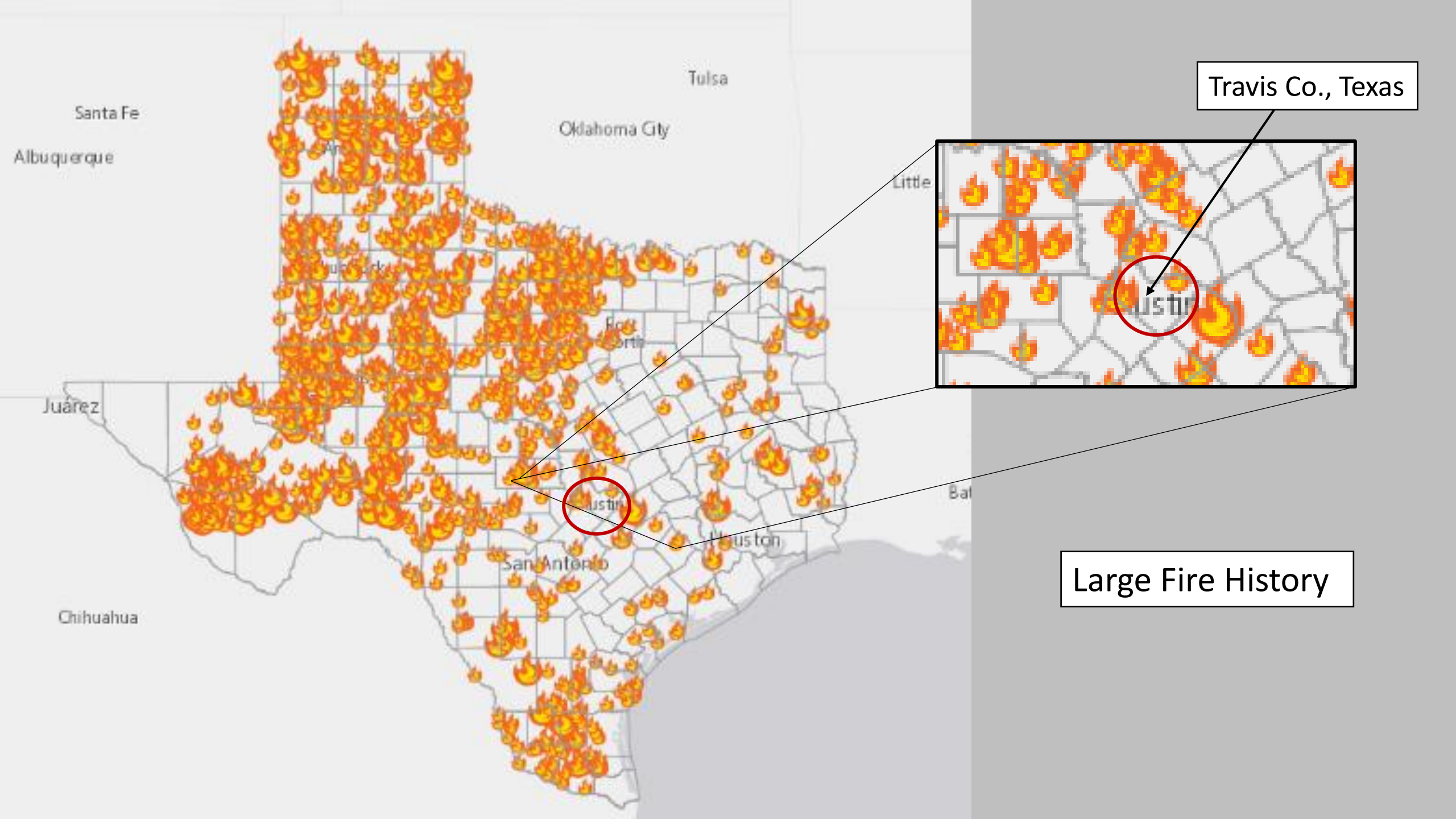
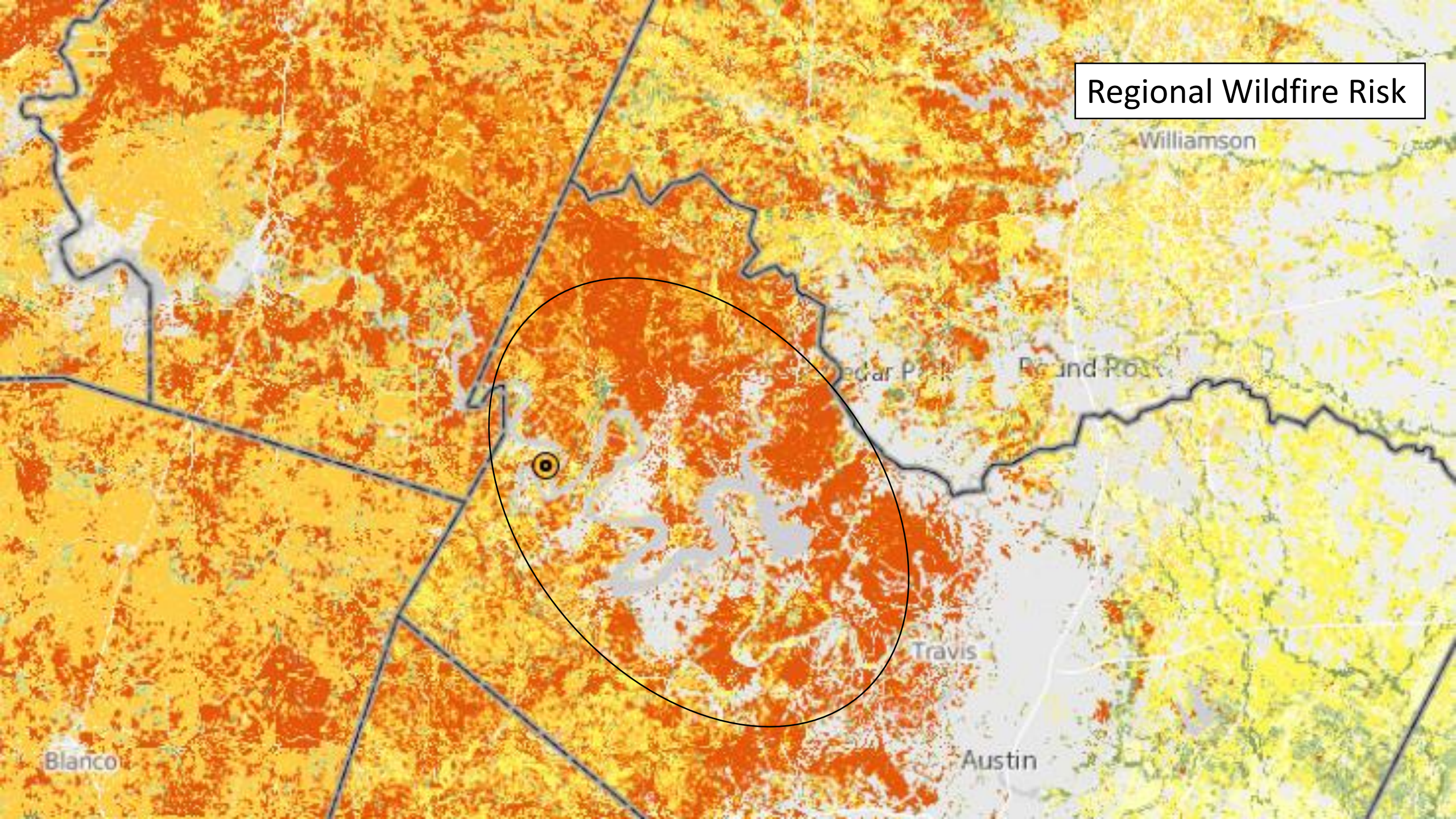
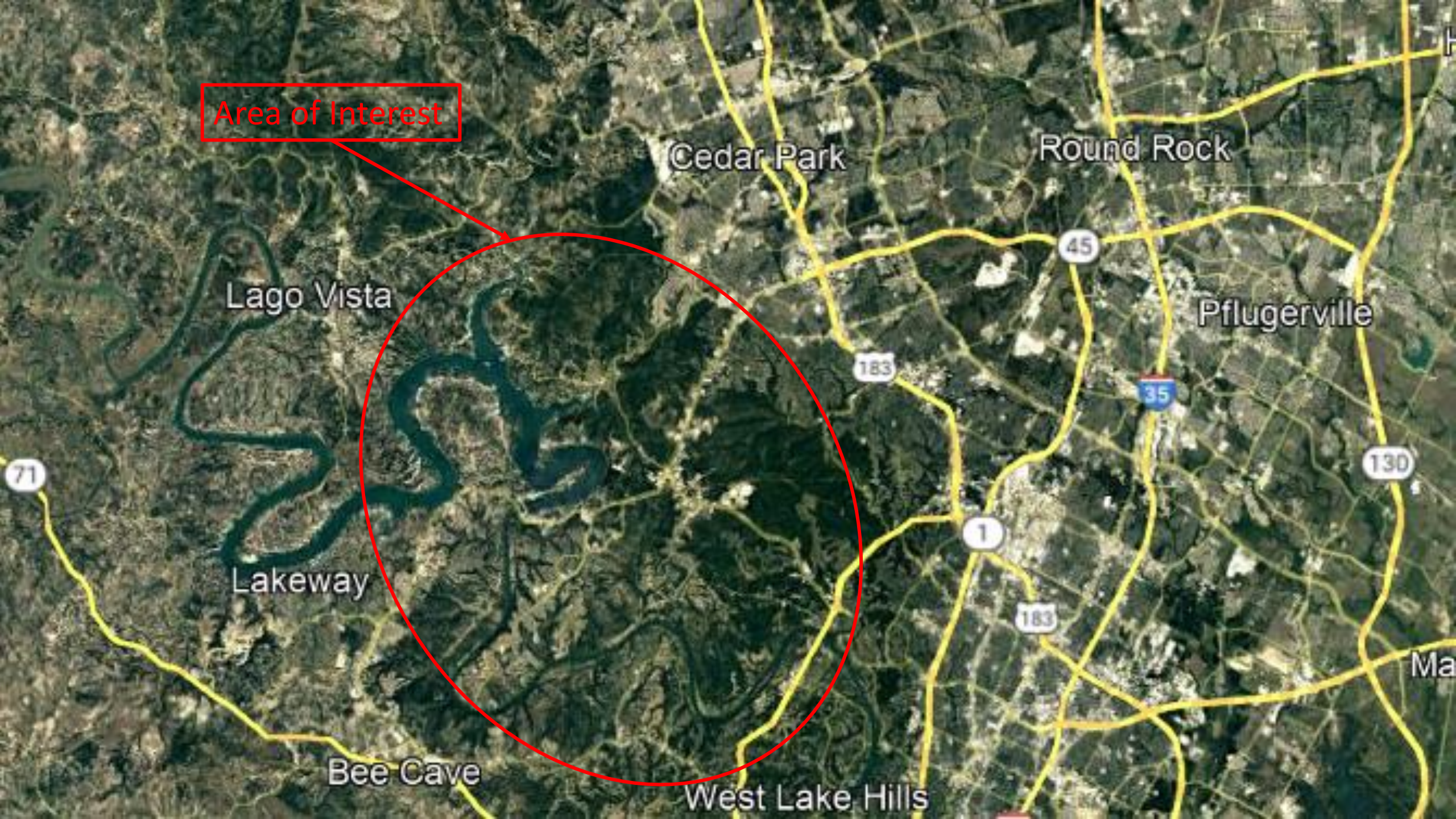
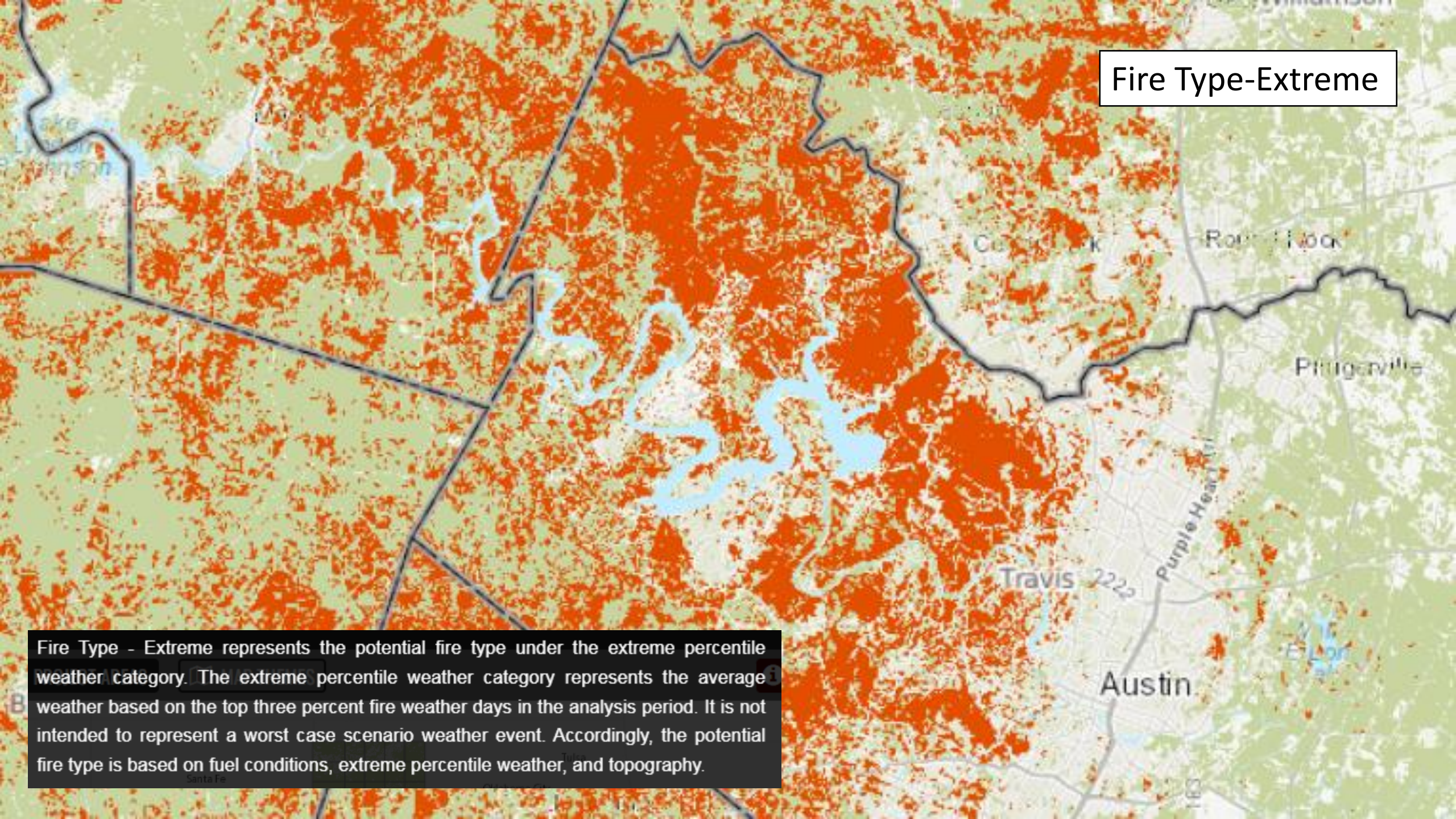
Austin Texas Area Wildfire Risk
Travis County, Texas
High to Very High Risk Wildfire Risk


Travis Co., Texas
Large Fire History
Santa Fe
Albuquerque
Tulsa
Oklahoma City
Juárez
Chihuahua
Austin
Houston
San Antonio


Regional Wildfire Risk
Williamson
Travis
Austin
Blanco

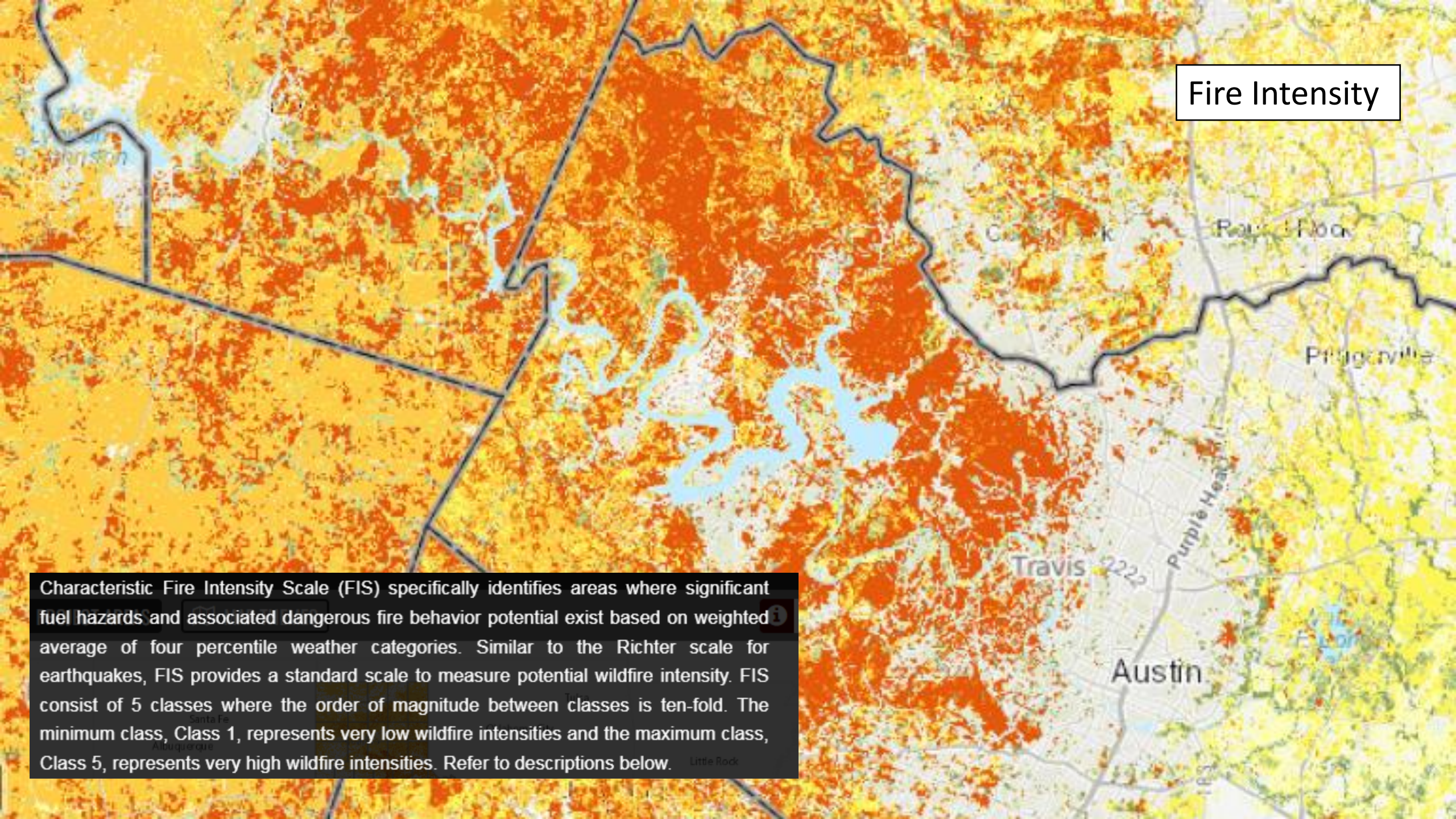

Area of Interest
Cedar Park
Round Rock
Lago Vista
Pflugerville
Lakeway
Bee Cave
West Lake Hills
45
183
35
71
130
1
183

Fire Type-Extreme

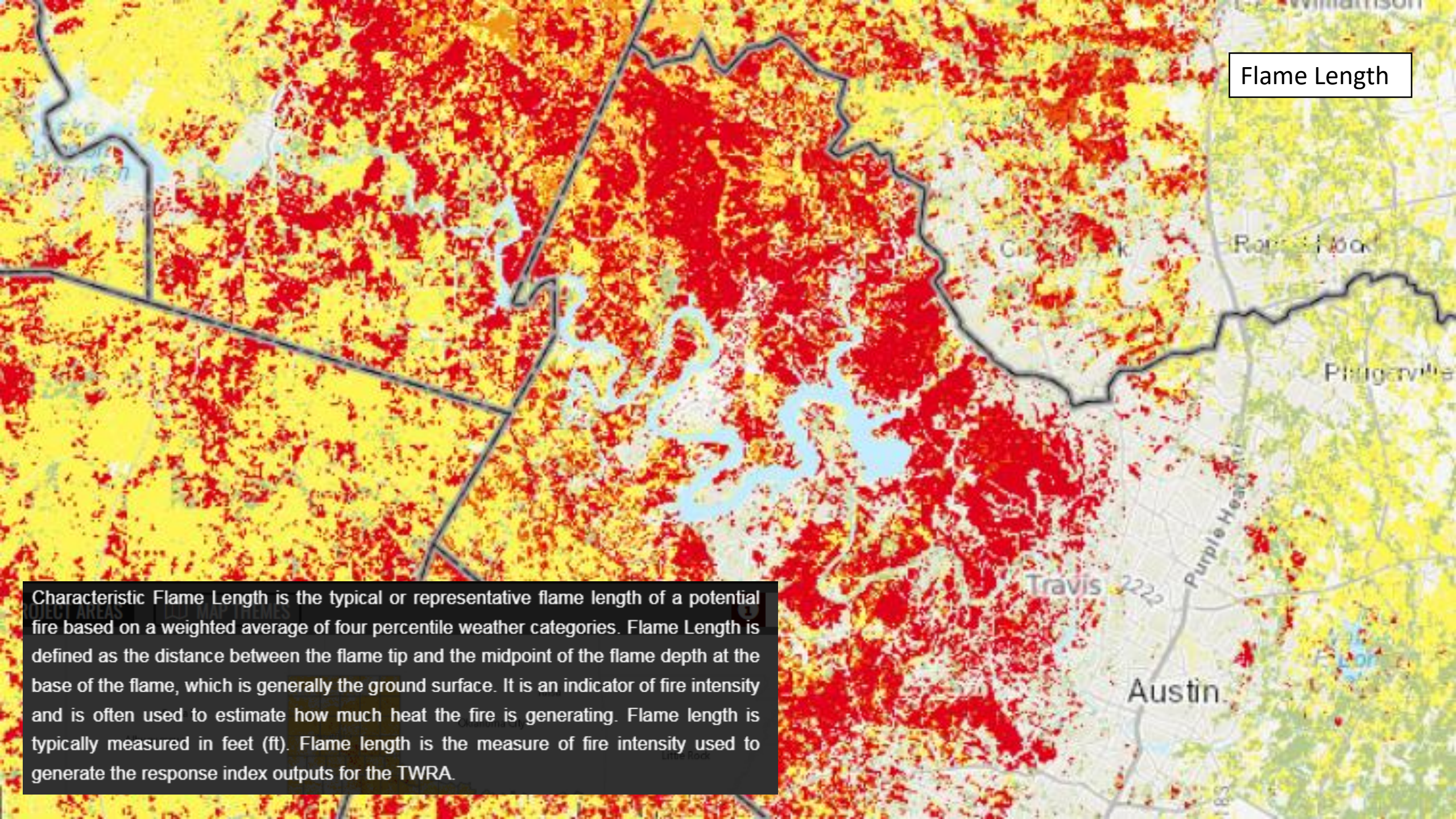


Fire Type - Extreme represents the potential fire type under the extreme percentile weather category. The extreme percentile weather category represents the average weather based on the top three percent fire weather days in the analysis period. It is not intended to represent a worst case scenario weather event. Accordingly, the potential fire type is based on fuel conditions, extreme percentile weather, and topography.

Fire Intensity

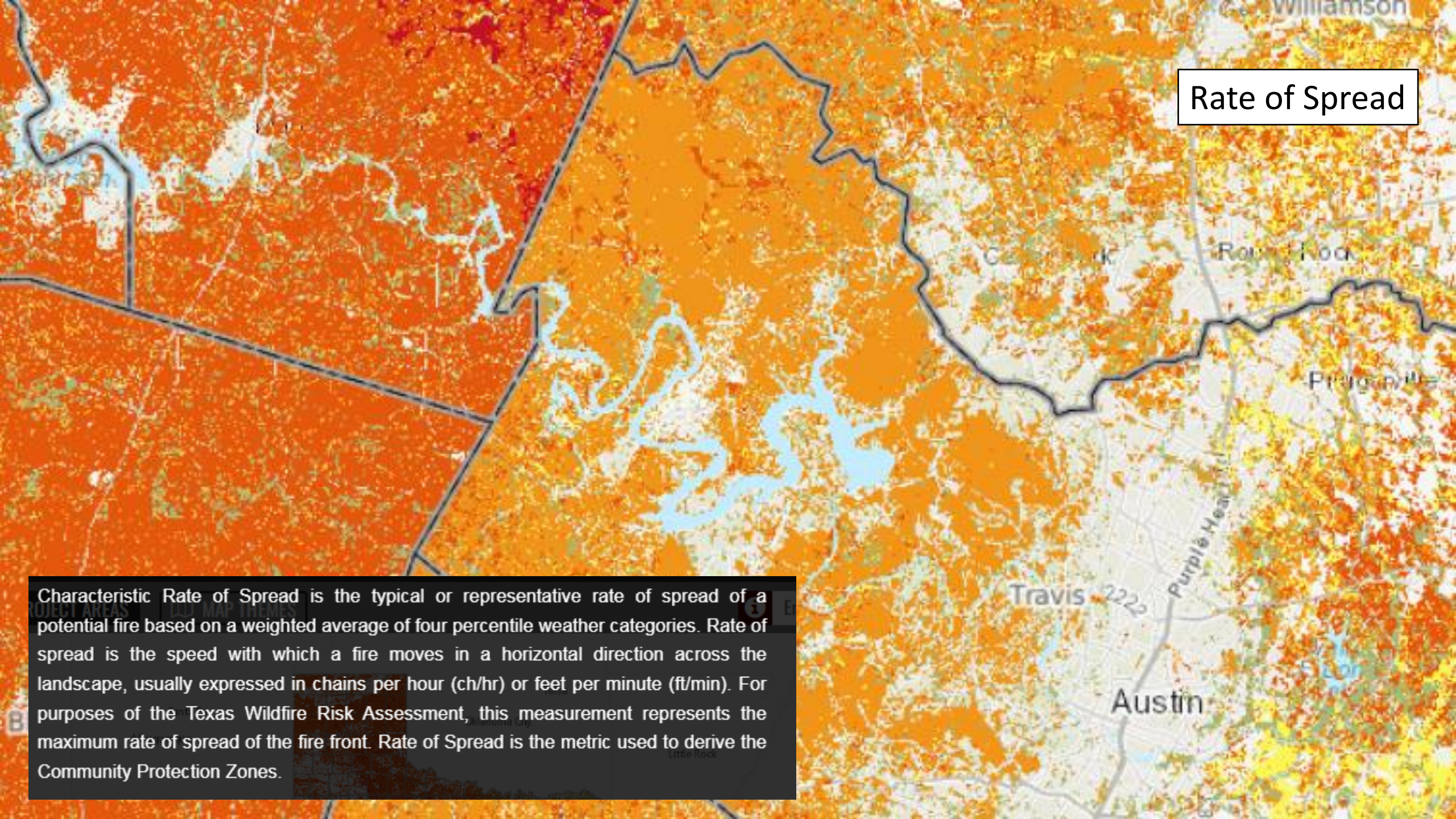


Characteristic Fire Intensity Scale (FIS) specifically identifies areas where significant fuel hazards and associated dangerous fire behavior potential exist based on weighted average of four percentile weather categories. Similar to the Richter scale for earthquakes, FIS provides a standard scale to measure potential wildfire intensity. 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. Refer to descriptions below.



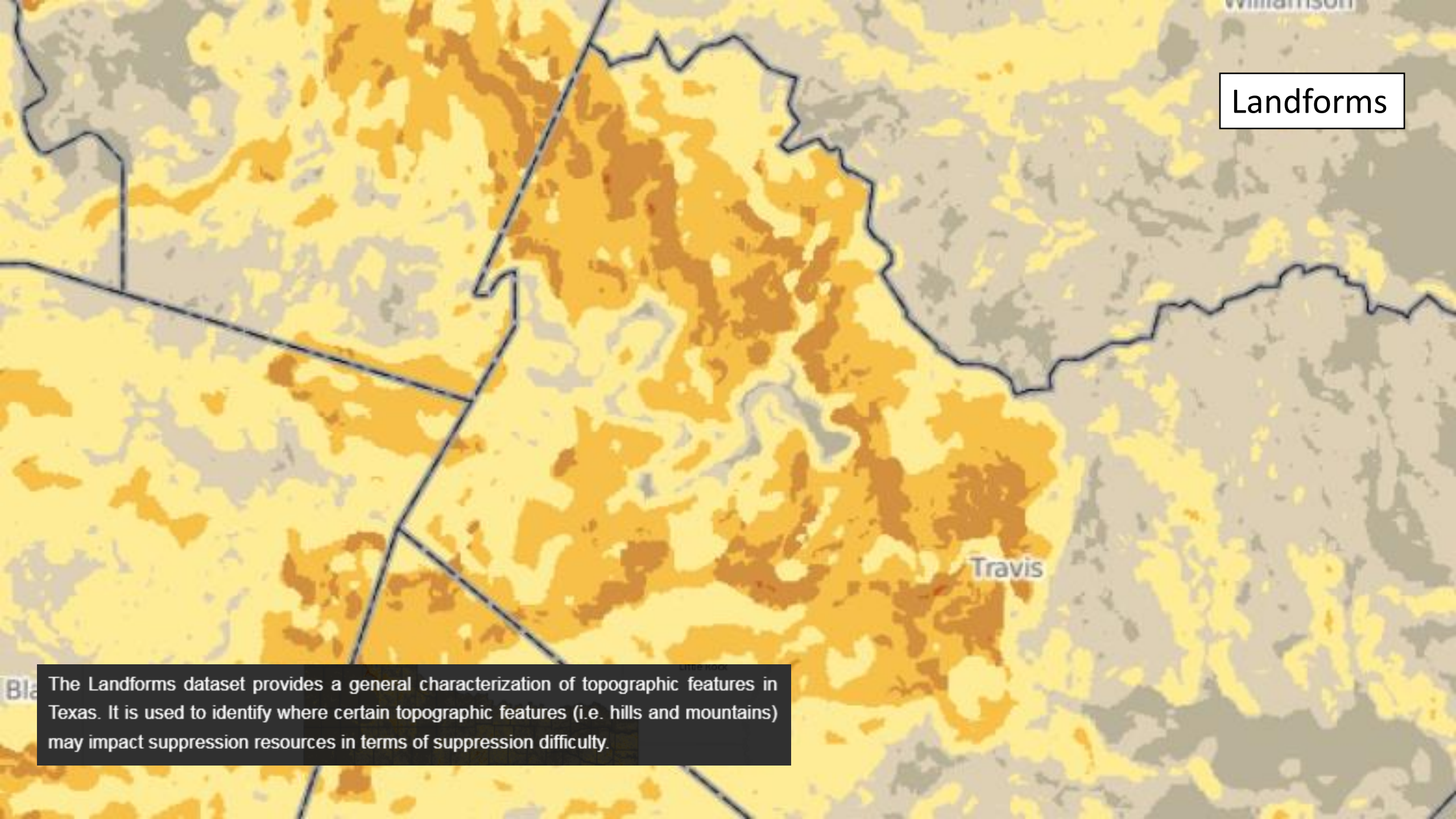
Characteristic Flame Length is the typical or representative flame length of a potential fire based on a weighted average of four percentile weather categories. Flame Length is defined as the distance between the flame tip and the midpoint of the flame depth at the base of the flame, which is generally the ground surface. It is an indicator of fire intensity and is often used to estimate how much heat the fire is generating. Flame length is typically measured in feet (ft). Flame length is the measure of fire intensity used to generate the response index outputs for the TWRA.

Rate of Spread

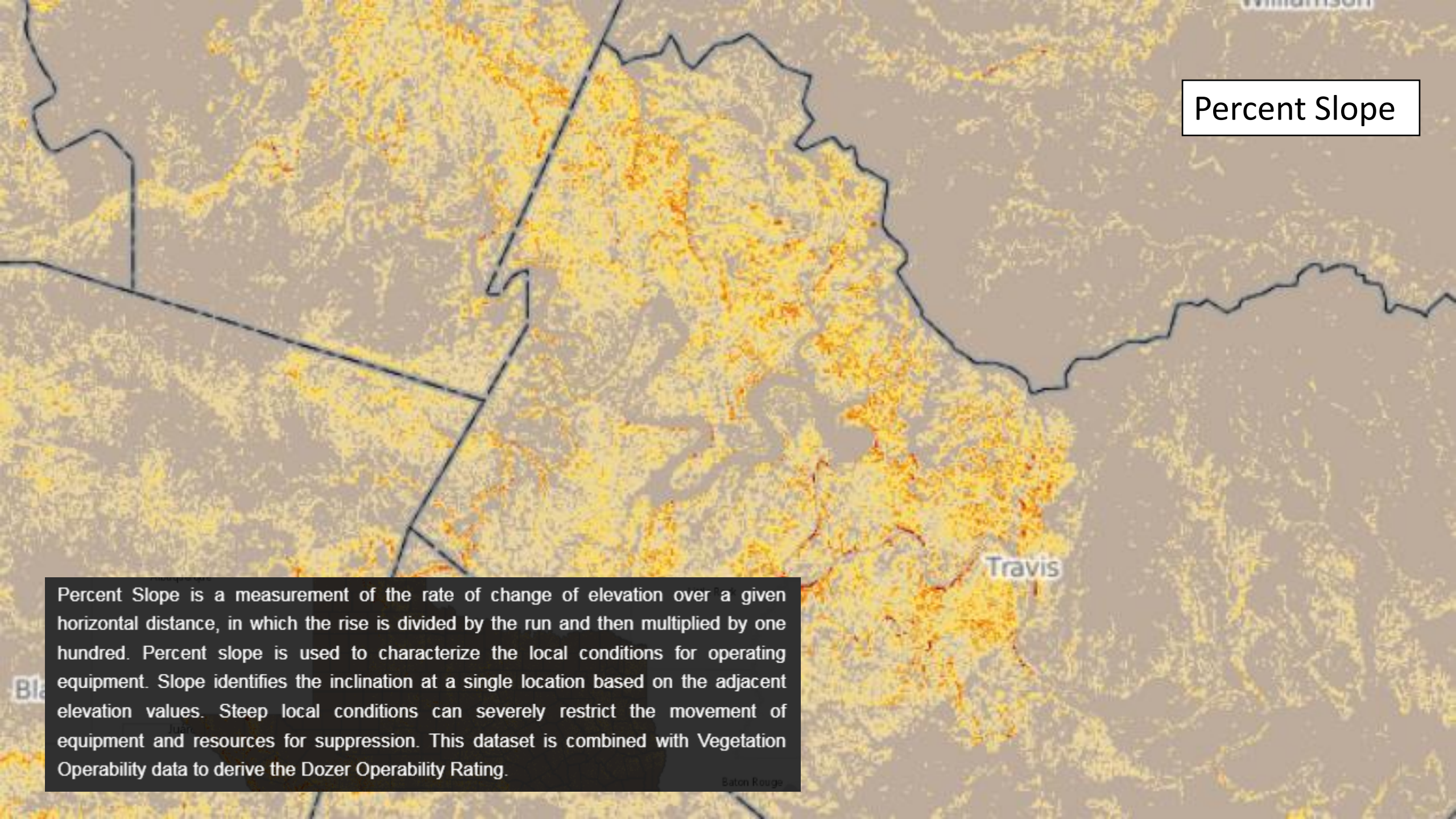


Characteristic Rate of Spread is the typical or representative rate of spread of a potential fire based on a weighted average of four percentile weather categories. Rate of spread is the speed with which a fire moves in a horizontal direction across the landscape, usually expressed in chains per hour (ch/hr) or feet per minute (ft/min). For purposes of the Texas Wildfire Risk Assessment, this measurement represents the maximum rate of spread of the fire front. Rate of Spread is the metric used to derive the Community Protection Zones.

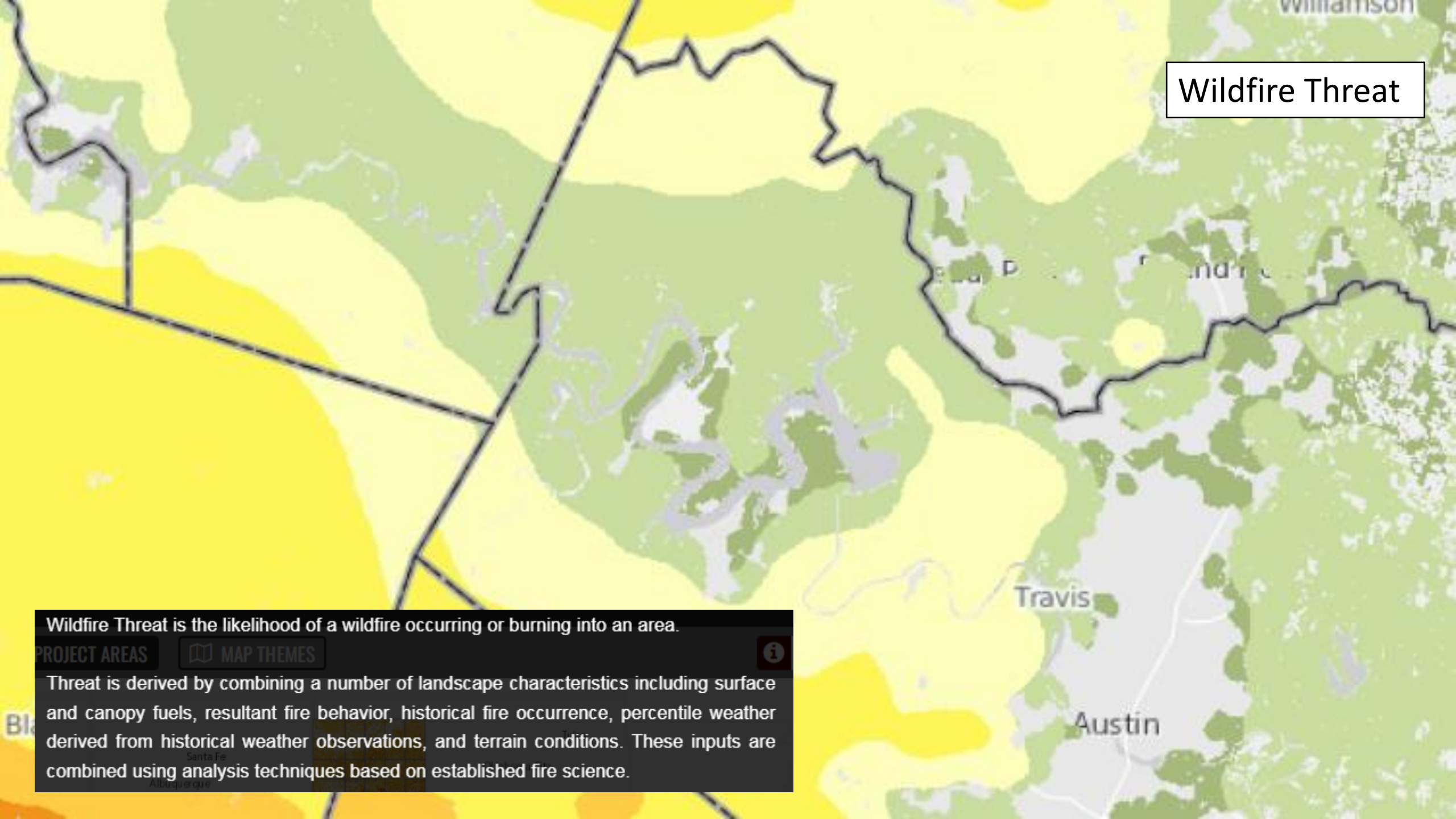
Landforms

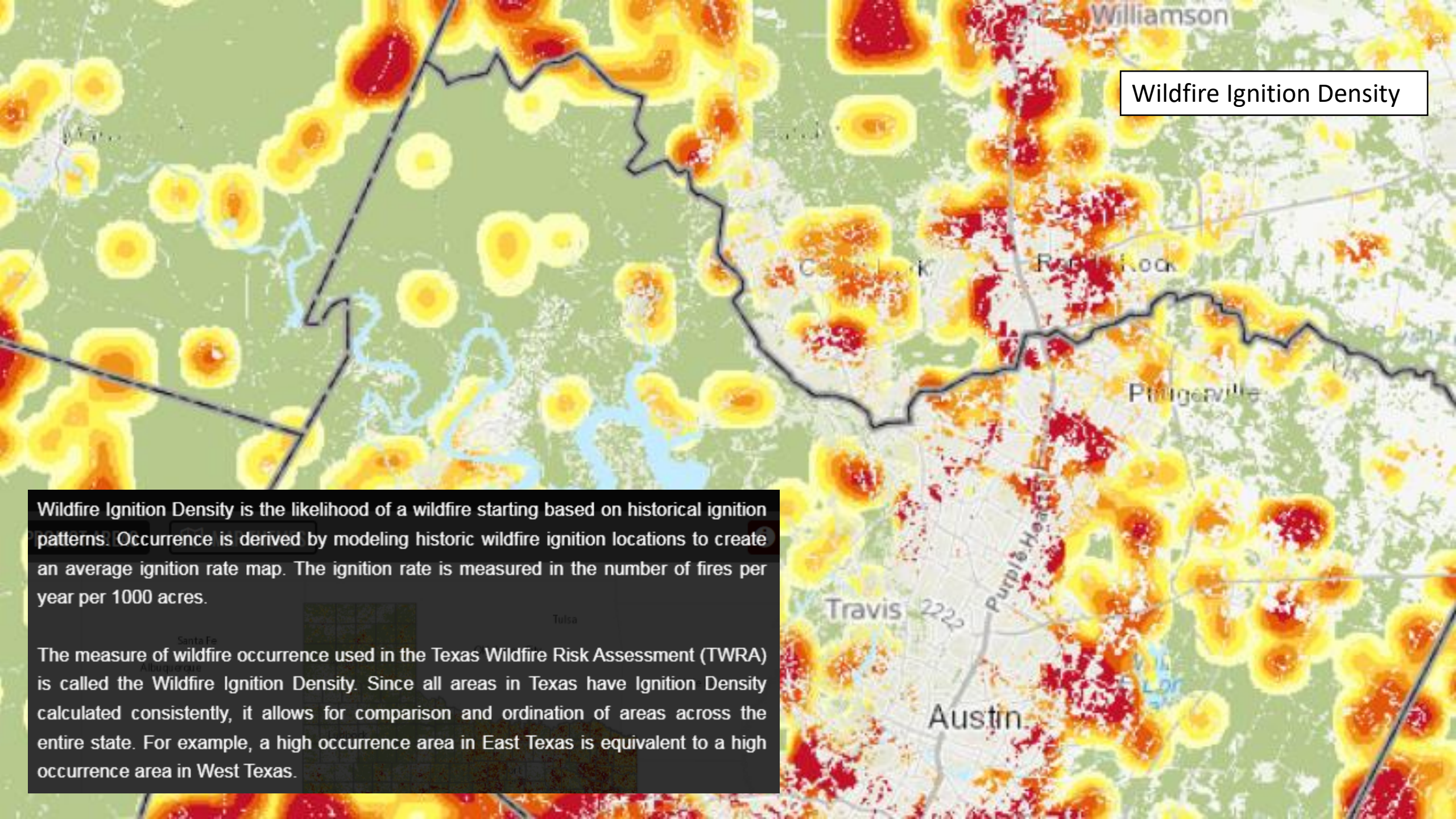


The Landforms dataset provides a general characterization of topographic features in Texas. It is used to identify where certain topographic features (i.e. hills and mountains) may impact suppression resources in terms of suppression difficulty.



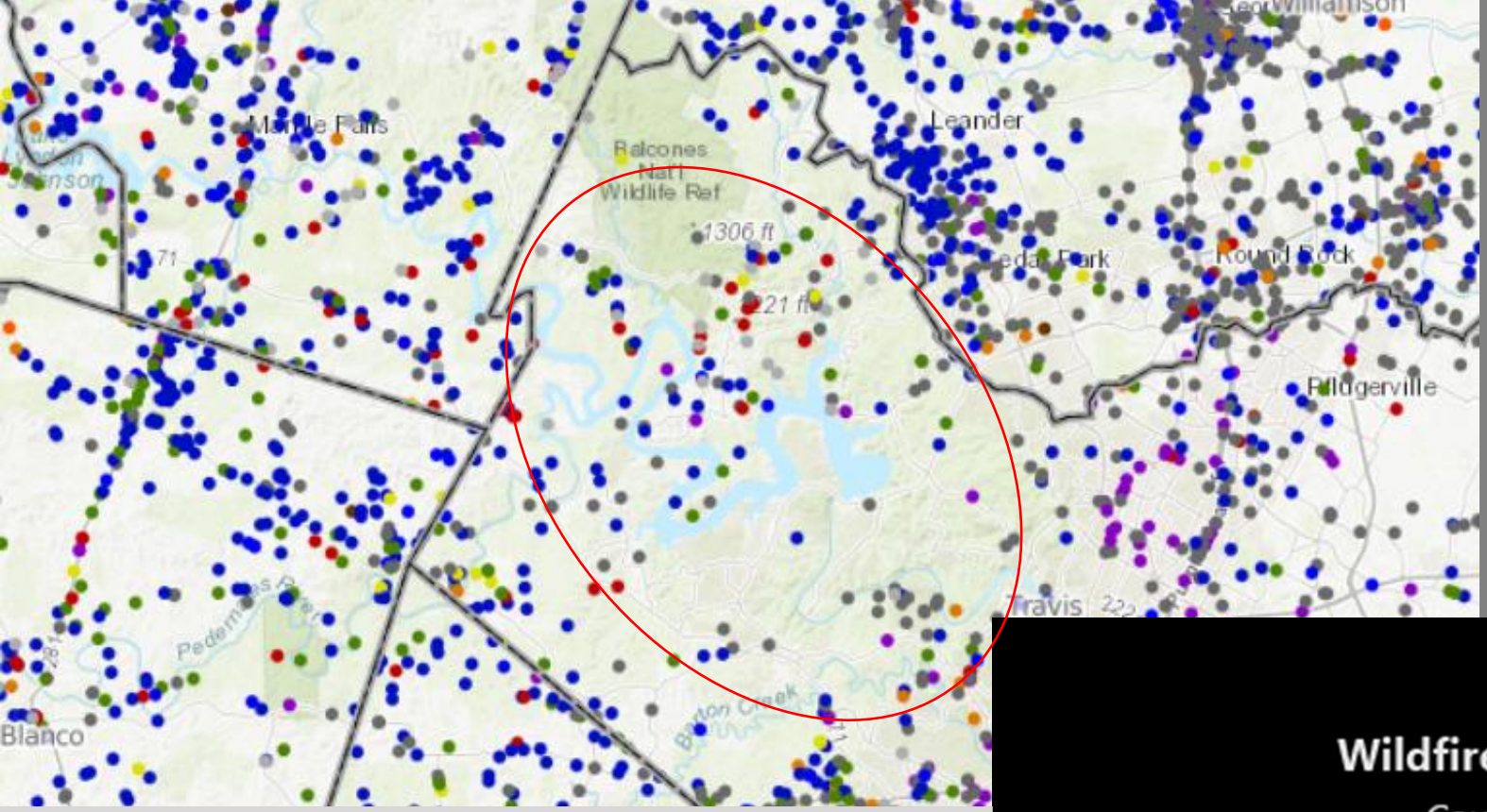
Percent Slope is a measurement of the rate of change of elevation over a given horizontal distance, in which the rise is divided by the run and then multiplied by one hundred. Percent slope is used to characterize the local conditions for operating equipment. Slope identifies the inclination at a single location based on the adjacent elevation values. Steep local conditions can severely restrict the movement of equipment and resources for suppression. This dataset is combined with Vegetation Operability data to derive the Dozer Operability Rating.


Wildfire Threat
Travis
Austin
Wildfire Threat is the likelihood of a wildfire occurring or burning into an area.
PROJECT AREAS
MAP THEMES
Threat is derived by combining a number of landscape characteristics including surface and canopy fuels, resultant fire behavior, historical fire occurrence, percentile weather derived from historical weather observations, and terrain conditions. These inputs are combined using analysis techniques based on established fire science.



Wildfire Ignition Density is the likelihood of a wildfire starting based on historical ignition patterns. Occurrence is derived by modeling historic wildfire ignition locations to create an average ignition rate map. The ignition rate is measured in the number of fires per year per 1000 acres.

The measure of wildfire occurrence used in the Texas Wildfire Risk Assessment (TWRA) is called the Wildfire Ignition Density. Since all areas in Texas have Ignition Density calculated consistently, it allows for comparison and ordination of areas across the entire state. For example, a high occurrence area in East Texas is equivalent to a high occurrence area in West Texas.

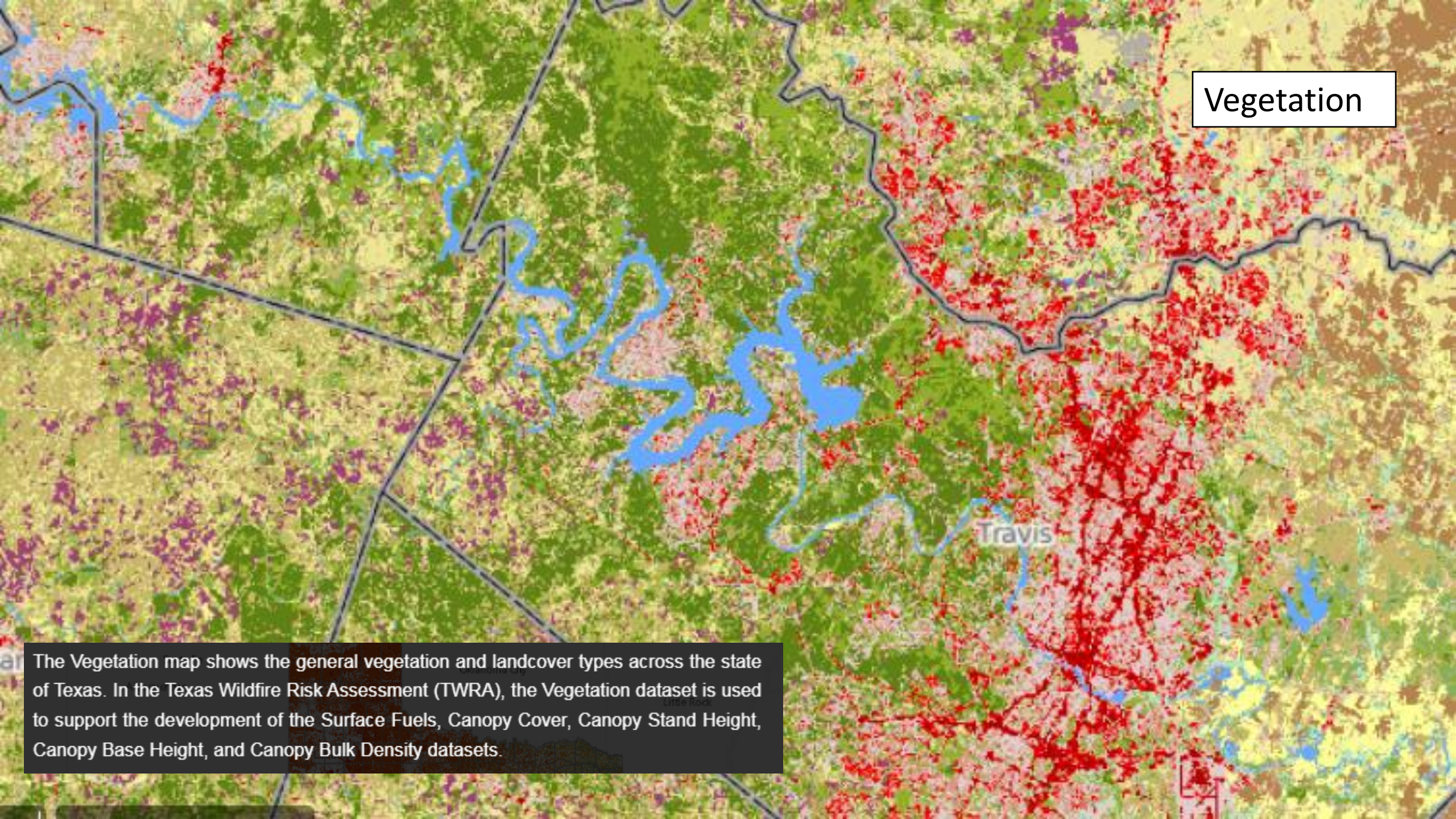


Wildfire Ignitions

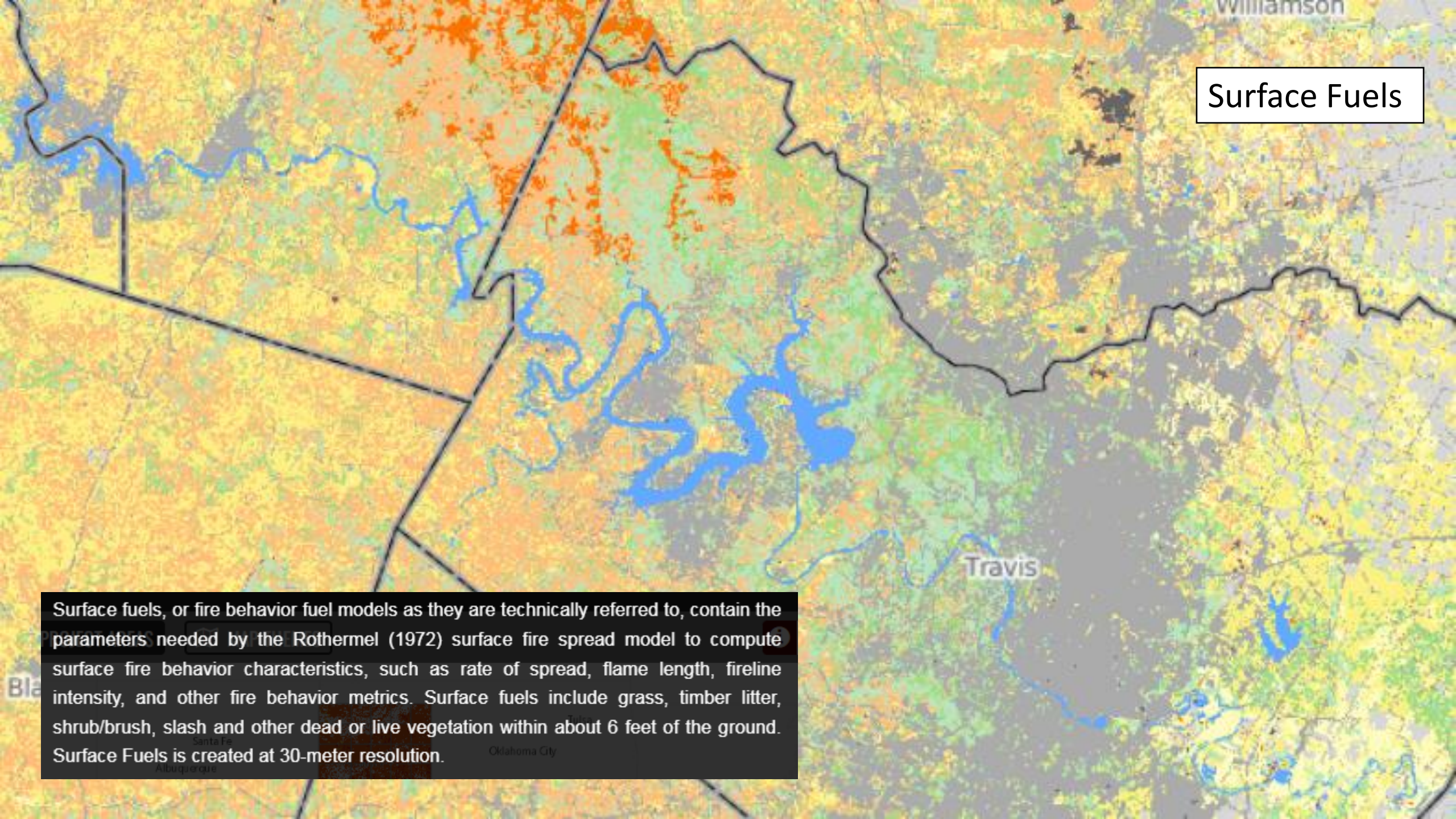
Wildfire Ignitions

Cause	Cause
Incendiary	Railroads
Lightning	Power Lines
Campfire	Children
Smoking	Debris Burning
Fireworks	Structure
Equipment Use	Miscellaneous
	Unknown

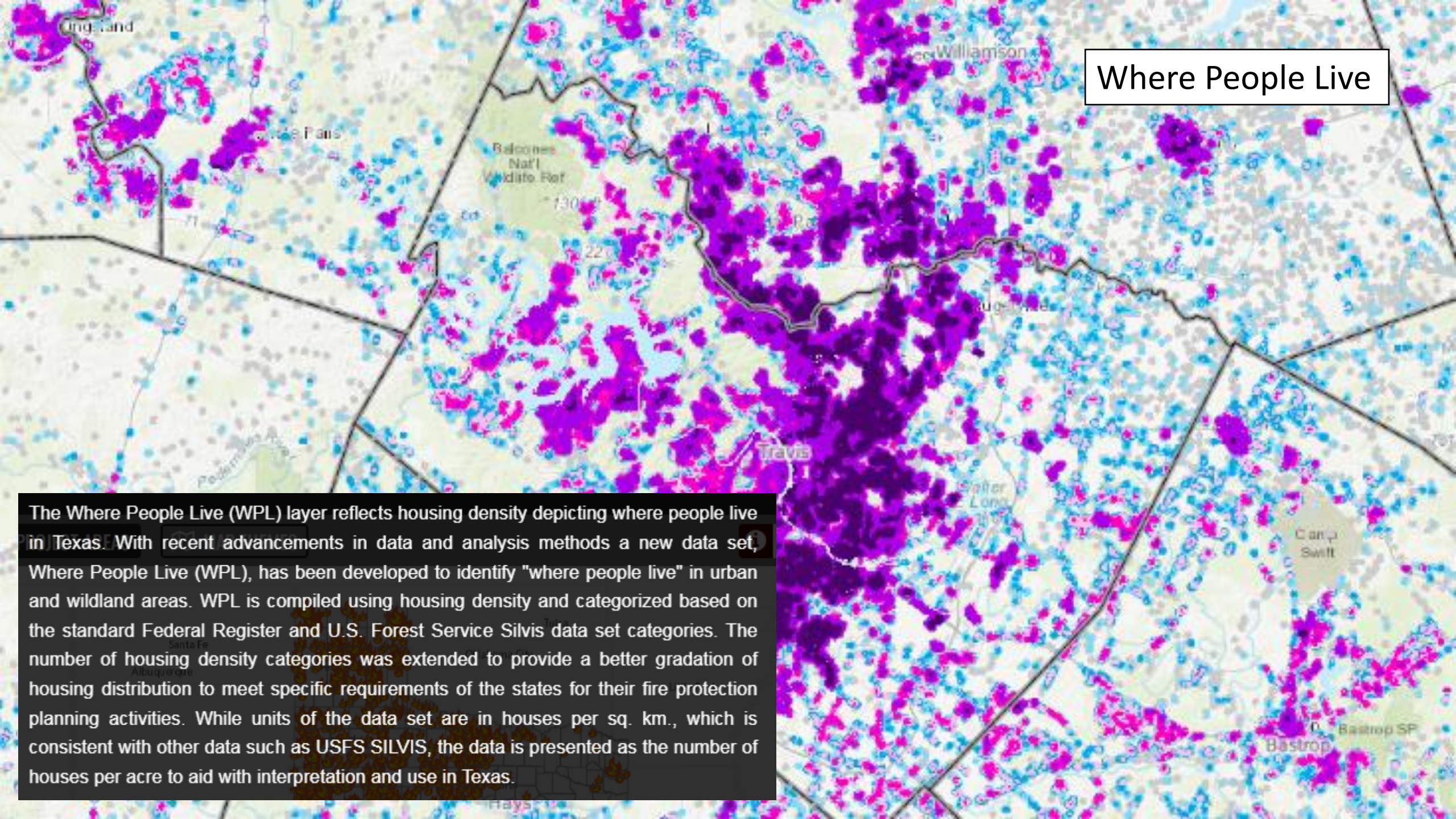
Vegetation



The Vegetation map shows the general vegetation and landcover types across the state of Texas. In the Texas Wildfire Risk Assessment (TWRA), the Vegetation dataset is used to support the development of the Surface Fuels, Canopy Cover, Canopy Stand Height, Canopy Base Height, and Canopy Bulk Density datasets.

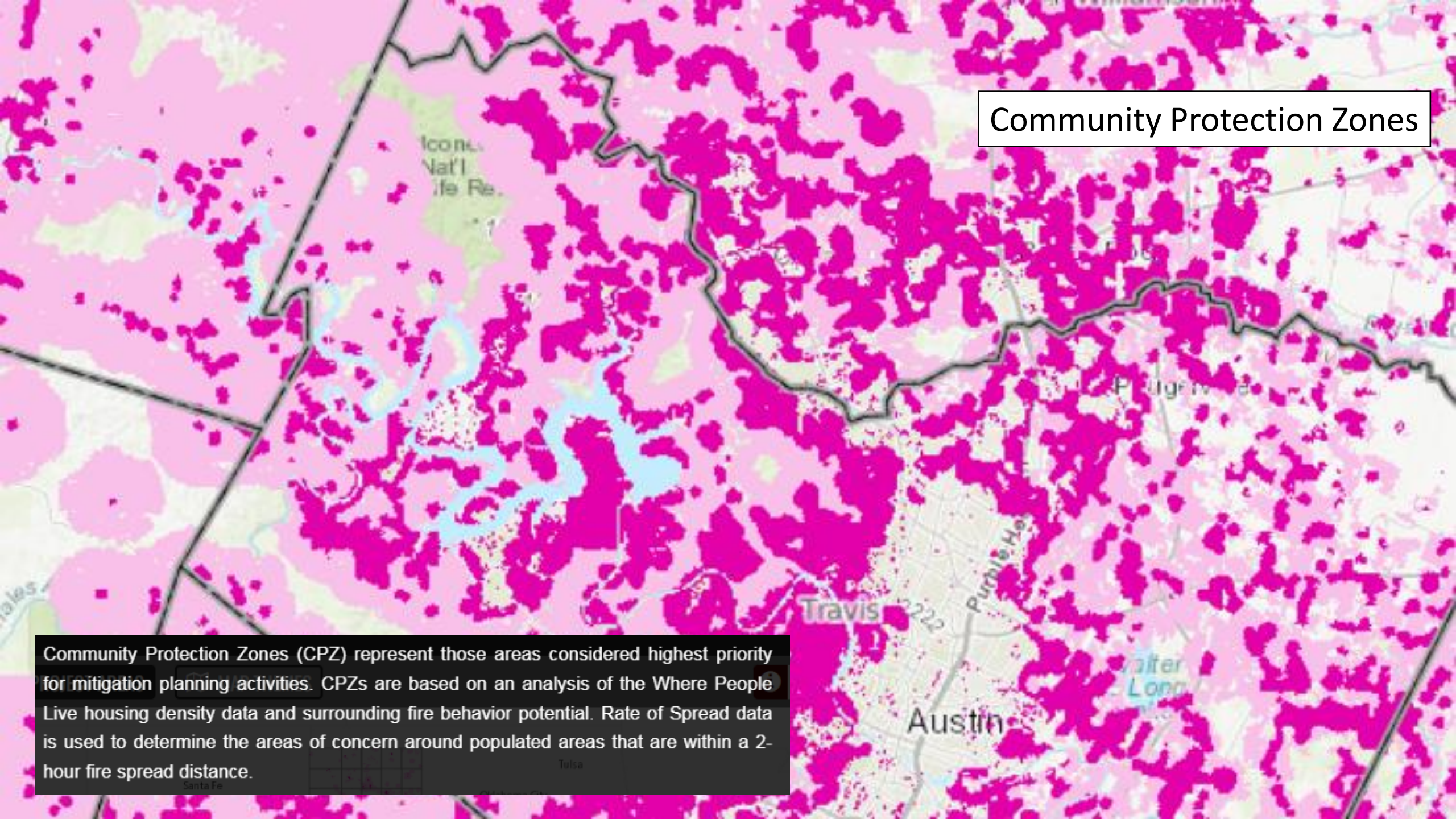


Surface fuels, or fire behavior fuel models as they are technically referred to, contain the parameters needed by the Rothermel (1972) surface fire spread model to compute surface fire behavior characteristics, such as rate of spread, flame length, fireline intensity, and other fire behavior metrics. Surface fuels include grass, timber litter, shrub/brush, slash and other dead or live vegetation within about 6 feet of the ground. Surface Fuels is created at 30-meter resolution.



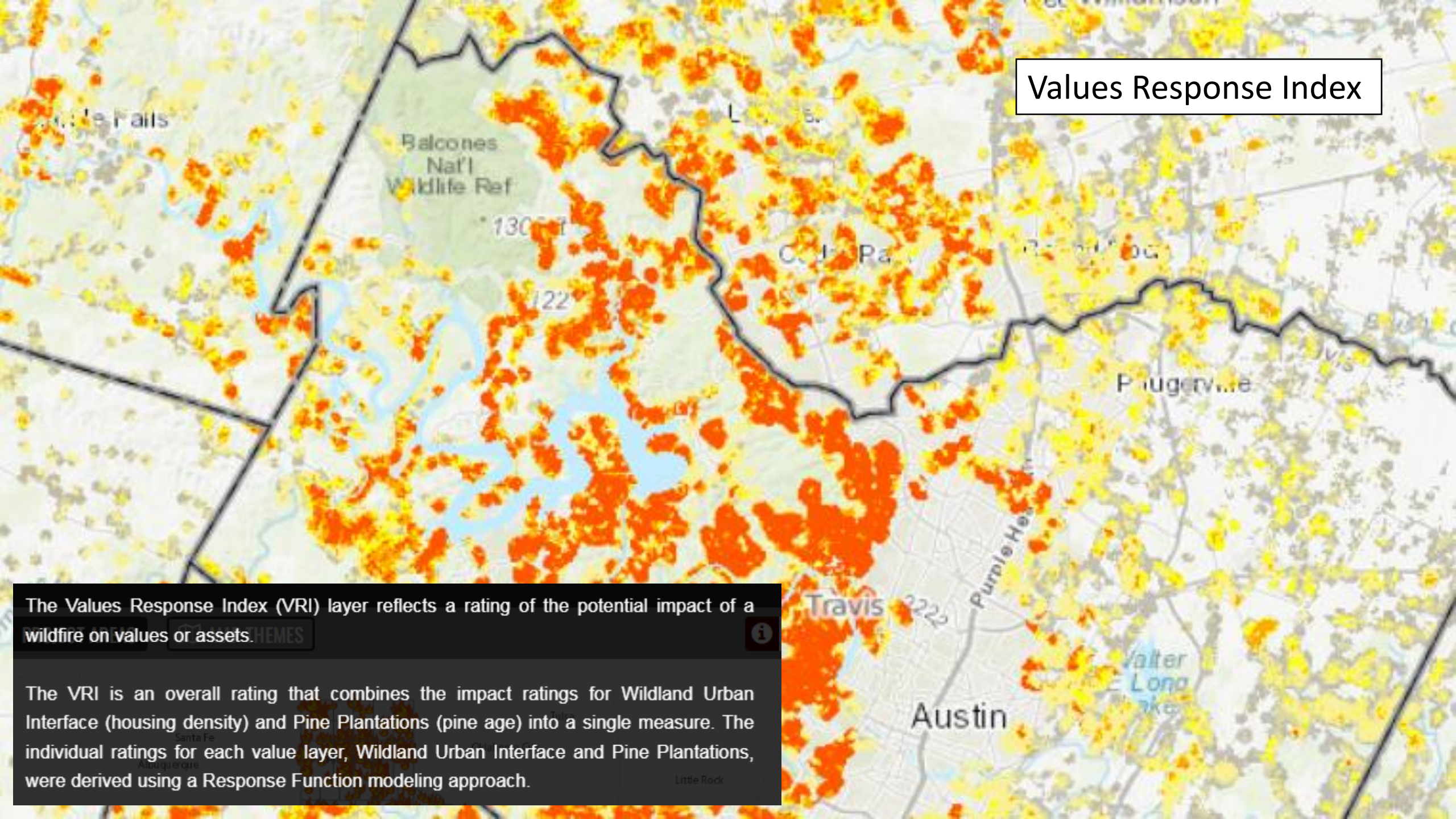
The Where People Live (WPL) layer reflects housing density depicting where people live in Texas. With recent advancements in data and analysis methods a new data set, Where People Live (WPL), has been developed to identify "where people live" in urban and wildland areas. WPL is compiled using housing density and categorized based on the standard Federal Register and U.S. Forest Service Silvis data set categories. The number of housing density categories was extended to provide a better gradation of housing distribution to meet specific requirements of the states for their fire protection planning activities. While units of the data set are in houses per sq. km., which is consistent with other data such as USFS SILVIS, the data is presented as the number of houses per acre to aid with interpretation and use in Texas.

Community Protection Zones



Community Protection Zones (CPZ) represent those areas considered highest priority for mitigation planning activities. CPZs are based on an analysis of the Where People Live housing density data and surrounding fire behavior potential. Rate of Spread data is used to determine the areas of concern around populated areas that are within a 2-hour fire spread distance.

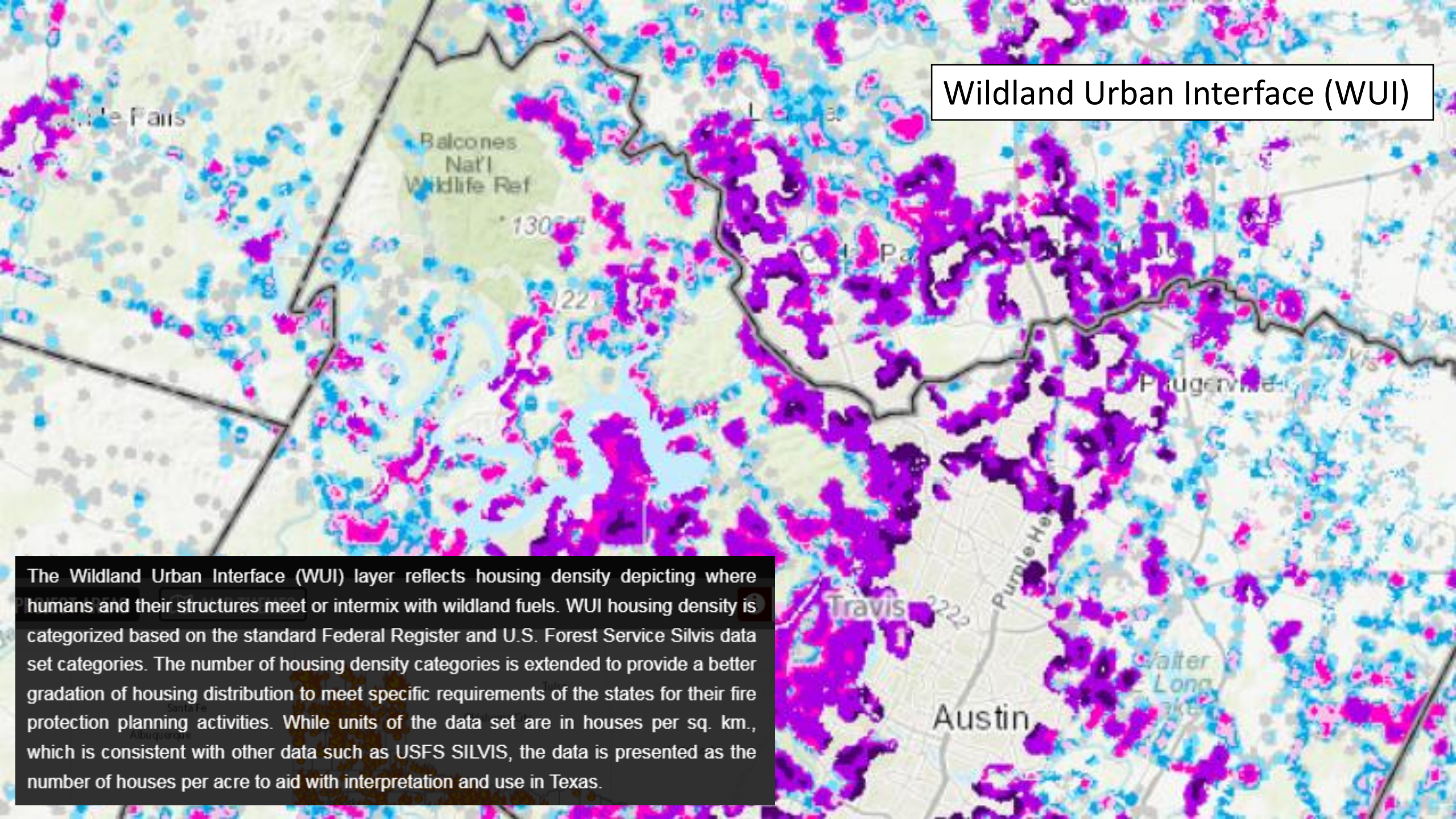
Values Response Index



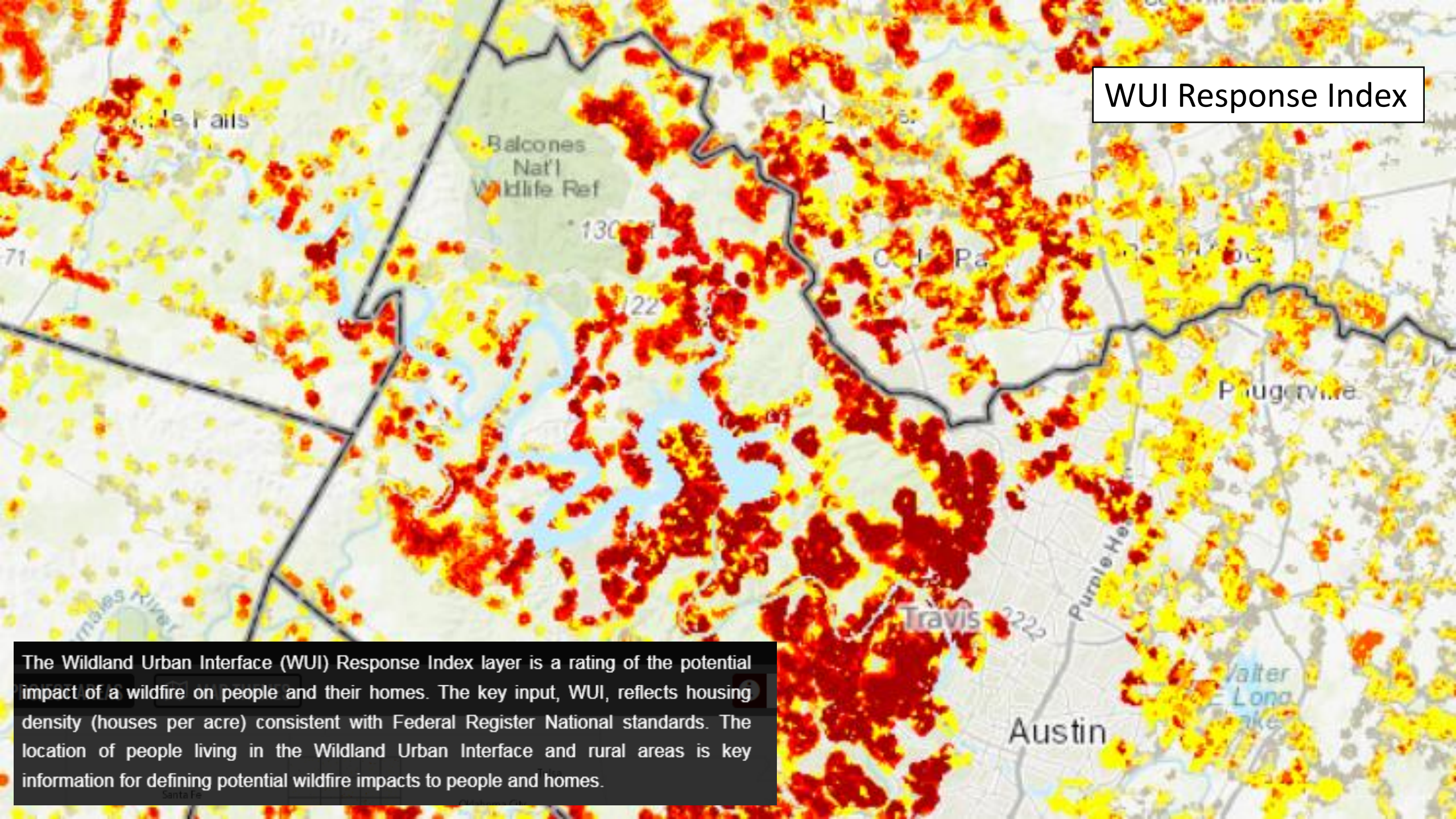
The Values Response Index (VRI) layer reflects a rating of the potential impact of a wildfire on values or assets.

The VRI is an overall rating that combines the impact ratings for Wildland Urban Interface (housing density) and Pine Plantations (pine age) into a single measure. The individual ratings for each value layer, Wildland Urban Interface and Pine Plantations, were derived using a Response Function modeling approach.

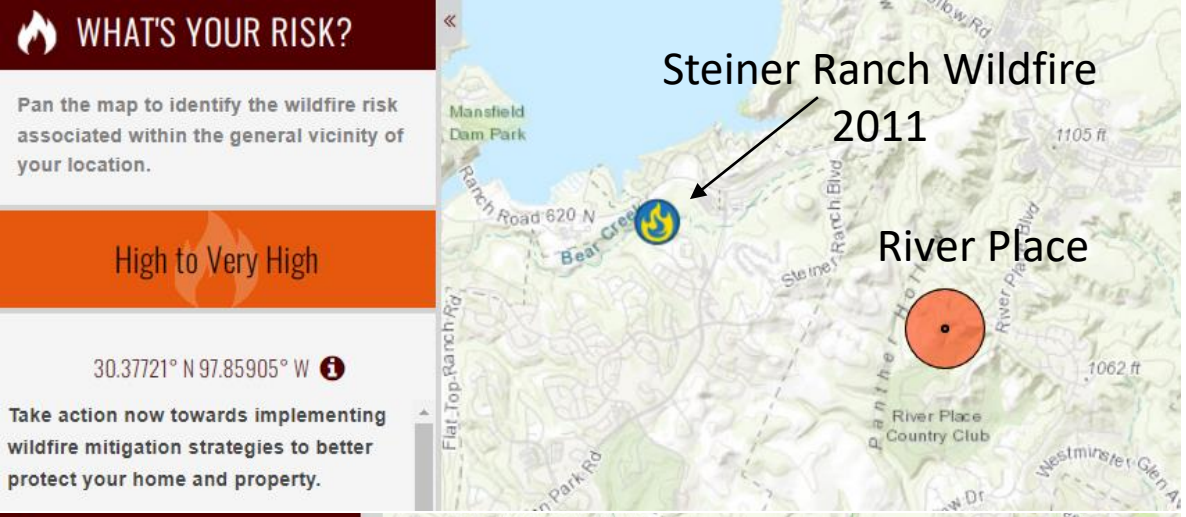
Wildland Urban Interface (WUI)

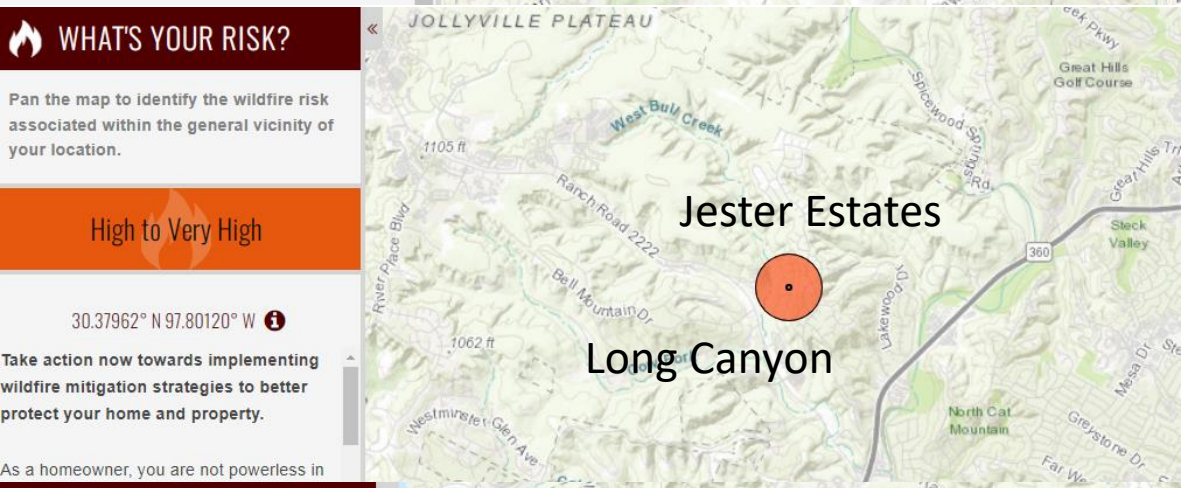


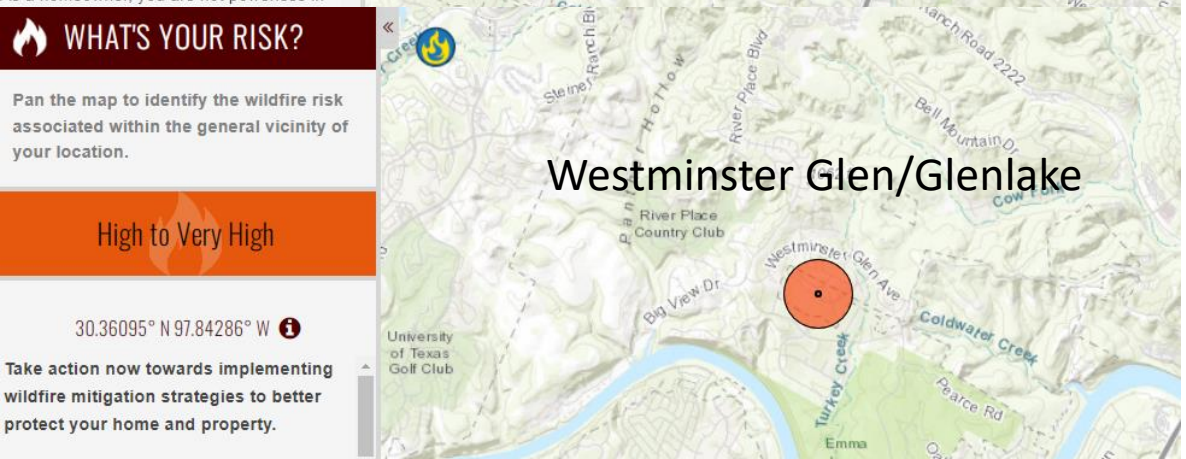
The Wildland Urban Interface (WUI) layer reflects housing density depicting where humans and their structures meet or intermix with wildland fuels. WUI housing density is categorized based on the standard Federal Register and U.S. Forest Service Silvis data set categories. The number of housing density categories is extended to provide a better gradation of housing distribution to meet specific requirements of the states for their fire protection planning activities. While units of the data set are in houses per sq. km., which is consistent with other data such as USFS SILVIS, the data is presented as the number of houses per acre to aid with interpretation and use in Texas.

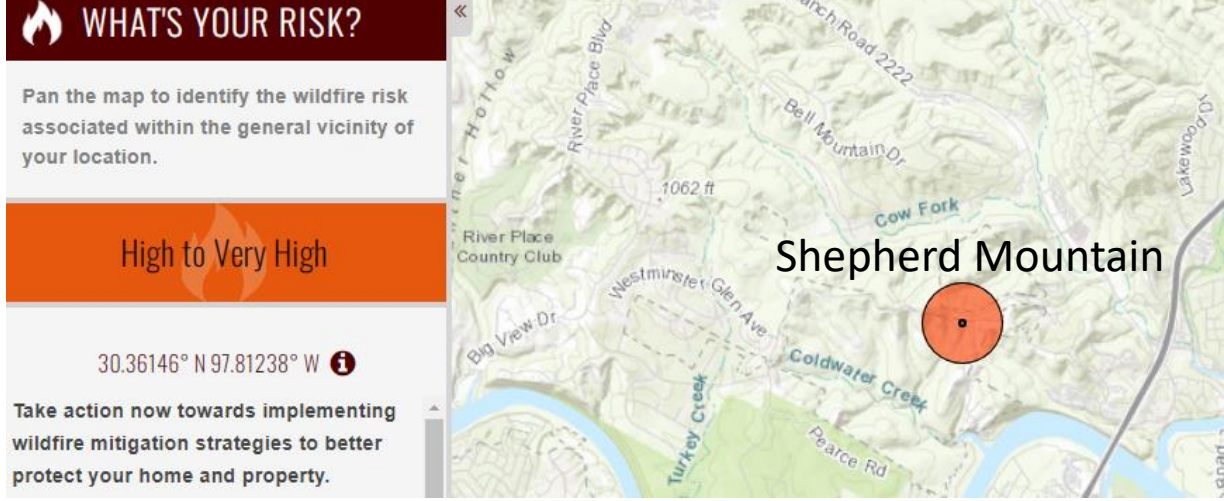
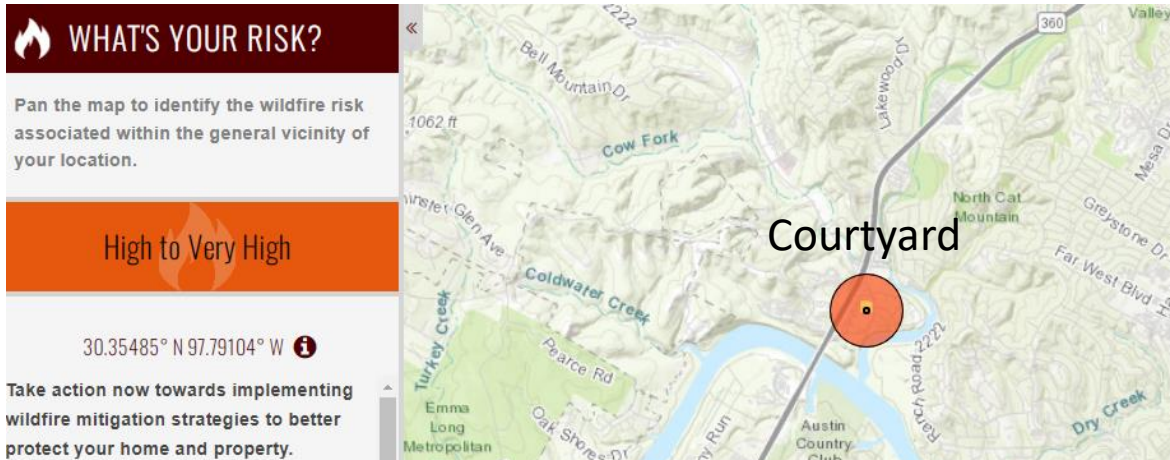


The Wildland Urban Interface (WUI) Response Index layer is a rating of the potential impact of a wildfire on people and their homes. The key input, WUI, reflects housing density (houses per acre) consistent with Federal Register National standards. The location of people living in the Wildland Urban Interface and rural areas is key information for defining potential wildfire impacts to people and homes.









Northwest Austin Neighborhoods
High to Very High Risk