

WUI Risk Index

Description

The Wildland Urban Interface (WUI) Risk 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.

The WUI Risk Rating is derived using a Response Function modeling approach. Response functions are a method of assigning a net change in the value to a resource or asset based on susceptibility to fire at different intensity levels, such as flame length. The range of values is from -1 to -9, with -1 representing the least negative impact and -9 representing the most negative impact. For example, areas with high housing density and high flame lengths are rated -9 while areas with low housing density and low flame lengths are rated -1.

To calculate the WUI Risk Rating, the WUI housing density data was combined with Flame Length data and response functions were defined to represent potential impacts. The response functions

were defined by a team of experts based on values defined by the SWRA Update Project technical team. By combining flame length with the WUI housing density data, you can determine where the greatest potential impact to homes and people is likely to occur.

Fire intensity data is modeled to incorporate penetration into urban fringe areas so that outputs better reflect real world conditions for fire spread and impact in fringe urban interface areas. With this enhancement, houses in urban areas adjacent to wildland fuels are incorporated into the WUI risk modeling. All areas in the South have the WUI Risk Index calculated consistently, which allows for comparison and ordination of areas across the entire region. Data is modeled at a 30-meter cell resolution, which is consistent with other SWRA layers.

Class	Acres	Percent
-9 Major Impacts	159	0.2%
-8	2,604	3.3%
-7	7,717	9.8%
-6	6,190	7.8%
-5 Moderate	12,848	16.2%
-4	12,899	16.3%
-3	12,175	15.4%
-2	18,942	23.9%
-1 Minor Impacts	5,602	7.1%
Total	79,136	100.0%