OPPORTUNITIES IN GEOGRAPHY

The chapters of this book give an idea of the wide range of topics and interests that geographers pursue, particularly in the many discussions of concepts (regional and otherwise) and frequent references to the content of geography’s systematic fields. There are specializations within each of those topical fields as well as in regional studies—but an introductory book such as this lacks enough space to discuss all of them. This appendix, therefore, is designed to help you, should you decide to major or minor in geography and/or to consider it as a career option.

Areas of Specialization

As in all disciplines, areas of concentration or specialization change over time. In North American geography early in the twentieth century, there was a period when most geographers were physical geographers, and the natural landscape was the main object of geographic analysis. Then the pendulum swung toward human (cultural) geography, and students everywhere focused on the imprints of human activity on the surface of the Earth. Still later the analysis of spatial organization became a major concern. In the meantime, geography’s attraction for some students lay in technical areas: in cartography, in aerial and satellite remote sensing, in computer-assisted spatial data analysis, and, most recently, in geographic information systems (GIS) and GIScience.

All this meant that geography posed (and continues to pose) a challenge to its professionals. New developments require that we keep up to date, but we must also continue to build on established foundations.

Regional Geography

One of these established foundations, of course, is regional geography, which encompasses a large group of specializations. Some geographers specialize in the theory of regions: how they should be defined, how they are structured, and how their internal components work. This leads in the direction of regional science, and some geographers have preferred to call themselves regional scientists. But make no mistake: regional science is regional geography.

Another, older approach to regional geography involves specialization in an area of the world ranging in size from a geographic realm to a single region or even a State or part of a State. There was a time when regional geographers, because of the interdisciplinary nature of their knowledge, were sought after by government agencies. Courses in regional geography abounded in universities’ geography departments; regional geographers played key roles in international studies and research programs. But then the drive to make geography a more rigorous science and to search for universal (rather than regional) truths contributed to a decline in regional geography. The results were not long in coming, and in recent years you have probably seen the issue of “geographic illiteracy” discussed in newspapers and magazines. Now the pendulum is swinging back again, and regional geography and regional specialization are reviving. This is a propitious time to consider regional geography as a professional field.

Your Personal Interests

Geography, as we have pointed out, is united by several bonds, of which regional geography is but one. Regional geography exemplifies the spatial view that all geographers hold; the spatial approach to study and research binds physical and human geographers, regionalists, and topical specialists. Another unifying theme is an abiding interest in the relationships between human societies and natural environments. We have referred to that topic frequently in this book; as an area of specialization it has gone through difficult times. Perhaps more than anything, geography remains a field of synthesis, of understanding interrelationships.

Geography also is a field science, using “field” in another context. In the past, almost all major geography departments
required a student’s participation in a “field camp” as part of a master’s degree program; thus many undergraduate programs included field experience. It was one of those bonding practices in which students and faculty with diverse interests met, worked together, and learned from one another. Today, few field camps of this sort are offered, but that does not change what geography is all about. If you see an opportunity for field experience with professional geographers—even just a one-day reconnaissance—take it. But realize this: a few days in the field with geographic instruction may hook you for life.

Some geographers, in fact, are far better field-data gatherers than analysts or writers. In this respect they are not alone: this also happens in archeology, geology, and biology (among other field disciplines). This does not mean that these fieldworkers do not contribute significantly to knowledge. Often on a research team some of the members are better in the field, and others excel in subsequent analysis. From all points of view, however, fieldwork is important.

Geography, then, is practiced in the field and in the office, in physical and human contexts, in generality and detail. Small wonder that so many areas of specialization have developed! If you check the undergraduate catalogue of your college or university, you will see some of these specializations listed as semester-length courses. But no geography department, no matter how large, could offer them all.

How does an area of specialization develop, and how can one become a part of it? The way in which geographic specializations have developed tells us much about the entire discipline. Some major areas, now old and established, began as research and theory building by one scholar and his or her students. These graduate students dispersed to the faculties of other universities and began teaching what they had learned. Thus, for example, did Carl Sauer’s cultural geography spread from the University of California, Berkeley during the middle decades of the twentieth century.

It is one of the joys of geography that the basics and methods, once learned, are applicable to so many features of the human and physical world. Geographers have specialized in areas as disparate as shopping-center location and glacier movement, tourism and coastal erosion, real estate and wildlife, retirement communities and sports. Many of these specializations began with the interests and energies of a single scholar. Some thrived and grew into major geographic pursuits; others remained one-person shows but with potential. When you discuss your own interests with a faculty advisor, you may refer to a university where you would like to do graduate work. “Oh yes,” the answer may be, “Professor X is in their geography department, working on just that.” Or perhaps your advisor will suggest another university where a member of the faculty is known to be working on the topic in which you are interested. That is the time to write a letter or e-mail of inquiry. What is the professor working on now? Are graduate students involved? Are research funds available? What are the career prospects after graduation?

The Association of American Geographers, or AAG (1710 16th Street, N.W., Washington, D.C. 20009-3198 [www.aag.org]), recognizes no less than 56 so-called Specialty Groups. In academic year 2007–2008, the Specialty Group roster included the following branches of geography:

- Africa
- Applied Geography
- Asian Geography
- Bible Geography
- Biogeography
- Canadian Studies
- Cartography
- China
- Climate
- Coastal and Marine Geography
- Communication Geography
- Community College Geography
- Cryosphere (Earth’s Ice System)
- Cultural and Political Ecology
- Cultural Geography
- Developing Areas
- Disability
- Economic Geography
- Energy and Environment
- Environmental Perception and Behavioral Geography
- Ethics, Justice, and Human Rights
- Ethnic Geography
- European Geography
- Geographic Information Science and Systems
- Geographic Perspectives on Women
- Geography Education
- Geography of Religions and Belief Systems
- Geomorphology (Landform Analysis)
- Graduate Students in Geography
- Hazards
- Historical Geography
- History of Geography
- Human Dimensions of Global Change
- Indigenous Peoples
- Latin American Geography
- Medical Geography
- Middle East Geography
Military Geography
Mountain Geography
Paleoenvironmental Change
Political Geography
Population
Qualitative Research
Recreation, Tourism, and Sport
Regional Development and Planning
Remote Sensing
Retired Geographers
Rural Geography
Russian, Central Eurasian, and East European Geography
Sexuality and Space
Socialist and Critical Geography
Spatial Analysis and Modeling
Transportation Geography
Urban Geography
Water Resources
Wine Geography

If you contact the AAG at the Internet address given above, click on the first tab at the top of the home page (“About the AAG”) and then click on the seventh item in the drop-down box that is entitled “Specialty Groups.” Then scroll down the alphabetical listing to obtain the e-mail address of the current chairperson of any group. We encourage you to contact the professional geographer who chairs the group(s) you are interested in. These elected leaders are ready, enthusiastic, and willing to provide you with the information you are looking for.

All this may seem far in the future. Still, the time to start planning for graduate school is now. Applications for admission and financial assistance must be made shortly after the beginning of your senior year. That makes your junior year a year of decision.

AN UNDERGRADUATE PROGRAM

The most important concern for any geography major or minor is basic education and training in the field. An undergraduate curriculum contains all or several of the following courses (titles may vary):

1. Physical Geography of the Global Environment (weather and climate, natural landscapes, landforms, soils, moisture and surface water flows, elementary biogeography)
2. Introduction to Human Geography (basic principles of cultural and economic geography)
3. World Regional Geography (world geographic realms)
   These beginning courses are followed by more specialized courses, including both methodological and substantive ones:
4. Geographic Information Technology
5. Cartographic Theory and Techniques
6. Introduction to Quantitative Methods of Analysis
7. Introduction to Geographic Information Systems (GIS)
8. Analysis of Remotely Sensed Data
9. Cultural Geography
10. Political Geography
11. Urban Geography
12. Economic Geography
13. Historical Geography
14. Geomorphology
15. Global Environmental Change
16. Geography of United States-Canada, Europe, and/or other world geographic realms

You can see how Physical Geography of the Global Environment would be followed by the more specialized analysis of landforms covered in Geomorphology; how Human Geography divides into such areas as intermediate and/or advanced cultural and economic geography. As you progress, the focus becomes even more specialized. Thus, Economic Geography may be followed by:

17. Industrial Geography
18. Transportation Geography
19. Geography of Development

At the same time, regional concentrations may come into sharper focus:

20. Geography of Western Europe (or other major regions)

In these more advanced courses, you will use the technical knowledge acquired from courses numbered 4 through 8 (and perhaps others). Now you can avail yourself of the opportunity to develop these skills further. Many departments offer such courses as these:

21. Advanced Quantitative Methods
22. Computer Cartography
23. Intermediate GIS
24. Advanced GIS
25. Advanced Satellite Imagery Interpretation

From this list (which represents only part of a comprehensive curriculum), it is evident that you cannot, even in four
years of undergraduate study, register for all courses. The geography major in many universities requires a minimum of only 30 (semester-hour) credits—just 10 courses, fewer than half those listed here. This is another reason to begin thinking about specialization at an early stage.

Because of the number and variety of geography courses possible, most departments require that their majors complete a core program that includes courses in substantive areas as well as theory and methods. That core program is important, and you should not be tempted to put off these courses until your last semesters. What you learn in the core program will make what follows (or should follow) much more meaningful.

You should also be aware of the flexibility of many undergraduate programs, something that can be especially important to geographers. Imagine that you are majoring in geography and develop an interest in Southeast Asia. But if the regional specialization of the geographers in your department may be focused somewhere else—say, Middle and South America. However, courses on Southeast Asia are indeed offered by other departments, such as anthropology, history, or political science. If you are going to be a regional specialist, those courses will be very useful and should be part of your curriculum—but you are not able to receive geography credit for them. After successfully completing those courses, however, you may be able to register for an independent study or reading course in the Geography of Southeast Asia if a faculty member is willing to receive geography credit for them.

You should also be aware of the flexibility of many undergraduate programs, something that can be especially important to geographers. Imagine that you are majoring in geography and develop an interest in Southeast Asia. But if the regional specialization of the geographers in your department may be focused elsewhere—say, Middle and South America. However, courses on Southeast Asia are indeed offered by other departments, such as anthropology, history, or political science. If you are going to be a regional specialist, those courses will be very useful and should be part of your curriculum—but you are not able to receive geography credit for them. After successfully completing those courses, however, you may be able to register for an independent study or reading course in the Geography of Southeast Asia if a faculty member is willing to guide you. Always discuss such matters with the undergraduate advisor or chairperson of your geography department.

**LOOKING AHEAD**

By now, as a geography major, you will be thinking of the future—either in terms of graduate school or a salaried job. In this connection, if there is one important lesson to keep in mind, it is to plan ahead (a redundancy for emphasis!).

The choice of graduate school is one of the most important you will make in your life. The professional preparation you acquire as a graduate student will affect your competitiveness in the job market for years to come.

**Choosing a Graduate School**

Your choice of a graduate school hinges on several factors, and the geography program it offers is one of them. Possibly, you are constrained by residency factors, and your choice involves the schools of only one state. Your undergraduate record and grade point average affect the options. As a geographer, you may have strong feelings in favor of or against particular parts of the country. And although some schools may offer you financial support, others may not.

Certainly the programs and specializations of the prospective graduate department are extremely important. If you have settled on your own area of interest, it is wise to find a department that offers opportunities in that direction. If you have yet to decide, it is best to select a large department with several options. Some students are so impressed by the work and writings of a particular geographer that they go to his or her university solely to learn from and work with that scholar. In every case, information and preparation are crucial. Many a prospective graduate student has arrived on campus eager to begin work with a favorite professor, only to find that the professor is away on a sabbatical leave!

Fortunately, information can be acquired with little difficulty. One of the most useful publications of the AAG is its *Guide to Geography Programs in the Americas*, published yearly. A copy of this annual directory should be available in the office of your geography department, but if you plan to enter graduate school, a personal copy would be an asset. Not only does the *Guide* describe the programs, requirements, financial aid, and other aspects of geography departments in the United States, Canada, and Middle and South America, but it also lists all faculty members and their current research and teaching specializations. Moreover, it also contains a complete listing of the Association’s 10,000+ members and their specializations. Internet addresses are also provided for accessing the websites of geography departments, which they increasingly utilize to supplement their entries in the *Guide* and provide even more detailed information about their programs and faculty. Although you will find the *Guide* to be very useful in your decision-making, we also strongly recommend that you explore the websites of departments you wish to consider. In contacting departments, a particularly useful website to consult is *Geography Departments Worldwide* ([http://univ.cc/geolinks](http://univ.cc/geolinks)). Just click on “Simple Search,” which brings up a list of the world’s countries. Under “United States” no fewer than 291 geography departments are listed in alphabetical order, each only an additional click away.

You may discover one particular department that stands out as the most interesting and most appropriate for you. But do not limit yourself to one school. Consult the *Guide*’s 18-page table (entitled *Geography Program Specialties Graph*) that links 35 geographic specializations to every department listed, and then explore each appropriate matchup. After careful investigation, it is best to rank a half-dozen schools (or more), write or e-mail all of them for admission application forms, and apply to several. Multiple applications are a bit costly, but the investment is worth it.
Assistantships and Scholarships

One reason to apply to several universities has to do with financial (and other) support for which you may be eligible. If you have a reasonably well-rounded undergraduate program behind you and a good record of achievement, you are eligible to become a teaching assistant (TA) in a graduate department. Such assistantships usually offer full or partial tuition plus a monthly stipend (during the nine-month academic year). Conditions vary, but this position may make it possible for you to attend a university that would otherwise be out of reach. A tuition waiver alone can be well over $10,000 annually. Application for an assistantship is made directly to the department; you should write or e-mail the department contact listed in the latest AAG Guide (or on the department’s website), who will either respond directly to you or forward your inquiry to the departmental committee that evaluates applications.

What does a TA do? The responsibilities vary, but often teaching assistants are expected to lead discussion sections (of a larger class taught by a professor), laboratories, or other classes. They prepare and grade examinations and help undergraduates deal with problems arising from their courses. This is an excellent way to determine your own ability and interest in a teaching career.

In some instances, especially in larger geography departments, research assistantships are available. When a member of the faculty is awarded a large grant (e.g., by the National Science Foundation) for a research project, that grant may make possible the appointment of one or more research assistants (RAs). These individuals perform tasks generated by the project and are rewarded by a modest salary (usually comparable to that of a TA). Normally, RAs do not receive tuition waivers, but sometimes the department and the graduate school can arrange a waiver to make the research assistantship more attractive to better students. Usually, RAs are chosen from among graduate students already on campus who have proven their interest and ability. Sometimes, however, an incoming student is appointed. Always ask about opportunities.

Geography students also are among those eligible for many scholarships and fellowships offered by universities and off-campus organizations. When you write your introductory letter or e-mail, be sure to inquire about all forms of financial aid.

JOBS FOR GEOGRAPHERS

Upon completing your bachelor’s degree, you may decide to take a job rather than go on to graduate school. Again, this is a decision best made early in your junior year, for two main reasons: (1) so that you can tailor your curriculum for a vocational objective, and (2) so that you can start searching for a job well before graduation.

Internships

A very good way to enter the job market—and to become familiar with the working environment—is by taking an internship in an agency, office, or firm. Many organizations find it useful to have interns. Internships help organizations train beginning professionals and give companies an opportunity to observe the performance of trainees. Many an intern has ultimately been employed by his or her organization. Some employers have even suggested what courses the intern should take in the next academic year to improve future performance. For example, an urban or regional planning agency that employs an intern might suggest that the intern add a relevant GIS course or urban-planning course to his or her program of study.

Some organizations will appoint interns on a continuing basis, say, two afternoons a week around the year; others make full-time, summer-only appointments available. Occasionally, an internship can be linked to a departmental curriculum, yielding academic credit as well as vocational experience. Your department undergraduate advisor or the chairperson will be the best source of assistance.

One of the most interesting internship programs is offered by the National Geographic Society in Washington, D.C. Every year, the Society invites three groups of about eight interns each to work with the permanent staff of its various departments. Application forms are available in every geography department in the United States, and competition is strong. The application itself is a useful exercise, as it tells you what the Society (and other organizations) look for in your qualifications.

Professional Opportunities

A term you will sometimes see in connection with jobs is applied geography. This, one might suppose, distinguishes geography teaching from practical geography. In fact, however, all professional geography in education, business, government, and elsewhere is “applied.” In the past, a large majority of geography graduates became teachers in elementary and high schools, colleges, and universities. More recently, geographers have entered other arenas in increasing numbers. In part, this is related to the decline in geographic education in schools, but it also reflects the growing recognition of geographic skills by employers in business and government.
Nevertheless, what you as a geographer can contribute to a business is not yet as clear to the managers of many companies as it should be. The anybody-can-do-geography attitude is a form of ignorance you will undoubtedly confront. (This is so even in precollegiate education, where geography was submerged in social studies—and often taught by teachers who had never taken a course in the discipline!)

So, once employed, you may have to prove not only yourself but also the usefulness of the skills and capacities you bring to your job. There is a positive side to this. Many employers, once dubious about hiring a geographer, learn how geography can contribute—and become enthusiastic users of geographic talent. Where one geographer is employed, whether in a travel firm, publishing house, or planning office, you will soon find more.

Geographers are employed in business, government, and education. Planning is a profession that employs many geographers. Employment in business has grown in recent years (see the following section). Governments at national, State, and local levels have always been major employers of geographers. And in education, where geography was long in decline, the demand for geography teachers will grow again.

For more detailed information about employment, you should contact the AAG (at the address given earlier) for the inexpensive booklet entitled Careers in Geography; or check with your geography department, whose office is very likely to have a copy.

**Business and Geography**

With their education in global and international affairs, their knowledge of specialized areas of interest to business, and their training in cartography, GIS, methods of quantitative analysis, and writing, geographers with a bachelor’s degree are attractive business-employment prospects. Some undergraduate students have already chosen the type of business they will enter; for them, there are departments that offer concentrations in their areas of interest. Several geography departments, for instance, offer a curriculum that concentrates on tourism and travel—a business in which geographic skills are especially useful.

These days, many companies want graduates with a strong knowledge of international affairs and fluency in at least one foreign language in addition to their skills in other areas. The business world is quite different from academia, and the transition is not always easy. Your employer will want to use your abilities to enhance profits. You may at first be placed in a job where your geographic skills are not immediately applicable, and it will be up to you to look for opportunities to do so.

One of our students was in such a situation some years ago. She was one of more than a dozen new employees doing what was essentially clerical work. (Some companies will use this type of work to determine a new employee’s punctuality, work habits, adaptability, and productivity.) One day she heard that the company was considering establishing a branch to sell its product in East Africa. The student had a regional interest in East Africa as an undergraduate and had even taken a year of Swahili-language training. On her own time she wrote a carefully documented memorandum to the company’s president and vice presidents, describing factors that should be taken into consideration in the projected expansion. That report showcased her regional skills, locational insights, and knowledge of the local market and transport problems, along with the probable cultural reaction to the company’s product, the country’s political circumstances, and (last but significantly) this employee’s ability to present such issues effectively. She supported her report with good maps and several illustrations. Soon she received a special assignment to participate in the planning process, and her rise in the company’s ranks had begun. She had seized the opportunity and demonstrated the utility of her geographic skills.

Geography graduates have established themselves in businesses of all kinds: banking, international trade, manufacturing, retailing, and many more. Should you join a large firm, you may be pleasantly surprised by the number of other geographers who hold jobs there—not under the title of geographer but under countless other titles ranging from analyst and cartographer to market researcher and program manager. These are positions for which the appointees have competed with other graduates, including business graduates. As we noted earlier, once an employer sees the assets a geographer can bring, the role of geographers in the company is assured.

**Government and Geography**

Government has long been a major employer of geographers at the national and State as well as local level. Careers in Geography (the AAG booklet) estimates that at least 2500 geographers are working for governments, about half of them for the federal government. In the U.S. State Department, for instance, there is an Office of the Geographer staffed by professional geographers. Other agencies where geographers are employed include the Defense Mapping Agency, the Bureau of the Census, the U.S. Geological Survey, the Central Intelligence Agency, and the Army Corps of Engineers. Still other employers are the Library of Congress, the National Science Foundation, and the Smithsonian Institution. Many other branches of government also have positions for which
geographers are eligible. Each agency’s website should be consulted for further information.

Opportunities also exist at State and local levels. Several States now have their own Office of the State Geographer; all States have agencies engaged in planning, resource analysis, environmental protection, and transportation policy-making. All these agencies need geographers who have skills in cartography, remote sensing, spatial database analysis, and the operation of geographic information systems.

Securing a position in government requires early action. If you want a job with the federal government, start at the beginning of your senior year. The best one-step website to consult is www.usajobs.opm.gov/infocenter, which is operated by the Office of Personnel Management (OPM). (OPM’s Washington office is at 1900 E Street, N.W., Washington, D.C. 20415.) You may request information about a particular agency and its job opportunities; it is appropriate to write or e-mail directly to the personnel office of the agency or agencies in which you are interested.

Planning and Geography

Planning has become one of geography’s allied professions. The planning process is a complex one comprising people trained in many fields. Geographers, with their cartographic, locational, regional, and analytical skills, are sought after by planning agencies. Many an undergraduate student gets that first professional opportunity as an intern in a planning office.

Planning is done by many agencies and offices at levels ranging from the federal to the municipal. Cities have planning offices, as do regional authorities. Working in a planning office can be a very rewarding experience because it involves the solving of social and economic problems, the conservation and protection of the environment, the weighing of diverse and often conflicting arguments and viewpoints, and much interaction with workers trained in other fields. Planning is a superb learning experience.

A career in planning can be much enhanced by a background in geography, but you will have to adjust your undergraduate curriculum to include courses in such areas as public administration, public finance, and other related fields. Thus a career in planning itself requires early planning on your part. At many universities, the geography department is closely associated with the planning department, and your faculty advisor can inform you about course requirements. But if you have your eye on a particular office or agency, you should also request information from its director about desired and required skills.

Planning is by no means a monopoly of government. Government-related organizations such as the Agency for International Development (AID), the World Bank, and the International Monetary Fund (IMF) have planning offices, as do nongovernmental organizations (NGOs), banks, airline companies, industrial firms, multinational corporations, and research institutes. Private-sector opportunities for planners have been expanding, and you may wish to explore them. An important organization is the planners’ equivalent of the geographers’ AAG: the American Planning Association, 1776 Massachusetts Avenue, N.W., Washington, D.C. 20006. The AAG’s Careers in Geography provides additional information on this expanding field and where you might pursue its study.

Teaching Geography

If you are presently a freshman or sophomore, your graduation may coincide with the end of a long decline in the geography-teaching profession. Just a few decades ago, teaching geography in elementary or high school was the goal of thousands of undergraduate geography majors. But then began the merging of geography into the hybrid field called “social studies,” and prospective teachers no longer needed to have any training in geography in many States. In Florida, for instance, teachers were formerly required to take courses in regional geography and conservation (as taught in geography departments), but in the 1970s those requirements were dropped. Education planners fell victim to the myth that the teaching of geography does not require any training. What was left of geography often was taught by teachers whose own fields were history, civics, or even basketball coaching!

If you read the daily newspapers, you have seen reports of the predictable results. As mentioned earlier, “geographic illiteracy” has become a common complaint (often made by the same education planners who pushed geography into the social studies program and eliminated teacher-education requirements). Now States are returning to the education requirement so that teachers will learn some geography. And geography is returning to elementary and high school curricula—assisted in particular by the National Geographic Society, which supports State-level Geographic Alliances of educators and academic geographers. The need for geography teachers will soon be on the upswing again.

So this may be a good time to consider teaching geography as a career. You should do some research, however, because States vary in their progressiveness in this arena. You should also visit the School of Education in your college or university and ask questions about instructional opportunities in geography. In addition, contact not only the AAG but also the National Council for Geographic Education (NCGE) at 1710 16th Street, N.W., Washington, DC 20009-3198 (www.ncge.org).
Your State geographic society or Geographic Alliance may also be helpful; ask your department advisor or chairperson for details.

**SOME FINAL THOUGHTS**

The opportunities in geography are many, but often they are not as obvious as those in other fields. You will find that good and timely preparation produces results and, frequently, unexpected rewards.

The discussion in this appendix has provided a comprehensive answer to the oft-asked question, “What can one do with geography?” If you wish to explore this question further, along with the AAG’s *Careers in Geography* we recommend *On Becoming a Professional Geographer*, a book edited by Martin S. Kenzer (Merrill/Macmillan, 1989; reprinted in 2005 by Blackburn Press).

We wish you every success in all your future endeavors. And, speaking for the entire community of professional geographers, we would be delighted to have you join our ranks should you choose a geography-related career.