The tundra is one of Colorado's most unique habitats. Although many other western states have areas of tundra, Colorado has more of it than anywhere else in the lower 48. Isolated from other patches of tundra since before the last Ice Age, Colorado's tundra is home to many species whose closest relatives are found thousands of miles away, in Siberia. For example, the very rare Uncompahgre Fritillary butterfly is found only in Colorado, on the tundra of a handful of peaks in the high San Juans.

Tundra is so fragile, it can take up to **50 years for the tundra to regenerate.** It is very important to treat it with care. Whenever possible, walk on rocks or snow rather than on the plants. It is best to keep to the trail.

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San Juan Mountains Association

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Alpine Tundra

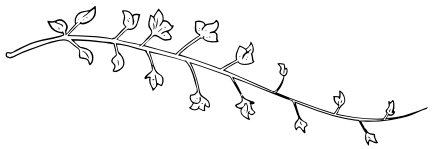
THE LAND ABOVE THE TREES

Please step carefully!
What's underfoot is alive –
and fragile.

Stay on designated trails!

What is tundra, what makes it special?

Tundra is a biome, or type of environment, which is characterized as treeless, cold, and relatively dry. Tundra starts between 11,000 and 11,500 feet, often referred to as 'treeline'.



What is it like on tundra?

Cold temperatures
and strong winds make the tundra
a harsh yet spectacular place to be.
Summer on the tundra is short;
snow is prominent
on the landscape into June
with a few isolated snow patches
remaining through the summer.
July is
generally the warmest month.
Wind across the tundra is common
and can make even a warm,
sunny day feel cold. The tundra is
a severe place to be
in the winter. Winds rip
across the mountains, and
windy conditions redistribute snow
creating highly variable snow depth
and snow cover.

In this harsh climate, few plants
can go through a
complete life cycle of
germination, growth, flowering,
and seed production in one short
growing season.
Annual plants are a rarity. Most
tundra plants are
perennial, going through
different stages of growth
over many years, and may only
put out one or two
leaves in a growing season. It may
take a decade or
more for a plant to mature,
and a plant only six
inches in diameter may be more
than a hundred years old!
Flowers such as pincusion may
have a taproot 2 feet deep and
may only be the size of a penny
at 5 years of age. It may take over
seven years for it to flower .

Alpine tundra plants depend on an
arsenal of special adaptations for
their survival. To avoid losing
moisture, many alpine plants
employ strategies similar to desert
species.
Some have leaves with a smooth,
waxy finish that resists evaporation.
Others have woolly leaves, with
dense fuzz that lessens the chilling
and drying effect of the wind. Still
other alpine species have fleshy
succulent leaves that store water.
Many plants have brilliantly colored
blossoms and dark green leaves.
Not only do some of the deeper
shades absorb more sunlight for
warmth—some pigments actually
produce heat! Many alpine plants
have the distinctive red tinge of
anthocyanin pigments in their
stems and leaves, and often in their
blossoms. If the plant's sap is more
acidic, the anthocyanin pigments in
the flower will appear red, if
more alkaline,
the flowers will be blue.
In either case, the anthocyanin
pigment will convert any light
waves into heat to warm the
plant, a marked advantage on a
cloudy, cold day.