NRSM 170: International Environmental Change

Spring 2015  T & Th 2:10 – 3:30 PM
3 credits; grade  Location: FOR 301

Course Description:

This course provides an introduction to natural and anthropogenic environmental change from ancient to contemporary times. Course objectives are to: 1) investigate the nature, role and importance of ecological disturbances in the development and maintenance of terrestrial ecosystems, 2) consider how natural and anthropogenic ecological disturbances affect current conservation and development efforts, and 3) explore potential means of addressing contemporary human-caused environmental change.

The issues we consider are multi-faceted and imprecisely known; there are rarely simple answers to complex problems and many things we do not know. I expect you to come to class having read the assigned readings and prepared to discuss them. We will discuss readings in class and I look forward to your informed participation. I would be happy to meet for additional review or discussion during office hours or by appointment.

Instructor:

Steve Siebert, Professor
Clapp Bldg (SC) 406; email: steve.siebert@umontana.edu; phone: 243-4661
Office hours: Tuesday & Thursday 11:30 – 1 PM or by appointment.

Required Readings:

All readings are available on disc in the Mansfield Library under NRSM170.

Learning Outcomes:

By completing this course students will be able to:

- articulate the meaning, role and importance of ecological disturbance in the development and maintenance of terrestrial ecosystems;
- identify and describe important attributes of ecological disturbances;
- describe the role of historic disturbance regimes, both natural and anthropogenic, in the development and maintenance of plant communities and biological diversity; and
- describe how contemporary anthropogenic disturbances differ from historic disturbance regimes and potential ecological and social effects of these differences.
Grading (+/- grading will be used):

- Two short writing assignment @ 15 pts each 30 %
- Two quizzes @ 15 pts each 30
- In class assignments 15
- Final exam 25
- Total 100 %

Note: missed quizzes or late assignments will result in lost credit without prior approval. In class assignments (reflections or questions as assigned) are due in class that day; late assignments will not be accepted.

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students (DSS). If you think you may have a disability that adversely affects your academic performance, and you have not already registered with DSS, please contact DSS in Lommasson 154. I will work with you and DSS to provide appropriate accommodation.

SYLLABUS

<table>
<thead>
<tr>
<th>Week/Date</th>
<th>Topics/Readings</th>
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<tbody>
<tr>
<td>1 1/27</td>
<td>Introduction to course &amp; issues</td>
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<td>Learning from diversity: Video: Wade Davis (22 min)</td>
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<td><a href="http://www.ted.com/talks/wade_davis_on_endangered_cultures">http://www.ted.com/talks/wade_davis_on_endangered_cultures</a></td>
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<tr>
<td>1/39</td>
<td>Learning from the past: Switzerland</td>
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<td>Video: Ernesto Sirolli (17 min)</td>
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<td>2 2/3</td>
<td>Conceptual framework: disturbance, complexity &amp; perspectives</td>
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<tr>
<td>2/5</td>
<td>Conceptual framework: resilience, uncertainty &amp; humility</td>
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<td>3 2/10</td>
<td>Disturbance &amp; change: from ancient to modern</td>
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<td>Film: “The Great Dance” (available from the Roxy)</td>
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<td>Writing assignment #1</td>
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<td>2/12</td>
<td>Disturbance &amp; change in Crete</td>
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<td>Readings: Grove &amp; Rackham (2001), Marsh (1864)</td>
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4 2/17  Agriculture in the ancient world: Mexico
   Film: “The Chinampas” (Video 02748)
   Readings: Chapin (1988)

2/19  The ecological value and historical management of trees

5 2/24  Quiz #1 & Writing assignment #1 due

2/26  Driving forces of contemporary anthropogenic disturbance
   Film: “Who’s Destroying the Forest?” (DVD 03629)

6 3/3  Agriculture: conventional vs. alternative approaches

3/5   Contemporary anthropogenic disturbance & possible responses:

7 3/10  Coffee: social and ecological implications of a global addiction

3/12  Conservation & protected areas: assumptions & approaches

8 3/17  Forest conservation & management in an Indonesian village

3/19  Historic livelihoods and land uses in Bhutan
   Readings: Siebert & Belsky (in press)

9 3/24  Quiz #2 and Writing assignment #2 due

3/26  Land Health – Video: Green Fire (DVD 05758)
   Readings: Leopold (1935)

Spring Break

10 4/7   Climate change: the situation

4/9   Climate change: What can we do here and now?
   Biomass exercise (in class)
11 4/14  Fire - Film: ”Fires of Spring”
Readings: Coddington, et al. (2014; abstract & introduction),

4/16  Invasive species & conservation

12 4/21  Forests: for whom and for what?
Video: Finish forestry:
http://www.youtube.com/watch?v=UJwSmOissvA

4/23  Managing human – wildlife conflicts in the Blackfoot Valley
Dr. Seth Wilson, Program Coordinator, Blackfoot Challenge
Wildlife Committee

13 4/28  Community-based conservation in the Swan Valley, MT
Guest speaker, Melanie Parker, Northwest Connections
Readings: Knight (2009)

4/30  Global Tourism
Film: “The Golf War” (DVD 10839)
Readings: Rothman (1998)

14 5/5  Alternative paths

5/7  Conclusion & Review
Readings: Towe (1990), Wallace (1869)

Final Exam: May 11 (Monday) 1:10-3:10
Required Readings:


Bearak, B. 2010. For some bushmen, a homeland worth the fight. *NY Times* Nov. 4.


Codding, B. et al. 2014. Conservation or co-evolution? Intermediate levels of aboriginal burning and hunting have positive effects on Kangaroo populations in western Australia. *Human Ecology* 42:659-669. (abstract & introduction)


McKibben, B. 2012. A summer of extremes signifies the new normal. *Yale Environment 360*.


Pearce, F. 2013. True nature: Revising ideas on what is pristine and wild. *Yale Environment 360*.

Pearce, F. 2012. Busting the forest myths: people as part of the solution. *Yale Environment 360*.


