

## **Climate Change Ecology Project Spring 2015**

### **I. Description**

For your class project, you will research a topic in climate change ecology that interests you. You will then give a 10-15 minute presentation on your topic. You will also evaluate other students on their presentations.

This presentation will contain the same material as a research paper (although much summarized), and you should expect to spend the same amount of time on the research as for a paper. The presentation will include 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.

Do not plagiarize. All appropriate statements, figures, and images in your presentation should be cited. Copying text, images, or figures without proper citation is considered plagiarism. See syllabus for more information.

See the course web site for a presentation template. The template is a guide for what you are expected to include in the presentation. You do not have to use the fonts, colors, format, etc. in the template. Please use photos/figures/graphs (with citations) liberally to illustrate your project.

### **II. Topics**

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. Summarize/review/synthesize a topic of your choice that relates to climate change ecology. Examples are:

Describe climate change impacts on a species, ecosystem, or location that interests you.

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?

### III. Grading

You will be graded on the below aspects of your project:

- |   |           |
|---|-----------|
| a. proposed topic on time                   | 5 points  |
| b. annotated bibliography                   | 15 points |
| c. practice presentation (one-on-one)       | 15 points |
| c. presentation                             | 55 points |
| d. your evaluation of others' presentations | 10 points |

Total = 100 points

### VI. Deadlines

1. Select a topic for the class project. Email me this topic by Friday, February 27; I will provide feedback within a week.
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). *Then read the papers.* An annotated bibliography consists of a citation of each reference (in the standard format; see below) and several sentences written by you that describe the study and its relevance to your project. The annotation is not copied from the paper, but is your own writing. 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 Friday, March 27.

3. You will schedule a “practice” one-on-one session with me 1-2 weeks before your class presentation. I will provide feedback about content and presentation style. I expect this to be a “dress rehearsal” of your presentation, meaning that you have already completed the presentation and rehearsed it several times. This is worth 15% of your grade, and I will use the same rubric (grading form) in this practice as for your final presentation.
4. We will have presentations in class during the 1-2 weeks of class. I will provide more information about the schedule later in the semester.

## V. Resources

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.”

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 climate change journals as well as interdisciplinary journals will be valuable. Good sources include: *Global Change Biology*, *Ecology*, *Ecological Applications*, *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.

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 do not cite that directly. Instead, follow the links and references listed.

The most useful tool for you may 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”.

### References

References should be formatted according to the style of *Ecology*:

Journal article

One author

Last name, First initial. Second initial. Date. Title. Journal title volume number:pages.

Example: Abrams, P. A. 1987. The functional responses of adaptive consumers of two resources. *Theoretical Population Biology* 32:262-288.

Two or more authors

Last name, First initial. Second initial., First initial. Second initial. Last name, and First initial. Second initial. Last name. Date. Title. Journal title volume number:pages.

Example: Hjalten, J., K. Danell, and P. Lundberg. 1993. Herbivore avoidance by association: vole and hare utilization of woody plants. *Oikos* 68:125-131.

Chapter in a book

Last name, First initial. Second initial., First initial. Second initial. Last name, and First initial. Second initial. Date. Chapter title. Pages *in* First initial. Second initial. Last name and First initial. Second initial. Last name. Book title. Publisher name, City of publication, State of publication, Country of publication.

Example: Abrams, P. A., B. A. Menge, and G. G. Mittelbach. 1995. The role of indirect effects in food webs. Pages 371-395 *in* G. Polis and K. O. Winemiller, editors. *Food webs: integration of patterns and dynamics*. Chapman and Hall, New York, New York, USA.

Book

Last name, First initial. Second initial., First initial. Last name, and First initial. Second initial. Last name. Date. Book title. Publisher, City of publication, State of publication, Country of publication.

Example: Drake, J. A., F. DiCastri, and R. H. Groves. 1989. *Biological invasions: a global perspectives*. Wiley, New York, New York, USA.

Government document

Last name, First initial. Second initial., First initial. Second initial. Last name, and First initial. Last name. Document title. Report number. Government agency, Agency division, City of publication, State of publication, Country of publication.

Example: Maschinski, J., H. D. Hammond, and L. Holter, editors. *Southwestern rare and endangered plants: proceedings of the second conference*. General Technical Report RM-GTR-283. U. S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, Colorado, USA.