



What is? **TOPOGRAPHY**

The relief features or surface configuration of an area.

Topography's influence on fire behavior is more predictable than the other components in the [fire behavior triangle](#) - fuel and weather. Slope, aspect, elevation, and topographic features (e.g., canyons) can all influence a fire's rate of spread and other wildland fire behavior.

Slope

Slope is the amount or degree of incline of a hillside. Fire usually spreads faster uphill than downhill because fuels are more efficiently preheated by uphill-spreading of heat and flames. The steeper the slope, the faster the fire can burn.

Aspect

Aspect is the direction a slope is facing. The aspect of the slope determines the amount of heating it gets from the sun. South and southwest slopes get more sunlight than north facing slopes. Because of sun exposure, S/SW slopes generally have higher temperatures, lower relative humidity, and drier fuels. These slopes tend to have less vegetation and typically smaller and sparser fuels. South/SW slopes usually are more likely to ignite and have increased fire behavior relative to N/NE slopes.

Elevation

Elevation is the height of the terrain above mean sea level. Elevation can influence fire behavior in several ways: the amount and timing of precipitation, heat, wind exposure, and context to the surrounding land. Fuels dry out earlier in the year at lower elevations where it's warmer than at higher elevations. At higher elevations, snow tends to linger which affects the moisture content of the fuels and hence, the start of the fire season. Higher elevations tend to have more lightning strikes.

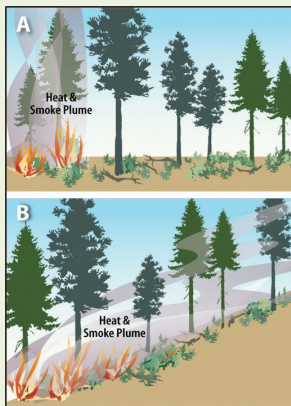


Diagram of slope. Credit: Stephen Fitzgerald

FIRE FACTS

Topographic features

Topographic features such as saddles or passes between two ridges can change wind patterns, funnel air, and increase wind speed, which can intensify fire behavior. Some features such as ridges, rock outcrops, streams, rivers, lakes, or roads can act as fire barriers and can be used to create a boundary around fires for firefighting or fuelbreaks for future fires.



Topographic features. Photo credit: Dsdugan via Wikimedia Commons

For more information:

For more information on Fire Behavior, Fuels, Weather, Types of Fire, Parts of a Fire, Measures of Fire Behavior and Fire Regime visit the [Northwest Fire Science Consortium's website](#).

[Introduction to Wildland Fire Behavior](#), S-190. National Wildfire Coordination Group.

[Fire Science Core Curriculum](#). 2017. OSU Extension Service, EM 9172: 197p.

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