

ENVS 4000, Spring (Jan-Apr) 2007

Impacts of Climate Change

This capstone Environmental Science course, designed for 3rd and 4th year students, includes presentations and discussions related to a central theme: the known and hypothesized environmental consequences of global warming.

The course will consist of presentation of concepts, theory and facts by the instructor during the first half of the course, and presentations (oral and poster) by students during the second half. General topics will include aspects of the following:

Background

- general climatology and climate models
- biometeorology: science and technology
- paleoclimate
- climate change theory and modeling; uncertainty and risk
- global dynamics and predictions of models; key agencies and institutes
- anthropogenic components; greenhouse gas contributions

Impacts

- global warming consequences for soil, ice, water, oceans, species, biomes
- global warming impacts on biodiversity and ecosystems
- phenology, distributions, extinction, migration, ecological linkages
- economics, energy, trade, nations

Action

- national policies, mitigation, adaptation, and adaptive management
- public debate and action; environmental justice; world issues and policy
- the role of science

Students who take ENVS 4000 read and discuss scientific papers and reviews, learn and apply quantitative methods of analysis, attend and participate in class, contribute current events news, write short reports, and present well-researched student seminars and posters on the course theme.

Text:

- 1) The Weather Makers, by Tim Flannery
- 2) Plus approximately 25 scientific articles (most provided on a class website) and 50 news articles

Grading:

- 1) midterm, 25%
- 2) 2 short written or numerical assignments, 2@12.5%=25%
- 3) workshop presentations, 10%
- 4) scientific poster presentation, 15%
- 5) second midterm, 25% (There is no final exam)

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