

### Climate Change Endangered: Raptors

<b>Bald Eagle</b>	Colorado provides mostly winter range for the species, which would decline with projected temperature increase and decrease in the availability of surface water and associated prey. Summer range, on the other hand, is projected to become available in other states.
<b>Ferruginous Hawk</b>	Grassland species with CO winter and summer range, effects on latter are predicted to be large as areas in SW and eastern CO become inhospitable.
<b>Golden Eagle</b>	Summer habitat of this grassland species are more subject to future change than winter habitats in Colorado, but both will decline and it is unclear if this wide-ranging species will be able to fulfill its subsistence needs within a reasonable territory size as habitat and prey base are increasingly affected by climate change.
<b>Merlin</b>	This uncommon winter resident of CO would lose much of its lower elevation wintering habitat in the state.
<b>Northern Harrier</b>	Summer range of the "marsh hawk" is projected to shift northward, leaving almost only winter habitat in CO by 2080.
<b>Prairie Falcon</b>	Loss of summer habitat is the primary impact predicted for this species as lowland areas become more arid due to climate change, but the species is widespread in CO and effects would be noticeable across the state during all seasons.
<b>Swainson's Hawk</b>	The plains of Colorado provide key summer habitat for this species, and this is expected to contract in CO and across the west with increasing aridity and vegetation/prey base loss.

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<b>American Kestrel</b>	Currently quite ubiquitous year round in many areas of Colorado, kestrels are projected to lose of their summer and year round range within the state, and would be present in most places in Colorado only during winter. On a continental scale, however, the species would likely persist, with summer range shifting northward and decreasing overall, and winter range possibly increasing.
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### Climate Change Endangered: Passerines

<b>Black-billed Magpie</b>	Currently widely distributed in CO in winter across the state and in summer in the mountains, this species would lose many lower elevation, non-mountainous winter habitats as they became more warm and dry, losing their sagebrush and grassland communities.
<b>Brown Creeper</b>	This forest species' summer and winter ranges will both shift northward, resulting in a loss of both summer and winter habitat in CO.
<b>Clark's Nutcracker</b>	This conifer specializing, treeline breeding species would lose quite a bit of both types of seasonal habitat due to climate change effects on mountain forests in CO, with an altitudinal shift to "sky islands" of high elevation.
<b>Gray-crowned Rosy-Finch</b>	This plump finch of the high alpine will shift its current winter range in Colorado range northward and upward, and will lose almost all of its currently suitable wintering conditions within the state.
<b>Green-tailed Towhee</b>	CO provides important summer habitat for this shrubland species, which winter in the Southwest and Mexico. Colorado's summer sagebrush/mountain shrub steppe habitat would contract altitudinally and shift northward with climate change, as it would across the other Western states.
<b>Pygmy Nuthatch</b>	This ponderosa pine specialist would be pushed up an elevational gradient with climate change, eventually losing almost all of their CO winter range, which is spread throughout mountainous areas, and summer habitat, which only exists in a few small pockets along the southern border.

<b>Red Crossbill</b>	This mysterious species avoids populated areas and occupies patches of habitat abundantly and unpredictably throughout the years, so assessing climate induced range change may be more tenuous than for other species. In general, however, there would be a large range contraction and shift altitudinally as the conifers the species depends on for food decline.
<b>Townsend's Solitaire</b>	This conifer specializing thrush would experience less impacts on winter juniper and woodland/canyon habitat in CO than on higher elevation summer habitat. which stand to be affected by widespread deforestation.
<b>Western Wood-Pewee</b>	Colorado contains important summer range for this species, and this habitat would decrease 74% and shift to higher elevations with the loss of forested areas that have a sufficient aerial insect prey base.
<b>American Dipper</b>	This species requires ice-free water but dislikes water that is too warm. The loss and warming of free-flowing water predicted under climate change would mean overall range contraction for this species. Although initially potential habitat would increase as high elevation river areas became free of snow and ice for longer, with increased warming and drying both summer and winter habitat would dwindle. It's unclear where the "sweet spot" areas along rivers would fall, and whether the species could shift toward them successfully.
<b>Brewer's Blackbird</b>	This assertive, seemingly fearless scavenger and livestock sidekick would lose most of the areas within Colorado where it now spends the non-winter months, and overall would experience a dramatic northward shift and contraction of summer range, with an overall loss of roughly half of its suitable climactic space in all seasons by 2080.
<b>Bullock's Oriole</b>	This riparian species now summers in willow and cottonwood groves throughout Colorado, and the climate envelope of these areas is not projected to change drastically. However, with reduced river flows that could accompany climate change, their habitat may not fare well.
<b>Cassin's Finch</b>	This high elevation, coniferous forest obligate is subject to large contractions northward and upward in summer and winter range. Colorado habitats provide a stronghold for the species and is a clear target for active conservation
<b>Common Goldeneye</b>	This cavity nesting relative of the bufflehead breeds only in forested areas in the north, and these would shift further northward; the winter habitat now present in Colorado would decrease but would still exist.

### Climate Change Threatened: Passerines

<b>Common Raven</b>	One of the most versatile and successful bird species worldwide, the non-winter habitat of this species in Colorado would be lost in the plains and contract to higher altitude areas. This predicted shift northward and to higher elevations is counter to the current trends for the species, however, so the validity of predictions based on climate envelopes alone is unclear.
<b>Dusky Flycatcher</b>	The high elevation summer habitat for this species in Colorado is predicted to contract, shifting to higher elevations as mountain meadows and foothills shrublands that currently support them become more arid. On the other hand, lower elevation winter habitat could increase, particularly in the SE corner of the state.
<b>Golden-crowned Kinglet</b>	Suitable climactic conditions for this tiny, but voracious, insectivore are actually predicted to increase in Colorado for this species, although it's unclear whether the extensive conifer forests and abundant winter insects the species requires will continue to persist in the state.
<b>Hairy Woodpecker</b>	This relatively sedentary species would need to shift its summer range drastically northward to maintain its current set of climactic conditions with respect to summer range, and it's not clear that this is possible. Conservation may require preserving it in its current strongholds while managing a shift northward and to higher elevations. Current summer range in CO is along the southern border and extending up into the SW corner of the state.

<b>Marsh Wren</b>	Western members of this species most often occur in small, degraded marches. Colorado supports winter habitat for the species, and this habitat is projected to increase in extent with predicted climate change provided that suitable vegetation (specifically cattail marshes) is able to also expand in Colorado.
<b>Mountain Bluebird</b>	Summer habitat loss is predicted in Colorado for this high elevation sagebrush, meadow, and tundra species, but winter habitat will be less affected. The key summer habitats that Colorado provides should be preserved and augmented whenever possible.
<b>Mountain Chickadee</b>	This stalwart, year-round resident of Colorado's mountains would experience a dramatic range contraction in all seasons within the state, becoming absent from low elevation areas where it is now often seen in winter, and retreating to the highest elevations for year-round and summer habitat.
<b>Pine Siskin</b>	Like the red crossbill, this conifer obligate finch species erupts unpredictably and habitat for any given time is unpredictable. Colorado, a stronghold for the pine siskin year-round, would lose much of its non-winter habitat with the decline of suitable forest habitat.
<b>Red-breasted Nuthatch</b>	Future summer climate is the main concern for this conifer obligate species, and climate change impacts on forest health will impact summer, and to a lesser extent winter habitats throughout the state.
<b>Vesper Sparrow</b>	Colorado currently supports mostly higher elevation summer habitat for the species, and with predicted climate change this habitat would decrease greatly, but at the same time low elevation Colorado summer habitat availability for this migratory, adaptable species could increase based on predicted bioclimatic conditions.
<b>Violet-green Swallow</b>	The widespread summer habitat of this high elevation species in Colorado would decline and the species would be forced into higher elevation areas with predicted climate change and to areas of higher latitude. The species requires trees for nest cavities, however, which would limit expansion into new geographic areas.
<b>Western Tanager</b>	This species will see a loss of roughly 60% of overall summer breeding range, shifting in Colorado from a summer range that encompasses most pine-forested areas to a more restricted range at higher elevations.
<b>White-breasted Nuthatch</b>	This species is currently widely distributed in Colorado in winter but concentrated in pockets along the southern border in summer. Summer range loss and northward shifts are predicted.

### Climate Change Endangered: Gulls

<b>California Gull</b>	Native of inland lakes of the Intermountain West, summer and winter habitat impacts predicted, summer most limiting. CO contains mostly winter range on the SW and Eastern Plains, but small pockets of summer range exist along the western edge of the state.
<b>Ring-billed Gull</b>	Hard to believe, but this survivor species, highly commensal with humans, would have a dramatic northward range shift like other species, and would likely only be present in the state in winter, if at all.

### Climate Change Threatened: Game Birds

<b>Wild Turkey</b>	The reintroduction of two wild turkey species (Merriam's and Rio Grande) into Colorado is one of the state's wildlife success stories. However, the future of these efforts is unclear; stronghold breeding areas in the Plains states are projected to shift strongly northward with climate change and the decline of mature deciduous forests, and similar reintroduction areas in Colorado may also become unsuitable as summer habitat.
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### Climate Change Endangered: Ducks

<b>American Wigeon</b>	Colorado supports wintering habitat for this species, and these conditions are predicted to increase in extent with predicted climate change, but given that summer habitats in Utah and Wyoming would no longer be suitable it's unclear how much of this "new" Colorado habitat would be utilized.
<b>Barrow's Goldeneye</b>	Most summer range in CO will be lost for this highland duck, and almost as much winter range.
<b>Bufflehead</b>	Loss of wintering habitat in CO is predicted for this tiny diving duck species, which uses the boreal forests of west central Canada for its breeding range.
<b>Gadwall</b>	The summer range of this species in CO is predicted to shrink dramatically along with that in most of the U.S. Winter range is based on climate expected to be stable or increasing in most areas, but summer habitat availability would be a limiting factor.
<b>Hooded Merganser</b>	This duck winters throughout the lower states, and would have to dramatically shift winter habitat north to current breeding areas in order to persist, but the climate envelope of CO winter range would not be strongly affected based on the models.
<b>Mallard</b>	This species will need to shift summer range considerably northward, but winter range would remain relatively stable in CO and elsewhere.
<b>Northern Shoveler</b>	This duck is expected to lose (not shift) most of its summer range by 2080 and to have a strong northward push of winter range. However, as a bird of open wetlands, water distribution not part of the modeling would likely be a key driver. CO has only winter range.
<b>Redhead</b>	This diving duck faces sharp contractions in summer range on the northeastern prairies, and future conditions in the species' main wintering areas in Laguna Madre, TX are uncertain. Colorado will see mostly loss of summer range.
<b>Ring-necked Duck</b>	This species only has winter range in CO, which will remain relatively stable, but summer breeding areas in N. boreal forests are at extreme risk.

### Climate Change Threatened: Ducks

<b>Common Merganser</b>	This species currently breeds near lakes and riversides in mountainous areas of Colorado and winters in lowland areas throughout the state. Both types of seasonal range are expected to shift dramatically northward, and if the species is unable to adapt to areas that are currently tundra it will lose most of its summer range.
<b>Lesser Scaup</b>	Colorado breeding areas, which are often on smaller lakes in wooded areas in the more northern mountains, are predicted to decrease, whereas areas with adequate wintering climate throughout the state are predicted to increase.
<b>Wood Duck</b>	This species, which winters in Colorado, is projected to experience an expansion of favorable climactic conditions. If the species can find enough nesting cavities in the north central Canadian summer habitat where suitable breeding climate is forecasted, Colorado areas with increasingly ice-free conditions may become good winter habitat.

**Colorado is part of the Central Flyway.** Stretching from the Rocky Mountains to the Great Plains to the desert Southwest and the western Gulf Coast, the Central Flyway comprises more than half of the continental U.S.'s land mass and includes 434 Important Bird Areas. Across this expansive flyway, such iconic bird species as the Greater Sage Grouse, Sandhill Crane, and Yellow-billed Cuckoo drive Audubon's work to protect threatened ecosystems.

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