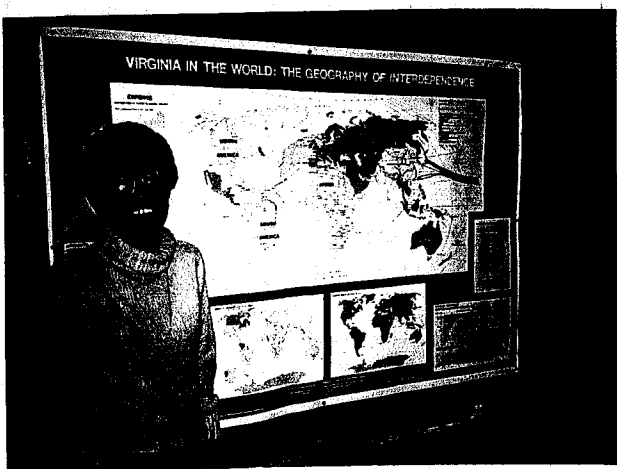


BECOMING A GEOGRAPHER

The basic education for a geographer is a four-year undergraduate degree with a geography major. A B.A. (Bachelor of Arts) or B.S. (Bachelor of Science) degree requires a minimum of 24 semester hours or 36 quarter hours beyond introductory geography courses. Degree requirements usually include: physical, human, cultural, economic, and regional geography; cartography, map interpretation and map design; remote sensing and air photo interpretation; geographic information systems; environmental studies or resource management; tourism or planning.



Although many geographers obtain positions with a bachelor's degree, better paying and more challenging positions usually require at least a master's degree. The M.A. (Masters of Arts) and M.S. (Masters of Science) programs provide specialized courses and practical experience in research. They require either a thesis, internship, or special project, in addition to 30-36 semester or 45-54 quarter hours of coursework beyond the B.A. or B.S. degrees.

The Ph.D. (Doctor of Philosophy) degree is required for four-year college and university teaching positions, and for most senior-level research or administrative positions in geography. Ph.D. programs offer advanced coursework and research experience and generally require an additional year of university residence beyond the M.A., followed by independent research and a doctoral dissertation. For more information on geography graduate programs, contact the Graduate Advisor or Graduate Committee in the departments of geography that interest you.

THE OUTLOOK FOR GEOGRAPHERS

According to the US Department of Labor, government agencies, health and social service organizations, marketing, research and consulting firms, and a wide range of businesses seek geography graduates for their research, communications, and quantitative skills. Demand will be greatest in urban and environmental management planning, including such areas as location analysis, land and water resources planning, and health care planning.

Salaries earned by geographers with bachelor's degrees start at \$26,000-\$40,000, and geographers with master's degrees start at \$35,000-\$50,000. In both groups, positions requiring advanced technical skills offer the highest salaries. Many community colleges hire geographers with master's degrees and four-year college and university positions generally require Ph.D. degrees and offer salaries ranging from \$40,000-\$110,000, depending on rank and institution. Ph.D. geographers in industry tend to earn more than their counterparts in academia.

FOR MORE INFORMATION

- about careers in geography: see the Association of American Geographers' web site on careers, www.aag.org/careers/intro.html. Topics include: *What can you do as a geographer?*; *How do you know if you want to be a geographer?*; *What is geography?*; *What will it take to get a good job?*; and *Geographers at Work*.
- about undergraduate and graduate programs in geography: see the *Guide to Programs in Geography*, published annually by the Association of American Geographers. Discounts are available for AAG members and prospective students. Also visit "Interactive Map of Geography Departments in the U.S. and Canada" at www.aag.org/careers/intro.html.

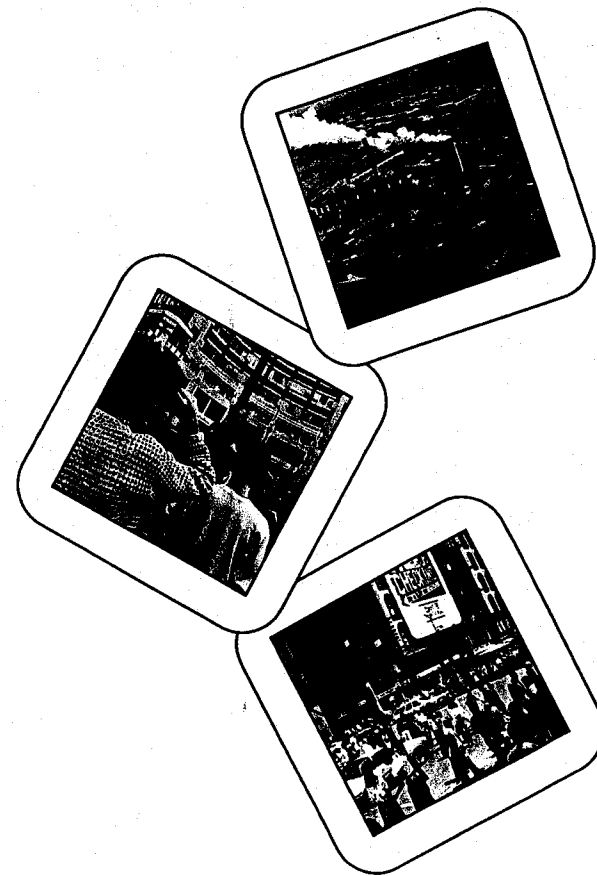
THE ASSOCIATION OF AMERICAN GEOGRAPHERS

The Association of American Geographers (AAG) helps advance the discipline of geography by disseminating information about geographic research. Member services include an annual meeting which attracts several thousand geographers, two quarterly journals and the monthly *AAG Newsletter*, occasional specialty publications, and employment listings for professional geographers. The AAG offers reduced membership dues to students and retired geographers. The Association of American Geographers, 1710 Sixteenth Street NW, Washington, DC 20009-3198, Voice 202-234-1450, Fax 202-234-2744, E-mail gaia@aag.org, Internet <http://www.aag.org>.

Additional copies of this brochure are available for 25 cents from the AAG. Bulk prices are available upon request.

Computer cartography photo courtesy of the National Imagery and Mapping Agency, Urban Geography Field trip photo by Ian Ward courtesy of George Mason University/Dr. Joseph Wood. All other photos courtesy of the ARGUS Project and other AAG sources. The teacher is Helen Cole, Forestville School, Great Falls, VA.

Geography: Today's Career for Tomorrow



Geography is the only subject that gives you carte blanche to look at the whole world and try to make sense of it. The field never stops being exciting, and that's what geography is all about—trying to understand the world.

Peirce F. Lewis
Professor Emeritus of Geography
The Pennsylvania State University

Are you curious about how people interact with their environments? Do you like both natural and social sciences? Do you like to gather and analyze data? Are you concerned about the future of our fragile planet? If so, then a career in geography may be for you.

Geographers play a crucial role in addressing national and global concerns like acid rain, nuclear war, hazardous waste, housing for low income people, and world population growth. They study the characteristics of space, location, and place to understand how people interact with both physical and human environments.

Geography is divided into three distinct fields and numerous subfields, some of which are listed here:

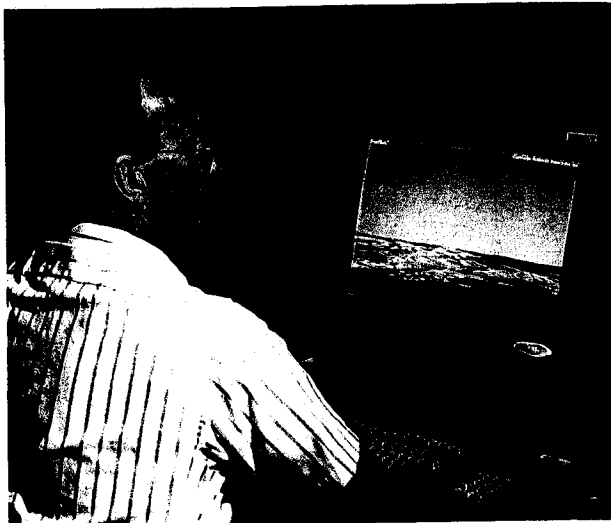
- physical/environmental (climatology, biogeography, and geomorphology)
- human (urban, population, political, and cultural geography)
- technical (cartography, geographic information systems, and remote sensing)

Within this framework, geographers identify and analyze the local, regional, and global patterns that shape our lives. As the world's nations become more interdependent, opportunities for geographers will continue to grow.

TOMORROW'S CAREERS

Maps are the basic tools geographers use to present information. Computers have revolutionized mapmaking and placed geography on the forefront of research. Many employers are looking for people trained in high-tech subfields of geography such as computer cartography, automated mapping/facilities management, photogrammetry, remote sensing (interpreting images taken from high altitude aircraft or satellites), and geographic information systems (GIS).

GIS combines computer graphics, artificial intelligence, and high-speed communications to store, selectively retrieve, manipulate, and map geographic data sets. Widely applicable, GIS is an important tool for functions like weather forecasting, emergency management, monitoring of rural and urban land use, retail site selection, transportation planning, forest management, and crime prevention. Technical skills, combined with a solid background in geography, are today's tools for tomorrow.



A sound background in traditional geography and a working knowledge of the theories and tools related to spatial data handling, GIS, and cartography are the prime requirements for today's cartographer. Geography is the most promising path to a successful career in mapping because it offers that blend of expertise which will help employees advance from entry level to managerial positions.

Michael W. Dobson, Vice President
New Business Development,
Chief Cartographer, and Chief Technologist
Rand McNally & Company

GEOGRAPHERS AT WORK

Geographic training prepares you for many types of careers with a variety of employers in the private, government, and academic sectors. Some specific examples include:

- Research Physical Scientist, US Geological Survey
- Geographer, Survey Statistician, Center for Disease Control and Prevention
- State Conservation Education Coordinator, Assn of Conservation Districts
- Cartographer, *Time Magazine*
- GIS Coordinator, Smithsonian Institute
- Director of Applications and Training, EOSAT
- High School Social Studies Teacher, New York City Schools

Private sector firms need geographers who can recommend the best locations for retail outlets, conduct marketing studies for business and industry, understand international markets and investment opportunities, and determine environmental risks associated with site location.

All levels of government—local, state, and federal—employ geographers. They may work for local and state economic development offices, conduct research in recreation and park utilization, or map and analyze land use from remotely sensed data. At the federal level, many geographers work for the Department of Defense, the National Oceanic and Atmospheric Administration, the Central Intelligence Agency, the Bureau of the Census, the US Geological Survey, and the Department of State.

Opportunities are expanding for teachers who are well trained in geography. When geography was identified in the National Education Goals as one of the core subjects in which K-12 students should be proficient by the end of the century, the discipline took on new importance in the social studies curriculums of both elementary and secondary schools.

Geography is also experiencing a renaissance in many colleges and universities, as a result of 1) the emphasis on geography-based topics like environmental studies and global issues, and 2) the rapid development and application of geographic information systems, computer cartography, and remote sensing technologies. Geography professors develop specialties in specific topics and regions, and many are experts in the new technologies. Professors at two-year colleges are mainly involved in teaching, while at four-year colleges and especially at universities, they also conduct research.



The study of geography involves the study of major problems facing humankind such as environmental degradation, unequal distribution of resources, and international conflicts. It prepares one to be a good citizen and an educated human being.

Risa Palm
Dean, College of Arts and Sciences
University of North Carolina-Chapel Hill