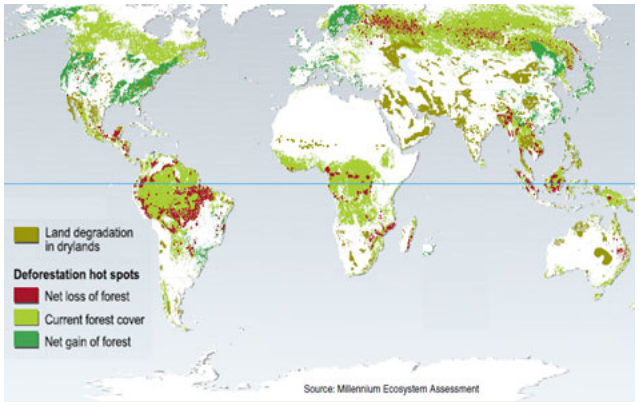

Geography 423/523: Advanced Biogeography: Global-Change Biogeography

Winter 2017

The diversity, abundances, and distributions of species represent the unfolding of many processes over a historically and geographically contingent landscape...

-Robert Ricklefs, Natural History, and the Nature of Biological Diversity, American Naturalist (2012).

We need to understand those processes better in order to understand and conserve the remaining biota in a time of rapid environmental change.

–Stephen Jackson, in Frontiers of Biogeography (2004), Sinauer.

Meeting times: Monday, Wednesday, and Friday: 11:00-11:50 in 175 Lillis

Instructor: Daniel Gavin (dgavin@uoregon.edu)
Office: 110 Condon Hall; Phone: 346-5787
Office Hours: To be determined

Required Texts (available online through the UO Library):

Gaston, K.J. and Spicer, J.I. 2010. Biodiversity: an introduction. 2nd edition. Wiley Blackwell.

Global Change Biology. 2nd Edition. Edited by Lee Hannah.

Plus additional readings.

Course Overview

The conservation of biological diversity is the mission of thousands of organizations; yet still the nature of the threats to biodiversity remain extremely difficult to quantify. Habitat loss and exploitation, invasive species, and rapidly changing climate are all known to have impacted biodiversity in the past and are likely accelerating into the future. In this course we will examine the evidence of biodiversity loss over the last several centuries and the changing landscape of modern biodiversity threats. Topics covered will include:

- Components of biodiversity: defining and measuring
- The "why and where" of biodiversity
- Deep and shallow time perspectives on biodiversity and extinction crises
- Drivers of biodiversity loss (specific foci on habitat degradation, targeted exploitation, invasive species, and climate change).
- Modeling environmental change: from species to ecological communities, from ecosytems to geographic distributions

Prerequisite: GEOG 323 (Biogeography), or permission of the instructor. For permission, contact me by email and list relevant course experience including ecology and evolutionary history.

Grading will be based on (for 423):

- A midterm exam
- An individual research project and associated class presentation

- Class participation

For Geog 523:

- A research paper based on peer reviewed literature; or a modeling project analyzing past or projected change in the biosphere
- Class participation
- Presenting to class on a subject topic related to the course goals.

Department of Geography, University of Oregon

Modified Nov 7, 2016