

**Environmental Security (NS4032)
Summer 2019**

Tuesdays and Thursdays, 10:00-11:50
Glasgow, Room 389

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Office hours: Mondays, 12:30-14:30
and by appointment

Course Description

The physical environment we live in shapes our operating environment, military and economic performance, and national interests. It creates opportunities and constraints, domestically and internationally. In short, it provides the context in which the other activities that we study at NPS occur. Yet, until the end of the Cold War, the environment was an understudied topic in Political Science and International Relations. In the last thirty years, in contrast, many scholars and policymakers have identified the environment as a significant threat to human and national security. This seminar interrogates these claims, examining how environmental stresses, including resource scarcity, population growth, natural disasters, climate change, and pollution, trigger insecurities, including violent conflict, within and between countries. The course also examines non-violent responses to environmental stress, including migration and protest, and evaluates whether environmental stress can be a catalyst for cooperation. Throughout the course we'll wrestle with the questions: How is the environment a security threat? Whom does it harm? How concerned should we be about these effects? How can we moderate environmental insecurity?

The course blends theory and practice. Through readings, discussions, and assignments, we will critically evaluate core concepts and theories of environmental security and apply them to contemporary events, such as the Syrian civil war, Hurricanes Harvey and Maria, the water crisis in Flint, Michigan, and international competition over the Arctic. You will also conduct an in-depth evaluation of environmental insecurities in a country of your choice, to enhance your regional knowledge and practice environmental risk assessment.

Course Objectives

Upon completing this course, you should be able to provide informed analyses of current environmental security issues to policymakers.

Specific learning objectives include:

- Examine and evaluate core environmental security concepts, including scarcity and security
- Recognize and critique environmental security discourses
- Describe, diagram, and assess prominent environmental security theories
- Apply concepts and theories to current environmental security issues

- Draw on theories and real world cases to diagnose current environmental insecurities, predict actors' responses, and produce policy recommendations
- Communicate key findings in written and verbal formats
- Employ critical reading and analytic skills

Class Preparation

Readings are required and must be read prior to each class session. Most readings are available on Sakai and the syllabus contains urls for the news articles. Be sure to review the syllabus to determine whether you're expected to complete an entire article/chapter or just part of it!

I have selected class readings that are classics in the field and/or representative of prominent viewpoints on each session's topic. The readings are not comprehensive; they are a jumping off point for further discussion.

You should approach the class readings with two goals: understanding and critical assessment. When reading a text, look for answers to the following questions:

- What is the article or chapter's topic?
- What is the author's argument?
- What evidence does the author use to support his or her argument?
- What assumptions does the author make?
- What did the author omit?
- Was the argument persuasive? Why or why not?
- Was the argument useful and/or important? Why or why not?
- How could the argument be strengthened?

The syllabus also identifies a core question for each session to guide your reading. We will always discuss these questions in class.

Further Readings (at the end of the syllabus) are suggestions if you would like more information about a session's topic. They are not required and will not be covered in class, but may be useful for your final reports. They are not on Sakai, but can be found by searching Google or Google Scholar (scholar.google.com). If you are unable to track down any of these readings, please contact me for assistance.

Course Assessment

Your grade will assess your progress towards the course's learning objectives. It is based on three components:

1. Participation 35%

To obtain a high participation grade, you must consistently attend class, complete the required readings before each class session, and contribute regularly to class discussions and activities. The quality of your participation also matters.

Participation will be evaluated on a daily basis, using a ✓+, ✓, ✓-, 0 scale

- ✓+ = attended class and **repeatedly contributed clear, original, informed content** to class discussions and activities
- ✓ = attended class and **contributed** clear, original, informed content to class discussions and activities
- ✓- = attended class, but **did not contribute** clear, original or informed content to class discussions or activities
- 0 = did not attend class

Absenteeism: I excuse absences for illness, required appointments that cannot be scheduled outside of class time, and medical and family emergencies, if I am notified about them. Other absences are not excused. You are welcome but not required to notify me about unexcused absences.

2. Report 40% Due by midnight, 20 September

For the purposes of this assignment, you are a military attaché at a US embassy. Your DCM (Deputy Chief of Mission) needs you to evaluate the risks posed by environmental stress (scarcity, degradation, etc.) within that country or between that country and a neighboring country. You will complete a 3000 word report that identifies key environmental stresses in the country, examines how they could generate insecurity, assesses the severity of the threat, and issues recommendations for threat mitigation. To create the report, you will draw on the concepts, theories, and models we cover in the course, as well as your own research on the particular issue(s) and country(s) you are examining. To ensure that the assignment is relevant to your degree, you must select a country within your NSA curriculum.

The report will be evaluated on an A to F scale. I will distribute a rubric with more specific grading criteria, as well as detailed instructions, in the first week of class.

3. Portfolio 25% Various due dates (see below)

Your portfolio consists of a series of assignments that build to your report. The purposes of these assignments are to encourage progress on your report, link the report to the concepts and theories we cover in class, clarify your arguments, strengthen the report's organization and presentation, and share your findings with the class. I will provide further details about each assignment in class.

All portfolio assignments will be evaluated on a ✓+, ✓, ✓-, 0 scale.

- ✓+ = assignment is complete and demonstrates **high level** of effort and understanding of course content
- ✓ = assignment is complete and demonstrates **average level** of effort and understanding of course content
- ✓- = assignment is **incomplete or** demonstrates **weak** understanding of class content
- 0 = no assignment submitted

A. Proposal **5%** **Due by midnight, 24 July**

Submit a report proposal. You will receive written feedback on this assignment from me.

Include the following information:

1. Country (or pair of countries) you will examine
2. Environmental stress(es) you will examine
3. Explanation of why you selected #1 and #2. Why are these countries/stresses important? (1-2 paragraphs)
 - a. This could include a discussion of the types of insecurity that you expect the selected stresses to cause
 - b. You could also discuss implications for US national security
4. Annotated bibliography with 5+ sources.
 - a. Provide full bibliographic information, using a standard citation format (e.g. Chicago).
 - b. For each source, provide 1-3 sentences identifying the source's topic and central arguments.

B. Argument Map **2.5%** **Bring two copies to class on 30 July AND submit on Sakai**

Revised Map **5%** **Due by midnight, 10 August (submit on Sakai)**

Map the causal pathway from your environmental stress(es) to insecurity(s). Some of these maps will be shared in class.

You can draw your maps in Word, Powerpoint, or by hand (and photographed). To submit online, please use pdf format.

An effective argument map will:

- Trace complete causal progressions from environmental stress to insecurity, so the reader can understand how we get from IVs (stresses) to DVs (insecurity).
- Include any non-environmental factors that play important roles in the causal progression from environmental stress to insecurity.
- Balance detail with clarity.

C. Outline **10%** **Due by midnight, 25 August**

Complete a detailed outline of your report (2-3 pages, single spaced). You will receive written feedback on this assignment from me.

Recommended format: Bulleted or numbered list of topics and sub-topics, with brief descriptions of each section's content.

D. Presentation **2.5%** **In class, September 12 and 17**

Present your report to the class, focusing on key findings.

Format: 3 slides in 3 minutes

Technical guidelines for report, proposal, and outline:

- Submit electronic versions of assignments to the “Assignment” page on Sakai.
- Include your name in the document name.
- Unless otherwise noted, format written assignments as Word documents, double-spaced, with 12 point Times New Roman font, 1” margins, and page numbers.
- For the final report, all readings should be cited using a standard citation format: e.g. Chicago style (http://www.chicagomanualofstyle.org/tools_citationguide.html). You can use (1) footnotes or (2) the (author:date) format with an accompanying reference list. Please do not use endnotes!

Lateness: Assignments submitted after midnight on their due date will lose 1/3 of a letter grade per day (e.g. an A report submitted a few hours late becomes an A-; an A 1.5 days late becomes a B+; etc.) or make similar moves down the ✓ scale (✓+ to ✓, etc.)

Extensions: I grant assignment extensions on a case-by-case basis for illness, medical and family emergencies, and other exceptional circumstances. Please contact me as soon as possible to discuss extensions.

Reassessment: If you wish to challenge a grade, you must do so in writing within one week of the graded assignment being returned. Challenges should provide a clear argument for why a higher grade is warranted. If you request reassessment, I will reassess the entire assignment and the grade may go up or down.

Graduate Writing Center (GWC): If you would like to improve the quality of your written work, I encourage you to draw on the services of the GWC (<https://my.nps.edu/web/gwc/home>). Our course Sakai site includes links to the center’s Writing Resources. You may use the GWC for all class assignments.

Additional Class Policies

Accommodation: If you need an accommodation based on illness, disability, or mental health concerns, please contact me to discuss specific needs. I will make every effort to find a workable solution.

Academic Integrity: As stated in the Academic Honor Code in the NPS Student Information Handbook, I expect all students to maintain the highest standards of academic integrity and deal honestly with all matters concerning the course. Plagiarism or cheating will result in a zero for the assignment, may result in an F for the course, and will be brought to the Dean’s attention.

Plagiarism consists of using words or ideas from another source without proper attribution or citation. This can include exact wording from a source, very similar paraphrasing based on a source, or original arguments made by a source. Any facts that are not common knowledge must also be documented, using citations. For further advice on avoiding plagiarism, see the

information and resources listed on the NSA department's web page on academic integrity (<http://my.nps.edu/web/nsa/academic-integrity>). The GWC also provides training on avoiding plagiarism. When in doubt, cite!

I. ENVIRONMENT AND SECURITY: CREATING THE CONNECTION

7/9 Introduction

What is "environmental security"?

7/11 Malthusians vs. Cornucopians

Are environmental resources scarce or abundant?

Readings:

- Paul Ehrlich, *The Population Bomb* (New York: Ballantine Books, 1968), **Prologue and pp. 15-45.**
- Julian Simon, "Resources, Population, Environment: An Oversupply of False Bad News," *Science* (1980): 1431-1437.

7/16 The Tragedy of the Commons

Are conflicts over scarce resources inevitable?

Readings:

- Garrett Hardin, "The Tragedy of the Commons," *Science* 162, no. 3859 (1968): 1243-1248.
- Susan J. Buck Cox, "No Tragedy of the Commons," *Environmental Ethics* 7 (1985): 49-61.

7/18 Defining Security

When we talk about "security," what do we mean?

Readings:

- Barry Buzan, *People, States and Fear*, second ed. (New York: Harvester, 1991), **pp. 14-23.**
- David Baldwin, "The Concept of Security," *Review of International Studies* 23, no. 1 (1997): 5-26.
- Roland Paris, "Human Security: Paradigm Shift or Hot Air?" *International Security* 26, no. 2 (2001): 87-102.
- Ole Waever, "Securitization and Desecuritization," in Ronnie Lipschutz, ed. *On Security* (New York: Columbia University Press, 1995), pp. 46-57.

7/23 Debate: Should We Call the Environment a Security Issue?

Readings:

- Jessica Tuchman Mathews, "Redefining Security," *Foreign Affairs* 68, No. 2 (1989): 162-177.
- Peter Gleick, "Environment and Security: The Clear Connections," *Bulletin of the Atomic Scientists* (April 1991): 17-21.
- Daniel Deudney, "The Case Against Linking Environmental Degradation and National Security," *Millennium* 19 (1990): 461-476.

- Mark Levy, “Is the Environment a National Security Issue?” *International Security* 20, no. 2 (1995): 35-62.
- Kent Hughes Butts, “The Case for DOD Involvement in Environmental Security” in Daniel H. Deudney and Richard A. Matthew, eds., *Contested Grounds: Security and Conflict in the New Environmental Politics* (Albany, NY: State University of New York Press, 1999), pp. 109-126.

DUE 24 JULY: PROPOSAL

II. RESPONSES TO ENVIRONMENTAL INSECURITY

7/25 Armed Conflict, I: The Toronto School

How does environmental insecurity provoke intrastate conflict?

Readings:

- Thomas Homer-Dixon, “Environmental Scarcities and Violent Conflict: Evidence from Cases,” *International Security* 19, no. 1 (1994): 5-40.
- Nils Petter Gleditsch and Henrik Urdal, “Ecoviolence? Links Between Population Growth, Environmental Scarcity, and Violent Conflict in Thomas Homer-Dixon’s Work,” *Journal of International Affairs* 56, no. 1 (2002): 283-302.

DUE IN CLASS, 30 JULY: ARGUMENT MAP. ALSO SUBMIT A COPY ON SAKAI.

7/30 Armed Conflict, II: Statistical Approaches

What do statistical approaches add to our understanding of environmental conflict? What are their limitations?

Readings:

- Ole Magnus Theisen, “Blood and Soil? Resource Scarcity and Internal Armed Conflict Revisited,” *Journal of Peace Research* 45, no. 6 (2008): 801-818.
- Hendrik Urdal “People vs. Malthus: Population Pressure, Environmental Degradation, and Armed Conflict Revisited,” *Journal of Peace Research* 42, no. 4 (2005): 417-434.

8/1 Armed Conflict, III: Adding Politics

Which other factors drive “environmental” conflict?

Readings:

- Colin Kahl, “Population Growth, Environmental Degradation, and State-Sponsored Violence: The Case of Kenya, 1991-93,” *International Security* 23, no. 2 (1998): 80-119.
- Tor A. Benjaminsen, “Does Supply-Induced Scarcity Drive Violent Conflicts in the African Sahel? The Case of the Tuareg Rebellion in Northern Mali,” *Journal of Peace Research* 45, no. 6 (2008): 819-836.

8/6 Migration

When does environmental insecurity provoke migration? And when does environmental migration provoke armed conflict?

Readings:

- Steve Loneragan, “The Role of Environmental Degradation in Population Displacement,” *Environmental Change and Security Project Report*, Issue 4 (1998) pp. 5-15.
- Rafael Reuveny, “Climate Change-Induced Migration and Violent Conflict,” *Political Geography*, Vol. 26 (2007), pp. 656-673.
- Robert A. McLeman and Lori M. Hunter, “Migration in the Context of Vulnerability and Adaptation to Climate Change: Insights from Analogues,” *Wiley Interdisciplinary Review of Climate Change* 1, no. 3 (2010): 450-461.
- Collette Mortreux and Jon Barnett, “Climate Change, Migration and Adaptation in Funafuti, Tuvalu,” *Global Environmental Change* 19 (2009): 105-112.
- Ashok Swain, “Displacing the Conflict: Environmental Destruction in Bangladesh and Ethnic Conflict in India,” *Journal of Peace Research*, Vol. 33, No. 2 (1996), pp. 189-204

8/8 Protest

When does environmental insecurity provoke protests?

Readings:

- William Finnegan, “Leasing the Rain,” *The New Yorker* (April 8, 2002). **Read online:** <http://www.newyorker.com/magazine/2002/04/08/leasing-the-rain>
- Oscar Olivera with Tom Lewis, *Cochabamba!* (Cambridge, MA: South End Press, 2004), pp. 7-49.
- Anthony Bebbington and Martin Scurrah, “Hydrocarbon Conflicts and Indigenous Peoples in the Peruvian Amazon: Mobilization and Negotiation Along the Río Corrientes,” in Anthony Bebbington and Jeffrey Bury, eds. *Subterranean Struggles: New Dynamics of Mining, Oil, and Gas in Latin America* (Austin, TX: University of Texas Press, 2013), pp. 174-196.

DUE 10 AUGUST: REVISED ARGUMENT MAP. SUBMIT ON SAKAI.

III. CLIMATE CHANGE

8/13 A New Threat?

How is climate change different from other forms of environmental stress? What kinds of insecurities will it cause?

Readings:

- Center for Naval Analysis (CNA), *National Security and the Threat of Climate Change* (Alexandria, VA: CNA Corporation, 2007), cover pages (1-3) and pp. 9-35 (**of report, NOT pdf**).
- David Wallace-Wells, “The Uninhabitable Earth,” *New York Magazine*, 9 July 2017. <http://nymag.com/daily/intelligencer/2017/07/climate-change-earth-too-hot-for-humans.html>
- Responses to Wallace-Wells:
 - Kevin Drum, “Our Approach to Climate Change Isn’t Working. Let’s Try Something Else,” *Mother Jones*, 10 July 2017. <https://www.motherjones.com/kevin-drum/2017/07/our-approach-to-climate-change-isnt-working-lets-try-something-else/#> (**read online**)

- Robinson Meyer, “Are We as Doomed as That New York Magazine Article Says?” *The Atlantic*, 10 July 2017.
<https://www.theatlantic.com/science/archive/2017/07/is-the-earth-really-that-doomed/533112/>
- Jon Barnett and W. Neil Adger, “Climate Dangers and Atoll Countries,” *Climatic Change* 61, no. 3 (2003): 321-337.

8/15 Climate Change and the Syrian Civil War

Did climate change cause the Syrian civil war?

Readings:

- Peter H. Gleick, “Water, Drought, Climate Change, and Conflict in Syria,” *Weather, Climate, and Society* 6, no. 3 (2014): 331-340.
- Colin P. Kelley et al., “Climate Change in the Fertile Crescent and Implications of the recent Syrian Drought,” *Proceedings of the National Academy of Sciences (PNAS)* 112, no. 11 (2015): 3241-3246.
- Francesca De Châtel, “The Role of Drought and Climate Change in the Syrian Uprising: Untangling the Triggers of the Revolution,” *Middle Eastern Studies* 50, no. 4 (2014): 521-535.
- Jan Selby et al., “Climate Change and the Syrian Civil War, Revisited,” *Political Geography* 60 (2017): 232-244.

8/20 Climate Change and US National Security

How significantly does climate change threaten US national security?

Readings:

- Center for Naval Analysis (CNA), *National Security and the Threat of Climate Change* (Alexandria, VA: CNA Corporation, 2007), pp. 37-42 (**of report, NOT pdf**).
- Joshua W. Busby, “Who Cares about the Weather? Climate Change and U.S. National Security,” *Security Studies*, Vol. 17, No. 3 (2008), pp. 468-504.
- Union of Concerned Scientists, “The US Military on the Front Lines of Rising Seas, Executive Summary” (2016).

8/22 Responding to Disasters

Do natural disasters provoke armed conflicts or resolve them?

How does foreign intervention help or hinder these processes?

Readings:

- Rune P. Slettebak, “Don’t Blame the Weather! Climate-Related Natural Disasters and Civil Conflict,” *Journal of Peace Research* 49, no. 1 (2012): 163-176.
- Jean-Christophe Gaillard, Elsa Clavé, and Ilan Kelman, “Wave of Peace? Tsunami Disaster Diplomacy in Aceh, Indonesia,” *Geoforum* 39 (2008): 511-526.
- Humanitarian Assistance/Disaster Relief (HA/DR):
 - Robert Kaplan, “US Forces: The World’s Best Relief Group,” *New York Times*, 12 October 2005.
 - David Capie, “The United States and Humanitarian Assistance and Disaster Relief (HADR) in East Asia: Connecting Coercive and Non-Coercive Uses of Military Power,” *Journal of Strategic Studies* 38, no. 3 (2015): 309-331.

DUE 25 AUGUST: ANNOTATED OUTLINE

8/27 Constructing Climate Change

Readings:

- TBA

In Class:

- **Video:** selections from *Climate Refugees*, *The Age of Consequences*, Ken Burns' *The Dust Bowl*, and/or *An Inconvenient Sequel*

8/29: No class, professor at a conference

IV. INTERNATIONAL ENVIRONMENTAL CONFLICT AND COOPERATION

9/3 The Arctic

Is increased Arctic access provoking international insecurity?

Readings:

- Office of the Under Secretary of Defense for Policy, *Department of Defense Arctic Strategy* (June 2019).
- Frédéric Lasserre, Linyan Huang, and Olga V. Alexeeva, "China's Strategy in the Arctic: Threatening or Opportunistic?" *Polar Record* 53, no. 1 (2017): 31-42.
- James K. Wither, "Svalbard: NATO's Arctic 'Achilles' Heel," *The RUSI Journal* 163, no. 5 (2018): 28-37.
- Page Wilson, "Society, Steward or Security Actor? Three Visions of the Arctic Council," *Cooperation and Conflict* 51, no. 1 (2016): 55-74.

9/5 Fisheries

Do states—or other actors—fight over fish?

Readings:

- Jessica Spijkers et al., "Global Patterns of Fisheries Conflict: Forty Years of Data," *Global Environmental Change* 57 (2019).
- Hongzhou Zhang and Sam Bateman, "Fishing Militia, the Securitization of Fishery and the South China Sea Dispute," *Contemporary Southeast Asia* (2017): 288-314.
- J. Samuel Barkin, "Degradation and Cooperation on the High Seas: The Case of International Fisheries Management," in Shlomi Dinar, ed., *Beyond Resource Wars: Scarcity, Environmental Degradation, and International Cooperation Beyond Resource Wars* (Cambridge, MA: The MIT Press, 2011), pp. 141-164.

9/10 Water

Do states fight wars for water?

Readings:

- John K. Cooley, "The War Over Water," *Foreign Policy* 54 (1984): 3-26.
- Aaron T. Wolf, "Conflict and Cooperation Along International Waterways," *Water Policy* 1, no. 2 (1998): 251-265.
- J. Anthony Allan, "Virtual Water: A Strategic Resource," *Ground Water* 36, no. 4 (1998): 545-546.

- Undala Z. Alam, “Questioning the Water Wars Rationale,” *The Geographical Journal* 168, no. 4 (2002): 341-353.

9/12 Geoengineering [and Presentations]

Is there a silver bullet for managing climate change?

Readings:

- Joshua B. Horton and Jesse L. Reynolds, “The International Politics of Climate Engineering: A Review and Prospectus for International Relations,” *International Studies Review* 18, no. 3 (2016), pp. 438-447 **ONLY**.
- David Keith, *A Case for Climate Engineering* (Cambridge, MA: The MIT Press, 2013), Chapter 1, pp. 1-18.
- Alan Robock, Kirsten Jerch, and Martin Bunzl, “20 Reasons Why Geoengineering May Be a Bad Idea,” *Bulletin of the Atomic Scientists* 64, no. 2 (2008): 14-59.
- Chad Briggs, “Is Solar Geoengineering a US National Security Risk?” in Jason J. Blackstock and Sean Low, eds., *Geoengineering Our Climate: Ethics, Politics, and Governance* (New York: Routledge, 2018), pp. 178-182.
- Joshua B. Horton, Andy Parker, and David Keith, “Solar Geoengineering and the Problem of Liability,” in Jason J. Blackstock and Sean Low, eds., *Geoengineering Our Climate*, pp. 142-146.

9/17 Wrap-Up [and Presentations]

Further Readings:

7/11 Malthusians vs. Cornucopians

- Robert Kaplan, “The Coming Anarchy,” *Atlantic Monthly* (Feb. 1994).
- Ester Boserup, “Environment, Population, and Technology in Primitive Societies,” *Population and Development Review* 2, no. 1 (1976): 21-36.
- Donella H. Meadows et al., *The Limits to Growth* (New York: Signet Classics, 1972).
- Jack Goldstone, “Scarcity, Crisis, and Choice,” *Journal of International Affairs* 59, no. 2 (2006): 335-346. [a review of Jared Diamond’s *Collapse*]

7/16 The Tragedy of the Commons

- Elisor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge, UK: Cambridge University Press, 1990).
- Thomas Dietz, Elinor Ostrom and Paul C. Stern, “The Struggle to Govern the Commons,” *Science* 302, no. 5652 (2003): 1907-1912.
- Ronald D. Mitchell, “International Environmental Common Pool Resources: More Common than Domestic but more Difficult to Manage” in J. Samuel Barkin and George E. Shambaugh, eds., *Anarchy and the Environment: The International Relations of Common Pool Resources* (Albany, NY: State University of New York Press, 1999).
- “Maine is Drowning in Lobsters,” *Bloomberg*, 18 May 2017.
- “What Will New York do About its Uber problem?” *New York Times*, 7 May 2018.

7/18 Defining Security

- Barry Buzan, *People, States and Fear*, second ed. (New York: Harvester, 1991), pp. 112-134.

7/23 Debate: Should We Call the Environment a Security Issue?

- Lothar Brock, “Peace through Parks: The Environment on the Peace Research Agenda,” *Journal of Peace Research* 28, No. 4 (1991): 407-423.
- Richard H. Ullman, “Redefining Security,” *International Security*, Vol. 8, No. 1 (1983), pp. 129-153.

7/25 Armed Conflict, I: The Toronto School

- Thomas Homer-Dixon, “On the Threshold: Environmental Changes as Causes of Acute Conflict,” *International Security* 16, no. 2 (1991): 76-116.
- Thomas Homer-Dixon and Jessica Blitt, eds., *Ecoviolence: Links Among Environment, Population, and Security* (Lanham, MD: Rowman and Littlefield, 1998).
- Stephan Libiszewski, “What is an Environmental Conflict?” *Journal of Peace Research* 28, no. 4 (1991): 407-422.
- Gunther Bächler “Why Environmental Change Causes Violence: A Synthesis,” *Environmental Change and Security Project Report*, Issue 4 (1998): 24-44.
- Kurt M. Lietzmann and Gary D. Vest, “Environment and Security in an International Context: Executive Summary Report,” *Environmental Change and Security Project Report*, Issue 5 (1999): 34-48.

7/30 Armed Conflict, II: Statistical Approaches

- Cullen S. Hendrix and Idean Salehyan, "Climate Change, Rainfall, and Social Conflict in Africa," *Journal of Peace Research* 49, No. 1 (2012): 35-50.
- Joshua W. Busby, Kaiba White, and Todd G. Smith, "Mapping Climate Change and Security in North Africa," Policy Brief, German Marshall Fund of the United States, Climate and Energy Program (November 2010).

8/1 Armed Conflict, III: Adding Politics

- Clionadh Raleigh, "Political Marginalization, Climate Change, and Conflict in African Sahel States," *International Studies Review* 12 (2010): 69-86.
- Matthew Turner, "Political Ecology and the Moral Dimensions of "Resource Conflicts": The Case of Farmer–Herder Conflicts in the Sahel," *Political Geography* 23, no. 7 (2004): 863-889.
- Nancy Lee Peluso and Michael Watts, eds., *Violent Environments* (Ithaca, NY: Cornell University Press, 2001).

8/8 Migration

- Jane McAdam, ed. *Climate Change and Displacement: Multidisciplinary Perspectives* (Oxford: Hart Publishing, 2012).
- Norman Myers, "Environmental refugees: a growing phenomenon of the 21st century," *Philosophical Transactions of the Royal Society, London B*, Vol. 357 (2001), pp. 609-613.
- Gaim Kibreab, "Environmental Causes and Impact of Refugee Movements: A Critique of the Current Debate," *Disasters*, Vol. 21, No. 1 (1997), pp. 20-38.

8/10 Protest

- Willem Assies, "David versus Goliath in Cochabamba: Water Rights, Neoliberalism, and the Revival of Social Protest in Bolivia," *Latin American Perspectives*, Vol. 30, No. 3 (2003), pp. 14-36.
- Sarah T. Romano, "From Protest to Proposal: The Contentious Politics of the Nicaraguan Anti-Water Privatisation Social Movement," *Latin American Research Bulletin*, Vol. 31, No. 4 (2012), pp. 499-512.

8/15 A New Threat?

- Noah S. Diffenbaugh, "How We Know it was Climate Change," *New York Times*, 29 December 2017.
- Jason Samenow, "The Truth about Harvey and Climate Change is in the Middle," *New York Times*, 1 September 2017.
- Intergovernmental Panel on Climate Change (IPCC), Fifth Assessment Report, Working Group 1 (The Physical Science Basis) (2013). <http://www.ipcc.ch/report/ar5/wg1/>
- Emily Meierding, "Climate Change and Conflict: Avoiding Small Talk about the Weather," *International Studies Review* 15, no. 2 (2013): 185-203.

8/17 Climate Change and the Syrian Civil War

- Thomas L. Friedman, "Without Water, Revolution," *New York Times*, 18 May 2013.

- Ban Ki Moon, “A Climate Culprit in Darfur,” *Washington Post*, 16 June 2007.
- Sarah Johnstone and Jeffrey Mazo, “Global Warming and the Arab Spring,” *Survival* 53, no. 2 (2011): 11-17.

8/22 **Climate Change and US National Security**

- Department of Defense (DoD), *Climate Change Adaptation Roadmap* (2014).
- Department of Defense, “2018 Climate-Related Risk to DoD Infrastructure Initial Vulnerability Assessment Survey (SLVAS) Report,” January 2018.
- Department of Defense, “Response to Congressional Inquiry on National Security Implications of Climate-Related Risks and a Changing Climate,” 23 July 2015.
- CNA Military Advisory Board, *National Security and the Accelerating Risks of Climate Change* (Alexandria, VA: CNA Corporation, 2014).
- Office of the Under Secretary of Defense for Acquisition and Sustainment, *Report on Effects of a Changing Climate to the Department of Defense* (January 2019).
- Chad Michael Briggs, “Climate Security, Risk Assessment and Military Planning,” *International Affairs* Vol. 88, No. 5 (2012): 1049-1064.
- CNA Military Advisory Board, *National Security and the Accelerating Risks of Climate Change* (Alexandria, VA: CNA Corporation, 2014).
- Jeff D. Colgan, “Climate Change and the Politics of Military Bases,” *Global Environmental Politics* 18, no. 1 (2018): 33-51.
- Neha Thirani Bagri, “The US is Relocating an Entire Town Because of Climate Change,” *Quartz*, 5 June 2017.

8/24 **Responding to Disasters**

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