

Climate Change Effects on Natural Resources

FOR 797 (#22102), 1 Credit
Fall 2007

Professor: John C. Stella
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Class Meets: Wednesdays 11:40-12:35 217 Bray Hall
Class space is limited: enrollment is by permission of the instructor.

Course Website: <https://blackboard.syr.edu>

Course description

This graduate seminar examines the evidence and impacts of global climate change, with a focus on natural resources in the Northeast region. We explore the current evidence and future projections for changes in ocean circulation, storm severity, species migrations and extinctions, the global carbon budget and water resource availability, among other impacts. Readings are drawn from primary scientific research, the popular science literature, and global and regional reports for policy makers. Students co-lead the weekly discussion on a specific topic and prepare an annotated bibliography and White Paper synthesizing current research in the field, perceptions in the media, and recommendations for policy makers.

Course Grading and Expectations

This course is designed for participating students and faculty to jointly develop a broad synthesis of projected global climate changes as they affect natural resources through discussion of important papers and reports. All students are responsible to read and discuss 1-2 papers per week (intellectual participation is 40% of the grade). Once during the semester, each student will co-lead a discussion on a specific topic (30%) and prepare a final White Paper on the focal topic.

Readings

Readings will include journal articles, popular histories, and reports available online:

- Flannery, Tim. 2005. *The Weathermakers*. Atlantic Monthly Press, NY. Weart,
- Spencer R. 2003. *The Discovery of Global Warming*. Harvard University Press.
- Gore, A. 2006. *An Inconvenient Truth*. Rodale Press, NY.
- Kolbert, E. 2006. *Field Notes from a Catastrophe: Man, Nature, and Climate Change*.
- Intergovernmental Panel on Climate Change (IPCC) 4th Assessment Report, 2007.
(<http://www.ipcc.ch>)
- New England Regional Assessment (NERA) 2001. (<http://www.necci.sr.unh.edu/reports.html>)

Final White Paper Assignment

The purpose of the White Paper project is to synthesize the readings and discussion on a facet of the climate change story into a collective snapshot of the issue for the lay public and for policymakers. You will summarize the state of knowledge about this particular area, the perception of the issue in the media and more popular literature, and key implications for public policy. White Papers should include an annotated bibliography and the following sections:

- Executive summary (approx. 300 words)
- Introduction
- State of the Science
- Perspectives in the Media and Public Policy
- Considerations for Policymakers
- Cited References with Abstracts

Weekly Discussion Schedule

Week	Topic
1	Introduction & choosing presentation topics
2	Overview: the physical science basis and expected impacts
3	Paleoclimate and physical changes to the atmosphere
4	Changes to the oceans
5	Changes to the cryosphere (snow, ice and frozen ground)
6	Global and regional climate models
7	Impacts to freshwater resources
8	Terrestrial carbon budgets
9	Impacts to coastal regions
10	Effects on biodiversity and species ranges
11	Effects on species' phenology
12	Crop yields and food production, and human health
13	No class (Thanksgiving vacation)
14	Media perceptions of climate change: the Northeast case study
15	Mitigation measures