Environmental Science... Now What?

<table>
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<th>Quick Facts: Environmental Scientists and Specialists</th>
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<td>2019 Median Pay</td>
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<td>Entry-Level Education</td>
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<td>Work Experience in a Related Occupation</td>
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<td>On-the-job Training</td>
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[Found on the Occupational Outlook Handbook

What Is Environmental Science?

Environmental science is the science of the interactions between the physical, chemical, and biological components of the environment, including their effects on all types of organisms but more often refers to human impact on the environment. It provides an integrated, quantitative, and interdisciplinary approach to the study of environmental systems.

Most entry-level jobs require a bachelor's degree in environmental science or related field such as microbiology, chemistry, physics, geosciences, or engineering. Students enrolled in environmental science programs study the sciences broadly, taking courses in biology, chemistry, geology, and physics. They may take more specialized courses in hydrology and waste management as well. Social sciences courses in environmental policy, geography, and public administration are also beneficial for learning about the political and human aspects of the field. Hands-on experience or coursework in computer modeling, data analysis, and geographic information systems is highly desirable.

Many UMass Environmental Science graduates find work in environmental consulting firms, often doing hazardous waste sampling, site remediation, site assessment, etc. Others work in private firms specialize in the environmental permitting required to develop/build near sensitive natural resources like streams and wetlands. Students also find jobs with regulatory agencies like EPA or USFWS, MADEP, etc. Because these agencies address broad categories of environmental subfields, students can become more proficient in subjects like Air Quality, Water Quality, Wetlands and Waterways, Site Assessment, Hazardous Waste, Solid Waste, etc.

Master's degrees may sometimes be required for advancement. Environmental scientists aspiring to academic careers will need a doctoral degrees. Those pursuing advanced degrees may do well to major in a specific natural science such as chemistry, biology, physics, or geology, rather than a broader environmental science degree.
What Do Environmental Scientists Do? And Who Could I Work For?

Environmental scientists work with the earth's resources. That is a very broad definition, but considering an environmental scientist could be doing anything from helping increase palm wood production in the forests of Samoa to sampling frozen lakes in Siberia or arguing legal cases before the Supreme Court, environmental scientists do a lot! They work in offices and laboratories. They may also spend time in the field gathering data and monitoring environmental conditions firsthand. Environmental scientists find work in companies doing consulting and remediation, renewable energy, biofuels; they find jobs in many parts of the federal government, and all branches of the military. They may work as college professors, in research & development, as lobbyists, as journalists, etc. Additional careers areas include waste management, land planning, conservation, air/water quality management, environmental law, and environmental education.

Most communities employ at least a few environmental scientists at their local sanitation station, in their building/roads department, and in their public health departments. Cities hire entire environmental legal teams, employ water and transportation teams, infrastructure specialists, local environmental specialists, parks and recreation, etc. The US government is a huge employer; the United States Environmental protection Agency, the National Park Service, the National Oceanographic and Atmospheric Administration, the United States Geological Survey, and the Department of Energy are just a few of the major employers at the federal level. The private sector also hires a lot of environmental science professionals.

What Can I Do With A Degree In Environmental Science?

<table>
<thead>
<tr>
<th>Agricultural Scientist</th>
<th>Ecologist</th>
<th>Forest Ranger</th>
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</thead>
<tbody>
<tr>
<td>Agricultural Technician</td>
<td>Engineering Technician</td>
<td>Forester</td>
</tr>
<tr>
<td>Air/Water Quality Mgr</td>
<td>Environmental Analyst</td>
<td>Fund Raiser</td>
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<tr>
<td>Air Pollution Analyst</td>
<td>Environmental Consultant</td>
<td>Geographer</td>
</tr>
<tr>
<td>Architect</td>
<td>Environmental Educator</td>
<td>Geologist</td>
</tr>
<tr>
<td>Biochemist</td>
<td>Environmental Engineer</td>
<td>Geophysicist</td>
</tr>
<tr>
<td>Biologist</td>
<td>Environmental Engineering</td>
<td>Hazardous Waste Mgr</td>
</tr>
<tr>
<td>Biomedical Engineer</td>
<td>Environmental Health Spec.</td>
<td>Hydrologist</td>
</tr>
<tr>
<td>Biotechnologist</td>
<td>Environmental Lawyer</td>
<td>Industrial Hygienist</td>
</tr>
<tr>
<td>Chemical Technician</td>
<td>Environmental Lobbyist</td>
<td>Journalist, Author</td>
</tr>
<tr>
<td>Chemist</td>
<td>Environmental Nurse</td>
<td>Management Consultant</td>
</tr>
<tr>
<td>City Planner</td>
<td>Environmental Physician</td>
<td>Meteorologist</td>
</tr>
<tr>
<td>Civil Engineer</td>
<td>Environmental Planner</td>
<td>Microbiologist</td>
</tr>
<tr>
<td>Conservation Agent</td>
<td>Environmental Scientist</td>
<td>Natural Resource Spec.</td>
</tr>
<tr>
<td>Conservation Analyst</td>
<td>EPA Inspector</td>
<td>Conservationist</td>
</tr>
<tr>
<td>Earth Scientist</td>
<td>Fisheries Conservationist</td>
<td>Ocean Technician</td>
</tr>
<tr>
<td>Oceanographer</td>
<td>Pharmacy Technician</td>
<td>Range Manager</td>
</tr>
<tr>
<td>Outdoor Trip Leader</td>
<td>Project Manager</td>
<td>Resource Economist</td>
</tr>
<tr>
<td>Park Ranger</td>
<td>Public Health Veterinarian</td>
<td>Seismologist</td>
</tr>
<tr>
<td>Soil Conservation Tech.</td>
<td>Urban And Regional Planner</td>
<td>Wastewater Plant Operator</td>
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<tr>
<td>Teacher</td>
<td>Photographer</td>
<td>Wildlife Manager</td>
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<tr>
<td></td>
<td></td>
<td>Zoologist</td>
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</tbody>
</table>
**Where Might I do an Internship?**

<table>
<thead>
<tr>
<th>Agawam Public Schools</th>
<th>JMP Environmental Consulting Inc</th>
<th>Society for Environment and Human Development (SEHD)</th>
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</thead>
<tbody>
<tr>
<td>Amherst (Town of)</td>
<td>Massachusetts Division of Fisheries &amp; Wildlife</td>
<td>South Hadley (Town of)</td>
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<tr>
<td>Amherst Police Department</td>
<td>MassPIRG</td>
<td>Spectrum Analytical</td>
</tr>
<tr>
<td>Australis</td>
<td>Media Education Foundation</td>
<td>State of Rhode Island</td>
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<tr>
<td>Bioshelters Inc.</td>
<td>Nature Conservancy (The)</td>
<td>Department of Environmental Management</td>
</tr>
<tr>
<td>Bose Corp.</td>
<td>Northampton (City of)</td>
<td>Sustainable UMass</td>
</tr>
<tr>
<td>C.T. Male Associates, PC</td>
<td>Northeast Sustainable Energy Association</td>
<td>TestAmerica Environmental Services LLC</td>
</tr>
<tr>
<td>Campaign to Save the Environment</td>
<td>Quabbin Regional School</td>
<td>Triumvirate Environmental Management</td>
</tr>
<tr>
<td>Conservation Services Group, Inc. (CGS)</td>
<td>District</td>
<td>UMass Amherst Environmental Management</td>
</tr>
<tr>
<td>Dolphin Quest</td>
<td>R.L. Migdal Creative</td>
<td>Management</td>
</tr>
<tr>
<td>Environmental Defense Fund</td>
<td>Multimedia</td>
<td></td>
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<tr>
<td>Greenpeace, Inc</td>
<td>Raytheon Company</td>
<td></td>
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<tr>
<td>Hilltown Resource Management Cooperative</td>
<td></td>
<td></td>
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<tr>
<td>UMass Amherst Campus Sustainability Initiative</td>
<td>UMass Amherst Emergency Medical Services</td>
<td>US Army Corps of Engineers</td>
</tr>
<tr>
<td>UMass Amherst Cold Spring Orchard</td>
<td>UMass Amherst Environmental Health &amp; Safety</td>
<td>US Environmental Protection Agency (EPA)</td>
</tr>
<tr>
<td>UMass Amherst Dept of Plant, Soil, and Insect Sciences</td>
<td>UMass Amherst Green Office Program</td>
<td>US Fish &amp; Wildlife Service</td>
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<tr>
<td></td>
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<td>Westover Air Force Base</td>
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</tbody>
</table>

**Career Planning Resources & Websites**

- UMass Amherst Career Services Events Calendar: [www.umass.edu/careers](http://www.umass.edu/careers)
- UMass Amherst Dept of Environmental Conservation: [https://eco.umass.edu/career-opportunities/](https://eco.umass.edu/career-opportunities/)
- UMass Amherst Sustainability Science Masters Program: [https://eco.umass.edu/degree-programs/](https://eco.umass.edu/degree-programs/)
- FOCUS2 Career and Education Planning: [www.umass.edu/careers/planning](http://www.umass.edu/careers/planning) for sign-in button
- What Can I Do With This Major? [https://www.umass.edu/careers/planning](https://www.umass.edu/careers/planning)

(Click on "What Can I do with this Major" icon on the right-hand column.)

- Massachusetts Career Information System: [http://masscis.intocareers.org](http://masscis.intocareers.org)

(Click Mass Resident to login with “Amherst/01003” Then click “Occupations” or “Assessments”)

- Environmental Science.org: [www.environmentalscience.org](http://www.environmentalscience.org)
- Huge List of Environmental Careers: [www.khake.com/page46](http://www.khake.com/page46)
- Reports on Jobs in the Growing Green Economy: [www.findingearthworks.org/resources.htm](http://www.findingearthworks.org/resources.htm)
UC Berkeley Career Center “Environment”  http://career.berkeley.edu/

Environmental Science Job and Internship Search Resources  (* = of particular note)

UMass Amherst Specific Job Search Resources
* UMass Handshake Database of Internships & Jobs  https://umass.joinhandshake.com/
* UMass Amherst Dept of Environmental Conservation  http://eco.umass.edu/for-current-students
* UMass Amherst Local Sustainability Jobs/Internships  www.umass.edu/sustainability/resources
Job Seeker Environmental Jobs Newsletter  (If listed password has expired, call Career Services for current password)

Environmental Science Jobs
Appalachian Mountain Club  www.outdoors.org/employment
Center for Ecological Technology (Northampton!)  https://www.cetonline.org/jobs/
Chicagoland Environmental Network  www.chicagoenvironment.org/jobintern
Conservation Job Board  www.conservationjobboard.com
Cool Works Jobs in Great Places  www.coolworks.com
Earthworks Jobs By Category  http://earthworks-jobs.com/
Eco Employ  www.ecoemploy.com
Elements (Mineralogy / Geochemistry / Petrology)  http://elementsmagazine.org/job-postings/
Environmental Careers Organization (eco.org)  www.eco.org
* Environmental Career (post resume & apply through)  https://environmentalcareer.com/
Environmental Career Opportunities (ECO)  http://www.ecojobs.com/
Environmental Health & Safety Jobs  http://ehscareers.com/search
Environmental Jobs and Careers (aggregator site)  www.ejobs.org
Environmental Jobs  www.environmentaljobs.com
Green Dream Jobs  www.sustainablebusiness.com
* Green Drinks Springfield (hub of local communities)  www.facebook.com/GreenDrinksSpringfield
* Green Jobs (store resumes & apply through site)  http://www.greenjobs.net/
Green Job Search  www.greenjobsearch.org
GreenBiz Jobs Board  http://jobs.greenbiz.com
Global Vision International Careers Abroad  www.careersabroad.co.uk/vacancies
* LinkedIn Green Job and Career Network  www.linkedin.com/groups?gid=77194
* Local Internships  http://www.gcc.mass.edu/internships/list/
* Massachusetts Clean Energy Center (Mass CEC)  www.masscec.com/jobs
* MassCEC Post-Your-Resume Board  www.masscec.com/resumes
    (Create free account; post resume for employers to see; refresh every 6 months)
* Massachusetts (State) Environmental Agencies  www.mass.gov/eea/agencies
National Environmental Health Assoc Job Board  www.neha.org/job_center.html
Sierra Club Jobs (mostly in Cali and DC)  https://www.sierraclub.org/careers
Texas A&M Wildlife & Fisheries Jobs Board (some Intl)  https://wfscjobs.tamu.edu/job-board/
Water Industry Jobs  www.waterjobsnow.com
Water Environment Federation (WEF) Job Bank  http://jobbank.wef.org/jobseekers
World Wildlife Federation Jobs  http://wwf.panda.org/who_we_are/jobs_wwf/
* USDA Natural Resources Conservation (by State) www.nrcs.usda.gov/wps/portal/nrcs
* US Environmental Protection Agency (EPA) Jobs www.epa.gov/careers
* USA Jobs (for ALL Federal Govt Jobs) www.usajobs.gov

General Science Jobs
General Science Jobs (widely defined) http://jobs.sciencecareers.org
General Science Jobs (widely defined) http://jobs.newscientist.com/
NatureJobs (widely defined) www.nature.com/naturejobs/science/

Internships and Lab/Field Research in Environmental Science
 * CareerConnect Database of Internships & Jobs www.umass.edu/careers for sign-in button
 * UMass Amherst Dept of Environmental Conservation http://eco.umass.edu/for-current-students
 * UMass Biochem: Finding Independent Lab Research www.umass.edu/biochem/undergraduate/lab
American Geological Institute (Geosci & Public Policy) www.americangeosciences.org
Campus Access List of Environmental Internships www.campusaccess.com/internships
Chicagoland Environmental Network www.chicagoenvironment.org/jobintern
Cool Works Internships www.coolworks.com/internships
Ecological Society of America: Fieldwork Internships https://www.esacareercenter.org/
Environmental Organizations by Category www.webdirectory.com
Global Vision Intl Careers Abroad: Internships www.careersabroad.co.uk/internships
Internships in Federal Government Agencies (EPA etc) www.usajobs.gov/Search?Internship=Yes
MassCEC Resume Board http://www.masscec.com/work-clean-energy/resumes
* Massachusetts Clean Energy Center (MassCEC) www.masscec.com/programs/massachusetts
National Institutes of Health (NIH) www.training.nih.gov/programs
National Park Service Internships (nationwide) https://www.nps.gov/aboutus/workwithus.htm
NYC Parks and Recreation Internships https://www.nycgovparks.org/
Sierra Club https://www.sierraclub.org/careers
* Student Conservation Association (SCA) www.thesca.org

Professional Organizations (* = of particular note)
Many professional organization’s websites have career information on them. You can often use them to search for networking events, meet a mentor in your field of study, find current research, search for internships or jobs, and gain insight into what direction within the field you may wish to pursue.

American Geological Institute (Geosci & Public Policy) www.americangeosciences.org
American Water Works Association www.awwa.org
Assoc for Advancement of Sustainability in Higher Ed www.aashe.org/resources
Assoc for Environmental Studies and Sciences http://aessonline.org/
Ecological Society of America: Fieldwork Internships  www.esa.org
Local Govt Environmental Assistance Network  www.lgean.org  (has grants & funding opps)
National Council for Science and the Environment  www.ncseonline.org
National Environmental Health Association  www.neha.org
Natl Assoc for Environmental Professionals (NAEP)  www.naep.org
National Renewable Energy Lab  www.nrel.gov
N. American Board of Certified Energy Practitioners  www.nabcep.org
* Northeast Sustainable Energy Association (Greenfield)  www.nesea.org
Society for Conservation Biology  www.conbio.org
Society of Wetland Scientists  http://sws.org
US Environmental Protection Agency  www.epa.gov
US National Institutes of Health (NIH)  www.nih.gov
US NIH: Natl Institute of Environmental Health Sciences  www.niehs.nih.gov/index.cfm
* Western Mass Green Consortium  http://westernmassgreenconsortium.org

Other Environmental Science Resources
Envirolink  www.envirolink.org
Environmental News Network  www.enn.com
Environmental Science Dept at Rutgers U.  http://envsci.rutgers.edu/index
Greenfield Farm and Food Systems Classes  www.gcc.mass.edu/academics
(A few cheap classes to get you industry certifications)
Journal of Young Investigators (Undergrad Research)  www.jyi.org
NESEA Sustainable Green Pages (for Northeast)  http://nesea.org/greenpages
Regional Employment Board: Green Careers Resources  http://www.franklinhampshirereb.org

What Do Employers Look For? (NACE 2020 Job Outlook for Students)