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Wild Connections Climate Planning



Central Colorado Climate Resilience Project

Identify and protect places in Central Colorado where biodiversity will continue to thrive under changing climate conditions.

Inspired by the work of Dr. Karl Ford. Collaboration between Wild Connections and Rocky Mountain Wild





What is Climate Resilience?

Climate resilience is "the capacity of social, economic and ecosystems to cope with a hazardous event or trend or disturbance, responding or reorganising in ways that maintain their essential function, identity and structure as well as biodiversity in case of ecosystems..."

IPPC Sixth Assessment Report



Biodiversity

DIFFERENT WAYS TO MEASURE BIODIVERSITY

SPECIES RICHNESS (ENTIRE REGION) total number of species within the area

GENETIC DIVERSITY total variety of genes 🙎 within a single species

ENDEMIC SPECIES species that occur here and nowhere else in the world

ECOSYSTEM DIVERSITY total number of ecosystems in the region

Species 0

Unique ecosystem

Regional boundary

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UNIQUE ECOSYSTEMS ecosystems that occur here and nowhere else in the world (an aspect of ecosystem diversity)

Climate Refugia

Topographically complex terrain creates varied microclimates and increases the likelihood that current climates will continue to exist nearby.

Deep snow drifts provide insulation to the surface below and provide water later in the season.

Valleys that harbor cold air pools and inversions can decouple local climatic conditions from regional circulation patterns.

> Canopy cover can buffer local temperature maximums and minimums throughout the year.

Poleward-facing slopes and aspects result in shaded areas that buffer solar heating, particularly during the low solar angles of winter and early spring. Cold groundwater inputs produce local cold-water refuges in which stream temperature is decoupled from air temperature.

> Areas near or in large deep lakes or oceans will warm more slowly due to the high heat capacity of water.

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Geospatial Modeling

Combines data and models Crested approaches at different scales

Glenwood

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- Climate Resilience: The Nature Conservancy Climate Resilient Sites
- Ecological Connectivity: TNC Connectivity and Climate Flow and Colorado Parks and Wildlife Big Game Migration Corridors
- Current Biodiversity: CPW High Priority Habitat, Colorado Natural Heritage Program Potential Conservation Areas, US Fish and Wildlife Service Critical Habitat
- Intact Natural Landscape: CNHP Landscape Disturbance Index, Wilderness Characteristics Inventories of Federal Lands



Case Study: Browns Canyon

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Case Study: Browns Canyon

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- Between Salida and Buena Vista
- National Monument: 21,586 aces
- Wilderness Study Area (WSA): 7,451 acres
- Forest Service Aspen Ridge Roadless Area: 12,104 acres
- WSA and Roadless area Proposed Wilderness Colorado Wilderness Act
- Bighorn sheep, elk, mule deer, rare plant communities

Browns Canyon National Monument

Case Study: Browns Canyon

WSA Better Climate Refugia

- Climate Resilience: Better
- Ecological Connectivity:
 Better
- Natural Landscape: Fair
- Current Biodiversity: Best
- Aspen Ridge Best Ecological Connectivity
 - Climate Refugia: Good
 - Climate Resilience: Good
 - Natural Landscape: Fair
 - Current Biodiversity: Fair



Case Study: High Mesa Grasslands

LAN HAM LAND



Case Study: High Mesa Grasslands

High Mesa Grasslands Wilderness Study Area Proposed Expansion

Akonses River



Case Study: High Mesa Grasslands

- Table Mountain area between Royal Gorge and Salida
- North of McIntyre Hills WSA
- Lands with Wilderness
 Characteristics: 23,559 acres
- Significantly expands 683-acre High Mesa Grasslands WSA
- Good Climate Refugia and Ecological Connectivity
 - Climate Resilience: Good
 - Natural Landscape: Better
 - Current Biodiversity: Better



Wild Connections Climate Planning Project Status

Geospatial Modeling is Complete!

- The results are being used to evaluate locations for climate resilience
 - Climate Education Hikes
 - Proposed Wilderness Study Area and Areas of Critical Environmental Concern
- Next steps
 - Advocate for protecting climate resilient lands

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 Present the results to land management agencies



THANKYOU!

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