

Geography of Mountain Environments (GEO 317)

Tuesday & Thursday 9:30-10:50am
113 Eggers Hall

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Office Hours: Tuesdays 1-3pm
or by appointment

Course Overview

This course is situated squarely within the environment and society tradition in geography. As such, we will explore the diversity of mountain environments, the geo-ecological processes that shape them, and the role that people play in using, transforming, and conserving them. Our focus will be on both physical and human systems, and their interaction in mountain environments. For the most part, we will consider physical and human processes together, in order to understand their interrelationship. We will begin the class by considering the cultural and spiritual importance of mountains. We will then focus on the physical processes that build and shape mountain landscapes, including plate tectonics and volcanism. This will be followed by a consideration of mountain climate, glaciation and climate change (leading to de-glaciation). We will then examine geomorphology and natural hazards, followed by biogeographical processes and agro-pastoral systems. During the final weeks of the course, we will look at the political economy of mountain regions, mountain resource use practices (including mining, forestry, and tourism), and conservation of mountain environments. Course readings and lecture material are drawn largely from data and examples from the Rockies, Andes, Himalayas, and European Alps, although we will also focus on the smaller mountain systems of the Adirondacks and Appalachians.

Course Requirements

The reading load for this course is moderate. There is reading required for nearly every class meeting and you should plan to do the readings *before* the relevant class. Your grade will be based on two exams, two mapping assignments, a final project, and class participation. The two exams will cover material presented in the lectures and readings. For the mapping assignments, you will need to choose two mountain processes or phenomena – one physical and the other social – to map and write about. You may use GIS or cartographic software to make your maps, but you don't have to. The maps don't have to be 'cartographically accurate,' but they *should* clearly represent spatial relationships. Be creative and have fun with it. Your maps should be accompanied by a 6 page (double spaced) examination of the processes or phenomena you are mapping, along with an explanation of the map itself. A more detailed assignment sheet will be available on Blackboard. You will also need to turn in a final project. This is an opportunity to be creative, and turn in anything you like related to mountain environments and/or peoples. Examples of past final projects have included photography, short stories, graphic art, and research papers on a range of topics. You will receive more information about this as the semester progresses. You will also have occasional reading quizzes – they won't be worth many points, but will provide incentive to keep with the readings (and reward those who do). Finally, you will receive a grade for class participation. Please note that this is *not* merely an attendance grade. You need to do more than just show up for class – you should ask questions, participate in class discussion, and engage actively with the course material.

Required Texts

There is one required textbook for the class:

Price, M.F., et al. 2013. *Mountain Geography: Physical and Human Dimensions*. Berkeley: University of California Press. This is listed as "Price et al." in the course schedule, below.

There are also a number of other required articles and book chapters, available via Blackboard. These listed by author, the same way they are in the course schedule, below.

Grading

Point distribution is as follows:

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|----------------------|-------------------|
| Mapping Assignment 1 | 50 points |
| Exam 1 | 100 points |
| Mapping Assignment 2 | 50 points |
| Final Project | 50 points |
| Exam 2 | 100 points |
| Reading quizzes | 20 points |
| Class Participation | 30 points |
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| TOTAL | 400 points |

Plagiarism and Academic Honesty

Plagiarism on course assignments is a serious offense, and is not acceptable. The easiest way to think of plagiarism is the written use of other peoples' ideas or words without proper citation. The University defines plagiarism as:

"The submission of any work by a student is taken as a guarantee that the thoughts and expressions in it are the student's own except when properly credited to another. Violations of this principle include giving or receiving aid in an exam or where otherwise prohibited, fraud, plagiarism, the falsification or forgery of any record, or any other deceptive act in connection with academic work. Plagiarism is the representation of another's words, ideas, programs, formulae, opinions, or other products of work as one's own, either overtly or by failing to attribute them to their true source" (Section 1.0, Syracuse University *Academic Rules and Regulations*).

Plagiarism is a very serious breach of academic honesty, and will not be tolerated in this class. **The first time a student is found to be plagiarizing, s/he will automatically receive a score of 0 for the plagiarized assignment. If the student is caught plagiarizing a second time, s/he will automatically receive an F for the course.** There will be no exceptions.

Students are responsible for knowing University definitions and rules regarding academic honesty. For more information on plagiarism and how to avoid it, please see:
<http://researchguides.library.syr.edu/content.php?pid=28194&sid=205457>

Disability-Related Accommodations

Students who are in need of disability-related academic accommodations must register with the Office of Disability Services (ODS), 304 University Avenue, Room 309, 315-443-4498. Students with authorized disability-related accommodations should provide a current Accommodation Authorization Letter from ODS to Dr. Perreault and review those accommodations with him. Accommodations, such as exam administration, are not provided retroactively; therefore, planning for accommodations as early as possible is necessary. For further information, see the ODS website, <http://disabilityservices.syr.edu/>

Electronic Devices

Please be sure that your phones are turned off or silenced *before* coming to class. Texting during class will not be tolerated. Unless needed for a specific in-class activity, use of laptops or tablets is not allowed in class. You should take notes the old fashioned way: with pen and paper. If I see you using an electronic device inappropriately in class, I will deduct 10 points from your overall grade. I may or may not notify you. Persons repeatedly using electronic devices for inappropriate purposes during class will be asked to leave.

Add/Drop Policy

It is the policy of the Geography Department that students must obtain FIRST the signature of the instructor and THEN the signature of the department chair if they wish to drop or withdraw from this course.

Learning Outcomes

By the end of this class, students should be able to:

- Identify and critically assess ways that geo-ecological processes shape mountain environments
- Identify and critically assess patterns of human settlement and resource use in mountain environments
- Identify and critically assess the relationship between social and geo-ecological processes in mountain environments
- Design and execute a map showing spatial patterns of social and geo-ecological processes in mountain environments
- Effectively communicate about geographic processes in mountain environments, in written, oral and cartographic forms

Important Dates to be Aware of:

- September 22: Mapping Assignment 1 due in class
- October 13: Exam 1
- October 27: Final project proposal due in class
- November 3: Mapping Assignment 2 due in class
- December 1: Final Project due in class
- December 8: Exam 2

Course Schedule

| <u>Week / Date</u> | <u>Theme</u> | <u>Readings</u> |
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| <i>Part I: Why Study Mountains?</i> | | |
| <i>Week 1:</i> August 30 | Course Intro: The nature of mountains, the culture of mountains | Price et al., chapter 1 |
| September 1 | Cultural and spiritual importance of mountain regions | Price et al., chapter 9 |
| <i>Part II: Mountain Building and Mountain Shaping Processes</i> | | |
| <i>Week 2:</i> September 6 | Mountain origins | Price et al., chapter 2 Storey 2006 (pp. 3-33) |
| September 8 | Volcanoes and mountain building processes | no new reading |
| <i>Week 3:</i> September 13 | Mountain climate and weather 1 | Price et al., chapter 3 (pp. 41-44, 47-59, 66-72) |
| September 15 | No class today – go climb a mountain! | no new reading |
| <i>Week 4:</i> September 20 | Mountain climate and weather 2 | Price et al., chapter 3 (pp. 75-77) Also read: Casey 2015 (http://www.nytimes.com/interactive/2016/07/07/world/americas/bolivia-climate-change-lake-poopo.html?ref=americas) |
| September 22 | Mountain glaciers and glaciation 1 | Price et al., chapter 4 (pp. 105-120) Storey 2006 (pp. 35-62) |
| <i>Mapping Assignment 1 due in class</i> | | |

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| <i>Week 5:</i> September 27 | Mountain glaciers and glaciation 2 | Bury et al. 2011 |
| September 29 | Climate change and glacial recession | Tagliabue 2013 Fraser 2012 |

Check out images on glacierworks.org

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| <i>Week 6:</i> October 4 | Google Earth exercise – bring laptops or tablets | Read “Glacier Facts” on www.extremeicesurvey.org |
| October 6 | Geomorphology of Mountain Regions 1 | Price et al., chapter 5, (pp. 127-129, 132-143) |

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| <i>Week 7:</i> October 11 | Geomorphology of Mountain Regions 2 | Price et al., chapter 5 (pp. 143-157) |
| October 13 | Exam 1 | no new readings |

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| <i>Week 8:</i> October 18 | Mountain hazards | Price, chapter 4 (pp. 96-105) Carey 2005 Zahori and Ahmed 2014 |
| October 20 | Mountain vegetation and biogeography 1 | Price et al., chapter 7 (pp. 183-192) |

Week 9:
October 25 Mountain vegetation and biogeography 2 Price et al., chapter 7
(pp. 192-210)

Part III: People in Mountains – Resource Use and Settlement

October 27 Mountain agropastoralism 1 Price et al., chapter 11
(pp. 301-310)
Villaroel et al. 2014

Final Project Proposals Due in Class

Week 10:
November 1 Mountain agropastoralism 2 Price et al., chapter 11
(pp. 312-325)
Neuman 2014

November 3 Mining in mountain regions Bebbington & Williams 2008
Himley 2012

Mapping Assignment 2 due in class

Week 11:
November 8 Political ecologies of Bolivia's quinoa boom Kerssen 2015

November 10 Film: The Devil's Miner no new reading

Week 12:
November 15 Google Earth exercise – bring laptops or tablets no new readings

November 17 Geopolitics and mountain regions Ali 2002

Thanksgiving week (no classes) November 21-25

Week 13

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| November 29 | Tourism and amenity migration | Gosnell and Abrams 2011 (pp. 1-7) Darling 2005 (pp. 1018-1024) |
| December 1 | Conservation of mountain environments | Price et al., chapter 12 (pp. 346-353) Zahler and Schaller 2014 Also read: Strand 2014 (see: http://www.nytimes.com/2014/02/02/opinion/saving-more-than-just-snow-leopards.html) (see: www.nature.org/magazine/archives/back-to-the-adirondacks.xml) |

Final projects due in class

Week 14:

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|------------|------------------------------|-----------------|
| December 6 | Catch-up, wrap-up and review | no new readings |
| December 8 | Exam 2 | |

Bibliography

- Ali, Aamir 2002. A Siachen peace park: The solution to a half-century of international conflict? *Mountain Research and Development*, 22(4): 316-319.
- Bebbington, Anthony and Mark Williams 2008. Water and mining conflicts in Peru. *Mountain Research and Development*, 28(3/4): 190-195.
- Bury, Jeffrey et al. 2011. Glacier recession and human vulnerability in the Yanamarey watershed of the Cordillera Blanca, Peru. *Climate Change*, 105: 179-206.
- Carey, Mark 2005. Living and dying with glaciers: People's historical vulnerability to avalanches and outburst floods in Peru. *Global and Planetary Change*, 47(2-4): 122-134.
- Casey, Nicholas 2015. "Climate change claims a lake, and an identity." *New York Times* (online)
- Darling, Eliza 2005. The city in the country: Wilderness gentrification and the rent gap. *Environment and Planning A*, 37: 1015-1032.

- Fraser, Barbara 2012. Goodbye glaciers. *Nature*, vol. 491 (8 October), pp. 180-182.
- Gosnell, Hannah and Jesse Abrams 2011. Amenity migration: Diverse conceptualizations of drivers, socioeconomic dimensions, and emerging challenges. *GeoJournal*, 76(4): 303-322.
- Himley, Matt 2012. Mining (Andes). In *The Encyclopedia of Sustainability*, Vol. 8: *The Americas and Oceania: Assessing Sustainability*, eds. S.G. Beavis, M. Dougherty, and T. Gonzales, Great Barrington, MA: Berkshire Publishing, pp. 166-169.
- Kerssen, Tanya M. 2015. Food sovereignty and the quinoa boom: Challenges to sustainable re-peasantization in the southern Altiplano of Bolivia. *Third World Quarterly*, 36(3): 489-507.
- Neuman, William 2014. Vegetable spawns larceny and luxury in Peru. *New York Times*, 7 December, p. A10.
- Storey, Mike 2006. *Why the Adirondacks Look the Way They Do*. Nature Knows Best Books.
- Strand, Ginder 2014. Back to the Adirondacks. *Nature Conservancy*, June/July (online: <http://www.nature.org/magazine/archives/back-to-the-adirondacks.xml>)
- Tagliabue, John 2013. As glaciers melt, alpine mountains lose their glue. *New York Times*, 30 May, p. A6.
- Villaroel, Elena Katia, et al., 2014. Local management of Andean wetlands in Sajama National Park, Bolivia. *Mountain Research and Development*, 34(4): 356-368.
- Zahler, Peter and George Schaller 2014. Saving more than snow leopards. *New York Times*, 2 February, Sunday Review, p. 4.
- Zahori, Habib and Azam Ahmed 2014. Lack of orderly means to distribute aid is latest setback for Afghan village. *New York Times*, 6 May, p. A10.