

PS367: Climate Change: Science and Politics of a Global Crisis

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T/Th 12 noon-1:20 pm	Office Hours: Tu/Th 10-11:30 PLC-921; email questions
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Course Description

Climate change is the largest environmental threat facing humans and other species that inhabit planet Earth. We are increasingly aware of the causes, impacts, and likelihood of climate change. Yet, recent international meetings on climate change suggest that the nations (and people) of the world are unwilling to take actions on the scale and timeline that most scientists say is needed to avoid the most severe impacts of climate change. In short, the demand for climate action implied by most scientific evidence has not yet been matched by the supply of action from political leaders, policy-makers, and the public.

This course will help you understand the climate science, factors that influence progress on this global crisis, and international, national, and local policies that are helping address it.

The course looks at four major aspects of climate change:

- **Understanding the science:** What do we know and what don't we know about climate change? To what extent is it human-caused and how do we know? How does one assess the arguments of those who argue that human-caused climate change is occurring compared to those who argue the opposite?
- **Setting the agenda:** What has gotten climate change on the international policy agenda? What role has scientific evidence played? What role have nongovernmental organizations and activists (e.g., Greta Thunberg) played? What factors have kept climate change off the policy agenda?
- **International responses to climate change -- negotiating an agreement:** Why have countries taken action on climate change at some times but not others? Why are some states "leaders" on climate change and others "laggards"? What "factors and actors" help negotiations succeed or fail?
- **Non-international responses to climate change:** What actions are countries taking on their own, without global cooperation? What are multinational corporations, local communities, and individuals doing?

Cultural Literacy Core Education – Global Perspectives: This course fulfills the Global Perspectives category of the Cultural Literacy Core Education requirement. A Global Perspectives course aims to foster student encounters with and critical reflections upon cultures, identities, and ways of being in global contexts beyond the United States. Students will consider substantial scholarship, cultural production, perspectives, and voices from members of communities under study, as sources permit. Global Perspectives courses, students will do one or more of the following:

- Engage texts, literature, art, testimonies, practices, or other cultural products that reflect systems of meaning or beliefs beyond the U.S. context;
- Analyze power relations involving different nations, peoples, and identity groups or world regions;
- Examine hierarchy, marginality, or discrimination based on race, ethnicity, gender, gender identity, religion, sexuality, nationality, or ability (or some combination of these)

And undertake one or more of the following:

- Discuss possibly unfamiliar topics using critical vocabulary and concepts.
- Practice respectful listening and civil dialogue around controversial issues.

Required Course Materials

There are no required **books** for the course but there are many readings for each session, though most are brief. Readings will be on Canvas. Class depends on active student participation so, please, *do the readings before class*.

Expected Learning Outcomes

- Understand key insights from various natural science and social science disciplines regarding a) the human activities that are believed to be changing the global climate, b) the impacts that climate change is predicted to have for humans and the natural system, and c) the social forces that are fostering or inhibiting action to address climate change.
- Recognize the range of strategies to address climate change being used by individuals, nongovernmental actors, and governmental actors at the local, state, national, and international levels as well as the factors that contribute to or prevent their success.

- Demonstrate critical thinking and communication skills, including the use of counterfactuals, by writing a major research paper that requires using empirical evidence to assess theoretical claims about some aspect of the social science of climate change.

Estimated Student Workload

Student workload: 120 hours for 4-credit course, percent & hours below.

Class element: Canvas has assignments, rubrics, dates	Percent	Hours
Participation/engagement: lectures, in-class exercises, OH	10%	30
Assigned readings	0%	30
Assignment 1: Graph: "Local Climate Trends"	5%	2
Assignment 2: What drives CO2 emissions?	12%	2
Assignment 3: Different things we believe	16%	6
Final research paper (draft 1-5%; draft 2-10%; final-25%)	40%	45
Final online quiz	15%	3
Present research findings in-class	2%	2

Class participation (10%)

Attendance and active participation in the course is required. Although this a large-enrollment class, I expect all of you to come to class, to take time to do and think about the readings, and to be engaged in learning. To encourage that, there will be "engagement exercises" throughout the term that will be online.

How Grades Will Be Determined

Assignment of final grades will be based on scores on assignments, given in table above, and following criteria:

- A+: if given at all, given to those few students whose performance stood out as significantly stronger than all other students in the course
- A: all assignments completed; show strong and nuanced understanding of almost all concepts; clearly connects course concepts to empirical evidence
- B: all assignments completed; show solid understanding of most concepts and the ability to adequately connect course concepts to empirical evidence
- C: completed assignments demonstrate only a basic understanding of course concepts and/or one or more assignments missing
- D: many assignments missing and completed assignments demonstrate little understanding of material
- F: assignments completed account for less than 80% of total grade.

Expected distribution of grades: ~20% As, ~35% Bs, ~35% Cs, ~7% Ds, ~3% Fs.

Course Policies

Current versions of all course policies are described in the "Start Here" module on Canvas.

PS367 Course Schedule and Readings

Readings may change; Canvas is "final word" on readings & assignments

Week 1 - Tuesday **Introduction**

No readings. Come to class prepared to answer the following questions:

- What DON'T you know about climate change?
- What DO you know about climate change?
- What do you want to learn in this course?

Week 1 - Thursday **Climate change basic science**

- Shapiro, M. 2021. "Eunice Newton Foote's nearly forgotten discovery." *Physics Today* Aug 23, 2021
- Rosen, J. 2021. "The Science of Climate Change Explained: Facts, Evidence and Proof." *New York Times* Apr 19, 2021
- NASA (US) 2022. "Global climate change: vital signs of the planet." NASA
- Kolbert, E. 2015. "If we burned all the fossil fuel in the world." *New Yorker* Sept 11, 2015

Week 2 - Tuesday **Climate change drivers -- population**

- Waggoner, P. E. and J. H. Ausubel 2002. "A framework for sustainability science: A renovated IPAT identity." *Proceedings of the National Academy of Sciences* 99 (12): 7860-7865
- Mitchell, R. B. 2011. "Graphs of global trends in I, P, A, and T." Eugene, OR: University of Oregon.
- U.S. Environmental Protection Agency 2022. "Sources of Greenhouse Gas Emissions."
- Mitchell, R. B. 2012. Technology is not enough: climate change, population, affluence, and consumption. *Journal of Environment and Development* 21 (1): 33-6
- Oregon Public Broadcasting 2023. "Why population is going up in some countries but down in others." Oregon Public Broadcasting.

Week 2 - Thursday **Climate change drivers -- affluence and technology**

- Conca, K., et al. 2001. "Confronting consumption." *Global Environmental Politics* 1 (3): 1-10
- Thøgersen, J. 2021. "Consumer behavior and climate change: consumers need considerable assistance." *Current Opinion in Behavioral Sciences* 42: 9-14
- Galiana, I. and C. Green 2009. "Let the global technology race begin." *Nature* 462 (3): 570-571

Week 3 - Tuesday **Climate change impacts**

- **Impacts Internationally:** Intergovernmental Panel on Climate Change 2022. "Climate Change 2022: Impacts, Adaptation and Vulnerability (Summary for Policymakers)." Geneva: Intergovernmental Panel on Climate Change.
- **Impacts in Oregon:** Oregon Global Warming Commission 2022. "Climate Change in Oregon."
- **Impacts in the US:** U.S. Global Change Research Program 2018. "Fourth National Climate Assessment (Volume II: Impacts, Risks, and Adaptation in the United States)." Washington, DC: U.S. Global Change Research Program.
- **Impacts in Developing Countries:** Kristof, N. 2018. "Swallowed by the sea." *New York Times* Jan 19, 2018

Week 3 - Thursday **What makes climate change such a hard problem?**

- Levin, K., et al. 2012. "Overcoming the tragedy of super wicked problems: constraining our future selves to ameliorate global climate change." *Policy Sciences* 45 (2): 123-152
- Victor, D. G. 2011. "Why global warming is such a hard problem to solve (ch 2)." *Global warming gridlock*, edited by D. G. Victor: 30-58. Cambridge, UK: Cambridge University Press.

Week 4 - Tuesday **What science should we (& do we) believe? Part 1**

- Boykoff, M. T. and J. M. Boykoff 2004. "Balance as bias: global warming and the U.S. prestige press." *Global Environmental Change* 15 (2): 125-136
- **Who believes the science?** McCright, A. M. and R. E. Dunlap 2011. "The politicization of climate change and polarization in the American public's views of global warming, 2001-2010." *The Sociological Quarterly* 52 (2): 155-194

Week 4 - Thursday **What science should we (& do we) believe? Part 2**

- **Why should we believe the science and which scientists should we believe?** Anderegg, W. R. L. 2010. "Diagnosis Earth: the climate change debate." *Thought & Action*: 23-36

- **What do you believe and why?** Yale Program on Climate Change Communication 2022. "Global Warming's Six Americas." New Haven: Yale University.
- Oreskes, N. 2019. Science Isn't Always Perfect—But We Should Still Trust It. *Time*

Week 5 - Tuesday **Psychology and climate change, including guest lecture: Erica Berry on Climate Change and relationships**

- Swim, J., et al. 2011. "Psychology's contributions to understanding and addressing global climate change." *American Psychologist* 66 (4): 241-250
- Gifford, R. 2011. "The dragons of inaction: psychological barriers that limit climate change mitigation and adaptation." *American Psychologist* 66 (4): 290-302
- Stoknes, P. E. 2017. "How to transform apocalypse fatigue into action on global warming." *TED Talks*
- Erica Berry piece: <https://www.nytimes.com/2023/08/09/opinion/climate-change-dating-okcupid.html>

Week 5 - Thursday **Ethics and climate change**

- Global faith leaders call for urgent action on climate change (Nov. 2023, COP28)
- Pope Francis 2015. "Encyclical letter of the Holy Father Francis on care for our common home." Rome: The Vatican.
- Gardiner, S. M. 2006. "A perfect moral storm: intergenerational ethics and the problem of moral corruption." *Environmental Values* 15 (3): 397-413
- Welby, J. 2017. "Our moral opportunity on climate change." *New York Times* November 3, 2017

Week 6 - Tuesday **Economics and climate change**

- U.S. NOAA 2022. "U.S. saw its 4th-warmest year on record, fueled by a record-warm December: Nation struck with 20 separate billion-dollar disasters in 2021." *NOAA News and Features* Jan 10, 2022
- Deloitte 2022. "Inaction on Climate Change Could Cost the US Economy \$14.5 Trillion by 2070." *Deloitte Report*
- Parry, I. 2019. "Putting a Price on Pollution." *Finance & Development* 56 (4): 16-19
- Green, J. F. 2019. "It's Time to Abandon Carbon Pricing." *Jacobin* Sep 24, 2019

Week 6 - Thursday **Sociology and climate change**

- Nagel, J., et al. 2010. "Workshop on sociological perspectives on global climate change." Washington, DC: National Science Foundation.
- Cialdini, R. B. 2003. "Crafting normative messages to protect the environment." *Current Directions in Psychological Science* 12 (4): 105-109
- Cialdini, R. B. and W. Schultz 2004. "Understanding and motivating conservation via social norms (Report prepared for the William and Flora Hewlett Foundation)." Tempe: Arizona State University.
- Elliott, R. 2019. "The Sociology of Climate Change as a Sociology of Loss." *European Journal of Sociology* 59 (3): 301-337: Cambridge University Press.

Week 7 - Tuesday **Indigeneity and climate change**

- Whyte, K. P. 2015. "The Ethics of Traditional Knowledge Exchange in Climate Initiatives." *Earthzine* Jun 15, 2015
- Okereke, C. and P. Coventry 2016. "Climate justice and the international regime: before, during, and after Paris." *WIREs Climate Change*: 834-851

Week 7 - Thursday **Responses to climate change**

- **Individual actions:** Javeline, D., et al. 2019. "Does it matter if you "believe" in climate change? Not for coastal home vulnerability." *Climatic Change* 155 (4): 511-532
- **NGO and Civil Society:** Hadden, J. 2014. "Explaining Variation in Transnational Climate Change Activism: The Role of Inter-Movement Spillover." *Global Environmental Politics* 14 (2): 7-25
- **Corporations:** Deloitte 2022. "How insurance companies can prepare for risk from climate change." *Deloitte Website Analysis*
- **The Law:** Democker, M. 2014. "In the public trust: building case law for a climate in crisis." *Oregon Quarterly* Autumn: 30-37

Week 8 - Tuesday **Responses to climate change: international level**

- Dimitrov, R. S. 2016. "The Paris Agreement on Climate Change: Behind Closed Doors." *Global Environmental Politics* 16 (3): 1-11

- Busby, J. W. and J. Urpelainen 2020. "Following the Leaders? How to Restore Progress in Global Climate Governance." *Global Environmental Politics* 10 (4): 99-121
- Tollefson, J. 2021. "COP26 climate summit: A scientists' guide to a momentous meeting." *Nature* Oct 25, 2021
- Masood, E. and J. Tollefson 2021. "COP26 hasn't solved the problem: scientists react to UN climate deal." *Nature* 599: 355-356
- Stoddard, I., et al. 2021. "Three Decades of Climate Mitigation: Why Haven't We Bent the Global Emissions Curve?" *Annual Review of Environment and Resources* 46: Annual Reviews.

Week 8 - Thursday ***Did the Kyoto Protocol influence carbon dioxide emissions? Will Paris do any better?***

- Circular Ecology 2015. "The Kyoto Protocol: Climate Change Success or Global Warming Failure?" *Circular Ecology* Feb 4, 2015
- Poppick, L. 2017. "Twelve Years Ago, the Kyoto Protocol Set the Stage for Global Climate Change Policy." *Smithsonian Magazine*
- Kumazawa, R. and M. Callaghan 2012. "The effect of the Kyoto Protocol on carbon dioxide emissions." *Journal of Economics and Finance* 36 (1): 201-210: Springer US.
- Andresen, S. 2014. "The climate regime: a few achievements but many challenges." *Climate Law* 4: 21-29
- Keohane, R. O. and M. Oppenheimer 2016. "Paris: beyond the climate dead end through pledge and review?" *Politics and Governance* 49 (3): 142-151

Week 9 - Tuesday ***Adaptation***

- Thomas, A., et al. 2020. "Climate Change and Small Island Developing States." *Annual Review of Environment and Resources* 45 (1): 1-27
- Betzold, C. 2015. "Adapting to climate change in small island developing states." *Climatic Change* 133 (3): 481-489
- Wewerinke-Singh, M. and D. Hinge Salili 2020. "Between negotiations and litigation: Vanuatu's perspective on loss and damage from climate change." *Climate Policy* 20 (6): 681-692

Week 9 - Thursday ***Geoengineering***

- Victor, D. G., et al. 2009. "The geoengineering option: A last resort against global warming?" *Foreign Affairs* 88 (2): 64-76
- Jamieson, D. 2013. "Some whats, whys and worries of geoengineering." *Climatic Change* 121: 527-537
- Biermann, F., et al. 2022. "Solar geoengineering: The case for an international non-use agreement." *WIREs Climate Change* Jan 17, 2022
- Buck, H. J. 2022. "We can't afford to stop solar geoengineering research." *MIT Technology Review* Jan 26, 2022
- Keith, D. 2021. "What's the Least Bad Way to Cool the Planet?" *New York Times* Oct. 1, 2021

Week 10 - Tuesday ***"Present Your Research Symposium"***

- We will hold an in-class "Symposium on the Science and Politics of Climate Change." You will each have 1-2 minutes to present the findings of your final paper. *Presenting is a small part of your course grade.*

Week 10 - Thursday ***Wrap-up discussion***

- Final Paper due as described on Canvas.