

**WSU Five-Year Program Review  
Self-Study**

Department/Program: **Geography**

Semester Submitted: Fall, 2016

Self-Study Team Chair: Bryan Dorsey

Self-Study Team Members: Mike Hernandez, Dept. of Geosciences, Weber State University  
George Hepner, Dept. of Geography, University of Utah

Contact Information: Bryan Dorsey

Phone: 801 626-6944

Email: [bdorsey@weber.edu](mailto:bdorsey@weber.edu)

## EXECUTIVE SUMMARY

The Geography Department currently has six full time faculty members, one full time instructor, six adjunct instructors, and a part time departmental secretary. Although the number of majors in the program has declined slightly over the past few years from about 75 down to about 50, we continue to graduate between 12 and 15 students each year. Other departments of similar size in the College and the University as a whole have experienced similar declines in enrollment since the last program review was conducted in 2011. The department has expanded its curriculum over the years to include majors in general/systematic geography, and geography teaching, along with special emphases in urban & regional planning, ethnic studies, Asian studies, Latin American studies, European studies, global studies, and a relatively new program we have initiated in environmental studies. Some of these emphases are also part of the university's curriculum as inter-disciplinary minors or as concentrations within the Bachelor of Integrated Studies program (BIS).

The program continues to attract new majors, many of whom choose to pursue career training in cartography/geographic information systems (GIS) and land use planning, our two leading areas of employment for graduates. Each year, at least two to three graduating seniors gain admission to graduate programs in geography. Common areas of interest for graduate study include public administration in land use planning, natural resource management, and cartography/GIS. Ongoing course and program assessments indicate that objectives are being met for both, though some improvements can still be made, e.g., tracking of graduates and alumni association development.

- **Mission Statement:**

The mission of the geography department is to provide students with an overview of the discipline, specific skills that will help them in their careers, and knowledge that will help them organize and maintain an effective philosophy of life that reflects an understanding of their natural and cultural surroundings. See extended version of the mission statement in the full report below.

- **Curriculum - types of degrees, number of courses, admissions process:**

Two types of degrees are granted. These include the Bachelor of Science, and Bachelor of Integrated Studies (an interdisciplinary program with three major concentrations). Thirty four separate courses are offered in the department. These include six lower division courses, one graduate course, and the rest are upper division courses. There are seven different tracks in which students can choose to major. These include regular systematic geography, urban and regional planning, geography teaching, Asian studies, American ethnic studies, Latin American studies, European studies, environmental studies, global studies, and a technical emphasis in cartography/GIS. The program offers at least one or two field studies courses each semester and assists students with internships (cooperative work experience). In addition to traditional course work, the curriculum allows for independent, individual research with selected faculty of the students' choosing. Students are admitted to the program at any time during the academic year and meet with the department chair and other faculty for advising. Students also gain information from the department's website at: <http://www.weber.edu/geography/> A list of all geography courses and their descriptions is available online at the address above or the WSU online course catalog. Standard B in the report below shows a curriculum grid linking geography courses to departmental learning objectives in individual courses.

- Student learning outcomes and assessment:

The department is currently assessing the three introductory level courses that fulfill General Education requirements. Learning outcomes for these courses were established five to six years ago, and current assessment strategies have been approved by the WSU Curriculum Committee (see Standard B for a curriculum grid and assessment samples). Assessment of the two required upper division courses is ongoing (see Appendix G for a summary), and several of the upper division elective courses have been assessed. Assessment of individual courses also emerges during the tenure and promotion review process for individual faculty members. Regarding overall program assessment, exit interviews with graduating seniors are conducted, students gaining admittance to graduate programs are counted and tracked where possible, and follow-up questionnaires are sent to recent graduates. Student responses in exit interviews and mailed-back questionnaires are discussed in department meetings to see if there are any patterns that might warrant changes in curriculum or assessment procedures. The research seminar offered during the student's final semester in the program provides some of the more meaningful assessment. Geography faculty members meet on a monthly basis to discuss current course assessments, current program offerings and overall program performance.

- Academic Advising:

General education advising is done by the college of social science general education advisor. Major advising is done informally by all faculty whenever a student inquiry is made. Official advising and final major/minor clearances are done by the department chair. Advising for the planning emphasis is done by the coordinator of the urban and regional planning program and approved by the department chair (currently the same faculty member).

- Faculty:

The department has six full time faculty (five of whom are tenured and one on tenure-track). The department also employs six adjunct faculty (whose salaries are paid by the WSU main campus department of continuing education, the Davis campus continuing education office, and periodically by the college of social sciences). See Appendix B for a summary of full time and part time faculty. All full time faculty members are pursuing research and community-based, high-impact learning projects (see Standard E below for a list of faculty publications and research projects). The department accepts many courses that include topics in geography, area studies, and environmental issues taught by faculty in other disciplines (i.e., botany, geology, geospatial analysis, zoology, foreign languages, economics, history, anthropology, sociology, political science, microbiology, and English).

- Program Support:

The geography program is adequately supported by the College of Social Science, university library, campus and college computer support, department faculty and alumni scholarship donations, and donations from various local planning agencies (county, city, etc.). The department has one part-time secretary and has recently hired a student office assistant. Student research efforts and service activities are supported by the Office of Undergraduate Research and the Center for Community Engaged Learning (CCEL). Faculty members have a strong record of

securing both external and internal funding, and several have been received endowments and awards.

The Geography Department maintains a modern cartography, GIS (geographic information systems), remote sensing, and planning laboratory in SS345. Geography students have access to a full suite of software in the lab, and as part of our campus-wide GIS license, access to ESRI's ArcGIS 10 software in any of Weber State's campus computer centers. All geography classrooms are equipped with in-situ computers and ceiling-mounted projectors for display of computer graphics, satellite images, maps, student presentations, and web-based instruction. We anticipate an improvement in facilities upon completion of the Social Science building remodel.

- Relationships with the External Community:

The department has liaisons with a variety of state, county, and local planning agencies which employ graduates, hire interns, and provide occasional department instruction and guest appearances. Faculty members are also involved with the CCEL, which allows students the opportunity to engage with community organizations such as the Nature Center and Friends of Great Salt Lake. Liaisons are also kept with local mapping companies and non-governmental organizations such as, Envision Utah (guest lectures and other on-campus appearances), and the Association of American Geographers (department has hosted visiting scholars from various sub-disciplines in geography). See Appendix E for a partial list of community partners.

## **Brief Introductory Statement**

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The program continues to attract new majors, many of whom choose to pursue career training in cartography/geographic information systems (GIS) and land use planning, our two leading areas of employment for graduates. Each year, at least two to three graduating seniors gain admission to graduate programs in geography. Common areas of interest for graduate study include public administration in land use planning, natural resource management, and cartography/GIS. Ongoing course and program assessments indicate that objectives are being met for both, though some improvements can still be made, e.g., tracking of graduates and alumni association development.

## **Standard A - Mission Statement**

The mission of the geography department is to provide students with an overview of the discipline, specific skills that will help them in their careers (e.g., GIS technicians, land use planners, teachers, and natural resource managers), and knowledge that will help them organize and maintain an effective philosophy of life that reflects an understanding of their natural and cultural surroundings.

Specific learning objectives and respective learning outcomes are listed under Standard C below. Meeting these objectives will equip students to function within American society as informed and engaged citizens, as well as equipping them with specific job skills that help them gain employment and/or admission into graduate schools. These goals are also major goals of the university as a whole.

## Standard B - Curriculum

GEOG Course #	Objective 1	Objective 2	Objective 3	Objective 4	Objective 5
1000	E, A	I	I	NA	I
1001	E	I	I	NA	P
1002	I	I	E	NA	P
1300	I	E, A	I	NA	E
1400	E, A	I	I	NA	I
1520	I, A	I	I	NA	E
3050	M	P	P	NA	P
3060	M	P	P	P	E
3080	M	P	P	NA	P
3081	E	E	E	P	E/M
3090	M	P	P	NA	P
3210	P	M	P	NA	E
3300	E	M	P	NA	E
3360	E	M	P	NA	E
3450	P	P	E	NA	P
3460	P	P	E/M	NA	P
3500	E/M	E/M	P	NA	E/M
3540	E/M	E/M	P	NA	E/M
3590	E/M	E/M	P	NA	E/M
3640	E/M	E/M	P	NA	E/M
3740	E/M	E/M	P	NA	E/M
4050	P	P	M	NA	P
4410	M	E/M	E	M, A	E, A
4420	M	E/M	E	M, A	E, A
4800	E/M	E/M	E/M	NA	E/M
4890	E/P	E/P	M/P	M/P	E/P
4950	E/M	E/M	E/M	P	E/M
4990	M	M	M, A	NA	M

### Curriculum Map

*Note<sup>a</sup>*: Define words, letters or symbols used and their interpretation; i.e. 1= introduced, 2 = emphasized, 3 = mastered or I = Introduced, E = Emphasized, U = Utilized, A = Assessed comprehensively; these are examples, departmental choice of letters/numbers may differ

*Note<sup>b</sup>*: Rows and columns may be transposed as required to meet the needs of each individual department

## **Standard C - Student Learning Outcomes and Assessment**

### Measurable Learning Outcomes

At the end of their study at WSU, students in the geography program will...

1. have attained knowledge about the earth's natural environment and its relationship to society (linked to the 8 Physical Science General Education outcomes assessment noted below).
2. have attained knowledge about the world's peoples, nations, cultural environments, and spatial organization (linked to the 4 Social Science General Education outcomes assessment noted below).
3. have attained some modern technical skills of the discipline, including computerized cartography, spatial analysis, spatially-oriented quantitative methods and techniques, and geographic information systems. (Demonstration of skills occurs during capstone research projects.)
4. (some) students will have training emphasizing the understanding of the land use planning profession and issues related to that field.
5. have an appreciation for the great variety of cultural forms and ways of thinking throughout the world, and to help students formulate a world view that uses this appreciation to become responsible U.S. and global citizens.

### Five-year Assessment Summary

Over the past five years, assessment of learning in the geography program has been spearheaded from two approaches. The first step has been to assess outcomes for those geography courses that meet General Education requirements, and the second has been to assess upper division courses that are required for the major. More recently, we have begun to assess learning outcomes from upper division courses that are electives for the major. Results for selected elective courses indicate that all outcomes are being met and that no curricular or pedagogical changes are needed at this time (see annual reports). Annual assessment reports for each of the past five years can be found at [http://weber.edu/oie/departments\\_results.html](http://weber.edu/oie/departments_results.html).

As part of outcomes assessments for General Education courses in geography (GEOG 1000, GEOG 1300, GEOG 1400, and GEOG 1520), results from exam questions, typically from Chi Tester administered exams, have been summarized in the standard outcome assessment tables posted in the annual assessment reports. Additionally, full time faculty members have collectively crafted a standardized set of topics and skills that we expect all instructors (full-time and adjunct) to deliver whenever those courses are offered. For example, in GEOG 1000, students should always be exposed to Plate Tectonics, Biogeographic Processes, Weather and Atmospheric Dynamics, Geomorphology, the Hydrologic Cycle, Human-Induced Climate Change, Soils, Concepts of Sustainability, the Scientific Method, etc. This will insure that any student who takes a general education class in our department, will have been exposed to what the geographic community widely considers the standards of the discipline. What we expect students to know are consistent with the General Education course learning outcomes and objectives. Exam results, term papers, homework assignments, etc. will form the basis of our assessment, and will be tied to outcomes. Assessment methods have varied from course to

course as noted in the Assessment Plan matrix above, but assessment of introductory level General Education courses will be based primarily on analysis of individual test item results. In fall semester, 2012, we developed a test bank of questions for the various general education learning outcomes that have been used for GEOG 1000 assessment. We chose a minimum of 70% on scores for test items as the bottom threshold for demonstrating mastery since the lowest grade accepted for the geography major is C-, or 70%. Exam copies with assessment results have been kept by the department chair with other evidence of learning “artifacts” as part of program review documentation. Assessment for GEOG 1400 has been conducted by Dr. Bedford as he has been the only faculty member teaching this course.

The two required (core) upper division geography courses have been assessed as part of an ongoing process using similar methods (exams, papers, projects, and homework assignments) by individual faculty who typically teach these courses (see Assessment Plan matrix above). Upper-division geography elective courses will be assessed according to the schedule table shown in the annual assessment reports (again, see [http://weber.edu/oie/department\\_results.html](http://weber.edu/oie/department_results.html)).

#### Introductory level required geography course assessment

Natural Environments of the Earth (GEOG 1000) and the Science of Global Warming (GEOG 1400) were both reviewed by the University Curriculum Committee with the following general learning outcomes identified for natural science courses (average percentages of students achieving 70% competency appear in parentheses after each outcome):

1. Nature of science. Scientific knowledge is based on evidence that is repeatedly examined, and can change with new information. Scientific explanations differ fundamentally from those that are not scientific. (82%).
2. Integration of science. All natural phenomena are interrelated and share basic organizational principles. Scientific explanations obtained from different disciplines should be cohesive and integrated. (84%)
3. Science and society. The study of science provides explanations that have significant impact on society, including technological advancements, improvement of human life, and better understanding of human and other influences on the earth’s environment. (85%)
4. Problem solving and data analysis. Science relies on empirical data, and such data must be analyzed, interpreted, and generalized in a rigorous manner. (84%)

Specific learning outcomes for physical science courses include:

1. Organization of systems: The universe is scientifically understandable in terms of interconnected systems. The systems evolve over time according to basic physical laws. (85%)
2. Matter: Matter comprises an important component of the universe, and has physical properties that can be described over a range of scales. (84%)
3. Energy: Interactions within the universe can be described in terms of energy exchange and conservation. (86%)
4. Forces: Equilibrium and change are determined by forces acting at all organizational levels. (89%)

While the average percentage of students achieving 70% competency was slightly lower for several outcomes (“nature of science” in particular) in GEOG 1400 compared to GEOG 1000, findings indicate that all 8 outcomes are being met and that no action is needed at this time.



Places and Peoples of the World (GEOG 1300) and the Geography of the U.S. and Canada (GEOG 1520) were also both reviewed by the University Curriculum Committee with the following general learning outcomes identified for social science courses (average percentages of students achieving 70% competency appear in parentheses after each outcome):

During the 2013-14 academic year, before outcomes were modified, the following original outcomes were assessed:

1. Written, oral, or graphic communication: Students will be able to create a term paper project with appropriate organization, support, and use of cartographic communication. (88%) No curricular or pedagogical changes needed at this time, however, students are encouraged to take technical writing classes.

2. Use of library or other resources: Students will identify appropriate resources for geographic topics. (79%) Action item: students will attend a presentation by a reference librarian early in the semester, and faculty will review proper citation style.

Though somewhat modified from the original language, the following additional outcomes were assessed in 2013-14.

Gen ED SS Outcome 1: “Interactions between individuals and society”

Students will describe how individuals and groups influence and are influenced by social contexts, institutions, physical environments and/or global process. (85%)

Gen ED SS Outcome 2: “Application of concepts, theories, and methods”.

Students will apply basic social science concepts, theories, and/or methods to a particular issue and identify factors that influence change. (83%)

Gen ED SS Outcome 3: “Diverse Perspectives”

Students will identify an argument about a social phenomenon and understand alternative explanations. (80%)

Assessment findings for these outcomes indicate that no action is needed at this time.

#### Upper-division required geography course assessment

Both of the core required course for the major were assessed during the last five years revealing that no actions, i.e., curricular or pedagogical changes, are needed at this time. See Appendix G for assessment results for GEOG 3600 and GEOG 4990. Artifacts are still gathered and kept by the department chair.

### **Standard D - Academic Advising**

#### Advising Strategy and Process

The department chair does all of the official advising in the departmental programs. It has been departmental policy that all geography faculty members assist with informal advising whenever a student asks a question (with the final advising and clearing for the major and minor being done by the chair). Students are told they must meet with the College Academic Advisor to be sure they are meeting broader university requirements. There is also an advisor for the urban planning program in the department who is also their urban and regional planning coordinator for the University. Advising is available to all students whenever needed or requested. Students receive an orientation to the department and the discipline from the chair following a student's declaration of the geography major.

Geography majors are encouraged to meet with the chair at least once a year, particularly

during the year of their intended graduation. A final graduation evaluation is done at this time and the results are entered into the university's Cat Tracks computer system by the departmental secretary. Much of the advising information is also disseminated via the departmental website: <http://www.weber.edu/geography/>. The website is currently being updated with more information specific to learning outcomes and career options for each of the emphases in the program.

Effectiveness of Advising

The effectiveness of the department's advising has been determined by asking students during their graduation evaluation and exit interview how effective they felt their advising was over their years here at WSU. Usually students indicate the advising they received was more than adequate. One challenge we have had over the past four years has been to make certain that students take the Quantitative Methods course (GEOG 3600) in the spring so that they can begin work on their capstone research project (GEOG 4990) in the subsequent fall semester. This point is reiterated by the department chair in all advising sessions.

Past Changes and Future Recommendations

In an effort to address the problem noted above, a hand-out was developed to show course sequencing with an emphasis on the fact that GEOG 3600 is offered spring semester only, and GEOG 4990 is offered only in fall semester. E-mail messages are sent to all majors reminding them of this course sequencing so that their intended graduation is not delayed. The department is currently working on a new course proposal titled, Mapping the Geography Major: Pathways to College and Careers (GEOG 2020) that is designed to assist students in learning about the geography major, career possibilities and course sequencing.

**Standard E - Faculty**

Faculty Demographic Information

The Geography program currently employs six full-time faculty members, one full-time instructor, and six part-time adjunct instructors. Regarding demographics, three of the 13 are female (23%), 12 are of Euro-American ethnicity, one is Hispanic, and one is a Veteran.

Programmatic/Departmental Teaching Standards

Tenured faculty must have earned a doctorate in geography or a related field and have acquired some teaching experience. Adjuncts must have at least a master's degree in geography or a related field and have some teaching experience. All faculty members must have a c.v. on file with the department chair.

Faculty Qualifications

**Faculty & Staff (2016-17)**

	Tenure	Contract	Adjunct
<b>Number of faculty with Doctoral degrees</b>	6	1	
<b>Number of faculty with Master's degrees</b>			6

<b>Number of faculty with Bachelor's degrees</b>			
<b>Other Faculty</b>			
<b>Total</b>	6	1	6

Evidence of Effective Instruction

Full-time and Adjunct Faculty

In accordance with Weber State University policy, all full time and adjunct faculty members have received student evaluations for their courses they have taught with the geography department during the past five years. These evaluations address the teaching categories listed below and are scored by students on a five point nominal scale with 5 indicating “almost always,” 4 “frequently,” 3 “about half the time,” 2 “occasionally,” and 1 “hardly ever.”

Items listed on course evaluations:

- Classroom activities supported objectives
- Course objectives clearly presented
- Presentations helped me to understand
- Opportunity to participate in class
- Instructor emphasized key points
- Course stimulated my thinking
- Instructor's explanations seemed clear
- Teaching aids helped to clarify ideas
- Instructor used class time effectively
- Instructor respected and regarded me
- Assignments contributed to understanding
- Work graded according to guidelines
- Tests covered the content presented
- Course added to my knowledge
- Course presented new knowledge/skill

Full-time faculty member scores on teaching evaluations average between 4 and 5 on all criteria noted above indicating that their teaching may be quite effective, though there is some debate as to the value of such evaluations since the online evaluation return rate is quite low. Several of the geography adjunct faculty teaching evaluations had slightly lower average scores than full time faculty. Perhaps a more meaningful indication of effectiveness in teaching may be attained from classroom observations and a sampling of syllabi, assignments, exams, research papers and other “artifacts” that are taken into consideration by peer review committees when tenure track faculty go through the review process. All full-time faculty members in geography have received ratings of “excellent” in their teaching evaluations over the past five years. Review of adjunct faculty, though less rigorous and thorough, indicates that they are also highly effective in their teaching. More careful review of adjunct faculty teaching effectiveness would be insightful, though there is no formal review practice for adjunct instructors at the University.

Faculty Scholarship

All full time faculty members have been publishing over the past five years. The list of publications for each faculty member below indicates that the department collectively maintains an impressive publishing record with many having met the requirement for “excellent” in scholarship during the tenure and promotion review process. All faculty members attend professional conferences and make presentations on average of once/year. Another important aspect of scholarship is the development of high-impact learning projects. These are also listed for each faculty member where applicable.

Publications/scholarly projects for **Dan Bedford:**

Bedford, D. and Cook, J. 2016. *Climate Change: Examining the Facts*. Santa Barbara, CA: ABC-CLIO. 215 pp.

Bedford, D. 2015. Does climate literacy matter? A case study of U.S. students’ level of concern about anthropogenic global warming. *Journal of Geography* 115:5, 187-197.

Cook, J, Bedford, D., and Mandia, S. 2014. Raising climate literacy through addressing misinformation: Case studies in agnotology-based learning. *Journal of Geoscience Education* 62: 3, 296-306.

Bedford, D. 2014. Climate change and the future of Great Salt Lake. In Crimmel, H. (ed.), *Desert Water: The Future of Utah’s Water Resources* (Salt Lake City: University of Utah Press), pp. 80-97.

Bedford, D., and Cook, J. 2013. Agnotology, scientific consensus, and the teaching and learning of climate change: A response to Legates, Soon and Briggs. *Science & Education* 1-12.

iUTAH management team member, Research Catalyst Grants team lead, and Weber State University institution lead, 2012-present. iUTAH is a statewide, National Science Foundation-funded project to investigate water sustainability in Utah.

Publications/scholarly projects for **Jeremy Bryson:**

Bryson, J., A. Corbridge, and J. Gull. 2014. “Planning for Dark Skies: Lighting Ordinances in the Intermountain West.” *Journal of the Utah Academy of Sciences, Arts, and Letters*. (mentored undergraduate research project)

Bryson, J. 2013. “The Nature of Gentrification.” *Geography Compass* 7: 578-587.

Bryson, J. 2013. “Greening Urban Renewal: Urban Environmentalism and Green Space on the Spokane Riverfront, 1965-1974.” *Journal of Urban History* 39: 495-512.

Bryson, J. 2013. “Smoke Space: Material and Imagined Nature in the Smelter City of Anaconda, Montana.” *Journal of Historical Geography* 40: 16-23.

Bryson, J. 2012. “Brownfields Gentrification: Redevelopment Planning and Environmental Justice in Spokane, Washington.” *Environmental Justice* 5: 26-31.

Scholarly projects for Jeremy Bryson:

Founding Member, Ordinances Committee Chair. Committee for Dark Sky Studies. 2015-present. Helped organize statewide consortium of academics and professionals dedicated to preserving dark skies in the Intermountain West. Lead the dark sky ordinances committee.

North Fork Park. 2013-present. Yearly monitoring of North Fork Park in order to maintain dark sky park accreditation from International Dark Sky Association.

Craters of the Moon. 2016-present. Organizing teams to provide baseline sky quality measurements for Craters of the Moon National Monument's efforts to become an accredited dark sky park.

Publications/scholarly projects for **Bryan Dorsey**

- Dorsey, B. and Mulder, A. 2013. Planning, place-making and building consensus for transit-oriented development: Ogden, Utah case study. *Journal of Transport Geography* 32: 65-76.
- Dorsey, B., ed. 2016. WSU Bicycle Master Plan. Report developed by WSU planning students; presented to WSU officials in April, 2016.
- Dorsey, B., and H. Johnson, ed.s 2015. Ogden City Transit Study. Report developed by WSU and U. of Utah planning students, edited with Hal Johnson from the Utah Transit Authority.
- Dorsey, B., ed. 2013. Intermodal Transit Center Development Analysis. Report developed by WSU planning students; presented to Ogden City and UTA officials in April, 2013.
- Dorsey, B., ed. 2012. Kaysville Bicycle and Pedestrian Plan. Report developed by WSU planning students; presented to Kaysville City officials in April, 2012.

Publications/scholarly projects for **Eric Ewert**

- Ewert, E.C., "Searching for the 'Old West' in the Theme Towns of the New West," *Review of Social Sciences*, Vol. 01, No. 01: January 2016, pp. 1-14.
- Ewert, E.C., "The Coming Challenge: Population Growth and Water Decline in Utah." Chapter One in Hal Crimmel, Editor, *Desert Water: The Future of Utah's Water Resources*, the University of Utah Press, 2014.
- Ewert, E.C., "Promoting a Green Academic Program," *Teaching/Learning Matters*, ASA's Newsletter for the Section on Teaching and Learning in Sociology, Volume 42, Number 2, Fall 2013.
- Ewert, E.C., Developing a Vision and Plan for the Northern Utah Geospatial Technology Education Program (NUGeoTec). A NSF-ATE peer reviewed and funded proposal, pp 1-45, June 1, 2012.
- Ewert, E.C., "Maps of Great Salt Lake Region, Utah," in Carla Koons Trentelman. "Place Dynamics in a Mixed Amenity Place: Great Salt Lake, Utah." (*Human Ecology Review*. 18(2):126-138, 2011).

Publications/scholarly projects for **Alice Mulder**

- Dorsey, B. and Mulder, A. 2013. Planning, place-making and building consensus for transit-oriented development: Ogden, Utah case study. *Journal of Transport Geography* 32: 65-76.
- Mulder, A., ed., eleven issues of *Weber Green* – the WSU Sustainability Newsletter (2012- 2016).
- Alice Mulder became the director of the university's new Sustainability Practices and Research Center (SPARC) (2015 – present). Scholarly projects focus on informing and educating WSU students, faculty, staff and the local and statewide community to ensure regional and global sustainability efforts. Projects serve as an academic counterpart to and partner with the Energy & Sustainability Office, and works closely with the Environmental Issues Committee.
- Oversight and participation in planning and coordinating the 7<sup>th</sup> Annual Intermountain Sustainability Summit at WSU; in partnership with the Utah Recycling Alliance (March 2016).
- Served on the Community Outreach Committees for two of SPARC's programs – the Drive Electric Northern Utah program (2016) and the Susie Hulet Community Solar Program (2015).

Publications/scholarly projects for **Julie Rich**

- J. Rich, T.M. Rittenour, M. Summa-Nelson, J. Owen, 2015. "OSL chronology of middle to late Holocene aeolian activity in the St. Anthony dune field, southeastern Idaho, USA", *Quaternary International* (ISI Impact Factor: 2.48), 362, 77-86.

- C. Soelberg and J. Rich, 2014. "Sustainable construction methods using ancient Bad Gir (Wind Catcher) technology", *Construction Research Congress ASCE Proceedings* (ISI Impact Factor: 2.41), 1576-1585. <http://dx.doi.org/10.1061/9780784413517>.
- Julie Rich, 2012. "A 250,000-year record of lunette dune accumulation on the Southern High Plains, USA and implications for past climates", *Quaternary Science Reviews* (ISI Impact Factor: 4.57) 62:1-20.
- Julie Rich, Fall 2012. "Interview with James Balog - The Extreme Ice Survey" *Weber The Contemporary West*, Vol. 29, No. 1:85-95
- J. Rich and S. Stokes, 2011. "A 200,000-Year Record of late Quaternary Aeolian Sedimentation on the Southern High Plains and Nearby Pecos River Valley, USA", *Aeolian Research* (ISI Impact Factor: 2.897), Vol. 2, Issue 4, 221-240.

### Mentoring Activities

Geography students benefit from mentoring activities that emerge primarily from our senior-level Research Seminar, GEOG 4990, our Individual Research course, GEOG 4800, and to a lesser extent, GEOG 4890, Cooperative Work Experience. All faculty members work closely with their students on research activities as part of their upper-division courses as well as individualized research projects. Projects in which students have been mentored are listed in the scholarship section above that makes note of high-impact learning projects. Over the years, students have presented research papers at professional conferences, e.g., American Association of Geographers regional and national meetings, giving further evidence of successful mentoring by our faculty.

### Diversity of Faculty

See section above on faculty demographic information.

### Ongoing Review and Professional Development

Five out of six of the full-time faculty members have been awarded tenure and one has received a very strong third year review indicating that all will be tenured within the next few years. Four have been promoted to full professor and all are scheduled for post-tenure review in the coming years. Professional development is largely met by attendance at national and international conferences as well as local workshops and training sessions. Research activities and scholarly projects noted in a previous section indicate that all faculty members in the department are pursuing professional development. All contract, salaried faculty members are encouraged to submit proposals to the Research Scholarship and Professional Growth Committee and many have received awards for their outstanding research and community service efforts.

## **Standard F – Program Support**

Support Staff, Administration, Facilities, Equipment, and Library

### Adequacy of Staff

The geography department has one part-time secretary. The secretary assists with course scheduling, course evaluations, purchases and other budget related items, and spends a significant amount of time helping with majors verifying requirements for graduation (compiles transcript information reviewed by the department chair and enters the info. into the Cat Tracks advising system). Periodically, the chair meets with the secretary and goes over the university personnel performance evaluation. The secretary is informed about strong points and weak points (if there are any). These procedures are made uniform across campus by PREP (Performance Review & Enrichment Program) that is part of the university's Banner computer system. During fall semester 2016, a student office assistant was hired to work in the office 2 days/week for tutoring and assistance with various administrative tasks.

### Adequacy of Administrative Support

Administrative support from the Office of the Dean of the College, the Provost's Office and broader administrative services has been more than adequate. University Career Services staff have been particularly helpful in providing assistance to students enrolled in the senior-level Research Seminar.

### Adequacy of Facilities and Equipment

The Geography Department maintains a modern cartography, GIS (geographic information systems), remote sensing, and planning laboratory in SS345. The lab includes three powerful, large-monitor computers, two high-speed laser printers, a large-format printer/plotter, a table-top scanner, and complete multimedia capabilities. Geography students enjoy access to a full suite of software in the lab, and as part of our campus-wide GIS license, access to ESRI's ArcGIS 10 software in any of Weber State's campus computer centers. Additionally, advanced geography students are offered a copy of the GIS software for home use. This program includes extensive data sets that are provided at no additional cost to students. The department is also equipped with two portable projectors and laptop computers, for use in teaching and at conferences. All geography classrooms are equipped with in-situ computers and ceiling-mounted projectors for display of computer graphics, satellite images, maps, student presentations, and web-based instruction. We anticipate an improvement in facilities upon completion of the pending Social Science building remodel.

### Adequacy of Library Resources

The library is used as a learning tool in many different ways. In some classes, students are given reserve reading assignments. In other classes, book reports and research papers are required that necessitate use of the library's resources. Also for many years the department has spent a great deal of its library budget to purchase back issues of geography journals, which are used in many upper division classes, but particularly in the department's senior research seminar. In this class, students become acquainted with the professional literature in the field and come away with a good understanding of what geography journals exist and how they are ranked as to quality and professional influence.

## **Standard G - Relationships with External Communities**

### Description of Role in External Communities

Speakers and collaborators from off-campus are frequently asked to come to the department and give talks on their areas of expertise. Periodically, we have had a guest lecture as part of a joint visit with Utah State University. The visit was funded, in part by the AAG, and was the second year of the partnership with USU. Guest lecturers are routinely invited into upper-division classes. Community service projects discussed under Standard E above provide details of relationships with various community partners. Also, faculty members have served, and in some cases, continue to serve on boards, such as Weber Pathways, the Ogden Nature Center, and international organizations such as the Worldwide Organization for Women. The department works closely with the WSU Center for Community Engaged Learning (CCEL) to expand the number of community partners and to track student involvement with community partnerships. See Appendix E for a list of community partners and respective institutions or organizations.

### Summary of External Advisory Committee Minutes

Not applicable.

## **Standard H – Program Summary**

This section provides a narrative of results from the previous Program Review (2011-12) and Action Plans (actions taken and ongoing) over the past five years. Narrative in “quotations” for this section is quoted directly from the previous review committee.

### I. Administrative Challenges and Opportunities

#### A. Leadership

It was recommended that the department chair begin taking the standard course release time (2 course reduction), and have other faculty share the task of advising. During spring semester 2012 the dept. chair taught 2 courses, then taught three courses during fall semester 2013. In subsequent years, the dept. chair has taught two courses each semester with occasional overload to offer field course opportunities. While the chair does much of the advising, the task is occasionally shared with other geography faculty and staff.

#### B. Program Assessment

As recommended by the program review committee, during the past five years, the chair and faculty continue to...

(1) “Undertake a strategic planning process for the future direction of the department,” including “a long-term strategy to guide the hiring of new faculty or replacing regular faculty and adjuncts.” Ongoing discussions during faculty meetings have provided clear direction for the program with the following program changes: GEOG 3600 is offered in spring semester only, GEOG 4990 is offered in fall semester only. New faculty members (one tenure-track and one full-time instructor) have been hired to replace retiring faculty or changes in full-time faculty loads. While much debate has centered on creating a separate Environmental Studies major, the current Environmental Emphasis within the program continues to attract students.

(2) “Work with institutional offices on the formulation of a comprehensive assessment plan,



develop methods and collect data for purposes of assessment of student outcomes and program effectiveness.” After completing course assessments for all geography courses, with the exception of a few of the elective courses, an assessment plan/report has been completed each year since 2012.

(3) “Foster external outreach, in part through social media initiatives, to parents, students, alumni and members of the community.” Much of the external outreach occurs through community service projects such as the land use planning projects and study abroad opportunities. Through social media initiatives the Thailand and Mozambique service projects have been tremendously successful. Lectures and campus activities (e.g., Food Matters Series), and faculty led initiatives such as the iUtah and Dark Skies projects have led the department to reach out to students, their parents, alumni and members of the community in an effort to promote geographic education and understanding. Dr. Mulder’s direction of the recently formed Sustainability Practices and Research Center (SPARC) has significantly increased outreach for the University and community, e.g., residential solar panel installation initiative. Additionally, a geography scholarship endowment of \$25,000 was established to seek donations from former faculty and alumni. This endowment has been slow to start, but there has been a commitment of \$3000 to date for the fund.

(4) “Maintain and publicize a yearly teaching schedule for the students as far in advance as possible.” As previously noted, the chair drafted an advising document showing suggested course sequences with notations of semesters when courses are typically offered. This information is also available on the department’s website.

(5) We continue to “develop and maintain awareness of what the geography department offers, both to the students, and to other programs, such as the Center for Community Engaged Learning (CCEL), Office of Undergraduate Research, and other interdisciplinary initiatives across campus.”

### C. Administrative and Instructional Resources

Though the following concerns are largely dependent upon budgetary issues beyond our control, we hope to attain...

(1) “faculty salaries on par with similar institutions throughout the country and to replace outgoing faculty.” While salaries have not increased significantly, there have been some “cost of living” increases. Our one retiring faculty member was replaced by a tenure-track faculty member four years ago. As two of our full-time faculty members have taken half-time positions, a full time instructor was hired to cover their teaching load reductions. Adjunct faculty pay remains embarrassingly low at \$2700/3 credit hour course.

(2) “Geography faculty members have done a good job of securing on-campus resources, such as Hemingway Foundation grants. An incentive system should be developed that provides both financial compensation and, even more important, release time to encourage and reward faculty research and acquisition of external funding.” We continue to seek funding as recommended above. Two faculty members participate in NSF funded projects (see item 3 below).

(3) “Increase support for GIS and land use planning program initiatives.” Dr. Ewert continues to work with another WSU faculty member on a project dealing w/ curriculum changes for instruction in Geographic Information Systems, funded by the National Science Foundation. While land use planning program initiatives receive little monetary support since the 2008

recession, many projects have been successful, e.g., Dark Skies Initiative and transportation plans.

#### D. Space and Facilities

(1) Building renovation plans should include adequate space for an updated cartography/GIS lab. The lab should be equipped with at least a dozen computers (PCs). One large lecture room for teaching physical geography courses should be equipped with 2 gas jets, 2 sinks, and wet and dry lab areas. We have requested “adequate, secure storage [that] must be a part of the design for remodeled geography space.” Additional new field equipment should include a dozen or more light-weight lap top computers (Five ipad IIs were purchased several years ago). The Geography dept. now has a conference room and renovation should include a conference room equipped with a large conference table and seating for 20 people (16 conference room chairs were purchased w/ College funds in fall, 2012).

## II. INSTRUCTIONAL PROGRAM AND CURRICULUM

### A. Interdisciplinary Community Involvement

The Department of Geography continues to work with the Community Involvement Center, the Bachelor of Integrated Studies program and the Office of Undergraduate Research.

### B. Instructional Support

The committee determined that the fine teaching being done in the department could be enhanced by several actions.

(1) As noted above, we will pursue “teaching lab assistants to work with cartography/GIS students” when a new facility is developed as part of the SS Building renovation.

(2) We continue to closely monitor enrollments and scheduling of both lower division (higher SCH) classes and upper division classes. This is done in consultation with Dean Harrold.

(3) The committee suggested that introductory level courses “provide a consistency of structure, content and standards across all sections of the particular course.” As part of the course assessment process, we are developing such standards.

(4) The department chair currently reviews all adjunct course evaluations and conducts periodic interviews. Our recent full-time instructor will be reviewed during the 2016-17 academic year.

### C. Outcomes Assessment

As noted in section I, assessments have been conducted since fall, 2012 and will be ongoing.

## III. STUDENT EXPERIENCE

The review team made the following observations and recommendations.

(1) “The upcoming renovation of the Social Sciences Building provides the department an opportunity to organize its space in the future to include a majors’ room.” We support this recommendation, and encourage students to use the current communal space in SS380.

(2) The department continues to have one or more faculty members serve as advisors for the Geography Club – and the Geography Honorary (Gamma Theta Upsilon) “with the purpose of facilitating (not planning or conducting) activities and providing year-to-year continuity” as recommended by the committee.

(3) The department chair, with assistance from other faculty, periodically meets with entities responsible for advising, and participates in “Major Fest” to share information on the department’s various degree programs and career opportunities.

- (4) The lack of networking with recent department graduates was raised and as a result, recent graduates are invited to return to campus to share information about their career paths. Several alumni have made presentations as part of guest lecture presentations in the senior research seminar as well as regularly scheduled guest presentations. Currently, several alumni either teach or guest lecture for the department.
- (5) About two dozen students have attended AAG regional and national meetings since 2012.

## APPENDICES

### Appendix A: Student and Faculty Statistical Summary

Geography	2011-12	2012-13	2013-14	2014-15	2015-16
<b>Student Credit Hours Total <sup>1</sup></b>	<b>6,656</b>	<b>6,190</b>	<b>5,909</b>	<b>6,201</b>	<b>6,366</b>
<b>Student FTE Total <sup>2</sup></b>	<b>221.87</b>	<b>206.33</b>	<b>196.97</b>	<b>206.70</b>	212.2
<b>Student Majors <sup>3</sup></b>	82	79	68	50	49
other (2nd or 3rd majors)	1	1	1		
<b>Program Graduates <sup>4</sup></b>					
Associate Degree	-	-	-	-	-
Bachelor Degree	26	22	19	12	
<b>Student Demographic Profile <sup>5</sup></b>					
Female	29	31	27	24	19
Male	53	48	41	26	30
<b>Faculty FTE Total <sup>6</sup></b>	<b>11.34</b>	<b>10.77</b>	<b>9.59</b>	<b>10.52</b>	n/a
Adjunct FTE	5.23	4.66	3.91	4.41	n/a
Contract FTE	6.11	6.11	5.68	6.11	n/a
<b>Student/Faculty Ratio <sup>7</sup></b>	<b>19.56</b>	<b>19.16</b>	<b>20.54</b>	<b>19.65</b>	

*Note:* Data provided by Institutional Effectiveness

Program Credit Hour requirements:

    General Education hours: 6

    Required support course hours: 6

    Required elective course hours: 24

    Required major course hours: 36

Appendix B: Contract/Adjunct Faculty Profile  
**Full Time Faculty**

Name	Gender	Ethnicity	Rank	Tenure Status	Highest Degree	Years of Teaching			Areas of Expertise
						WSU	Other	Total	
Dan Bedford	M	Eur	Prof	Tenured	Ph.D.	13	7	20	Arctic, Climate
Jeremy Bryson	M	Eur	Asst Prof	Tenured	Ph.D.	3	2	5	Asia Urban
Bryan Dorsey	M	Eur	Prof	Tenured	Ph.D.	19	5	24	Africa, Planning
Eric Ewert	M	Eur	Prof	Tenured	Ph.D.	14	10	24	Econ, Cart GIS
Jesse Morris	M	Eur	Instructor	Non-tenure track	Ph.D.	First yr.	6	6	Nat. Environ.s
Alice Mulder	F	Eur	Assoc Prof	Tenured	Ph.D.	11	1	12	W Reg, Envir. & Society
Julie Rich	F	Eur	Prof	Tenured	Ph.D.	13	5	18	Arid Lands, Paleoclimates
Total	2 F, 5 M			5 Tenured		73	36	109	

Appendix B: Contract/Adjunct Faculty Profile  
**Adjunct Faculty**

Name	Gender	Ethnicity	Rank	Tenure Status	Highest Degree	Years of Teaching			Areas of Expertise
						WSU	Other	Total	
David Breen	M	Eur	Instr	Adj	M.Ed.	3		3	W Reg, Phys
Kim Hadfield	M	Eur	Instr	Adj	M.Ed.	22	27	32	W Reg, Phys
Rob Hafen	M	Eur	Instr	Adj	MS	2		2	W Reg
Alisha Jimenez	F	Minority	Instr	Adj	MS	5	4	9	W Reg, Phys
Klaus Gurgel	M	Eur	Instr	Adj	ABD	32	2	34	Historical
Paul Richards	M	Eur	Instr	Adj	MS	9	10	19	W Reg, Phys

Appendix C: Staff Profile

Name	Gender	Ethnicity	Job Title	Years of Employment	Areas of Expertise
Debra Lacey	F	Eur	Secretary	10	Office management

Appendix D: Financial Analysis Summary

Source: WSU Provost's Office

Program Name					
Funding	10-12	12-13	13-14	14-15	15-16
Appropriated Fund	\$525,089	\$552,885	\$549,952	\$561,450	\$591,360
Other:					
Special Legislative Appropriation					
Grants or Contracts					
Special Fees/Differential Tuition					
<b>Total</b>	<b>\$525,089</b>	<b>\$552,885</b>	<b>\$549,952</b>	<b>\$561,450</b>	<b>\$591,360</b>

Appendix E: External Community Involvement Names and Organizations

<u>Name</u>	<u>Employer/Organization</u>
John Barentine, Program Manager	International Dark-sky Association
Keith Bartholomew	U. of Utah, Department of City and Regional Planning
Afton Beutler	Global Education Opportunity (GEO) program
Shaunna Burbidge	Envision Utah; Metro Analytics and Active Planning
Erik Crosman	University of Utah, Department of Meteorology
Charlie Ewert	Weber County Planning Office, Transportation planning
Stephen Goldsmith	U. of Utah, Department of City and Regional Planning; Committee for Dark Sky Studies
Rick Grover, Director	Weber County Planning Office
Scott Hess	Wasatch Front Regional Council
Janet Hoffman-Stewart	Sheridan, WY Planning Office
Hal Johnson	Utah Transit Authority
Natalie Little, Sust. coordinator	US Forest Service
Mayor & City Council members	Marriott-Slaterville City
Mayor & City Council members	Ogden City
Mayor & City Council members	PlainCity
Mayor & City Council members	Sunset City
Scott Mendoza	Weber County Planning Office
Greg Montgomery	Ogden City Planning Office
Janet Muir, Community Partner	Ogden Valley Starry Nights
Planning Officials	Washington Terrace City
Paul Strange, COO	Summit/Powder Mountain.
Claudia Radel	Utah State University, Dept. of Natural Resources
Ray Wiggins	Redcon Inc., Bountiful, UT

Appendix F: Site Visit Team (both internal and external members)

Name	Position	Affiliation
George Hepner	Geography Dept. chair	University of Utah
Mike Hernandez	GIS program coordinator, Dept. of Geosciences	Weber State University



Appendix G: Evidence of Learning Courses within the Major

Core Course: GEOG 3600 (spring semester, 2015) Quantitative Methods in Geography

<b>Learning Goal</b> Students will demonstrate understanding of:	<b>Measurable Learning Outcome &amp; Threshold</b> Students will demonstrate understanding by:	<b>Method of Measurement</b> Direct and Indirect Measures	<b>Findings Linked to Learning Outcomes</b>	<b>Interpretation of Findings</b>	<b>Action Plan/Use of Results</b>
Basic descriptive statistics and application to solving a geographic research question.	Students will be able to identify appropriate descriptive statistical methods at a 70% mastery level.	Homework problems & multiple choice questions from Exam 1	89 % of students scored 80% or better on Assignment 1 and 5 exam questions	Students successfully applied descriptive statistics to solving a geographic question	No curricular or pedagogical changes needed at this time
Statistical methods of testing a hypothesis in geographic research.	Students will be able to use statistical methods to test a research hypothesis at a 70% mastery level.	Homework problems & multiple choice questions from Exam 2	83 % of students scored 80% or better on Assignment 2 and 5 exam questions (Ave. from 2 sections)	Students successfully demonstrated use of statistical methods of testing a hypothesis in geographic research.	No curricular or pedagogical changes needed at this time

**Core Course: GEOG 4990 (fall semester, 2013) Research Seminar**

<b>Learning Goal</b> Students will demonstrate understanding of:	<b>Measurable Learning Outcome</b> Students will demonstrate understanding by:	<b>Method of Measurement</b> Direct and Indirect Measures	<b>Findings Linked to Learning Outcomes</b>	<b>Interpretation of Findings</b>	<b>Action Plan/Use of Results</b>
Peer review process and familiarity with leading professional journals in geography.	Reviewing 2 professional journals and related articles at a 70% mastery level.	Evaluate journal article critiques and oral presentation of their written critiques.	96 % of students scored 80% or better on 2 journal article critiques.	Students successfully demonstrated understanding of the nature of science objective	No curricular or pedagogical changes needed at this time
Developing a geographic research question, develop hypotheses, test hypotheses through qualitative or quantitative data analysis, & draw conclusions	Students will be able to conduct geographic research (noted in the goal) at a 70% mastery level.	Evaluate research questions, hypotheses, and testing of hypotheses through qualitative or quantitative data analysis, & evaluate findings/conclusions	90 % of students scored 80% or better on research papers	Students successfully conducted geographic research and presented their findings during oral presentations	No curricular or pedagogical changes needed at this time