

GEOG 4120-001: Fall 2015

NEW COURSE!!!

Global Change Ecology: Understanding Earth System Resistance and Resilience

Instructor

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Information

Meeting Time: Tues & Thurs 11-12:15 PM
Room: 201E Guggenheim Building

Course Description and Learning Objectives

Our planet is experiencing unprecedented human-driven change. We change land cover, alter water and nutrient cycling, introduce non-native species, harvest natural resources, and change the global climate. Ecology and geography offer unique scientific perspective on how humans interact with and alter the Earth's major systems—the atmosphere, hydrosphere, lithosphere, and biosphere. Not only do cumulative local actions build to global-scale environmental issues, but global changes are felt in distant and disconnected local places. This class will explore the impacts of human-driven change on a variety of ecosystems; we will explore unanticipated feedbacks, ecological tipping points, and future scenarios of change. We will also consider how science-based conservation can offer solutions to improve ecological resistance and resilience. The goal is to develop an understanding and appreciation of global change, but also to think creatively about how to apply ecological principles to reach a healthier planet. This course is aimed at geographers, ecologists, earth scientists, conservation biologists, and other environmental professionals interested in learning about the science behind the pressing environmental issues of our time.

Learning objectives: This class will introduce you to a complex array of ecological responses to global change. By the end of the semester, you should understand the broad impacts that humans have on the environment and be familiar with the most prominent examples. You will learn to read and critique peer-reviewed scientific literature and debate different perspectives on environmental issues. You will also learn how to develop a well-organized scientific argument focused on a specific research topic. These skills will give you the basic tools you need to explore and synthesize scientific knowledge related to global change ecology or any other field you pursue.

