

Labor Market Information and Analysis

UAV/UAS (Unmanned Aircraft Vehicles/Unmanned Aircraft Systems), often referred to as drones, is the fastest growing sector of both civilian and military aviation. The Federal Aviation Administration, the National Oceanic and Atmospheric Administration, Boeing, Raytheon, General Atomics and other organizations identify that in California, the U.S., and globally the UAV/UAS drone hobby, commercial, and military markets will expand significantly by 2020. It is estimated that by 2025 there will be over 100,000 new UAS jobs nationally. <http://www.atreeducation.org/wp-content/uploads/2015/10/The-ATRE-Drone-Report.pdf>

According to the report prepared for Peter Davis, Statewide Director on the emerging UAS Industry, by 2025, 18,161 (17.5%) of the 103,776 US UAS jobs created are expected to be in California. Southern California is projected to receive the majority of those jobs based on the proportion of national aerospace manufacturing. Southwestern College is perfectly situated in San Diego to supply trained graduates for careers in local aerospace companies or entrepreneurial endeavors as UAS operators.

San Diego is home to two of the largest military unmanned aerial vehicle (UAV) manufacturers, Northrop Grumman and General Atomics, and is a hub for UAV technologies for both military and civilian users. Covering air, land, and water, the unmanned systems platforms manufactured in the region serve a variety of sophisticated military and commercial missions.

With the rise in commercial and consumer uses, this industry is well positioned to carry aerospace innovation forward and to continue to attract top aerospace and software engineering talent to San Diego. While the Department of Defense (DoD) has been driving these technologies, significant moves by companies like Qualcomm, Amazon, and Google reflect the emerging opportunities for unmanned systems in commercial markets. San Diego's talent base has the right blend of technical skills from communications, software, cybersecurity, aviation, robotics, and data analytics to capitalize on the maturation of these commercial markets.

The occupations associated with this proposed Drone Technology and Applications Certificate of Achievement are growing at tremendous rates, ranging between 6.7% and 46.7%. Moreover, we expect new occupations to be created as industry recognizes the potential of this emerging technology, and we also expect the median pay for UAS operators in various fields to increase as demand increases. AUVSI's (Association for Unmanned Vehicle Systems International) Economic Report (<http://www.auvsi.org/auvsiresources/economicreport>) projected that the integration of UAS in the US airspace will create more than 100,000 jobs and have an economic impact of \$82 billion by 2025.

Below are some of the job market outlooks for fields that presently use UAS for their respective endeavors. Over time, and as the technology continues to advance, there is an expectation that the number of UAS applications will grow. All data was collected from the U.S. Department of Labor CareerOneStop.org website.

Geospatial Information Scientists and Technologists

Description: what do they do?

Research or develop geospatial technologies. May produce databases, perform applications programming, or coordinate projects. May specialize in areas such as agriculture, mining, health care, retail trade, urban planning, or military intelligence.

Also known as:

Geospatial Program Management Officer, Resource Analyst, Geographic Information Systems Coordinator (GIS Coordinator), Technical Leader, Geographical Information System Analyst (GIS Analyst), Geographic Information Systems Administrator (GIS Administrator), Geographic Information Systems Manager (GIS Manager), Geospatial Intelligence Subject Matter Expert, Geographic Information Systems Analyst (GIS Analyst), Geographic Information Systems Specialist (GIS Specialist)



Outlook: will there be jobs?



New job opportunities are likely in the future.

[Find job openings](#)



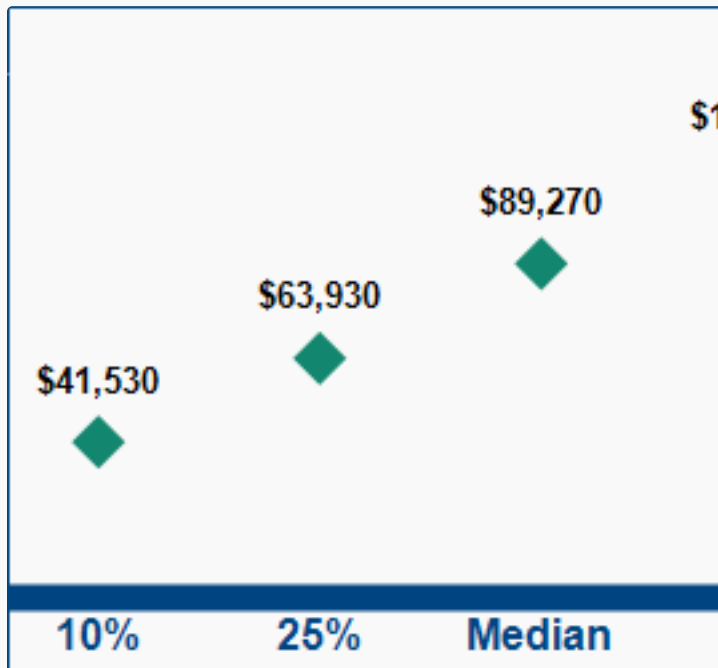
Projected employment



Typical wages

[Hourly Wages](#)

Annual wages for Computer Occupations, All Other* in San Diego-Carlsbad-San Marcos, CA MSA



* You're seeing wage information for Computer Occupations, All Other because we don't have information for Geospatial Information Scientists and Technologists.

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GRAPHCHARTTABLE

[See more wages](#)



California

United States

25,000
2014 Employment

287,200
2016 Employment

30,000
2024 Employment

313,800
2026 Employment

20%
Percent change

9%
Percent change

820
Annual projected
job openings

22,400
Annual projected
job openings

You're seeing projected employment information for Computer Occupations, All Other because we don't have information for Geospatial Information Scientists and Technologists.

[Compare projected employment](#)



Education and experience: to get started

People starting in this career usually have:

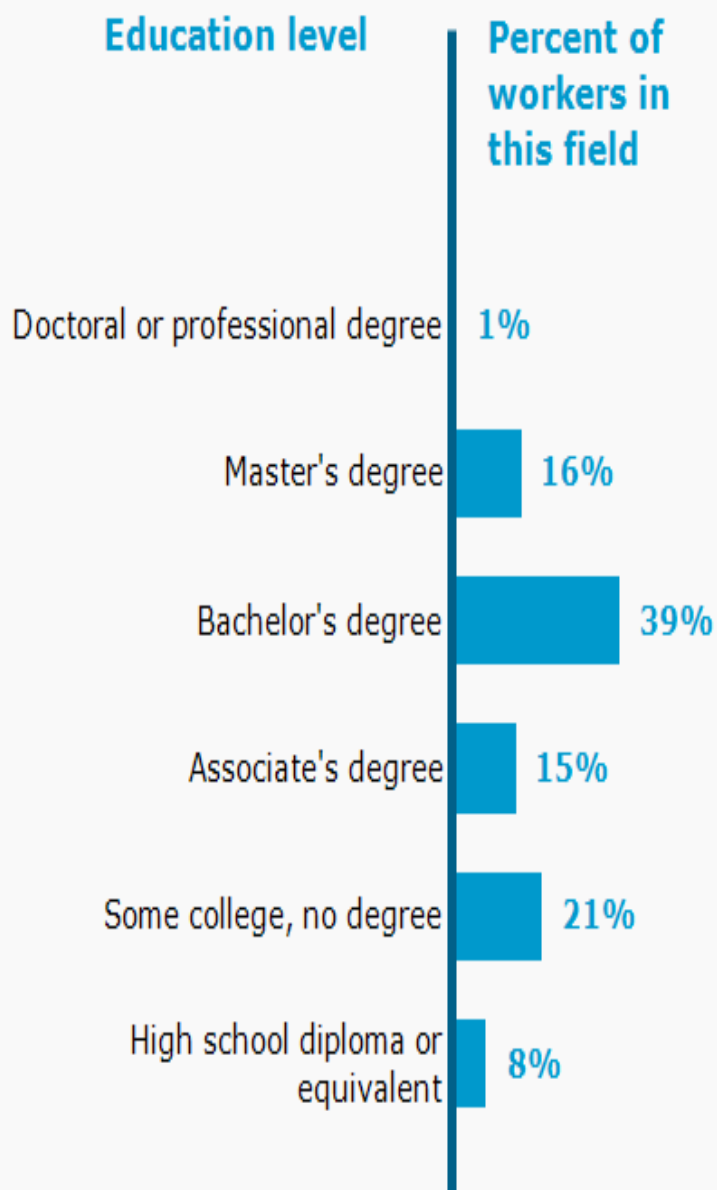
- Bachelor's degree
- No work experience
- No on-the-job training

Programs that can prepare you:

- [Accounting and Computer Science](#)
- [Mathematics and Computer Science](#)
- [Human Computer Interaction](#)
- [Medical Informatics](#)
- [Computational Biology](#)

Typical education

How much education do most people in this career have?



Apprenticeships: learn on the job

Apprenticeships combine paid on-the-job-training with classroom lessons.

[Find apprenticeship sponsors](#)



Knowledge

People in this career often know a lot about:

- Geography - Knowledge of principles and methods for describing the features of land, sea, and air masses, including their physical characteristics,

Certifications: show your skills

Let employers know you have the skills to do well at this job.

Earning a certification can help you:

- Get a job
- Get a promotion

[Find certifications](#)



Licenses: do you need one?

Some states require an occupational license to work in this career.

[Find license details for your state](#)



Activities: what you might do in a day

- Prepare graphics or other visual representations of information.
- Prepare analytical reports.
- Provide technical support for software maintenance or use.
- Design software applications.
- Write computer programming code.

[More activities](#)



locations, interrelationships, and distribution of plant, animal, and human life.

- Computers and Electronics - Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.
- English Language - Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
- Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.



Skills

People in this career often have these skills:

- Reading Comprehension - Reading work-related information.
- Active Listening - Listening to others, not interrupting, and asking good questions.
- Writing - Writing things for co-workers or customers.
- Science - Using scientific rules and strategies to solve problems.
- Speaking - Talking to others.
- Critical Thinking - Thinking about the pros and cons of different ways to solve a problem.
- Complex Problem Solving - Noticing a problem and figuring out the best way to solve it.

[More skills](#)



Abilities

People in this career often have talent in:

- Written Comprehension - Reading and understanding what is written.
- Oral Comprehension - Listening and understanding what people say.
- Oral Expression - Communicating by speaking.
- Near Vision - Seeing details up close.
- Written Expression - Communicating by writing.
- Inductive Reasoning - Making general rules or coming up with answers from lots of detailed

Related occupations

- [Geographic Information Systems Technicians](#)
- [Remote Sensing Scientists and Technologists](#)
- [Market Research Analysts and Marketing Specialists](#)
- [Transportation Planners](#)
- [Logistics Analysts](#)

[More occupations](#)



information.

- Deductive Reasoning - Using rules to solve problems.

[More abilities](#)



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Environmental Engineering Technicians

Description: what do they do?

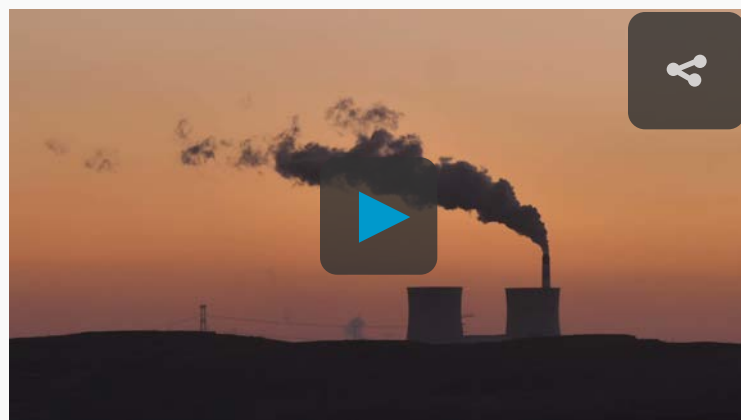
Apply theory and principles of environmental engineering to modify, test, and operate equipment and devices used in the prevention, control, and remediation of environmental problems, including waste treatment and site remediation, under the direction of engineering staff or scientist. May assist in the development of environmental remediation devices.

Also known as:

Environmental Technician, Senior Environmental Technician, Engineer Technician, Environmental Specialist, Industrial Waste Inspector, Air Quality Instrument Specialist, Environmental Field Technician, Haz Tech (Hazardous Technician), Environmental Engineering Technician, Environmental Engineering Assistant



Career video



[View transcript](#)



Outlook: will there be jobs?

Projected employment

California	United States
2,000 2014 Employment	17,000 2016 Employment
2,400 2024 Employment	19,100 2026 Employment
20% Percent change	13% Percent change
90 Annual projected job openings	1,700 Annual projected job openings

[Compare projected employment](#)



Education and experience: to get started

People starting in this career usually have:

- Associate's degree
- No work experience
- No on-the-job training

Programs that can prepare you:

- [Hazardous Materials Information Systems Technology/Technician](#)
- [Environmental Engineering Technology/Environmental Technology](#)



New job opportunities are very likely in the future.

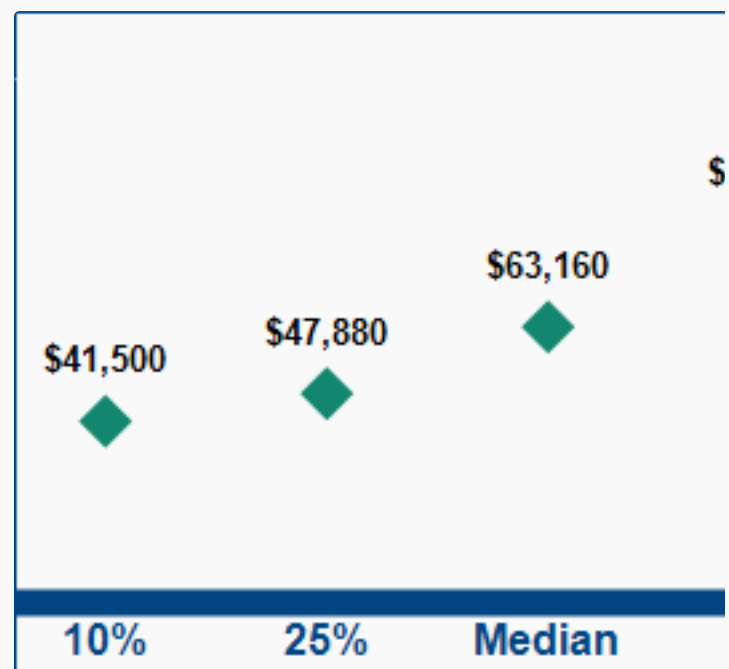
This occupation is:

- Expected to grow much faster

Typical wages

[Hourly Wages](#)

Annual wages for Environmental Engineering Technicians in San Diego-Carlsbad-San Marcos, CA MSA



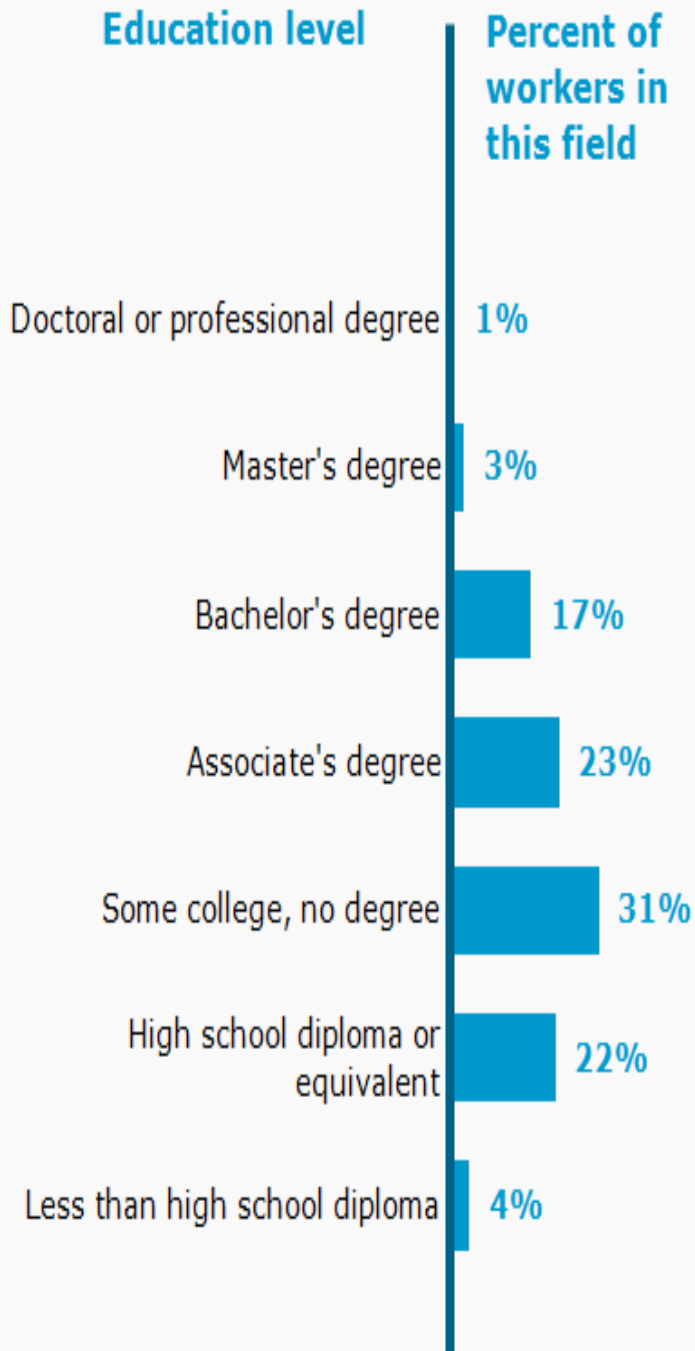
GRAPHCHARTTABLE

[See more wages](#)



Typical education

How much education do most people in this career have?



[Find local training](#)



Certifications: show your skills

Let employers know you have the skills to do well at this job.

Earning a certification can help you:

- Get a job
- Get a promotion

[Find certifications](#)



Licenses: do you need one?

Some states require an occupational license to work in this career.

[Find license details for your state](#)



Apprenticeships: learn on the job

Apprenticeships combine paid on-the-job-training with classroom lessons.

[Find apprenticeship sponsors](#)



Activities: what you might do in a day

- Dispose of hazardous materials.
- Maintain operational records or records systems.

Knowledge

People in this career often know a

- Document design or operational test results.
- Prepare technical or operational reports.
- Analyze test or validation data.
- Collect samples of raw materials or finished products.

[More activities](#)



Skills

People in this career often have these skills:

- Critical Thinking - Thinking about the pros and cons of different ways to solve a problem.
- Reading Comprehension - Reading work-related information.
- Active Listening - Listening to others, not interrupting, and asking good questions.
- Active Learning - Figuring out how to use new ideas or things.
- Monitoring - Keeping track of how well people and/or groups are doing in order to make improvements.
- Science - Using scientific rules and strategies to solve problems.
- Speaking - Talking to others.



Related occupations

lot about:

- Engineering and Technology - Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.
- Customer and Personal Service - Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.
- Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
- English Language - Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.



Abilities

People in this career often have talent in:

- Inductive Reasoning - Making general rules or coming up with answers from lots of detailed information.
- Deductive Reasoning - Using rules to solve problems.
- Written Comprehension -

- [Environmental Science and Protection Technicians, Including Health](#)
- [Precision Agriculture Technicians](#)
- [Geological Sample Test Technicians](#)
- [Mechanical Engineering Technicians](#)
- [Robotics Technicians](#)

[More occupations](#)



Reading and understanding what is written.

- Information Ordering - Ordering or arranging things.
- Oral Expression - Communicating by speaking.
- Problem Sensitivity - Noticing when problems happen.
- Oral Comprehension - Listening and understanding what people say.

[More abilities](#)



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Real Estate Sales Agents

Description: what do they do?

Rent, buy, or sell property for clients. Perform duties, such as study property listings, interview prospective clients, accompany clients to property site, discuss conditions of sale, and draw up real estate contracts. Includes agents who represent buyer.

Also known as:

Sales Agent, Associate Broker, Real Estate Agent, Realtor, Broker in Charge, Real Estate Salesperson, Broker Associate, Real Estate Broker Associate, Real Estate Broker



Career video



[View transcript](#)



Projected employment

California	United States
25,700	348,800

Outlook: will there be jobs?

2014 Employment	2016 Employment
31,400	369,000
2024 Employment	2026 Employment
22%	6%
Percent change	Percent change
750	34,400
Annual projected job openings	Annual projected job openings

Compare projected employment 

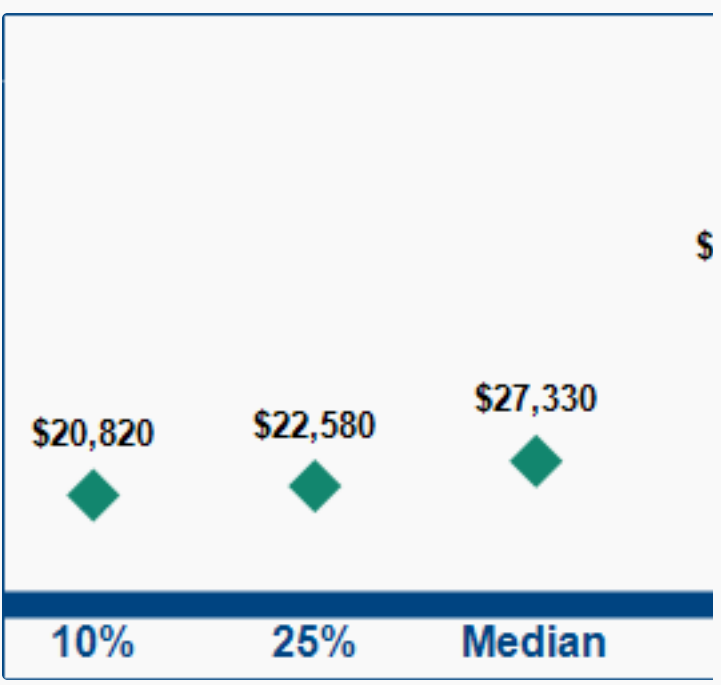


New job opportunities are likely in the future.

Typical wages

[Hourly Wages](#)

Annual wages for Real Estate Sales Agents in San Diego-Carlsbad-San Marcos, CA MSA



GRAPHCHARTTABLE

See more wages 

Education and experience: to get started

People starting in this career usually have:

- High school diploma or equivalent
- No work experience
- 1 to 12 months on-the-job training

Programs that can prepare you:

- [Real Estate Development](#)
- [Real Estate](#)



Typical education

How much education do most people in this career have?

Certifications: show your skills

Let employers know you have the skills to do well at this job.

Earning a certification can help you:

- Get a job
- Get a promotion

[Find certifications](#)



Licenses: do you need one?

Some states require an occupational license to work in this career.

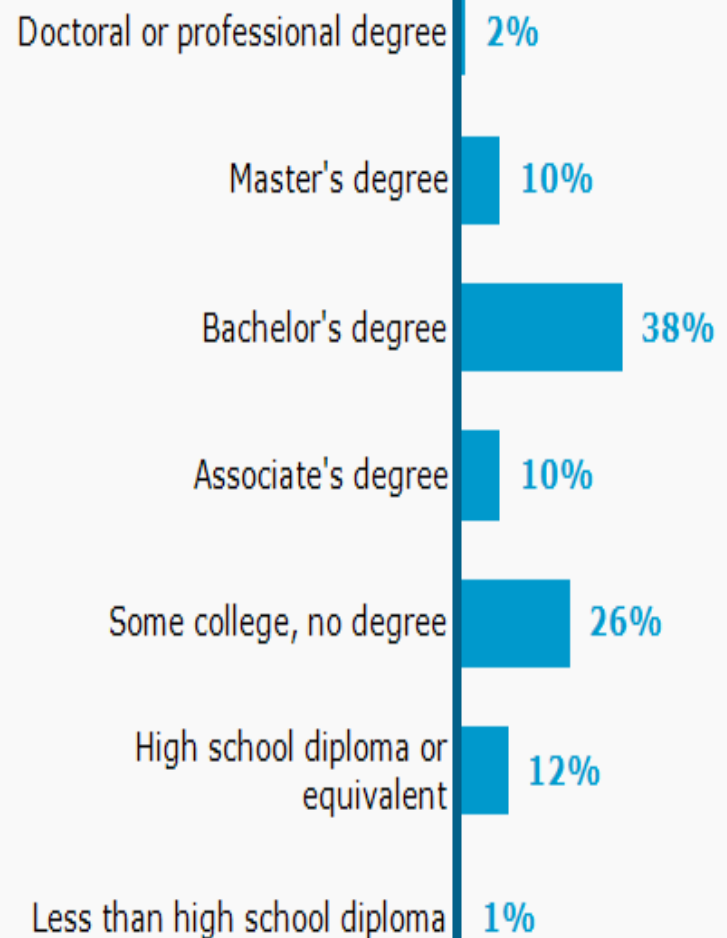
[Find license details for your state](#)



Apprenticeships: learn on the job

Education level

Percent of workers in this field



[Find local training](#)



Apprenticeships combine paid on-the-job-training with classroom lessons.

[Find apprenticeship sponsors](#)



Knowledge

People in this career often know a lot about:

- Sales and Marketing - Knowledge of principles and methods for showing, promoting, and selling products or services. This includes marketing strategy and tactics, product demonstration, sales techniques, and sales control systems.
- Customer and Personal Service - Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.
- English Language - Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
- Law and Government - Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.



Activities: what you might do in a day

- Negotiate prices or other sales terms.
- Appraise property values.
- Advise real estate clients.
- Develop content for sales presentations or other materials.
- Prepare sales or other contracts.

[More activities](#)



Skills

People in this career often have these skills:

- Speaking - Talking to others.
- Negotiation - Bringing people together to solve differences.
- Persuasion - Talking people into changing their minds or their behavior.
- Active Listening - Listening to others, not interrupting, and asking good questions.
- Coordination - Changing what is done based on other people's actions.
- Social Perceptiveness - Understanding people's reactions.

[More skills](#)



Abilities

Related occupations

- [Real Estate Brokers](#)
- [Advertising Sales Agents](#)
- [Loan Officers](#)
- [Assessors](#)
- [Administrative Services Managers](#)

[More occupations](#)



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People in this career often have talent in:

- Oral Expression - Communicating by speaking.
- Oral Comprehension - Listening and understanding what people say.
- Speech Clarity - Speaking clearly.

Written Comprehension - Reading and understanding what is written.

- Speech Recognition - Recognizing spoken words.

[More abilities](#)



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Forest Firefighters

Description: what do they do?

Control and suppress fires in forests or vacant public land.

Also known as:

Forest Ranger, Forest Ranger Technician, Forestry Technician (Fire), Squad Boss, Engine Boss, Fire Technician, Wildland Firefighter, Forest Fire Warden, Fire Fighter, Firefighter



Career video



[View transcript](#)



Outlook: will there be jobs?

Projected employment

California

United States

33,200

2014 Employment

327,300

2016 Employment

35,600

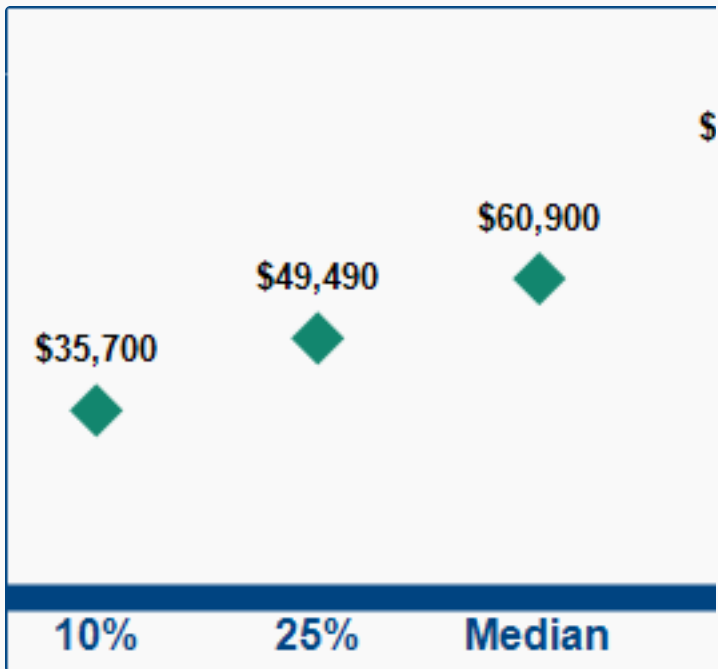
350,900



Typical wages

[Hourly Wages](#)

Annual wages for Firefighters* in San Diego-Carlsbad-San Marcos, CA MSA



* You're seeing wage information for Firefighters because we don't have information for Forest Firefighters.

● ○ ○
GRAPHCHARTTABLE

[See more wages](#)



2024 Employment

2026 Employment

7%

Percent change

7%

Percent change

1,210

Annual projected job openings

24,300

Annual projected job openings

You're seeing projected employment information for Firefighters because we don't have information for Forest Firefighters.

[Compare projected employment](#)



Education and experience: to get started

People starting in this career usually have:

- Postsecondary certificate
- No work experience
- More than 1 year on-the-job training

Programs that can prepare you:

- [Fire Prevention and Safety Technology/Technician](#)
- [Fire Science/Fire-fighting](#)
- [Natural Resources Law Enforcement and Protective Services](#)
- [Wildland/Forest Firefighting and Investigation](#)
- [Fire Protection, Other](#)

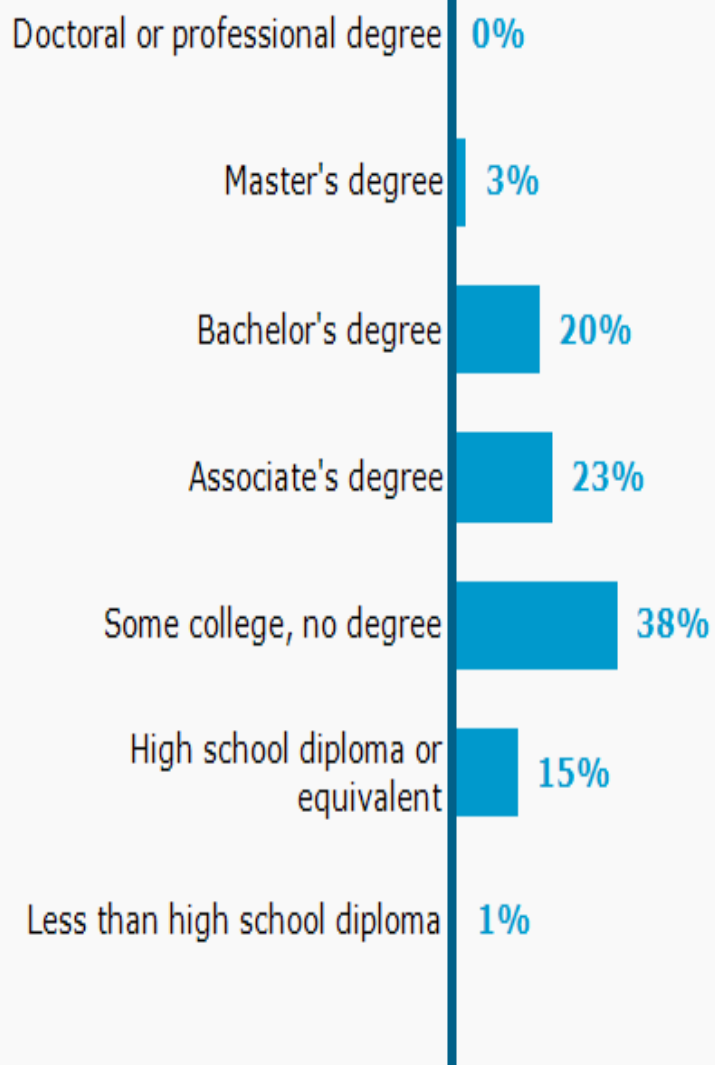


Typical education

How much education do most people in this career have?

Education level

Percent of workers in this field



[Find local training](#)



Certifications: show your skills

Let employers know you have the skills to do well at this job.

Earning a certification can help you:

- Get a job
- Get a promotion

[Find certifications](#)



Licenses: do you need one?

Some states require an occupational license to work in this career.

[Find license details for your state](#)



Apprenticeships: learn on the job

Apprenticeships combine paid on-the-job-training with classroom lessons.

[Find apprenticeship sponsors](#)



Activities: what you might do in a day

- Operate firefighting equipment.
- Maintain fire fighting tools or equipment.
- Inspect equipment to ensure safety or proper functioning.
- Request emergency personnel.
- Administer first aid.

Knowledge

People in this career often know a lot about:

- Administration and

- Rescue people from hazardous situations.

[More activities](#)



Skills

People in this career often have these skills:

- Speaking - Talking to others.
- Active Listening - Listening to others, not interrupting, and asking good questions.
- Coordination - Changing what is done based on other people's actions.
- Monitoring - Keeping track of how well people and/or groups are doing in order to make improvements.
- Operation Monitoring - Watching gauges, dials, or display screens to make sure a machine is working.
- Service Orientation - Looking for ways to help people.

[More skills](#)



Management - Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.

- Public Safety and Security - Knowledge of relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.
- Geography - Knowledge of principles and methods for describing the features of land, sea, and air masses, including their physical characteristics, locations, interrelationships, and distribution of plant, animal, and human life.
- Education and Training - Knowledge of principles and methods for curriculum and training design, teaching and instruction for individuals and groups, and the measurement of training effects.
- Mechanical - Knowledge of machines and tools, including their designs, uses, repair, and maintenance.

[More knowledge](#)



Abilities

People in this career often have talent in:

- Oral Comprehension - Listening and understanding what people say.
- Oral Expression -

Related occupations

- [Municipal Firefighters](#)
- [Explosives Workers, Ordnance Handling Experts, and Blasters](#)

Communicating by speaking.

- Problem Sensitivity - Noticing when problems happen.
- Manual Dexterity - Holding or moving items with your hands.
- Control Precision - Quickly changing the controls of a machine, car, truck or boat.

[More abilities](#)



- [Municipal Fire Fighting and Prevention Supervisors](#)
- [Ship and Boat Captains](#)
- [Forest Fire Fighting and Prevention Supervisors](#)

[More occupations](#)



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Camera Operators, Television, Video, and Motion Picture

Description: what do they do?

Operate television, video, or motion picture camera to record images or scenes for various purposes, such as TV broadcasts, advertising, video production, or motion pictures.

Also known as:

Production Assistant, Cameraman, Production Technician, Photojournalist, Camera Operator, Videographer, Master Control Operator (MCO), Television News Photographer, Floor Director, Studio Camera Operator



Career video



[View transcript](#)



Projected employment

California

7,000

United States

25,100

Outlook: will there be jobs?

2014 Employment

7,200

2024 Employment

3%

Percent change

80

Annual projected job openings

2016 Employment

26,900

2026 Employment

7%

Percent change

2,600

Annual projected job openings

[Compare projected employment](#)



New job opportunities are likely in the future.

Education and experience: to get started

People starting in this career usually have:

- Bachelor's degree
- No work experience
- No on-the-job training

Programs that can prepare you:

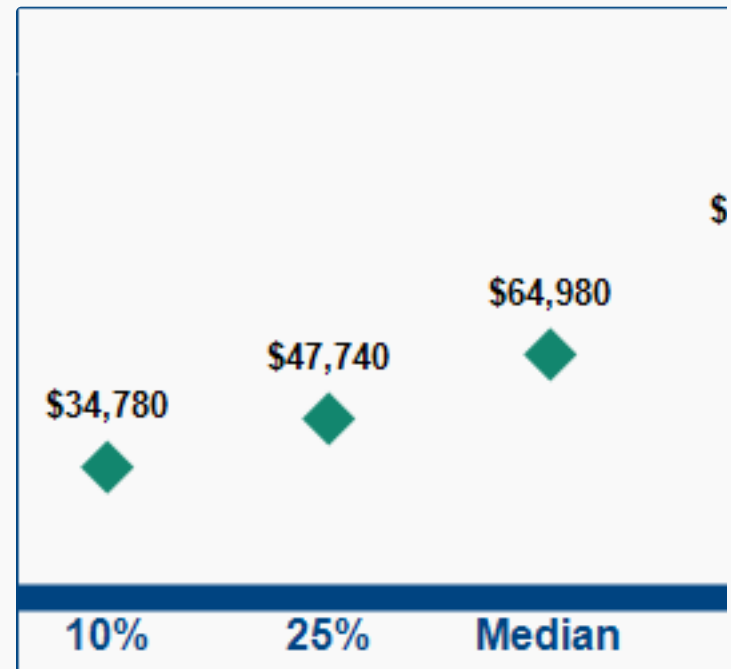
- [Audiovisual Communications Technologies/Technicians, Other](#)
- [Cinematography and Film/Video Production](#)
- [Radio and Television Broadcasting Technology/Technician](#)
- [Documentary Production](#)



Typical education

[Hourly Wages](#)

Annual wages for Camera Operators, Television, Video, and Motion Picture in California

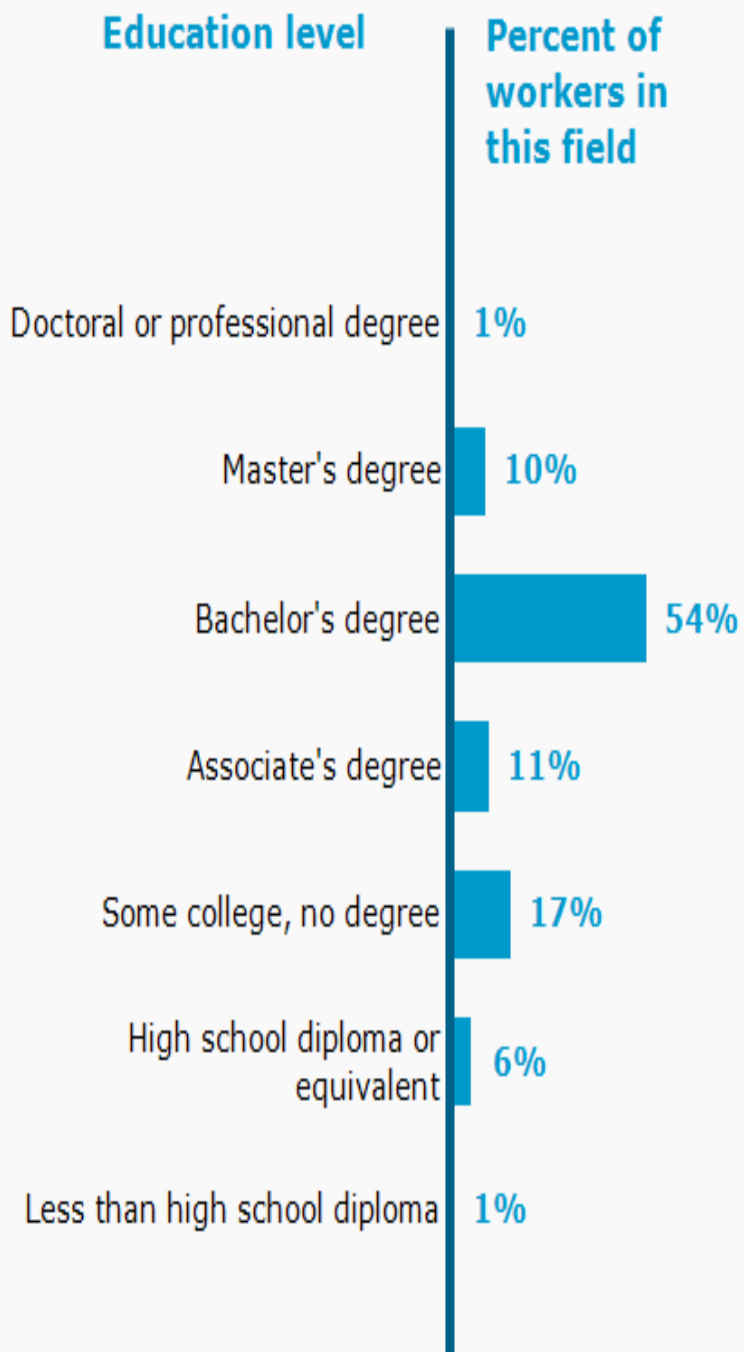


GRAPHCHARTTABLE

[See more wages](#)



How much education do most people in this career have?



[Find local training](#)



Activities: what you might do in a day

- Operate still or video cameras or related equipment.
- Edit audio or video recordings.
- Determine technical requirements of productions or projects.

Certifications: show your skills

Let employers know you have the skills to do well at this job.

Earning a certification can help you:

- Get a job
- Get a promotion

[Find certifications](#)



Licenses: do you need one?

Some states require an occupational license to work in this career.

[Find license details for your state](#)



Apprenticeships: learn on the job

Apprenticeships combine paid on-the-job-training with classroom lessons.

[Find apprenticeship sponsors](#)



Knowledge

People in this career often know a lot about:

- Communications and Media - Knowledge of media production, communication, and dissemination

- Set up still or video cameras or related equipment.
- Collaborate with others to determine technical details of productions.

[More activities](#)



Skills

People in this career often have these skills:

- Active Listening - Listening to others, not interrupting, and asking good questions.
- Speaking - Talking to others.
- Coordination - Changing what is done based on other people's actions.



Related occupations

- [Audio and Video Equipment Technicians](#)
- [Prepress Technicians and Workers](#)
- [Broadcast Technicians](#)
- [Film and Video Editors](#)
- [Sound Engineering Technicians](#)

[More occupations](#)



techniques and methods. This includes alternative ways to inform and entertain via written, oral, and visual media.

- Computers and Electronics - Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.
- English Language - Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
- Telecommunications - Knowledge of transmission, broadcasting, switching, control, and operation of telecommunications systems.



Abilities

People in this career often have talent in:

- Visualization - Imagining how something will look after it is moved around or changed.
- Oral Comprehension - Listening and understanding what people say.
- Oral Expression - Communicating by speaking.
- Near Vision - Seeing details up close.
- Problem Sensitivity - Noticing when problems happen.
- Speech Clarity - Speaking

clearly.

- Far Vision - Seeing details that are far away.

[More abilities](#)



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Film and Video Editors

Description: what do they do?

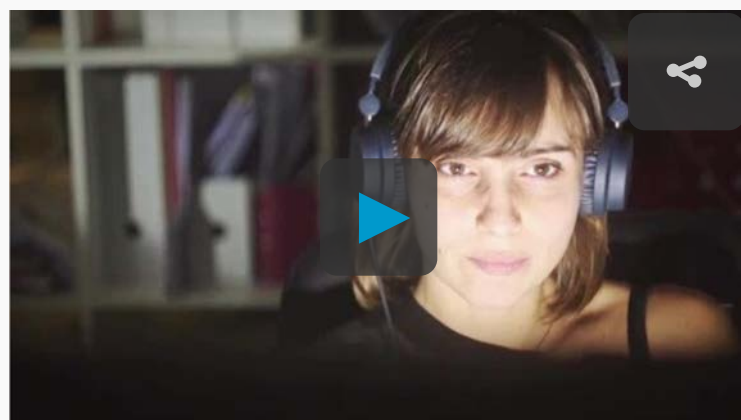
Edit moving images on film, video, or other media. May edit or synchronize soundtracks with images.

Also known as:

Editor, Video Editor, News Videotape Editor, Film Editor, Videographer, Non-Linear Editor, News Editor, Assistant Film Editor, Online Editor, News Video Editor



Career video



[View transcript](#)



Outlook: will there be jobs?

Projected employment

California

United States

15,800

2014 Employment

34,200

2016 Employment

18,000

40,000



New job opportunities are very likely in the future.

This occupation is:

Education and experience: to get started

People starting in this career usually have:

- Bachelor's degree
- No work experience
- No on-the-job training

Programs that can prepare you:

- [Documentary Production](#)
- [Photojournalism](#)
- [Audiovisual Communications Technologies/Technicians, Other](#)
- [Radio and Television](#)
- [Cinematography and Film/Video Production](#)

[More programs](#)



2024 Employment

14%

Percent change

360

Annual projected job openings

2026 Employment

17%

Percent change

4,000

Annual projected job openings

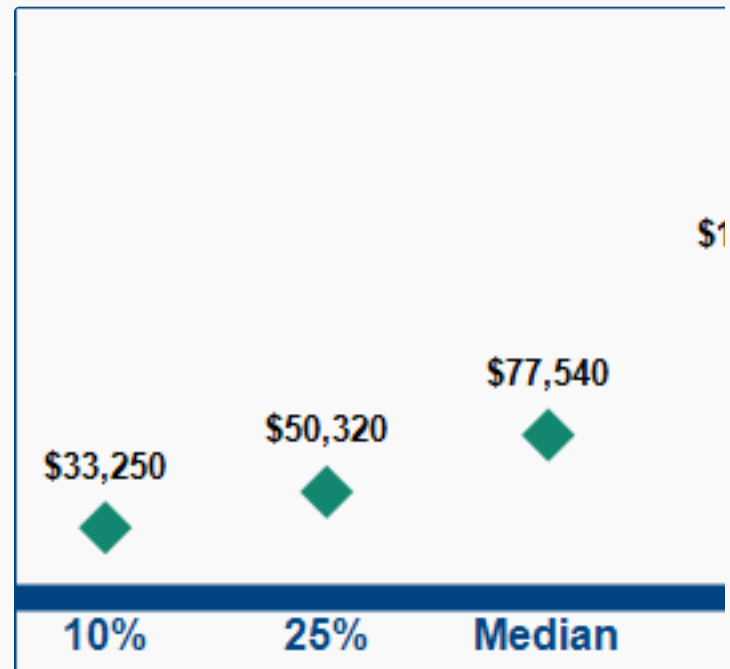
[Compare projected employment](#)



Typical wages

[Hourly Wages](#)

Annual wages for Film and Video Editors in California



GRAPHCHARTTABLE

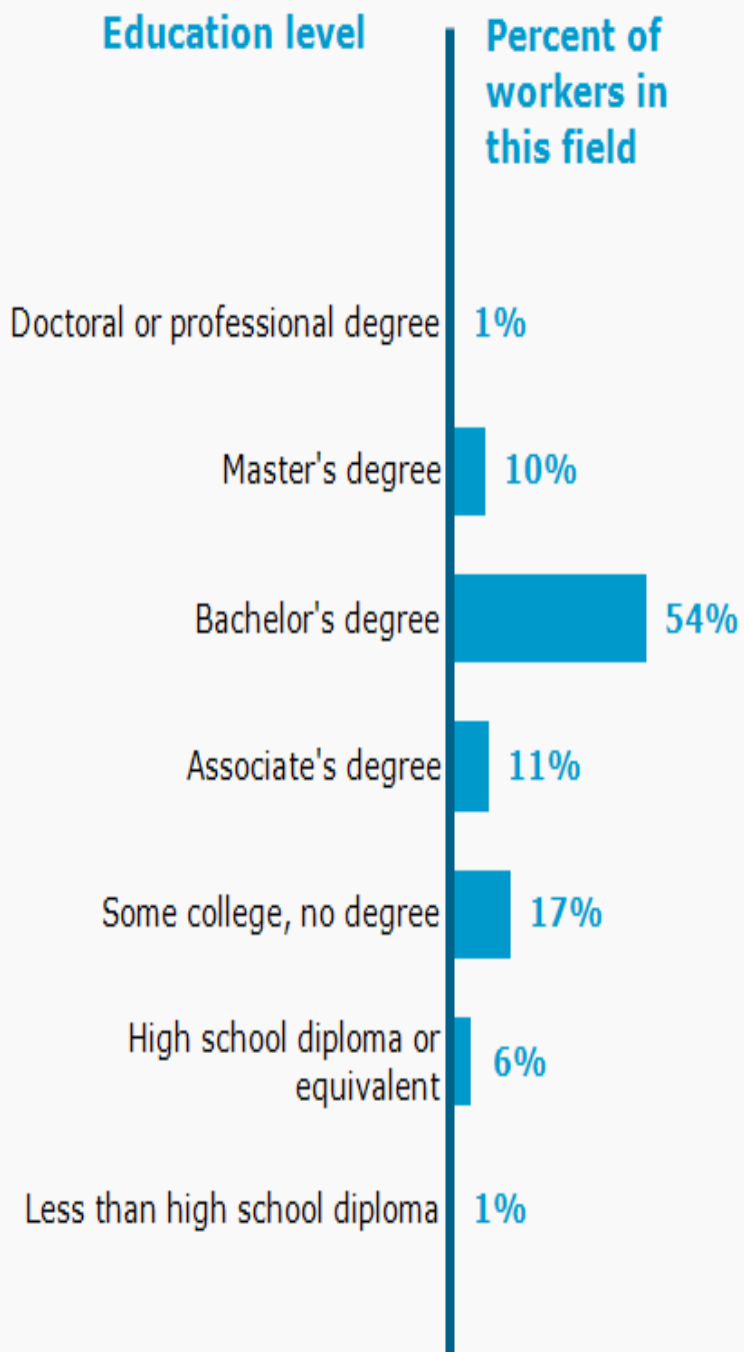
[See more wages](#)



Typical education

Certifications: show your skills

How much education do most people in this career have?



[Find local training](#)



Activities: what you might do in a day

- Edit audio or video recordings.
- Manage content of broadcasts or presentations.
- Determine presentation subjects or content.
- Operate communications, transmissions, or broadcasting

Let employers know you have the skills to do well at this job.

Earning a certification can help you:

- Get a job
- Get a promotion

[Find certifications](#)



Licenses: do you need one?

Some states require an occupational license to work in this career.

[Find license details for your state](#)



Apprenticeships: learn on the job

Apprenticeships combine paid on-the-job-training with classroom lessons.

[Find apprenticeship sponsors](#)



Knowledge

People in this career often know a lot about:

- Communications and Media - Knowledge of media production, communication, and dissemination techniques and methods. This includes alternative ways to inform

equipment.

- Coordinate activities of production personnel.
- Label production materials.

[More activities](#)



Skills

People in this career often have these skills:

- Active Listening - Listening to others, not interrupting, and asking good questions.
- Reading Comprehension - Reading work-related information.
- Critical Thinking - Thinking about the pros and cons of different ways to solve a problem.
- Speaking - Talking to others.
- Time Management - Managing your time and the time of other people.



Related occupations

- [Prepress Technicians and Workers](#)
- [Audio and Video Equipment Technicians](#)
- [Desktop Publishers](#)
- [Computer Operators](#)
- [Mapping Technicians](#)

[More occupations](#)

and entertain via written, oral, and visual media.

- Computers and Electronics - Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.
- Production and Processing - Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.
- English Language - Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.



Abilities

People in this career often have talent in:

- Near Vision - Seeing details up close.
- Oral Comprehension - Listening and understanding what people say.
- Written Comprehension - Reading and understanding what is written.
- Speech Clarity - Speaking clearly.
- Information Ordering - Ordering or arranging things.
- Oral Expression -



Communicating by speaking.

[More abilities](#)



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Geoscientists, Except Hydrologists and Geographers

Description: what do they do?

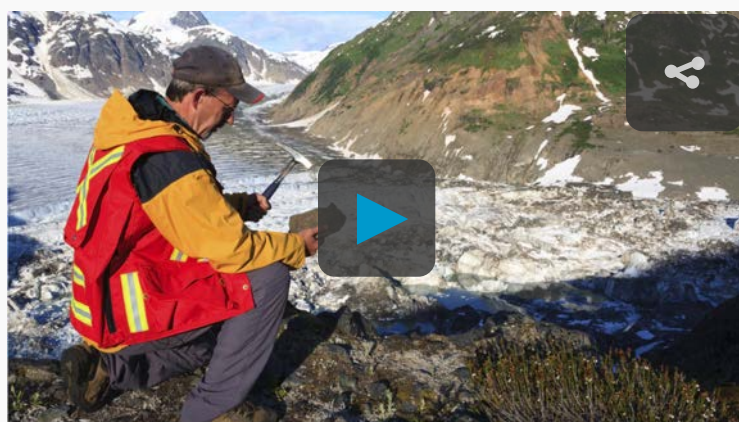
Study the composition, structure, and other physical aspects of the Earth. May use geological, physics, and mathematics knowledge in exploration for oil, gas, minerals, or underground water; or in waste disposal, land reclamation, or other environmental problems. May study the Earth's internal composition, atmospheres, oceans, and its magnetic, electrical, and gravitational forces. Includes mineralogists, crystallographers, paleontologists, stratigraphers, geodesists, and seismologists.

Also known as:

Geophysicist, Geoscientist, Mine Geologist, Geologist, Geological Specialist, Project Geologist, Exploration Geologist, Petroleum Geologist, Environmental Protection Geologist, Engineering Geologist



Career video



[View transcript](#)



Outlook: will there be jobs?

Projected employment

California	United States
5,000 2014 Employment	32,000 2016 Employment
6,100 2024 Employment	36,500 2026 Employment
22% Percent change	14% Percent change
260 Annual projected job openings	3,500 Annual projected job openings

[Compare projected employment](#)



Education and experience: to get started

People starting in this career usually have:

- Bachelor's degree
- No work experience
- No on-the-job training

Programs that can prepare you:

- [Geology/Earth Science, General](#)
- [Marine Sciences](#)
- [Oceanography, Chemical and Physical](#)
- [Geochemistry and Petrology](#)
- [Geochemistry](#)



New job opportunities are very likely in the future.

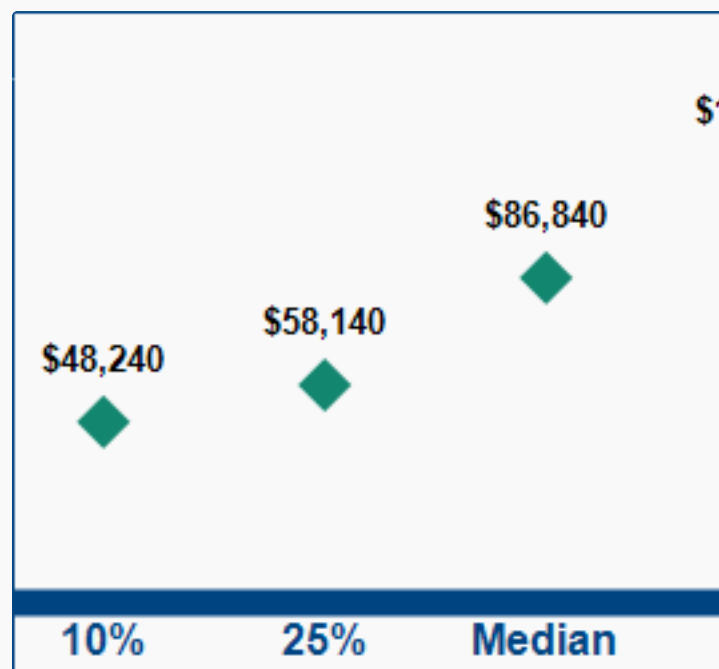
This occupation is:

- Expected to grow much faster

Typical wages

[Hourly Wages](#)

Annual wages for Geoscientists, Except Hydrologists and Geographers in San Diego-Carlsbad-San Marcos, CA MSA



GRAPHCHARTTABLE

[More programs](#)



[See more wages](#)



Certifications: show your skills

Let employers know you have the skills to do well at this job.

Earning a certification can help you:

- Get a job
- Get a promotion

[Find certifications](#)



Licenses: do you need one?

Some states require an occupational license to work in this career.

[Find license details for your state](#)



Apprenticeships: learn on the job

Apprenticeships combine paid on-the-job-training with classroom lessons.

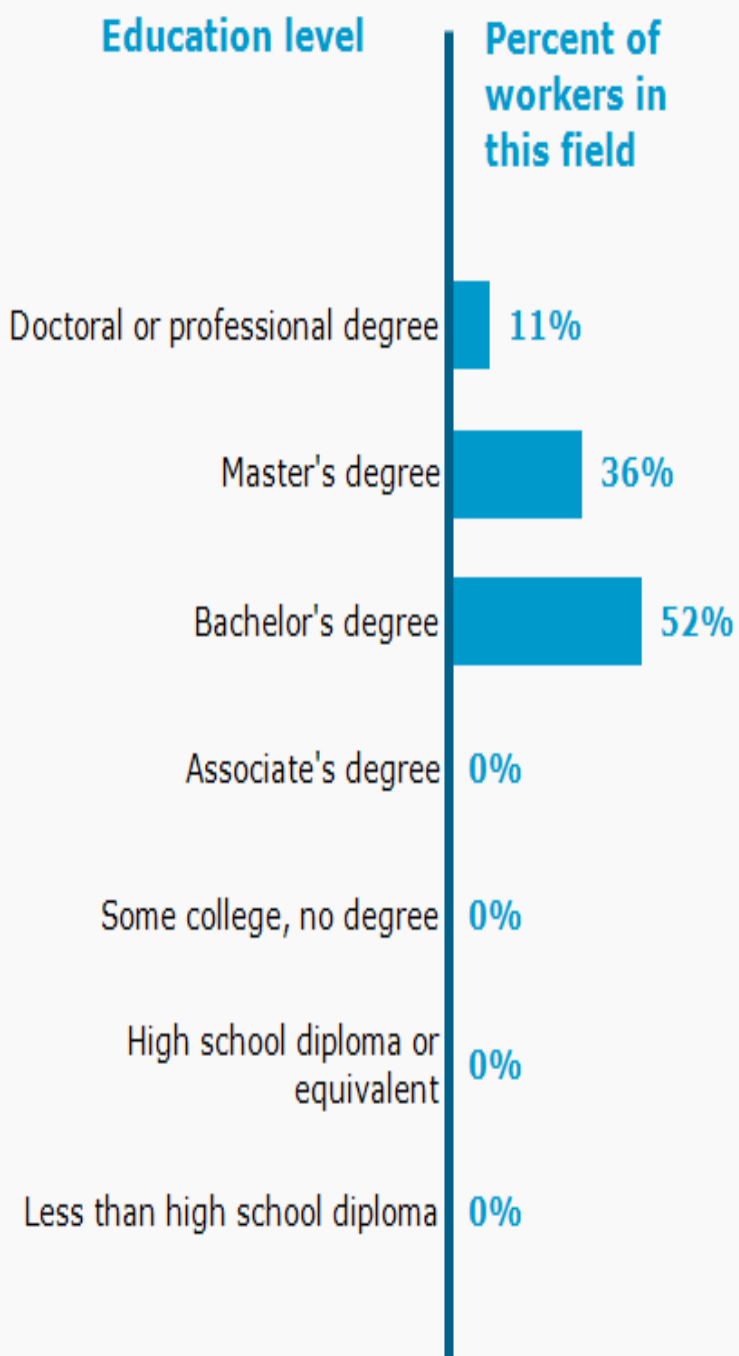
[Find apprenticeship sponsors](#)



Knowledge

Typical education

How much education do most people in this career have?



[Find local training](#)



Activities: what you might do in a day

- Interpret research or

People in this career often know a lot about:

- Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
- English Language - Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
- Physics - Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and sub-atomic structures and processes.
- Geography - Knowledge of principles and methods for describing the features of land, sea, and air masses, including their physical characteristics, locations, interrelationships, and distribution of plant, animal, and human life.
- Chemistry - Knowledge of the chemical composition, structure, and properties of substances and of the chemical processes and transformations that they undergo. This includes uses of chemicals and their interactions, danger signs, production techniques, and disposal methods.

[More knowledge](#)



Related occupations

- [Environmental Scientists and Specialists, Including Health](#)

operational data.

- Analyze geological or geographical data.
- Prepare maps.
- Research geological features or processes.
- Measure environmental characteristics.

[More activities](#)



Skills

People in this career often have these skills:

- Critical Thinking - Thinking about the pros and cons of different ways to solve a problem.
- Reading Comprehension - Reading work-related information.
- Science - Using scientific rules and strategies to solve problems.
- Speaking - Talking to others.
- Active Listening - Listening to others, not interrupting, and asking good questions.
- Complex Problem Solving - Noticing a problem and figuring out the best way to solve it.

[More skills](#)



Abilities

People in this career often have talent in:

- Inductive Reasoning - Making

- [Petroleum Engineers](#)
- [Validation Engineers](#)
- [Remote Sensing Scientists and Technologists](#)
- [Geospatial Information Scientists and Technologists](#)

[More occupations](#)



general rules or coming up with answers from lots of detailed information.

- Problem Sensitivity - Noticing when problems happen.
- Deductive Reasoning - Using rules to solve problems.
- Oral Comprehension - Listening and understanding what people say.
- Category Flexibility - Grouping things in different ways.
- Written Comprehension - Reading and understanding what is written.
- Written Expression - Communicating by writing.
- Oral Expression - Communicating by speaking.

[More abilities](#)



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Environmental Scientists and Specialists, Including Health

Description: what do they do?

Conduct research or perform investigation for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population. Using knowledge of various scientific disciplines, may collect, synthesize, study, report, and recommend action based on data derived from measurements or observations of air, food, soil, water, and other sources.

Also known as:

Environmental Programs Specialist, Environmental Protection Specialist, Environmental Scientist, Environmental Specialist, Hazardous Substances Scientist, Registered Environmental Health Specialist (REHS), Environmental Health and Safety Specialist, Senior Environmental Scientist, Environmental Analyst, Research Environmental Scientist

Career video



[View transcript](#)



Outlook: will there be jobs?



Projected employment

California	United States
15,800 2014 Employment	89,500 2016 Employment
19,800 2024 Employment	99,400 2026 Employment
25% Percent change	11% Percent change
880 Annual projected job openings	9,500 Annual projected job openings

[Compare projected employment](#)



Education and experience: to get started

People starting in this career usually have:

- Bachelor's degree
- No work experience
- No on-the-job training

Programs that can prepare you:

- [Marine Sciences](#)
- [Environmental Science](#)
- [Environmental Chemistry](#)
- [Environmental Studies](#)



New job opportunities are very likely in the future.

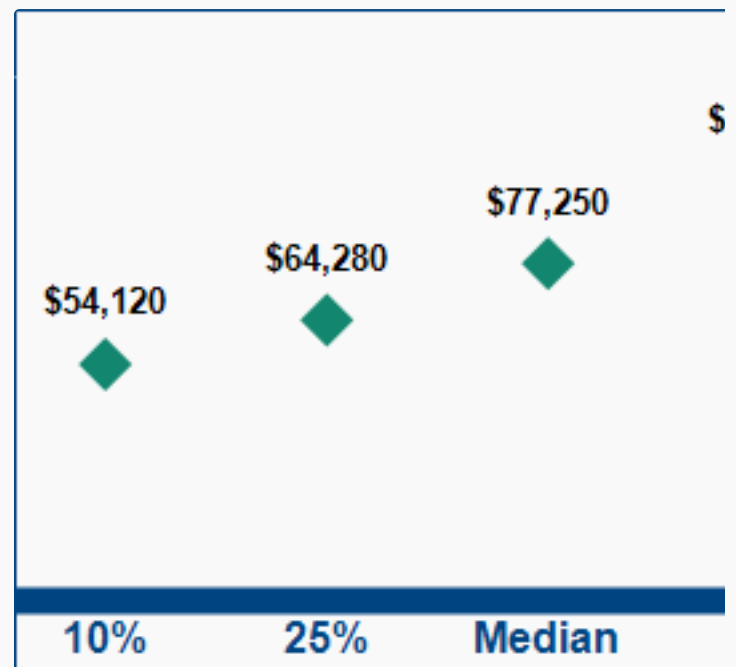
This occupation is:

- Expected to grow much faster

Typical wages

[Hourly Wages](#)

Annual wages for Environmental Scientists and Specialists, Including Health in San Diego-Carlsbad-San Marcos, CA MSA



GRAPHCHARTTABLE

- [Environmental Health](#)



[See more wages](#)



Certifications: show your skills

Let employers know you have the skills to do well at this job.

Earning a certification can help you:

- Get a job
- Get a promotion

[Find certifications](#)



Licenses: do you need one?

Some states require an occupational license to work in this career.

[Find license details for your state](#)



Apprenticeships: learn on the job

Apprenticeships combine paid on-the-job-training with classroom lessons.

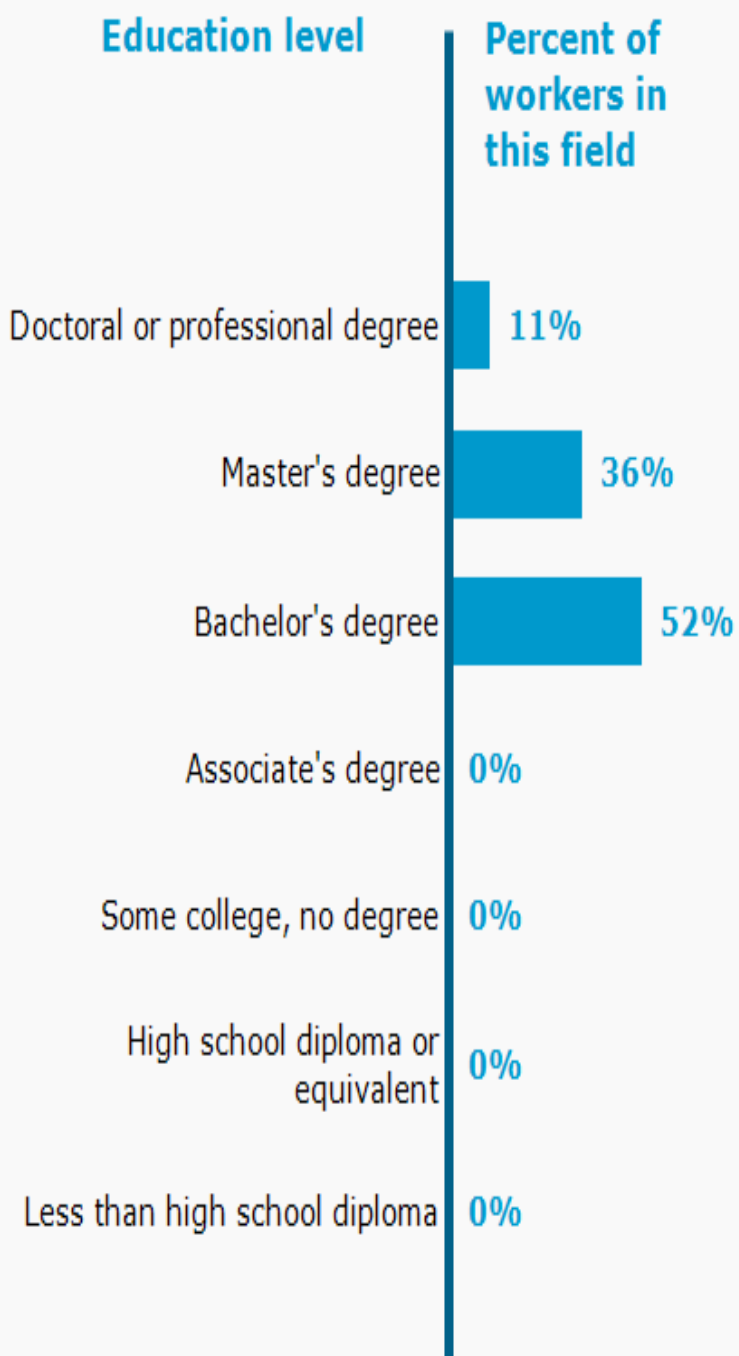
[Find apprenticeship sponsors](#)



Knowledge

Typical education

How much education do most people in this career have?



[Find local training](#)



Activities: what you might do in a day

- Advise others about

People in this career often know a lot about:

- English Language - Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
- Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
- Law and Government - Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.
- Clerical - Knowledge of administrative and clerical procedures and systems such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.
- Biology - Knowledge of plant and animal organisms, their tissues, cells, functions, interdependencies, and interactions with each other and the environment.
- Customer and Personal Service - Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.

[More knowledge](#)



environmental management or conservation.

- Develop environmental sustainability plans or projects.
- Compile environmental or climatological data.
- Research environmental impact of industrial or development activities.
- Provide technical information or assistance to public.

[More activities](#)



Skills

People in this career often have these skills:

- Critical Thinking - Thinking about the pros and cons of different ways to solve a problem.
- Active Listening - Listening to others, not interrupting, and asking good questions.
- Reading Comprehension - Reading work-related information.
- Science - Using scientific rules and strategies to solve problems.
- Speaking - Talking to others.
- Writing - Writing things for co-workers or customers.

[More skills](#)



Abilities

People in this career often have talent in:

Related occupations

- [Environmental Compliance Inspectors](#)
- [Soil and Water Conservationists](#)
- [Hydrologists](#)
- [Environmental Engineers](#)
- [Geoscientists, Except Hydrologists and Geographers](#)

[More occupations](#)



- Written Comprehension - Reading and understanding what is written.
- Oral Comprehension - Listening and understanding what people say.
- Oral Expression - Communicating by speaking.
- Written Expression - Communicating by writing.
- Inductive Reasoning - Making general rules or coming up with answers from lots of detailed information.
- Deductive Reasoning - Using rules to solve problems.
- Problem Sensitivity - Noticing when problems happen.

[More abilities](#)



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Geographers

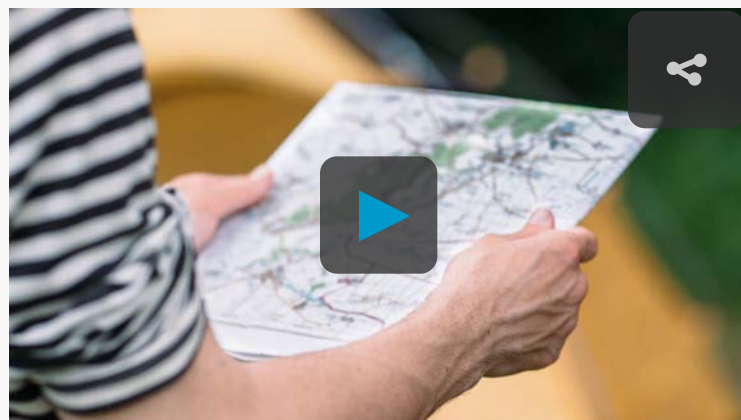
Description: what do they do?

Study the nature and use of areas of the Earth's surface, relating and interpreting interactions of physical and cultural phenomena. Conduct research on physical aspects of a region, including land forms, climates, soils, plants, and animals, and conduct research on the spatial implications of human activities within a given area, including social characteristics, economic activities, and political organization, as well as researching interdependence between regions at scales ranging from local to global.

Also known as:

Environmental Affairs Corporate Director, Environmental Scientist, GIS Physical Scientist (Geographic Information Systems Physical Scientist), Geographic Information Systems Analyst (GIS Analyst), Earth Observations Chief Scientist (NASA), Scientist, GIS Geographer (Geographic Information Systems Geographer), Research Coordinator, Geographic Information Systems Program Director (GIS Program Director)

Career video



[View transcript](#)



Outlook: will there be jobs?



Projected employment

SAN DIEGO, CA	United States
N/A 2014 Employment	1,500 2016 Employment
N/A 2024 Employment	1,700 2026 Employment
N/A Percent change	7% Percent change
N/A Annual projected job openings	200 Annual projected job openings

N/A: We do not have employment projections in this state for this occupation.

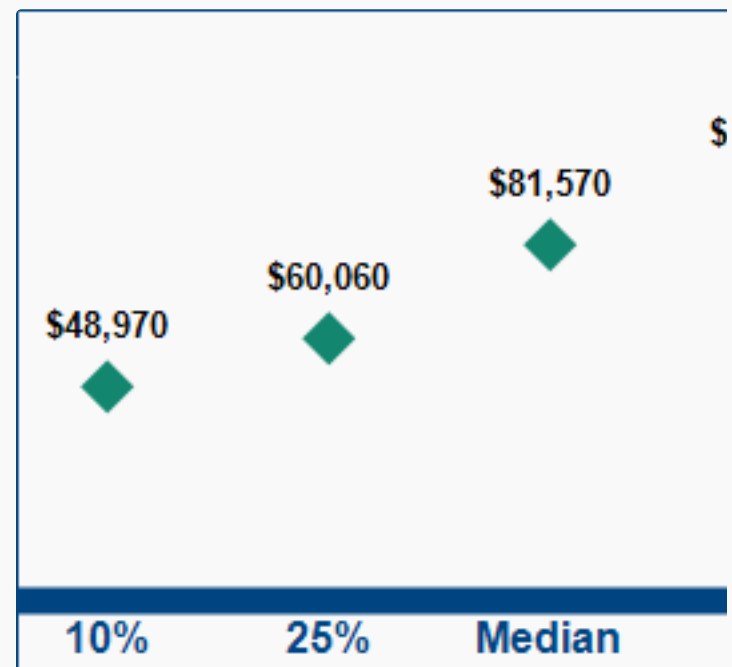
[Compare projected employment](#)



Typical wages

[Hourly Wages](#)

Annual wages for Geographers in California



GRAPHCHARTTABLE

[See more wages](#)



Education and experience: to get started

People starting in this career usually have:

- Bachelor's degree
- No work experience
- No on-the-job training

Programs that can prepare you:

- [Geography, Other](#)
- [Geography](#)

Typical education

How much education do most people in this career have?



Certifications: show your skills

Let employers know you have the skills to do well at this job.

Earning a certification can help you:

- Get a job
- Get a promotion

[Find certifications](#)



Licenses: do you need one?

Some states require an occupational license to work in this career.

[Find license details for your state](#)



Apprenticeships: learn on the job

Apprenticeships combine paid on-the-job-training with classroom lessons.

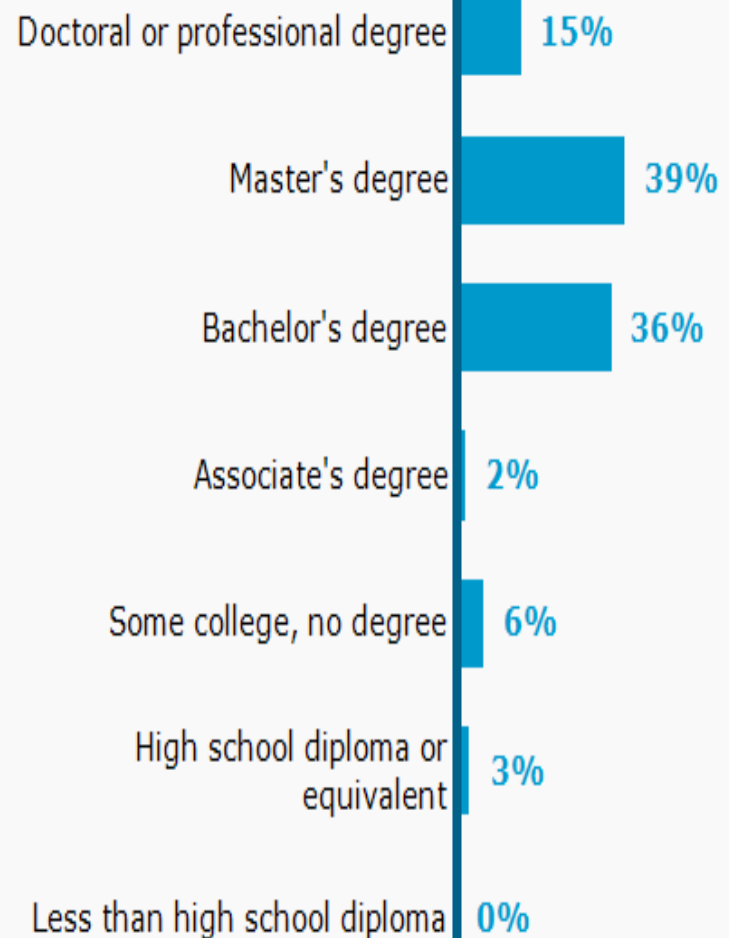
[Find apprenticeship sponsors](#)



Knowledge

Education level

Percent of workers in this field



[Find local training](#)



Activities: what you might do in a day

- Conduct anthropological or archaeological research.
- Prepare maps.
- Prepare scientific or technical reports or presentations.

People in this career often know a lot about:

- Geography - Knowledge of principles and methods for describing the features of land, sea, and air masses, including their physical characteristics, locations, interrelationships, and distribution of plant, animal, and human life.
- English Language - Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
- Education and Training - Knowledge of principles and methods for curriculum and training design, teaching and instruction for individuals and groups, and the measurement of training effects.
- Sociology and Anthropology - Knowledge of group behavior and dynamics, societal trends and influences, human migrations, ethnicity, cultures and their history and origins.
- Computers and Electronics - Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.

[More knowledge](#)



- Compile geographic or related data.
- Collect geographical or geological field data.

[More activities](#)



Skills

People in this career often have these skills:

- Reading Comprehension - Reading work-related information.
- Writing - Writing things for co-workers or customers.
- Speaking - Talking to others.
- Active Listening - Listening to others, not interrupting, and asking good questions.
- Critical Thinking - Thinking about the pros and cons of different ways to solve a problem.

[More skills](#)



Abilities

People in this career often have talent in:

- Written Comprehension - Reading and understanding what is written.
- Oral Expression - Communicating by speaking.
- Written Expression - Communicating by writing.

Related occupations

- [Geography Teachers, Postsecondary](#)
- [Anthropologists](#)

- [Anthropology and Archeology Teachers, Postsecondary](#)
- [Sociologists](#)
- [Political Scientists](#)

[More occupations](#)



- Deductive Reasoning - Using rules to solve problems.
- Oral Comprehension - Listening and understanding what people say.
- Inductive Reasoning - Making general rules or coming up with answers from lots of detailed information.

[More abilities](#)



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Surveying Technicians

Description: what do they do?

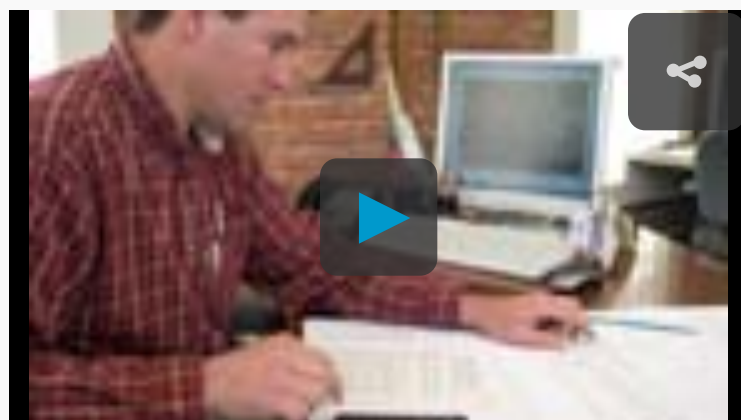
Adjust and operate surveying instruments, such as the theodolite and electronic distance-measuring equipment, and compile notes, make sketches and enter data into computers.

Also known as:

Survey Party Chief, Instrument Operator, Survey Technician, Rodman, Engineering Technician, Survey Crew Chief, Instrument Man (I-Man), Engineering Assistant, Field Crew Chief, Chainman



Career video



[View transcript](#)



Projected employment

California	United States
3,400	60,200

Outlook: will there be jobs?

2014 Employment	2016 Employment
3,300	66,600
2024 Employment	2026 Employment
-3%	11%
Percent change	Percent change
40	7,200
Annual projected job openings	Annual projected job openings

You're seeing projected employment information for Surveying and Mapping Technicians because we don't have information for Surveying Technicians.

[Compare projected employment](#) 

Education and experience: to get started

People starting in this career usually have:

- High school diploma or equivalent
- No work experience
- 1 to 12 months on-the-job training

Programs that can prepare you:

- [Surveying Technology/Surveying](#)



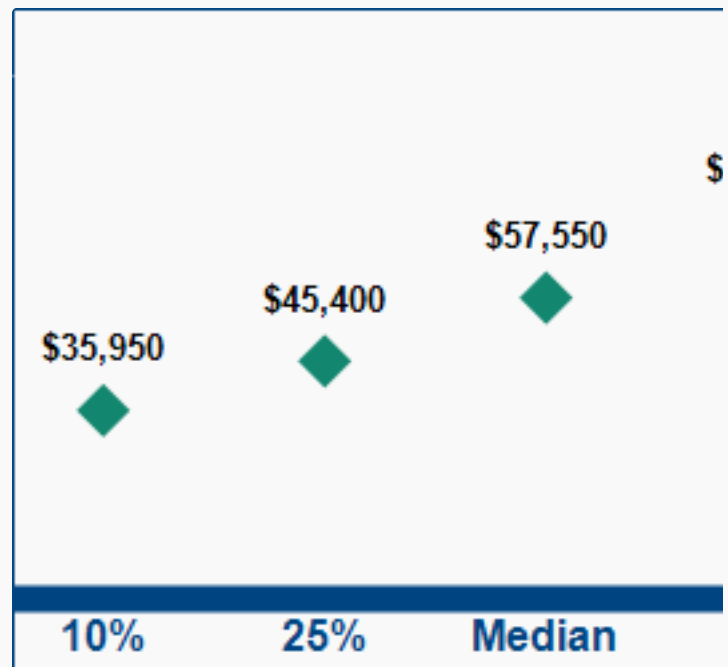
New job opportunities are very likely in the future.

This occupation is:

Typical wages

[Hourly Wages](#)

Annual wages for Surveying and Mapping Technicians* in San Diego-Carlsbad-San Marcos, CA MSA



* You're seeing wage information for Surveying and Mapping Technicians because we don't have information for Surveying Technicians.

Typical education

How much education do most people in this career have?



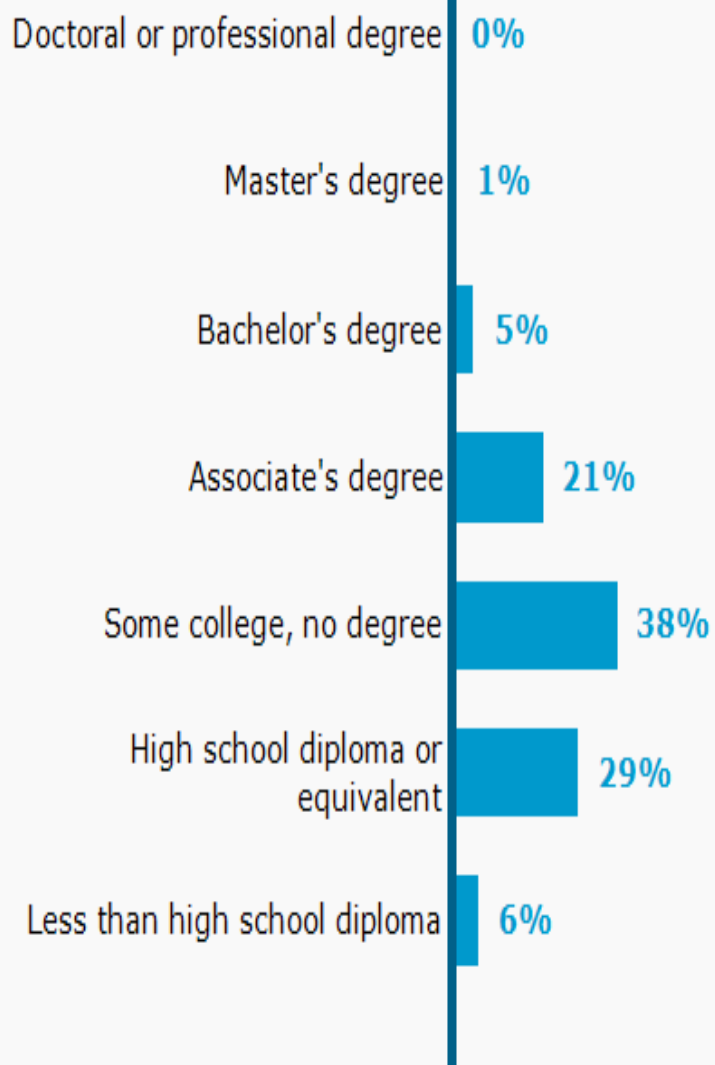
GRAPHCHARTTABLE

[See more wages](#)



Education level

Percent of workers in this field



[Find local training](#)



Certifications: show your skills

Let employers know you have the skills to do well at this job.

Earning a certification can help you:

- Get a job
- Get a promotion

[Find certifications](#)



Licenses: do you need one?

Some states require an occupational license to work in this career.

[Find license details for your state](#)



Apprenticeships: learn on the job

Activities: what you might do in a day

- Survey land or bodies of water to measure or determine features.
- Gather physical survey data.
- Create maps.
- Operate computer systems.
- Verify mathematical calculations.

[More activities](#)



Apprenticeships combine paid on-the-job-training with classroom lessons.

[Find apprenticeship sponsors](#)



Skills

People in this career often have these skills:

- Critical Thinking - Thinking about the pros and cons of different ways to solve a problem.



Abilities

People in this career often have talent in:

- Near Vision - Seeing details up close.
- Written Comprehension - Reading and understanding what is written.
- Oral Comprehension - Listening and understanding what people say.

Knowledge

People in this career often know a lot about:

- Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
- Engineering and Technology - Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.
- Computers and Electronics - Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.
- Building and Construction - Knowledge of materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.
- Geography - Knowledge of principles and methods for describing the features of land, sea, and air masses, including their physical characteristics, locations, interrelationships, and distribution of plant, animal, and human life.

- Oral Expression - Communicating by speaking.
- Deductive Reasoning - Using rules to solve problems.
- Mathematical Reasoning - Choosing the right type of math to solve a problem.
- Problem Sensitivity - Noticing when problems happen.
- Finger Dexterity - Putting together small parts with your fingers.

[More knowledge](#)



Related occupations

- [Forest and Conservation Technicians](#)
- [Mechanical Engineering Technicians](#)
- [Environmental Engineering Technicians](#)
- [Geological Sample Test Technicians](#)
- [Forest and Conservation Workers](#)

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[More occupations](#)

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Precision Agriculture Technicians

Description: what do they do?

Apply geospatial technologies, including geographic information systems (GIS) and Global Positioning System (GPS), to agricultural production or management activities, such as pest scouting, site-specific pesticide application, yield mapping, or variable-rate irrigation. May use computers to develop or analyze maps or remote sensing images to compare physical topography with data on soils, fertilizer, pests, or weather.

Also known as:

Nutrient Management Specialist, Crop Specialist, Precision Farming Coordinator, Precision Agronomist, Precision Agriculture Department Manager



Outlook: will there be jobs?



New job opportunities are very likely in the future.

This occupation is:

- Expected to grow much faster than average

[Find job openings](#)



Projected employment

Typical wages

California

United States

10,100

2014 Employment

76,100

2016 Employment

11,800

2024 Employment

83,500

2026 Employment

17%

Percent change

10%

Percent change

590

Annual projected
job openings

9,900

Annual projected
job openings

You're seeing projected employment information for Life, Physical, and Social Science Technicians, All Other because we don't have information for Precision Agriculture Technicians.

[Compare projected employment](#)



Education and experience: to get started

People starting in this career usually have:

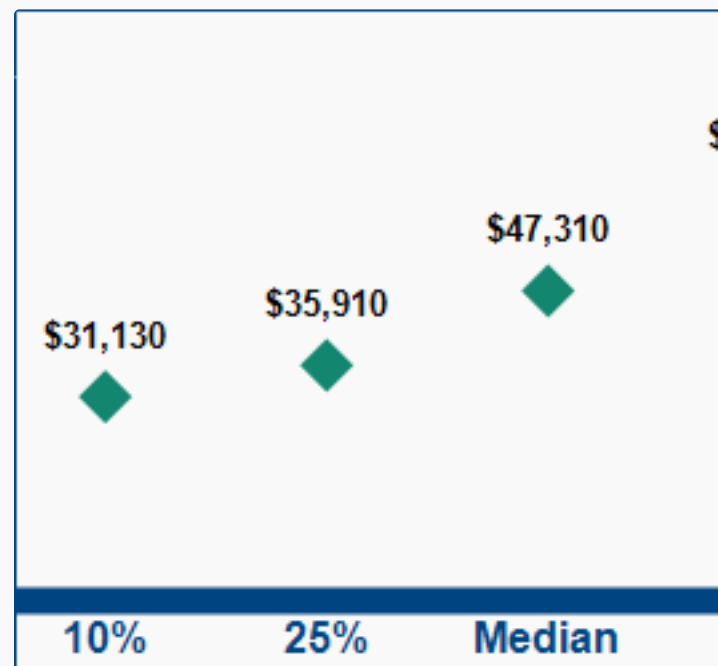
- Associate's degree
- No work experience
- No on-the-job training

Programs that can prepare you:

- [Science Technologies/Technicians, General](#)
- [Chemical Process Technology](#)
- [Physical Science Technologies/Technicians, Other](#)
- [Science Technologies/Technicians, Other](#)

[Hourly Wages](#)

Annual wages for Life, Physical, and Social Science Technicians, All Other* in San Diego-Carlsbad-San Marcos, CA MSA



* You're seeing wage information for Life, Physical, and Social Science Technicians, All Other because we don't have information for Precision Agriculture Technicians.



GRAPHCHARTTABLE

[See more wages](#)



Typical education

How much education do most people in this career have?



Certifications: show your skills

Let employers know you have the skills to do well at this job.

Earning a certification can help you:

- Get a job
- Get a promotion

[Find certifications](#)



Licenses: do you need one?

Some states require an occupational license to work in this career.

[Find license details for your state](#)

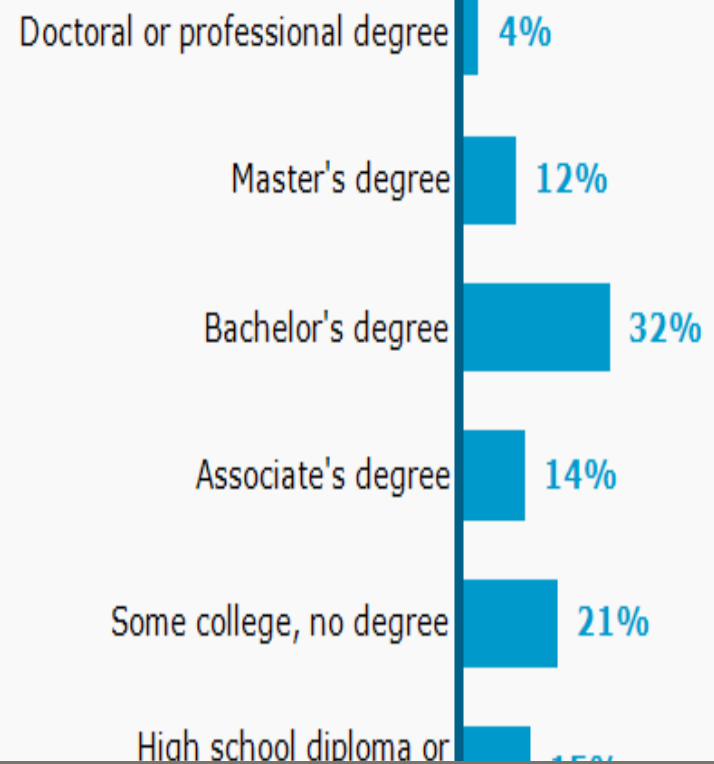


Activities: what you might do in a day

- Collect geographical or geological field data.
- Analyze environmental data.
- Analyze geological or geographical data.
- Record research or operational data.
- Apply knowledge or research findings to address environmental problems.

Education level

Percent of workers in this field



Apprenticeships: learn on the job

Apprenticeships combine paid on-the-job-training with classroom lessons.

[Find apprenticeship sponsors](#)



Knowledge

People in this career often know a lot about:

- English Language - Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
- Computers and Electronics -



Skills

People in this career often have these skills:

- Reading Comprehension - Reading work-related information.
- Active Listening - Listening to others, not interrupting, and asking good questions.
- Critical Thinking - Thinking about the pros and cons of different ways to solve a problem.
- Speaking - Talking to others.
- Active Learning - Figuring out how to use new ideas or things.

[More skills](#)

Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.

- Food Production - Knowledge of techniques and equipment for planting, growing, and harvesting food products (both plant and animal) for consumption, including storage/handling techniques.
- Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
- Customer and Personal Service - Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.



Abilities

People in this career often have talent in:

- Oral Comprehension - Listening and understanding what people say.
- Inductive Reasoning - Making general rules or coming up with answers from lots of detailed information.
- Written Comprehension - Reading and understanding what is written.
- Deductive Reasoning - Using rules to solve problems.
- Oral Expression - Communicating by speaking.

Related occupations

- [Environmental Engineering Technicians](#)
- [Geological Sample Test Technicians](#)
- [Environmental Science and Protection Technicians, Including Health](#)
- [Forest and Conservation Technicians](#)
- [Surveying Technicians](#)

[More occupations](#)

- Near Vision - Seeing details up close.
- Written Expression - Communicating by writing.

[More abilities](#)



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Cartographers and Photogrammetrists

Description: what do they do?

Collect, analyze, and interpret geographic information provided by geodetic surveys, aerial photographs, and satellite data. Research, study, and prepare maps and other spatial data in digital or graphic form for legal, social, political, educational, and design purposes. May work with Geographic Information Systems (GIS). May design and evaluate algorithms, data structures, and user interfaces for GIS and mapping systems.

Also known as:

GIS Analyst (Geographic Information Systems Analyst), Production Manager, Digital Cartographer, Photogrammetric Technician, Cartographer, Stereo Compiler, Geographic Information Systems Specialist (GIS Specialist), Photogrammetrist, Compiler, Stereoplotter Operator



Outlook: will there be jobs?



New job opportunities are very likely in the future.

This occupation is:

- Expected to grow much faster than average

[Find job openings](#)

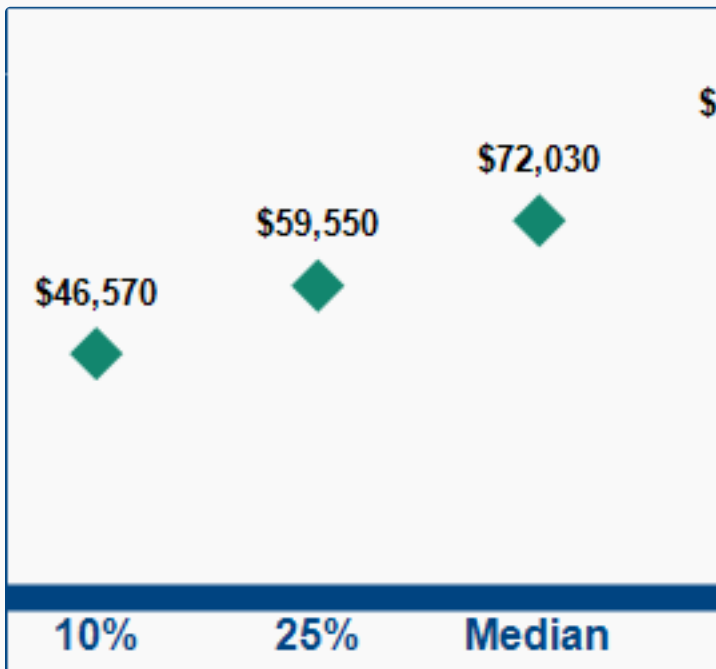


Projected employment

Typical wages

[Hourly Wages](#)

Annual wages for Cartographers and Photogrammetrists in San Diego-Carlsbad-San Marcos, CA MSA



GRAPHCHARTTABLE

[See more wages](#)



Typical education

How much education do most people in this career have?

California

1,800
2014 Employment

2,600
2024 Employment

44%
Percent change

130
Annual projected
job openings

United States

12,600
2016 Employment

15,000
2026 Employment

19%
Percent change

1,200
Annual projected
job openings

[Compare projected employment](#)



Education and experience: to get started

People starting in this career usually have:

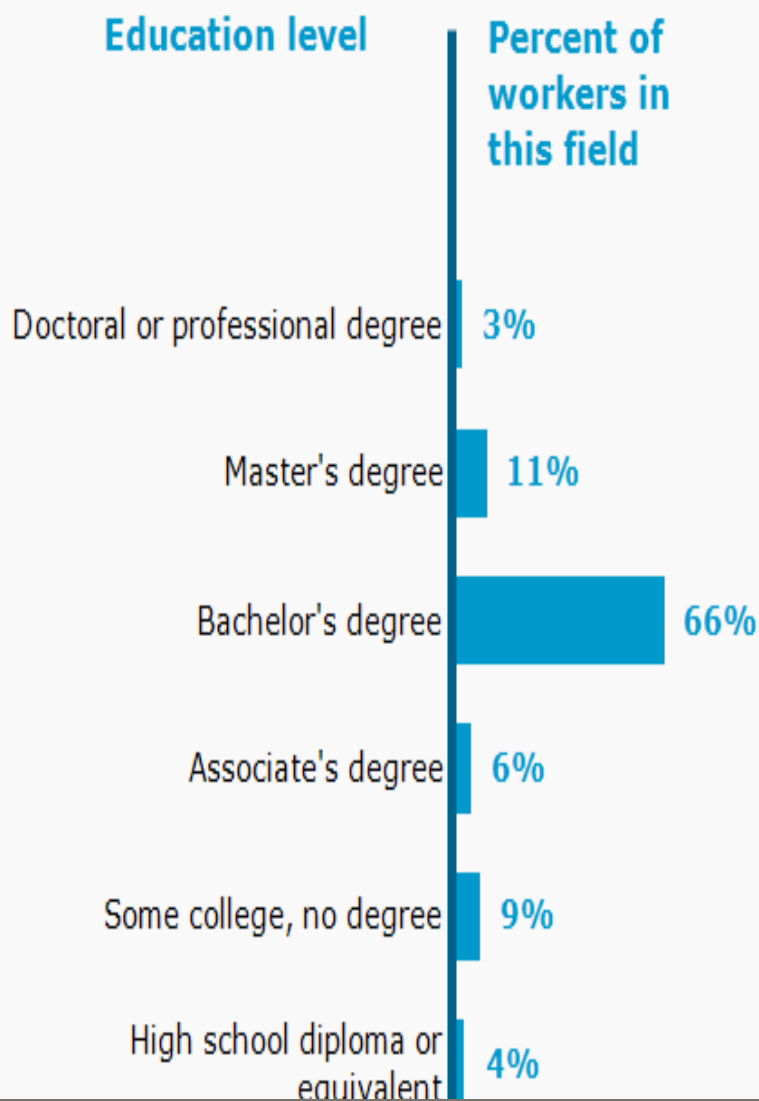
- Bachelor's degree
- No work experience
- No on-the-job training

Programs that can prepare you:

- [Surveying Technology/Surveying](#)
- [Geographic Information Science and Cartography](#)



Certifications: show your skills



Apprenticeships: learn on the job

Apprenticeships combine paid on-the-job-training with classroom lessons.

[Find apprenticeship sponsors](#)



Let employers know you have the skills to do well at this job.

Earning a certification can help you:

- Get a job
- Get a promotion

[Find certifications](#)



Licenses: do you need one?

Some states require an occupational license to work in this career.

[Find license details for your state](#)



Knowledge

People in this career often know a lot about:

- Geography - Knowledge of principles and methods for describing the features of land, sea, and air masses, including their physical characteristics, locations, interrelationships, and distribution of plant, animal, and

Activities: what you might do in a day

- Create maps.
- Inspect finished products to locate flaws.
- Gather physical survey data.
- Operate computer systems.
- Analyze physical, survey, or geographic data.

[More activities](#)



Skills

People in this career often have these skills:

human life.

- Computers and Electronics - Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.



Abilities

People in this career often have talent in:

- Near Vision - Seeing details up close.
- Oral Comprehension - Listening and understanding what people say.
- Oral Expression - Communicating by speaking.
- Written Comprehension - Reading and understanding what is written.
- Written Expression - Communicating by writing.

[More abilities](#)



- Reading Comprehension - Reading work-related information.
- Active Listening - Listening to others, not interrupting, and asking good questions.
- Critical Thinking - Thinking about the pros and cons of different ways to solve a problem.
- Writing - Writing things for co-workers or customers.
- Time Management - Managing your time and the time of other people.
- Active Learning - Figuring out how to use new ideas or things.



Related occupations

- [Mapping Technicians](#)
- [Geographic Information Systems Technicians](#)
- [Computer Programmers](#)
- [Software Developers, Systems Software](#)
- [Architectural Drafters](#)

[More occupations](#)



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Photographers

Description: what do they do?

Photograph people, landscapes, merchandise, or other subjects, using digital or film cameras and equipment. May develop negatives or use computer software to produce finished images and prints. Includes scientific photographers, aerial photographers, and photojournalists.

Also known as:

Portrait Photographer, Photographer, Advertising Photographer, Newspaper Photographer, Sports Photographer, Photojournalist, Photo Editor, Commercial Photographer, Owner/Photographer, Studio Owner



Career video



[View transcript](#)



Outlook: will there be jobs?

Projected employment

California

United States

16,100 2014 Employment	147,300 2016 Employment
18,200 2024 Employment	139,000 2026 Employment
13% Percent change	-6% Percent change
600 Annual projected job openings	10,300 Annual projected job openings

[Compare projected employment](#) 

Education and experience: to get started

People starting in this career usually have:

- High school diploma or equivalent
- No work experience
- More than 1 year on-the-job training

Programs that can prepare you:

- [Art/Art Studies, General](#)
- [Photography](#)
- [Commercial Photography](#)
- [Digital Arts](#)
- [Visual and Performing Arts, General](#)

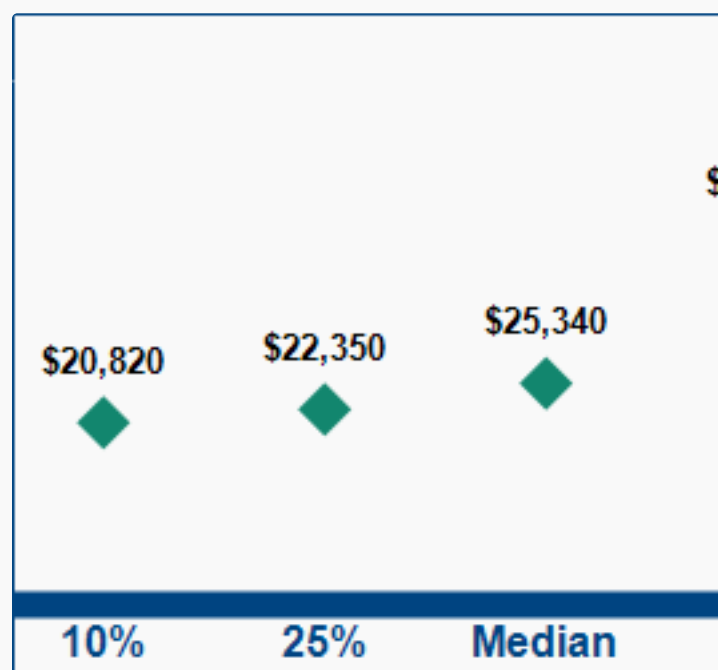
[More programs](#) 



Typical wages

[Hourly Wages](#)

Annual wages for Photographers in San Diego-Carlsbad-San Marcos, CA MSA



  
GRAPHCHARTTABLE

[See more wages](#)



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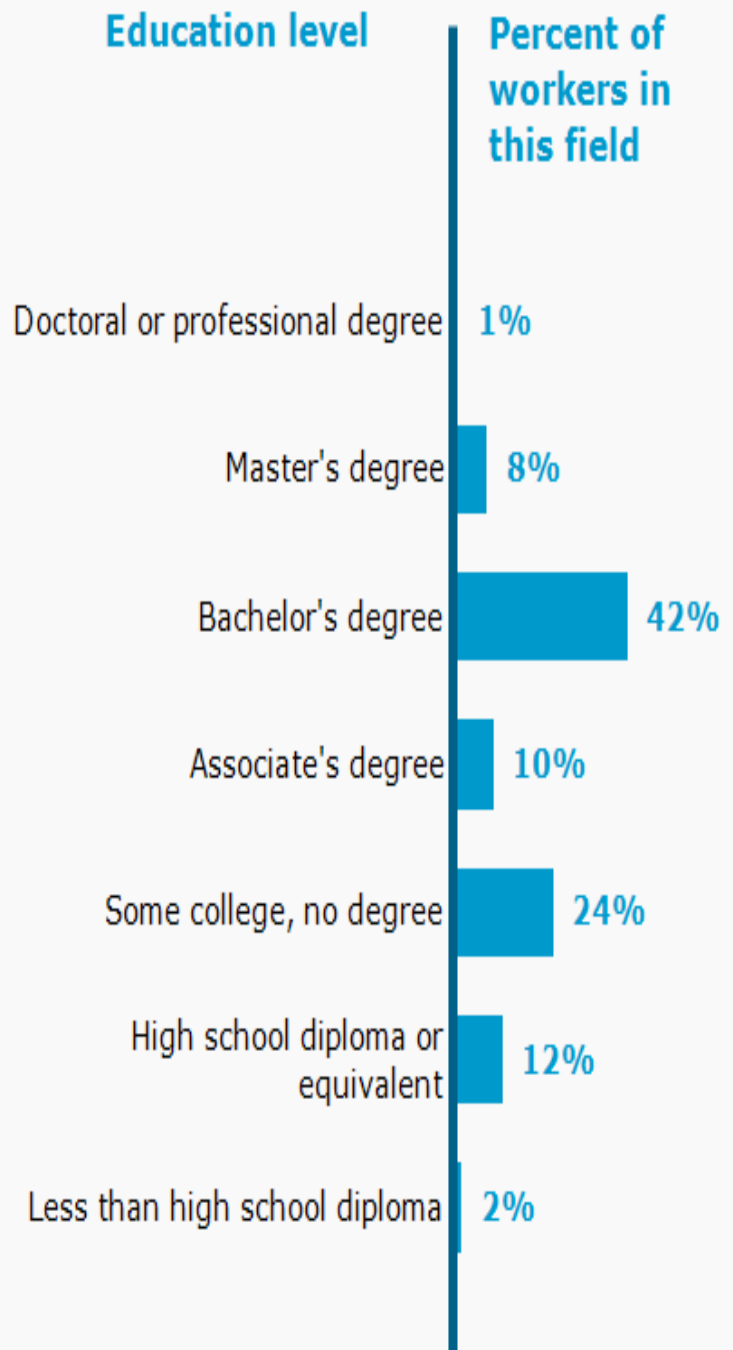
[Find apprenticeship sponsors](#)



Activities: what you might do in a day

- Operate still or video cameras or related equipment.
- Determine technical requirements of productions or projects.

How much education do most people in this career have?



[Find local training](#)



- Set up still or video cameras or related equipment.
- Create computer-generated graphics or animation.
- Convert data among multiple digital or analog formats.
- Confer with clients to determine needs.

[More activities](#)



Knowledge

People in this career often know a lot about:

- Customer and Personal Service - Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.
- Sales and Marketing - Knowledge of principles and methods for showing, promoting, and selling products or services. This includes marketing strategy and tactics, product demonstration, sales techniques, and sales control systems.
- Computers and Electronics - Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.
- Fine Arts - Knowledge of the theory and techniques required to compose, produce, and perform works of music, dance, visual arts,

Skills

People in this career often have these skills:

- Active Listening - Listening to others, not interrupting, and asking good questions.
- Speaking - Talking to others.



Abilities

People in this career often have talent in:

- Oral Comprehension - Listening and understanding what people say.
- Oral Expression - Communicating by speaking.
- Visualization - Imagining how something will look after it is moved around or changed.
- Originality - Creating new and original ideas.

drama, and sculpture.



- Far Vision - Seeing details that are far away.
- Near Vision - Seeing details up close.

[More abilities](#)



Related occupations

- [Self-Enrichment Education Teachers](#)
- [Camera Operators, Television, Video, and Motion Picture](#)
- [Retail Salespersons](#)
- [Prepress Technicians and Workers](#)

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