

THIS FIELD GUIDE WAS CREATED TO HELP TRAVELERS, MISSIONARIES, HUMANITARIANS, ETC. LEARN MORE ABOUT THE NATURAL WORLD IN THE COUNTRIES WHERE THEY ARE WORKING SO THAT THEY CAN CONNECT WITH THE PEOPLE THEY ENCOUNTER AND OPEN CONVERSATIONS ON MANY TOPICS.

Field Guide for Utah



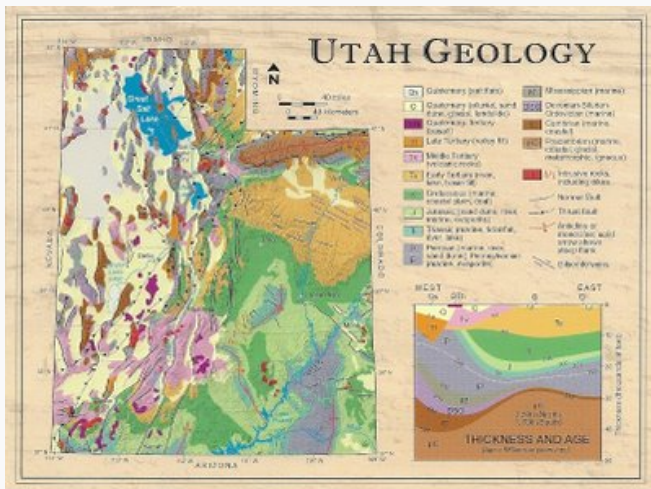
THE UNIVERSITY OF UTAH

**The Center for Science
and Mathematics Education**

Geology of Utah

Mountains and plateaus in Utah display over two billion years' accumulation of rock, often with little vegetation. These features document ongoing processes of wind and water erosion, the formation and disappearance of lakes, glaciers, and the periodic occurrence of powerful earthquakes.

A series of mountains including the Wasatch Range run generally north and south through the middle of Utah, and the Uinta Mountains, which extend east and west through the northeast portion, are the principal ranges. Crest lines of these mountains are mostly above 10,000 feet (3048 m). Less extensive ranges are scattered over the remainder of the State. The lowest area is the Virgin River Valley in the southwestern part with elevations between 2,500 and 3,500 feet (762 – 1067 m), while the highest point is Kings Peak in the Uinta Mountains, which rises to 13,498 feet (4114 m).



Geography of Utah

Centrally located in the Intermountain West, Utah is bordered by all of the mountain states except Montana. Utah is the thirteenth largest state in the United States at 54,340,240 acres. Approximately three percent of the surface is covered by water.

Land Ownership

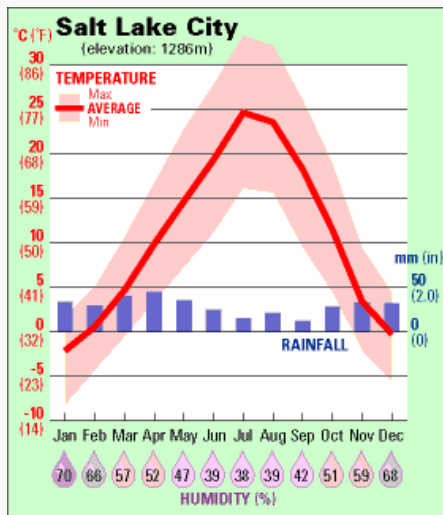
Federal ownership accounts for 67 percent of the land in Utah, with another four percent included in Indian

reservations. The primary federal landlords are the Bureau of Land Management (BLM), the Forest Service, the Department of Defense, and the National Park Service.

Private ownership claims 22 percent of the land, and the remaining seven percent is owned by the state.



Climate



The climate of Utah is generally semiarid to arid. Temperatures are warmer along the Wasatch Front, where there are relatively mild winters.

In Salt Lake City, the normal daily mean temperature is 52°F (11°C), ranging from 28°F (−2°C) in January to 78°F (26°C) in July.

The record high

temperature, 117°F (47°C), was set at St. George on 5 July 1985; the record low temperature, −69°F (−56°C), in Peter's Sink, on 1 February 1985.

The average annual precipitation varies from less than 5 in (12.7 cm) in the west to over 40 in (102 cm) in the mountains, with Salt Lake City receiving 16.5 in (42 cm) per year during the period (1971–2000).

The annual snowfall is about 59 in (150 cm) and remains on the higher mountains until late summer.

Brief History



More than 12,000 years ago, Utah was home to Paleo-Indian big-game hunters, and were then succeeded by Anasazi. About 1,000 years ago Numic-speaking

hunter-gatherers such as the Utes and Shoshones began migrating to Utah. In 1776 Spanish explorers traveled much of Utah trying to promote Christianity amongst the Native Indians. Mountain men came next in search of beavers and other small mammals in trapping.

In 1847 members of The Church of Jesus Christ of the Latter Day Saints arrived seeking religious freedom. Non-LDS individuals quickly followed once precious metals were discovered in the 1860s. In 1896, Statehood was established with a total population of 250,000 people.

Development of coal mines, railroads, and other industries beckoned the "new immigrants" during the early decades of the twentieth century, and Greeks, Italians, Slavs, Chinese, Japanese, Mexicans, and other ethnic groups further enriched Utah's cultural fabric.

Tourism, recreation (especially skiing), light manufacturing, and the service industries have recently emerged as economic pillars.

Religion and Ecology

The Church of Jesus Christ of the Latter Day Saints (LDS Church) is the predominant religion in the state of Utah, with more than 60% of the population belonging to the Church.

According to a report produced by the Pew Forum on Religion & Public Life the self-identified religious affiliations of Utahans over the age of 18 as of 2008 are:

- Latter Day Saint movement 58%
- Unaffiliated 16%
- Catholic 10%
- Evangelicals 7%
- Mainline Protestants 6%
- Black Protestant Churches 1%
- No Answer 1%
- Other Faiths 1%
- Buddhism <0.5%
- Eastern Orthodox <0.5%
- Hinduism <0.5%
- Islam <0.5%
- Jehovah's Witnesses <0.5%
- Judaism <0.5%
- Non denominational <0.5%
- Other World Religions <0.5%

Culture and Education

Utah has an estimated population of 2,763,885, with whites making up 86.1% of the population and 13% are Hispanic or Latino, 1.1% are black or Afro-Caribbean, 1.2% Native American, 2% Asian, 0.9% Native Hawaiian or Pacific Islander, and 2.7% two or more races.

The primary language spoken in Utah is English. Roughly 12.5% of Utah's adult population speaks a language other than English.

Utahans, regardless of varied ethnic and religious backgrounds, share a sense that Utah's past is an important part of the state's future. From early settlement days, the cultural arts have been an important component of cities and towns across the state. Today, this tradition remains. Many communities produce pageants, plays and other events that showcase Utah's culture and heritage.

Utah ranks 4th in the nation in the percent of persons 25-years and over who have completed high school - 91% (Census 1992, 1993).

Utah ranks 11th in the nation in the percent of persons 25-years and older who have attained bachelor degrees - 27.9% (Census 1992, 1993).

In a national study, 94% of the Utah population 18- to 64-years-olds were classified as literate - the highest literacy rate in the nation. (State Policy Research, Inc., States in Profile, 2nd Edition, 1992)

Common Plants

Quaking Aspen (*Populus tremuloides*) is a clone-forming tree that is very abundant in mountainous areas of Utah. It prefers cool, moist soils on sites between 6000 and 10,000 feet (1829 – 3048 m) in elevation. It serves a wildlife habitat and is very fire tolerant.



Big tooth Maple (*Acer grandidentatum*) is easily recognized in fall by its grand color display of yellow, orange, and red leaves. It is very adaptable to dry, rocky soils in canyon bottoms, draws, and on hillsides. Found between 4,500 and 7,500 feet (1372 – 2286 m) elevations and can grow up to 35 feet (10.7 m) tall. It is used as wildlife habitat and helps with erosion control.



Common Plants Continued

Blue Spruce (*Picea pungens*) is a slow growing conifer with dense silver-green or blue-green foliage. It can reach 60-90 feet (18 – 27.4 m) in height and grows best in moist, rocky soils but is more drought tolerant than most spruces. It is the Utah State Tree.



Pinyon Pine (*Pinus edulis*) is a small to medium sized tree that reaches 15 – 35 feet (4.6 – 10.7 m) in height. It is commonly found with Juniper on semi-desert sites and is very drought and heat tolerant. It prefers dry, rocky soils and produces edible pine nuts. Needles are 1-2 inches (2.5 – 3.5 cm) long and are in pairs along branches.



Common Plants Continued

White Fir (*Abies concolor*) is a large tree with a conical form and silver tinted foliage. It is found between 6000 and 9500 feet (1828 – 2896 m) and grows up to 100 feet (30.5 m) tall. It is most abundant on deep, rich, moist soils in canyon bottoms and north facing slopes.



Eastern Redcedar (*Juniperus virginiana*) has needles similar to Rocky Mountain Juniper except they are a deep green color and changes to red in the winter. It can reach up to 30 feet (9 m) tall and has a pyramidal shape. It tolerates poor, dry soils but not shade. Grows between 3000 and 6500 feet (914 – 1981 m) and birds seek out the fruit as forage.



Common Plants Continued

Gambel oak (*Quercus gambelii*) is a small, round-crowned tree that is usually no taller than 30 feet (10 m). It has deeply lobed leaves that are deciduous and are bright green above and pale below. It is often found in dense groves and is browsed by deer.



Utah Juniper (*Juniperus osteosperma*) is a tree-like evergreen that is bushy and only grows to 10 - 20 feet (3 – 6 m) tall. Branchlets are stiff with thin, ashy, scaly bark. Foliage is scale-like on mature twigs and the fruit is red-brown. It grows slowly, becoming craggier with age. Birds and small mammals eat a lot of the berries.



Common Flowers

The Sego Lily (*Calochortus nuttallii*) is the state flower and is a sacred plant in Native American legend. It is a white flower with three large, waxy petals with a crescent-shaped purplish marking on each petal with a fringe of yellow hairs. It blooms in May and June. The bulbs are edible and it thrives in desert-like conditions.



Indian paintbrush (*Castilleja linariaefolia*) grows up to 3 feet (1 meter) in height and has linear leaves that are between 1 and 3 inches (3 – 8 cm) in length. The flowers are red to yellow calyx tubes appear in panicles or spikes between June and September. It attracts hummingbirds. It is found on rocky slopes and arid plains associated with sagebrush scrub.



Common Flowers Continued



Aspen daisy (*Erigeron speciosus*) has showy, aster-like flowers. It grows abundantly at lower elevations in the mountains, found in sunny locations in clearings. They bloom from June to September and are 1.5 – 2 inches (3.8 – 5 cm) in diameter.



Silverweed cinquefoil (*Argentina anserina*) is a low, 6 - 9 in. (15 – 23 cm) perennial that sends up flowers and leaves on separate stalks. Solitary, 1 in. (2.5 cm), five-petaled, yellow flowers are held on slender stems above basal tufts of pinnate, silvery foliage. In ancient times Silverweed was grown for food and medicine. The cooked root is purported to have the flavor of parsnips or sweet potatoes.

Common Flowers Continued

Western columbine

(*Aquilegia formosa*) is an open-branched, 2-3 ft. (0.6 – 0.9 m) perennial with delicate, blue-green, lobed foliage and pendent, yellow and red, spurred flowers. Handsome red and yellow flowers hang at ends of branches above this bushy plant with several stems and many divided leaves.



Ladyfinger Milkvetch

(*Astragalus utahensis*) can be found in the desert and foothills with pinnately compound densely hairy leaves. The flowers are a bright magenta pink color that bloom in the early to mid spring.



Common Flowers Continued

Desert Four o'Clock (*Mirabilis multiflora*)

has green leaves and pink flowers. It is drought tolerant and deer resistant. Leaves are lustrous, thick and large on this perennial groundcover. Most often the plant produces few, sprawling branches and few, if any, flowers. It grows between 3,000 and 8,000 feet (914 – 2438 m).



Wasatch penstemon (*Penstemon cyananthus*)

has smallish royal blue flowers that are densely clustered along the stem. It grows from the sagebrush steppe and oak-maple woodlands of the foothills into aspen meadows. Often found in meadows with grasses like bluebench wheatgrass and Utah sweetvech.



Common Mammals

American pika (Ochotona princeps) occurs throughout high mountainous regions of Utah where it prefers areas above the tree line on rocky slopes. It is an herbivore that eats grasses, sedges, and other vegetation. It has a round ovate body and is 6-8 inches (15 – 20 cm) long. Its ears are moderately large and the fur ranges from grayish to cinnamon-brown.



Big brown bat (Eptesicus fuscus) is one of the most widespread abundant bats in Utah that can be found almost statewide. It prefers woodland and urban areas. It is a nocturnal species with daytime roosting occurring in buildings, caves, mines, rock crevices, and trees. They are often solitary but may congregate in small colonies in spring and summer.



Common Mammals



Black Bear (Ursus americanus) is fairly common in Utah where it can be found primarily in large forested areas. It is not always black – the species varies in color from reddish to light brown to black. Black bears are omnivores with

diets consisting of fruits, insects, some small vertebrates, and carrion. Adult males weigh 130-550 pounds (59 – 159 kg) and are 47-79 inches (119 – 201 cm) in length.



The Black-tailed Jackrabbit (Lepus californicus) is found in open areas or brushlands in the foothills, lower valleys, and desert areas of Utah. It reaches up to 24 inches (61 cm) in length and 7 pounds (3.2

kg) in weight with ears that are 6-7 inches (15 – 18 cm) long. It is brownish gray with black on the rump and top of the tail. It eats forbs, grasses, cultivated crops, and the bark and twigs of many shrubs and fruit trees.

Common Mammals

Botta's pocket gopher (Thomomys bottae) is common throughout much of Utah. It is usually found at lower elevations where it occupies many types of habitat and many soil types. It is an herbivore that eats roots, bulbs, and tubers. It is medium sized at about 10 inches long and weighs 6-9 ounces (0.2 – 0.3 kg). It spends 90% of its life burrowed and may only come out at night.



Cliff chipmunk (Neotamias dorsalis) is common in many types of habitat, ranging from saltbrush to pine forests in western, central, and northeastern Utah. It is primarily a ground dwelling species, but sometimes it will climb trees for food. It eats seeds, nuts, and fruits.



Common Mammals



Common Gray fox (Urocyon cinereoargenteus) is native to woodland and shrubland habitats of central and southern Utah. It has a median black stripe down the length of its tail and a black tip on its tail. It is an

opportunistic omnivore, eating small mammals, insects, birds, fruits, and eggs. It is generally 30-44 inches (76 – 112 cm) in length with an 11-17 inch (28 – 43 cm) tall.



Yellow-bellied marmot (Marmota flaviventris) is a 5 – 10 pound (2.3 – 4.5 kg) rodent that prefers meadows near forested areas. They dig burrows under rocks and logs and retreat to burrows to hibernate during the cold winter months. It has a thick

body and a short broad head. The overall color is yellowish brown to tawny and has light tips and darker sub terminal bands.

Common Insects

Black carpenter ant (*Camponotus pennsylvanicus*) has a dull black color on its head and body and whitish hairs on the abdomen. Antennae have 6-13 segments.



Western honey bee (*Apis mellifera*) is the state insect of Utah. The average lifespan of the queen is 3 – 4 years.



Green June Beetle (*Cotinis mutabilis*) these beetles lay their eggs in decaying matter and when the eggs hatch and reach maturity the adults feed on the ripe fruit.



Common Birds

Ruddy Duck (*Oxyura jamaicensis*) is a small stiff-tailed duck. They breed in marshy lakes and ponds and nest in dense marsh vegetation. Adult males have a rust-red body, a blue bill, and a white face with a black cap. Adult females have a grey-brown body with a greyish face with a darker bill. They are migratory and winter in coastal bays.



Eared Grebe (*Podiceps nigricollis*) is an aquatic bird that breeds in western and central North America. It is 11-13 in (28 – 33 cm) long and in summer has a black head and neck and yellow ear tufts. This is a highly social species that forms breeding colonies of thousands of birds. After breeding, most birds move to the highly saline environments of the Great Salt Lake. During winter, most populations move to California.



Common Birds

Double-crested Cormorant

(*Phalacrocorax auritus*) is a seabird that occurs along inland waterways and in coastal areas. It is 28-35 in (71 – 89 cm) in length and is an all-black bird, which gets a small double crest of black and white feathers in breeding season.



Red-tailed Hawk (*Buteo jamaicensis*) is a bird of prey or raptor. It can acclimate to all biomes within its range. It typically weighs 1.5-3.5 lbs. (0.68 – 1.6 kg) and is 18-26 in (46 – 66 cm) in length with a wingspan of 43-57 inches (109 – 145 cm). Females are generally 25% heavier than males. Most birds have a lighter underbelly than back and a dark brown band across the belly. The red tail is



uniformly brick-red above and pink below. It prefers mixed forest and field, with high bluffs or trees that may be used as perch sites. It is carnivorous and is an opportunistic feeder.

Common Birds

Great Horned Owl, (*Bubo virginianus*), is a large owl native to the Americas. It is an adaptable bird with a vast range and is the most widely distributed true owl in the Americas. It ranges in length from 18–27 in (46 - 69 cm) and has a wingspan of 40-60 inches (102 – 152 cm). Adults have large ear tufts, a



reddish, brown, or gray face and a white patch on the throat. The iris is yellow. The “horns” are merely tufts of feathers. Legs and feet are covered in feathers up to the talons. It hunts at night by waiting on a high perch and swooping down on its prey.

Canyon Wren

(*Catherpes mexicanus*) is a small North American wren, and is about 5.75 inches (15 cm) long. It prefers rocky environments near water, particularly in dry, steep terrain. It feeds on insects and spiders. The coloration is rusty with a contrasting white throat and breast.



Common Birds

Northern Flicker (*Colaptes auratus*) is a medium-sized member of the woodpecker family. Adults are brown with black bars on the backs and wings. It measures 11-14 in. (28 – 32 cm) in length and 17-21 in. (43 – 53 cm) in wingspan. A necklace-like black patch is on the upper breast and the belly is beige with black spots. Males have a red moustachial stripe at the base of the beak. These are the only woodpeckers that frequently feed on the ground, eating mostly insects and some fruits and seeds.



Broad-tailed hummingbird (*Selasphorus platycercus*) is a medium-sized hummingbird, nearly 4 in. (10 cm) in length. It has an iridescent green back and crown and a white breast. The male has a throat patch that shines with red iridescence and the female is much duller. The summer range extends across mountain forests and meadows and they migrate to the southern edge of their range for winter. This hummingbird will hunt insects as opposed to just eating nectar and trapped insects.

