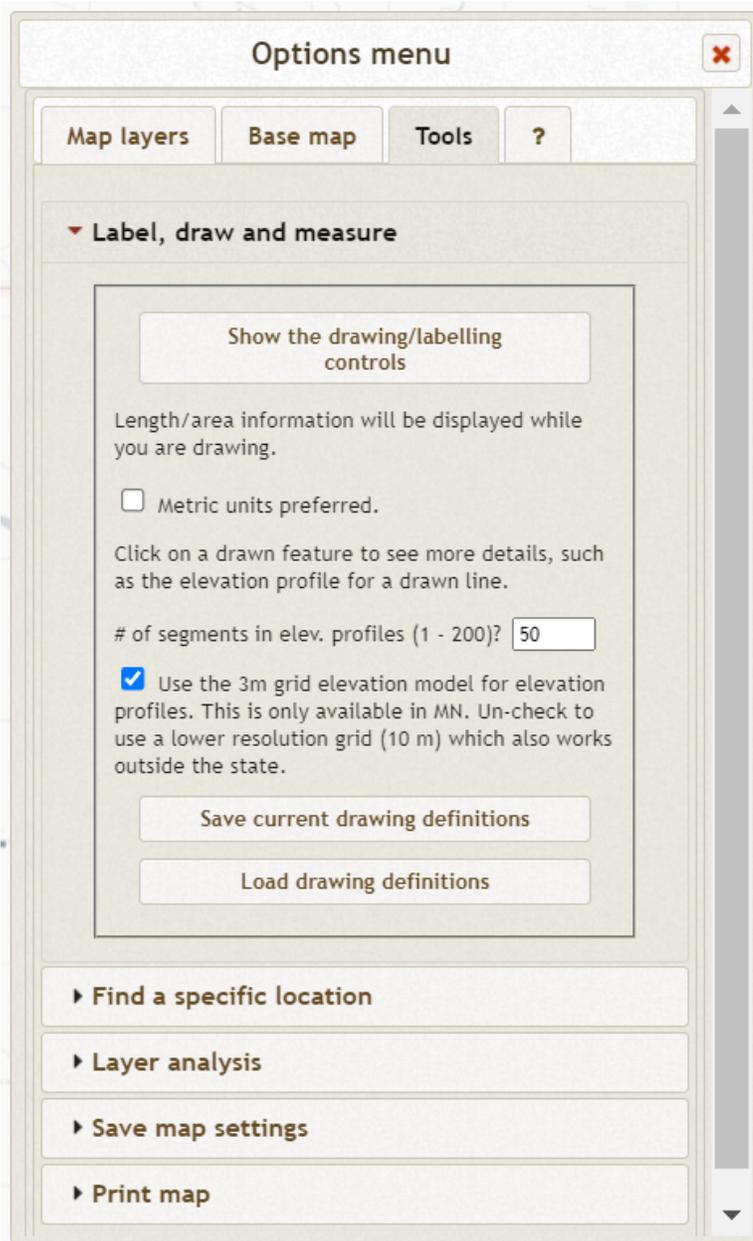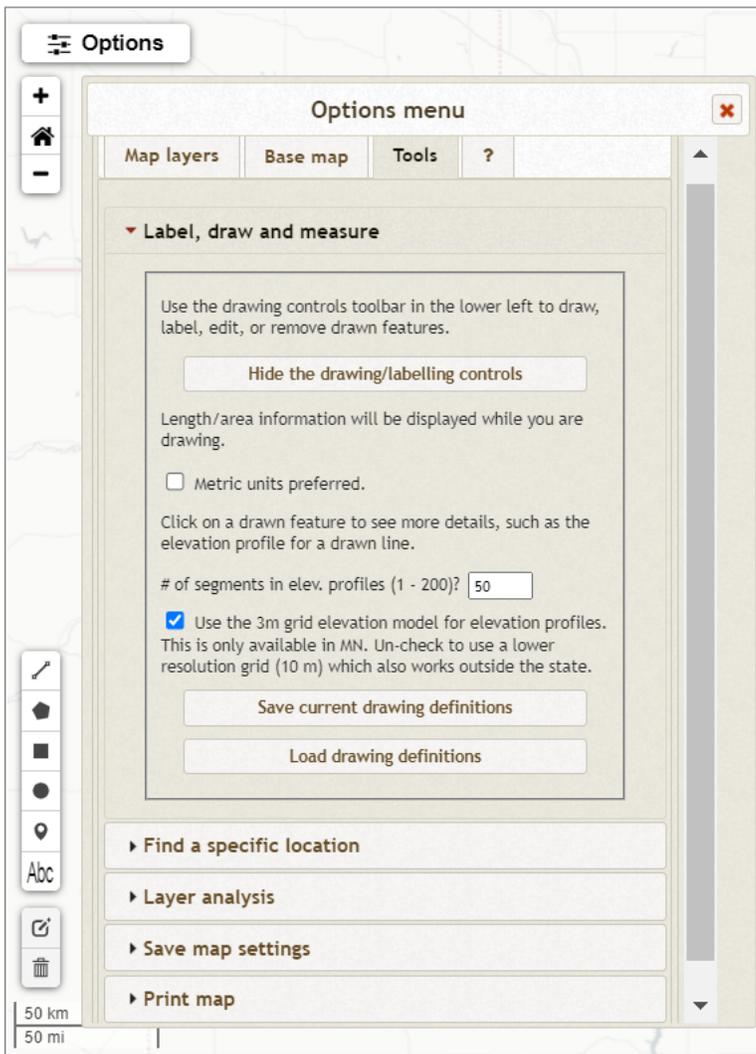# Draw and Measure

The **Tools** tab in the **Options menu** window gives you access to tools that allow you to label, draw, and measure within the **Mapping Tool**.

Clicking on the **Label, draw and measure** drop down bar reveals the **Show drawing/labelling controls** button that you need to click on to access the tools.

Options menu ✖

| Map layers | Base map | **Tools** | ? |

▼ **Label, draw and measure**

Show the drawing/labelling controls

Length/area information will be displayed while you are drawing.

☐ Metric units preferred.

Click on a drawn feature to see more details, such as the elevation profile for a drawn line.

# of segments in elev. profiles (1 - 200)? `50`

☑ Use the 3m grid elevation model for elevation profiles. This is only available in MN. Un-check to use a lower resolution grid (10 m) which also works outside the state.

Save current drawing definitions

Load drawing definitions

▶ **Find a specific location**

▶ **Layer analysis**

▶ **Save map settings**

▶ **Print map**

Clicking on the **Show drawing/labelling controls** button opens the drawing tools (which are also used to measure) in the lower left hand corner of the **Mapping Tool.** The window also displays some options for these tools. If you prefer metric units, check the **Metric units preferred** box. If you want more or fewer segments in an elevation profile (default is 50), adjust accordingly. If you want an elevation profile that extends beyond the state border, un-check the box that indicates the 3m Digital Elevation Model will be used.

There are seven different icons for drawing and measuring.

 This icon activates the **line** drawing tool.

 This icon activates the **polygon** drawing tool.

 This icon activates the **rectangle** drawing tool.

 This icon activates the **circle** drawing tool.

 This icon activates the **point** drawing tool.

 This icon activates the **label** tool.

 This icon activates the ability to **modify** existing shapes.

 This icon is used to **delete** existing shapes.

The **line** drawing tool can draw straight or multi-segment lines. Upon completing a line by double-clicking on the final point, a results window opens that contains length, start and stop elevation, absolute elevation rise or drop, and absolute slope. The window also includes an **Analyze** button, a **Get underlying features info** button, and a **Show elevation profile** button. On the bottom of the results window is the **remove this line** feature, which will delete the created line. To learn more about the **Analyze** button, review the **Analyze** tutorial.

Clicking on the **Get underlying feature info** button opens a window with information about the layers the line segment intersects.

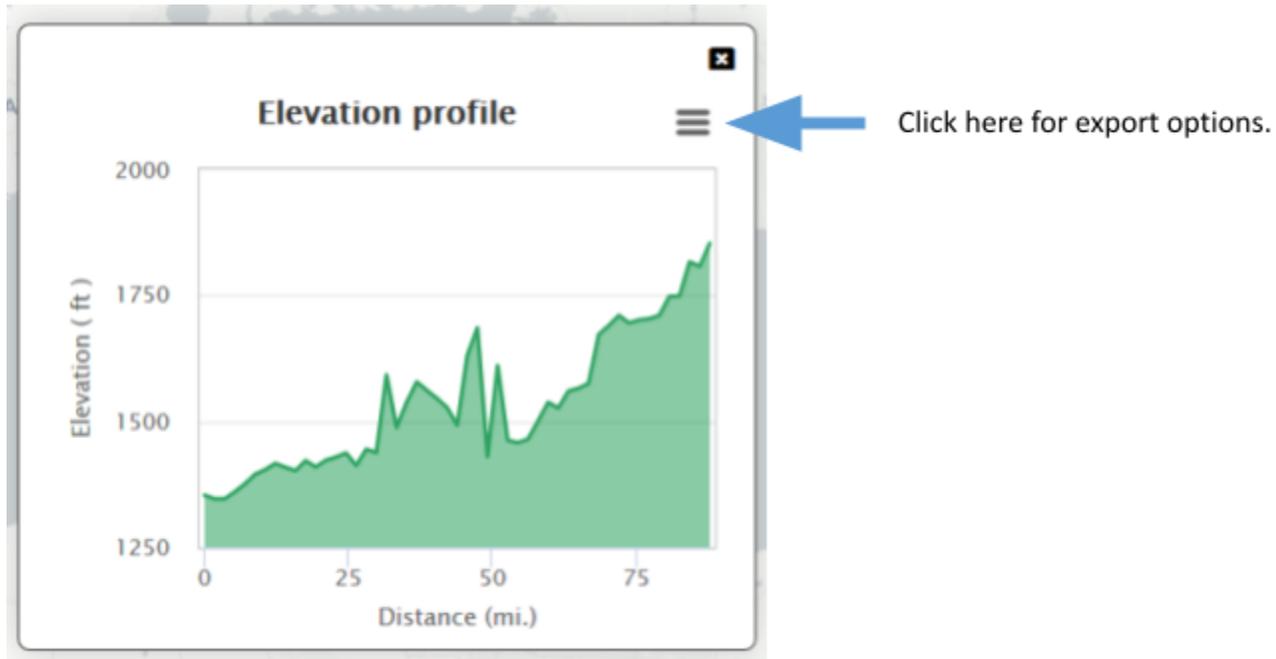Clicking on the **Show elevation profile** button produces a graphic elevation profile that can be exported as an image or a csv file that contains the data.

To delete a line, click on the **delete** icon, then click on the line, and then click on the **Apply** button that appears next to the **delete** icon. A line can also be deleted by clicking on **remove this line** at the bottom of the results window.
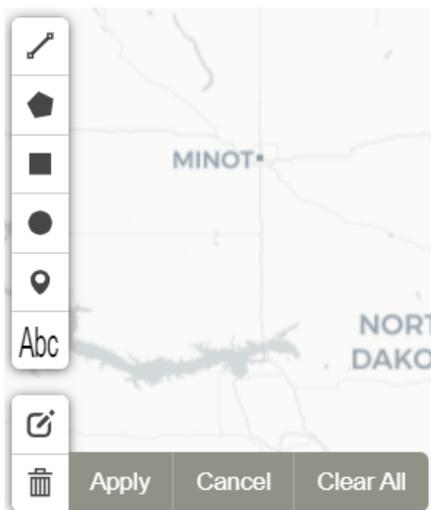

The **polygon** drawing tool can draw any shape of polygon. Left click the mouse everywhere a vertex in the polygon is desired. Upon completing a polygon by clicking on the original point to close it, a results window opens that contains the length of the perimeter and the area. The window also includes an **Analyze** button and a **Get underlying features info** button. On the bottom of the results window is the **remove this polygon** feature, which will delete the created polygon. To learn more about the **Analyze** button, review the **Analyze** tutorial.
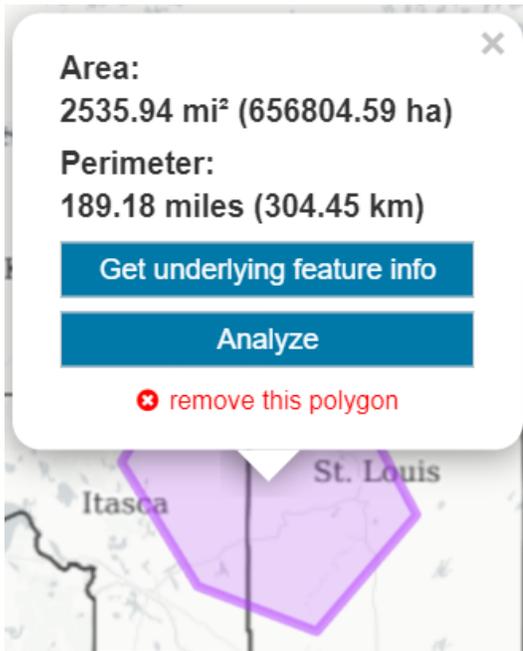
Clicking on the **Get underlying feature info** button opens a window with information about the layers the polygon intersects.

To delete a polygon, click on the **delete** icon, then click on the perimeter of the polygon, and then click on the **Apply** button that appears next to the **delete** icon. A polygon can also be deleted by clicking on **remove this polygon** at the bottom of the results window.

The **rectangle** drawing tool can draw any shape of rectangle. Start a rectangle by clicking and holding down the left mouse button. Pull the mouse in any direction until the rectangle is the desired size and shape. Release the mouse key. Upon completing a rectangle, a results window opens that contains the length of the perimeter and the area. The window also includes an **Analyze** button and a **Get underlying features info** button. On the bottom of the results window is the **remove this rectangle** feature, which will delete the created rectangle. To learn more about the **Analyze** button, review the **Analyze** tutorial.
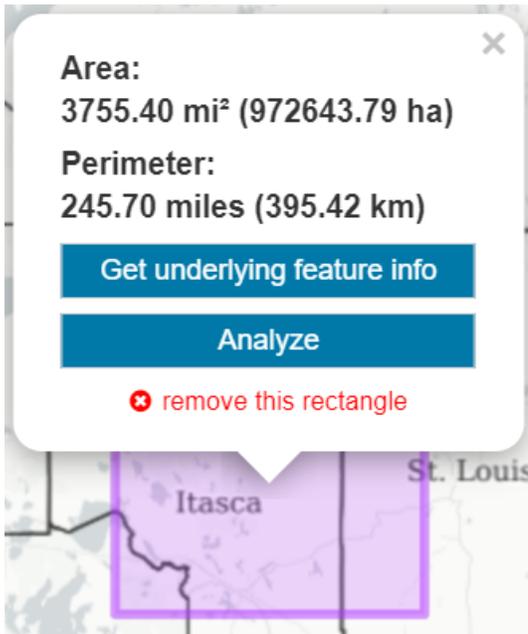
Clicking on the **Get underlying feature info** button opens a window with information about the layers the rectangle intersects.

To delete a rectangle, click on the **delete** icon, then click on the perimeter of the rectangle, and then click on the **Apply** button that appears next to the **delete** icon. A rectangle can also be deleted by clicking on **remove this rectangle** at the bottom of the results window.

The **circle** drawing tool draws circles. Start a circle by clicking and holding down the left mouse button. Pull the mouse in any direction until the circle is the desired size. Release the mouse button. Upon completing a circle, a results window opens that contains the length of the perimeter, the radius, and the area. The window also includes an **Analyze** button and a **Get underlying features info** button. On the bottom of the results window is the **remove this circle** feature, which will delete the created circle. To learn more about the **Analyze** button, review the **Analyze** tutorial.
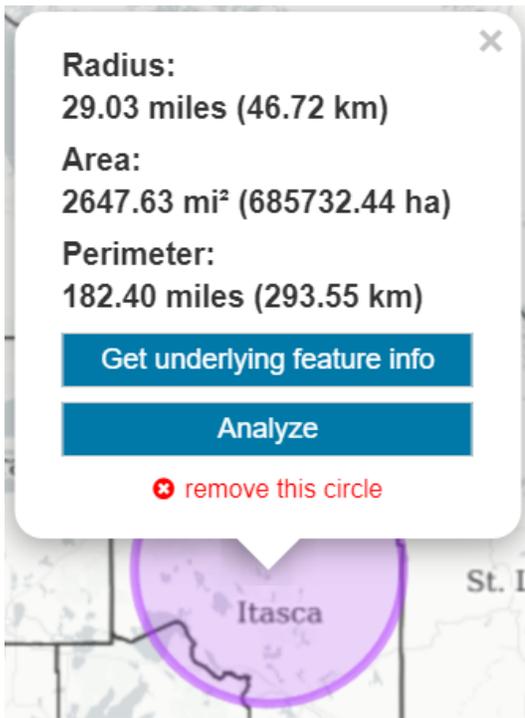
Clicking on the **Get underlying feature info** button opens a window with information about the layers the circle intersects.

To delete a circle, click on the **delete** icon, then click on the perimeter of the circle, and then click on the **Apply** button that appears next to the **delete** icon. A circle can also be deleted by clicking on **remove this circle** at the bottom of the results window.

The **point** drawing tool places points on the map. Create a point by clicking anywhere on the map after clicking the point icon. Upon completing a point, a results window opens that contains the latitude, longitude, and elevation of the point. The window also includes an **Analyze** button and a **Get underlying features info** button. On the bottom of the results window is the **remove this point** feature, which will delete the created point. To learn more about the **Analyze** button, review the **Analyze** tutorial.
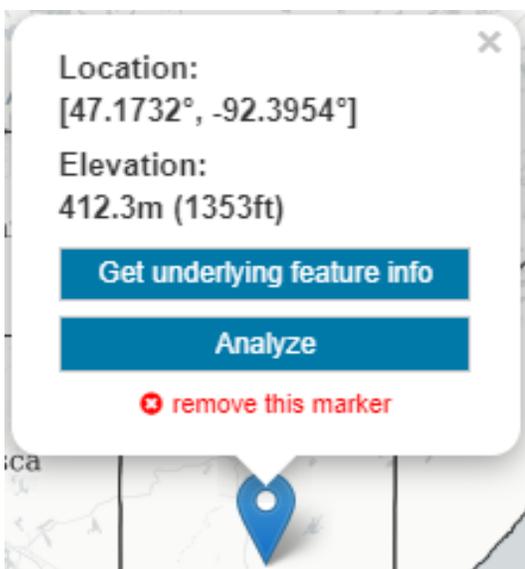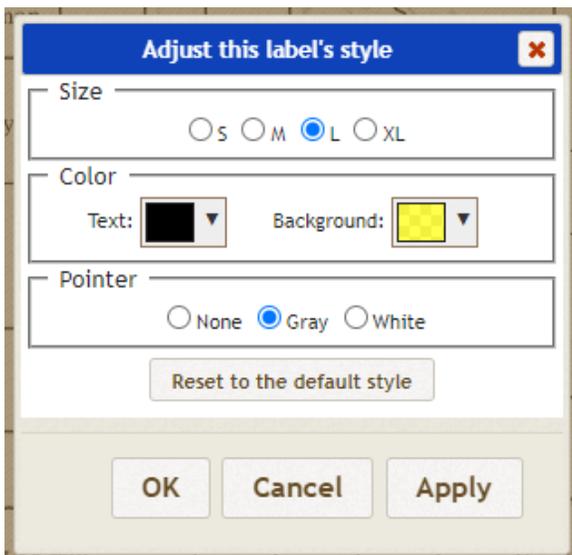
Clicking on the **Get underlying feature info** button opens a window with information about the layers the point intersects.

To delete a point, click on the **delete** icon, then click on the point, and then click on the **Apply** button that appears next to the **delete** icon. A point can also be deleted by clicking on **remove this point** at the bottom of the results window.

The **label** tool places labels on the map. Create a label by clicking anywhere on the map after clicking the label icon. Upon clicking, a results window opens that contains a box for the label text. Type the desired text and press enter to generate the label. The window also includes an **adjust the label style** link and a **Get underlying features info** button. In the middle of the results window is the **remove this label** feature, which will delete the created label.
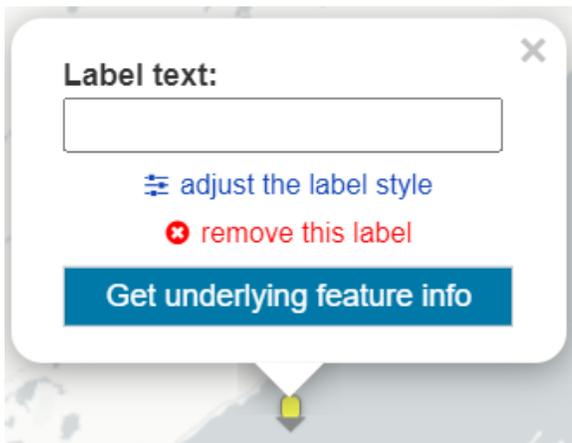

Clicking on the **Adjust this label style** link opens a window where you can change the label's size, text color, background color, and pointer color. There is also a **Reset to the default style** button that reverts the label to the original style. Clicking the **Apply** or **OK** button sets the style. The **OK** button also closes the window. Additionally, the **Cancel** button voids any changes and closes the window.

Clicking on the **Get underlying feature info** button opens a window with information about the layers the label intersects.

To delete a label, click on the **delete** icon, then click on the label, and then click on the **Apply** button that appears next to the **delete** icon. A label can also be deleted by clicking on **remove this label** at the bottom of the results window.

Clicking on the **modify** icon allows the modification of any existing shapes drawn on the map. Once in modify mode (indicated by the lines becoming dashed) click, hold, and move any of the points in the shape.
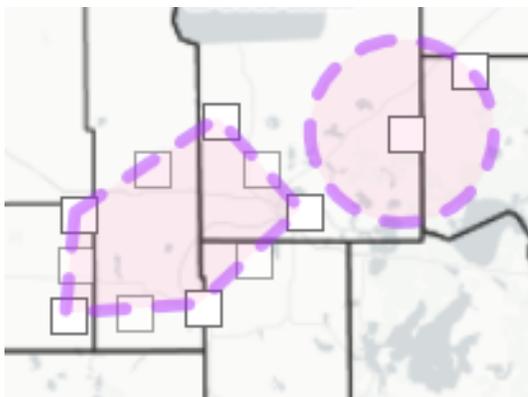
All shapes can also be deleted at once by using the **Clear All** button that appears after clicking the **delete** icon.
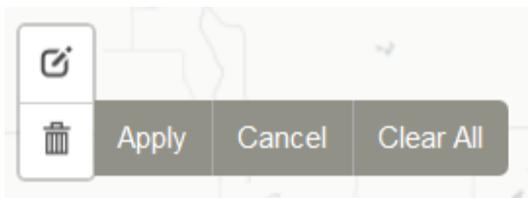
Those are the basic procedures for labelling, drawing, and measuring.