

CLIMATE CHANGE AND INTERNATIONAL SECURITY

Fall 2024

Instructor:	Donald Grasse	Time:	M 2:00 – 4:30 PM ET
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Office hours: For an appointment, simply send me an email to arrange a time. We may meet either in person or on Zoom depending on your preference. Please feel welcome to make an appointment to discuss class material; my goal is for you to get as much out of the class as possible, and I am happy to help in any way that I can.

1 Overview

Welcome to Climate Change and International Security! This is a seminar course where we will be reading academic journal articles on environmental security issues. Our sessions will be discussion based, meaning that we will largely spend our time asking and answering questions about readings, making connections between them, and speculating about the applicability of the articles' arguments in different times and contexts. This class fulfils the [seminar requirement for Government majors](#).

There are no assigned books for the course. Instead, you will be reading academic journal articles that are accessible via the Library and the internet more generally. Check [Google Scholar](#) for any given article as a first step and it should be accessible. Should there be an issue tracking an article down, contact [the Library](#) or myself. Readings will also be posted on the Canvas site for this course.

2 Course Outline and Objectives

This summer, [the planet logged the hottest day in recorded history](#). The climate - meaning general weather patterns - is changing at a rapid pace, with potential downstream impacts on human behavior. What are the implications for climate change and national security? More broadly, how do armed conflict and environmental change feed into each other? This course is geared towards answering these questions.

The objectives of this course are:

- Understand and explain how environmental changes influence armed conflict.
- Understand and explain how armed conflict impacts the environment.
- Identify competing theories about policies that can address the link between environmental change and violent conflict.
- Effectively apply abstract theories to concrete problems involving the environment and conflict

More informally, my goal for the course is for you to be able to read a headline about a heat wave, a drought, or some other climate anomaly in a fragile political context and be able to explain how and why this may have security implications, and to be able to propose actionable steps that could mitigate the threat. I want you to be able to use the lessons from this course to critically think about security situations and apply lessons to concrete contexts to help inform policy and practice.

3 Course Evaluation

How will progress be measured and tracked? The grade for the course will be determined based on the following 4 components.

- Response Memos (2) 15% Each
- Response Memo presentations (2) 10% Each
- Policy Report (several components - details below) 40 %

- Participation 10%

Letter grades will be assigned based on the [Cornell University Grading System](#). The mapping of percentage grades on assignments into letter grades is as follows.

- **A+**: 97% to 100%
- **A**: 93% to 96%
- **A-**: 90% to 92%
- **B+**: 87% to 89%
- **B**: 83% to 86%
- **B-**: 80% to 82%
- **C+**: 77% to 79%
- **C**: 73% to 76%
- **C-**: 70% to 72%
- **D+**: 67% to 69%
- **D**: 63% to 66%
- **D-**: 60% to 62%
- **F**: Below 60%

4 Assignments

Beyond substantive comprehension, the assignments for this course are intended to help refine your argumentative writing abilities. You will be asked to present evidence, weigh competing arguments, and form conclusions that take counterarguments into account. By breaking larger assignments into smaller pieces, you will have the opportunity to receive feedback at multiple points during the writing process.

4.1 Response Memos

Response memos are an opportunity for you to articulate a critique of an article in a written format. Doing so will help you form your thoughts on an article that you are particularly interested in. They provide you with practice on offering constructive feedback to a body of work with the goal of finding a pathway for improvement.

Note: On a first-come, first-serve basis, email me that you will write a response memo for an article at least a week prior to the article being discussed. The memo will be due prior to the class where it is being discussed. There is also a Google spreadsheet where you may log which article you would like to review to make coordination with classmates easier.

Response memos are critical reactions to articles read for class. They should include two components: (1) an accurate and charitable summary of the main argument put forward in the article and (2) a constructive critique that points to a (remediable) flaw in the article's argument.

Note: A flaw that cannot be remedied by the author would include external critiques such as "the article assumes an external world beyond the author exists, but there is no empirical basis for reality." The motivation behind criticism of the articles is to find flaws that members of the research community - including yourself - could feasibly attempt to address in future works.

Response memos are less than 1,000 words but generally more than 500. I am less concerned with the exact word count than I am with:

- An accurate summary of the article's main argument
- Establishing a flaw in the argument of the article that is of substance and, if correct, has the potential to change some of the article's central conclusions related to the main argument
- When identifying and establishing a flaw, the problem that is the focus of the memo is something that the scientific community could reasonably work towards addressing.

An example of a response memo:

- The article argues that rising temperatures will lead individuals to have shorter tempers since heat fuels aggression. The article shows empirical evidence that higher temperatures are related to more group level conflicts.
- The article's theoretical argument assumes aggression translates into political violence. However, there is no intrinsic link between aggression and political forms of violence (aggression can lead to all sorts of anti-social outcomes that do not require the costs of organizing into a group).
- The article also does not consider the possibility that technology, such as air conditioning, may break the link between temperatures and aggression.
- A more complete theory would explain that aggression may take political forms if people attribute their frustration at high temperatures to failures of government or local leaders.
- A stronger empirical approach would be illustrating how technology access shapes the link between air temperature and violence. If heat truly causes hate and the result isn't spurious, one should find more air conditioning access in an area breaks the causal chain.

4.2 Response Memo Presentation

The response memo presentation will entail you providing a summary of the article along with your critique to jumpstart the conversation about the article. It may include slides if you'd like, but an informal presentation where you discuss the main points you had written is certainly sufficient. You will be graded based on the clarity of your presentation - for instance, if I read the memo and have a completely different understanding of the writing versus the presentation, the grade will be lower than if there is congruence between what was written and what was spoken.

4.3 Policy Report

The final report will be a (roughly between 2,500 and 4,000) word paper which will:

- Identify a contemporary environmental security issue.
- Describe, with evidence, the underlying mechanics for why the issue is occurring. In other words, provide a theoretical framework that may account for the pattern of behavior.
- Defend the pattern of behavior you propose against a counterargument or a competing perspective.
- Propose a solution to the problem that takes into account the theoretical framework, and briefly discuss costs and benefits.

Please keep in mind that I will be less concerned with exact word counts than the content of your paper (within reason).

4.3.1 Issue Area

The issue area is broadly defined. You do not have to only think of something related to the planet getting hotter. You may instead consider (1) vulnerabilities and possible conflicts due to sea level rise (2) competition over natural resources such as oil or rare earth minerals (3) conflicts over fresh water (4) pollution due to militarization including emissions from military activity or explosive remnants of war.

By October 7, I expect you to have had a meeting with me about your issue area, where you provide a one paragraph summary of the proposed topic (5%).

Here are some resources to begin thinking about topic areas:

- <https://www.newsecuritybeat.org/>
- <https://imccs.org/publications/>
- <https://climate-diplomacy.org/>

What should we discuss in the meeting? I would suggest the following:

- The problem you are interested in at a high level (how do changing sea levels effect security in coastal states?)

- The **actors** you are interested in (members of coastal communities who are impacted by changing sea levels, and the state)
- The actions these actors may take (coastal community members may take up piracy due to changing sea levels, the state may repress coastal communities)

This will provide the basis for you to think about the problem area and provide a structure/framework to understand how climate change impacts behavior.

4.3.2 Topic Proposal

After you establish a topic, you will provide a topic proposal. This proposal will cover the place the issue is occurring, the nature of the security issue and how the environment is related, as well as a theoretical model for why the pattern is occurring.

This proposal may also cover counter arguments to your theory, but it is also fine to allow those to develop organically through the process of feedback on your assignment (for instance, when reviewing your work I may provide a counter argument, and you may respond to it in your final draft).

Due November 4 (5%).

4.3.3 Policy Proposal Memo

The policy proposal memo will provide a policy change that can help to address the problem you identify while taking the theoretical model into account.

For instance, if you explain that heat fuels aggression, and that aggression from heat is causing more insurgent violence in Sudan, and your policy proposal is for the government to step down, the proposal is not congruent with the theoretical model. The proposal for change should immediately follow from the causal relationship established in the model.

Note: For the purpose of keeping proposals focused on the environmental and conflict nexus, refrain from proposals that will address the root cause of climate change. I want your proposal to discuss the climate conflict literature, and allowing for other proposals may stray too far into discussing the general public policy issue of climate regulation. For pedagogical (not normative) purposes, I ask you to consider more limited approaches.

An example of a proposal I do not want to see: after a nuanced discussion of security issues in the Arctic emerging from ice caps melting leading to emerging oil resources, the policy proposal is for the US and Russia to agree to a carbon tax and implement carbon sequestration, since this would stop the ice caps from melting.

The policy proposal is **due November 25 (5%)**.

4.3.4 Final Report

Final product: a completed report that includes all of the components and addresses feedback is the remaining 25%.

4.3.5 Important Dates for Policy Report

Issue Area	by October 7
Topic Proposal	by November 4
Policy Proposal	by November 25
Final Report	by December 15

4.4 Participation

Since this is a seminar course, it is by definition discussion based. Active participation is critical to your learning and the overall experience of the class. In order to actively participate, I encourage you to come ready with at least three questions per reading that you are willing to pose to the group, with your own answers or thoughts about the question. Note that participation is not based on accuracy: you do not need to have a fundamentally path breaking question for it to be worthwhile to ask. Ultimately, what I am looking for is that you have given thought to the reading and created an opportunity for a fruitful discussion about a component of it. You will receive a lower grade in participation if you either do not ask or answer questions, or only do so in a surface-level way (for instance, asking what the research question is if that is answered on the first page of the article).

Students will not lose participation points due to excused absences, such as illness or university related travel.

5 Readings

Note: Readings may change slightly week to week. Should any change to a reading occur, I will provide the updated article at least a week prior, and if you have read ahead and already created a memo for a reading that was supplanted I will honor the assignment as already completed. If there is a reading you would like added, please send me an email or meet with me and I will see how and where I could incorporate it into the class.

Week 1: August 26 - Introduction to Climate and Security

Week 2: September 2 - No Class - Begin Researching Topic Ideas

Week 3: September 9 - Ecology and Warfare

- Nina Graeger. “Environmental security?” In: *Journal of Peace Research* 33.1 (1996), pp. 109–116
- Daniel Deudney. “The case against linking environmental degradation and national security”. In: *Millennium* 19.3 (1990), pp. 461–476
- Philippe Le Billon. “The political ecology of transition in Cambodia 1989–1999: war, peace and forest exploitation”. In: *Development and change* 31.4 (2000), pp. 785–805
- David B Carter, Andrew C Shaver, and Austin L Wright. “Places to hide: Terrain, ethnicity, and civil conflict”. In: *The Journal of Politics* 81.4 (2019), pp. 1446–1465

Week 4: September 16 - Neomalthusianism and its Critics

One of the first theories of conflict and the natural environment is Malthusianism, which has been developed over time and taken on a more modern outlook. This week, we study its assumptions, history, and its limitations.

- Thomas F Homer-Dixon. “On the threshold: environmental changes as causes of acute conflict”. In: *International security* 16.2 (1991), pp. 76–116
- Patrick Collins. “Population growth the scapegoat? rethinking the neo-malthusian debate”. In: *Energy & Environment* 13.3 (2002), pp. 401–422
- Nils Petter Gleditsch. “Armed conflict and the environment: A critique of the literature”. In: *Journal of peace research* 35.3 (1998), pp. 381–400
- Ole Magnus Theisen. “Blood and soil? Resource scarcity and internal armed conflict revisited”. In: *Journal of Peace Research* 45.6 (2008), pp. 801–818

Week 5: September 23 - Range Wars: An Emerging Threat?

A critical emerging threat - often blamed on climate change - is range wars, conflicts over land that occur between nomadic herders and sedentary farmers. This week, we will study its determinants, prevalence, and policy approaches to address it.

- Leif V Brottem. “Pastoral resource conflict in the context of Sudano-Saharan security crises: A critical review of research”. In: *African Security* 13.4 (2020), pp. 380–402
- Leif Brottem. “Hosts, strangers and the tenure politics of livestock corridors in Mali”. In: *Africa* 84.4 (2014), pp. 638–657
- Ulrich J Eberle, Dominic Rohner, and Mathias Thoenig. “Heat and Hate: Climate security and farmer-herder conflicts in Africa”. In: (2020)
- Eoin F McGuirk and Nathan Nunn. “Transhumant pastoralism, climate change, and conflict in Africa”. In: *Review of Economic Studies* (2024), rdae027

Week 6: September 30 - Resource Wars: Myth versus Reality

- Emily Meierding. “Dismantling the oil wars myth”. In: *Security Studies* 25.2 (2016), pp. 258–288
- Jeff D Colgan. “Fueling the fire: Pathways from oil to war”. In: *International Security* 38.2 (2013), pp. 147–180
- Jonathan N Markowitz. “Arctic Shock: Utilizing Climate Change to Test a Theory of Resource Competition”. In: *Journal of Conflict Resolution* 67.10 (2023), pp. 1845–1872
- Colleen Devlin and Cullen S Hendrix. “Trends and triggers redux: Climate change, rainfall, and interstate conflict”. In: *Political Geography* 43 (2014), pp. 27–39

Week 7: October 7 - Climate Change and Commodity Markets (Deadline for Meeting About Topic Proposal)

- Samuel Bazzi and Christopher Blattman. “Economic shocks and conflict: Evidence from commodity prices”. In: *American Economic Journal: Macroeconomics* 6.4 (2014), pp. 1–38
- Oeindrila Dube and Juan F Vargas. “Commodity price shocks and civil conflict: Evidence from Colombia”. In: *Review of Economic Studies* 80.4 (2013), pp. 1384–1421
- Graeme Blair, Darin Christensen, and Aaron Rudkin. “Do commodity price shocks cause armed conflict? A meta-analysis of natural experiments”. In: *American Political Science Review* 115.2 (2021), pp. 709–716

Week 8: October 14 - No Class (Research Topic proposals)

Week 9: October 21 - Climate Change and Capital-Intensive Sector Disruption

URL: <https://www.iisd.org/story/green-conflict-minerals/>

- Dominic P Parker and Bryan Vadheim. “Resource cursed or policy cursed? US regulation of conflict minerals and violence in the Congo”. In: *Journal of the Association of Environmental and Resource Economists* 4.1 (2017), pp. 1–49
- Darin Christensen. “Concession stands: How mining investments incite protest in Africa”. In: *International Organization* 73.1 (2019), pp. 65–101
- Nicolas Berman et al. “This mine is mine! How minerals fuel conflicts in Africa”. In: *American Economic Review* 107.6 (2017), pp. 1564–1610

Week 10: October 28 - Climate Change and Labor-Intensive Sector Disruption

- Edward Miguel, Shanker Satyanath, and Ernest Sergenti. “Economic shocks and civil conflict: An instrumental variables approach”. In: *Journal of Political Economy* 112.4 (2004), pp. 725–753
- Jenny Guardado and Steven Pennings. “The seasonality of conflict”. In: *Conflict Management and Peace Science* (2020), p. 07388942241230729
- Marshall B Burke et al. “Warming increases the risk of civil war in Africa”. In: *Proceedings of the National Academy of Sciences* 106.49 (2009), pp. 20670–20674

Week 11: November 4 - Climate Migration (Topic proposals due)

- Cristina Cattaneo and Timothy Foreman. “Climate change, international migration, and interstate conflicts”. In: *Ecological Economics* 211 (2023), p. 107890
- Michel Beine and Lionel Jeusette. “A meta-analysis of the literature on climate change and migration”. In: *Journal of Demographic Economics* 87.3 (2021), pp. 293–344
- The next group of readings are short
- Konstantin Ash and Nick Obradovich. “Climatic stress, internal migration, and Syrian civil war onset”. In: *Journal of Conflict Resolution* 64.1 (2020), pp. 3–31

- Jan Selby et al. “Climate change and the Syrian civil war revisited”. In: *Political Geography* 60 (2017), pp. 232–244
- Cullen S Hendrix. “A comment on “climate change and the Syrian civil war revisited””. In: *Political Geography* 60.1 (2017), pp. 251–252
- Colin Kelley et al. “Commentary on the Syria case: Climate as a contributing factor”. In: *Political Geography* 60.1 (2017), pp. 245–247

Week 12: November 11 - Natural Disasters

- Tobias Ide. “Rise or recede? How climate disasters affect armed conflict intensity”. In: *International Security* 47.4 (2023), pp. 50–78
- Kyle Beardsley and Brian McQuinn. “Rebel groups as predatory organizations: The political effects of the 2004 tsunami in Indonesia and Sri Lanka”. In: *Journal of Conflict Resolution* 53.4 (2009), pp. 624–645
- Stephen Nemeth and Brian Lai. “When do natural disasters lead to negotiations in a civil war?” In: *Journal of Peace Research* 59.1 (2022), pp. 28–42

Week 13: November 18 - Conflict Pollution

- Erin Lin. “How war changes land: Soil fertility, unexploded bombs, and the underdevelopment of Cambodia”. In: *American Journal of Political Science* 66.1 (2022), pp. 222–237
- Bronwyn Leebaw. “Scorched earth: environmental war crimes and international justice”. In: *Perspectives on Politics* 12.4 (2014), pp. 770–788
- Duong Trung Le, Thanh Minh Pham, and Solomon Polachek. “The long-term health impact of Agent Orange: Evidence from the Vietnam War”. In: *World Development* 155 (2022), p. 105813

Week 14: November 25 - Conflict Depletion (Policy Proposal Memo Due)

- Kristof Titeca. “Understanding the illegal ivory trade and traders: evidence from Uganda”. In: *International Affairs* 94.5 (2018), pp. 1077–1099
- Rosaleen Duffy. “Waging a war to save biodiversity: the rise of militarized conservation”. In: *International Affairs* 90.4 (2014), pp. 819–834
- Kyosuke Kikuta. “The environmental costs of civil war: a synthetic comparison of the congolese forests with and without the Great War of Africa”. In: *The Journal of Politics* 82.4 (2020), pp. 1243–1255

Week 15: December 2 - Unintended Consequences of Climate Policies

- Elisabeth A Gilmore and Halvard Buhaug. “Climate mitigation policies and the potential pathways to conflict: Outlining a research agenda”. In: *Wiley Interdisciplinary Reviews: Climate Change* 12.5 (2021), e722
- Rodd Myers et al. “Climate change mitigation in forests: Conflict, peacebuilding, and lessons for climate security-Position Paper”. In: (2021)

Week 16: December 9 - Environmental Peace Building

- McKenzie F Johnson, Luz A Rodríguez, and Manuela Quijano Hoyos. “Intrastate environmental peacebuilding: A review of the literature”. In: *World Development* 137 (2021), p. 105150
- Tobias Ide. “Does environmental peacemaking between states work? Insights on cooperative environmental agreements and reconciliation in international rivalries”. In: *Journal of Peace Research* 55.3 (2018), pp. 351–365
- Tobias Ide. “The dark side of environmental peacebuilding”. In: *World Development* 127 (2020), p. 104777

6 Inclusivity Statement

Cornell University (as an institution) and I (as an instructor) am committed to full inclusion in education for all persons. Services and reasonable accommodations are available to persons with temporary and permanent disabilities, to students with DACA or undocumented status, to students facing mental health or other personal challenges, and to students with other kinds of learning challenges. Please feel free to let me know if there are circumstances affecting your ability to participate in class. Some resources that might be of use include:

- [Office of Student Disability Services](#)
- [Cornell Health CAPS \(Counseling Psychological Services\)](#):
- Undocumented/DACA Student support: See the list of campus resources at <https://dos.cornell.edu/undocumented-daca-support/undergraduate-admissions-financial-aid>

If you are feeling overwhelmed, or are worrying about a friend, please reach out to one of your instructors or your academic adviser. We can try to help or we can put you in touch with someone who can help. Cornell has trained counselors available to listen and help: Empathy, Assistance, and Referral Service (213 Willard Straight Hall, 607-255-3277), Cornell Health's Counseling and Psychological Services (CAPS, 607-255- 5155), and Let's Talk. The Learning Strategies Center offers a range of academic resources.

7 Disability Accommodations

Note to students with disabilities: If you have a disability-related need for reasonable academic adjustments in this course, provide the instructor (me) with an accommodation letter from Student Disability Services. Students are expected to give a two week notice of the need for accommodations. If you need immediate accommodations, please arrange to meet with me within the first two class meetings.

8 Academic Integrity

Academic integrity is crucial to your learning. Always acknowledge the use of outside sources via citation and do not copy the work of others. Generative artificial intelligence tools (such as ChatGPT) should not be used to write assignments. Students who use AI will receive a failing grade. Read more about academic integrity at Cornell [here](#).