

**Class Project  
Climate Change Ecology  
Spring 2013**

**I. Description**

For your class project, you will research a topic on climate change ecology that interests you. You will then present your project to the class as well as turn in a paper.

Group projects are fine, but the scope of the project should increase proportionally. Each group member will be required to list his/her contribution to the project in the paper as well as participate in the class presentation. All members of a group will receive the same grade. See me if you'd like to do a group project.

You will turn in a description of your proposed topic early in the semester. You will also turn in an annotated bibliography in the middle of the semester.

In-class presentations of class projects will occur during the final 1-2 weeks of class. You will be expected to give a 10-15 minute presentation on your topic. This presentation should be developed concurrently with your paper and summarize the paper. (It may help you to develop the presentation first as doing so will allow you to identify the most important elements of your project; you can then write your paper around those.) You will also be expected to evaluate and grade other students on their presentations. More information on the schedule will be given later in the semester.

The final paper will be roughly 10 pages but no more than 15 pages (double-spaced; figures and references extra), printed out and handed in to me, that includes the following items: introduction and background (including significance/justification of topic; why is this topic important and why did you select it?), methods and results OR synthesis, conclusions, references. All appropriate statements in your paper should be cited; see <http://www.dartmouth.edu/~sources/about/when.html> for examples or ask me. Use a common style for your bibliography and be consistent; a good style is from the American Geophysical Union at <http://www.agu.org/pubs/AuthorRefSheet.pdf>. Grammar, syntax, correct citations and clarity of writing will count for 15% of your paper score.

Do not plagiarize. Copying text verbatim without proper citation is considered plagiarism. See syllabus for more information.

**II. Topics**

Pick a topic about climate change ecology that interests and excites you.

Possible topics:

1. Perform some modeling or data analysis, such as modeling the effects of climate change on tree habitats in the US. Please see me for more information.

2. Select a topic of your choice that relates to climate change ecology. Examples are:

What are the ethical dimensions of assisted migration?

Can the use of ecological impacts of climate change improve communication about climate change to policy makers and the general public?

Which plant or animal species are “canaries in the coal mine” for climate change and why?

What are the plants or animals that are “poster children” for climate change (i.e., clear examples of climate change influences that appeal to the general public)? Why are they poster children? Are there species that should be added to this list?

If you are writing a synthesis or review of a topic, this is good advice from <http://www.dartmouth.edu/~writing/materials/student/sciences/write.shtml>: “A review of the literature looks at what has been published on a given problem; however, it is not simply a summary of what's been written. It is instead a paper that tries to synthesize existing articles to form a coherent and thorough understanding of the matter at hand. It also evaluates these articles and the experiments upon which they are based, alerting the reader to potential weaknesses.”

### III. Grading

You will be graded on three aspects of your project:

|   |                  |
|---|------------------|
| a. paper                                    | 55% (100 points) |
| proposed topic on time                      | 5/100 points     |
| annotated bibliography on time              | 5/100 points     |
| writing style                               | 15/100 points    |
| b. presentation                             | 35%              |
| c. your evaluation of others' presentations | 10%              |

### VI. Project deadlines

1. Select a topic for the class project, and email me this topic by Thursday, February 20 for discussion and approval. I will return this to you with comments.

2. Create an annotated bibliography by summarizing 4-5 relevant references on your topic. Select at least three from the primary literature (original research published in a scientific journal; textbooks are considered secondary literature, and encyclopedias are considered tertiary literature). An annotated bibliography consists of a citation of each reference (in a standard format) and several sentences that describes the study and its relevance to your project. An example:

Logan, J., J. Regniere, and J. A. Powell. 2003. Assessing the impacts of global warming on forest pest dynamics. *Frontiers in Ecology and the Environment* 1:130-137. Journal paper describing how global warming has affected and will affect several important insect species of the United States, including gypsy moth, spruce beetle, and mountain pine beetle. The paper shows how recent hot, dry weather has contributed to multiple outbreaks across North America, and that future projections will result in redistributions of these species.

Email me this bibliography by Tuesday, March 26.

3. The deadline for the paper is Thursday, May 2, at midnight. Papers turned in after that will have 25% deducted for each day late.

We will have presentations in class during the last week of class.

## **V. Resources**

### Writing

An excellent site that you should read:

<http://www.dartmouth.edu/~writing/materials/student/toc.shtml>. In particular, see “Writing the Academic Paper.”

Here are good web sites about writing a report about your own research:

- <http://www.oxy.edu/center-academic-excellence/writing-center/discipline-specific-advise/writing-scientific-report>
- <http://writingcenter.unc.edu/handouts/scientific-reports/>

Citing references: <http://www.dartmouth.edu/~sources/about/when.html>

### Presentations

This web site gives excellent tips for giving a scientific talk (aimed at scientists, but has great info): [http://www.cgd.ucar.edu/cms/agu/scientific\\_talk.html](http://www.cgd.ucar.edu/cms/agu/scientific_talk.html). Here is another good site: [http://mesa.ac.nz/?page\\_id=491](http://mesa.ac.nz/?page_id=491).

### Research

To get the most current information, I encourage you to rely heavily on scientific journal papers.

For your purpose, reviews and papers written for interdisciplinary journals will be valuable. Good sources include: *Science*, *Nature*, *BioScience*, *Trends in Ecology and Evolution*, *Frontiers in Ecology and the Environment*. Journals written for the general public such as *Scientific American* are also useful. The *National Inquirer* is not.

Disciplinary journals are also helpful. The broad scientific topics covered in climate change ecology mean that there are a large number of possible journals. Suggestions include: *Global Change Biology*, *Global Ecology and Biogeography*, *Ecology*, and *Ecological Applications*.

Several reports may be helpful, including the Fourth Assessment Reports of the IPCC (all Working Groups); US National Climate Assessments (in the last version, these are known as “Synthesis and Assessment Products”); <http://library.globalchange.gov/products/assessments/2004-2009-synthesis-and-assessment-products>), including a recent overview (<http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts>); and other reports produced by NGOs, other countries, etc.

The Internet may or may not be a useful provider of information. It is an excellent means of finding sources of information, but not necessarily for providing accurate information. In other words, check out the information listed in Wikipedia, but don't cite that directly. Instead, follow the links and references listed.

I believe the most useful tool for you will be the ISI Web of Science journal search. This is a powerful search engine that allows you to search by topic, keyword, journal, and author. A major advantage is the ability to look “forward” in time to see papers that cite the one you are looking at, giving you the capability of seeing the most current ideas on your topic. To get to this web site, go to the UI library (<http://www.lib.uidaho.edu/>), select “Articles” from the tabs across the top, then select “Web of Science”.