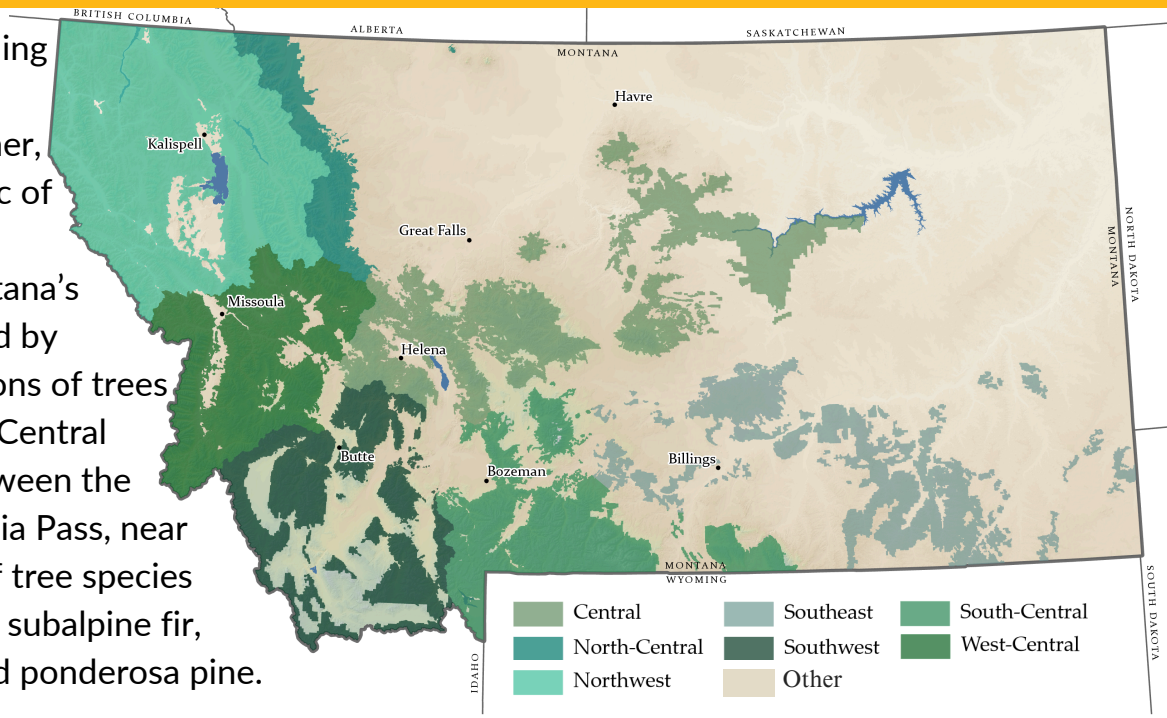
# The West-Central Forest Region

## What trees are around you?

The answer changes depending on climate, topography, and natural disturbances. Together, these factors create a mosaic of different forest types called forest regions. Each of Montana's eight regions is characterized by certain types and compositions of trees and other plants. The West-Central Forest Region stretches between the Missoula Valley and California Pass, near Anaconda. Here, a variety of tree species thrive, including Douglas-fir, subalpine fir, grand fir, lodgepole pine, and ponderosa pine.




**1** Between 1,000 and 4,000 ft in elevation, ponderosa pine forests dot the landscape, interspersed with natural grasslands.

**2** Around 4,000 ft in elevation, Douglas-fir, lodgepole pine, and western larch become more abundant.

**3** Elevations above 5,000 ft tend to host grand fir, subalpine fir, Engelman spruce, white bark pine, and some alpine larch. Around 8,800 ft in elevation, conditions become too extreme to support forests.

*The West-Central Forest Region includes the cultural homelands of the Ktunaxa ʔamakʔis, Séliš-Qlispé, Cayuse, Umatilla and Walla Walla peoples.*

## Topography

Imagine a trip up a mountainside in west-central Montana. The forest changes based on elevation, steepness, and direction. Even small changes can make a big difference in how much water, sunlight, or wind a certain area receives, and what types of trees are able to grow. The pictures above illustrate how elevation affects forests in the West-Central Forest Region.

Average July Daily High

**84'F**

Average January Daily Low

**18'F**

Annual Precipitation

**17"**

# Climate

The West-Central Forest Region's climate is greatly impacted by the Bitterroot Mountains, which form the border between Montana and Idaho. These peaks block much of the rain coming from the Pacific Coast, and many water-loving species that thrive further north are unable to survive in the West-Central Forest Region. The mountains also create buffers against wind and extreme temperatures.

# Disturbances

While topography and climate change forests over thousands of years, natural disturbances can change the way a forest looks in months, days, or even hours. Fire, pests, disease, avalanches, and windstorms are natural parts of the West-Central Forest Region. Often these disturbances help keep forests healthy by creating new space for trees to grow and returning nutrients to the soil. After a major disturbance like a fire, the forest grows back in stages over many years. This process is called succession. The pictures to the right depict a typical succession cycle in the West-Central Forest Region. Forest regions are determined by the types of trees present in the climax forest, but it is common to see many stages of succession occurring at the same time.

## 1 Disturbance

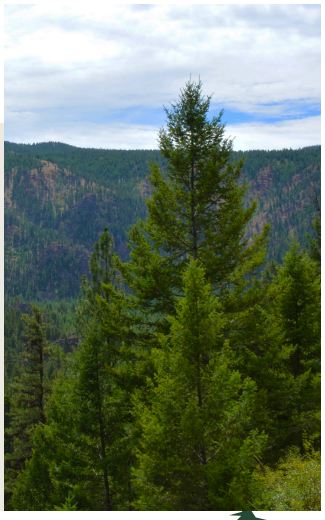
Disturbances occur at different scales. For example, the ponderosa pine forests in the West-Central Forest Region historically burned every 5-25 years. The lodgepole pine, Douglas-fir, and subalpine fir forests historically burned every 50-100 years.

## 2 Pioneer Species

The first plants to grow after a major disturbance are called pioneer species. Many wildflowers like arnica and beargrass are pioneer species, as well as a variety of grasses.

## 3 Young Forest

Some trees, like lodgepole pine, begin to regrow quickly. Shade-loving species like Douglas-fir tend to emerge only after a cover of shrubs has been established. Common shrubs in the area include snowberry, twinflower, and juniper.



## 4 Climax Forest

As the trees get taller, they shade out earlier succession species, creating the climax forest. The climax forest will persist until the next disturbance. In the West-Central Forest Region, the climax forest may be composed of ponderosa pine, Douglas-fir, subalpine fire, and lodgepole pine. Some areas may never grow forests; here, grasslands represent the climax stage.

# Resources

Read more about the different forest regions in "Forest Regions of Montana" at: **https://www.fs.usda.gov/research/treesearch/32532**

Read more about disturbance and succession in "Forest Succession on Four Habitat Types in Western Montana" at: **https://www.fs.usda.gov/research/treesearch/29613**