



Vegetation Mapping at Cedar Breaks National Monument

Wondering where in the park to look for a certain bird? Trying to plan a prescribed fire? Need help identifying potential habitat for a threatened species? You need a vegetation map!

Vegetation maps visually display the distribution of vegetation communities across a landscape. Knowing what's growing where, and what kinds of habitat occur in a park, helps park managers to successfully conduct a variety of activities, including park planning, resource monitoring, interpretive programs, prescribed fire, and climate change response. Vegetation maps also provide a baseline for ecological studies.

In cooperation with the U.S. Geological Survey and many other partners, the National Park Service (NPS) is engaged in an effort to classify, describe, and map vegetation communities in more than 270 NPS units across the U.S. Each map represents hundreds to thousands of hours of effort by dozens of contributors: ecologists, field technicians, GIS technicians, data managers, writers, editors, and park staff. Each finished project comprises not just a map and report, but also an entire library of vegetation data and descriptive information.

The Cedar Breaks NM mapping project was led by the Northern Colorado Plateau Network, with assistance from several partners, including engineering-environmental Management, Inc., NatureServe, the Colorado Natural Heritage Program, U.S. Department of Agriculture, and U.S. Bureau of Reclamation. The team gathered aerial photography, established and collected data from vegetation plots, used those data to classify vegetation types and write descriptions, wrote a vegetation-type

key, performed photo interpretation, assessed the accuracy of the results, created a geodatabase, and wrote a final report.

To create a map, vegetation is first classified into *associations* and/or *alliances*, which are repeating assemblages of plants in similar habitats. Those assemblages are then organized into *map classes*, which identify meaningful units to represent existing vegetation and land uses (see map, next page). *Ecological systems* are used to organize the map classes. They represent groups of communities that occur in similar environments and are shaped by similar ecological processes.

For the Cedar Breaks NM project, the NCPN crew developed 20 natural or semi-natural vegetation map classes, represented by 1,195 map polygons. The mapped vegetation was classified into 71 community types, including 9 shrubland, 41 forest or woodland, and 21 herbaceous vegetation types. The most common map class was the Subalpine Fir - Engelmann Spruce Forest Complex, covering 25.6% of the mapping area.

The mapping results revealed that the park is dominated by subalpine fir - Engelmann spruce woodlands in the middle and upper elevations. Ponderosa pines occupy nearly every available habitat below the breaks. Shrublands occur primarily as small patches, often on side slopes, in transition areas between herbaceous and forested stands, and on the edges of wind-swept cliffs. Upland dry herbaceous communities are common on the upper plateaus. Wetland and riparian forest and woodlands are scattered, occurring on springs or in intermittent washes. Wetland and riparian shrublands are rare, with most occurring on wet meadows. Riparian and wetland herbaceous associations occur almost exclusively in wet meadows on the east side and in adjacent environs.

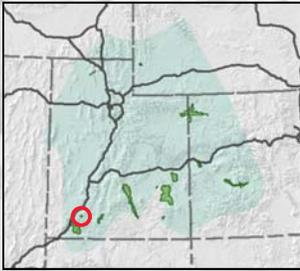
Map on other side!



Cedar Breaks National Monument

Vegetation Map

U.S. Department of the Interior
National Park Service



- Vegetation Map Classes**
- 5 Subalpine Fir - Engelmann Spruce Forest Complex
 - 19 Aspen Forest Complex
 - 36 Wet Meadow Herbaceous Vegetation Mosaic
 - 35 Perennial Disturbed Grassland Complex
 - 34 Dry Meadow Mixed Herbaceous Vegetation Mosaic
 - 30 Silver Sagebrush Bottomland Shrubland
 - 28 Arizona Willow Temporarily Flooded Shrubland
 - 33 Shrubby-cinquefoil Shrubland
 - 31 Mixed Mountain Shrubland Complex
 - 27 Whitestem Goldenbush Dwarf-shrubland
 - 29 Mixed Desert Forb Complex
 - 4 White Fir Forest Alliance
 - 18 Bristlecone Pine Woodland
 - 3 White Fir / Greenleaf Manzanita Forest
 - 26 Manzanita Shrubland
 - 10 Ponderosa Pine - (Douglas-fir) Woodland Complex
 - 21 Curl-leaf Mountain-mahogany Woodland Alliance
 - 14 Pinyon-Juniper Woodland Complex
 - 8 Blue Spruce Forest Alliance
 - 22 Narrowleaf Cottonwood Temp. Flooded Wash Complex
 - 41 Barren Wash Channels
 - 39 Unvegetated Scree Slopes
 - 37 Red Claron Formation
 - 38 White Claron Formation
 - 113 Lake/Pond
 - 226 Roadways
 - Vegetation Mapping Project Boundary
 - Cedar Breaks National Monument Boundary

