

**POL 586 Climate Change and Conflict**  
Spring 2023

**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](mailto:kramsay@princeton.edu)  
Politics Department  
Fisher 303  
*Office Hours: Tu 130-230*

Ethan Kapstein

[kapstein@princeton.edu](mailto:kapstein@princeton.edu)

SPIA/ESOC

Bendhiem 324

Office Hours: Tu 830-930 or by appointment

<https://outlook.office365.com/owa/calendar/EthanKapstein@princeton.edu/bookings/>

### **Optional Textbook:**

1. Phaneuf, Daniel and Till Requate. 2016. *A Course in Environmental Economics: Theory, Policy, and Practice*. Cambridge University Press. *This is a comprehensive textbook which assumes a background in microeconomic theory.*

Background readings in environmental economics (\* denotes highly recommended)

1. \*Ostrom, Elinor, and Hess, Charlotte. 2008. "[Private and Common Property Rights](#)." Encyclopedia of Law & Economics. Northampton, MA: Edward Elgar.
2. \*[Stern Review: Executive Summary](#)
3. Hotelling, Harold. 1931. "The Economics of Exhaustible Resources." *Journal of Political Economy* 39 (2). <https://doi.org/10.1086/254195>.
4. Levhari, David, and Leonard J. Mirman. 1980. "The Great Fish War: An Example Using a Dynamic Cournot-Nash Solution." *The Bell Journal of Economics* 11 (1): 322–34. <https://doi.org/10.2307/3003416>.
5. \*Coase, R. H. 1960. "The Problem of Social Cost." *The Journal of Law & Economics* 3: 1–44. <https://www.jstor.org/stable/724810>
6. \*Hardin, Garrett. 1968. "[The Tragedy of the Commons](#)." *Science* 162 (3859): 1243–48.
7. Sandmo, Agnar. 1975. "Optimal Taxation in the Presence of Externalities." *The Swedish Journal of Economics* 77 (1): 86–98. <https://doi.org/10.2307/3439329>
8. Anderson, T. and D. Leal, "[Free Market Environmentalism](#)," *CORNELL JOURNAL OF LAW AND PUBLIC POLICY*, Vol. 8: 111 (1999).
9. Ostrom, Elinor. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. Canto Classics. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9781316423936>.
10. Ostrom, Elinor. 2009. Nobel Prize Lecture: "Beyond Markets and States." [https://www.nobelprize.org/uploads/2018/06/ostrom\\_lecture.pdf](https://www.nobelprize.org/uploads/2018/06/ostrom_lecture.pdf)

### **Useful Websites**

Here are some websites with valuable data and reports:

- The Intergovernmental Panel on Climate Change: <https://www.ipcc.ch/>
- National Centers for Environmental Information: <https://www.ncei.noaa.gov/>
- U.S. Foreign Agriculture Service: <https://fas.usda.gov/regions>
- Food and Agriculture Organization: <https://www.fao.org/home/en>
- United Nations, Climate Action: <https://www.un.org/en/climatechange/>

- National Center for Atmospheric Research: <https://ncar.ucar.edu/>
- Center for Climate and Energy Solutions: <https://www.czes.org/>

### **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, weakness, 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

1. Thomas F. Homer-Dixon, “On the Threshold: Environmental Changes as Causes of Acute Conflict.” *International Security*, Vol. 16, No. 2 (Fall, 1991), pp. 76-116. <https://www.jstor.org/stable/2539061>
2. Hsiang, Solomon, Marshall Burke, Edward Miguel. 2013. “Quantifying the Influence of Climate on Human Conflict.” *Science* 341 (13 September). [https://www.researchgate.net/publication/256541640\\_Quantifying\\_the\\_Influence\\_of\\_Climate\\_on\\_Human\\_Conflict](https://www.researchgate.net/publication/256541640_Quantifying_the_Influence_of_Climate_on_Human_Conflict)
3. Ostrom, Elinor. 2008. The Challenge of Common Pool Resources. *Environment* (July/August). <https://doi.org/10.3200/ENVT.50.4.8-21>

*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

1. The Carbon Cycle. <https://earthobservatory.nasa.gov/features/CarbonCycle>
2. Wallace-Wells, David. 2022. "Beyond Catastrophe: A New Climate Reality Is Coming Into View." *The New York Times Magazine*, October 26. <https://www.nytimes.com/interactive/2022/10/26/magazine/climate-change-warming-world.html>.
3. Bret Stephens. 2022. "Yes, Greenland's Ice is Melting, But..." *The New York Times*, October 26. <https://www.nytimes.com/interactive/2022/10/28/opinion/climate-change-bret-stephens.html>  
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

Part I: The DICE Model and its Critics: Guest Speaker: Smita Brunnermeier, Princeton Economics.

### Readings

1. Nordhaus, William. 2014. "[Background and Description of the DICE Model](#)," from Nordhaus, *A Question of Balance*.
2. Nordhaus, William. 2017. "Integrated Assessment Models of Climate Change," *NBER Reporter*. <https://www.nber.org/reporter/2017number3/integrated-assessment-models-climate-change>
3. Pindyck, Robert S. 2013. "Climate Change Policy: What Do the Models Tell Us?" *Journal of Economic Literature* 51 (3): 860–72 (skim to get a sense of his argument) <https://doi.org/10.1257/jel.51.3.860>.
4. Dell, Melissa, Benjamin F. Jones, and Benjamin A. Olken. 2012. "Temperature Shocks and Economic Growth: Evidence from the Last Half Century." *American Economic Journal: Macroeconomics* 4 (3): 66–95. <https://doi.org/10.1257/mac.4.3.66>.

Supplemental Readings (note: \* denotes recommended)

1. Nordhaus, William. 2018. "Evolution of Modeling of the Economics of Global Warming: Changes in the DICE Model, 1992–2017." *Climatic Change* 148 (4): 623–40. <https://doi.org/10.1007/s10584-018-2218-y>.
2. \*Auffhammer, Maximilian. 2018. "Quantifying Economic Damages from Climate Change." *Journal of Economic Perspectives* 32 (4): 33–52. <https://doi.org/10.1257/jep.32.4.33>.

3. Pindyck, Robert. 2017. "[The Use and Misuse of Models for Climate Policy](#)," Review of *Environmental Economics and Policy*, volume 11, issue 1, (Winter), pp. 100–114.
4. Weitzman, Martin L. 2009. "[On Modeling and Interpreting the Economics of Catastrophic Climate Change](#)." *The Review of Economics and Statistics* 91 (1): 1–19.
5. Weitzman, Martin L. 2009. "Reactions to the Nordhaus Critique," Harvard Environmental Economics Discussion Paper 09-11.  
[https://projects.iq.harvard.edu/files/heep/files/dpu\\_weitzman.pdf](https://projects.iq.harvard.edu/files/heep/files/dpu_weitzman.pdf)
6. Nordhaus, William D. 2009. "[An Analysis of the Dismal Theorem](#)." Cowles Foundation Discussion Paper No. 1686, Yale University.
7. \*GitHub with DICE2016 in R <https://github.com/olugovoy/climatedice>
8. Hsiang, S., et.al. 2017. "Estimating economic damage from climate change in the United States," *Science* 356 (30 June) 1362–1369.  
<https://spia.princeton.edu/system/files/research/documents/Sol%20Hsiang.%20Estimating%20economic%20damage%20of%20climate%20change%20in%20the%20US.pdf>
9. \*Heal Geoffrey and Antony Millner, 2014. "[Uncertainty and Decision-Making in Climate Change Economics](#)," *Review of Environmental Economics and Policy*, volume 8, issue 1, pp. 120–137.
10. \*Keohane, Robert O, Melissa Lane, and Michael Oppenheimer. 2014. "The Ethics of Scientific Communication under Uncertainty." *Politics, Philosophy & Economics* 13 (4): 343–68. <https://doi.org/10.1177/1470594X14538570>
11. Burke, Marshall, John Dykema, David B. Lobell, Edward Miguel, and Shanker Satyanath. 2015. *Review of Economics and Statistics* 97 (2): 461–71.  
\*\*\*  
["Incorporating Climate Uncertainty into Estimates of Climate Change Impacts."](#)
12. [The Economics of Climate Change: The Stern Review](#)

### Optional Policy Readings

1. Nordhaus, William. 2018. "Climate change: The Ultimate Challenge for Economics." Nobel Lecture.  
<https://www.nobelprize.org/uploads/2018/10/nordhaus-lecture.pdf>
2. Parry, Ian, "Putting a Price on Pollution. 2019. International Monetary Fund.  
<https://www.imf.org/Publications/fandd/issues/2019/12/the-case-for-carbon-taxation-and-putting-a-price-on-pollution-parry>
3. AlGhais, "Mixed Messages are holding back oil investment," *Financial Times*, 1 Nov 2022, <https://www.ft.com/content/f3d5bccf-c15f-4ea1-a9de-e3a34d1f914e>
4. Arezki, Rabah. 2022. "How to Slow Climate Change While Fighting Poverty." *Foreign Policy* (blog). Accessed November 19, 2022.  
<https://foreignpolicy.com/2022/11/07/cop27-green-aid-slow-climate-change-while-fighting-poverty/>.

## Module 2. Do Changes in the Weather Cause Conflict?

Week 3. 15 Feb.: Modeling Violent Conflict, Part 1.: Foundations.

1. Fearon, James D. "Rationalist Explanations for War." *International Organization* 49, no. 03 (1995): 379–414. <https://www.jstor.org/stable/2706903>
2. Collier, Paul, and Anke Hoeffler. "Greed and Grievance in Civil War." *Oxford Economic Papers* 56, no. 4 (2004): 563–95. <https://www.jstor.org/stable/3488799>
3. Blattman, Christopher, and Edward Miguel. "Civil War." *Journal of Economic Literature* 48, no. 1 (2010): 3–57. <https://www.jstor.org/stable/40651577>

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

Readings:

1. Chassang, Sylvain, and Gerard Padró i Miquel. "Economic Shocks and Civil War." *Quarterly Journal of Political Science* 4, no. 3 (October 19, 2009): 211–28. <https://doi.org/10.1561/100.00008072>. \*\*\*
2. Burke, Marshall B., Edward Miguel, Shanker Satyanath, John A. Dykema, and David B. Lobell. "Warming Increases the Risk of Civil War in Africa." *Proceedings of the National Academy of Sciences* 106, no. 49 (December 8, 2009): 20670–74.
3. Buhaug, Halvard. "Climate Not to Blame for African Civil Wars." *Proceedings of the National Academy of Sciences* 107, no. 38 (September 21, 2010): 16477–82.
4. Roche, Kevin R., Michèle Müller-Itten, David N. Dralle, Diogo Bolster, and Marc F. Müller. "Climate Change and the Opportunity Cost of Conflict." *Proceedings of the National Academy of Sciences* 117, no. 4 (January 28, 2020): 1935–40.
5. Linke, Andrew M, and Brett Ruether. "Weather, Wheat, and War: Security Implications of Climate Variability for Conflict in Syria." *Journal of Peace Research* 58, no. 1 (January 1, 2021): 114–31. <https://doi.org/10.1177/0022343320973070>

Supplemental Readings

1. Kelley, Colin P., Shahrzad Mohtadi, Mark A. Cane, Richard Seager, and Yochanan Kushnir. "Climate Change in the Fertile Crescent and Implications of the Recent Syrian Drought." *Proceedings of the National Academy of Sciences* 112, no. 11 (March 17, 2015): 3241–46. <https://doi.org/10.1073/pnas.1421533112>.
2. \*Koubi, Vally. 2019. "Climate Change and Conflict." *Annual Review of Political Science* 22 (1): 343–60. <https://doi.org/10.1146/annurev-polisci-050317-070830>.
3. \*Mach, Katharine J., Caroline M. Kraan, W. Neil Adger, Halvard Buhaug, Marshall Burke, James D. Fearon, Christopher B. Field, et al. 2019. "Climate as a Risk Factor for Armed Conflict." *Nature* 571 (7764): 193–97. <https://doi.org/10.1038/s41586-019-1300-6>.

4. Daoudy, Marwa. "Rethinking the Climate–Conflict Nexus: A Human–Environmental–Climate Security Approach." *Global Environmental Politics* 21, no. 3 (August 1, 2021): 4–25. [https://doi.org/10.1162/glep\\_a\\_00609](https://doi.org/10.1162/glep_a_00609).
5. Nina von Uexkull and Halvard Buhaug. 2021. "Security Implications of Climate Change: A Decade of Scientific Progress." *Journal of Peace Research*. Accessed November 15, 2022. <https://journals.sagepub.com/doi/full/10.1177/0022343320984210>.
6. Theisen, Ole Magnus. 2012. "Climate clashes? Weather variability, land pressure, and organized violence in Kenya, 1989–2004." *Journal of Peace Research*. Volume 49, Issue 1, January. Pages 81–96. <https://doi.org/10.1177/0022343311425842>
7. Gleditsch, Nils Petter. 2012. "Whither the Weather? Climate Change and Conflict." *Journal of Peace Research* 49 (1): 3–9. <https://doi.org/10.1177/0022343311431288>.
8. \*Gleditsch, Nils Petter. 1998. "Armed Conflict and the Environment: A Critique of the Literature." *Journal of Peace Research* 35 (3), 381–400. <https://www.jstor.org/stable/424942>

### Optional Policy Readings

1. Ghani, Tarek, and Robert Malley. Sep/Oct 2020. "Climate Change Doesn't Have 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 violence in Nigeria.)
3. Nunn, N. and E. McGurk, 2021. "Transhumant Pastoralism, Climate Change and Conflict in Africa." [https://scholar.harvard.edu/files/nunn/files/pastoralism\\_conflict\\_12\\_9.pdf](https://scholar.harvard.edu/files/nunn/files/pastoralism_conflict_12_9.pdf)

### Supplemental Readings

1. \*McGurk, E. and M. Burke, "The Economic Origins of Conflict in Africa," *Journal of Political Economy*, 2020, vol. 128, no. 10.

2. Maystadt, Jean-François, and Olivier Ecker. "Extreme Weather and Civil War: Does Drought Fuel Conflict in Somalia through Livestock Price Shocks?" *American Journal of Agricultural Economics* 96, no. 4 (2014): 1157–82. <https://doi.org/10.1093/ajae/aauo10>.

**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

1. Grossman, Herschel I., and Juan Mendoza. 2003. "Scarcity and Appropriative Competition." *European Journal of Political Economy* 19 (4): 747–58. [https://doi.org/10.1016/S0176-2680\(03\)00033-8](https://doi.org/10.1016/S0176-2680(03)00033-8).
2. Fearon, James. 2005. Primary Commodity Exports and Civil War. *The Journal of Conflict Resolution* Vol. 49, No. 4 (August): 483–507. <https://www.jstor.org/stable/30045128>
3. Humphreys, Macartan. Natural Resources, Conflict, and Conflict Resolution: Uncovering the Mechanisms. *The Journal of Conflict Resolution* Vol. 49, No. 4 (August): 508–537.

#### Supplemental Readings

1. \*Jeffrey Frankel. 2010. The Natural Resource Curse. Harvard Kennedy School Working Papers. (February: RWP10-005). *Highly recommended as background reading for a general understanding of this topic.*
2. Blair, Graeme, Darin Christensen, and Michael Gibilisco. 2022. "The Point of Attack: Where and Why Does Oil Cause Armed Conflict in Africa?" Manuscript, UCLA. <https://graemeblair.com/papers/where.pdf>\*
3. Caselli, Francesco, Massimo Morelli, and Dominic Rohner. 2015. "The Geography of Interstate Resource Wars." *The Quarterly Journal of Economics* 130 (1): 267–316. <https://www.jstor.org/stable/26372600>
4. Acemoglu, Daron, Mikhail Golosov, Aleh Tsyvinski, and Pierre Yared. 2012. "A Dynamic Theory of Resource Wars." *The Quarterly Journal of Economics* 127 (1): 283–331. <https://www.jstor.org/stable/41337211>
5. Ross, Michael. 2015. "What Have We Learned about the Natural Resource Curse?" *Annual Rev. Polit. Sci.* 2015. 18: 239–59. <https://doi.org/10.1146/annurev-polisci-052213-040359>



## Optional Policy Readings

1. Maclean, Ruth, and Dionne Searcey. 2022. "Congo to Auction Land to Oil Companies: 'Our Priority Is Not to Save the Planet.'" *The New York Times*, July 24, 2022, sec. World.  
<https://www.nytimes.com/2022/07/24/world/africa/congo-oil-gas-auction.html>.
2. Financial Times, 2022. "How the DRC Became the Battleground of a Proxy War Over Precious Resources," 27 October. <https://www.ft.com/content/26125730-3113-4946-982a-989e2acbe472>
3. National Intelligence, Council. 2021. *Climate Change and International Responses Increasing Challenges to US National Security Through 2040*. [www.dni.gov/files/ODNI/documents/assessments/NIE\\_Climate\\_Change\\_and\\_National\\_Security.pdf](http://www.dni.gov/files/ODNI/documents/assessments/NIE_Climate_Change_and_National_Security.pdf)

## Week 7. 15 Mar. SPRING BREAK!

### Week 8. 22 Mar: Resource Competition, cont'd

#### Readings

1. Hannesson, Rögnvaldur. 1997. "Fishing as a Supergame." *Journal of Environmental Economics and Management* 32: 309–22.  
<https://doi.org/10.1006/jeem.1997.0971>.
2. Steinsson, Sverrir. "The Cod Wars: A Re-Analysis." *European Security* 25, no. 2 (April 2, 2016): 256–75. <https://doi.org/10.1080/09662839.2016.1160376>.
3. Zhang, "China's Marine Fishery and Global Ocean Governance"
4. Berkes, F., T. P. Hughes, R. S. Steneck, J. A. Wilson, D. R. Bellwood, B. Crona, C. Folke, et al. 2006. "Globalization, Roving Bandits, and Marine Resources." *Science* 311 (5767): 1557–58.  
<https://doi.org/10.1126/science.1122804>.

#### Supplemental Reading

1. Tekwa, Edward W., Eli P. Fenichel, Simon A. Levin, and Malin L. Pinsky. 2019. "Path-Dependent Institutions Drive Alternative Stable States in Conservation." *Proceedings of the National Academy of Sciences* 116 (2): 689–94.
2. \*Gordon, H. Scott. 1954. "The Economic Theory of a Common-Property Resource: The Fishery." *Journal of Political Economy* 62 (2): 124–42.
3. Wilson, James, Liying Yan, and Carl Wilson. 2007. "The Precursors of Governance in the Maine Lobster Fishery." *Proceedings of the National Academy of Sciences* 104 (39): 15212–17.  
<https://doi.org/10.1073/pnas.0702241104>.
4. Jackson, Jeremy B. C., Michael X. Kirby, Wolfgang H. Berger, Karen A. Bjorndal, Louis W. Botsford, Bruce J. Bourque, Roger H. Bradbury, et al. 2001. "Historical Overfishing and the Recent Collapse of Coastal

Ecosystems.” *Science* 293 (5530): 629–37.  
<https://doi.org/10.1126/science.1059199>.

### Optional Policy Readings

1. *The New York Times*. 2007. “Ecuador Wants Wealthy Countries to Pay It Not to Develop an Oil Deposit,” July 23, 2007, sec. Business.  
<https://www.nytimes.com/2007/07/23/business/worldbusiness/23iht-ecuador.4.6792787.html>.
2. Poulsen, Regin Winther. 2021. “An Ever-Moving, Unloved Fish Is Stirring Chaos in the North Atlantic.” *The Atlantic*. February 13, 2021.  
<https://www.theatlantic.com/science/archive/2021/02/fish-divided-north/618003/>.

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

1. Colgan, Jeff D., Jessica F. Green, and Thomas N. Hale. 2021. “Asset Revaluation and the Existential Politics of Climate Change.” *International Organization* 75 (2): 586–610. <https://doi.org/10.1017/S0020818320000296>.
2. Kennard, Amanda, Rebecca Pearlman, and Christina Toenshoff. 2022. “Fuel to the Fire: The Political Externalities of Energy Transitions.” Stanford University. [https://drive.google.com/file/d/1g5A\\_Mvc-8kyEuoVV5KVJUdHE3oXisJpK/view?usp=sharing&usp=embed\\_facebook](https://drive.google.com/file/d/1g5A_Mvc-8kyEuoVV5KVJUdHE3oXisJpK/view?usp=sharing&usp=embed_facebook)
3. Gartzke, Erik. 2012. “Could Climate Change Precipitate Peace?” *Journal of Peace Research* 49 (1): 177–92. <https://doi.org/10.1177/0022343311427342>.
4. Schmidt, Cody J, Bomi K Lee, and Sara McLaughlin Mitchell. “Climate Bones of Contention: How Climate Variability Influences Territorial, Maritime, and River Interstate Conflicts.” *Journal of Peace Research* 58, no. 1 (January 1, 2021): 132–50. <https://doi.org/10.1177/0022343320973738>.

### Supplemental Readings

1. Ge, Quansheng, Mengmeng Hao, Fangyu Ding, Dong Jiang, Jürgen Scheffran, David Helman, and Tobias Ide. 2022. “Modelling Armed Conflict Risk under Climate Change with Machine Learning and Time-Series Data.” *Nature Communications* 13 (1): 2839. <https://doi.org/10.1038/s41467-022-30356-x>.

### Optional Policy Readings

1. Center for Climate and Security. 2021. “Climate Change and Security in the Arctic.” <https://climateandsecurity.org/climate-change-and-security-in-the-arctic/>
2. Read NIC assessment on Climate Change, pp. 8-9 on Arctic.  
[https://www.dni.gov/files/ODNI/documents/assessments/NIE\\_Climate\\_Change\\_and\\_National\\_Security.pdf](https://www.dni.gov/files/ODNI/documents/assessments/NIE_Climate_Change_and_National_Security.pdf)

3. Colgan, Jeff. 2021. "Climate Change, Grand Strategy, and International Order." Washington, DC: Wilson Center.  
<https://www.wilsoncenter.org/article/climate-change-grand-strategy-and-international-order>
4. "Do Politics or Economics Dictate Saudi Oil Policy? | Wilson Center." n.d. Accessed November 19, 2022. <https://www.wilsoncenter.org/article/do-politics-or-economics-dictate-saudi-oil-policy>.
5. Krugman, Paul. 2022. "Is this the End of Peace Through Trade?" *New York Times*. 13 December. <https://www.nytimes.com/2022/12/13/opinion/trade-world-peace.html>

**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

1. Sabel, Charles, and David Victor. 2022. *Fixing the Climate*, ch. 1: "Experimentalist Governance," and ch. 2. "Lessons from Montreal vs. Kyoto," <https://www-degruyter-com.ezproxy.princeton.edu/document/doi/10.1515/9780691224541/html#contents>.
2. McAllister, Jordan H., and Keith E. Schnakenberg. 2022. "Designing the Optimal International Climate Agreement with Variability in Commitments." *International Organization* 76 (2): 469–86.  
<https://doi.org/10.1017/S0020818321000400>.
3. Barrett, Scott. 1990. "The Problem of Global Environmental Protection." *Oxford Review of Economic Policy* 6 (1): 68–79.  
<https://www.jstor.org/stable/23606115>
4. Bernauer, Thomas. 2013. "Climate Change Politics." *Annual Review of Political Science* 16 (1): 421–48. <https://doi.org/10.1146/annurev-polisci-062011-154926>.

#### Supplemental Readings

1. Baliga, Sandeep, and Eric Maskin. 2003. "Mechanism Design for the Environment." In *Handbook of Environmental Economics*, 1:305–24. Elsevier.  
[https://doi.org/10.1016/S1574-0099\(03\)01012-X](https://doi.org/10.1016/S1574-0099(03)01012-X).

2. Battaglini, Marco, and Bård Harstad. 2020. "The Political Economy of Weak Treaties." *Journal of Political Economy* 128 (2): 544–90. <https://doi.org/10.1086/704610>.
3. Henry, Laura A., and Vladimir Douhovnikoff. 2008. "Environmental Issues in Russia." *Annual Review of Environment and Resources* 33 (1): 437–60. <https://doi.org/10.1146/annurev.environ.33.051007.082437>.
4. Harrison, Rodrigo, and Roger Lagunoff. 2017. "Dynamic Mechanism Design for a Global Commons." *International Economic Review* 58 (3): 751–82. 4.
5. \*Schmalensee, Richard, and Robert N Stavins. 2013. "The SO<sub>2</sub> Allowance Trading System: The Ironic History of a Grand Policy Experiment." *Journal of Economic Perspectives* 27 (1): 103–22. <https://doi.org/10.1257/jep.27.1.103>.
6. Clark, Richard and Noah Zucker. 2022. "Climate Cascades." Draft MS.

### Optional Policy Readings

1. Nordhaus, William. 2020. "The Climate Club." *Foreign Affairs*. (May/June).
2. Bearak, Max. 2022. "Climate Pledges Are Falling Short, and a Chaotic Future Looks More Like Reality." *The New York Times*, October 26, 2022, sec. Climate. <https://www.nytimes.com/2022/10/26/climate/un-climate-pledges-warming.html>.

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

Video: <https://www.cnn.com/2022/11/11/cop27-biden-takes-aim-at-putins-weaponization-of-energy-outlines-new-climate-funding.html>

### Readings:

1. Stott, Peter A., Nikolaos Christidis, Friederike E. L. Otto, Ying Sun, Jean-Paul Vanderlinden, Geert Jan van Oldenborgh, Robert Vautard, et al. 2016. "Attribution of Extreme Weather and Climate-Related Events." *WIREs Climate Change* 7 (1): 23–41. <https://doi.org/10.1002/wcc.380>.
2. Otto, Friederike E. L. 2016. "The Art of Attribution." *Nature Climate Change* 6 (4): 342–43. <https://doi.org/10.1038/nclimate2971>.
3. Bhandary, R. et.al. 2021. "Climate Finance Policy in Practice: A Review of the Evidence." *Climate Policy*, 21:4, 529–545, DOI: [10.1080/14693062.2020.1871313](https://doi.org/10.1080/14693062.2020.1871313)
4. Ramsay, Kristopher and Noam Reich. 2022. "Conservation for Sale: International Bargaining over Payment for Ecosystem Services." Manuscript, Princeton University.

### Optional Policy Readings

1. Watson, C. et.al. 2022. "The Global Climate Finance Architecture." [climatefundsupdate.org/wp-content/uploads/2022/03/CFF2-Global-CF-Architecture\\_ENG-2021.pdf](https://climatefundsupdate.org/wp-content/uploads/2022/03/CFF2-Global-CF-Architecture_ENG-2021.pdf)

2. Salzman, James, Genevieve Bennett, Nathaniel Carroll, Allie Goldstein, and Michael Jenkins. 2018. "The Global Status and Trends of Payments for Ecosystem Services." *Nature Sustainability* 1 (3): 136–44. <https://doi.org/10.1038/s41893-018-0033-0>.
3. Anderson, S. 2013. "Climate Justice and International Development." IIED Briefing. [https://www.jstor.org/stable/resrepo1530#metadata\\_info\\_tab\\_contents](https://www.jstor.org/stable/resrepo1530#metadata_info_tab_contents).
4. Timperley, J. 2021. "The Broken Promise of Climate Finance." *Nature* 21 (598) October.
5. Maclean, Ruth, and Dionne Searcey. 2022. "Congo to Auction Land to Oil Companies: 'Our Priority Is Not to Save the Planet.'" *The New York Times*, July 24, 2022, sec. World. <https://www.nytimes.com/2022/07/24/world/africa/congo-oil-gas-auction.html>.
6. Wall Street Journal. 2022. "COP27 Talks Weigh Who Should Pay for Climate Damage to Poor Countries." 16 November. [https://www.wsj.com/articles/cop27-talks-weigh-who-should-pay-for-climate-damage-to-poor-countries-11668598218?mod=hp\\_lead\\_pos13](https://www.wsj.com/articles/cop27-talks-weigh-who-should-pay-for-climate-damage-to-poor-countries-11668598218?mod=hp_lead_pos13)

**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

1. Thalheimer, Lisa. 2022. "Large weather and conflict effects on internal displacement in Somalia with little evidence of feedback onto conflict."
2. Carattini, Stefano, Steffen Kallbekken, and Anton Orlov. 2019. "How to Win Public Support for a Global Carbon Tax." *Nature* 565 (7739): 289–91. <https://doi.org/10.1038/d41586-019-00124-x>.
3. Balcazar, Carlos Felipe, and Amanda Kennard. 2022. "Climate Change and Political (In)Stability." Stanford University. [https://drive.google.com/file/d/1DbrAkX2VJ2TYJWaou\\_AsyDsTjBdmywXl/view?usp=sharing&usp=embed\\_facebook](https://drive.google.com/file/d/1DbrAkX2VJ2TYJWaou_AsyDsTjBdmywXl/view?usp=sharing&usp=embed_facebook).
4. Hendrix, Cullen S, and Stephan Haggard. 2015. "Global Food Prices, Regime Type, and Urban Unrest in the Developing World." *Journal of Peace Research* 52(2), 143–57. <https://doi.org/10.1177/0022343314561599>.

### Supplemental Readings

1. \*Linke, A. et.al. 2018, “Drought, Local Institutional Contexts, and Support for Violence in Kenya,” *Journal of Conflict Resolution*, Vol. 62(7) 1544-1578.  
<https://doi.org/10.1177/0022002717698018>
2. Acemoglu, Daron, Leopoldo Fergusson, and Simon Johnson. “Population and Conflict.” *The Review of Economic Studies* 87, no. 4 (July 1, 2020): 1565–1604.  
<https://doi.org/10.1093/restud/rdzo42>.
3. Ash, Konstantin, and Nick Obradovich. 2020. “Climatic Stress, Internal Migration, and Syrian Civil War Onset.” *Journal of Conflict Resolution* 64 (1): 3–31. <https://doi.org/10.1177/0022002719864140>.
4. Driscoll, Daniel. “Populism and Carbon Tax Justice: The Yellow Vest Movement in France.” *Social Problems*, August 18, 2021, spab036.  
<https://doi.org/10.1093/socpro/spab036>.
5. Mitchell, Timothy. 2009. “Carbon Democracy.” *Economy and Society*, 38:3, 399-432. <https://doi.org/10.1080/03085140903020598>.
6. \*Black, Richard, W. Neil Adger, Nigel W. Arnell, Stefan Dercon, Andrew Geddes, and David Thomas. 2011. “The Effect of Environmental Change on Human Migration.” *Global Environmental Change, Migration and Global Environmental Change – Review of Drivers of Migration*, 21 (December): S3–11.  
<https://doi.org/10.1016/j.gloenvcha.2011.10.001>.

### Optional Policy Readings

1. “The Complicated Politics of the Gilets Jaunes Movement | The New Yorker.” Accessed November 15, 2022. <https://www.newyorker.com/news/news-desk/the-complicated-politics-of-the-gilets-jaunes-movement>.
2. Ploeg, Jan Douwe van der. 2020. “Farmers’ Upheaval, Climate Crisis and Populism.” *The Journal of Peasant Studies* 47 (3): 589–605.  
<https://doi.org/10.1080/03066150.2020.1725490>.

## 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