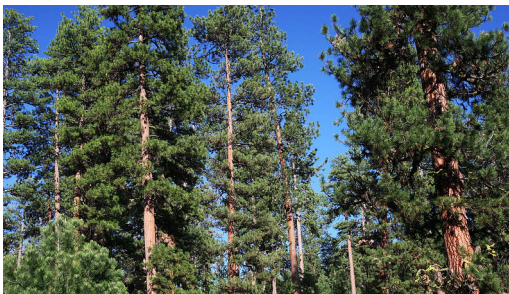
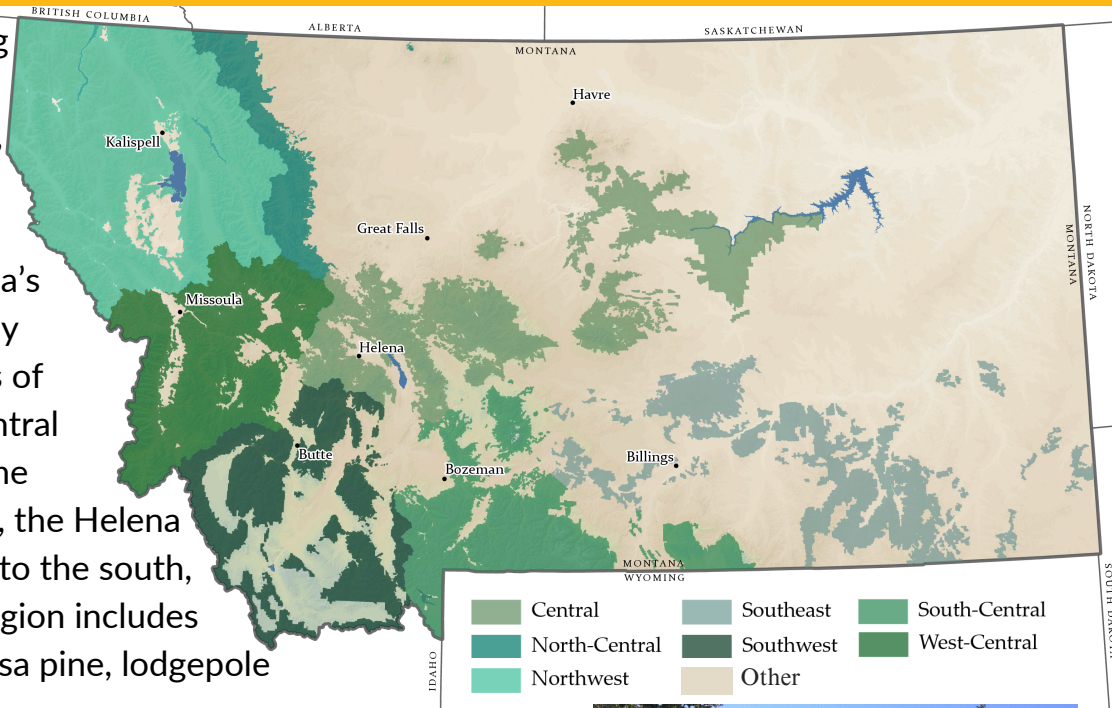


# The Central Forest Region



## 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 Central Forest Region is bordered by the Continental Divide to the west, the Helena Valley to the east, Deer Lodge to the south, and Havre to the north. This region includes abundant Douglas-fir, ponderosa pine, lodgepole pine, and subalpine fir forests.



**1** Below 5,000 ft in elevation, grasslands are interspersed with ponderosa pine and limber pine forests.



**2** Between 5,000 and 6,000 ft in elevation, Douglas-fir and lodgepole pine become more common.



**3** Above 6,000 ft in elevation, subalpine fir becomes the most dominant species, though whitebark pine is also common. Elevations above 8,500 ft are often too harsh to support forest growth.

*The Central Forest Region includes the cultural homelands of the Tsésthó'e (Cheyenne), Séliš-Qlispé, Cayuse, Umatilla and Walla Walla, Očhéthi Šakówin, Apsáalooke (Crow), Niitsítapiis-stahkoii ᠠᠨᠢᠰᠢᠲᠠᠫᠤᠯᠤᠰ (Blackfoot / Niitsítapi ᠠᠨᠢᠰᠢᠲᠠᠫᠤᠯᠤᠰ), and Michif Piyii (Métis) peoples.*

## Topography

Imagine a trip up a mountainside in 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 Central Forest Region. Soil type also impacts tree growth. Quick-draining limestone soils support trees like Douglas-fir that prefer drier conditions. Granite soils hold onto water longer, providing wetter conditions for species like lodgepole pine.



Rapid temperature drops and strong chinook winds make for harsh growing conditions, and the range and height of many tree species is limited. Chinook winds happen after air loses moisture going over the western slope of a mountain range. As the dry air moves down the eastern slope, it rapidly warms. Chinook winds cause trees to lose water, as evidenced by “red belts” - swaths of forests with dry, brown needles. If severe enough, the sudden water loss can kill trees.

## 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 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 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 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 Shrub and Sapling Stage**  
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 Central Forest Region, the climax forest may be composed of ponderosa pine, Douglas-fir, subalpine fir, 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 “Fire Ecology of Montana Forest Habitat Types East of the Continental Divide” at: <https://www.fs.usda.gov/research/treesearch/29570>

