Course Description: How will climate change influence cooperation and conflict within and among nation-states? Who are the “winners” and “losers” from climate change? These are among the central questions that we will address in this course, and it is one of growing importance to both academics and policymakers. Taking a social scientific approach that emphasizes formal modeling and empirical analysis, we will draw on the most recent research and policy writing on climate change and conflict. We will consider how climate change will influence the availability and cost of a range of natural resources and will discuss and debate whether these changes are likely to lead to conflict or cooperation.

The course will start with an introduction to the scientific frameworks and models used to study climate change and politics. These include an introduction to the basics of climate models and climate science; integrated assessment modeling of economic and climate interactions; and game-theoretic and rationalist models of conflict. We will also think about how the study of climate-related politics and conflict presents special methodological issues, especially related to causal identification. We will apply these tools to different aspects of the climate-conflict nexus and explore the range of policy interventions that can increase cooperation—or conflict. The seminar will consist of discussions and lectures led by the instructors and guest speakers; group work; and student presentations. We will consider contemporary and historical cases of climate-related conflict, perform our own replication analysis of published data, and consider both scientific and policy questions in debate.

Prerequisites: This is an advanced PhD course, and we will deal with scientific papers that require an understanding of statistical analysis, as well as several papers from economics, political science, and ecology, that use economic or game theory models. The POL sequence in Formal and Quantitative methods will suffice. If you have a different background and want to discuss expectations, please contact Professor Ramsay.

Course Schedule: Wednesdays 1:30 – 4:20pm
317 Bendheim

Instructor Information

Kristopher W. Ramsay
kramsay@princeton.edu
Politics Department
Fisher 303
Office Hours: Tu 130-230
Optional Textbook:


Background readings in environmental economics (* denotes highly recommended)

2. "Stern Review: Executive Summary"

Useful Websites

Here are some websites with valuable data and reports:

- The Intergovernmental Panel on Climate Change: [https://www.ipcc.ch/](https://www.ipcc.ch/)
- National Centers for Environmental Information: [https://www.ncei.noaa.gov/](https://www.ncei.noaa.gov/)
- U.S. Foreign Agriculture Service: [https://fas.usda.gov/regions](https://fas.usda.gov/regions)
- Food and Agriculture Organization: [https://www.fao.org/home/en](https://www.fao.org/home/en)
Course requirements and grading:

1. **Participation** (25%) Each week there will be several readings and each person is responsible for having read the materials and for having thought about their strengths, weaknesses, and implications for future work.
2. **Presentation** (20%) Each student will be required to do a detailed 30-minute presentation of a focal paper. In your presentation, you will teach the details of the paper to the class and should be prepared to answer questions about the research. Students will sign up for presentation dates the first week of classes.
3. **Discussion board** (15%=5% x 3 posts) Alongside three of our class sessions we will have “discussion board” assignments on Canvas, which give you an opportunity to debate a topic as a group. You will post your initial reply to the “prompt” by 600pm on Friday and by 600pm on Sunday students will need to post at least one response.
4. **Final exam or research paper** (40%) You have the choice of a take home exam or a final research paper. The research paper should be no more than 20 pages. Acceptable research papers can contain new empirical work, a replication of an existing published manuscript, an extension of an existing model, or a new model. While not necessarily a full article, the research paper should aim to be the start of a contribution to research in the relevant area and should contain some new results of some kind. Please tell us by March 8, 2023 if you plan to write a paper.

Course Topics

**Module 1. Climate Science and Economics**

Week 1: 1 Feb, Climate Science Models: What Do They Tell Us?

Part I: Course introduction by Kris and Ethan

Readings


Prepare 1-2 questions for class discussion based on these readings.
Part II: An introduction to climate models. Guest Speaker: Alison Hogikyan, Princeton Geology

Readings


Prepare 1-2 questions based on these readings for class discussion.

**Economic Models of Climate Change**

**Week 2. 8 Feb.** Economic Models of Climate Change and Dealing with Uncertainty


Readings


Supplemental Readings (note: * denotes recommended)


7. *GitHub with DICE2016 in R https://github.com/olugovoy/climatedice


“Incorporating Climate Uncertainty into Estimates of Climate Change Impacts.”

12. The Economics of Climate Change: The Stern Review

Optional Policy Readings


3. AlGhais, “Mixed Messages are holding back oil investment,” Financial Times, 1 Nov 2022, https://www.ft.com/content/f3d5bccf-c15f-4ea1-9de-e3a34df914e

Module 2. Do Changes in the Weather Cause Conflict?


Week 4. 22 Feb.: Modeling Conflict, Part 2: How Does Climate Change Affect the Likelihood of Violence?

Readings:


Supplemental Readings

4. Daoudy, Marwa. “Rethinking the Climate–Conflict Nexus: A Human–
Environmental–Climate Security Approach.” *Global Environmental Politics* 21, 


Research.* Volume 49, Issue 1, January. Pages 81-96. 
https://doi.org/10.1177/0022343311425842

https://doi.org/10.1177/0022343311431288.

of the Literature.”* *Journal of Peace Research* 35 (3), 381-400. 
https://www.jstor.org/stable/424942

Optional Policy Readings

to Stoke Conflict.” *Foreign Affairs* 99 (5). 
https://www.foreignaffairs.com/articles/ethiopia/2020-09-28/climate-change-
doesnt-have-stoke-conflict.

2. Daoudy, Marwa. 2022. “Scorched Earth: Climate and Conflict in the Middle 
East.” *Foreign Affairs*, April 2022. https://omnilogos.com/scorched-earth-
climate-and-conflict-in-middle-east/

Week 5. 1 Mar.: Climate Change and Political Violence, cont’d: Guest Speakers: Pierre 
Biscaye and Joel Ferguson, UC Berkeley.

Readings

1. Biscaye, Pierre. 2022. “Agricultural Shocks and Conflict in the Short- and Long-
Term: Evidence from Desert Locust Swarms,” unpub’d ms. UC Berkeley.

2. Ferguson, Joel. 2022. “Prospectus” (on climate, productivity shocks and 
violece in Nigeria.”

Conflict in Africa.”


Supplemental Readings


Discussion Board #1: Posts due Fri. 3 Mar at 6 PM, responses by Mon. 6 Mar. at 6 PM. Prompt: One prominent argument in the “climate-conflict” literature is that climate change will reduce the “opportunity cost” of engaging in violence. Do you find this argument compelling? Why or why not?

Module 3. Resource Competition and the Natural Resource Curse

Week 6. 8 Mar.: Resource Wars

Readings


Supplemental Readings


Optional Policy Readings


Week 7. 15 Mar. SPRING BREAK!

Week 8. 22 Mar: Resource Competition, cont’d

Readings


Supplemental Reading

Optional Policy Readings


Week 9. 29. Mar.: Climate Change and Great Power Politics


Supplemental Readings


Optional Policy Readings


Discussion Board #2. Posts due Fri. 31 Mar. at 6 PM, responses by Mon. 3 Apr. at 6 PM. Prompt.: Many scholars who write on climate and conflict suggest that climate-related violence is more likely to occur within and among developing rather than advanced industrial countries. Do you agree with that assessment? Why or why not?

Module 4: Climate and Cooperation

Week 10. 5 Apr.: International Cooperative Agreements

Readings


Supplemental Readings


Optional Policy Readings


Week 11. 12 Apr.: North-South Cooperation—and Conflict


Readings:


Optional Policy Readings


Discussion Board # 3. Post due Fri. 21 Apr. at 6 PM, response by Mon. 24 Apr. at 6 PM.

Prompt: Developing countries have argued that the industrial countries should pay for the climate damages they have wrought and at the recent COP meeting there was some movement in that direction. Do you believe that industrial countries “owe” the developing world for the carbon they have emitted and any environmental damages those emissions have created? Why or why not?

Module 5. Climate Change and Social Conflict

Week 12. 19 Apr.: Climate and Political Unrest: Guest Speaker: Lisa Thalheimer, UNU

Readings


Supplemental Readings


Optional Policy Readings


Module 6. Conclusions

Week 13. 26 Apr.: TBD!

We could have a guest speaker or introduce a topic of interest that we haven’t yet covered

OR

Class Presentations and Conclusions