

World Speed Record Attempt from Leadville, CO to Death Valley, CA North America's Highest Airport to its Lowest

Background About the Route

Locations

Leadville, Colorado

At 10,152 feet in the heart of the Rocky Mountains, Leadville is the highest city in the United States. A former silver mining town, Leadville is at the headwaters of the Arkansas River. Several 14,000 peaks can be seen from amongst the many historic buildings in town.¹ Former State Senator Ken Chlouber, a former miner and true western character, has made Leadville famous for grueling ultra-marathons and 100-mile mountain bike races.²

Las Vegas, NV

Viva Las Vegas! <https://www.lasvegas.com/>

Death Valley, California

Death Valley is a desert valley in the northern Mojave Desert in California. It is one of the hottest places on earth. Death Valley's Badwater Basin is 282 feet below sea level. It is the lowest elevation in North America. On July 10, 1913, the United States Weather Bureau recorded a high temperature of 134 °F (56.7 °C) at Furnace Creek in Death Valley—the highest ambient air temperature ever recorded on the surface of the Earth.³ Within Death Valley is the Death Valley Playa. It is dry most of the year and has no vegetation. Ice and wind in the playa created the famous “sailing stones” that mysteriously inch their way across landscape.

Public Lands

National Forests

The National Forest Organic Act of 1897 authorized reservations of forest lands from the public domain to supply timber and water. Later, the Multiple Use Sustained Yield Act was passed by Congress in 1960 to manage for multiple uses including timber, water,

¹ https://en.wikipedia.org/wiki/Leadville,_Colorado

² <https://www.leadvillerraceseries.com/>

³ https://en.wikipedia.org/wiki/Death_Valley

recreation and wildlife. The U.S. Forest Service is an agency within the U.S. Department of Agriculture.

White River National Forest: <https://www.fs.usda.gov/whiteriver>

Gunnison National Forest: <https://www.fs.usda.gov/gmug/>

Grand Mesa National Forest: <https://www.fs.usda.gov/gmug/>

Uncompahgre National Forest: <https://www.fs.usda.gov/gmug/>
Yucca Forest

Dixie National Forest: <https://www.fs.usda.gov/dixie/>

Wilderness Areas

Buffalo Peaks Wilderness⁴

Mount Massive Wilderness⁵

Collegiate Peaks Wilderness⁶

Maroon Bells – Snowmass Wilderness⁷

West Elk Wilderness: <https://www.fs.usda.gov/recarea/gmug/recarea/?recid=80859>

Raggeds Wilderness: <https://www.fs.usda.gov/recarea/gmug/recarea/?recid=80857>

Gunnison Gorge Wilderness: <https://www.blm.gov/visit/gunnison-gorge-wilderness>

Rainbow Mountain Wilderness⁸

La Madre Mountain Wilderness⁹

Arrow Canyon Wilderness

Beaver Dam Mountains Wilderness: <https://www.blm.gov/visit/search-details/13342/2>

Paiute Wilderness <https://www.blm.gov/visit/paiute-wilderness>

Mt. Charleston Wilderness¹⁰

Resting Spring Range Wilderness

Funeral Mountains Wilderness Area

Death Valley Wilderness: <https://www.nps.gov/deva/learn/nature/wilderness.htm>

Bureau of Land Management Lands

The Bureau of Land Management (BLM) is an agency within the United States Department of the Interior. It administers more than 247.3 million acres of public lands primarily in the West.¹¹ The agency also manages the federal government's nearly

⁴ <https://www.fs.usda.gov/recarea/psicc/recarea/?recid=37209>

⁵ <https://www.fs.usda.gov/recarea/psicc/recarea/?recid=80753>

⁶ <https://www.fs.usda.gov/recarea/psicc/recarea/?recid=80755>

⁷ <https://www.fs.usda.gov/recarea/whiteriver/recarea/?recid=81118>

⁸ https://www.blm.gov/sites/blm.gov/files/uploads/Programs_NationalConservationLands_WildernessAreas_NV_Rainbow%20Mountain%20Wilderness%20Fact%20Sheet%20Web%20Opt.pdf

⁹ https://www.fs.usda.gov/nfs/11558/www/nepa/86531_FSPLT3_1464367.pdf

¹⁰ https://www.blm.gov/sites/blm.gov/files/uploads/Programs_NationalConservationLands_WildernessAreas_NV_Mt.%20Charleston%20Wilderness%20Fact%20Sheet%20Web%20Opt.pdf

¹¹ <https://www.blm.gov/>

700 million acres of subsurface minerals. BLM lands are to be managed for multiple uses.

State Parks

Paonia State Park: <https://cpw.state.co.us/placestogo/parks/Paonia>
Crawford State Park: <https://cpw.state.co.us/placestogo/parks/Crawford>
Sweitzer Lake State Park: <https://cpw.state.co.us/placestogo/parks/SweitzerLake>
Kodachrome Basin State Park: <https://stateparks.utah.gov/parks/kodachrome-basin/>
Coral Pink Sand Dunes State Park: <https://stateparks.utah.gov/parks/coral-pink/>
Sand Hollow State Park: <http://parks.nv.gov/parks/valley-of-fire>
Valley of Fire State Park: <http://parks.nv.gov/parks/valley-of-fire>

National Recreation Areas, Refuges and Monuments

Dominguez-Escalante National Conservation Area¹²
Glen Canyon National Recreation Area: <https://www.nps.gov/glca/index.htm>
Grand Staircase Escalante National Monument¹³
Grand Canyon-Parashant National Monument¹⁴
Lake Mead National Recreation Area: <https://www.nps.gov/lake/index.htm>
Red Rock Canyon National Conservation Area: <https://www.redrockcanyonlv.org/>
Spring Mountains National Recreation Area¹⁵
Ash Meadows National Wildlife Refuge: https://www.fws.gov/refuge/ash_meadows/
Desert National Wildlife Refuge: <https://www.fws.gov/refuge/desert/>

Indian Reservations

Moapa River Indian Reservation¹⁶
Kaibab Indian Reservation: <http://www.kaibabpaiute-nsn.gov/>

National Parks

Canyonlands National Park: <https://www.nps.gov/cany/index.htm>
Zion National Park: <https://www.nps.gov/zion/index.htm>
Death Valley National Park: <https://www.nps.gov/deva/index.htm>

¹² <https://www.blm.gov/programs/national-conservation-lands/colorado/dominguez-escalante-nca>

¹³ <https://utah.com/grand-staircase-escalante>

¹⁴ <https://www.nps.gov/para/index.htm>

¹⁵ https://www.birdandhike.com/Areas/MtChar_Area/ MtC_Area.htm

¹⁶ https://en.wikipedia.org/wiki/Moapa_River_Indian_Reservation

Private Lands

The Homestead Acts opened the public domain to private ownership and use. Many ranch and farm families today trace their land back to a patent issued by the United States government and signed by the president.

In addition, the 1872 Mining Law provided for private ownership upon proving up a mining claim and working it for a requisite number of years.

Natural Resources along the Route

Forest Products

Active forest management is critical to healthy forests and habitat. As a pilot, I can see first hand that the healthiest forests are those that have been actively managed. A true renewable resource, timber from forest products is used throughout our daily lives.¹⁷

Livestock Grazing

Many ranchers, like my family, rely upon public lands for grazing while they irrigate their crops and pastures. Without these public lands (primarily Bureau of Land Management and U.S. Forest Service Lands) many family ranches would no longer exist. Public lands ranchers play an integral role in regional and national efforts to safeguard American's open spaces, local industries and rural heritage.¹⁸

Agriculture and Crop Production

In the areas along my route, ranchers raise beef and lamb and farmers harvest crops like the renowned Olathe sweet corn. Even Rocky Ford melons are produced from the water that originates near Leadville.

Dry bean, corn and other crops are also grown in western Colorado and irrigated with water that originates from areas along the flight route. Cropping systems put surface water to beneficial use, providing food for people, livestock and wildlife in the area. The production of key crops like Olathe sweet corn and Rocky Ford melons are a significant economic driver and are possible only through water that originates far from where those crops are grown.

¹⁷ <https://coloradotimber.org/>

¹⁸ <http://publiclandscouncil.org/>

Conservation on Private Land

Ranchers and farmers are the very best stewards of the land. In addition to managing these productive lands for food and fiber, ranchers and farmers provide outstanding wildlife habitat. By some estimates, up to 95% of the habitat for threatened and endangered species is on private land. In addition, many private landowners have conserved their lands in perpetuity with conservation easements.

Water

A true-to-life western yarn is, “whiskey is for drinking and water is for fighting.” Over thirty million people in seven states rely on water from the Colorado River. Roughly 15% of the nation’s crops and 13% of its livestock is raised on the 1.8 million acres of farm land irrigated by the river.¹⁹

The Colorado River Compact is a 1922 agreement among the seven Colorado River Basin states and the federal government over allocation of water rights to the river.²⁰ The compacts are like treaties entered into by the states and ratified by Congress.

The Upper Colorado River Basin Compact of 1948 was entered into by Colorado, Wyoming, Utah, New Mexico, Arizona and the federal government to apportion the waters of the upper reaches of the Colorado River among those states.²¹

Lake Powell is the water stored behind Glen Canyon Dam and is important to the Upper Basin States (Colorado, New Mexico, Utah and Wyoming) included in the Colorado River Compact and the Upper Colorado River Compact. “Lake Powell is the Upper Basin’s water bank,” explained former Colorado State Engineer Harold D. “Hal” Simpson. It stores water in wetter years and builds up its content so that water can be released in drier years allowing the Upper Basin to satisfy its obligations as required by the two compacts.

The entire Western Slope of Colorado is situated in the Colorado River Basin and produces on average 8.67 million acre-feet (MAF) per year of outflow into New Mexico and Utah. (Colorado Historical Average Stream Flows, 2011 Revision, Office of the State Engineer, Colorado Division of Water Resources). Colorado consumed on average 2.45 MAF per year for the 2011 to 2015 period (Upper Colorado River Basin, Consumptive Uses and losses Report, 2011-2015, U.S. Bureau of Reclamation).

The total yield of water from Colorado to the flows of the Colorado River averaged 11.12 MAF. This is 74.1% of the total projected flow at Lee Ferry in the Colorado River

¹⁹ <http://www.crwua.org/colorado-river/uses/agriculture>

²⁰ https://en.wikipedia.org/wiki/Colorado_River_Compact

²¹ <https://www.usbr.gov/lc/region/pao/pdfiles/ucbsnact.pdf>

Compact of 15.0 MAF. “Therefore Colorado is the principle source of water to satisfy the Colorado River Compact’s assumed 15.0 MAF of flow per year at the Lee Ferry stream gage below Lake Powell,” said Simpson.

Colorado’s allocation is 51.7 % of the Upper Basin’s consumptive use apportionment of 7.5MAF which is 3.88 MAF pursuant to the Upper Colorado River Compact. Therefore Colorado is allowed to consume 3.88 MAF assuming that the Upper Basin yields 15.0 MAF. This 3.88 MAF is 34.9% of the water Colorado produces i.e. 11.12 MAF.

The staff of the State Engineer (Division Engineers and Water Commissioners for the four West Slope Water Divisions) are responsible for administering water rights (allocating water diversions) to water users so that they receive the water to which they are entitled and that their water rights are not injured. This can be a challenging responsibility especially when rivers and streams are not providing the amount of water to satisfy water users’ needs, which is often the situation in July to September when the snowmelt runoff has basically ended. “In Colorado, snowmelt runoff from our mountain watersheds typically provides 2/3 of the annual streamflow in 3 months or ¼ of the year,” Simpson added.

Lake Powell is the second largest U.S. water storage facility. It stores 24.32 million acre feet of water for the benefit of the Upper Colorado River Basin states. Glen Canyon dam was dedicated in 1966.²² Lake Powell is not only a recreational gem, it is critical for protecting against drought. The seven Colorado River basin states, along with federal agencies and stakeholders, recently adopted a “Drought Contingency Plan” for water use from the river.

Lake Mead serves some 20 million people in the lower Colorado River Basin states of Arizona, Nevada and California. At 26.12 million acre feet when full, it is the largest reservoir in the nation in terms of capacity. One of the eight wonders of the world, Lake Mead was formed by the Hoover dam on September 30, 1935.

Hydroelectric Power

2016 marked the 60th anniversary of the Colorado River Storage Project (CRSP) Act. This landmark federal law authorized the construction of water storage and hydroelectric plants in the Upper Colorado River Basin. Today, CRSP hydropower is one of the most important sources of renewable electricity in the West. The CRSP reservoirs have a total water storage capacity of 34 million acre-feet and generate enough electricity to supply nearly 6 million homes. Glen Canyon Dam, located near Page, Arizona, is the largest of the CRSP projects. Completed in 1963, it has eight generators, totaling about 1,300 MW of capacity, which is nearly 80% of the total CRSP generation.

²² https://en.wikipedia.org/wiki/Lake_Powell

Endangered Species

The Upper Colorado River Endangered Fish Recovery Program is a multi-agency partnership to recover listed fish in the upper Colorado River basin while water development proceeds in compliance with state and federal laws. It is a model of collaboration and success and has made tremendous strides towards recovery of the species.²³

Oil and Gas

Oil and gas development on private and public lands is critical to meeting the nation's energy needs—and more. Thanks to hydraulic fracturing and directional drilling, the United States is expected to be the world's leading oil producer.

“Oil and natural gas delivers all the obvious benefits everyone knows—mobility to get to work, school, and vacation; home heating and cooling; electricity; and the power for every aspect of the economy. But oil and natural gas also provide the feedstock for medicines, fertilizers, plastics, synthetic fabrics, electronic components and many other common household items. Water treatment and delivery systems, and public sanitation and safety require oil and natural gas. Simply put, pretty much everything you put into or on your body just wouldn't be possible without oil and natural gas. No other existing energy source does everything that oil and natural gas does reliably, 24/7 at an affordable price.”²⁴

As the flight nears Gunnison Mountain south of Somerset, there are remnants of a coal bed methane production on either side of the North Fork of the Gunnison. The coal bed production occurred in connection with coal mining just upstream from Somerset.

While there are no wells visible, the route traverses the southern tip of the Piceance Basin, a prolific natural gas deposit with enormous reserves that contribute significantly to the nation's 100 plus years of natural gas supply.

Then as the route passes over La Sal, the Lisbon Oil Field will be off of the left wing. The field is very much on the decline, having been discovered in 1960. It has produced over 40 million barrels of oil and associated natural gas. The wells are arranged down the crest of an obvious bedrock fold.

²³ https://en.wikipedia.org/wiki/Upper_Colorado_River_Endangered_Fish_Recovery_Program

²⁴ <https://www.westernenergyalliance.org/why-western-oil-natural-gas>

Mining

Leadville is the home to many mineral deposits, especially lead. This lead was crucial to the nation's efforts in WWI and WWII. The route will overfly gold and silver deposits in western and southwestern Colorado as well as:

- Historic Carbondale Coalfield. Very high-grade metallurgical coal. Mined beginning in the late 1800's for CF&I. Also worked from mid-70's to around 2000 for exports. Area is fully reclaimed - may be visible from the air.
- Historic Somerset Coalfield. This field provided coal to the western slope, and later provided metallurgical coal. Currently the site of the West Elk Mine (underground) which supplies coal to domestic and overseas buyers. Should be visible from the air.
- Nucla Power Plant and New Horizon Mine. The New Horizon mine supplies the power plant which together are the largest economic driver for the town of Nucla—by far. The plant and mine are scheduled to close in 2025 due to environmental regulations.
- Kayenta Mine and Navajo Generating Station (off route). Mine supplies the power plant, both of which are scheduled to close the end of this year (environmental and competitive reasons). This will be a major blow to the Navajo and Hopi Tribes as the mine and plant are a major source of Tribal revenue.
- Kaiparowits Coalfield. One of the largest undeveloped high-quality coalfields in the world. Resources are estimated at 60 billion tons. Has been mined on a small scale since the late 1800's. Was the subject of major development plans in the 1970's which did not come to fruition. In the 1990's Andalex Resources pursued development of a mine, but it did not come to fruition given President Clinton's declaration of the Grand Staircase - Escalante National Monument in 1996.
- Alton Coal Mine in the Alton Coalfield (off route). Recently developed and received an additional coal lease. Produces coal for export and for domestic power plants.
- Reid Gardner Power Plant - A significant consumer of western coal. This plant was closed in 2017 and has since been demolished.

In eastern Utah, the flight will be near high quality uranium deposits south of Moab as well as the only uranium and vanadium processing mill in the United States at Blanding, Utah. The route will also be north of the Lisbon Valley Copper Mine.

The area in and around Grand Staircase has significant coal deposits as well as uranium and even oil and gas potential.

Proceeding into Nevada, the Bunkerville mining district is known for many metals and elements: Cu (copper), Au (gold), Ag (silver), W (tungsten), Ni (nickel), Pt (platinum), Pd (palladium), Co (cobalt), Be (beryllium), U (uranium), Ti (titanium) mica and gypsum. The Moapa district has magnesite and silica, among others. These minerals are critical for many materials we use in our daily lives.

Leaving Las Vegas, the route will be over several historic mining districts near Pahrump. The Apex district is known for limestone. The Dike district, for Pb. The Charleston mining district has lead, Zn (zinc), silver and gypsum. The Johnnie has gold and silver. Ash Meadows has bentonite. One is the Bullfrog Mining District. Barrick operated the Bullfrog underground gold mine until the early 2000s.

Death Valley is the home to many mineral deposits and the world famous 20 Mule Team and Rio Tinto Boron Minerals operation (Borax). Among other things, borax is an important component in detergents and cosmetics.²⁵

Death Valley area also has talc and gold deposits, as well as potential for lithium production; although there are no active mines at this time. Lithium is the lightest metal and lightest element. It is used for heat-resistant glass and ceramics, lubricants and the lithium batteries so prevalent in our electronic devices today. Batteries use more than three quarters of all lithium produced.²⁶

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*Denver Business Journal Who's Who in Energy, 2019

*5280 Top Lawyers in Agricultural and Rural Law, 2016-2019

*Denver Business Journal and Colorado Farm Bureau Who's Who in Agriculture, 2019

²⁵ <https://en.wikipedia.org/wiki/Borax>

²⁶ <https://en.wikipedia.org/wiki/Lithium>