

Central Washington University
Department of Geography
Program Review Self-Study Document
April 2012

I. Introduction to the Department and its Programs

A. Department mission statement

Our formally adopted department Mission Statement reads as follows:

An understanding of geography is integral to an educated person's ability to live and act effectively in today's changing world. A broad range of factors (human and physical, natural and technological) is at work shaping the future of our planet, and it is the mission of the Department of Geography at Central Washington University to prepare its students to be active participants in that rapidly-developing future. To fulfill its mission, the department emphasizes human diversity and student-centered instruction in research, analysis and presentation of both human and physical data. We offer a range of coursework featuring techniques and tools for understanding the processes and results of the Earth-human relationship, and for empowering students to deal with the rapid changes they will face.

The department is committed to a liberal education along with professional training related to planning, resource management and geographic information systems. In meeting those commitments, we offer the geographer's way of "seeing" the interrelationships of human life and our habitat. Our students learn to see a holistic Earth and its components—physical and human—along with the processes that shape them. We seek to instill in our students the joy of discovery and the satisfaction gained from the knowledge of how to learn. The department encourages imagination and creativity, while providing our graduates with the skills necessary to deal with issues—at scales ranging from local to global—relating to the planet, its diverse regions and its peoples.

We stress the importance of place as a path of research and understanding, and as an arena for positive action—we expect geographers to speak for the land and spirit of places. As an intrinsic characteristic of our discipline, we encourage interdisciplinary teaching, research and public service among our faculty, and a similar orientation in our students—regardless of their ultimate career choices. Our students graduate with real-life experience, gained in contact with other cultures, through field work and internships, and by acquiring skills necessary for coping with our highly dynamic world. Toward these ends, the department maintains a strong commitment to the General Education program as well as the Energy Studies minor, Environmental Studies major, Geographical Information Systems (GIS) certificate program, and the Resource Management graduate program.

We prepare our students for life as active participants in the creation of tomorrow. It is our intention that those who study with us be prepared to evaluate for themselves the consequences of public and private choices which will shape the future of our global society, and the lands and natural resources that sustain us.

B. Brief description of department and its program contexts

Geography as an academic discipline has been a component of Central Washington University from the very birth of the institution as the Washington State Normal School. In 1891, the school's first catalog lists courses in both "general" geography and "special" geography, although the teaching of these courses would not occur until several years later, when faculty member C.H. Knapp offered classes in both geography and history. Reginald B. Shaw, a professionally-trained geographer from the discipline's top-ranked University of Wisconsin, joined the faculty in 1935, and an academic department was formally organized in 1962. Among Professor Shaw's notable half-dozen students who went on to earn the doctorate in geography was James Brooks, who served as president of CWU for seventeen years, and who is now retired as emeritus from our department. Geography maintains a long-standing tradition of excellence in teaching, outstanding public service, and a well regarded record of research, especially in addressing problems of applied geography. [*For a more detailed chronology of our department, see Appendix A*]

The Geography Department at Central Washington University now comprises:

- twelve full-time, tenured or tenure-track faculty,
- one or two full-time, non-tenure track faculty,
- one or two part-time, non-tenure track faculty,
- one full-time Senior Secretary,
- one half-time Computer System/Network Administrator,
- one half-time Instructional and Classroom Support Technician.

All personnel except the Computer System/Network Administrator, housed in Hebel Hall, are located in Dean Hall, a LEED Gold Certified building on the west side of the Ellensburg Campus of Central Washington University.

In terms of curricula, we offer a wide array of both lower and upper division geography (GEOG) courses in what we identify as the five standard categories of human, physical, regional, resource, and techniques. There are currently two options for the Geography major (45 credits when accompanied by a second major or 60 credits for a stand-alone major), the Geography minor, and a Certificate in Geographic Information Systems offered within the department. In addition, the department plays a significant role in the Public Policy major and the Environmental Studies major. During the review period, we contributed to Asian-Pacific Studies, American Indian Studies, Latin American Studies and the Energy Studies minor programs. There are typically 70 to 80 geography majors in any given year, and roughly a dozen students who minor in geography. Several more students (currently 10) major in the

Environmental Geography specialization within the Environmental Studies program and are advised by Geography department faculty.

The department also plays a key role in the interdisciplinary Resource Management (REM) master's degree program, sharing responsibility for that highly successful graduate program with the Anthropology and Museum Studies department, and to a much lesser extent, the Economics Department. There are some 70 graduate students actively enrolled as Resource Management students, with perhaps 20 or 30 more who have completed coursework and are on leave or writing theses. Over the five-year period of review, 111 students have the M.S. program. During AY11-12 the Resource Management graduate program is simultaneously conducting its own program review, and because there has been a conscientious effort to minimize the amount of overlap in self-study content, this may have an effect on how our department is portrayed in the current document. This document addresses only the undergraduate programs managed by our department, and the reader is advised that a good portion of departmental faculty time, energy and resources are devoted to the REM graduate program.

The last program review of our programs took place in January of 2007, with the department's self-study spread across most of the 2006-2007 academic year.

C. The departmental governance system and organizational chart

Departmental governance is managed by a Chair elected by all tenured, tenure-track and Senior Lecturer faculty to serve a four-year term of office. A departmental Personnel Committee is chosen by all tenured and tenure-track faculty members and consists of at least three tenured voting members, according to the terms of the Collective Bargaining Agreement (CBA) between Central Washington University and United Faculty of Central. The make-up of the department personnel committee will vary from year to year, depending on sabbatical and research leaves and number of active tenured professors available. The Geography Personnel Committee has recently included two tenured women professors from other departments within the College of the Sciences (COTS) to provide a measure of gender balance. The chair and the personnel committee make separate recommendations to the Dean of COTS regarding all personnel matters. On all other departmental issues, all full-time faculty members have an equal vote, although consensus is the preferred method of arriving at conclusions.

There are currently twelve full-time tenured or tenure-track faculty in the department, along with several adjunct, non-tenure track faculty teaching either full-time or part-time. There is a single senior secretary who serves more in the role of an administrative assistant, along with a half-time technical assistant and half-time computer system and network manager. The roster of faculty and staff for AY 2011-12 is as follows, listed here in alphabetical order with rank and academic credentials, followed by teaching and research proficiencies:

Regular Faculty

John Bowen	Asst. Professor	Ph.D. University of Kentucky
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Economic geography, Transportation geography, Asia

Anthony Gabriel Professor Ph.D. University of Guelph
Biogeography, Lake and river ecosystems, Coastal and wetlands management

Robert Hickey Professor Ph.D. University of Idaho
GIS, Remote sensing, Environmental Modeling

James Huckabay Professor Ph.D. University of Kansas
Energy resources, Climatology, Europe, Conflict management

Robert Kuhlken Professor Ph.D. Louisiana State University
Cultural ecology, Historical geography, Land-use planning, Oceania

Karl Lillquist Professor Ph.D. University of Utah
Geomorphology, Remote sensing, Climate change, Arid & alpine regions

Jennifer Lipton Asst. Professor Ph.D. University of Texas
Remote sensing, Conservation, Mountain environments, Latin America

Mathew Novak Asst. Professor Ph.D. University of Western Ontario
Urban planning, Historical development, GIS

Michael Pease Asst. Professor Ph.D. Southern Illinois University
Water resources, Watershed planning/analysis, North America

Craig Revels Asst. Professor Ph.D. Louisiana State University
Cultural-historical geography, Landscape, Latin America

Morris Uebelacker Professor Ph.D. University of Oregon
Human geography, Geoarchaeology, Field methods, Yakima River basin

Megan Walsh Asst. Professor Ph.D. University of Oregon
Biogeography, Paleoecology, NW fire history, Climate change

Adjunct faculty

- Clay Arango Visiting Asst. Prof Ph.D. University of Notre Dame
(Environmental geography, Field methods, Aquatic landscapes)
- Holly English Lecturer M.S. University of Denver
(Energy policy, Environmental geography, Conservation)
- Elaine Glenn Senior lecturer M.S. Brigham Young University
(World regional geography, Political geography, Middle East)
- Jon Kedrowski Visiting Asst. Prof Ph.D. Texas State University
(Mountain recreation, Environmental geography, Pacific NW)

Staff

- David Cordner Instructional and Classroom Support Technician
- Marilyn Mason Secretary Senior

- Craig Scrivner Computer Systems/Network Administrator

Emeritus Faculty

- Joel M. Andress Ph.D. University of California, Berkeley
- James E. Brooks Ph.D. University of Washington
- Dee R. Eberhart M.A. Northwestern University
- Kenneth A. Hammond Ph.D. University of Michigan
- Nancy B. Hultquist Ph.D. University of Idaho
- Martin R. Kaatz Ph.D. University of Michigan
- George Macinko Ph.D. University of Michigan
- John Q. Ressler Ph.D. University of Oregon

D. Department/Program(s)

1. Department/program goals

Based on the formal Mission Statement (see Table 1, page 21), our four program goals are as follows:

- Goal 1** Maintain a teaching-learning facility and major program of study that promotes the uniquely integrative, synthesizing view of geography as a discipline.

- Goal 2** Foster an intellectually and socially diverse community of faculty, staff, and students who care deeply about the earth as human habitat, and who enthusiastically share ideas, information, and responsibility for learning about the interactions of people and environment.

- Goal 3** Improve the ability of our students to observe the world around them in terms of its physical and cultural landscapes, and to understand the powerful concept of place that is operative at many scales, from the local to the global.

- Goal 4** Encourage faculty research and public service, and support student involvement in faculty research and civic engagement.

2. The relationship of our department goals to relevant college and University strategic goals—how we are meeting them within the department

CWU Goal I: Provide for an outstanding academic and student life on the Ellensburg campus.

Geography traditionally has been one of the more active departments on this campus. Our involvement with academic and student life is evident in many respects, and on many levels. As the department's curriculum has evolved over time, we have taken a strong role, along with Mathematics and English, in continuing to offer the needed number of sections of the staple courses that make up the university's General Education Program. But beyond simply serving as General Education, our introductory (100-level and 200-level) courses continue to fill our classrooms with students from across campus, no matter their major.

We take pride in being able to offer a broad array of geography courses that seem to interest a broad spectrum of students. We have responded to the needs of students in other majors—including Public Policy, Science Education, Recreation and Tourism, Environmental Studies, Aerospace Studies and others—by offering needed electives within those majors or by regularly offering courses that help students reach their career goals. Of particular interest is our GIS Certificate program—open to students from any major on campus, and regularly attracting geological science, biology and anthropology students (among others).

Faculty and students of the Department of Geography contribute much to the academic life well beyond instruction. We have served, and continue to serve, as mentors in the following programs: Douglas Honors College, Science Honors, Farrell Merit scholars, WATERS Program, and for student participants in the Symposium on Undergraduate Research and Creative Expression (SOURCE). We occasionally offer opportunities for the campus at large to hear visiting scholars lecture through our periodic Geography Department Thursday Field Notes speaker series. Additionally, the Resource Management program regularly schedules brown bag lunchtime speakers in a colloquium in which Geography faculty regularly participate.

For our majors, we support an active Geography Club and opportunities for the club members to participate in professional meetings. The majority of our faculty actively support student scholarship and its presentation in various forms at Central's SOURCE. At the end of each academic year, the staff and faculty of the department host an awards ceremony, featuring a pancake breakfast.

CWU Goal II: Provide for an outstanding academic and student life at the university centers.

Although Geography faculty have been, at times, highly active in outreach to the university centers in the Puget Sound region, the retirement of John Alwin and budget constraints have limited our activities to the Ellensburg Campus. We do regularly consult with faculty at university centers relative to courses and

fieldwork, and support qualified instructors to periodically offer geography courses. We are ready and eager to expand our geography course offerings at the centers should the university provide funding for faculty.

CWU Goal III: Develop a diversified funding base to support our academic and student programs.

Over a number of years, the Department of Geography has sought, developed and received a number of funding opportunities which have allowed us to establish several permanently funded grants and awards for our geography students. These include the following awards.

The Brooks-Shaw Award, the oldest of our awards, was established in 1996. It was named after two early and influential faculty members in the CWU Geography Department. Dr. Shaw was known for his research on the Columbia River and served from 1935 to 1952. Dr. Brooks, a student of Shaw's, was a member of the Department of Geography and Land Studies from 1961 to 1994 and served as the university's president for the first 17 of those years. These annual awards are given to select undergraduates majoring in geography who demonstrate academic excellence and promise. The monetary award is typically \$1,000 and may be used by the student toward support of travel, field trips, membership in professional societies, purchase of books, and payment of tuition and fees. More than 100 students have received these awards and the department is deeply committed to boosting Brooks-Shaw funding.

The Hordan Planning Services Scholarship was established in the 1990s. This \$750 award was established by Mr. and Mrs. Bill Hordan of Yakima, to encourage undergraduate students from Yakima or Kittitas Counties to pursue specialized study and research in land use and environmental planning in the region. Awardees were nominated by faculty based on academic record and expressed interest in the planning field. (This scholarship is no longer funded and was last awarded in 2008.)

The Macinko Geography Scholarship was established in 2004. This \$500 award is presented annually to a junior majoring in geography based on academic performance and promise of a lifelong interest in geography. It was established by Mary Ann Macinko, in honor of her husband, Dr. George Macinko, professor emeritus, who taught in our department for more than 30 years. The Macinkos have long been active members of the campus community.

The Braden-Dodd Memorial Fellowship in Resource Management. Established in 1997 by Marcella Braden-Dodd, the Braden-Dodd Memorial Fellowship in Resource Management upholds the names of her husband, Lt. Col. Glen A. Dodd; and her brothers, Staff Sgt. Tillman J. Braden, and 1st Lt. Lewis H. Braden, all of whom served honorably in the U.S. Army Air Corps. Lt. Lewis H. Braden, who attended CWU for two years, was killed in action during World War II. The Braden-Dodd Fellowship supports graduate students in resource

management from eastern Washington, which seems appropriate coming from someone who is well-traveled and maintains a pioneer spirit. The fellowship supports a discipline that teaches responsibility toward earth's resources.

The Fairbanks Award was established in 2005 by Marc Fairbanks, then an undergraduate student. This award recognizes the student who has done the best cartographic work and contributed positively by helping other students with GIS/cartography work. It is funded through the sale of *The Taneum and Manastash Trail Systems: Mountain Biking in Kittitas County, Washington*, authored by Marc.

The Hultquist Distinguished Service Award is named for Dr. Nancy Hultquist, who retired from the department in 2010 after more than twenty years of serving students with unstinting care. This award was established by Nancy and John Hultquist—and current and past members of the department—to honor students at either graduate or undergraduate levels who have demonstrated an interest and ability to go out of their way to serve others in the department, the university or the broader Ellensburg community.

All faculty are eligible for travel grants through individual colleges and the graduate school, and these are regularly given in support of scholarship. In addition to specific funding sources developed for the graduate Resource Management Program (see the separately developed REM Program Review document), the Geography department has developed funding through numerous external grants and other contracts by its faculty. These funds have resulted in significant indirect funding of the department.

Additionally, most of our faculty seeks grants to support personal and student research. These range from a few thousand to several hundred thousand dollars, and add up to well over one million dollars over the review period. A partial list of the largest grants awarded to geography faculty serving as Principal Investigator during the review period (academic years 2006-07 to 2010-11) follows, with complete details in individual vitae found in Appendix C. Most grants involved fellow geographers and other colleagues and also provided student support.

John Bowen

- Center for Spatial Information USDA Rural Geographic Information Systems (\$6,406)

Greg Brown

- 2009-10, USDA Participatory Geographic Information System for Fremont-Winema National Forest (\$50,000)

Anthony Gabriel

- 2010, Yakama Nation Riparian Restoration Sites (Phase 3), (\$60,000)
- 2009, GIS project for USDA with National Consortium for Rural Spatial Innovations in America (CWU portion \$129,000)
- 2007, Washington Department of Transportation Research Contract

(\$206,800)

Robert Hickey

- 2011, Science Honors application with Joe Keeney: Holocene House Hunting: Using Season-Sensitive Multi-Spectral Imagery for Locating Prehistoric Human Dwellings (\$5000).

Jim Huckabay

- 2006-11, Big Game Management Roundtable student and community volunteer support (three grants totaling \$64,000).

Jennifer Lipton

- 2009, NSF BCS Social and Behavioral Sciences study of Cultural Anthropology in Bali, with Anthropology colleague (\$52,000)

Michael Pease

- Center for Spatial Information Geospatial Database for Mapping Water Rights in Yakima Basin (\$16,500)

Morris Uebelacker

- 2006-09, U.S. Bureau of Reclamation Native American Graduate Fellowship (annual grants totaling \$630,000)

Megan Walsh

- 2011, Association of American Geographers and CWU research grants (\$3,990)

CWU Goal IV: Build mutually beneficial partnerships with industry, professional groups, institutions, and the communities surrounding our campus locations.

The Geography department has a long history of developing partnerships with regional entities. These partnerships fall into four general categories: (1) applied collaborative research; (2) student internships; (3) service to the community; and (4) service to professional organizations.

(1) Applied Collaborative Research. Over the period of review, Professors Brown, Gabriel, Hickey, Huckabay, Lillquist and Uebelacker were actively involved with research supporting state and federal agencies and community groups. These activities involved such groups as Ellensburg Planning Commission, the Upper Snoqualmie Valley Elk Management Group, the U.S. Forest Service, the Yakama Nation, the Washington Department of Fish and Wildlife, the Idaho Archeological Society, Kinross Gold Corporation and many others.

(2) Student Internships. The department has sponsored a significant number of student internships over the past five years. For a comprehensive listing of student names, work assignments, and faculty supervisors, see Figure 2, page 41.

(3) Service to the Community. Some examples include:

- Board Member for local community organizations, such as the Soap Lake Conservancy Science Advisory Board, Advisory Board for Kittitas

Conservation District GIS Program, Kittitas County Field & Stream Club and the Ellensburg Planning Commission

- Presenters to K12 schools, such as science programs in Ellensburg, Historical Geography of Resource Use Patterns, Yakima River Basin presentation for the Kittitas Historical Society, Ecological Alterations of Selected Mid-Latitude Rivers: The Tiber, Po, Rhine, Missouri, Columbia and Yakima River Basin presentations for the Kittitas County Audubon Society
- Mapping assistance for the Audubon Society and Washington Parks and Recreation
- Ongoing consulting with governmental agencies, environmental firms and mining/exploration companies

(4) Service to Professional Organizations. Some examples include:

- Board Member, professional organizations such as Washington Lake Protection Association, Association of Washington Geographers, Northwest Scientific Association, Trustee for the Cascade Land Conservancy, Task Group member for the Coordinated Resource Management Program, Steering Committee Member, Abstract Reviewer, Session Moderator for Water and Land Use in the Pacific Northwest Conference
- Ad-hoc manuscript reviewers for several journals, including Africa GeoScience Review, Annals of the AAG, Cartography, The Arab World Geographer, Geography Online, International Journal of Geographical Information, Geographical Review, Journal of Arid Environments, Journal of Cultural Geography, Journal of Spatial Science, Society & Natural Resources, Soil & Water Conservation, Transactions in GIS, Geography Compass and Professional Geographer
- Panelist and Grant reviewer for the National Science Foundation and the Fulbright-Hays Program (Australia Committee)
- Editor and/or member of editorial board for Geography Online and Transport Geography

CWU Goal V: Strengthen the university's position as a leader in the field of education.

We continue to be disappointed that the state of Washington chose to remove geography from its list of endorsements for education majors seeking teaching certification as this can only exacerbate the level of geographic illiteracy among K-12 students and ultimately, the general citizenry. Still, we continue to welcome education majors, particularly those seeking the social studies endorsement, to our regional and human geography offerings.

CWU Goal VI: Create and sustain productive, civil, and pleasant campuses and workplaces.

Geography faculty members have a long and impressive record of service to the

university that builds and maintains a productive, civil, and pleasant university climate. These contributions can be organized into three distinctive areas: (1) facilitating and recognizing student research, (2) academic affairs and campus governance, (3) other university committees.

(1) Facilitating and recognizing student research. Geography faculty have been, and continue to be, involved in a number of activities that support this goal, including:

- Conference Organizers, Faculty Mentors, Session Chairs, and Judges, CWU Symposium on University Research and Creative Expression (SOURCE)
- Selection Committee, CWU Farrell Scholarship
- Member, CWU Faculty Development and Research Committee
- Member, COTS Undergraduate Research Grant Committee
- Member, COTS Summer Research Grant Committee
- Member, COTS Science Honors Undergraduate Research Grant Committee

(2) Academic affairs and campus governance. During the period of review, our faculty continue to be involved in numerous activities supporting this goal, including:

- Members, CWU Faculty Senate
- Member and Co-Chair, Council of Faculty Representatives, Washington State Legislature
- Member, CWU Graduate Council
- Officers, Members, Stewards, Organizational Committee Members, United Faculty of Central
- Members, CWU General Education Committee
- Members, CWU Library Committee
- Member, CWU Task Force on Interdisciplinary Programs
- Member, CWU American Indian Studies Program Organizing Committee
- Member, CWU Latin American Studies Program Organizing Committee
- Member, CWU Environmental Studies Program Committee
- Member, College of the Sciences Personnel Committee
- Member, COTS Performance Adjustment Review Committee
- Member, Search Committee for Director of the Center for the Environment
- Member, CWU Equipment Grants Committee
- Member, CWU Sabbatical Leave Review Committee

(3) Other university committees. These committees include:

- Members, Dean Hall Planning Committee
- Member and Chair, Information Technology Services
- Member, University Budget Committee
- Member and Chair, Academic Department Chairs Organization

- Member, Media Equipment and Technology Committee

3. Data used to measure (assess) goal attainment

Achieving Goal 1 (*Maintain/promote geography as a discipline...*) has been partially accomplished. A perennial process of self-examination conducted by individual faculty members and the department as a whole, keeps us always in a conversation about our program of study and how it promotes the unique character of geography. In each year's department retreat, we take a close look at our curriculum and decide what changes need to be made.

Departmental aspirations for access to larger, more modern, classrooms, offices, and space for research laboratories has become reality with the remodeling of Dean Hall. At this time, we are enjoying outstanding facilities.

Goal 2 (*Foster a diverse community learning about people/environment...*) is largely second nature for a geographer—part and parcel of our identity as scholars, and all department faculty members are expected to promote the unique perspective of the discipline in their teaching and service activities. While we generate no formal data that tells us we continue to achieve this goal in terms of individual research activities, the tenor and tone of our research trajectories are often discussed at great length among ourselves. A more formal peer review process takes place for instruction of students, during which we examine each other's classroom activities as well as instructional materials such as syllabi, lab exercises, and fieldtrip itineraries. The main data used to assess whether our goals are achieved from the student perspective is whether or not the students earn an undergraduate degree in geography or the graduate degree in resource management.

Virtually all our cataloged courses incorporate learning objectives that address some aspect of departmental Goal 3 (*Improve ability of students to observe the world—local to global...*). When a student earns a passing grade for that course, we assume those learning objectives have been met at an acceptable level of achievement. For overall assessment of student understanding and achievement of programmatic goals, our required senior-level class, GEOG 489 Geography Capstone, assesses whether we are achieving those goals with our students.

[See Appendix B for a sample representation of course syllabi].

In the context of research objectives embodied in Goal 4 (*Encourage faculty research/service with student involvement...*), we continually encourage each other, discuss and refine concepts that foster geography's viewpoints, and critique each other's ideas and research proposals on both a formal and informal basis. We are encouraged to make use of faculty development funds to attend regional and national meetings for our discipline's organizations: the Association of American Geographers (AAG); the Canadian Association of Geographers (CAG); and the Association of Pacific Coast Geographers

(APCG). There exists a mutually supportive culture within this department that entails testing our notions about both teaching and research, and consequently there is likewise a strong undercurrent of peer pressure among all of us to incorporate students in our research activities. As a result of meeting the expectations of a high demand program, an increasing number of graduate research assistants from the Resource Management program have become available for collaborative research efforts with department faculty. Students at both the graduate and undergraduate level are strongly encouraged to present papers or posters in the university SOURCE symposium, and our students have been well represented over the past several years at that annual event. It is also common for faculty members from this department to take a car load of students to out-of-town conferences where students can present the findings of their own research efforts, or simply learn from the experience of attending professional meetings designed for the dissemination of research.

Furthermore, we actively and tangibly encourage student scholastic performance with a number of endowed scholarships and awards. These include The Macinko Geography Scholarship (2004-present); The Brooks-Shaw Award for Undergraduate Achievement in Geography (1996-present); The Hultquist Distinguished Service Award (2010-present); The Hordan Planning Services Scholarship (1990s-2008); The Braden-Dodd Memorial Fellowship in Resource Management (1997-present); The Fairbanks Award (2005-present); and The Native American Graduate Fellowship in Resource Management (1990s-2010). Another aspect of the departmental culture of helping students to achieve their goals may be seen in the internship opportunities that we encourage students to pursue, and Nancy Hultquist, until her retirement, devoted a substantial portion of each summer to visiting with students on internships across the state and region, and ensuring that the formal cooperative learning agreements were being upheld. Additional information about internships is found in Figure 2 (Section II-E-3-f, page 41).

4. The criterion of achievement (standard of mastery) for each goal

As shown in Table 1, page 21, the department has established standards of mastery for (a) our faculty and for (b) our students.

For Goal 1, we expect to see an (a) increase in departmental scholarly research and grants, and other public presentations. For (b) we expect to see a measurable increase in numbers of students presenting in SOURCE and other venues.

Our standards of mastery for Goal 2 involve (a) an increased diversity in faculty gender and area of specialization and (b) an increase in the number of students participating in internships and environmental stewardship activities.

For Goal 3, we and the College of the Sciences encourage for faculty (a) peer evaluation of instruction and above-university average Student Evaluation of Instructor (SEOI) scores. For students, we expect that a majority of them will be

able to accurately discuss specific examples of these fundamental concepts with faculty and fellow students.

Our mastery standards for Goal 4 involve, for faculty (a), a majority engaging in expertise-relevant community service activities, and for students (b), an increased number of them engaging in scholarship-based civic engagement activities.

5. The major activities that enabled goal attainment

To meet Goal 1 (*Maintain/promote geography as a discipline...*), the department has formulated a multi-faceted program for the geography major incorporating a number of alternatives. Students may select, with guidance from a faculty advisor, a coherent sequence of coursework tailored to their individual career goals and learning objectives. The geography major is based on a foundation of required introductory “core” courses in the five main subfields of geography (human, physical, regional, resource and techniques) identified by the department. Each student major is then required to take an upper-division course in each of those same five subfields. After that, in line with promoting the “synthesizing view of geography” set forth in Goal 1, students are given wide latitude in determining a set of courses that match their interests, and are occasionally encouraged to take upper-division classes from other departments to be incorporated into their geography major. Each major, with his or her advisor, develops a contract identifying the courses which, when completed, will constitute an acceptable geography major.

At this time, our facilities are very supportive of our teaching-learning goals. In January of 2009, the department moved into the LEED Gold-Certified Dean Hall, which also houses the Department of Anthropology and Museum Studies, our shared Resource Management (REM) graduate program and the suite of offices for the Dean of the College of the Sciences.

Goal 2 (*Foster a diverse community learning about people/environment...*) is an open-ended ambition that, in the context of intellectual diversity, has become manifest in the variety of distinct specialties among the faculty, and from the unusually wide range of courses that the department offers. The department’s culture has traditionally been based on collegiality and mutual respect, and the sharing of ideas, information, and responsibility are all ongoing activities. Although predominantly a male faculty in the past, over the period of review, the department has significantly diversified faculty gender composition. Despite the loss of one woman assistant professor to a career decision and one senior female faculty member to retirement, there are now two female full-time tenure-track faculty and one full-time female senior instructor.

We continually strive to serve our students, who command a range of intellectual abilities and come from diverse social backgrounds. Further, we endeavor to show respect for all viewpoints while attempting to educate and

enlighten students in the historical as well as the more contemporary political dimensions of human-environment interaction.

Goal 3 (*Improve ability of students to observe the world—local to global...*) derives not only from the department's active mentoring of student learning activities focused on basic geographic skills and concepts, but also from the department's more applied focus within geography, in which we expect our students to understand natural resources as well as the political-ecological framework that defines their appraisal, use, and accessibility by various user groups. Ultimately, we want our students to have the capability to analyze data, to reach conclusions, to make rational, informed decisions, and to effectively communicate concerns about natural resources and environmental issues. Toward those ends, most of our courses employ a writing component, and many courses require a formal presentation by each student in front of the class. Maps, as the signature means of communication in the discipline of geography, are prominently featured in most of our courses, while our techniques courses develop student experience in map-making and map interpretation, along with more demanding technical expertise in such skills as the interpretation of aerial photography and other remotely sensed imagery; geographic information systems; fieldwork ; and quantitative methods.

An additional highlight of the department's efforts toward meeting the intentions embodied in both Goals 2 and 3 may be seen in the diversity of regional specialties represented by our current faculty. In most geography departments around the country, even among larger ones at more established universities, it is rather unusual to find faculty expertise in more than two or three regions of the world. Geography at CWU is rather unique in its breadth of regional coverage that our faculty are qualified to provide in course offerings. Among the current roster of department faculty, we hold the credentials of field-based expertise in the following regions: North America; Latin America (including both Middle America and South America); Europe; Middle East; Asia; and Oceania.

Goal 4 (*Encourage faculty research/service with student involvement ...*) is supported in any number of ways. First of all, there are explicit expectations set forth by the union's Collective Bargaining Agreement (CBA), by the College of the Sciences (COTS) Policy Manual, and by the department's own formal standards, that each faculty member will maintain active involvement in conducting and presenting research at local, regional, and national conferences, as well as disseminating the findings of such research through various publications . Research collaboration between faculty and student is one of the hallmarks of the Geography department. With more than 70 graduate students in the Resource Management program, many of the geography faculty are, as a matter of course, involved with their students in presenting research at conferences or submitting manuscripts to journals and writing up reports for public agencies under contract. The department is one

of the preeminent participants in the annual campus Symposium on University Research and Creative Expression (SOURCE) . Involvement with public service opportunities is a long tradition for geographers at Central, and we encourage our students to do the same.

E. Results of assessing each department/program goal

1. Results provided in specific quantitative or qualitative terms for each department program

Goal 1: *Maintain/promote geography as a discipline.* Over the period of review, the total percentage of our faculty actively achieving annual acceptable measures of scholarship ranged from 21% in the “other” category to 69% making conference presentations. More than half (58%) of our faculty produced at least one peer reviewed article each year, on average. Through the five years, almost half (47%) had students presenting geography-related papers in the annual SOURCE competition . (See Table 5, below)

Goal 2: *Foster a diverse community learning about people/environment.* After losing a junior female faculty member to an eastern university early in the review period, we were left with one tenured woman on faculty. Recruiting efforts brought two more tenure-track women into geography. With the senior professor’s retirement, our female-male gender balance is again at two women and ten men. We expect to be replacing two more retiring faculty within the next year and will actively be recruiting to strengthen our pool of female faculty. Our areas of specialization have deepened and broadened over this time. We maintain a very strong program of internships—many of which are related to environmental stewardship. (See Section II-E-3-f, page 40)

Goal 3: *Improve ability of students to observe the world—local to global.* As shown in the table in Section II-E-1, page 38, departmental Student Evaluation of Instruction (SEOI) scores are generally near or above college and university means. Based on reappointment and promotion dossiers, faculty members have, in response to requests from the chair and dean, increased their use and analysis of peer evaluation of instruction.

Goal 4: *Encourage faculty research/service with student involvement.* On average, over the review period, more than half of our faculty have been actively involved in service to the discipline, university and community, a record in which we take pride. As shown in Section II-E-3-f, page 40, we continue to have a large number of our students involved in applying scholarship in civic engagement.

2. Results compared to standards of mastery listed above

Goal 1: Over the five years, the department has significantly increased its output in terms of both scholarship and grants. The number of students involved in presenting their research at SOURCE and other professional venues has significantly increased.

Goal 2: Over the past four academic years, the department has returned to a more acceptable gender balance among its tenured faculty. With that has come a greater diversity of research interests and specializations.

Goal 3: While departmental SEOI scores remain at generally near, or slightly above college and university means, they have shown improvement over the previous five years of review. Additionally, our tenure-track and tenured faculty have apparently increased their use and analysis of peer evaluation of instruction. We have only begun to measure student ability to demonstrate mastery over the body of geographic information we expect them to have, and it is too early to see how they compare to our criteria of achievement.

Goal 4: Clearly a majority of our faculty are engaged in expertise-relevant community service (see Table 5). We are of the opinion that an increased number of our students are involved in civic engagement activities (we regularly encourage them), but such activities were not well tracked in the past. Future reviews will provide more accurate information.

3. A concise interpretation of results

Goal 1: The university, college and department-level focus on increased scholarship among current and new faculty is clearly resulting in increases in both faculty and student scholarship.

Goal 2: Despite slumps in gender balance among faculty early in the current review period, the determination of the department to support its apparent increase in female students with female tenure-track staff has met with some success. Faculty interests have also broadened with recent hires. The question of whether or not we have increased the number of our students participating in internships and environmental stewardship remains unsettled; our numbers are strong, but previous numbers are not available for comparison.

Goal 3: Average departmental SEOI scores appear to be slightly higher during this review period than last, but there is no significant difference. Clearly faculty are responding at a higher level to requests that they arrange for peer reviews of instruction. Our recent and current assessment of student learning have not yet indicated clearly whether or not a majority of students are able to accurately discuss geographic principles and concepts.

Goal 4: Clearly, a majority of our faculty are engaging in appropriate community service activities. While it appears that strong numbers of our majors are active in scholarship-based civic engagement, data from the past are unreliable.

F. Based on the above results:

1. Specific changes to our department as they affect program(s) (e.g., curriculum, teaching methods).

Over the years since our last review, the Department has spent many hours of retreat and regular meeting time, revisiting its rotation of classes and their place in our major. At least a dozen courses have been eliminated or moved to reserve and others placed on two- to three-year rotations. We have also, in response to enriching the depth and breadth of specializations with addition of new faculty, added courses to our curriculum. These decisions have not been made lightly and we continue to regularly revisit questions of program and faculty specialties. Along with these course/curriculum changes, we have adjusted scheduling of courses to enhance the teaching and research of some faculty, tightened prerequisites and reaffirmed learning outcomes for our core classes. Much of this discussion and subsequent change came from efforts to improve our balance between generating credit hours with our General Education classes and improving our offering of advanced geographic concepts to our majors—much of this made easier with access to modern larger-capacity classrooms.

Since the last Program Review in 2007, the Department of Geography has lost three junior tenure-track faculty to career changes and two senior faculty to retirement. In addition, two more retirements are anticipated during the 2011-2012 academic year. In several extended retreats and in conjunction with each search, departmental faculty devoted hours to the future direction of the department, the role of the new geographers and the adjustments the department might make with each subsequent search—including those to manage the expected retirements. Those directions and discussions have been carried forward with each search. In the current economic environment, department faculty are regularly meeting to reassess directions with current and anticipated faculty skills and interests, and the role of those in student learning and major development.

One suggestion from the last program review—that the department seek an outside chair as one of its hires—has been actively under consideration. One of the 2012 retirements will be replaced by an outside chair.

Given the department's poor record of assessment and a desire to perform assessment to support meaningful and reflective growth, a recommitment to such activity was made following the 2007 Program Review. At this time, geography is current with assessment reports; two junior geographers have stepped up to assist the outgoing chair and we are building a body of meaningful data.

The department and its current department chair have greatly increased efforts and experienced increasing success with helping administrators and other departments and colleges to understand the mission and role of geography on Central's campus. Recent hires and discussions have effectively reshaped the department in response to changes in our discipline and university culture. We continue to honor the long history of engagement the Department of Geography has with community and local/state/federal agency work. Since the previous Program Review, tenured and non-tenured departmental faculty continue to engage, within workload constraints,

in several highly visible projects which bring social capital to Geography at CWU. Our increased efforts to engage majors in a club for extracurricular learning opportunities and continuing support of internships and service learning at every opportunity have helped us get geography into the public's consciousness.

In concert with our new Provost and departmental chairs across CWU, we have established a mentoring program for new faculty. In a series of several formal and informal group discussions, we are finding ways to help new faculty meet teaching needs while accomplishing appropriate levels of scholarship. We actively support building supportive and mutually beneficial relationships in teaching, scholarship and service between our senior and junior faculty.

2. Specific changes related to the assessment process

Table 1 provides our departmental/programmatic assessment plans for the future. Given our recent, growing and thus far successful focus on assessment, it is too early to make changes. Thus, we will stay the course for the next five years.

3. Documentation of continuing need for our program(s), with reference to the statewide & regional needs assessment

Upon review of the Statewide and Regional Needs Analysis Report prepared by the Washington Higher Education Coordinating Board, it is obvious that the work of the Department of Geography is integral to preparation of the citizens who will meet future employment demand.

Among the key points in the needs assessment are a growing capacity need for higher education in our part of the state, and the rising need for increased Hispanic and Native American enrollment. Our focus on General Education support is important to meeting higher education capacity needs. Two of our faculty have expertise in Latin America (Central and South America) and have been periodically involved in campus efforts to attract Hispanic students, and the department has a long and continuing record of outreach to Native American tribes and nations.

State Economic Development Priorities for Central Washington include Resource and Energy Development, building on the existing Resource Energy Collaborative and the wind and solar energy production (and experimentation) underway at both city and county level. The department has long been involved in developing and supporting an energy studies program, with a number of local internships and cooperative education programs for students involved in energy studies. The department has received administrative approval to hire an energy resource geographer, expected to be on campus by fall, 2012. Additionally, given the growing importance of economic development and trade, our coursework in economic geography, transportation and international trade are integral to properly training future business leaders.

Among the top 50 growth occupations identified in the needs assessment are several occupations to which geography graduates are commonly attracted. Among those

listed are farm, ranch and agriculture managers, network systems and data communication analysts, environmental scientists and specialists (including urban and regional planners), and fishing, forestry and conservation technicians. Our courses in cultural, physical and resource management, along with training in such skills as geographic information systems (GIS), aerial photography and satellite image analysis, soils and climatology clearly support—and will continue to support—the education of future employees in needed fields.

Table 1
CWU Department/Program Assessment Plan Preparation Form
 Program: B.A. in Geography (60-credit and 45-credit major)

Department/Program Goals	Related College Goals	Related University Goals	Method(s) of Assessment (What is the assessment?)	Who/What Assessed (population, item)	When Assessed (term, dates)	Criterion of Achievement (Expectation of how good things should be?)
1. Maintain a teaching-learning facility and major program of study that promotes the uniquely integrative, synthesizing view of geography as a discipline.	I - Provide for outstanding academic... experience in the College of the Sciences.	I. Maintain and strengthen outstanding academic and student life at the Ellensburg campus.	Evidence of scholarly inquiry into the field (conference paper proposals, journal and book manuscript submissions, etc.) Student submissions to SOURCE and other conferences	Department faculty Undergraduate student majors	Performance reviews Spring quarter annually	Increase in departmental scholarly research and grants, and other public presentations Increase in numbers of students presenting in SOURCE and other venues
2. Foster an intellectually and socially diverse community of faculty, staff, and students who care deeply about the earth as human habitat, and who enthusiastically share ideas, information, and responsibility for learning about the interactions of people and environment.	I - Provide for outstanding academic... experience... V - Build partnerships that support academic program...	I. Maintain and strengthen outstanding academic and student life... IV - Build mutually benefit'l partnerships... communities surrounding campuses...	Evidence of increased diversity in faculty gender and area of specialization, as well as membership on committees and boards dealing with environment and humans Student internships and participation in community environmental stewardship activities	Department faculty and department hiring practices Undergraduate student majors	Performance reviews and in faculty replacement searches Spring quarter annually	Increased diversity in faculty gender and area of specialization Increase in number of students participating in internships and environmental stewardship activities
3. Improve the ability of our students to observe the world around them in terms of its physical and cultural landscapes, and to illustrate the powerful concept of place that is operative at many scales, from the local to the global.	IV – Build partnerships that support acad. program... VI - Strengthen the college's contributions to...education.	IV - Build mutually beneficial partnerships... VI. Build... diverse campus communities...	Evidence of student ability to describe accurately—in writing and orally—the relationships among cultural and physical characteristics of a given landscape and the various scales of significance (human and otherwise) of a given place on the planet	Instructors Students/majors in upper division classes	Performance reviews Upper division courses every term	Peer evaluation of instruction and above-university average SEOI scores A majority of students will be able to accurately discuss specific examples of these concepts with faculty and students in class
4. Encourage faculty research and public service, and support student involvement in faculty research and civic engagement.	I - Provide for outstanding academic... experience...	I. Maintain and strengthen outstanding academic and student life...	Evidence of scholarship actively used in support of public service Evidence of faculty/student scholarship at work in civic engagement activities	Department faculty Students/majors with upper division standing	Performance reviews In some courses each term	Majority of faculty engaging in expertise-relevant community service activities Increased number of students engaging in scholarship-based civic engagement activities

II. Description of degree programs and curricula

A. Degree programs (undergraduate and graduate) offered in geography by location, regardless of state or self support—including minor and undergraduate certificate programs. (See Table 2)

Undergraduate Programs

The Geography major is currently a Bachelor of Arts degree with either a 45-credit (only allowed with a second major) or a 60-credit option. We currently have approximately 70 student majors in these programs. Additionally, the department plays a significant role in the Public Policy major as well as in the Environmental Studies, Energy Studies, Asian-Pacific Studies and American Indian Studies Programs.

Geography Minor

The Geography minor is offered as a 30-credit option for students majoring in other disciplines. Commonly the minor is added to majors in Public Policy, Recreation and Tourism, Aerospace Studies and Anthropology.

Graduate Programs

The Department of Geography does not offer a graduate degree. We are, however, one of the primary departments participating in the interdisciplinary Resource Management M.S. degree program. The program has admitted 18 to 28 students annually, with anywhere from 10 to 23 students completing the program each year. Currently, there are approximately 70 active graduate students in this program, which is simultaneously undergoing a separate and distinct Resource Management Program Review. Most of the geography department faculty are heavily involved in the Resource Management graduate program, either through the teaching of core REM classes or by serving as graduate student advisors (i.e., thesis committee chairs) or thesis committee members. These contributions consume a considerable amount of faculty time, for which each faculty member is only minimally enabled to address and account for within the current method of calculating faculty workloads. [*See Resource Management Program Review and Self-Study*]

Certificate Programs

The department offers a Certificate in Geographic Information Systems (GIS). This program requires the following sequence of technical coursework, and is available to all majors. The GIS Certificate program formally recognizes students who complete a significant number of geographic technique classes (primarily GIS) at CWU. All classes are drawn from existing coursework. Students are required to have a 2.7 average (B-) in the GIS certificate classes with a minimum grade of C-.

Core: 24 Credits

GEOG 203: Introduction to Maps and Cartography (4 credits)
GEOG 303 - Introductory GIS (5 credits)
GEOG 404 - Intermediate GIS (5 credits)
GEOG 410 - Airphoto Interpretation (5 credits)
GEOG 430 - Remote Sensing (5 credits)

Electives: a minimum of 8 credits taken from the following classes. All electives must be approved by the certificate director.

GEOG 409 - Quantitative Methods (4 credits)
GEOG 413 - Computer Cartography (4 credits)
GEOG 417 - Advanced GIS (4 credits)
GEOG 485 - Topics in GIS/Remote Sensing (4 credits)
GEOG 496 - Independent study (GIS topics) (up to 4 credits)
GEOG 490 - Cooperative Education (GIS topics) (up to 4 credits)
GEOG 493 - Geography Field Experience (GIS topics) (up to 4 credits)
BIOL 213 - Quantitative Methods in Biology
CS 110 - Programming Fundamentals I (4 credits)
CS 301 - Data Structures. (4 credits)
CMGT 267 - Plane Surveying (4 credits)
GEOL 432 - Geostatistics

Other GIS- related classes approved by the Director on a case-by-case evaluation

Total: 32 quarter credits of GIS/techniques classes

**Table 2
Programs Offered in Department**

Degree Program	Delivery Location(s)	Instructional Staff		# Students in Major					# Degrees Awarded				
		Faculty FTE	Grad Assist.FTE	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Geography Lg Plan	Ellensburg			52	53	50	55	65	24	30	31	23	23
	Des Moines			-	2	-	-	-					
Geography Sm Plan	Ellensburg			29	29	32	13	4	7	16	12	9	4
Environmental Science	Ellensburg			-	-	8	28	44					
	Lynnwood			-	-	-	1	-					
Minor Programs	Delivery Location(s)	Instructional Staff		# Students in Minor					#Minors Completed				
		Faculty FTE	Grad Assist FTE	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Geography	Ellensburg			20	22	15	16	20	12	20	13	12	11
	Lynnwood			-	1	-	-	-					
	Yakima			-	-	-	1	-					
Certificate Programs	Delivery Location(s)	Instructional Staff		# Students in Program					# Cert. Completed				
		Faculty FTE	Grad Assist FTE	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
GIS									10	9	11	14	12

B. Courses, location, and faculty and student numbers for the department's General Education contributions (See Table 3)

C. Measures of efficiency for Geography department for the five years

1. SFR (FTES/FTEF) disaggregate data

Full Time Equivalent Students-All Locations

	2007	2008	2009	2010	2011
Lower Division	217.6	192.1	209.6	199.0	205.3
Upper Division	75.3	74.1	66.2	65.0	67.0
Graduate Level	0.8	1.5	1.2	1.1	1.2
Total	293.7	267.7	277.1	265.1	273.5

State-funded Faculty Full-Time Equivalent Faculty

2007	2008	2009	2010	2011
9.57	9.57	11.20	10.09	10.19

2. Average class size for upper and lower division and graduate courses

State-funded Faculty and Student FTE by Department, 2007 through 2011

		2007	2008	2009	2010	2011
GEOG	Full-time Equivalent Faculty (FTEF)	9.57	9.57	11.20	10.09	10.19
	Full-time Equivalent Students (FTES)	293.70	267.70	277.10	265.10	273.50
	Student-to-Faculty Ratio (SFR)	30.7 : 1	28.0 : 1	24.7 : 1	26.3 : 1	26.9 : 1

Average Class Size Academic Years 2007 through 2011:

Lower Division Classes					
	2007	2008	2009	2010	2011
Geography	63.23	52.97	50.48	65.03	67.27
Upper Division Classes					
	2006	2007	2008	2009	2010
Geography	22.16	20.35	14.67	17.76	18.47
Graduate Division Classes					
	2006	2007	2008	2009	2010
Geography		4			

Table 3
Courses, Contributions, Locations

Contributing area	Delivery Location	Instructional Staff		# Students				
		Faculty FTE	Grad Assist. FTE	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
General Education Courses	Location(s)							
Geography 101	Ellensburg	1.6	N/A	912	699	672	707	738
Geography 107	Ellensburg	1.4	N/A	755	698	785	731	775
Geography 108	Ellensburg	0.35	N/A	189	88	134	112	90
Geography 273	Ellensburg	0.4	N/A	77	177	189	181	139
Professional Education Courses	Location(s)	Faculty FTE	Grad FTE	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Not Applicable								
Service Courses	Location(s)	Faculty FTE	Grad FTE	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Not Applicable								

D. Currency of our curricula in the discipline (how the curriculum compares to recognized standards promulgated by professionals in the discipline)

Figure 1, below, illustrates the recent view of The Association of American Geographers (AAG)—our professional association—of the subfields within our discipline. Over the past decade and more, the department faculty has agreed that a modern, well-rounded geography department should offer a solid curriculum encompassing a range of these specialties. Within these areas, we have refined our offerings to focus increasingly on the needs of today with emphases such as international trade, global politics and society and meeting water and energy needs. Of the “Geographic Fields” listed, we offer coursework for all but geographic education. (Our variety of environmental studies courses are offered in support of the Energy Studies minor and the Environmental Studies Program.) A review of our courses, listed below, will reveal a close correspondence with these subfields. [See Appendix B for a sample representation of course syllabi]



Figure 1. Recognized Subfields of the Geography discipline

Source: AAG website <http://www.aag.org/Careers/Geographic_Fields.html>

Our curricula blend traditional geography with some of the more contemporary concerns within the geography discipline. Most of the regional, resource, physical, and human geography courses are taught from a traditional “human-environment relationship” perspective that we all agree is the type of geography that we should continue to teach, especially given the increasing emphasis of specialization within the

discipline, and a trend among the sciences in general, to move away from holistic views of earth systems and landscapes. Obviously, a certain amount of specialization becomes necessary when treating any geographic topic with some depth, and this is reflected in the discipline's normal split between physical and human geography. The department follows such a division in organizing our introductory sequence of required courses, as well as our upper division offerings in both human and physical geographies. We are all cognizant, however, of the equivalent need to merge these two perspectives within each of our courses - to try and overcome the largely arbitrary divide between human and physical components of the earth. During the conduct of upper division regional courses in particular, we strive to combine the study of human and physical geographies in the context of certain fixed locations in space, at whatever appropriate scale that should entail. Furthermore, it should be noted that our department is rather unique in exhibiting the great depth of regional coverage that our faculty are able to provide in course offerings. On the current roster of department faculty, we hold the credentials of field-based expertise in the following regions:

- North America (Kuhlken, Pease, Lillquist, Gabriel, Uebelacker, others)
- Latin America, including Middle America (Revels) and South America (Lipton)
- Europe (Huckabay, Hickey)
- Asia (Bowen)
- Oceania (Kuhlken, Hickey)

Additionally, Elaine Glenn has traveled, researched and taught our popular, and these days highly relevant, Middle East course for many years. Among the regional place-based courses that are regularly offered are GEOG 352, North America; GEOG 366 Middle East; GEOG 371, Europe; GEOG 415, Oceania; GEOG 470, Latin America; and GEOG 475, Asia. This represents a significant achievement in curricular development for a medium-sized geography department. Moreover, as a result of departmental discussions and decisions over the period of review, several of our identified regional courses are unique in that they focus on the cohesive physical characteristics of specific types of regions rather than a particular absolute place: these include GEOG 450, Arid Lands; GEOG 451, Mountain Environments; GEOG 452, Coastal Environments; and GEOG 454, Forest Environments.

Our upper-division human courses are traditionally organized around covering the three basic subfields of Economic Geography (GEOG 304); Cultural Geography (GEOG 308); and Political Geography (GEOG 346). In keeping with disciplinary advances, further upper-division coursework may be taken in such contemporary topics as Geography of Food and Agriculture (GEOG 422), or Ecology and Culture (GEOG 440/ANTH 440), a popular course cross-listed with Anthropology. Moreover, we are able to offer courses with up-to-date relevance and interest by utilizing a "selected topics" course such as GEOG 408, Advanced Topics in Human Geography.

Physical geography is likewise logically organized around the traditional main topics embodied in upper-division coursework that includes GEOG 361, Soils; GEOG 382, Hydrology; GEOG 386, Geomorphology; GEOG 388, Climatology; GEOG 389, Biogeography; and GEOG 453, Wetlands Analysis. Several of these topics have

follow-up advanced courses allowing for greater in-depth investigation.

Our techniques classes represent one of the more significant aspects of the department's curriculum, and one that is a powerful attractant for students who wish to gain valuable experience in learning the methods they will use to address social and environmental issues in the context of a career. In addition to a three quarter sequence of GIS classes and a computer cartography class, we offer the related accompanying courses in image processing: GEOG 410, Air Photo Interpretation and GEOG 430, Remote Sensing. Further techniques classes include: GEOG 409 Quantitative Methods and GEOG 425, Field Methods. Our GIS Certificate program was developed after reviewing similar programs at comparably sized universities. In terms of requirements, it is similar to those programs requiring a greater number of credits. The GIS curriculum has periodically been upgraded, with the most recent adjustments made in fall of 2011.

One more category of geography coursework, often called "environmental" or "planning" in other departments, is our concentration on resource geography. We offer courses of an applied nature, such as GEOG 305, Introduction to Land Use Planning; GEOG 373, Water Resources; GEOG 433, Mineral Resources; GEOG 442, Alternative Energy Resources and Technology; and GEOG 445, Natural Resource Policy, among others. Much of this emphasis derives from the vision and foresight of a number of our emeritis faculty who came here from the University of Michigan, and we have honored and continued with that tradition because it suits the need of our students and society in general, particularly in the Pacific Northwest.

A complete listing of courses currently in the CWU catalog is provided below. Quarter-credit hours are in parentheses.

GEOG 101. World Regional Geography (5). Regions and nations of the world together with the changing elements of the physical and human environment which support them.

GEOG 107. Introduction to Physical Geography (5). The complex weather, climate, water, landforms, soils and vegetation comprising Earth's physical environments over space and time.

GEOG 108. Introduction to Human Geography (5). Distribution and spatial variation of population, settlement patterns, cultural elements of language, religion, and lifeways, and the economic and political organization of the planet.

GEOG 203. Map Reading and Interpretation (3). Basic introduction to the principles of cartographic communication. Emphasis on using and understanding a wide variety of general purpose, topographic, and thematic map types.

GEOG 250. Natural Resource Geography (4). The meaning of resources and conservation; population growth and its implications for land management, public control and environmental quality; attitudes regarding the use of resources; conservation thought and activities in the United States.

GEOG 273. Geography of Rivers (5). Global, regional, and local physical and cultural patterns and processes within river basins.

GEOG 279. Geography of the West (1-12). In-depth field examination of the complex physical, human and resource issues of one or more of the varied subregions of western North America. Same as GEOG 379 and 479. May be repeated for up to 12 credits a different topic.

GEOG 303. Introductory GIS (5). Prerequisite, GEOG 203 or GEOL 210, or ANTH 323 or BIOL 360. Continued enrollment after the first week is dependent upon passing a computer literacy test. Applications, scope, and benefits of Geographic Information Systems (GIS). Classification and components of GIS. Data acquisition. Data management. Data errors. Implementation considerations. Applied experience using GIS software.

GEOG 304. Economic Geography (5). Geographic survey of human livelihood and interaction with the environment. Agriculture, industry, and urbanization are examined in the context of an increasingly interdependent world system.

GEOG 305. Introduction to Land Use Planning (5). Investigation into the process and practice of urban and regional planning. Emphasis on historical development, legal foundations, and techniques of planning in the United States.

GEOG 308. Cultural Geography (5). Consequences of cultural diversity in the human occupation of the earth, and the interactions of human and natural systems.

GEOG 310. Introduction to Landscape Analysis (5). Application of concepts and techniques of landscape analysis. Specific landscapes are analyzed utilizing various techniques including remotely sensed imagery, historical records, and field observation and measurement.

GEOG 346. Political Geography(4). The spatial structure of political units. The effect of political, economic, social and earth resource factors on the areas, shapes, and boundaries of these units, and on the distribution of populations and institutions.

GEOG 352. Geography of North America (5). Examination of the physical and cultural geography, human-environment interactions, landscapes, and regional diversity of the United States, Canada and Mexico.

GEOG 355. Geography of the Pacific Northwest (4). Examination of the physical and cultural geography, human-environment interactions, landscapes, and regional diversity of the Pacific Northwest.

GEOG 361. Soils (5). Prerequisite: GEOG 107. Focus on properties, factors, processes and classifications of Earth's soils, past and present. Four hours of lecture and four hours of field/laboratory per week. Same as GEOG 461; students may not receive credit

for both.

GEOG 366. Geography of the Middle East (5). Examination of the physical and cultural geography, human-environment interactions, landscapes, and regional diversity of the Middle East.

GEOG 371. Geography of Europe (5). Examination of the physical and cultural geography, human-environment interactions, landscapes, and regional diversity of Europe.

GEOG 373. Water Resources (4). No prerequisites but GEOG 107 is recommended. Foundation course for understanding the physical and social dimensions of water resource use on a global scale. Special attention paid to issues in the American West.

GEOG 379. Geography of the West (1-12). In-depth field examination of the complex physical, human and resource issues of one or more of the varied subregions of western North America. Same as GEOG 279 and 479. May be repeated for up to 12 credits a different topic.

GEOG 382. Hydrology (5). Prerequisite, GEOG 107. Provides a comprehensive introduction to both the global and local hydrologic cycle. Covers constituent processes, their measurements and quantitative relationships, plus basic water quality parameters. Same as GEOG 482; students may not receive credit for both.

GEOG 386. Geomorphology (5). Prerequisites, GEOG 107 or GEOL 101 or GEOL 102 and GEOL 101L. Descriptive and interpretive examination of the earth's land forms. Four lectures and three hours laboratory or field trips. GEOG 386 and GEOL 386 are equivalent courses. Students may not receive credit for both.

GEOG 388. Climatology (5). Prerequisite, GEOG 107. Elements of, and factors and processes affecting Earth's climates, present, past, and future. Four hours lecture and two hours laboratory/field per week.

GEOG 389. Biogeography (5). Prerequisite, GEOG 107. Investigates the functional relationships between biophysical processes and their spatial and temporal patterns at various scales. Introduces approaches to land systems analysis focusing upon ecosystems.

GEOG 398. Special Topics (1-6).

GEOG 399. Seminar (1-5).

GEOG 404. Intermediate GIS (4). Prerequisite, GEOG 303. Applied concepts, principles, and operation of fundamental GIS applications, including raster-vector data models, topology, digitizing, and various analytical techniques such as overlay, buffers, and Boolean queries. Lecture and practical applications. GEOG 404, ANTH 404 and GEOL 404 are equivalent courses. Students may not receive credit for more than one.

GEOG 405. Advanced Topics in Land Use Planning (3). Prerequisite, GEOG 305. Selected issues and problems in land use planning and environmental control. Topics may include growth management, small town and rural planning, or coastal zone management. May be repeated for credit.

GEOG 408. Advanced Topics in Human Geography (3). Focuses on the content of GEOG 308 in greater detail with particular emphasis on land use in non industrial societies. Topics will vary, consult with instructor.

GEOG 409. Quantitative Methods in Geography (4). Prerequisite, MATH 130 or post-baccalaureate/graduate student standing. Quantitative analysis assessment in geography and resource management. Emphasis on spatial statistics.

GEOG 410. Airphoto Interpretation (5). Prerequisite, GEOG 203 or GEOL 210. Introduction to airborne photography, and the tools and techniques to apply this photography to geographical issues. Three hours lecture and two hours laboratory per week. Course fee required.

GEOG 413. Computer Cartography (4). Prerequisite, GEOG 203 or GEOL 210, or ANTH 323 or BIOL 360. Computerized mapmaking basics of contour, choropleth, 3-D, and other thematic maps from digitizing to final color product. Applied experience using cartographic software.

GEOG 415. Geography of Oceania (3). Examination of the physical and cultural geography, human-environment interactions, landscapes, and regional diversity of Australia, New Zealand, and the Pacific Islands.

GEOG 417. Advanced GIS (4). Prerequisite, GEOG 404, ANTH 404, or GEOL 404. Advanced GIS principles, techniques, analysis, and application. Lecture and practical hands-on experience. Applied experience using GIS software. GEOG 417, ANTH 417 and GEOL 417 are equivalent courses. Students may not receive credit for more than one.

GEOG 422. Geography of Food and Agriculture (5). Prerequisite, junior standing or above. Overview of food and agriculture as it relates to specific geographic regions, production regimes, trade, and cuisine. Domestic and international issues explored through lecture and field study.

GEOG 425. Field Methods in Geography (5). Prerequisite, permission of instructor. Theory of, and practice in, geography field methods via in-depth field research projects. Topics include field observation, data collection, and data interpretation. Two hours lecture and five hours field per week.

GEOG 427. Environmental Archaeology (4). Prerequisite, GEOG 107 or ANTH 120. Analysis of sediments and plant and animal remains from archaeological sites are used to explore relationships between humans and their environments. Case studies combine

natural and physical sciences to study long-term change in landscapes and ecosystems. ANTH 427/527 and GEOG 427/527 are equivalent

GEOG 430. Remote Sensing (5). Prerequisites, GEOG 410 or GEOL 210, or permission of instructor. Principles of acquisition, analysis, and use of remotely sensed data (LANDSAT, SPOT, Ikonos, etc.). Applied experience using image processing software. Three hours lecture and three hours laboratory per week. GEOG 430, GEOL 430 and GEOL 530 are equivalent courses. Students may not receive credit for more than one course.

GEOG 440. Ecology and Culture (4). Investigation into interdependent environmental and human cultural systems. Traditional agroecologies and subsistence strategies; contemporary problems of resource management, social equity, political ecology, and sustainable development. Same as ANTH 440; students may not receive credit for both.

GEOG 442. Alternative Energy Resources and Technology (5). Overview of energy systems, with focus on wind, biomass, solar, biodiesel, geothermal and sustainable energy systems. Includes energy production and conversion. Field trips. GEOG 442 and IET 442 are equivalent courses ; students may not receive credit for both. Prerequisite: junior standing.

GEOG 443. Energy Policy (5). Prerequisite, permission of instructor. Legal, institutional, and economic frameworks for regional, national and international energy decisions.

GEOG 445. Natural Resources Policy (4). Prerequisite, permission of instructor. Development and significance of policies affecting resource management in the United States.

GEOG 448. Resource and Environmental Analysis (5). Prerequisites, GEOG 107 and GEOG 250. Examination of the techniques and methodologies used for the evaluation and sustainable management of environmental resources from a variety of perspectives.

GEOG 450. Arid Environments (4). Prerequisite, GEOG 107. Unique physical environments of arid lands, and human interaction with these environments over space and time. Focus on natural resources and land use conflicts.

GEOG 451. Mountain Environments (4). Prerequisite, GEOG 107. Physical, human, and resource geography of mountain settings. Emphasis on the western hemisphere.

GEOG 452. Coastal Environments (4). Prerequisite, GEOG 107. Physical, human, and resource geography of coastal environments. Emphasis on physical processes, resource issues, and environmental management of coastal environments.

GEOG 453. Riparian and Wetlands Analysis (4). Prerequisite, GEOG 107. Physical, human, and resource geography of wetland environments. Emphasis on physical processes, resource issues, and environmental evaluation and management of wetland

environments.

GEOG 454. Forest Environments (5). Prerequisite, GEOG 107. Examination of topics related to global forest, including forest ecology, disturbance regimes, biogeography and management issues. Case studies will focus on western U.S. forest and highlight the use of geospatial techniques to study forest change.

GEOG 460. Geography of International Trade (5). Prerequisite, GEOG 304. Geographic basis of international trade with special emphasis on the Pacific Northwest. Field trips required.

GEOG 461. Soils (5). Prerequisite: GEOG 107. Focus on properties, factors, processes and classifications of Earth's soils, past and present. Four hours of lecture and four hours of field/laboratory per week. Same as GEOG 361, students may not receive credit for both.

GEOG 465. Wine: A Geographical Appreciation (3). World overview of grape and wine industry emphasizing geographic themes. Includes all-day field trip to Yakima Valley viticultural area.

GEOG 470. Geography of Latin America (4). Examination of the physical and cultural geography, human-environment interactions, landscapes, and regional diversity of Latin America.

GEOG472. Geography of Russia and the Newly Independent States (4). Examination of the physical and cultural geography, human-environment interactions, landscapes, and regional diversity of Russia and the newly independent states that once comprised the Soviet Union.

GEOG 473. Watershed Analysis and Planning (4). Prerequisite, GEOG 373. Examination of water resource analysis, development, management, and planning in the United States. Focus on contemporary problems, trends, and case studies.

GEOG 475. Geography of Asia (5). Prerequisite, permission of instructor. Examination of the physical and cultural geography, human-environment interactions, landscapes, and regional diversity of Asia.

GEOG 479. Geography of the West (1-12). Prerequisite, permission of instructor. In-depth field examination of the complex physical, human, and resource issues of one or more of the varied subregions of western North America. Same as GEOG 279 and 379. May be repeated for up to 12 credits a different topic.

GEOG 481. Urban Geography (5). Prerequisite, GEOG 304. The spatial and size distribution of cities as explained by their historical development and major functions. Analysis of the internal structure of cities and the results of urban growth.

GEOG 482. Hydrology (5). Prerequisite, GEOG 107. Provides a comprehensive introduction to both the global and local hydrologic cycle. Covers constituent processes, their measurements and quantitative relationships, plus basic water quality parameters. Same as GEOG 382; students may not receive credit for both.

GEOG 485. Topics In GIS and Remote Sensing (4). Prerequisites, GEOG 403 and GEOG 430. Special topic classes in GIS and remote sensing. Applied experience using GIS or image processing software. .

GEOG 486. Geomorphology (5). Prerequisites, GEOG 107 or GEOL 101 or GEOL 102 and GEOL 101L. Descriptive and interpretive examination of the earth's land forms. Four lectures and three hours laboratory or field trips. GEOG 386, GEOG 486, GEOL 386 and GEOL 486 are equivalent courses. Students may not receive credit for both.

GEOG 489. Geography Capstone (2). Prerequisite, Geography major with senior standing. Assessment of past coursework and exploration of future opportunities.

GEOG 490. Cooperative Education (1-12). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated.

GEOG 491. Workshop (1-6).

GEOG 492. Geography Teaching Experience (1-3). Prerequisites, 15 credits in Geography and permission of instructor. Experience in classroom, laboratory, and/or field teaching. May be repeated for credit with permission of department chair.

GEOG 493. Geography Field Experience(1-12). Prerequisite, permission of instructor and Department Chair. Individual or group off-campus experience in the field study of geographical phenomena. May be taken more than once under a different title by permission of department chair.

GEOG 494. Applied GIS Project (2-6). Prerequisite, permission of instructor. GIS projects in Anthropology, Biology, Geography, Geology, Resource Management. May be repeated by permission of department chair. GEOG 494, ANTH 494 and GEOL 494 are equivalent courses.

GEOG 496. Individual Study(1-6). Prerequisite, permission of instructor.

GEOG 498. Special Topics(1-6).

GEOG 499. Seminar (1-5).

E. Effectiveness of instruction - How the department addresses the scholarship of teaching with specific supporting documentation:

1. **Departmental teaching effectiveness – a five-year history of the “teaching effectiveness” department means as reported on SEOIs, indexed to the university mean on a quarter-by-quarter basis**

		Fall	Winter	Spring
2006-07	Geography	4.35	4.20	3.95
	COTS	4.27	4.30	4.30
	CWU	4.30	4.33	4.33
2007-08	Geography	4.37	4.17	4.57
	COTS	4.24	4.30	4.34
	CWU	4.30	4.38	4.41
2008-09	Geography	4.34	4.24	4.15
	COTS	4.30	4.24	4.33
	CWU	4.31	4.31	4.36
2009-10	Geography	4.31	4.03	4.25
	COTS	4.31	4.34	4.29
	CWU	4.33	4.35	4.48
2010-11	Geography	4.49	4.29	4.37
	COTS	4.31	4.31	4.27
	CWU	4.32	4.35	4.36

2. **Evidence other than Student Evaluation of Instruction (SEOI) which is used in the department to evaluate the effectiveness of instruction**

Other than the standard SEOI forms required by the university to be administered at the end of each course prior to final exams, we evaluate the effectiveness of instruction in at least two ways—formal peer evaluation of instruction and informal peer evaluation of instruction. Each faculty member is expected to formally evaluate a colleague’s instruction once each quarter. This evaluation may occur as a formal classroom visit or via a review of various teaching materials. On an informal basis, largely because of our physical space, department facilities are well suited for enabling frequent, ad hoc interactions among faculty regarding instructional methods, successes, and failures.

3. **Effectiveness of instructional methods to produce student learning based upon programmatic goals including innovative and traditional methods, such as:**

a. Collaborative research between students and faculty

Geography faculty have traditionally been involved in a low to moderate amount of collaborative research with undergraduate students—an effort which has taken on additional importance during the review period. Such ventures have been most successful when instituted within a formal advanced course (e.g., GEOG 479, Geography of the West; or ENST 444, Environmental Policy Formation) and are increasingly successful when working one-on-one with a student via Individual Studies credits. The results of this research are often presented at the annual campus SOURCE symposium—as shown in Table 5, below, an average of nearly five faculty members per year are involved in SOURCE student presentations. It should be noted that all of our current faculty have mentored undergraduate research at one time or another.

Geography faculty are traditionally engaged in a high amount of collaborative research with Resource Management graduate students. Such ventures have most commonly centered around thesis work. Most of our current faculty have worked in this manner with graduate students.

b. Inquiry-based, open-ended learning

This represents the kind of intensive learning experience that, so far, only a few of our courses have had the luxury of engaging. This mainly has had to do with time constraints imposed by a university scheduling authority that establishes daily fifty-minute class sessions for mornings into early afternoons. We have successfully worked around this issue in a limited fashion by setting up some of our courses as “Problems in ...” or “Advanced topics in ...” which allows for a more open-ended, inquiry-based style of learning.

c. Use of field experiences

At least fifteen of our upper division courses (spread across virtually all of our categories of classes) include a field trip component, which may be a day-long event, an overnight excursion or a multi-day field excursion. Often these classes have a substantial enrollment, requiring multiple motor-pool vans and sometimes additional car-pool support. Based on positive feedback from students, we will continue to try and incorporate field trips in as many classes as possible where such an experience is deemed an essential element of learning facilitation. Furthermore, over the past five years, the department has offered one or two field-based courses each academic year. These courses have focused on central Washington, Hells Canyon, the intermountain Basin and Range province, and other locations in the western U.S. In addition, the department has participated in the early years of the review period in activities which took China. We also participated, for the first few years of the review period, with the Anthropology department in an interdisciplinary field school

aimed at excavating a late Pleistocene mammoth in the Wenas Valley of central Washington—a project now left to rest for some period. Typically, these more intensive field-based courses serve a smaller proportion of our student population. While there is no requirement that our majors take these courses, we feel that such experience is highly valuable learning option and faculty members are designing new field courses. Faculty who engage in research overseas are sometimes able to fund students, providing valuable lessons in research methodologies in the field. Such experiences occurred during Uebelacker's investigations in Hell's Canyon which involved several weeks over the spring breaks of 2007, 2008, 2009 and 2010.

d. Classic lectures

Many of our courses utilize the classic lecture delivery format, because we find that is the most effective way to present complex information which often becomes the foundation for more relational construction of knowledge. This format is more typically used within our introductory sequence of coursework (GEOG 101, 107, and 108). We find that students respond well to a structured and organized presentation, especially one that complements the textbook content and one that is delivered in a graphic-rich environment such as achieved through our faculty's use of Google Earth, GIS, PowerPoint and numerous on-line and web resources within lectures.

e. Lecture and inquiry-based guided discussions

The majority of our upper division courses utilize this combination pedagogical technique. Several of our senior-level (400 series) courses can be designated as seminars, where lecturing plays a diminished role, and live discussion threads assume a more spontaneous trajectory that can lead to new and unanticipated directions for inquiry. Several faculty have experimented with a sort of hybridized course, within which lectures that set the foundation of knowledge take place during the first half of the quarter, and then students are directed toward more inquiry-based open-ended mode of learning.

f. Service learning or civic engagement

Experience in using geographic skills and knowledge on applied projects with employers is valuable for professional advancement. The university maintains an excellent program offered through the office of Career Development Services whereby a contract (Learning Agreement) is formulated with the student, the on-the-job supervisor, and an academic advisor, and those duties completed in the workplace can be assigned academic credits (GEOG 290, GEOG 490 or REM 590) toward their degree. To ensure rigor and provide oversight, this contract is approved by the department chair and COTS dean. Our students gain much by this experience, and in several situations, the internships have lead directly to jobs within the organization or have provided the needed resume boost to obtain

advanced employment opportunities.

The list of internships below demonstrates the great variety of places where our students have gained experience and accomplished their geographic work. The workplaces include city, county, state, federal and tribal agencies, and work assignments range across topics of natural and cultural resource management, planning, public utilities and transportation, parks and recreation facilities, private agricultural supply businesses, and other fascinating task sets. We feel this is the best way for our students to gain on-the-job experience in the application of academic concepts before leaving school for their new careers. These opportunities also provide the feedback from the community that what we are teaching is valuable in preparing our students for life and professional success.

Figure 2. Internships and advisors, 2007-2011

Student	Course	Credits	Advisor	Employer
2006-2007				
Anderson, Cathy J.	GEOG 490	7	Hultquist, N.	Dept. of Interior, Land Management
Ingman, Michael C.	GEOG 490	12	Hultquist, N.	Olympic National Forest
Ozbolt, Lindsey M.	GEOG 490	4	Bloodworth, G.	Terra Design Group, Inc.
Myron, Nikishna N.	REM 590	5	Uebelacker, M.	Harbors, Beaches & Parks
Ozbolt, Lindsey M.	GEOG 490	7	Hultquist, N.	Terra Design Group, Inc.
Proazek, Kristina L.	REM 590	2	Wood, W.	Puget Sound Energy
Sainsbury, Benjamin N.	REM 590	5	Lipton, J.	CWU-CSI
Snider, Todd M.	REM 590	3	Hultquist, N.	Community Development Services
Snider, Todd M.	REM 590	3	Hultquist, N.	Kittitas Conservation Trust
2007-2008				
Arthur, Marie L.	REM 590	2	Uebelacker, M.	Nez Perce Cultural Resources
Bazemore, Piper A.	GEOG 490	6	Hultquist, N.	Mt. Rainier National Park
Beavert, Tia S.	REM 590	2	Uebelacker, M.	Yakama Nation Forestry
Brooks, Mitch R	REM 590	2	Uebelacker, M.	Sealaska Environmental
Bush, Justin D	GEOG 490	5	Hultquist, N.	Department of Fish and Wildlife
Cox, Joseph M.	GEOG 490	2	Hultquist, N.	Yakima County GIS
Finne, Sarah A.	GEOG 490	1	Hultquist, N.	Pacific NW National Laboratory
Fleming, Kevin D.	GEOG 490	10	Hultquist, N.	WSDOT
Lamb, Tanya	GEOG 490	12	Hultquist, N.	WSDOT
Rushton, Zoe A.	GEOG 490	6	Hultquist, N.	WA State Dept of Ecology
Schaaf, David A.	GEOG 490	4	Hultquist, N.	Yakima County
Swan, Kathleen	REM 590	2	Uebelacker, M.	Puget Sound Energy
Tsinajinnie, Delphine	REM 590	2	Uebelacker, M.	Proctor & Gamble
Volkenand, Todd M	REM 590	2	Uebelacker, M.	Ochco National Forest
Fleming, Kevin D.	GEOG 490	5	Hultquist, N.	WSDOT
Hibbs, Ryan E.	GEOG 490	10	Hultquist, N.	WA Fish & Wildlife Cedar River Hatchery
Knight, Adam M. (Intern'l)	GEOG 490	12	Hultquist, N.	Institute for Democracy in South Africa
Stilwater, Gabrielle(LEG)	GEOG 490	4	Bloodworth, G.	Washington State Senate
Vicklund, Korbie A. (LEG)	GEOG 490	12	Hultquist, N.	Washington State Senate
2008-2009				
Ayers, Marcus W	GEOG 490	1	Hultquist, N	Student Conservation Association
Babb, Megan M	GEOG 490	4	Hultquist, N	NWCC Fire Dispatch Office

Buck, Jessica A.	GEOG 490	6	Hultquist, N	Port Townsend Marine Science Center
Killsnight, Adriann	REM 590	2	Uebelacker	Northern Cheyenne Tribe
Knott, Richard L	REM 590	5	Andrews	Alaska Department of Fish and Game
Lamb, Tanya	GEOG 490	8	Hultquist, N	URS
Moynihan, Mark D	GEOG 490	5	Hultquist, N	Arcosanti
Oosahwee-Voss, Sarah B	REM 590	2	Uebelacker	United Keetoowah Band of Cherokee
Towner, Terri A	GEOG 490	1	Hultquist, N	Yakima County
Buck, Jessica A.	GEOG 490	6	Hultquist, N.	Port Townsend Marine Science Center
Evans, Jennifer A.	REM 590	6	Hultquist, N.	Colorado St Univ Env Mgmt-Military Lands
Horch, Greg A	GEOG 490	3	Hultquist, N.	WA State Conservation Corps
Knott, Richard L	REM 590	2	Andrews, T	Alaska Department of Fish & Game
Lally, Jessica	REM 590	8	Hackenberger	Yakima Cultural Resource Program
Nelson, Curtis	GEOG 490	5	Hultquist, N.	Grant County PUD
Nesbitt, Andrea N.	GEOG 490	7	Hultquist, N.	Puget Sound Energy
Vicklund, Korbie(Total Withdrawl)	REM 590	0	Hultquist, N.	CWU-Facilities Management
Cannon, Carrie C.	REM 590	2	Lipton, J.	Hualapai Dept of Cultural Resources
Postma, Daniel A.	GEOG 490	2	English, H.	City of Ellensburg
Shriner, Allison R.	GEOG 490	1	Hultquist, N.	Kittitas County Conservation District
Zimburean, Rob	GEOG 490	5	Hultquist, N.	Kittitas County Conservation District
2009-2010				
Cannon, Carrie C.	REM 590	2	Lipton, J.	Hualapai Dept of Cultural Resources
Freitas, Stuart	GEOG 490	4	Hultquist, N.	U.S. Forest Service, Naches Ranger District
Valen, Eric-Karl B.	GEOG 490	4	Hultquist, N.	Lake Roosevelt National Recreation Area
Davidson, Charity N.	REM 590	8	Gabriel, A.	WDFW
Thompson, C. Marc	GEOG 490	3	Hickey, B.	Community Development Services
Bemis, Trevor	GEOG 490	2	English, Holly	Puget Sound Energy
McVicker, Tanna	GEOG 490	3	Lillquist, Karl	Kittitas County Public Works
2010-2011				
Schwab, Richard M.	GEOG 490	3	Hickey, R.	Kittitas County
Keller, Alfred D.	REM 590	6	Hackenberger	Yakama Nation Cultural Resource Program
Keller, Alfred D.	REM 590	2	Hackenberger, S.	Yakama Nation Cultural Resource Program
Rau, Rebecca E.	REM 590	1	Barlow, K.	Kittitas County Historical Museum
Rau, Rebecca E.	REM 590	1	Barlow, K.	Maryhill Museum
Talpalatski, Igor E.	GEOG 490	5	Kuhlken, R.	Kititas County Conservation District
Dimmick, Iris A.	GEOG 490	2	English, H.	The Daily Record
Donaldson, Ryan W.	GEOG 490	9	Lillquist, K.	IC Corporation
Rogers, John W.	GEOG 490	8	Bowen, J.	Yakima County Planning

g. Other innovative methods (e.g., online integration)

The Geography Department encourages innovative instructional methods. Several of us pioneered web-delivery of course content on this campus, even prior to the establishment of Blackboard as the university standard. More than half of our faculty now regularly utilizes the Blackboard environment and structure, coupled with other on-line tools. Recognizing the advantages of a multilateral perspective, we sometimes team-teach courses, although the contact hours for these courses have typically been split between the two participating faculty. Internal faculty development funds (which have averaged just under \$1000/FTEF over the past five years) may be used to

attend teaching conferences and workshops designed to enhance teaching, and several faculty members have engaged in these opportunities. We also strive to exchange ideas frequently with each other about teaching approaches and effective and innovative methods of instruction. Several examples of our more innovative instructional methods may be listed here as follows:

- Several faculty members have team-taught GEOG courses with other faculty from Geography, as well as cross-listed courses with faculty from other departments. Department faculty have been particularly valuable participants in team-teaching ENST courses; this is based on our department's traditional involvement with that interdisciplinary program at CWU, along with the closely-matched relevant concerns with human-environment relations posed by the academic discipline of geography at a national level.
- In those sections of GEOG 101 facilitated by Hickey, students are required to subscribe to the *New York Times*. At the start of each class, the professor chooses 3 articles for a brief discussion, and assigns the students to read these pieces, and finally, to be tested on that material. It is an attempt to make the class more up-to-date and relevant.
- Several courses are now taught from a watershed perspective (e.g., GEOG 373, Water Resources; GEOG 382, Hydrology; and GEOG 473, Watershed Analysis and Planning) thus emphasizing a real-world holistic approach to applied geographic methodology and analysis.
- One department faculty member (Lillquist) developed a unique hybrid instructional method that entails student-led field and on-campus conferences in GEOG 386--Geomorphology, GEOG 450--Geography of Arid Lands, and GEOG 451--Mountain Environments. In the field version, students present their research at an appropriate field site which elucidates some aspect of a particular topic (e.g., Missoula Floods). When inclement weather prevents a field conference, the students present their research at an indoor all-day conference (e.g., Environmental Change in Montane Environments).
- Kuhlken and Hultquist pioneered the use of the internet's world wide web in course development and presentation, well before the university caught on to this technology and adopted Blackboard as a standard. Several faculty members continue to make use of Blackboard and at least two of us use custom created web materials because of the greater flexibility.
- The use of Blackboard in courses such as GEOG 101 and GEOG 404 has been an important component of classroom instruction and multi-tiered communication. It provides an interactive method for all students to be informed and to inform one another throughout a quarter. Providing an overarching structure that is accessible at all times, students are able to review information, stay up to date and on task, and even provide anonymous feedback and communication. In GEOG 101, World Regional Geography, as taught by

Lipton, all students are required to become familiar and comfortable with the Blackboard environment. At this introductory level, it immediately ensures that incoming freshmen and transfer students are literate and comfortable with new technologies provided at the University. Within the structure of Blackboard, students may obtain further information about each subject covered in class, links to multi-media or online instructional materials, up-to-date calendars and assignments, and it also provides a forum for classroom communication and participation. Geography is an incredibly visual discipline because of the use of maps and other visual media, therefore the integration of Blackboard also provides a platform for students to interpret, study, and analyze visual materials on their own time.

- Additional utilization of the Blackboard electronic learning environment takes place in several sections of GEOG 101, where Lipton assigns every student to a group representing each world region. The students are responsible for individually investigating recent news articles or regionally relevant information and then posting their findings on Blackboard's Discussion List. These posts are then integrated into classroom discussion and lecture to further engage students in the material being covered in lecture format. The Discussion list serves not only as an efficient means for students to cultivate their own interest in each particular region of the world, but it also serves to develop and link students in the class. Ultimately, it draws upon an objective of the course to develop an interlinked class and campus community, cognizant of the larger global community. It was also found to be an efficient method for students to connect with one another, setting up times and places for study groups or informing one another of campus or community events.

F. Degree to which distance education technology is used for instruction

1. **ITV**

N/A

2. **Online**

Five to ten percent.

G. Assessment of programs and student learning

1. **Student learner outcomes for each degree program and their links to department, college and university mission and goals**

See Table 4, below, for departmental student learner outcomes.

a. **The specific method used in assessing each student learning outcome, with the population assessed, when the assessment took place, and the standard of mastery (criterion) against which we**

compare our assessment results (Survey and questionnaire response data from alumni are found in Appendix D)

Students are required to apply to be a geography major, and part of that application is a short essay that asks them to explain how familiar they are with maps and in what capacity they may have used maps and other geographic media. Each student applicant is also required to have a cumulative GPA of 2.25 or better to be eligible for acceptance as a geography major. The application requires them to list any geography courses they have taken, and there is a requirement that a grade of at least C be earned in all required courses for the major. As part of a continuing effort to raise our standards and expectations, the faculty of the department recently voted to increase this benchmark from a C- to a C grade.

Students are formally assessed as they exit the Geography major via the GEOG 489–Geography Capstone course. We have assessed students in this course annually or biannually since 2003. This class is under the supervision and facilitation of the Department Chair. The course during the 2006-2011 period has served as an assessment of graduates’ writing, speaking and critical analysis abilities. All students take a comprehensive exam over geographic principles and material covered in the five core areas—physical, human, regional, resource and techniques. Additionally, students are asked to assess their geography undergraduate career in terms of our required core and their upper division electives. The last task for the students is a period of preparation and review of their vitae and the writing of an application for a career entry position or graduate school.

The Geography Department expects that all majors will exit the program with solid critical thinking, information literacy, and writing skills. Discussions that take place in the classroom, usually stimulated by faculty-student question-and-response sessions, are expected to engage students in an assessment of their critical thinking skills. Geography is a holistic, integrative discipline, which calls for synthesizing information from various sources, and bringing it to bear on the understanding of place; therefore students must show evidence of these skills in order to manage the work required for earning a degree in our major. Critical thinking skills are especially developed in the process of successfully completing classes on various regions of the world, since in many respects regional geography represents the core of our disciplinary project.

As mentioned above, most of our upper division courses include a writing component. Writing assignments range from short essay questions on in-class exams, through longer essay essays on take-home exams, to full-blown term papers. Many of our senior level classes

require a term paper, which obviously involves assessment of writing skills. Furthermore, the citations and references that students use in formulating these papers are expected to reflect research skills in electronic database searches, as well as the ability to fully utilize information sources offered by the CWU Brooks Library and elsewhere. Additionally, as a unique discipline-specific metric, we expect that our majors will all acquire solid spatial analytic skills, as measured and assessed by their successful negotiation of our more technical methods courses. To one extent or another, all of the above skills are assessed in each of our courses, and are ultimately encapsulated by student performance in the GEOG 489, Geography Capstone course.

As shown in Table 4, the department has decided to assess “capstone” students (graduating seniors) on mastery of four student learning outcomes (SLOs). Formal assessment of these SLOs did not begin until the 2008-2009 academic year. Each year, two of the four SLOs has been, and will be, assessed. In the 2008-2009 academic year SLOs 1 and 3 were assessed. SLOs 3 and 4 were assessed in 2009-2010 (SLO 3 was repeated because faculty expressed concern about communication skills.) Because the percentage of students achieving competence slumped in 09-10, SLO 3 was examined again in 2010-2011, along with SLO 1. (SLOs 2 and 4 will be assessed for the 2011-2012 academic year.) It is expected that, over a relatively short period of time, a sufficient body of data will be in hand by 2013 and the results will be useful for meaningful and reflective adjustments to our program.

2. Results for each student learning outcome

a. Results in specific quantitative or qualitative terms for each learning outcome

Outcome 1: *Knowledge and awareness...* (08-09 and 10-11) 100% of the students achieved a competence level of 70 out of 100 possible points in the assignments

Outcome 2: *Patterns and processes...* (To be assessed in 11-12)

Outcome 3: *Communication skills...* Writing competence: in 08-09 and 10-11, 100% achieved a competence level of 30 out of 45 possible points; in 09-10, 92% achieved a competence level of 24 of 40 points.

Oral Communication competence: in 08-09 and 10-11, 100% achieved a competence level of 21 of 30 possible points in the assignments; in 09-10, 96% achieved a competence level of 18 out of 30 possible points.

Outcome 4: *Critical thinking and application...* (09-10) 92% achieved a competence level of 18 out of 30 possible points.

b. Results compared to standards of mastery listed above.

Outcome 1: *Knowledge and awareness...* All students assessed met the standards of mastery for admission, mid-career and exit from the major

Outcome 2: *Patterns and processes...* (To be assessed in 11-12)

Outcome 3: *Communication skills*... For two of the three years assessed, all students met the standards of mastery for admission, mid-career and exit from the major; in the middle year assessed, only 92% met the standard for written communication.

Outcome 4: *Critical thinking and application*... Only 92% of the students in the year assessed met the department's standards for admission, mid-career and exit from the major with regard to critical thinking and application

c. A concise interpretation of results.

Outcome 1: *Knowledge and awareness*... The department's majors are leaving Central with a satisfactory level of geographic knowledge and awareness

Outcome 2: *Patterns and processes*... (Not yet applicable)

Outcome 3: *Communication skills*... In general, the department's majors are graduating with an acceptable mastery of written and oral communication skills, but we must step up efforts to ensure that *all* our majors develop the skills they will need for successful careers

Outcome 4: *Critical thinking and application*... The vast majority of our graduates have developed acceptable abilities to think critically and apply that thought process to real-world situations, but the department must find a way to identify and help the few who are not mastering these abilities

3. Based upon the results for each outcome listed above:

a. Specific changes to our program as they affect student learning (e.g., curriculum, teaching methods).

Outcome 1: *Knowledge and awareness*... While we were pleased with the outcome of the first two assessments, members of the department have begun discussions aimed at "standardizing" expectations across classes within various subfields (i.e. physical, cultural, regional, etc.)

Outcome 2: *Patterns and processes*... (To be assessed in 11-12)

Outcome 3: *Communication skills*... In response to university efforts to assess writing, and to get students into serious writing while they are still in our lower division core, the department has added a writing assessment to a specific core class (GEOG 250); virtually all upper division classes include some form of both writing and oral communication training

Outcome 4: *Critical thinking and application*... It is expected that the work to "standardize" expectations across parts of our curriculum will lift our students' critical thinking abilities; several of our faculty—especially new professors—have increased the use of lab and field exercises over the review period and this will certainly improve students' abilities to apply methods and critical thinking to the rest of the world

b. Specific changes related to our assessment process

Our assessment plan for SLOs is shown in Table 4. Given our efforts to develop a serious and regular assessment of learning outcomes, and the data we are now beginning to collect, we do not expect to make any significant changes through the next period of review.

Table 4 (Section II, 3.b.)
CWU Student Learning Outcome Assessment Plan Preparation Form
 Department of Geography (B.A. 45 credit and 60 credit)

Student Learning Outcomes (performance, knowledge, attitudes)	Related Program/ Departmental Goals	Related College Goals	Related University Goals	Method(s) of Assessment (What is the assessment?)*	Who Assessed (Students from what courses – population)**	When Assessed (term, dates) ***	Standard of Mastery/ Criterion of Achievement (How good does performance have to be?)
1. Knowledge and Awareness: Students will be thoroughly familiar with the discipline's vocabulary, concepts and themes, and the complexity of physical, human, and cultural systems and issues.	I - Program promotes the integrative, synthesizing view of geography II – A diverse community caring deeply about the Earth, sharing ideas and responsibility	I - Provide for outstanding academic life in College of the Sciences. V - Build partnerships VI - Strengthen COTS contributions to education	I – Provide outstanding academic life at Ellensburg campus IV - Build beneficial community partnerships V - Achieve prominence VI - inclusive and diverse campus communities	Structured interview with Geography Chair Structure of Major core (required course material in intro classes and upper division classes in each of 5 systems) Comprehensive exercises and exam in GEOG 489 Capstone course	Intro core classes, all students Most upper division (largely majors) and GEOG 489 capstone (majors)	<u>Admission</u> , Chair interview and quarterly core intro classes (101,107, 108, 203, 250) <u>Mid-career</u> , upper division electives <u>Exit</u> , GEOG 489 in last quarter	<u>Admission and mid-career</u> , passing core and contract electives with C or better <u>Exit</u> , solid enough performance on six aspects of capstone class to achieve at least a C grade; 95% pass rate
2. Patterns and Processes: Students will be able to Identify the patterns created through the interactions of human systems and physical systems, the networks of intra-and inter-national interdependence, and the manner in which human and physical systems modify each other and control the Earth's surface and	I - Program promotes the integrative, synthesizing view of geography II – A diverse community caring deeply about the Earth, sharing ideas and responsibility III - Observe the world in terms of its landscapes & understand the	I - Provide for outstanding academic life in College of the Sciences. VI - Strengthen COTS contributions to education	I – Provide outstanding academic life at Ellensburg campus V - Achieve regional and national prominence	Structured interview with Geography Chair Structure of Major core (required course material in intro classes and upper division classes in each of 5 systems) Comprehensive exercises and exam in GEOG 489 Capstone course	Intro core classes, all students Most upper division (mostly majors) and GEOG 489 capstone (majors)	<u>Admission</u> , Chair interview and quarterly core intro classes (101,107, 108, 203, 250) <u>Mid-career</u> , upper division electives <u>Exit</u> , GEOG 489 in last quarter	<u>Admission and mid-career</u> , passing core and contract electives with C or better <u>Exit</u> , solid enough performance on six aspects of capstone class to achieve at least a C grade; 95% pass rate

resources.	concept of place at scales local to global						
3. Communication Skills: Students will be able to communicate effectively in oral, written and a variety of graphical forms	I - Program promotes the integrative, synthesizing view of geography II – A diverse community caring deeply, sharing ideas and responsibility IV – Faculty and student research/civic engagement	I - Provide for outstanding academic life in College of the Sciences. V - Build partnerships VII-Provide productive, civil and pleasant learning environment	I – Provide outstanding academic life at Ellensburg campus IV - Build beneficial community partnerships V - Achieve prominence VI - inclusive and diverse campus communities	Written introductory essay and oral interview prior to admission to major Structure of upper division classes in each of 5 systems Comprehensive exercises and oral presentation in GEOG 489 Capstone course	New majors at admission Most upper division (largely majors) and GEOG 489 capstone (majors)	<u>Admission</u> , Written paper and oral interview and some quarterly core classes (203, 250) <u>Mid-career</u> , upper division electives <u>Exit</u> , GEOG 489 in last quarter	<u>Admission and mid-career</u> , acceptance into the major and core, as well as upper division contract electives, with C or better <u>Exit</u> , acceptable performance on written assignments and the oral presentation in the capstone class to achieve at least a C grade; 95% pass rate
4. Critical Thinking and Application: Students will demonstrate the ability to analyze and describe physical, human, and cultural systems and/or issues, using sound geographic principals	I - Program promotes the integrative, synthesizing view of geography III - Observe the world in terms of its landscapes & understand the concept of place at scales local to global IV – Faculty and student research/civic engagement	I - Provide for outstanding academic life in College of the Sciences. IV - Develop a diversified funding base for student and faculty research and applied research in COTS disciplines V - Build partnerships	I – Provide outstanding academic life at Ellensburg campus IV - Build beneficial community partnerships V - Achieve prominence VI - inclusive and diverse campus communities	Oral interview prior to admission to major Structure of upper division classes in each of 5 systems Comprehensive exercises and written/oral analysis in GEOG 489 Capstone course	New majors at admission Most upper division (largely majors) and GEOG 489 capstone (majors)	<u>Admission</u> , Written paper and oral interview <u>Mid-career</u> , advanced electives <u>Exit</u> , GEOG 489 in last quarter	<u>Admission and mid-career</u> , acceptance into the major and core, as well as upper division contract electives, with C or better <u>Exit</u> , acceptable performance on written assignments and oral analysis in the capstone class to achieve at least a C grade; 95% pass rate

*Method(s) of assessment should include those that are both direct (tests, essays, presentations, projects) and indirect (surveys, interviews) in nature

**Data needs to be collected and differentiated by location (Ellensburg campus vs University Centers – see NWCCU standard 2.B.2)

***Timing of assessment should be identified at different transition points of program (i.e., admission, mid-point, end-of-program, post-program)

III. Faculty

A. Faculty participation

Participation levels for mentoring of student research, professional service activities and scholarly activities (including grant writing and teaching) has significantly grown since the last review period. Those participation rates are shown in Table 5.

B. Faculty vitae

Copies of all faculty vitae will be found in Appendix C.

C. Faculty awards for distinction: instruction, scholarship, and service

Anthony Gabriel: Selected as Symposium on University Research and Creative Expression (SOURCE) Research Mentor of the Year (2011)

Selected for CWU University and College of the Sciences Performance Adjustment Award for Exceptional Performance (2009)

Selected for CWU College of the Sciences Performance Adjustment Award for Exceptional Performance (2007)

Jennifer Lipton: Selected as a Most Inspirational Educator (2011) by The Center for Teaching Excellence

D. Performance standards for our department, college and university

Standards for performance required for promotion, tenure and post-tenure review at levels from the Geography Department to Central Washington University are located in Appendix E.

**Table 5 (Section III)
Tenured and Tenure-track Faculty Profile**

	2006-2007		2007-2008		2008-2009		2009-2010		2010-2011		5-yr total	Annual avg	% of faculty
	# faculty TT - T	% of 11 faculty	# faculty TT - T	% of 10 faculty	# faculty TT - T	% of 9 faculty	# faculty TT - T	% of 8 faculty	# faculty TT - T	% of 12 faculty			
* Scholarship Measures: (Use categories applicable to your departmental & college criteria)													
(e.g. peer reviewed articles)	4	36	4	40	6	67	7	88	7	58	28	5.6	57.8
(e.g. abstracts/conference proceedings)	4	36	2	20	4	44	4	50	4	33	18	3.6	36.6
(e.g. conference presentation)	4	36	5	50	7	78	7	88	11	92	34	6.8	68.8
Other, etc. (books, chapters, gov docs)	1	9	1	10	2	22	3	38	3	25	10	2.0	20.8
* Grants: (Use categories applicable to your departmental & college criteria)													
External	2	18	5	50	7	78	6	75	7	58	27	5.4	55.8
Funded / Unfunded	2 / 0		4 / 1		5 / 2		5 / 1		5 / 2				
Internal	2	18	2	20	1	11	2	25	4	33	11	2.2	21.4
Funded / Unfunded	1 / 1		2 / 0		1 / 0		1 / 1		3 / 1				
* Service measures: (Use categories applicable to your departmental & college criteria)													
CWU Committees	4	36	8	80	8	89	8	100	10	83	38	7.2	77.6
State Committees	2	18	1	10	2	22	2	25	3	25	10	2.0	20.0
Leadership & Service - Professional Organizations	4	36	6	60	8	89	7	88	10	83	35	7.0	71.2
Community Service	2	18	5	50	4	44	5	63	5	42	21	4.2	43.4
Other													
* Faculty Mentored Research: (Use categories applicable to your departmental & college criteria)													
Undergrad projects / SOURCE	2	18	5	50	4	44	6	75	6	50	23	4.6	47.4
Graduate Committees – Supervising thesis/projects	6	55	8	80	8	89	7	88	8	67	37	7.4	74.8
Graduate Committees – Participation thesis/projects	6	55	8	80	9	100	8	100	10	83	41	8.2	83.6
Other (outside student research, etc.)	1	9	1	10	3	33	3	38	2	17	10	2.0	21.4

A response to all four main categories is mandatory.

The details to support each category should be applicable to your department & college criteria.

IV. Students – For five years

A. Student accomplishments

Note that a more complete list of student careers and successes will be found in Appendix D—Alumni Survey results.

Student participants in SOURCE

- 2007: Rhoades, J. Using geospatial data and techniques to identify potential wetland restoration sites. (Gabriel)
- 2008: Long, N., C. Kolowinski, and R. Hickey. GeoScrapbook: See the world all over again (Hickey)
Evans, J. and R. Hickey. Estimating landscape resiliency of the Westberg and Boy Scout Trails (Hickey)
Merrill, A. and R. Hickey. The carbon footprint of tobacco (Hickey)
One additional: Unnamed author/Untitled (Lillquist)
- 2009: Gray, J., and A. Gabriel. Environmental controls of invasive aquatic plants in Washington State lakes (Gabriel)
Merrill, A., M. O'Brien and A. Gabriel. Shoreline inventory process for park planning at Deception Pass State Park, Washington (Gabriel)
Tiffany Bishop. Anthropogenic Effects on Floodplain Geomorphology: Naches River, Washington (Lillquist)
Michael Joslin. Arroyos in Central Washington (Lillquist)
Kosters, K. and R. Hickey. Weather and Everyday Life (Hickey)
Three additional: Unnamed author/Untitled (Lillquist)
- 2010: Cordner, D., A. Gabriel, and T. Wachholder. Potential riparian and wetland impacts due to increases to full pool levels, Banks Lake, Washington (Gabriel)
Davidson, C. Assessment, analysis, and spatial connections: a conflict resolution model for effective decision-making in natural resource management (Gabriel)
Dilworth, E. Fostering a sense of place at Walter Strom Middle School: eighth grade social science research projects (Gabriel)
Dilworth, E. Fostering a sense of place at Walter Strom Middle School: seventh grade outdoor research projects (Gabriel)
Dilworth, E., L. Browitt, T. Griswold, A. Gabriel, and D. Cordner. Fostering a sense of place at Walter Strom Middle School: Progress of the Yakima WATERS Project in the Cle Elum/Roslyn School District (Gabriel)
Gray, J. An ecological and functional assessment of depressional wetlands in the Quincy Wildlife Management Area, Grant County, Washington (Gabriel)
One additional: Unnamed author/Untitled (Lillquist)
- 2011: Thompson, M, R. Hickey, and K. Whitcomb. Geospatial Poetry-Washington Poetry and Google Earth (Hickey)
Cannon, J. and R. Hickey. GIS Jobs: Educating our students for the current job market (Hickey) Awarded best poster in the session

Other student/faculty presentations

- 2007: Donoghue, C., A. Gabriel, and J. Rhoades. Cumulative impact assessments for shoreline management. Presented at the 2007 Georgia Basin Puget Sound Research Conference, Westin Bayshore, Vancouver, B.C. (Gabriel)
- Gabriel, A., C. Donoghue, A. Perkins, J. Rhoades, and M. Blackburn. Application of a coastal landform classification GIS database to Washington State parks in the Puget Sound. Presented at the 2007 Georgia Basin Puget Sound Research Conference, Westin Bayshore, Vancouver, B.C., (Gabriel)
- Gabriel, A., C. Donoghue, A. Perkins, J. Rhoades, and M. Blackburn. Application of a coastal landform classification GIS database to Washington State parks in the Puget Sound. Presented at the 2007 Joint Annual Meeting of the Society for Northwestern Vertebrate Biology in conjunction with Northwest Scientific Association and Northwest Lichenologists, Victoria, B.C. (Gabriel)
- Gabriel, A., A. Perkins, and J. Rhoades. Classification and distribution of lake types in Washington State. Poster presented at the 2007 North American Lake Management Society Symposium, Coronado Springs Resort, Orlando, Florida (Gabriel)
- Gabriel, A., B. Sainsbury, and J. Rhoades. Ecological characterization of Yakama Nation riparian restoration sites on the Wapato floodplain of the Yakima River Basin, Washington. Presented at the Society for Ecological Restoration - Pacific Northwest and Society of Wetlands Scientists Joint Conference, Yakima Convention Center, Yakima, Washington (Gabriel)
- Gabriel, A., B. Sainsbury, and J. Rhoades. 2007. Ecological characterization of Yakama Nation riparian restoration sites on the Wapato floodplain of the Yakima River Basin, Washington. Presented at the Yakima Basin Aquatic Science and Management Conference, Central Washington University, Ellensburg, WA (Gabriel)
- Rhoades, J. Using geospatial data and methods to identify potential wetland restoration sites. Presented at the 2007 Joint Annual Meeting of the Society for Northwestern Vertebrate Biology in conjunction with Northwest Scientific Association and Northwest Lichenologists, Victoria, B.C. (Gabriel)
- Reilly, B. and R. Hickey, Predictive GIS Landuse Modeling: Sustainable Community Development in Sub Arctic Ports. Poster presentation at the 2007 Association of American Geographers Annual Meeting, San Francisco (Hickey)
- Compton, T., J. van der Meer, C. Kraan, G.B. Pearson, A. Dekinga, M. Lavaleye, D.I. Rogers, R. Hickey, and T. Piersma. Do tropical bivalves have narrower realized niches than temperate bivalves? Poster presentation at the third biennial conference of the International Biogeographical Society, 2007. (Hickey)
- Three Additional: Two at WA Society of Professional Soil Scientists; One at Northwest Scientific Assoc—Unnamed Author/Untitled (Lillquist)
- 2008: None reported
- 2009: Gabriel, A., and J. Gray. Assessment of potential environmental controls of invasive aquatic plants in Washington State lakes. Poster presented at Water

and Land Use in the Pacific Northwest: Integrating Communities and Watersheds, Skamania Lodge, Stevenson, Washington (Gabriel)
One Additional: Association of American Geographers—Unnamed Author/Untitled (Lillquist)

- 2010: Cordner, D., A. Gabriel, and T. Wachholder. Potential riparian and wetland impacts due to increases to full pool levels, Banks Lake, Washington. Poster presented at Isolated Wetlands: Discovering Connections. The Pacific Northwest Chapter of the Society of Wetland Scientist's 2010 Chapter Conference. Lakeway Inn and Convention Center, Bellingham, WA (Gabriel)
Gabriel, A., and J. Gray. Assessment of potential environmental controls of invasive aquatic plants in Washington State lakes. Poster presented at From Mount St. Helen's to Oak-Prairie Lowlands: Disturbances, Biological Legacies, and Conservation, 2010 Joint Meeting of the Northwest Scientific Association and Cascadia Oak-Prairie Partnership, Centralia College, Centralia, WA (Gabriel)
Gray, J. An ecological and functional assessment of depressional wetlands in the Quincy Wildlife Management Area, Grant County, Washington. Poster presented at Isolated Wetlands: Discovering Connections. The Pacific Northwest Chapter of the Society of Wetland Scientist's 2010 Chapter Conference. Lakeway Inn and Convention Center, Bellingham, WA (Gabriel)
Four Additional: Two at Northwest Scientific Assoc; Two at WA Society of Professional Soil Scientists—Unnamed Author/Untitled (Lillquist)
- 2011: Cannon, J. and R. Hickey. The current state of GIS Jobs. Poster in Proceedings of the 2011 Annual Meeting of the Association of American Geographers
Thompson, M, R. Hickey and K. Whitcomb. Geospatial Poetry – Washington Poetry and Google Earth. Poster in Proceedings of the 2011 Annual Meeting of the Association of American Geographers
Two Additional: Two at WA Society of Professional. Soil Scientists—Unnamed Author/Untitled (Lillquist)

B. Masters project

N/A

C. Departmental policies, services, initiatives, and documented results for successful student advising

When a student applies to the geography major, the completed application is forwarded to the Chair, along with that student's CAPS report (the academic transcript currently on record with the Registrar's office). The department chair then meets with each student in a formal interview setting. At that time, the student's academic record is examined and any deficiencies discussed with the student. Likewise, the diagnostic essay that is part of their application to the major is read by the Chair, and assessed with a percentage grade, (based on the CWU writing rubric). The Chair discusses with each

student his or her interests and future career possibilities such interests might suggest. The oral part of the interview is also assigned a percentage grade, (based on a common rubric for evaluating speech presentations.) If a student has maintained the currently required GPA of 2.25, and there are no glaring problems in coursework already taken, the Chair tentatively assigns an advisor and the student's application is made available to department faculty. After a week of review time, assuming no strong objections, the student is admitted to the major. The official faculty advisor will then assist the new major in charting a course through the undergraduate major in geography, based on shared interests and career direction.

Every faculty member in the department takes advising very seriously, and expects to meet with assigned advisees at least once each quarter. It is during these meetings that we are able to conduct individual assessment of each student's progress, to address any areas that need improvement in student academic performance, and to take a reading of any changes in career directions expressed by each student as they make their way toward graduation from CWU.

D. Other student services offered through the department including professional societies or faculty-led clubs or organizations and their activities

Professional Societies

The department once again maintains an active chapter of Gamma Theta Upsilon (GTU), an international honorary geographical society founded in 1928. Our department initiated the Gamma Tau chapter of GTU in 1965, but activity stagnated after a few years. It was revitalized in 2004, and we initiated 13 members in May, 2005 and another 8 in June, 2006, with another half dozen members initiated in 2008 and 2009. GTU members regularly assist with geographic conferences and meetings and the chapter remains active.

Faculty-Led Clubs

Our student Geography Club is student major driven, with generally two faculty members serving as advisors. Student interest in this club seems to go in cycles, but the Geography Club is active, is recognized by the Associated Students of Central Washington University and supports a senator in the ASCWU Student Senate. Geography students attend the Student Senate and are eligible to request funds for travel. Several students attended the Association of American Geographers meeting in San Francisco, in April of 2007 as well as the Association of American Geographers meeting in Seattle, in April of 2011. Activities sponsored by the Geography Club during previous years have included Yakima River cleanups, and judging elementary school students in the Geography Bee. The department is pleased to support current advisors, Jennifer Lipton and Megan Walsh in this renovation of activity.

V. Facilities & Equipment by location

A. Facilities available to department and their adequacy (program delivery location, size, functionality, adjacencies, lighting, ventilation, finishes, plumbing, electrical outlets, etc.), and anticipated needs in the next three to five years

All personnel except the Computer System/Network Administrator, housed in Hebel Hall, are located in Dean Hall, a LEED Gold Certified building on the west side of the Ellensburg Campus of Central Washington University. This building came online in January of 2009. With normal maintenance and repair, the facilities should serve adequately for some years.

The GIS (Geographic Information Systems) room holds a 24-seat computer lab, with an adjacent overflow laboratory, housing an additional 6 workstations. The lab is located centrally on the second floor of Dean Hall. Students and faculty also have access to desktop scanners and printers, and to large-format scanners and printers.

Geography research laboratories were designed and planned as Dean Hall itself was undergoing preconstruction planning. At this time, there are four well-equipped physical geography lab rooms on the second floor of the building and two human geography labs on the third floor. At least two teaching labs are located on the second floor. Field research and field camp equipment are stored within the labs.

B. Equipment available to the department, including program delivery location and its adequacy (office furniture, instructional fixtures, lab equipment, storage cabinets, specialty items, etc.), and anticipated needs in the next three to five years

The Geography department has assembled, overtime, an assortment of field and classroom devices and equipment for facilitating student learning and for conducting research. For descriptive purposes, the equipment is grouped into the following domains: field surveying; hydrology; climatology and biogeography; paleoecology; aerial photograph interpretation and GIS; soil and sediment, and field camping.

Field Surveying

Field surveying equipment consists of the following: 19 Garmin eTrex GPS units; 3 Trimble GeoXM GPS units; 2 Trimble Pro XRS GPS units; 11 Laser Range Finders; 1 TopCon total station theodolite with survey prisms, rods, and tripods; 1 TopCon data recorder; 20 Brunton pocket transits and 10 tripods; 18 pocket compasses; 30m and 100m measuring tapes; slope-a –scopes; altimeters; range poles, pin flags, plan measurers, and stop watches. The equipment is housed in the Geomorphology and Soils Lab as well as a general storage closet.

The GeoXM GPS units are becoming outdated and are less accurate than newer models. The processors on these units can no longer run the most current operating systems or mapping software. The acquisition of at least one handheld GPS unit that can achieve real-time sub-meter accuracy in the field and run current mapping software applications would benefit student and faculty research.

Hydrology

Hydrology equipment is comprised of 3 research boats and trailers, 9 flow meters (pygmy, type AA, digital, and electromagnetic), 3 dissolved oxygen meters, 4 dissolved oxygen/conductivity meters, 1 water quality monitoring kit, 2 Secchi disks, 2 depth sounders, 1 black and white underwater video camera, 1 light extinction meter, benthic macroinvertebrate sampling nets, sediment sampler tube, Imhof cone, dredges (Ponar, Peterson, and Ekman), pH meters, thermographs, 4 levelogger hydrologic pressure transducers, waders, triple beam balances, and two microscopes. The majority of this equipment is housed in the Aquatic Systems and Hydrology Lab with the exception of the boats, which are in a remote storage area on campus.

The equipment is adequate for current teaching needs.

Paleoecology

Paleoecology equipment consists of the following: 1 industrial refrigerator; 1 drying oven; 1 muffle furnace; 1 centrifuge; 1 vortex mixer; 1 heat block; 1 digital balance; 1 desiccation tank; 2 hot plate/stirrers; 1 increment borer; 2 stereo zoom microscopes; 1 Leica LED DM 1000 binocular microscope; 1 Kestrel hand-held weather meter; 1 Livingston piston corer and 20 core rods; 1 Bolivia corer; 2 14' inflatable pontoons; 8'x10' wooden coring platform; and assorted ropes, wrenches, and pumps. Most of this equipment is located in the Paleocology Lab.

Climatology and Biogeography

The Climatology and Biogeography equipment include 1 Specware Watchdog weather station; 1 TDR soil moisture gage; and various thermometers, min-max thermometers, sling psychrometers, wind meters, increment borers, and DBH tapes. The majority of the equipment is housed in the Paleocology Lab, and Soil and Sediment Lab.

Much of the climatology equipment is older, but adequate for current teaching needs.

Aerial photography and GIS

Aerial photograph interpretation and GIS equipment is comprised of 40 pocket stereoscopes, 10 mirror stereoscopes, Crystal Eyes stereographic eye glasses for computer displays, large format HP, color plotter, color laser printer, laser printer, 32 computers, 2 desktop scanners, and 2 large format scanners. The equipment is housed in the GIS and Airphoto Labs.

The computers for GIS need to be replaced every three years to avoid obsolescence for their rapidly evolving software.

Soil and Sediment

Soil and Sediment laboratory equipment consists of the following: 5 penetrometers, soil sampling kits, Munsell soil charts, bucket augers and extensions, geological sieves, 1 roto-tap sieve shaker, large settling tubes, 9 triple beam, balances, 6 digital balances, shovels, 1 muffle furnace, 2 soil drying oven, soil thermometers, pH Meters, hydrometers, soil mixers, hammers, and microscopes. The equipment is housed in the Geomorphology and Soils Lab, and Aquatic Systems and Hydrology Lab.

This equipment is adequate for teaching and research needs.

Field camping

Field camping equipment includes coolers; white gas stoves and lanterns; cooking pots, dishes, and flatware; tables; water filters; buckets, and totes. The equipment is housed in a remote storage area on campus.

Most of the equipment is serviceable and adequate for field trips and field work.

C. Technology available to department including program delivery location and its adequacy (computers, telecommunications, network systems, multi-media, distance education, security systems, etc.), and anticipated needs in the next three to five years

The core network systems, telecommunications and computers available to the department are the standard equipment and facilities available across the university. This provides a base level for teaching and some research, but provides no support specifically for Geography and GIS (Geographic Information Systems) technologies. Classrooms contain multi-media hardware (overhead projectors, sound systems, etc.) and a PC for the instructor. These computers are adequate for PowerPoint presentations but not for demonstrations with specialized GIS software.

The department supports more specialized technology, both hardware and software, for work in GIS as best as it can afford. Most of the GIS technology is accessed via the GIS Computer Laboratory. The GIS Lab consists of 30 workstations in a space that can be subdivided into a main room with 24 computers and a smaller work room with 6 computers, scanners, a plotter and a large work table. There are two instructor computers. A server for the Lab provides user accounts and networked disk space for class work and research projects. The Lab also manages licenses for ESRI ArcGIS and ERDAS Imagine, which are industry-grade GIS and image processing software packages, that are used in class labs integrating with concepts taught in the classroom and carried further into student research. Licenses for ERDAS Imagine and ESRI ArcGIS are available in sufficient quantity that we can allow use outside the lab on some classroom presentation PCs and in faculty and graduate student offices.

The Center for Spatial Information (CSI), which is affiliated with the Geography department, was created at Central Washington University in 1999 to coordinate and enhance the application of established and emerging technologies used to create, manage, and analyze spatial information. One of the primary goals of CSI is to evaluate emerging geospatial technologies, and to develop methods to use geospatial data to solve real problems on the ground. These pilot projects, conducted by various faculty, staff and graduate students, are then used as a foundation on which to build educational curriculum for training appropriate personnel in rural agencies and communities around the Pacific Northwest, and to disseminate information to a broader rural audience via collaborations with other western universities, through published journal articles, bulletins, and conference presentations, along with web-based outreach. CSI is also the site of the RGIS - Pacific Northwest Regional Office for the National Consortium for

Rural Geospatial Innovations in America (RGIS). The National Consortium for Rural Geospatial Innovations (RGIS) assists state, tribal, regional and local governments, and non- and for-profit organizations in implementing advanced geospatial information technologies. While CSI largely funds most of its equipment and software needs through RGIS and additional grant activity, the Geography department currently provides three offices for the CSI director and research staff, as well as use of the GIS lab. CSI has two workstations with dual monitors, a development and testing server, and two Web servers running Web mapping applications that are part CSI's research. ESRI ArcGIS Server and GeoServer are used to serve maps over the Internet and PostgreSQL database with the PostGIS extension are used to store and manipulate spatial data for use in Web applications. In addition to computer hardware and software, CSI possesses field surveying equipment that consists of 1 Leica total station theodolite; 1 survey prism with several rods and tripods; 2 Trimble Pro XRS GPS units, 1 Trimble Juno GPS; 1 Redhen video mapping GPS encoder; 2 high precision laser range finders; and 1 high definition video recorder. CSI also shares a TopCon total station theodolite, and Hiper Lite GPS base station and rover with the Anthropology department.

The department maintains a map library for research and teaching. The library holds a large collection of USGS topographic maps covering locations in all 50 states. For classroom teaching purposes, the department also maintains multiple copies of USGS topographic maps covering particular locations of interest. In addition to USGS topographic maps, the library houses a wide variety of thematic maps as well as a large collection of historic aerial photographs, between 1942 and 1968, mainly covering Central Washington. Most of these historic aerial photographs have been scanned, so that digital images of the originals are available for teaching and research. Additionally, a Web application has been developed that makes all of these scanned photographs available for download over the Internet. The application runs on a Web server housed in the GIS Lab. As of this writing, the application has not been officially open to the public.

We expect that we will need to replace many, if not all, of the workstations in the computer lab every three to five years.

The GIS (Geographic Information Systems) room holds a 24-seat computer lab, with two instructor computers. An adjacent overflow laboratory houses an additional 6 computers, permitting graduate students and others to work while the main laboratory is booked for instruction. Each computer has the most recent version of ESRI's ArcGIS (v10.0), the industry standard in GIS, as part of the University's site license. Further software includes ERDAS Imagine for remote sensing applications, Google Earth Pro, Microsoft Office and Corel Graphics Suite.

VI. Library and Technological Resources by location

A. General and specific requirements for library resources by geography to assist in meeting educational and research objectives—ways in which the present library

resources satisfy and do not satisfy these needs, and anticipated needs as to the next 5 year period

Because of geography's synthesizing mode and method, department faculty often require access to current literature from many disciplinary sources. Both faculty and student needs are generally met as a result of the university's increasing support of and subscription to varied databases (e.g., GeoBase, GeoRef, Web of Science) and full text electronic journal and newspaper collections (e.g., JSTOR, ProQuest), as well as full access to rapid interlibrary loans through the SUMMIT regional libraries catalog system. Material not available through SUMMIT can generally be obtained through the ILLiad on-line interlibrary loan request system, although that takes longer and has user fees associated with it. All of these sources are readily available through university computers as well as from off-campus through the university's internet web page. The CWU library also maintains an extensive map library and government documents depository, as well as helpful links to additional electronic data sources through its website.

Within the natural resources arena and other more applied fields of geography, there is also a critical need to access limited distribution technical reports that are uncommon in library holdings. While some of these can be obtained as government documents, many are difficult to locate. While this "gray literature" is critical to some student and faculty research, it is not typically listed in publicly-available databases, and is instead located mostly via personal communications with pertinent resource agency personnel. In that regard, we do not believe that the CWU library can be expected to assist in this area.

B. Information technologies faculty regularly and actively utilize in the classroom, and anticipated needs as to the next five year period

All department faculty are able to maximize use of our classrooms that have been equipped with podium computers, document cameras, television access (some), VHS and DVD players and RGB projectors. This facilitates the projection on the front screen of graphical lecture supplements, and this is especially useful for displaying maps at any number of scales. Video segments are also common classroom enhancements, especially in our regional classes where visual material is available to engage in what amounts to a "virtual field trip" to far-flung places otherwise inaccessible. For current events that have a geographical context, we sometimes tune in to the news channel for a few minutes; such was the case with the Japanese tsunami to document the resultant effect on human settlements along the coast.

Future needs simply involve the periodic upgrading of this equipment, with working desktop computers and projectors. Appropriate software will include GIS, remote sensing and Google Earth.

C. Technology available to our department and its adequacy, with anticipated needs over the next five year period

See Section V. subsections B and C, above for detailed responses to this. As explained, it is expected that GIS lab computers and equipment will be replaced on a three to five year cycle. CWU budget processes are now being revised to create, at the Dean level, ongoing funding for replacing instructional equipment as needed. In the meantime, the department is making its anticipated needs known through channels.

VII. Analysis of the Review Period

A. What has gone well in the department and with each degree program

1. Accomplishments of the past five years

In the Fall of 2007, we changed the long-held name of the department from The Department of Geography and Land Studies to The Department of Geography.

We consolidated faculty offices with our January 2009 move to LEED-certified Dean Hall. Our new facilities include up-to-date classrooms, computer labs, student meeting and study atriums, geography lab rooms, research offices, labs and equipment, a shared library space and modern conference room.

During the review period, the department hired six new tenure-track faculty members (maintaining our gender diversity with two female geographers among them) and is now completing the search process for a seventh. Each of these was, or will be, hired to replace a leaving or retiring professor.

The department's scholarly output and professional achievement has grown and, with it, an apparent increased level of teaching and integration of research in the classroom.

We have strengthened our commitment to interdisciplinary research and collaboration with other departments, as we increased our level of undergraduate participation in faculty-lead research.

Our curriculum has been reevaluated and adjusted, with elimination of courses not offered on a regular basis and deepening of offerings in areas of faculty focus, although we have not deleted courses at the same rate we added them. We strengthened the core for the major, tweaking courses to provide more commonality among our majors, and have begun developing common standards among our five discipline subfields. In an attempt to drive students to take our core classes earlier, we have added prerequisites to many of our upper division classes. We added labs to our introductory physical geography course, and have significantly strengthened our commitment to get students into the field.

The department developed, under the guidance of one of our newer geographers, an occasional "Thursday Geography Field Notes" seminar, at which local and visiting geographers have been invited to make presentations to our campus community. Additionally, the Resource Management program regularly schedules lunchtime speakers in a colloquium in which our faculty participate. Members of the department regularly discuss increasing our focus on this opportunity for outreach.

Corresponding with direct competition from the Environmental Studies Program, and its “geography specialization” we have seen our total number of majors (including 45-credit and 60-credit majors) drop from an average 82 per year to 70 in the last year of the study period. Our number of students enrolled in our minor remains steady at 19 to 20. We have strengthened our major admission standards and added rigor to our advisement processes.

2. How our accomplishments have been supported through external and internal resources

Internally, our Center for Spatial Information has steadily attained sufficient grant and other funding for a variety of private, tribal and governmental projects, thus providing support for departmental operations and for faculty and students. In total, CSI has received approximately \$903,000 in grant funding during the review period. These funds have supported six CWU faculty members, four research technicians, eleven summer students and two undergraduate research assistants.

The university has developed methods of increasing start-up funds to aid incoming faculty in establishing their research agendas. The faculty union bargained \$700 per faculty member per year as faculty development money.

The Dean of our College of the Sciences has provided internal release time when possible to support our department’s increased emphasis on research. Additionally, the college provides summer “seed” grants to help faculty with research efforts.

The Office of Graduate Studies and Research provides travel funds for appropriate scholarship development and dissemination.

Emeritus (and current) faculty are funding/subsidizing student field trips with contributions to a university foundation account.

B. Challenges existing for the department and for its degree programs

1. Major challenges of the past five years

CWU has, with other state agencies, suffered major reductions in state budget support, with particular stress over major losses to our goods and services budget.

The growth of the Environmental Studies major—especially in the geography specialty—has increased our advising load for students we are unable to count as our own majors.

The balancing act between increasing teaching loads, graduate and undergraduate advisement and scholarship in a time of ever-decreasing budgets has become more and more difficult to manage.

While we have benefitted from new faculty and their fresh approaches to our discipline, the turnover of faculty because of retirement, illness and changing careers has challenged our ability to develop a departmental agenda.

The long-term challenge of attracting high-quality majors, from more diverse backgrounds, prior to the middle of their junior year continues to be a struggle—although we are experimenting with new approaches to marketing and advising. These efforts include a promotional You Tube video and a redesigned web page focusing on courses as they relate to careers.

Stemming the loss of teaching/research productivity resulting from several faculty with quarter- or more time released for administrative duties has been an ongoing topic of discussion.

2. List likely causes of each challenge as supported by documented evidence

Much of the responsibility for ENST Program growth which has eaten into our majors can be laid at our own feet, as we have always had at least two of our department faculty on its Advisory Council. Prior to the current period of review, the department passed on an opportunity to incorporate the Environmental Studies Program into the Department of Geography, and we have failed to act as a unified department in the face of its growth and change.

Geography is not a state-mandated curriculum in high schools, thus we get uninformed students matriculating.

CWU has highest-percentage of transfer students in Washington State.

Administrative responsibilities of four senior faculty (Hickey, Lillquist, Huckabay, Gabriel) have challenged our ability to coordinate teaching assignments.

Stresses from continuing budget cuts through the time period of review have demoralized faculty and staff.

C. Recommendations from the previous program review which have been implemented

1. How each recommendation has been implemented and how the department and degree programs have been impacted

Recommendations and departmental response to each (in italics) follow in the order they were presented to the department by then-Dean Miller.

Curriculum

“Eliminate courses from the catalog that are not taught as part of a regular rotation, then take a good look at the courses that are left and how well they serve the major.”

IMPLEMENTATION: The Department has spent several hours of retreat and regular meeting time, since the Program Review, revisiting its rotation of classes and their place in our major. At least a dozen courses have been eliminated or moved to reserve and others have been moved onto a two- to three-year rotation.

“Develop a manageable suite of courses that draws on faculty expertise and provides core geographical concepts to students; make sure sequencing of courses offers students logical progression through the curriculum and makes best use of faculty time and resources. Consider, perhaps, program specialties (such as watersheds theme) that help focus course offerings for the major and make for a more manageable repertoire of classes for faculty.”

IMPLEMENTATION: Faculty have periodically revisited questions of program and faculty specialties and we have made a number of changes relating to scheduling of courses to enhance the teaching and research of particular faculty, tightening prerequisites and reaffirming learning outcomes for core classes.

“Explore options (in consultation with the COTS Dean) about focusing more attention on the majors and course offerings at the 300 and 400 level; find appropriate balance between generating SCH with Gen Ed classes and providing advanced concepts to majors.”

IMPLEMENTATION: While we are not entirely certain what some of this means, such a balance has been, and continues to be, an important issue. In the declining economy with which we are living, the department—in consultation with the dean—has made several adjustments including remixing the teaching of upper and lower division classes across new and tenured faculty and making significant use of larger-capacity classrooms.

Program Planning and Assessment

“Establish a time line for tackling long-range strategic planning. The move to Dean Hall provides a great opportunity to rethink physical space for the department and also how you might reinvent the department with future hires, a refreshed curriculum, and new ideas about departmental culture. How will department evolve and change with future retirements? What kind of department do you want to be in 5 years? A strategic plan would facilitate decisions about future hires and help communicate to administrators the direction the department intends to take.

IMPLEMENTATION: The Department has had six searches since the Program Review (replacing four junior faculty and two retiring faculty). In an extended retreat and at the time of the first search, faculty spent several hours discussing the future direction of the department, the role of the new geographer and the adjustments the department might make with each subsequent search—including those to manage three expected retirements by 2012. Those directions and discussions have been carried forward with each search. In the current economic environment, department faculty are regularly meeting to reassess directions with current and anticipated faculty skills and interests. The

department is maintaining its human-cultural core and adding expertise to water and energy resource analysis and GIS/planning.

“Explore the option of bringing in an outside chair for the next hire; this would take some pressure off currently overloaded faculty who might be selected for future chair duties and bring new energy and vision to the department.”

IMPLEMENTATION: This suggestion has remained under consideration. One of the expected retirees in 2012 will be replaced with an outside chair.

“Engage in assessment that results in meaningful, reflective changes to the program.”

IMPLEMENTATION: Beginning with an overdue 07-08 departmental assessment report, the department is back in step with expected and required assessments. We are now gathering sufficient data to manage such changes.

“The department, represented by the department chair, needs to effectively communicate with administrators and tell the department’s story. It is the department chair’s responsibility to represent the department in its best light; to use the chair position to advocate for the collective good of the department, and to build and reshape the department in response to changes in the discipline and in the university culture.”

IMPLEMENTATION: The current department chair (effective June, 2008) is well aware of these responsibilities and has, with support of departmental faculty, taken several successful steps to meet them.

Faculty

“Continue to ensure work load balance for untenured faculty so that they are able to publish enough to get tenure. Reinforce for probationary faculty the research and publication expectations of the department, college, and university through an effective mentoring program.”

IMPLEMENTATION: The department has established a mentoring program for new faculty and is fully taking advantage of the programs created by our new provost. In a series of several formal and informal group discussions, we have found ways to help new faculty meet teaching needs while finding time to accomplish appropriate levels of scholarship. Additionally our union contract requires a minimum level of workload units be devoted to scholarship and our College Dean gives first-year faculty an additional set of workload units.

“Work to resolve what appear to be gaps in collegiality among some of the faculty that might affect departmental potential.”

IMPLEMENTATION: Faculty have carried out several open-ended discussions—both formal and informal—on a variety of issues we face. We are committed to greater collegiality and are succeeding at all levels—experiencing an increased level of collegiality and respect for each others’ skills, roles and interests.

“Promote a department culture of lifelong professional engagement and work with tenured faculty to encourage continued involvement in areas that increase the profile and reputation of the department.”

IMPLEMENTATION: Again, while we fail to understand the full meaning of this recommendation, we continually strive to honor the long history of engagement the Department of Geography has with community and local/state/federal agency work. Since the Program Review, tenured and non-tenured departmental faculty continue to actively engage, within workload constraints, in several highly visible projects which bring social capital to Geography at CWU. Additionally, several actions are in place, or in planning, which will increase the profile and reputation of the department. The department maintains a high involvement in both research and service. (See Section VIII, Future Directions, below)

Students

“Continue good work at promoting a student-centered program that provides so many opportunities for job training and placement.”

IMPLEMENTATION: The department has actively continued, and increased, efforts to engage majors in the Geography Club and extracurricular learning opportunities and continues to support internships and service learning at every opportunity.

“Rethink advising system to give credit to faculty who seem to already be shouldering much of the responsibility for advising.”

IMPLEMENTATION: The department chair, in agreement with faculty, has taken a number of steps to balance the advising load across all faculty.

Library, information resources, facilities

“Continue good work of supporting technology intensive programs. Work with administration to assure support of hardware and software in the time, money, and technology-intensive field of spatial data analysis.”

IMPLEMENTATION: Our GIS faculty, our chair and affected colleagues from across campus, working independently and with our administration, have successfully sought, and used, new opportunities to bring funding, hardware, software and fresh instruction to our students’ experience. The department library representative—and the department as a whole—has met with Brooks Library personnel to maximize our resource availability.

2. Recommendations which were not implemented and why

To the best of our ability, we have implemented—or continue to implement—all recommendations.

D. A comparison between the last program review and where the department is now

1. How the advances have been supported (internal and external resources)

We have worked diligently to garner and keep the support of all those needed to ensure our success growth and evolution.

Internally, our dean has advised and supported our changes in every way possible, given the current budget constraints; the graduate school has fought for graduate assistantships, thus supporting the department with REM graduate assistants to assist with teaching and research needs of faculty; and the administration has been very responsive in helping us fill faculty lines vacated by junior faculty moving on and senior faculty retirements.

Externally, our faculty have done yeoman's work in seeking and obtaining outside funding so that we might be able to meet students, class, field research, supplies and other departmental needs.

2. Possible still outstanding, unmet needs/challenges from the last program review, and what the department has done to meet them

As discussed above, we are approaching head-on all the challenges identified in the last Program Review. We keep all unmet challenges on the table and revisit/update them regularly—during faculty meetings and retreats.

VIII. Future directions

A. The Geography Department's aspirations for the next three to five years, as it strives to become a "Destination Department"

Recruitment of new students to our program is rather haphazard and mainly passive. Majors discover the department late and often only after having first struggled in some other, seemingly more demanding major. Further, the data compiled by the Academic Planning Task Force confirmed a marked reduction in the number of majors since the creation of the Environmental Studies major. While the department is rightly proud of its current corps of majors, we view attracting more majors in general and academically stronger majors in particular as crucial challenges for the next five years.

At a department retreat in November 2011, the faculty discussed the idea of making Geography more of a destination major – a major that students would seek out early in their academic careers and that would have broad appeal to a wide variety of students including the brightest. Achieving this vision would have numerous benefits apart from merely reversing the trend in the number of majors:

- ❖ Get students into a geography major earlier, which would facilitate more effective advising and more coherent student development (e.g., taking courses in their intended order);
- ❖ Create a more favorable environment for faculty-student collaborative research;
- ❖ Increase the number of students with the ability and sufficient time-to-graduation to participate in events such as SOURCE;

- ❖ Permit faculty to teach more upper level courses in their respective areas of expertise;
- ❖ Encourage a stronger departmental esprit de corps favorable to student success;
- ❖ Increase likely fundraising prospects among future alumni as well as among current donors (e.g., former faculty) to support academic awards, student travel and research, and other enrichment activities.

To some degree, a successful “Destination Department” would be self-sustaining in that improvements in the overall number and quality of students would have numerous benefits which would in turn make the department more attractive to highly motivated, capable students and so on.

During the retreat, a number of strategies to place Geography in that virtuous cycle were discussed. In no particular order of importance or sequencing, they included:

1. Recruit more female faculty members (and from other underrepresented demographic groups). While women account for a majority of CWU students overall, geography majors appear to be mainly men. There are doubtless many reasons for this, but one is probably the overwhelmingly male Geography faculty. Recruiting more women would give potential female majors a broader set of role models with which to identify.
2. Put the best teachers from the department into 100-level courses.
3. Each faculty member should commit that at least once in every five-year time period, he or she will apply for an internal or external contract or grant that provides research opportunities for one or more undergraduates.
4. Establish a foreign study program. Some possibilities based on the expertise of current faculty include Central America (Revels), South America (Lipton), Southeast Asia (Bowen), and Canada (Gabriel & Novak). Even if most majors would not take part in such a trip, its effects on the enthusiasm of those who did could have broader positive effects on the program. A new foreign study program would also support the university’s new internationalization initiative.
5. Establish regular connections to the Centers and nearby community colleges. A quarterly lecture and/or some other kind of get-together at CWU-Des Moines or CWU-Yakima would be a good start.
6. Further improve the department’s website, advising poster, and other outreach materials. Reconsider the use of Facebook and other social media.
7. Increase the number, diversity, and quality of student internships. An Open House, luncheon, or other forum in which potential public and private sector employers could meet with faculty and students would be one way to move towards this end. The contacts of recently retired faculty should be sought out and reestablished.
8. Incorporate a wider variety of learning formats into Geography courses to increase their appeal. Expand on the department’s tradition of field-based learning.

9. Set the bar higher in admitting new majors. By itself, this might be ill-advised but in conjunction with other measures, especially after they have had some time to work, it should be considered.
10. The department should look for opportunities to better highlight its achievements, including the excellence of its staff (e.g., nominate deserving faculty for campus-wide awards). For example, our Secretary Senior was recognized as Central's Employee of the Month last year.
11. One geography faculty member should offer a spatially oriented course in the Douglas Honors College.
12. Consider revising course titles and descriptions for existing courses and consider adding courses that will increase the department's broad appeal (e.g., we could put a spatial spin on Middlebury Colleges "Economics of 'Sin': Sex, Crime, and Drugs" – which is among the most popular college courses in America).
13. Focus the department's curriculum on areas of excellence such as watershed science and management.
14. Conduct professional workshops for elementary, middle, and high school teachers in Central Washington, partly to increase familiarity with the department and with geography among regional teachers and their students.
15. Expand the responsibilities of and funding for the department's research and instructional technician to bolster lab courses, increase support to faculty and collaborative faculty-student research, and augment outreach activities (e.g., website development).
16. Consider the formation of a 75-credit Bachelor of Science in geography to complement the existing 60-credit Bachelor of Arts. The new degree would feature more rigorous course requirements (e.g., Geography 409 Quantitative Methods in Geography and Environmental Science would be required), a stronger fieldwork component, and a mandatory senior thesis.

We plan to use the results of the department's program review, including the feedback of the external reviewer, to refine and prioritize these (and other as-yet-unconsidered) options. Broadly, our intent is to act on some of the "small-bore" items quickly and work on the larger programmatic strategies over the longer term.

B. In the above context, ways the department or unit plans to increase quality, quantity, productivity, and efficiency as a whole and for each program, with evidence that supports the promise for outstanding performance

To attract more interest in our program and students, we will increase promotion efforts, revisiting and reenergizing such efforts as our Thursday Field Notes seminars, and our online/social network presence, and increase our level of mutual support as it comes to nominating our peers for awards and recognition.

To improve the quality of our program we will continue our collaboration on standardizing expectations in courses in a given subfield and revisit the concept of “tracks” for specializations within subfields.

We will develop a method for more effectively identifying and pursuing grants and University-offered releases for scholarship.

We will revisit the development of a Bachelor of Science degree in geography as a tool in strengthening our student training.

We will increase our outreach efforts to the universities teacher education departments to help improve the geographic education of future incoming students.

We will continue to evaluate and develop on-line and other distance learning opportunities in order to reach new majors.

C. Specific resources the department needs to pursue these future directions

We would benefit from a full-time teaching/advising technician staff person, to deal with undergraduate efforts, and will continue working to achieve it.

We will continue to efforts to develop our Instructional and Classroom Support Technician into a full-time position—perhaps in partnership with the Anthropology Department.

D. What we want planners to know that is not included in this self-study

IX. Suggestions for the program review process or contents of the self-study

Appendix A

Detailed Historical Chronology of the Department of Geography—Central Washington University

Appendix B

A Representative Sample of Geography Course Syllabi (organized by Geography Course Classification and course number from introductory to upper division)

Appendix C
Geography Faculty Vitae

Appendix D
Geography Alumni Survey Results

Appendix E

Performance Standards of the Department of Geography, the College of the Sciences and Central Washington University