

CAREERS IN Environmental Science

ENVIRONMENTAL CAREERS

Are you interested in exploring a career in environmental science? What can you do with a degree in environmental science/studies? What are the variety of options in the environmental science field? How can you learn more about land and water conservation, air & water quality management, fish & wildlife management, forestry, parks & outdoor recreation, urban planning, waste management, environmental law, and environmental education?



GENERAL INFORMATION

Environmental studies majors typically have a broad base of hard sciences as well as liberal arts or social science coursework. Environmental science incorporates hard sciences and environmental sciences. The difference is also based upon career focus, for example, administration or policy-making versus technical areas or research.

Combine liberal arts skills with analytical skills to increase employability. Formally, obtain a double major in these areas or minor in one of these areas. Informally, obtain these skills through internships, co-ops, volunteer work, summer jobs or independent research projects.

Be familiar with current environmental laws and regulations. Stay up-to-date with changing environmental legislation. Join related professional associations. Read related literature and journals to keep up with new developments. Attend seminars, conferences and workshops sponsored by professional associations or public interest groups. Network and get to know people who are working in area of interest. Research agencies/organizations of interest before applying for a position. Learn local, state and federal government job application procedures. Obtain graduate degree for job security/advancement.



URBAN PLANNING

Air Quality | Aviation | Building/Zoning
Land-Use | Consulting | Recreation
Transportation | Water Resources

EMPLOYERS

Federal, state, regional, and local government
Corporations
Consulting firms
Banks
Real estate development companies
Law firms
Architectural firms
Market research companies
Colleges and universities
Nonprofit groups



STRATEGIES

Get on planning boards, commissions, and committees. Have a planning specialty (transportation, water resources, air quality). Master communication, mediation and writing skills. Network in the community and get to know "who's who" in your specialty area. Develop a strong scientific or technical background. Diversify your knowledge base. For example, in areas of law, economics, politics, historical preservation, or architecture.



ENVIRONMENTAL EDUCATION & COMMUNICATION

Teaching | Journalism | Tourism | Law Regulation
Compliance | Political Action/Lobbying

EMPLOYERS

Federal, state, and local government
Public and private elementary, middle, high schools
Two-year community colleges
Four-year institutions
Corporations
Consulting firms
Media
Nonprofit organizations
Political Action Committees

STRATEGIES

Master public speaking skills. Learn certification/licensure requirements for teaching public K-12 schools. Develop creative hands-on strategies for teaching/ learning. Publish articles in newsletters or newspapers. Learn environmental laws and regulations. Join professional associations and environmental groups as ways to network. Become active in environmental political organizations.

SOLID WASTE MANAGEMENT

Chemistry | Engineering | Hydrology | Logistics
Planning | Recycling | Transportation | Compliance

EMPLOYERS

Federal, state, and local government
Private waste management firms
Consulting firms
Nonprofit organizations

STRATEGIES

Take some scientific or engineering courses. Choose an unusual material and think of creative ways to recycle or reuse it.

HAZARDOUS WASTE MANAGEMENT

Hydrogeology | Quality Control | Risk Assessment
Environmental Engineering | Chemical Engineering

Public and Environmental Health
Industrial Hygiene | Law | Biology | Chemistry
Geology | Planning | Compliance

EMPLOYERS

Federal, state, and local government
Private companies that generate hazardous waste in production
Hazardous waste management firms
Consulting firms
Nonprofit organizations

STRATEGIES

Consider double major in hard science or engineering. Attend public meetings on this issue. Get laboratory experience. Gain computer expertise. Work in government office or regulatory agency. Get experience with technical writing. Get involved with local chapters of citizen watch groups. Become familiar with Superfund and its activities.

AIR QUALITY MANAGEMENT

Engineering | Planning | Analytical Chemistry
Environmental Quality Analysis | Meteorology
Risk Assessment | Safety and Health Management
Toxicology | Project Development | Compliance



EMPLOYERS

Federal, state, and local government
Private industry
Consulting firms
Nonprofit organizations

STRATEGIES

Develop a specific skill in the areas of engineering, chemistry or laboratory work. Work at state and local agencies as a way to start an air quality career.



WATER QUALITY MANAGEMENT

Aquatic Ecology | Aquatic Toxicology | Law
Biology | Civil/Environmental Engineering
Hydrogeology and Hydrology
Drinking Water Supply and Treatment
Waste Water Treatment | Groundwater Protection
Surface Water Management | Estuary Management
Wetlands Protection | Compliance | Industrial Engineering

EMPLOYERS

Federal, state, and local government
Corporations | Consulting firms
Nonprofit organizations | Treatment plants

STRATEGIES

Get a strong chemistry background. Become familiar with high-tech tools. Develop computer skills. Focus on a specific technical field. Obtain laboratory skills.

LAND & WATER CONSERVATION

Biology | Ecology | Planning
Geographic Information Systems | Preserve Management
Law | Natural Resource Management
Soil Conservation | Land Acquisition

EMPLOYERS

Federal, state, and local government
Indian nations
Utilities and timber companies
Consulting firms
Nonprofit organizations
Land trust organizations such as The Nature Conservancy or Trust for Public Land

STRATEGIES

Get a solid background in the basic sciences while obtaining a broad-based education. Obtain legal, real estate, and financial skills through coursework, internships or part-time jobs. Volunteer through the Student Conservation Association (SCA) and hold an office. Keep up with new funding sources.

Consider law school for careers as counsel to environmental organizations.

FISHERY & WILDLIFE MANAGEMENT

Aquaculture | Botany | Data Management
Biology | Hatchery Management
Marine Biology | Ecology
Education | Research | Planning

EMPLOYERS

Federal, state, and local government
Marine sport fisheries | Utility companies
Developers | Timber companies
Wildlife ranges | Scientific foundations
Zoological parks | Hunting and fishing clubs
Consulting firms | Nonprofit organizations



STRATEGIES

Get a broad scientific education. Obtain skills in areas such as planning, administration, communications, and negotiation through coursework, internships, or part-time jobs. Get experience and skills in computers, statistics and computer modeling. Join the Peace Corps as a segue way into federal government positions. Get on government agencies' job registers.

PARKS & OUTDOOR RECREATION

Administration and Management
Law Enforcement
Recreation Planning
Natural Resource Management
Research
Site Operations and Maintenance
Ecotourism
Direct Mail Merchandising

EMPLOYERS

National Park Service
Federal agencies
State, county or city parks
Resorts
Marinas
Privately owned facilities
Nonprofit organizations

STRATEGIES

Get a broad-based education that will develop both technical and interpersonal skills. Gain expertise in additional areas such as communications, writing, fund-raising, negotiation, and computer applications. Obtain working knowledge of a foreign language such as Spanish.



FORESTRY

Consulting | Entomology | Hydrology
Natural Resource Management
Planning | Research
International Forestry | Urban Forestry

EMPLOYERS

Federal, state, and local government
Consulting firms
Timber companies
Nonprofit organizations

STRATEGIES

Obtain skills with computers, statistics, and accounting through coursework, internships or part-time jobs. Develop good communication and public relations skills. Get a minor or double major in a technical area (soil science, wildlife or surveying) or in an arts and science area (business, economics, political science or computer science).

ENVIRONMENTAL LAW

EMPLOYERS

Private firms
Corporations
Federal and State government agencies such as Environmental Protection Agency, Department of Justice and Attorney General Office
Nonprofit organizations such as Green Action and Natural Resources Defense Council

STRATEGIES

Law degree required.

ADDITIONAL CAREER NOTES

PROFESSIONAL INSIGHT

Careers in Environmental Science are so varied it is difficult to consider them as one category. You could end up working from home most of the time or traveling around the world on an annual basis. You could be doing desk work, field work, or some combination thereof. Your focus could be mathematical, physical, or written. Of course the majority careers in Environmental Science are some blend in-between.

Those engaged in Environmental Policy, Planning, and Management usually work for a local government and are likely to be engaged in a lot of research intensive work. Environmental Lawyers may be able to get out of the office to the courtroom, or, again, have intensive desk jobs.

Wildlife Managers, Zoologists, and Horticulturists are often thought to have positions which keep them working in a mix of indoors and out, but generally in one location. Oceanographers and Meteorologists could spend their entire careers in the safety of a laboratory working upper level computer models, or much of their time at sea, studying the weather. Microbiologists, Soil and Plant Scientists, and Ecologists could work in remediation efforts, for sanitation companies, in manufacturing, at a university, for many private companies, law firms, not-for-profit groups, or government agencies such as the Environmental Protection Agency, the National Park Service, or the United States Geological Survey.



Knowing what is available to you professionally is half the battle when choosing a career. Finding something you enjoy doing within the broad scope of Environmental Science shouldn't be terribly difficult when there are so many options. Environmental Consultants may have the best of many worlds, setting their own schedules, seeking clients that need their particular form of expertise, and setting their own blend of ideal field work and intellectual work schedule. Find what you enjoy doing, and it shouldn't be "work", but a career.

Environmental scientists are problem solvers. They research environmental and health problems to determine their causes and come up with solutions. They investigate issues like mysterious deformations in frogs, unexplained cancer occurrences in a neighborhood, or disease in the former asbestos mining town of Libby, Montana.

Environmental scientists conduct research to identify the causes of these types of problems, and how to minimize or eliminate them. They also conduct theoretical research that increases our understanding of how the natural world works. They use what they learn to make recommendations and develop strategies for managing environmental problems.

Environmental science is a holistic and multidisciplinary field that integrates the biological, physical, and earth sciences. Its goal is to understand how earth works and how it supports life. It also aims to identify, control, and prevent disruption to its systems and species caused by human activity.

Environmental scientists use their knowledge of earth's systems to protect the environment and human health. They do this by cleaning up contaminated areas, making policy recommendations, or working with industry to reduce pollution and waste. They may also investigate the source of an environmental or health problem, and devise strategies to combat it.

[EnvironmentalScience.Org]

ON THE JOB

What Does an Environmental Scientist Do? Environmental scientists conduct research to identify, control, or eliminate sources of pollutants or hazards affecting the environment or public health. Their research generally involves determining data collection methods; collecting and analyzing air, water, and soil samples; analyzing environmental data gathered by others; and analyzing for correlations to human activity. They also need to prepare reports and presentations that explain their findings.

Environmental scientists also develop plans to prevent, control, or fix environmental problems like air pollution. They may also advise government officials that make policy, and businesses that need to follow regulations or improve their practices. Some conduct environmental inspections of businesses. Many assess the potential effects of development projects to prevent creating new problems.

Some environmental scientists and specialists focus on environmental issues, while others focus on issues relating to human health. Either way, they work on critical issues, solving some of the most important problems of our day.

[EnvironmentalScience.Org]

ADVICE

If you are fascinated by the physical world around you and the interplay between living things and the earth, Environmental Studies or Environmental Science may be the right major for you. It will help if you are passionate about topics like sustainability, conservation, ecology, global warming and alternative energy sources.

Environmental Studies majors need the scientific aptitude to understand and apply complex concepts in biology, chemistry, geology, and physics.

You will learn to apply both quantitative and qualitative analytical skills to solving problems and interpreting research data. Your creativity will be tapped as you design research models to study environmental issues.

During your studies, you will cultivate strong writing skills as you compose policy papers, research reports, case analyses, and essays. You will hone presentation skills while sharing research findings and environmental perspectives with classmates and faculty. Environmental Studies/Science majors develop the ability to take a position on an issue and defend their stance.

Environmental Studies/Science is a very broad field with many potential professional roles for you to play. So your ultimate career path will depend on the unique configuration of skills, interests, and values which you bring to the table.

[Mike Profita, The Balance, Sept 2017]



RESOURCES

Environmental Science Careers

<https://www.environmentalscience.org/careers>

Association for Environmental Studies & Sciences

<https://aessonline.org/>

National Association of Environmental Professionals

<http://www.naep.org/>

Top Jobs for Environmental Studies Majors

<https://www.thebalance.com/top-jobs-for-environmental-studies-science-majors-2059630>