

WHAT CAN YOU DO WITH GEOGRAPHY?

A GREAT MANY THINGS!

In an age where people are becoming more and more specialised in their education, there is a growing appreciation among employers - in both the public and the private sector - of the value of someone trained in the broad, integrating discipline that is Geography. Following are three documents providing more details of this fact: one developed by the Association of American Geographers on the role of modern Geography (remember that Geography has a much lower profile in the United States than it has in Canada) and two shorter pieces from Canadian universities on the career opportunities open to geographers. You should also check the notes sent by Lakehead Geography Alumni/ae, listed on the Department's Website <<http://geography.lakeheadu.ca/alumni.html>>.

As a generalisation, the three-year BA/BSc will give you a good, all-round education in how the world works, but is unlikely to land you a job in which your geography will play a big part. For that, you will require the minimum of an Honours degree (and, increasingly, a Masters degree).

In most cases it is not important whether you take the HBA, HBSc, HBES or HBESc degree. A very few job descriptions involving Geography will specifically require a Science degree, but you should not feel obliged to register for the science stream unless it is your strength. A good HBA will be better for you than a marginal HBSc.

You should also pay careful attention to your choice of electives, as in most cases you will not be able to take the more interesting and useful upper-level courses in a discipline if you do not have the introductory course.

Above all, if you do take Geography — enjoy yourselves!

Geography: A Field of Dreams

Geography Opportunities and Career Developments

from Association of American Geographers 2009

Introduction

Geography is an exciting field and one that some of you dream of working in. Many practising geographers followed their own dreams by perusing maps and envisaging grand excursions to distant lands. Others sought to make their mark by exploring the complex workings of their immediate surroundings. Whichever the case, geographers dream of going places – either via travel or professional advancement. For those who share similar dreams, there is ample opportunity in the early twenty-first century.

The older notion of geography as the discipline devoted to memorizing rivers and capitals has been replaced with the comprehension that geographers address a variety of real-world problems. Today, many prospective employers know that geographers have much more to offer than a singular talent for place-name trivia.

The improved understanding of our discipline has allowed geography departments to feed their graduates into diverse employment situations. Environmental opportunities abound; locational analysis for commercial activity remains an important option; urban and regional planning continues to lure practitioners; and mapping and spatial data analysis have expanded with the wide-spread adoption of computer technologies. Teaching situations, at all levels, have been abundant as well. Geographers have long supplied their expertise to these areas, while recently adding new tools for executing these endeavours. In addition to time-honoured applications, geographers are making inroads in less typical arenas. Travel and tourism now offer more opportunities to geographers, as do historic preservation, archival, and museum programs, along with situations involving international development and policy.

While employers have a better grasp of what geographers can do than they did in the past, few job advertisements use the title “geographer.” Consequently, job seekers must be creative in their search strategies, and they must be prepared to inform prospective employers how they can assist in a given situation. This is an obstacle most accountants or computer programmers do not have to clear, but is likely to remain a reality for geography job seekers.

In situations where a company or agency hires one geographer, they often bring more on board. This demonstrates the power of our discipline’s utility. It is also evidence that, through their actions, working geographers informally educate their employers about what it is we can do. For every geographer on the job, prospects improve for those in training. This is one reason it is useful for geography majors to try to make contact with alumni from their department.

Training

A BA. or BSc in geography can open the door for entry-level positions. Depending on the specialty, a graduate with a bachelor’s degree can move into a government or

private sector job that will utilize her/his skills. Perhaps the greatest range of opportunities for those with a single degree are in the computer mapping and environmental fields. It is important to take upper division courses that provide training in techniques and applications in those areas in order to move quickly into the workforce. Quite typically today, employers will provide some additional training to new workers. Taking advantage of those opportunities, along with good job performance can enable advancement with a bachelor's degree.

Those who want to start at a slightly higher level should seek a master's degree. With an MA or MSc, emerging geographers will find they have an array of job opportunities. Along with the wider range of options – in human, physical, techniques, and education – master's degree holders will find they can move much more quickly into positions with a higher level of responsibility. This may mean managing projects and even overseeing co-workers, and with those responsibilities comes greater earning power. Improved opportunities for advancement often present themselves to those with a MA or MSc. Sometimes employers will help pay for a worker to earn an advanced degree.

Once only considered a degree that allowed people to teach in the university, the PhD is much more than that today. Certainly, many who obtain the highest degree in our field move into higher education. But that is not the only option. PhDs increasingly work in government and the private sector. They often hold positions of high responsibility and manage teams of co-workers. Salary and advancement opportunities typically reflect the status of the terminal degree.

Prospects

The AAG conducted an extensive survey of employment trends among geography graduates in the 1990s. Not surprisingly, the top three categories of jobs listed were (1) environmental, (2) GIS/Remote Sensing, and (3) cartographer. University professors came in fourth. A large number of recent graduates had found employment in the private sector (40 percent), with slightly over 30 percent finding work in government. Although there is some privatization of government activity, geographers already have a strong foothold in the private sector. Globalization may export jobs to other regions, but high-level skills should continue to find a market in the US.

The authors pointed out that geography's great advantage resided in the ability of its practitioners to combine technical skills with other basic talents such as literacy, numeracy, decision making, problem solving, and critical thinking. This is particularly true for those who can apply their mapping science skills to a range of real world problems, and also those who can impress their employers with the value of a spatial perspective.

Specialities

Environmental: Since the early 1970s, there has been an abundance of opportunity in the environmental arena. Certainly, biologists and geologists have

been important players in this enterprise, but geographers can and will continue to make valuable contributions.

Environmental Impact Specialist. Since the passage of the National Environmental Protection Act, federally funded projects (in the US) must be preceded by an analysis of the activity's environmental impacts. Biogeographers and geomorphologists, along with soils geographers, are ideally suited to contribute to these projects. The synthetic view of the geographer, along with ability to look at the larger ecological setting has utility to the environmental impact process. Both government and private-sectors opportunities exist in this area.

Waste Management Specialist. Agencies and companies that deal with hazardous and solid wastes need individuals who can help them conform to the complex regulations affecting this gargantuan industry, plus they need people who can help them plan facilities that do not adversely impact local environments. Geographers from many different backgrounds can assist here. Physical geographers can help interpret local soils and hydrologic conditions, while environmental geographers can help with the policy issues. Human geographers, increasingly, can provide analyses of surrounding populations to deal with environmental justice concerns.

Emergency Management Officer. Both the federal and state governments have offices devoted to developing emergency preparedness plans and carrying out these plans after tornados, hurricanes, wildfires, and floods – to name a few hazards. Geographers with a background in hazards can step in to such agencies and make a viable contribution.

Park Ranger/Interpreter. After many years hiring rangers with law-enforcement credentials, state and federal parks are once again seeking employees who can help visitors understand the physical setting that surrounds them. Individuals who can provide both interpretive programs and help with environmental research are in demand. Biogeographers and physical geographers are able to assist in this realm, as can historical and cultural geographers.

Environmental Quality Specialist. Most state and federal environmental agencies seek to regulate and protect particular environmental media – air, land, and water. They need university graduates with skills in managing various regulatory programs and also knowledge in how to monitor the environment and evaluate the results of that monitoring. Most physical geography backgrounds – climate, geomorphology, and biogeography – qualify. Environmental geographers, with an emphasis in policy issues, can contribute to the regulatory activity as well.

GIS/Remote Sensing/Cartography: While GIS and Remote Sensing encompass diverse skills and are separate specialties, increasingly the two tools are used jointly to solve problems. The technical specialties offer some of the greatest opportunities, particularly as government and business discover the nearly limitless range of applications for these skills. Those with expertise in these areas can also help with illustrations for publications.

GIS Specialists. Geographic Information System specialists can find themselves working in almost any situation. Government needs them to manage and analyse

environmental, population, and transportation activity. Local governments are turning to GIS to help manage public utilities and land transactions. Business is finding it a powerful means to monitor commercial activity and to manage the movement of goods and services. In some situations a narrow expertise in one GIS software may open the door for a university graduate, but greater opportunity exists for those who have a topical speciality to go along with their technical skills.

Remote Sensing Specialist. Whether using satellite images or aerial photographs, there is ample opportunity for those with training in these areas. Analysis of land use/land cover change is vital to agricultural, forestry, and other environmental activities. The USEPA maintains a team that uses historical aerial photographs to track past hazards-related activity. There is also opportunity to employ these tools in diverse military or national security applications.

Traditional Cartography. While few receive training in manual cartography, there is still a demand for hand-drawn maps for publications. Additionally, traditional cartographers may find opportunities as curators of historic map collections. Increasingly, conversion of fragile maps to digital images enables the use of new technologies to caring for historic collections.

Historical/Cultural: Cultural agencies and institutions typically demand employees with training in the humanities and increasingly cultural and historical geographers fit that description. The emphasis on cultural diversity in many types of public programs creates opportunities for those with specialties in cultural geography. Historic preservation and site interpretation offer situations for those who have expertise in past landscapes and historical processes.

Cultural Resource Specialist. Federal legislation requires that projects supported by money from the national treasury conduct environmental impact statements – and this process includes a cultural resource assessment. Cultural and historical geographers can help identify “significant” events or individuals who may have contributed to the shaping of a locality. Basic historical research skills are necessary in this line of work, although some facility with archeological methods can help land a position. Consulting companies and government agencies are typical employers.

Historic Preservation Planner. Every state has a state historic preservation officer (SHPO). The agency that houses this position is responsible for identifying significant structures and sites, documenting them, and overseeing federal programs devoted to preserving our cultural heritage. At the local level, there are historic preservation offices in most large cities and many smaller towns have “main street” programs devoted to maintaining historic structures. Historical and cultural geographers can compete for jobs in these agencies and for the consulting firms that do work for them. Familiarity with landscape and architectural history and historical urban planning are important skills in this line of work.

Interpretive Specialist. Museums and historic sites often employ individuals with expertise in the past and historical geographers can lend their skills as much as historians. With a new emphasis on “cultural landscapes” in the National Park Service and also support for urban historic districts, historic corridors, and historic

waterways, the geographic perspective is more important than ever. Interpretive specialists may go under many different names (museum educator, ranger, etc.) but they all provide visitors with informative tours, help develop exhibits and print material about a site. Solid historical research abilities and good interpersonal skills are essential.

Historical Consulting. There are many private firms that do a range of historical consulting that geographers can contribute to. Beyond historic preservation and cultural resource work, these consulting companies may be asked to document past hazardous waste disposal activity or the historical “state-of-knowledge” about the environmental impacts of polluting behaviour. There is an on-going demand for conducting mini-historical geographies of activity that occurred at a particular property to document the presence of hazardous-waste related activity. City planners want to know what went on in the past at “brownfields” before redeveloping such sites. Historical geographers can contribute to these activities in a substantial way.

Social/Urban: Social/urban geography focuses on the ways that spatial processes shape the built environment and social interactions in regions, cities, and communities. Areas of practice include spatial patterns of development and growth, urban political processes and planning, race/ethnicity and gender issues, community change and capacity building, and social problems (such as homelessness, the lack of affordable housing, crime and violence). Training in social/urban geography prepares students for employment in the public, private, and non-profit sectors, providing a broad array of skills for analysis, regulatory design and implementation, and community-based development.

City-Regional Planning focuses on the design, implementation, and enforcement of local land use, housing, and community regulations. Tasks that employees may participate in range from direct interaction with residents, communities, interest groups, and private developers; to analysis and research on local trends, and the revision of general plans. Evaluating local trends may include investigating demographic data, housing supply, and neighbourhood associations. Employment most typically is in the public sector, although private consultants also participate in city-regional planning processes.

Housing Specialists concentrate on understanding and managing the housing market both in terms of changing demand and supply. In the course of their work, they may analyse housing markets, participate in the creation of affordable housing plans, help plan the construction of low-income housing developments, and take part in political advocacy for appropriate housing. Employment may be found in the public sector revising municipal affordable housing strategies, for private sector companies as a housing developer, or in the non-profit sector as an advocate for low-income housing.

Convention and Tourism Specialist. Many large cities work to lure major conventions and large numbers of tourists. Geographers may find work in this arena and participate in developing tourism concepts for cities, help manage the tourist infrastructure, promote the city as a destination, and even lead representatives of

prospective groups on tours. City government, private enterprises, and non-profits all participate in this activity.

Community Development Specialists engage in understanding and analysing community change, and developing strategies to manage neighbourhood-level growth and decline. Job tasks include interacting with residents and communities; analysing local demographic, housing, and labour market shifts; revising local land-use plans; devising strategies for neighbourhood revitalization, historic preservation, and local economic development; coordinating with municipal and local agencies (such as police and fire departments, hospitals, and schools); and political advocacy. Most commonly employment is available in the public and non-profit sectors.

Demographic Analysts provide their expertise to the study of population change at multiple spatial scales (local, regional, national), and its implications for urban and regional growth and decline. Specific activities involve data analysis, such as census information; forecasting population and job growth; creation of reports based on this analysis; presentations of findings to mass media, governments, interest groups, and residents. Employment opportunities cross the public (municipal, state, regional, and federal), private (private developers and investment companies), and non-profit sectors (think tanks).

Physical: Physical geography is the study of the processes and spatial relations in the physical environment. The three subdisciplines of physical geography include biogeography, climatology, and geomorphology.

Biogeographers often contribute to forest, wetland, or grassland resource protection. Bioremediation, infestation of forests by insects or fungi, fire prevention or controlled burns, and generally wiser use of biological resources are areas for the biogeographer. They also participate in analysing the impact of climate change on vegetation. Work in this area may be found in research institutes or federal and state resource management agencies.

Coastal Zone Specialists use their expertise to protect and to plan for appropriate use and development of coastal lands, waters, and habitats. Biogeographers, climatologists and geomorphologists can contribute to the coastal zone specialty. Opportunities, particularly in coastal areas, exist in state and federal agencies, as well as local planning organizations.

Weather/Climate Specialists have studied meteorology and climatology. These geographers monitor continuing weather patterns and identify changes in those patterns that can signify the onset of extreme events. The national weather service is one obvious place to look for work, but there are also jobs in broadcast meteorology, and even an expanding number of private companies that provide detailed weather predictions for farmers, investors, and even golf tournament organizers. Climate specialists work for numerous federal agencies such as the US Geological Survey and the National Oceanic and Atmospheric Administration.

Water Resources Specialist. Geographers with a specialty in water resources consider the distribution, abundance, and changes in water quantity and quality at

specific locations or across regions. Together with geomorphologists they identify flood-prone areas and with biogeographers they plan for protection of wildlife and wetland habitats. The recent emphasis in a watershed management approach had expanded opportunities in this speciality. There are also numerous positions in regional river basin authorities, state and federal environmental agencies that must protect water quality, and state and federal resource management agencies like the Forest Service and Bureau of Land Management.

Soils Specialist. A geographer with specialization in soils will know the characteristics of soils including fertility, water holding capacity, and slope stability. This information is essential to environmental and urban planning. The National Resources Conservation Service (formerly the Soil Conservation Service) is one place to consider, as are other agencies that deal with soil protection or planning.

Economic: Economic geography focuses on the spatial aspects of economic activity. One of a geographer's greatest strength is the holistic viewpoint he/she brings to bear on problem solving and analysis. Rather than looking at a problem in isolation, geographers survey all angles, including the social, economic, political, and environmental impacts. Geography's emphasis on spatial relationships help to identify market areas, locate optimal sites for development, and analyse profit potential for a given activity. Geographers also understand the important role the physical world has on economic development and sustainability. Jobs related to economic geography rely heavily on quantitative methods and mathematical modelling. GIS, cartography and map analysis skills are also extremely useful for people interested in jobs in these areas.

Agricultural Planner. Agriculture is a form of economic development and farming is an important component of many rural communities. The role of the agricultural planner is to help create and sustain healthy and diverse rural economies. Geographers can assist with this by developing means to preserve farm land and to encourage the development of agriculture-related activity in rural areas. Jobs are available at the federal, regional, and local levels.

Location Analyst. In the private sector, a vitally important task is to identify and determine the most profitable, accessible, and efficient location for new factories, stores, distribution centres, and offices – along with emergency services in the public sector. A geographer's understanding of spatial interaction, diffusion, along with transportation and location patterns are invaluable in this regard. Opportunities are most common in the private sector.

Real Estate Analyst. Large financial firms, such as insurance companies and major banks, often invest some of their long-term reserves in real estate. The role of the real estate analyst is to identify the most profitable opportunities. Geographers can assist with this activity by pinpointing regions, cities, or portions of cities with a combination of available real estate, strong growth potential, and demand for property. Study of comparative economic and demographic characteristics make this activity possible. Private sector firms have opportunities in this arena.

Transportation Planner. Public transportation systems are basic considerations for planning agencies and they cannot be separated from land-use activity. Routes, destinations, and markets are vitally important to express delivery services. Transportation planners may seek to coordinate new roads and transit systems with changing land-use intensities. They may also work to streamline the routes and scheduling of major delivery services. Transportation planners are involved in data collection, analysis, and policy formulation. Cartography, GIS technology, and quantitative models are all important skills.

Travel/Tourism Planner. For tourism to succeed it must be sustainable which requires careful planning and management. Tourists tend to destroy the attractions they visit through over use, excessive development, and ignorance. It is the planner's job to see that does not happen. Planning jobs are available at the national, regional, and local levels. Specific roles include policy development, implementation, and coordination; destination development; the planning, design, and development of individual tourist attractions, services, and facilities; and environmental assessment of tourism. A geographer's understanding of world cultures, physical regions, and cultural ecology are all helpful in this job arena.

Education:

Primary and Secondary Education. Most states now expect some specialization among their teachers. General teacher training, with some advanced course work in geography, will enable a K-12 teacher to be a proficient geography teacher.

Higher Education. Community colleges often hire individuals with a master's degree in a specialty, although a PhD is becoming a more common, but not required, level of education. Community college instructors typically offer a introductory courses, with perhaps some specialized training in the techniques – GIS for example. The primary role of the community college instructor is teaching. Universities generally require a PhD in geography. Four-year institutions offer a greater range of courses, introductory to advanced. In addition to class-room instruction, faculty are expected to conduct research and publish in their specialty area, while also participating in department and university activities.

Publishers. Software and book publishers sometimes seek employees with expertise in geography to represent them at conferences and to supply their products to schools. A general geography background can suffice and ample interpersonal skills are a prerequisite.

Closing Comments

One common trait of geographers is that they are curious about what lies around the corner. This impulse to explore is extremely important for job seekers. Stay alert to the obvious opportunities, but also those that might not be apparent. Look over the next ridge; do not be content with what the limited options visible from where you sit. Job seekers must, like good field geographers, get up from their computers and get their boots dirty searching out the best vantage point, and from there examine every opportunity with great care.

There are many geographers who have blazed the employment trail and now work in diverse situations across the country, and beyond. Most have found satisfaction pursuing their youthful dreams. We hope you too will fulfill your dreams and discover personal and professional rewards as geographers.

What can you do with a Geography Degree?

Simon Fraser University 2009

The Study of Geography

Geography is the core environmental discipline. It is the study of physical and human environments and their interactions. It is basic to any understanding of environmental issues, resource management, urban problems and planning, commercial and political interaction among nations and regions, and many other vital topics. Geographers are uniquely qualified to solve problems of competing land use, land management and integrated natural resources development. The study of geography can lead to careers in urban and regional planning, public administration, social service delivery, consulting, teaching and other jobs that require an understanding of human-environment relations.

What skills have you developed with your degree?

While the academic knowledge you acquire at university may be directly applicable to some careers, the general skills you gain with your degree are the most valuable to employers. These skills are not limited to course work, and may be gained through paid and/or volunteer work both on and off campus. The knowledge and skills gained through work experience, volunteering and extra-curricular activities are relevant to future work.

Communication Skills

The ability to communicate ideas clearly and efficiently in a variety of mediums (written, oral, visually and electronically).

Information Management

Locate, gather, and organize information using appropriate technology and information systems. Use research skills to access, analyse, and apply knowledge.

Problem Solving

Use critical thinking skills to evaluate and solve problems. Demonstrate the ability to be creative and innovative in identifying solutions.

Teamwork Skills

Able to work effectively within a group. Demonstrates the ability to lead or support the group while monitoring the success of a project and identifying ways to improve it.

Personal Management Skills

Able to work effectively and independently under deadlines. Plan, design, and carry out projects from start to finish, with well-defined objectives and outcomes.

What are some of your career options?

The following is a non-exhaustive list of career options. Some of them may require further education beyond a bachelors degree in Geography.

DIRECT Career Options: Majoring in Geography will serve as a credential for getting any of the following career choices as the skills required are similar to the skills acquired throughout your Geography major.

Cartographer

Prepares and uses maps of all types, including topographic, geologic, hydrographic, aeronautic, recreational, oceanographic, and a variety of thematic maps. Employers include government agencies, mapmaking firms, corporations that mine and drill for natural resources, and universities.

Environmental Policy Analyst

Provides assistance to environmental advisors in preparing correspondence, questionnaires, reports, lists of experts and consultants in the field of environment, assist in the research and preparation of reports to fulfill corporate reporting requests. Works for development agencies, government and/or environmental organizations.

Environmental Researcher

Researches, develops, and presents information regarding environmental issues in fields such as earth, marine, and atmospheric sciences, mining, forestry, wildlife, and water management. Works for government agencies, consulting firms, research laboratories and scientific associations.

Land Surveyor

Plan, direct and conduct legal surveys to establish the location of real property boundaries, contours and other natural or human-made features, and prepare and maintain cross-sectional drawings, official plans, records and documents pertaining to these surveys.

Urban Planning Research Assistant

Under the supervision of a city or regional planner, conducts research into the economic, environmental, and social consequences of development in order to support strategies for appropriate growth and renovation of rural, suburban, or urban areas. Typically works for a government agency or a consulting or architectural firm.

Special Program Teacher

Instructs students enrolled in special education programs. Settings (e.g., churches, social service agencies) and topics (e.g., vocational training, preschool Head Start, drug-abuse prevention) vary widely.

LESS DIRECT Career Options: Knowledge of Geography may be less pertinent to these positions and the degree alone in Geography may not serve as a credential for employment.

Lobbying Organizer

Distributes materials and disseminates information about a particular issue or organization, recruits, volunteers, solicits funds, and organizes such efforts as rallies,

letter-writing campaigns, and voter registration drives. Employers include special and public interest groups as well as professional lobbyists.

Park Ranger

Manages facilities and programs at national, state, and local parks and historic sites. Typically works for a government parks department. Summer jobs are readily available to students interested in the field of parks management.

Real Estate Development Researcher

Explores the real estate needs of particular communities, gathers information about available parcels of land, and explores the market feasibility of proposed projects. Works for real estate developers.

Travel Consultant

Provides travel advice and information to people planning trips. Helps travellers to resolve questions and problems that come up on a trip. Works for travel clubs, state and local tourist bureaus, resorts, travel associations, credit card companies, and tour groups.

INDIRECT Career Options: On the surface, the following career options may not appear to have much to do with the study of Geography. Yet the primary skills required in these careers are significantly related with some of the skills a Geography major acquires.

Construction Surveyor Trainee

Uses specialized tools to locate official land boundaries, mark off-site boundaries, research deeds, and identify information for use in developing construction plans. Works for the government and for construction contractors. On-the-job training occasionally available.

Correspondent/Stringer

Writes freelance reports for one or more publications. Usually has special knowledge of the subject or geographic area covered. Works as an independent contractor.

What Can I Do With An Undergraduate Degree in Geography?

University of Manitoba 2009

Skills possessed by Geography Undergraduates:

Many employers are interested in the skills which geography majors tend to possess. These include:

- knowledge of the earth's physical environments and their interrelationship
- understanding of the interrelationship of social, economic, political, and cultural factors
- skills in the analysis and use of standard statistical methods
- skills in writing carefully reasoned reports and academic essays
- good visualization skills
- skills in operating computer equipment
- skills in the spatial analysis of socioeconomic patterns, problems and forces
- ability to use land use data

Sample Job Titles for Geography Undergraduates:

(some may require additional education and / or training beyond the undergraduate degree)

air photo interpreter	remote sensing specialist
area specialist	research assistant
cartographer	resource analyst
census geographer	site selection consultant
city planner	site researcher
community planner	spatial data specialist
environmental evaluator	tourism developer
foreign area study consultant	transportation planner
foreign area analyst	travel consultant
fundraiser	urban analyst
geographer	water resource planner
geographic analyst	zoning inspector
geological laboratory assistant	
GIS analyst / technician	
hydrographer	
land use feasibility analyst	
landscape consultant	
location expert	
map curator / analyst / editor	
map room clerk	
market research analyst	
natural hazards consultant	
park planner	
population study consultant	
regional planner	
regional development officer	