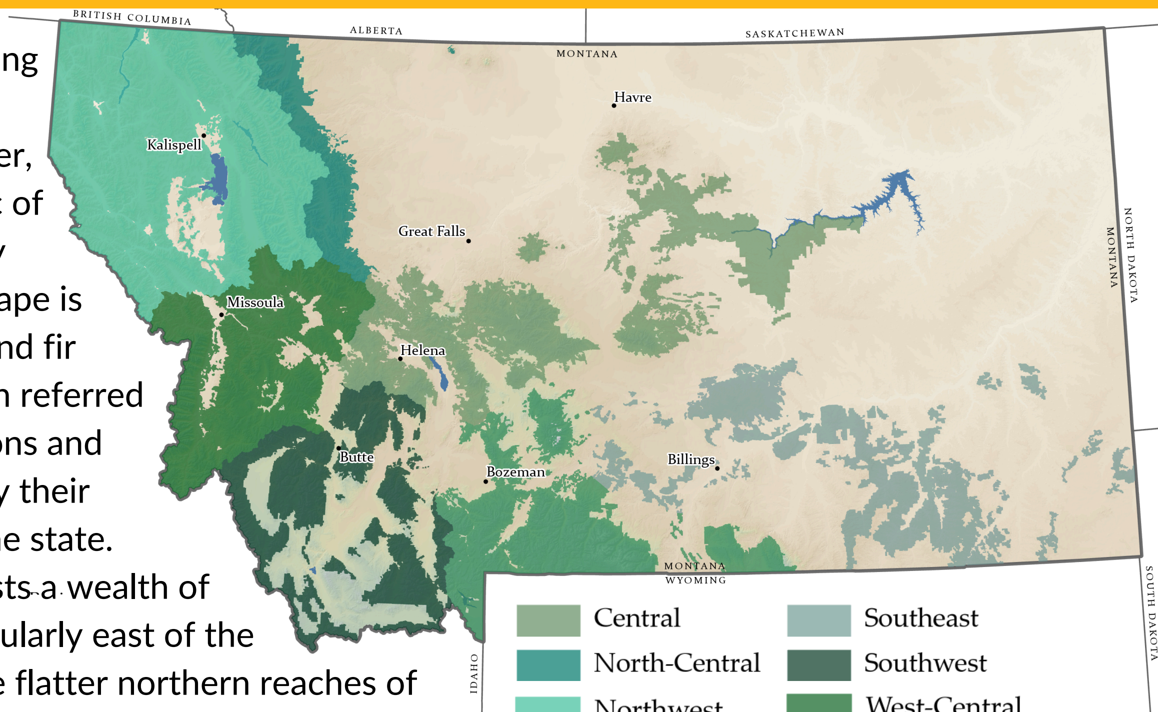
Other Montana Landscapes

What trees are around you?

The answer changes depending on climate, topography, and natural disturbances. Together, these factors create a mosaic of different landscapes. In many parts of Montana, the landscape is dominated by pine, spruce, and fir forests. These areas are often referred to as Montana's Forest Regions and are characterized primarily by their geographic location within the state. However, Montana also boasts a wealth of non-forest landscapes, particularly east of the Continental Divide and in the flatter northern reaches of the state. Here, grasslands, shrublands, and groves of deciduous trees are common.



Topography

The Continental Divide casts much of eastern Montana in a "rain shadow." As clouds move up the western slopes, they lose most of their moisture. As a result, the land east of the Continental Divide tends to be drier and support fewer forests. This is particularly true of the flat grasslands of northeastern Montana, though some trees are often found along riverbanks.

The grasslands and shrublands of northern and eastern Montana include the cultural homelands of the Hunkpapa, Tséstho'e (Cheyenne), Itazipco, Cayuse, Umatilla and Walla Walla, Očhéthi Šakówiŋ, Niitsítpiis-stahkoii ᖹᐟᒧᐧᐨᑯᐧ ᓭᐦᖽᐟ (Blackfoot/Niitsítapi ᖹᐟᒧᐧᒣᑯ), Apsáalooke (Crow), Michif Piyii (Métis), and ᓀᐦᐃᔭᐤ ᐊᐢᑭᕀ Nêhiyaw-Askiy (Plains Cree) peoples.

Average July Daily High
86'F

Average January Daily Low
11'F

Annual Precipitation
11"

Climate

As non-forested areas can be found throughout Montana, the climate of these landscapes varies significantly. In general, grasslands and shrublands tend to receive less precipitation than forested areas. Tree growth may also be limited by cold winter weather and strong winds, particularly in northern and eastern Montana. The trees that are found in these areas often grow along rivers where the moist soil and steep banks provide a reprieve from an otherwise inhospitable climate.

Disturbances

While topography and climate change landscapes over thousands of years, natural disturbances can change the way a landscape looks in months, days, or even hours. Fire, pests, disease, and storms are natural parts of Montana's landscapes. Often these disturbances help keep forests and grasslands healthy by creating new space for trees to grow and returning nutrients to the soil. After a major disturbance like a fire, plants grow back in stages over many years. This process is called succession. The pictures to the right depict a typical succession cycle. While some areas may go through all stages of succession, others are unable to support later succession stages. Often, grasslands and shrublands act as the climax stage.

1 Disturbance

Disturbances occur at many different scales. One of the most common disturbances is fire. The grasslands of northeastern Montana historically burned every 3-20 years.

2 Pioneer Species

The first grasses and flowers to grow after a major disturbance are called pioneer species. Many wildflowers, like goldenrod and fleabane, serve as pioneer species. Some areas will remain grasslands indefinitely.

3 Shrubland

Over time, shrubs such as sagebrush begin to grow and replace some of the grass and flower species. Some areas will remain shrubland indefinitely.

4 Climax Stage

The climax stage of most non-forested areas is grassland or shrubland. However, a few pockets of land are capable of supporting ponderosa pine and deciduous tree groves.

Resources

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**

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