

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

Prof. Ronald Mitchell

Department of Political Science and Program in Environmental Studies

T/Th 10:00am-11:20am	Office Hours: Tues/Thurs 11:30am-1:00pm PLC-921 or 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 international cooperation? What are multinational corporations, local communities, and individuals doing about the problem?

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 involves 120 hours for this 4-credit course. The class requires 3 hours per week in lecture and another 3 hours per week of reading. An initial plagiarism assignment requires 1 hour. Assignments 1, 2, and 3 require 1, 2, and 6 hours respectively. The response paper will require about 5 hours of effort. The 2 drafts of the research paper, writing the research paper, and preparing for the Symposium presentation will require approximately 40 hours during the course of the term, much of which may fall during the last half of the term.

Class element: assignment & rubrics on Canvas	Percentage	Hours
Lecture (20 at 1.5 hours) & engagement exercises	10%	30
Assigned readings	0%	30
Assignment: Plagiarism assignment (required but ungraded)	0%	1
Assignment 1: Graph: "Local Climate Trends"	5%	1
Assignment 2: What drives CO2 emissions?	15%	2
Assignment 3: Different things we believe	15%	6
Response paper: due on student-specific dates as per Canvas	15%	5
Final research paper (draft 1: 5%; draft 2: 10%; final paper: 25%)	40%	45
Present research at in-class Climate Symposium	2% extra cred	1

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 both in-class and 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.

PS367: COURSE SCHEDULE AND 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

Plagiarism assignment due by end of week: Complete readings and integrity pledge

- 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

Assignment 1 – due by midnight on Tues so I can organize for Thurs class Graphing local climate change. See Canvas for assignment.

- 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
- Ehrlich, P. R. and J. P. Holdren 1971. Impact of population growth. *Science* 171 (3977): 1212-1217
- 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

Week 2 - Thursday Climate change impacts Guest Lecture – Prof. Mark Carey, UO Environmental Studies

Assignment RESPONSE PAPER: due on DIFFERENT DATES FOR EACH STUDENT. Your exact due date is available on Canvas, under assignments.

- **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
 - Rytz, M. 2018. Sinking islands, floating nation. *New York Times* Jan 24, 2018

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

Assignment 2 – due by start of class

Short analysis paper: "What drives CO2 emissions?" See Canvas for assignment.

- 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
- **How do we learn about the science?** Getler, M. 2012. Climate change creates a storm: summary of PBS NewsHour controversy. *PBS Ombudsman Blog* Sep 21, 2012
- **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**

Assignment 3 – due by start of class

Essay: "Different things we believe." See Canvas for assignment.

- **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.
- Hoffman, A. J. 2012. Climate science as culture war. *Stanford Social Innovation Review* 10 (4): 30-37

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

- 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 5 - Thursday **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)
- Green, J. F. 2019. It's Time to Abandon Carbon Pricing. *Jacobin* Sep 24, 2019

Week 6 - Tuesday Psychology and climate change: Possible Guest Lecture – Prof. Ezra Markowitz, UMass-Amherst

- 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*

Week 6 - Thursday Sociology and climate change

First Draft of Paper – due by start of class. See Canvas for assignment.

- 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: the 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?**

Second Draft of Paper – due by start of class. See Canvas for assignment.

- 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: 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: Guest lecture Prof. Sikina Jinnah, UC-Santa Cruz**

- Readings likely to change!
- 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 5 minutes to present the findings of your final paper. I will try to arrange for faculty members and others to be present for the presentations.

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

Final Paper due last day of class at 11:59 pm!!! Assignment described on Canvas.

COURSE POLICIES

Covid and AEC accommodations

If Covid circumstances or AEC requires accommodations for you, please let me know asap via email.

- I am happy to accommodate Covid or AEC needs. I assume you will not request accommodation otherwise.
- Please request accommodation via email *in advance* if possible but as soon as possible after the fact if not. I will be most accommodating to those who request it promptly. I may be less accommodating for end-of-term requests for accommodation of situations that were known about earlier in the term.

Due dates and late assignments

Help me help you pass the course by turning in all assignments on time. Each assignment has dates in Canvas, as follows:

- Available from: This is the earliest you can submit the assignment, which may be before relevant subject matter is available.
- On time: before "Due" date/time: Score = earned points.
- Late: after "Due" but before "Until" date/time: Score = deduction of 10% per day from percentage earned on the assignment.
- Too late: after "Until" date/time: Score = 0 points.
- Turn in all assignments, even if late: missing ANY assignment makes passing the course difficult.

Grade complaints

Contested grades on assignments will first be read by a second GE. If the second GE assigns the same grade, no grade change will occur. If the second GE assigns either a higher or lower grade, the professor will read the assignment and independently assign the final grade, which can be either higher or lower.

Academic Integrity, Plagiarism, Fabrication, Cheating, and Misconduct:

By enrolling in this course, you agree to abide by the University's Student Conduct Code. You must read all links on the "Academic Integrity" assignment on Canvas. Understanding these documents is a course REQUIREMENT that you MUST complete by end of week 1. Everything in your assignments must be your own work. I will not consider ignorance of these policies or a lack of an intention to cheat or plagiarize a legitimate defense. Raise questions with me before problems arise. I will flunk all students who plagiarize and will report them to University authorities. Unfortunately, I do so two or three times every year.

Creating an environment conducive to learning

Civility and tolerance: My primary goal as a faculty member is to create an inclusive learning environment in which everyone feels safe to express their views, whatever they may be, so long as they do so in ways that are respectful of others. In light of divisions that became visible in recent elections, I seek to create a learning environment in which all students can express their political opinions, so long as it is done respectfully. It is impossible to identify an individual's political views by their race, religion, gender, attire, favorite music, or type of skateboard. In 2016 and 2020, at least 1 in 10 (and often 3 in 10) of every demographic group voted differently than the rest of that group.

Teaching a class gives one considerable power (directly over grades and in more subtle ways). Therefore, I try to be cautious in how I express my views and in how I respond to students expressing theirs. I will try my best to keep my own political biases in check so as to help everyone in the class feel safe expressing their views, regardless of which side of the political aisle they stand on. My biases will come through at points – I apologize for that and encourage you to call me out (in a respectful way) when they do. I invite each of you to express your political views, whatever they may be, in a way that is respectful of all people, whether they are in our classroom or not. I encourage you to disagree with me and to challenge me to separate relatively-objective theories and facts from more-subjective values. In my view, democracy works when differences of opinion are expressed with enough clarity and respect that I change my mind and, perhaps, I also change the minds of others. I ask for your help in creating a learning environment in which mutual and inclusive respect extends to all people regardless of who they are or what their political views are, so long as those views are expressed respectfully.

Disabilities: Both I as a professor and the University of Oregon are committed to creating inclusive learning environments. Please notify me if any aspects of my instruction methods or course design result in barriers to your participation. If you have a preferred gender pronoun, please let me know what it is. If you have a disability, I encourage you to contact Accessible Education Center in 164 Oregon Hall at 346-1155 or uoaec@uoregon.edu If you have already been in contact with Accessible Education Center and have a notification letter, please provide me with a statement from Accessible Education Center during the first week of class so that we can make appropriate arrangements. University policy requires that students present a notification letter from AEC to receive testing accommodations (see: [UO Accessible Education Center](#)).

Prohibited Discrimination and Harassment Reporting

I strongly support the University's policy on discrimination and harassment, as reflected in the following statement from the University of Oregon at [UO Title IX Statement](#)

The instructor of this class, as a Student Directed Employee, will direct students who disclose sexual harassment or sexual violence to resources that can help and will only report the information shared to the university administration when the student requests that the information be reported (unless someone is in imminent risk of serious harm or a minor). The instructor of this class is required to report all other forms of prohibited discrimination or harassment to the university administration.

Any student who has experienced sexual assault, relationship violence, sex or gender-based bullying, stalking, and/or sexual harassment may seek resources and help at [UO Safe](#). To get help by phone, a student can also call either the UO's 24-hour hotline at 541-346-7244 [SAFE], or the non-confidential Title IX Coordinator at 541-346-3123. From the SAFE website, students may also connect to Callisto, a confidential, third-party reporting site that is not a part of the university.

Students experiencing any other form of prohibited discrimination or harassment can find information at [UO Office of Investigations](#) or contact the non-confidential AAEO office at 541-346-3123 or the Dean of Students Office at 541-346-3216 for help. As UO policy has different reporting requirements based on the nature of the reported harassment or discrimination, additional information about reporting

requirements for discrimination or harassment unrelated to sexual assault, relationship violence, sex or gender based bullying, stalking, and/or sexual harassment is available at [UO Discrimination Reporting](#). Specific details about confidentiality of information and reporting obligations of employees can be found at [UO Employee Responsibilities](#).

Mandatory Reporting of Child Abuse: UO employees, including faculty, staff, and GEs, are mandatory reporters of child abuse. This statement is to advise you that your disclosure of information about child abuse to a UO employee may trigger the UO employee's duty to report that information to the designated authorities. Please refer to the following links for detailed information about mandatory reporting: [UO Child Abuse Mandatory Reporting](#).