

BIO 171 OPTIONAL EXTRA CREDIT ASSIGNMENT
RESEARCHING & WRITING A PAPER ON CLIMATE IMPACTS ON SPECIES
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This lesson plan was developed for my Biology 171 course as an extra credit option. First, students studied the topics discussed in lecture and lab the same day we discuss them. Second, students formed study groups of other BIO 171 students, prior to the course exam. Students were encouraged to quiz each other in your study group before the exam.

In this assignment, students selected a topic approved by your lab instructor, and wrote a 3-5 page paper + title page + references. Requirements included that papers provided an Introduction that clearly explains global climate change and the evidence supporting it. Students were graded on the depth, quality of your references, and clarity of their understanding of climate change.

The remainder of the paper must **focus** on how a changing global climate affects individual species or, more likely, larger groups of animals. Only one student or pair of students may study any one topic per lab section. Here are a few topic suggestions for you to consider:

1. How will the density and range of brook trout (a native species) change in WI during the 21st century? You should compare recent known densities with estimated future densities.
2. Will coldwater and/or coolwater species of fish be gradually replaced by warmwater species of fish in WI lakes during the 21st century? Provide examples.
3. Phenology records indicating changes to bird species migrations in WI, and how they may be no longer synchronized with insect emergence in the spring.
4. Trends in the phenology of non-avian species of animals in WI. Select a group of your choice.
5. The effect of acidification of coral reefs globally, due to ocean absorption of CO₂, and how the biodiversity of the ecosystems has been, and is predicted to be, affected
6. How the loss of snowpack affects the success of Snowshoe hare, American marten and/or Canada lynx populations.
7. How are white-tailed deer populations affected by changes in climate in WI, past, present, and future?
8. A topic of your choice that you are interested in studying that complies with the required focus above. It is not necessary to limit your study to WI, but a study in WI or the Great Lakes Region would generally be encouraged (but #5 above is an exception).

Students were allowed to do this study alone or with one other person enrolled in BIO 171. Powerpoint presentation to accompany a report were encouraged.

GRADING

Written report, with title page and references	40 points maximum
Oral presentation to a lab section	10 points maximum
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	50 points maximum