

= High Desert (Oregon) =

The Oregon high desert is a region of the U.S. state of Oregon , located east of the Cascade Range and south of the Blue Mountains , in the central and eastern parts of the state . Divided into a southern region and a northern region , the desert covers most of five Oregon counties and averages 4 @, @ 000 feet (1 @, @ 200 m) above sea level . The southwest region is part of the Great Basin and the southeast is the lower Owyhee River watershed . The northern region is part of the Columbia Plateau , where somewhat more rainfall allows the largest industry on private land to be the cultivation of alfalfa and hay . Public land within the region is owned primarily by the Bureau of Land Management (BLM) , which manages more than 30 @, @ 000 square miles (78 @, @ 000 km2) , including five rivers designated as Wild and Scenic .

While the high desert is somewhat dry , it is only arid relative to Western Oregon . The region averages 15 inches (380 mm) of annual rainfall ; the Alvord Desert , however , gets only 7 inches (180 mm) of rain each year . Contrary to its name , most of the high desert is not dry enough to truly qualify as desert , and biologically , most of the region is classified as scrubland or steppe .

At 9 @, @ 733 feet (2 @, @ 967 m) above sea level , the summit of Steens Mountain is the highest point in the high desert . The broad fault @-@ block mountain is characteristic of the basin and range plate tectonics of the high desert . About 16 million years ago , during the early Miocene epoch , lava flows from volcanic eruptions covered about half the surface area of Oregon . The Earth 's crust then began stretching , giving way to further volcanic activity from 15 million to 2 million years ago . Several ice ages over this time formed the large lakes in the high desert .

The climate of the high desert provides habitat for mammals such as pronghorn , coyote , mule deer , black @-@ tailed jackrabbit , and cougar . Birds common in the region include sage grouse , California quail , and prairie falcon . The western juniper is the most common tree in the region , and big sagebrush and common woolly sunflower are the region 's most widespread plants .

= = Geography = =

The high desert of Oregon is located in the central and southeastern part of the state . It covers approximately 24 @, @ 000 square miles (62 @, @ 000 km2) , extending approximately 200 miles (320 km) from central Oregon east to the Idaho border and 130 miles (210 km) from central Oregon to the Nevada border to the south . Most of the region is located in Crook , Deschutes , Harney , Lake , and Malheur counties .

The high desert gets its name from its generally high elevation , averaging about 4 @, @ 000 feet (1 @, @ 200 m) across the region . It is bordered by the eastern foothills of the Cascade Range to the west . The Blue Mountains are the geographical boundary to the north , marking the northern end of the high desert 's semi @-@ arid plateau . The southern high desert is part of North America 's Basin and Range Province , which extends south through Nevada and Arizona , into Mexico . It contains large alkali lakes and tall cliffs , some with a prominence of more than 2 @, @ 000 feet (610 m) . Steens Mountain , in Harney County , is the highest point within the region ; its summit is 9 @, @ 733 feet (2 @, @ 967 m) above sea level . To the east , the high desert country of the Columbia Plateau extends across the Snake River and into Idaho .

A number of rivers flow through the high desert region . These include the Deschutes River and its tributary the Crooked River , as well as the Malheur , Owyhee , and John Day rivers , which are all within the Columbia River watershed . Since the high desert encompasses the portion of the hydrographic Great Basin located in Oregon , smaller rivers in the high desert flow into closed basins . The Chewaucan River , the Donner und Blitzen River , and the Silvies River each flow into some of the high desert 's salt lakes .

= = = Land use = = =

The largest landowner in eastern Oregon is the U.S. government . The Bureau of Land Management administers over 13 @. @ 6 million acres (55 @, @ 000 km2) in the bureau 's Burns ,

Lakeview , Prineville , and Vale districts , most of which are in the state 's high desert country . In addition , Congress has designated specific sections of the Crooked , Deschutes , Donner und Blitzen , Malheur , and Owyhee rivers as part of the National Wild and Scenic Rivers System .

Agriculture is the largest industry in the region . Livestock ranches utilize large tracts of private and government land for grazing . Ranchers raise cattle and sheep in many parts of the region . Because of low rainfall , most crops require irrigation . Agricultural crops include alfalfa and other hay crops , wheat , oats , barley , potatoes , onions , sugar beets , and mint .

== Geology ==

Between 17 and 15 million years ago , magma from deep beneath eastern Oregon rose to the Earth 's surface , causing a period of significant volcanic activity . A series of lava floods erupted from fissures near the Oregon @-@ Idaho @-@ Washington border . The resulting lava flows traveled up to 400 miles (640 km) from their source . Some individual flows covered as much as 10 @,@ 000 square miles (26 @,@ 000 km²) to a depth of 100 feet (30 m) . Eventually , these lava flows covered half the state of Oregon , creating a formation known as the Columbia River Basalt Group , the geologic foundation beneath much of the high desert .

After the original eruptions subsided , the Earth 's crust began to stretch and crack . Between 15 and 2 million years ago , this created hundreds of new volcanoes that added additional layers of lava on top of the Columbia River Basalt and left behind hundreds of lava tubes . These new flows blanketed the southeastern third of the state . Many of the volcanoes and smaller cinder cones from this period still exist in eastern Oregon . Afterwards , subsequent rifting produced large fault @-@ block mountains throughout the region . The escarpment @-@ type mountains and high @-@ elevation valleys created by these faults produced the basin and range landscape that makes up much of Oregon 's high desert country .

During the last two million years , a series of ice ages altered the landscape . As each ice sheet melted , runoff and increased rainfall filled many of the region 's closed basins , forming large pluvial lakes . The Goose Lake , Harney , and Klamath basins were filled along with many other smaller basins . Some of the lakes covered as much as 1 @,@ 000 square miles (2 @,@ 600 km²) . However , as the climate became drier , these large lakes shrank away . Goose Lake , Harney Lake , Malheur Lake , Summer Lake , Lake Abert , and the Warner Lakes are remnants of ancient pluvial lakes .

== Climate ==

Annual precipitation throughout Oregon 's high desert region is relatively low , averaging less than 15 inches (380 mm) per year in most areas . Bend , the region 's largest city , only receives 12 inches (300 mm) of precipitation per year . Burns receives about 11 inches (280 mm) of precipitation annually , while Rome , in central Malheur County , and the official weather station at Whitehorse Ranch in southern Harney County receive only 8 inches (200 mm) in an average year . Some of the mountainous areas , however , receive significantly more precipitation in the form of snow . For example , the high @-@ elevation city of Lakeview has an average annual snowfall of nearly 68 inches (1 @,@ 700 mm) .

The majority of high desert areas receive most precipitation in the winter months , decreasing steadily through late summer into the fall . Some areas in the eastern and southern parts of the region receive peak precipitation in the late spring and early summer . For example , at Hart Mountain in Lake County , the wettest time of the year is March through June . The driest months throughout Oregon 's high desert are July through September ; however , there are still isolated thunderstorms during that period .

== History ==

== = Native peoples and white settlement == =

The indigenous people of the high desert region are the Northern Paiute people . These Native Americans were once semi @-@ nomadic hunter @-@ gatherers who relied on nuts , roots , seeds , berries , and eggs , and animals such as deer , pronghorn , geese , quail , rabbits , and bear , following their food to high and low elevations depending on the time of year . They make sandals , traps , and fishing nets , and weave baskets . Made out of sagebrush , willow , tule plant , Indian hemp , and sumac fibers , the baskets are tight enough to carry water . Archaeological evidence from near Fort Rock has shown that people wove baskets in the area at least 9 @,@ 000 years ago .

Throughout the 18th century and into the early 19th century , the Northern Paiute had numerous conflicts with tribes who lived to the northwest . The Wasco @-@ Wishram and other Chinook tribes often encroached on the high desert landscape of the Northern Paiute territory . After one such incident in 1811 , the Northern Paiute migrated north to the Columbia River and attacked Wasco canoes . Around this time , the Northern Paiute numbered approximately 7 @,@ 500 . The Snake War , a war between the natives and white settlers in the region in the 1860s , killed roughly two thirds of the population of the Northern Paiute . The whites won the war and then set aside the Malheur Reservation for the Northern Paiute and other Oregon Native American tribes .

White settlers who had traveled to Oregon along the Oregon Trail began to live in the high desert region in the 1850s and the 1860s , after they had begun farming and logging in the Willamette Valley and other lands in western Oregon . Thousands of these emigrants reached the area from the west , crossing the Cascade Range to make land claims in eastern Oregon . The high desert area was settled by whites later than western Oregon in part because of Elijah White 's failure to find a pass east through the Cascades . Once they had claimed more land , pioneers and members of the American government negotiated treaties with natives in the high desert and elsewhere in Oregon , often forcing them off their native lands and on to reservations .

In 1866 , American soldiers established Camp Warner , a military camp near present @-@ day Hart Mountain National Antelope Refuge in Lake County . They were sent from Boise , Idaho , to build a military camp in the high desert , and built it east of the Warner Lakes , because they doubted that they could cross the series of wetlands . Maj. Gen. George Crook disapproved of the soldiers ' decision . He built a road across the lakes and moved the camp to the western side of them .

Of the four major cities in the high desert , Prineville was established earliest . Its post office originally opened under the name , " Prine " , in 1871 . It was named for Barney Prine , a whisky and metal merchant in the area . Lakeview 's post office was then established in 1876 . At that time , Goose Lake was larger , and it was visible from the post office . The Burns post office opened in 1884 and the city was established in 1891 . It was named for the Scottish poet Robert Burns . Bend 's name was derived from the phrase , " Farewell Bend , " the location where pioneers traveling through the area last saw the Deschutes River . The Bend post office was established in 1904 .

In 1878 , the Bannock people and northern Shoshone tribes participated in the Bannock War , a war against white settlers in the region over the destruction of camas root ? a major source of food for the natives ? by white settlers ' hogs . The Bannock and the Northern Paiute suffered from violence during the conflict , and once the white settlers had won the war , the natives were allotted into various reservations . The Northern Paiute were sent to the Yakama Indian Reservation , and in later years have been dispersed throughout several reservations in the western United States .

White settlers created the 13 @,@ 736 @-@ acre (5 @,@ 559 ha) Burns Paiute Reservation , just north of Burns , in 1897 . The reservation was established in 1972 . It is home to the descendants of the Wada Tika band of Northern Paiutes . As of 1992 , it had 356 members . As of 1980 , there were 57 descendants of the Northern Paiute tribe living outside of the reservation .

== = Place names == =

In the 19th century , Oregon 's high desert area was called the Great Sandy Desert (a misnomer , as there is very little sand in the region) , the Rolling Sage Plain , and the Artemisia Desert . Over

the years , the region has also been known as Oregon 's Empty Quarter , the Great Wide Open , and Oregon 's Cowboy Country . Today , many local residents call it the Oregon Outback . However , the old names are occasionally still used . A 1996 National Geographic magazine " Map of the United States Physical Landscape " used the pioneer name , Great Sandy Desert , to identify the southeastern quarter of Oregon . However , the region is most commonly known as Oregon 's " High Desert " . " High Desert " is the official name for a plain in Deschutes County , as recognized by the United States Board on Geographic Names . Variant names for the High Desert are " Great Sandy Desert " and " Rolling Sage Plains " .

= = Flora and fauna = =

The Oregon Badlands Wilderness , 15 miles (24 km) east of Bend , has vegetation typical of the high desert region . The native plants are adapted to survive on less than 12 inches (300 mm) of rain per year . The area is dominated by big sagebrush and rabbitbrush along with hardy grasses like Idaho fescue , bluebunch wheatgrass , and bunchgrass . In the spring , there are native wildflowers such as Yellow Oregon sunshine , dwarf purple monkeyflower , sulfur buckwheat , Indian paintbrush , and mariposa lilies . Other high desert wildflowers common throughout the region include buttercups , larkspur , phlox , primroses , and coral mallow . The Oregon Badlands Wilderness also contains the oldest known tree in Oregon , a Western juniper estimated to be more than 1 @, @ 600 years old .

Hundreds of animal species are found in Oregon 's high desert environment . In the Hart Mountain National Antelope Refuge alone , there are over 300 , including 239 bird species and 42 mammals . Throughout the high desert region , Mule deer , pronghorn , coyotes , American badgers , and Black @-@ tailed Jackrabbits are common . Elk , bighorn sheep , cougars , bobcats , gray foxes , red foxes , North American porcupines , and North American beavers are also found in some parts of the high desert .

Smaller mammals native to the area include long @-@ tailed weasels , woodchucks , cottontail rabbits , pygmy rabbits , golden @-@ mantled ground squirrels , antelope squirrels , Townsend 's ground squirrels , yellow @-@ pine chipmunks , Ord 's kangaroo rats , and northern pocket gophers . Mice species include Great Basin pocket mouse , northern grasshopper mouse , western harvest mouse , deer mouse , meadow mouse , and creeping vole . There are also numerous bat species that live in Oregon 's high desert country .

Common high @-@ desert birds include sage grouse , quail , and sage thrasher . Near high @-@ desert lakes and in riparian areas , there are American dusky flycatchers , yellow warblers , orange @-@ crowned warblers , house wrens , spotted towhees , Brewer 's blackbirds , western meadowlarks , swallows , and nighthawks. mountain chickadees , Cassin 's finches , black @-@ headed grosbeaks , green @-@ tailed towhees , yellow @-@ rumped warblers , MacGillivray 's warblers , mountain bluebirds , common ravens , northern flickers , and white @-@ headed woodpeckers are common in parts of the region . Birds of prey include owls , hawks , prairie falcons , golden eagles , and bald eagles .