

Masters vs. PhD

| Sector | MS | PhD |
|-------------------------|--|---|
| Academia | --Professor at some 2-year colleges --Research Assistant | --Postdoc --Professor --Research Scientist |
| Consulting and Industry | --Research assistant --Environmental consultant --Environmental planner --Program manager | --Senior environmental consultant --Research scientist --Research administrator |
| Government | --Program manager --Wildlife biologist --Forester --Natural resource manager | --Research scientist --Natural resource manager |
| NGOs | --Program scientist --Environmental analyst --Field ecologist | --Field ecologist --Research coordinator --Research administrator |
| Schools | --K-12 teacher | --K-12 teacher --Superintendent --Director of curriculum |

Outlook: study.com

Ecologist: Job & Career Information

Job seekers trained in ecology, or environmental science, may find job opportunities in fieldwork and research, and with more experience can move on to jobs in applied ecology, environmental impact assessment, environmental geology, meteorology, hydrology or oceanography. Read on to learn more about the education and skills requirements, along with the salary and employment outlook.

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Career Definition for an Ecologist

An ecologist finds ways to use resources efficiently and manage them responsibly, identifies ecological hazards and works to eliminate them, and studies the environment in general. Ecologists conduct research into the preservation and reclamation of natural resources, help business and industry to be ecologically responsible and work for government agencies, which inspect and regulate environmental standards.

| | |
|--------------------------------|---|
| Education | Bachelor's, Master's, or Ph.D. in Ecology |
| Job Skills | Interest in preserving the environment, desire to solve problems, understanding of scientific methodology |
| Median Salary (2015)* | \$67,460 (environmental scientists and specialists) |
| Job Growth (2014-2024)* | 11% (environmental scientists and specialists) |

Source: *U.S. Bureau of Labor Statistics

Courses

- Broad background in life and natural sciences
- An understanding of physical sciences (e.g., geology, chemistry, physics) useful
- Experience with written and oral presentations
- Working knowledge of mathematics, statistics, and programming
- Economics and geography: environmental problems are trans-disciplinary

Gaining experience

- Work for a professor during summer or school year
- Seek at REU opportunities across the country (see NSF website)
- TA for an ecology course
- Summer experiences: Organization of Biological Field Stations
- Work for a park, government agency, or nature center
- Federal natural resource agencies

Learning more

- Ask an ecologist
- Join the Ecological Society of America
- Read (e.g., publications such as *American Scientist*, *BioScience*, *Natural History*, *National Geographic*, *Science News*, *Scientific American*, and *Smithsonian*)

Finding a non-academic job

- ESA maintains a listing of job opportunities
- **University and Research** – Look in ESA Job Board, *Science*, *BioScience*, and the *Chronicle of Higher Education* for advertised positions
- **Consulting and Industry** – Many jobs in consulting and industry are advertised locally or never advertised. To find these jobs, write to potential employers of interest.
- **Federal Government** – The U.S. Government's official site for jobs and employment information is <http://www.usajobs.gov>
- **State Government** – Vacancies can be obtained through individual state employment web sites. County and city websites may also hold job advertisements.

When to do a Masters

- Good match for your career goals
- Need more experience to decide whether a PhD is for you
- Want to bolster your qualifications

Finding potential advisors

- Ecolog-L listserv
- ESA annual meeting program
- Learn about interesting research in ESA publications

Grades and GRE

- Not always good predictors for grad school success. But:
 - Try to graduate with at least a 3.0.
 - Study for the GRE. Many practice tests are available. If possible, take a formal course.
 - Hard cut-offs usually do not exist. However, top PhD programs may want higher scores; MS programs may be more flexible.
Possible to highlight improvement in your application.

Maximizing competitiveness

- Attend a scientific meeting (e.g., ESA)
- Author (or co-author) a scientific paper
- Work as closely as possible with faculty so that they can write compelling letters
- Enroll in graduate-level courses

Applying

- Identify 6-10 potential advisors. In many ways, this is more important than the institution.
- Check out a recent paper by your potential advisor
- Introduce yourself before Halloween
- Be sure to apply to at least one school where you'd be a shoo-in
- Interview!