

# Land management



## What is land management?

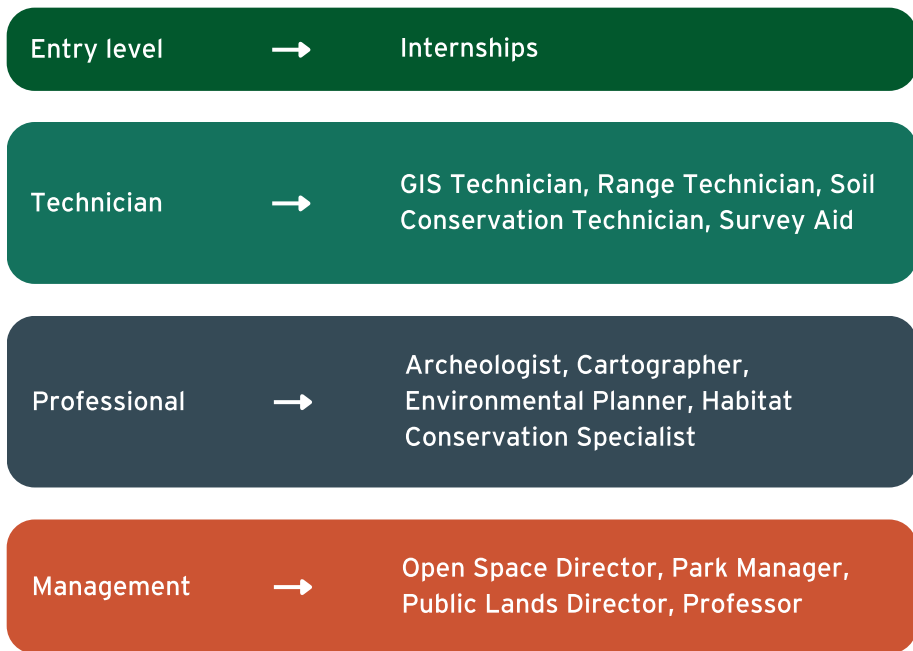
Curious about our relationship with the land and how we work with it? You might be interested in land management.

- Land management combines information about the physical environment with biological factors such as wildlife habitat and human factors such as recreation.
- A land management professional works with other natural resource professionals and the public to determine what a particular area of land should be used for.

## Day in the life



## Career path



## How can I get experience?

General exposure/experience: Big City Mountaineers, Boulder County Open Space Left Hand Outdoor Challenge, Camp Rocky

Volunteer opportunities: Colorado Youth Corps Association, Volunteers for Outdoor Colorado

Youth employment: Colorado Parks and Wildlife

Professional societies: Soil Science Society of America, Society for Rangeland Management

## Salary/pay range

The average salary for a Land Manager in Colorado is:

**\$94,764**  
(From Indeed)

## Examples of careers

- Archaeologist
- Range Technician
- Cartographer
- GIS Specialist
- Habitat Conservation Specialist
- Land Use Planner
- Restoration Ecologist
- Soil Scientist

## Skills

- Subject matter expertise
- Technical skills
- Problem-solving and decision-making



## Career spotlight: Soil scientist

### What they do

Soil scientists study the chemical, physical and biological properties of soils. They research anything from global topics like climate change or acid rain to local issues like well contamination.

“Most soil scientists would tell you they chose this profession because they liked the combination of field and laboratory work,” says Soil scientist Ivan Fernandez.

### Skills and education check

Soil scientists love working outdoors, maps, exhibit strong analytical and critical thinking skills, and are integral in environmental decisions related to soil conservation, land use, water quality or waste management.

Most soil scientists have a strong background in math and science and have a Bachelor’s degree in biology, chemistry or agronomy.



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## What is forestry?

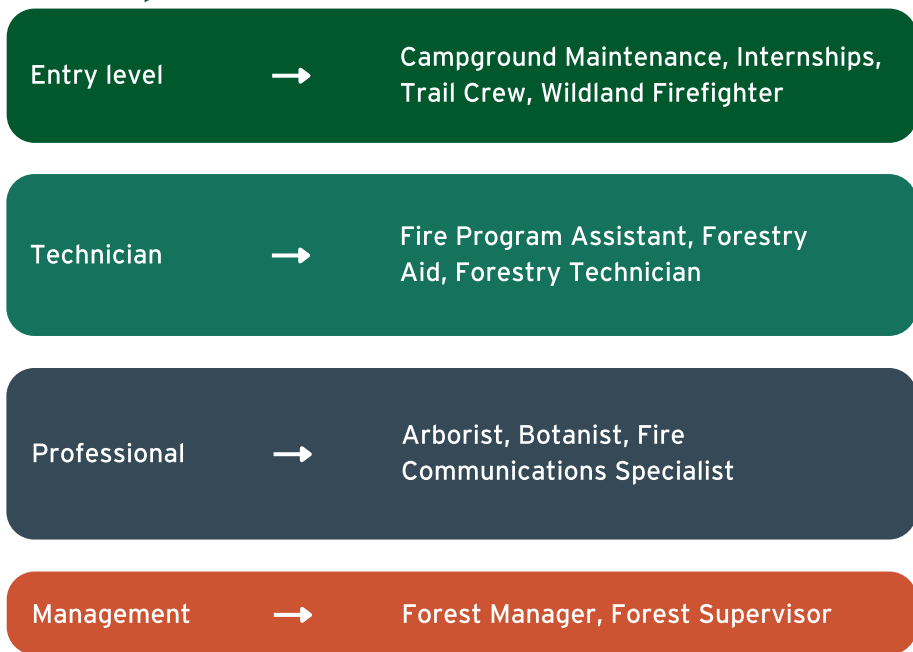
Are you drawn to Colorado's massive network of forest land in both rural and urban settings? Do you care about the plants and wildlife that live there? You might enjoy a career in Forestry where you'll:

- Learn how to develop and evaluate forest and fire management plans
- Provide technical assistance or ways to keep our forests and grasslands healthy

## Day in the life



## Career path



## How can I get experience?

General exposure/experience: Camp Rocky

Volunteer opportunities: US Forest Service, Volunteer.gov

Youth employment: Colorado Youth Corps Association

Professional societies: Society of American Foresters, Weed Science Society of America

## Salary/pay range

The average salary for a Forester in Colorado is:

**\$49,383**

(From Indeed)

## Examples of careers

- Campground Maintenance
- Trail Crew
- Wildland Firefighter
- Forestry Technician
- Plant Protection Technician
- Arborist
- Silviculturist

## Skills

- Leadership and supervision
- Safety and risk management
- Fieldwork and physical fitness



## Career spotlight: Assistant staff forester

### What they do

Foresters learn how to manage forested land at a broader scale but can also help individual homeowners learn about trees on their property. Firefighting, working at a nursery or being an arborist are all roles someone in forestry could have throughout their career.

“Trees have been very good to me. I tell young people to do what you love and you will never tire of going to work,” said Colorado State Forest Service Assistant Staff Forester Vince Urbina.

### Skills and education check

A love for plants, science and the forest ecosystems are key to working in forestry. Skills, training and certification are crucial to entering this field. Some jobs require an associate's degree while you might have the opportunity for more specialization with a bachelor's degree.



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# Parks and recreation



## What is parks and recreation?

Does the human use of natural resources for enjoyment, education, health, socialization and well-being intrigue you? You may want to consider a career in the field of parks and recreation where you'll help with:

- Planning, organizing and administering recreational activities, programs and services for diverse populations
- Educating the public through a variety of mediums including newspaper articles, field trips and brochures

## Day in the life

- Provide park information
- Prepare illustrated lectures
- Create informational brochures
- Write newspaper articles

## Career path



## How can I get experience?

General exposure/experience: Big City Mountaineers

Volunteer opportunities: Denver Parks & Recreation, Volunteer.gov

Youth employment: SPREE River Ranger Summer Program

Professional societies: Association for Outdoor Recreation and Education

## Salary/pay range

The average salary for a Director of Parks and Recreation is:

**\$22.82 per hour**  
(From Indeed)

## Examples of careers

- Park Technician
- Park Ranger
- Parks Planner
- Recreation Coordinator
- Wilderness Ranger
- Director of Parks, Trails and Recreation

## Skills

- Interpersonal communication
- Event coordination
- Program development and presentation



## Career spotlight: Environmental educator

### What they do

Environmental educators plan, develop and conduct programs to inform visitors about the historical, natural and scientific features of a park, open space or artifacts.

“My biggest fulfillment is seeing children light up when discovering nature for the first time,” said Mark DeGregorio, Education Program Manager at Rocky Mountain National Park.

### Skills and education check

To succeed in the field of parks and recreation you must enjoy interacting with people of all ages and backgrounds, be knowledgeable about science, have good written and verbal communication skills and be creative.

Most jobs in parks and recreation require an associate’s degree or bachelor’s degree; however, some positions require no certifications – just a well-tailored skill set.



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# Wildlife and fisheries



## What are wildlife and fisheries?

If you love learning about animal populations, how they interact with each other and what they need to be healthy, a career in wildlife and fisheries might be for you.

- Design practices that improve fish and wildlife populations.
- Research an animal's habitat requirements, behavior and distribution.

## Day in the life

Conserve pollinator habitats

Pass legislation on behalf of wildlife

Restore fish populations

Detect and prevent invasive species

## Career path

Entry level



Internships

Technician



Biological Science Technician, Fisheries Technician, Wildlife Technician

Professional



Animal Research Scientist, Biological Scientist, Ecologist, Wildlife Biologist

Management



District Wildlife Manager, Fish Hatchery Manager, Professor

## How can I get experience?

General exposure/experience: Camp Rocky

Volunteer opportunities: Colorado Parks and Wildlife, Volunteer.gov

Youth employment: Colorado Parks and Wildlife

Professional societies: The Wildlife Society, Ecological Society of America

## Salary/pay range

The average salary for a Wildlife Specialist in Colorado is:

**\$61,286**

(From Indeed)

## Examples of careers

- Wildlife Technician
- Fisheries Technician
- Animal Research Scientist
- Zoologist
- Entomologist
- Habitat Conservation Specialist

## Skills

Research skills

Fieldwork experience

Data analysis and interpretation



## Career spotlight: Wildlife biologist

### What they do

Every day is different working in wildlife biology! A wildlife biologist studies the origins, behavior, diseases, genetics and life processes of animals and wildlife. Some professionals specialize in wildlife research and management, including the collection and analysis of biological data, to determine the environmental effects of present and potential use of land and water areas.

### Skills and education check

To enter a career in wildlife biology, you'll need a skillset in data analysis, the ability to understand and explain life sciences concepts such as microorganisms, plants and animals, and assess the effects of environment and industry.

It's also important to build skills in working with the public and interacting with people of all ages, interests, viewpoints and backgrounds. Critical thinking, problem-solving and creativity can help wildlife biologists in their daily responsibilities.

Most wildlife biologists today have a master's degree in Biology, wildlife management or a related field. While a bachelor's degree may qualify someone to work as a research technician or teacher, most jobs in applied research, management or inspection require a master's degree.



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# Water management



## What is water management?

Water is one of our most precious resources, especially in Colorado. You can play a part in problem-solving for our current and future water needs!

- Apply physical, chemical and biological sciences combined with math, technology, engineering, economics and law.
- Make important decisions about water quality and quantity.

## Day in the life

Analyze data and build reports

Investigate water quality problems

Research ecosystems

Develop plans for controlling water resources

## Career path

Entry level



Internships

Technician



Aquatic Biologist, Hydrology Technician, Groundwater Remediation Technician

Professional



Hydrologist, Local or State Water Planner, Stormwater Technician

Management



Plant Operator, Water Treatment Operator

## How can I get experience?

General exposure/experience: Camp Rocky

Volunteer opportunities: River Watch of Colorado, Volunteer.gov

Youth employment: Groundwork Denver, SPREE River Ranger Summer Program, Student Conservation Association

Professional societies: American Water Resources Association, National Groundwater Association, River Management Society

## Salary/pay range

The average salary for a Water Treatment Specialist in Colorado is:

**\$94,258**

(From Indeed)

## Examples of careers

- Aquatic Biologist
- Hydrologist
- Watershed Planner
- Groundwater Specialist
- Water Treatment Operator

## Skills

GIS analysis

Water resource management

Compliance monitoring and legal proceedings



## Career spotlight: Water treatment technician

### What they do

Before you take a sip of water from the faucet, a water treatment technician or operator has ensured that it is safe for you to drink. Fresh water is pumped from wells, rivers, streams or reservoirs to water treatment plants, where it is treated and distributed to customers.

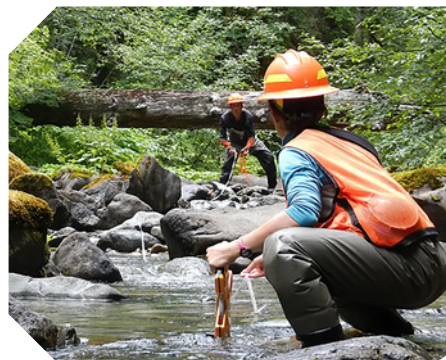
A water treatment technician could work for a city government at a water treatment facility. On a typical day, a water treatment technician may record meter and gauge readings, add chemicals to disinfect and deodorize water and other liquids, clean and maintain equipment and work areas, and collect and test water samples.

A person in this job should like physical activities. You may be expected to do heavy lifting, stooping, climbing and walking. Everyone in the plant is exposed to unpleasant odors, and keep in mind, it can be a dirty job!

### Skills and education check

Math, science and mechanical skills are essential for being a water treatment technician. One must have good analytical and detail-oriented skills to conduct tests and analyze results.

Water treatment technicians typically need a high school diploma and a license to work. They also typically undergo on-the-job training. As competition for jobs continues to increase, completion of an associate's degree also increases the chances of employment and a higher starting salary. You'll also need several state licenses and certifications.



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## What is geoscience?

Geoscience is a scientific field that involves the collection and interpretation of data about the Earth to improve the quality of human life.

- Investigate soils, the ocean and the atmosphere.
- Learn how to balance the demand and sustainability of Earth's natural resources including groundwater, petroleum and metals.

## Day in the life

Plan and conduct geological surveys

Analyze data

Sample mineral, liquid or rock samples

Develop research proposals

## Career path

Entry level



Internships

Technician



Geotechnician, Soil Conservation Technician

Professional



Atmospheric Scientist, Civil Engineer, Geologist

Management



Supervisory Geologist, Supervisory Physical Scientist

## How can I get experience?

General exposure/experience: CU Denver Science Discovery Camp, National Center for Atmospheric Research

Volunteer opportunities: Volunteer.gov

Youth employment: Colorado Youth Corps Association

Professional societies: Geological Society of America, Colorado Mining Association

## Salary/pay range

The average salary for a Geoscientist in Colorado is:

**\$80,194**

(From Indeed)

## Examples of careers

- Geotechnician
- Atmospheric scientist
- Environmental engineer
- Meteorologist
- Oceanographer

## Skills

Program Management

Collaboration and Coordination

Technical Expertise



## Career spotlight: Geologist

### What they do

If you like variety in your day-to-day work and have a passion for science, a career as a geologist might work for you. When performing fieldwork, where you are stationed can range from established research posts to challenging backcountry conditions. Fieldwork can involve travel to locations around the world, sometimes for weeks at a time. When working at the home duty station, daily duties range from working in a laboratory to computer-based analysis and recording.

### Skills and education check

As a geologist, it's important to have strong written and oral communication skills to present research findings and discoveries. Outdoor skills like camping and hiking are also essential for fieldwork. An understanding of programs used for modeling, analysis and digital mapping are also key.

While a bachelor's degree may earn an entry-level position, many positions require a master's degree to begin and upper-level positions eventually require a Ph.D. The most common degree program is geoscience, but any physics, chemistry, biology, mathematics, engineering or computer science program may suffice if geology was incorporated into the program.



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# Beyond the sciences



## Guess what?

You don't have to work in the outdoors to work for the outdoors! You can still help manage our natural resources and not have a background in science. There are many positions available in an office setting that are crucial for the success of agencies and organizations.

## Career path

Entry level



Information Receptionist, Laborer, Maintenance Worker

Technician



Accounting Technician, Database Administrator, Financial Technician

Professional



Administrative Officer, Budget Analyst, Grant Management Specialist

Management



Communications Manager, Facilities Manager, Program Manager

## How can I get experience?

Volunteer opportunities: Colorado Department of Natural Resources, Volunteer.gov

Youth employment: Colorado Parks and Wildlife Internship Program, Colorado Youth Corps Association BLM Internship Program

Professional societies: American Society of Administrative Professionals, Graphic Artists Guild, Society for Technical Communication

## Salary/pay range

The average salary for a Budget Analyst in Colorado is:

**\$81,402**

(From Indeed)

## Examples of careers

- Secretary
- Administrative Officer
- Computer Scientist
- Graphic Artist
- Grants Management Specialist
- Technical Writer

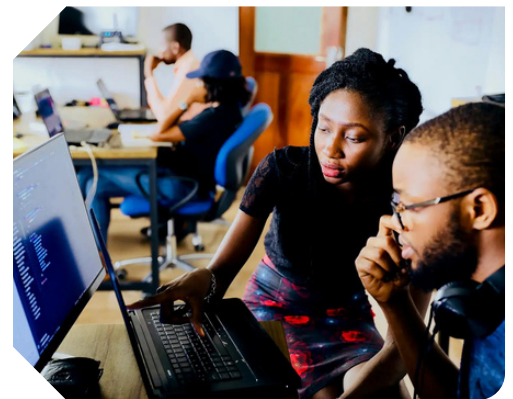
## Skills

Financial Management

Communication and Collaboration

Program Administration

Grant Administration



## Career spotlight: Budget analyst

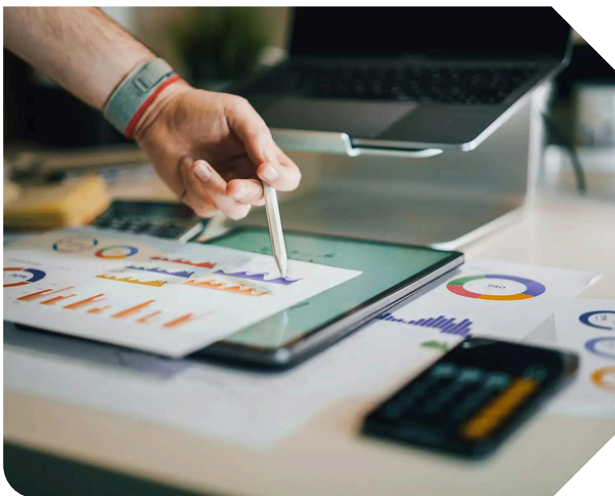
### What they do

A budget analyst has expertise in managing incoming funds and multiyear funds for a federal agency. You'll be responsible for managing, monitoring and tracking funding. Preparing financial reports and advising on the budget needs for the particular agency are also relevant to this job position.

### Skills and education check

It's essential for a budget analyst to have collaborative skills when working with other partners to accurately report on budgets. Depending on the federal level, your experience and skills may differ.

Typically for a position like this, you'll need to hold a college degree in a relevant field and provide a copy of your college transcripts.



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