



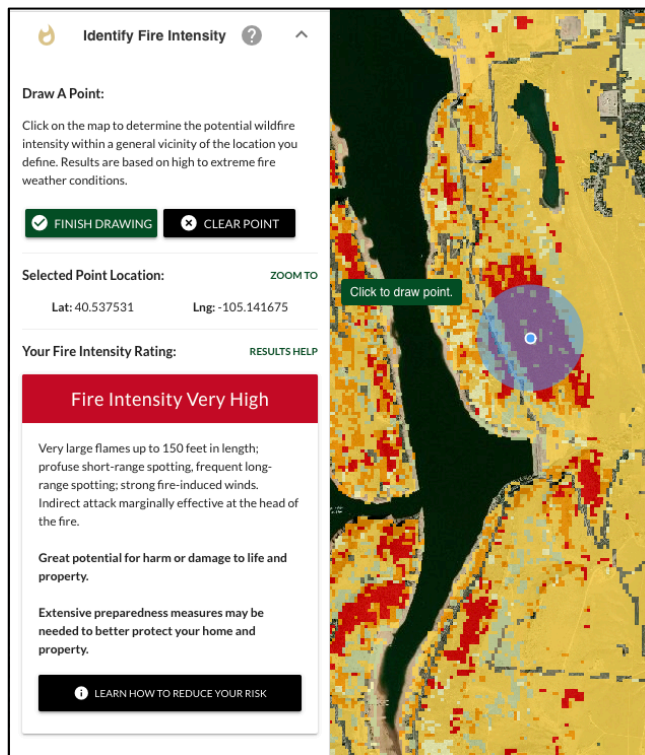
Colorado Wildfire Risk Public Viewer

Identify Fire Intensity – Results Help

The “Identify Fire Intensity” tool provides you the capability to select a location on the map and calculate the potential fire intensity for that location. It is intended to inform homeowners and business owners of the impending risk for their location based on surrounding conditions.

Selecting a Location

You can use the Search tool to enter in a specific street address and zoom to that address location on the map, or simply use the map navigation tools to zoom into a specific location on the map. The tool requires you click on the map and the results are shown in the left toolbox bar. Refer to the CO-WRAP User Manual for a detailed description of how to use this tool.



Once you have selected the point location on the map, you will be provided with a description of the fire intensity potential based on the conditions within a quarter mile proximity of the location you define. The specific location and proximity area is displayed on the map as reference.

The results will display in the toolbox panel, as shown on the figure on the left. This includes a description of the potential fire conditions, and basic recommendations for preparedness. This provides the two basic pieces of information the public needs: 1) a description of potential fire conditions, and 2) a description of mitigation recommendations, with guidance on where to obtain more detailed support for prevention and mitigation planning.

To obtain more detailed information, it is highly recommended you contact a qualified local mitigation planner. A link is provided to connect you to the Colorado State Forest Service mitigation web site where more information can be obtained - <https://csfs.colostate.edu/wildfire-mitigation/>.

Understanding the Results

The tool uses the Fire Intensity Scale (FIS) layer to determine the potential fire intensity for the specified location. FIS quantifies potential fire intensity based on high to extreme weather conditions, fuels, and topography. It is similar to the Richter scale for earthquakes, providing a standard scale to measure potential wildfire intensity by magnitude.

As an alternative way to deal with Byram's wide-ranging fireline intensity values, Joe Scott (Pyrologix LLC) suggested using the common logarithm of fireline intensity (kW/m) as a standard scale of wildfire intensity (called the Fire Intensity Scale, or FIS).¹ The common logarithm is also used in the Richter scale of earthquake magnitude; each unit increase on the Richter scale represents a ten-fold increase in the amplitude of ground shaking.

The same is true of the FIS. Each unit increase in FIS is a meaningful ten-fold increase in fireline intensity. FIS values range from just less than 1 (10 kW/m) to just over 5 (100,000 kW/m), suggesting a classification by orders of magnitude that lends itself to a multi-class dataset.

FIS consist of 5 classes where the order of magnitude between classes is ten-fold. The minimum class, Class 1, represents very low wildfire intensities and the maximum class, Class 5, represents very high wildfire intensities. It is important to remember that each class is ten times the intensity of the previous class.



To ensure that FIS provides a rating that not only considers the specific location defined by the user, but also incorporates risk for the surrounding area, further modeling was undertaken that utilizes a *decay function* to calculate risk for any given location. A 0.25 mile buffer was used, with values closer to the user defined location weighted higher than those farther away. This results in a value that considers the risk *around* any location, not just the value at the specific location. This value is returned in the results of the Identify Fire Intensity tool.

The FIS data is modeled at 30-meter resolution. Accordingly, while this is accurate enough to provide general ratings, it is not appropriate for site specific recommendations, i.e. not appropriate for defensible space or home assessments. For site specific advice, please contact a local mitigation planner for help as they can incorporate local conditions not available in the risk assessment scale of data.

¹ Scott, Joe. November 2006. Off the Richter: Magnitude and Intensity Scales for Wildland Fire. A non-published white paper prepared for the AFE Fire Congress, November 2006, San Diego, CA