ENR 7380 – Climate and Society

Autumn 2021

Course Information

- **Course times and location:** Wednesday 2:15-4:55 in Kottman Hall 333C
- **Credit hours:** 3
- **Mode of delivery:** In-person (P)

Instructor

- **Name:** Eric Toman, Ph.D.
- **Email:** Toman.10@osu.edu
- **Office location:** 316C Kottman Hall
- **Zoom room for scheduled meetings**:
  https://osu.zoom.us/j/91494684657?pwd=U0lpZm84cENqN25GMDB0OWEyZnBCZz09

  Meeting ID: 914 9468 4657

  Password: 594467

  One tap mobile

  - +16513728299,,91494684657#,,,,0#,,594467# US (Minnesota)
  - +13017158592,,91494684657#,,,,0#,,594467# US (Washington DC)

- **Preferred means of communication:**
  - My preferred method of communication for questions is **email.**
  - My class-wide communications will be sent through the Announcements tool in CarmenCanvas. Please check your notification preferences (go.osu.edu/canvas-notifications) to be sure you receive these messages.

Course Prerequisites

Graduate standing or permission of instructor (upper division undergraduate students interested in this course are encouraged to contact the instructor).

Course Description

This course examines the links between climatic changes and human societies and examines social influences on our current state of knowledge, impacts, and potential responses.

Considerable research indicates the climate system is changing with ongoing and projected future impacts on water and food availability, timing of life cycle events (e.g., flowering and migration), weather patterns and extreme events, among others. While responses to any environmental problem must be based on our best scientific understanding of the natural world, solving large and complex problems also requires attention to their human dimensions. In a review of the U.S. investment in global change research, the National Academies of Science stated that while there had been substantial advances in our basic understanding of climate science, there was limited progress applying this knowledge to address resulting impacts (NRC 2007). The committee concludes this lack of progress is due to limited support for social science research, insufficient interdisciplinary research, and a lack of established networks between scientists and decision makers (NRC 2009).

In this course, we will draw upon a broad range of existing research to consider human contributions to climate change, impacts of climate change on human societies, and the factors that contribute/inhibit human responses to climate change. We begin by developing a foundation in the physical science describing climate change (what/how/why) and then consider ongoing and projected future impacts. The remainder of our class sessions will examine the social construction of climate change as a complex (wicked) problem and consider the range of influences that encourage/inhibit development of responses. We will apply class concepts to ongoing policy discussions at the domestic level within the U.S. as well as the international negotiation process.

Learning Outcomes

By the end of this course, students should successfully be able to:

- Describe the role of the natural and social sciences in developing an understanding of global climate change and potential responses.
- Describe interactions between the practice and communication of science (social and natural) and the development of policy/management responses including how social and political factors can influence how science is conducted, interpreted, and communicated.
- Apply critical thinking skills to examine the current state of knowledge, identify research gaps, and discuss potential approaches to mitigate and adapt to the changing climate.

How This Course Works

Mode of delivery: This course is currently planned to be delivered 100% in-person. We will meet in person on each Wednesday from 2:15-4:55 throughout the semester (with the exception of university holidays). As we have all experienced these past several months, things can change quickly. If modifications are required to our currently planned meeting schedule, the instructor will communicate any changes using the Announcements tool in CarmenCanvas.

Pace of learning activities: This course is organized around our **weekly meetings** with a set of readings and assignments for each week as described in the schedule and through the course webpage.

Credit hours and work expectations: This is a [3] credit-hour course. According to Ohio State bylaws on instruction (go.osu.edu/credithours), students should expect around 3 hours per week of time spent on direct instruction (instructor content and Carmen activities, for example) in addition to 6 hours of work outside the classroom (reading and assignment preparation, for example) to receive a grade of "C – average."

Attendance and participation requirements: Research shows regular participation is one of the highest predictors of success. Moreover, each of you brings unique and important experiences, knowledge, and perspectives that can enrich the learning for all of us. With that in mind, active participation in class discussions and activities makes up a significant component of your grade for this course (described in more detail below). As this course is primarily discussion based and only meets once a week, your attendance at each class session is critical. All absences must be approved by contacting the instructor ***prior*** to the class session you plan to miss. Unexcused absences will result in reduced participation points.

Course format and expectations: This course will primarily consist of small and large group discussions of readings, supplemented with participatory lectures (including guest presentations), videos, and in-class activities. Because of the interactive nature of this course, students are expected to attend class sessions prepared (defined as having read and reflected upon readings and course content) and actively participate in class discussions. Participation will be observed throughout the term and counted towards the course grade (see below). For those classes that include participation from guest speakers, it is particularly important that you come to class prepared to actively engage in class discussion during these sessions.

While our discussions will involve an active and vigorous exchange of ideas, participants are expected to demonstrate respect for one another at all times. This does not mean we cannot disagree. Differences in beliefs and understandings are welcome and are expected to be communicated with respect for others' beliefs.

Course Materials and Technologies

Textbooks

There is no textbook assigned in this course. Course materials are in the form of articles (pdf), videos, and website content available on Carmen (https://carmen.osu.edu). Materials have been evaluated for compliance with fair use.

Required Equipment

- **Computer:** access to a current Mac (MacOS) or PC (Windows 10) with high-speed internet connection

Potential additional equipment needs

- **Webcam:** built-in or external webcam, fully installed and tested
- **Microphone:** built-in laptop or tablet mic or external microphone
- **Other:** a mobile device (smartphone or tablet) to use for BuckeyePass authentication

If you do not have access to the technology you need to succeed in this class, review options for technology and internet access at go.osu.edu/student-tech-access.

Required Software

Microsoft Office 365: All Ohio State students are now eligible for free Microsoft Office 365. Visit the installing Office 365 (go.osu.edu/office365help) help article for full instructions.

CarmenCanvas Access

You will need to use BuckeyePass (buckeyepass.osu.edu) multi-factor authentication to access your courses in Carmen. To ensure that you are able to connect to Carmen at all times, it is recommended that you do each of the following:

- Register multiple devices in case something happens to your primary device. Visit the BuckeyePass - Adding a Device (go.osu.edu/add-device) help article for step-by-step instructions.
- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click **Enter a Passcode** and then click the **Text me new codes** button that appears. This will text you ten passcodes good for 365 days that can each be used once.
- Install the Duo Mobile application (go.osu.edu/install-duo) on all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service.

If none of these options will meet the needs of your situation, you can contact the IT Service Desk at 614-688-4357 (HELP) and IT support staff will work out a solution with you.

Technology Skills Needed for This Course

- Basic computer and web-browsing skills
- Navigating CarmenCanvas (go.osu.edu/canvasstudent)
- CarmenZoom virtual meetings (go.osu.edu/zoom-meetings)
- Recording a slide presentation with audio narration and recording, editing and uploading video (go.osu.edu/video-assignment-guide)

Technology Support

For help with your password, university email, CarmenCanvas, or any other technology issues, questions or requests, contact the IT Service Desk, which offers 24-hour support, seven days a week.

- **Self Service and Chat**: go.osu.edu/it
- **Phone:** 614-688-4357 (HELP)
- **Email:** servicedesk@osu.edu

Grading and Faculty Response

How Your Grade is Calculated

ASSIGNMENT CATEGORY	POINTS (% OF FINAL GRADE)
Class participation	40 (13.34% of final grade)
Reflections on readings/course concepts	40 (13.34%)
Briefing memos	20 (6.67%)
Climate impacts summary and presentation	40 (13.34%)
Discussion leader	60 (20%)
Climate literacy tool	40 (13.34%)
Final project	60 (20%)
Total	**300**

See Course Schedule for due dates.

Descriptions of Major Course Assignments

Grades will be based on performance on the following activities. Assignments will generally be submitted electronically through our course page on Carmen.

- **Class participation (40 pts possible)**: Your active engagement is required for the success of this class. Regular attendance is necessary, but not sufficient on its own. Students are expected to be active participants in discussions, activities, and interactions with guest speakers. Students must also adequately prepare for and participate in the negotiation activity in week 12.

- **Reflections on readings/course concepts (8 X 5 = 40 pts):** On designated weeks (noted on course schedule) you will develop a brief (300 words or less) reflection on course material. Reflections are due, in hard copy, at the beginning of class on the assigned day and should further explore concepts raised in class readings and discussions, integrate concepts across readings and class sessions, and demonstrate application of course concepts. Some designated reflections (noted in schedule) will have assigned topics while others will be "open" for you to select the topic of your choice. In each case, I will expect your reflection to present your original, critical analysis, and not merely describe a point of view - yours or someone else's. I expect your writing to be clear, succinct, logically organized, and free of grammatical

or spelling errors. We will discuss reflections at the beginning of class (this will often involve sharing your reflection with another student for feedback and discussion).

- **Briefing memos (2 X 10 = 20 pts)**: Briefing memos are used to summarize scientific findings and provide a recommendation for policy or management action. This is often a challenging task for scientists given the limitations posed by the short length and the intended audience (e.g., decision/policy-makers, likely non-experts in topic area). You will develop two briefing memos (submitted in weeks 2 and 12). Guidelines and an example memo are available on Carmen. *Note: memos should not exceed 1 page in length.*

- **Climate impacts summary and presentation (40 pts):** In week 4, students will work in teams to provide a summary of the current state of knowledge in a particular topic area (selected from a list of potential topic areas). Everyone is expected to contribute equally to this assignment and students will assess the contributions of teammates. Guidelines and a template for the Summary will be available on Carmen. Summaries should be submitted to Carmen under the appropriate "Discussion" section by 12:00 PM on the day they are due to allow other students to access them prior to class. *Submit one copy per team to grade.*

- **Discussion Leader (60 pts)**: During specified weeks, students will work in teams to develop and lead a portion of our class sessions. During the first week of class, students will contribute to identifying topics for future class sessions. The instructor will then develop a schedule of topics and students will select the topic and week when they would like to serve as the Discussion Leader. Working together, students will be responsible to identify readings and facilitate class instruction for approximately 60 minutes during their selected week. Everyone is expected to contribute equally and students will assess the contributions of teammates. These discussions should not solely consist of a one-way delivery of material but include an interactive component. The instructor will be available to discuss ideas, readings, etc. as useful to the student teams. More information will be provided about how to sign up to lead the discussion for one of the selected days prior to the second class session.

- **Climate literacy tool (40 pts):** In week 10, students will submit an original project designed to build the climate literacy of policy-makers, decision-makers, or the lay public. Draft ideas for these tools will be discussed in week 7; students should be far enough along that students can provide discuss their ideas and planned approach with class members. Examples will be available on Carmen. *Final literacy tools are due in week 10 and can be submitted electronically through Carmen or in class as needed for your specific tool.*

- **Final project (60 pts):** For the final project, students may complete either of the options below. The first of these, the **Integrated proposal**, will be completed in teams with other students in class. The second option, the **Synthesis paper**, will be completed by students individually. We will discuss these options further in class and students will need to decide on which option they will pursue by class in Week 5.

    - **Integrated proposal:** Working in teams of 3 – 4, students will identify an area of interest with relevance to class topics and develop a brief project proposal that illustrates how the project will be carried out. Specifically, the proposal should include:
        - Develop a central research question related to this issue; this question should be integrated and require engagement of multiple scientific disciplines.

- After agreeing on the central research question, teams will develop specific research objectives and hypotheses. These objectives need to make clear contributions to the central research question and the hypotheses need to be testable through one or multiple disciplines.
- Contributors to each objective will articulate the expected outcomes (specific data, models, etc.) and impact of the proposed work.
- Students will reflect on their central research question and whether the research expertise represented among team members is sufficient to address the full scope of the central research question and, if necessary, identify other research disciplines they currently lack and may need to invite to join the team.

- **Synthesis paper:** You will develop a paper that illustrates application of course concepts and their extension beyond the material covered in class. This paper will involve gathering additional information on a question of interest to provide a more in-depth examination of the issue and related psychological, social, and/or institutional influences and recommendations. The paper is expected to be 4,000 – 5,000 words in length (not including bibliography or tables/figures and include an appropriate number of citations (minimum of 15 expected). Citations may be included in the acceptable format for your specific field. We will have a roundtable discussion of ongoing student projects during our final session; each student will be expected to discuss their project topic and initial findings. Students must submit their proposed topic area to the instructor by week 9.

Grading Scale

93–100: A
90–92.9: A-
87–89.9: B+
83–86.9: B
80–82.9: B-
77–79.9: C+
73–76.9: C
70–72.9: C-
67–69.9: D+
60–66.9: D
Below 60: E

Late Assignments

Please refer to Carmen for due dates. Due dates are set to help you stay on pace and to allow timely feedback that will help you complete subsequent assignments. Late assignments will be docked 10% of the points possible per day late. All health-related accommodations for late assignments will require documentation (e.g., accommodations through the office of Student Life Disability Services (SLDS), a doctor's note, etc.).

Instructor Feedback and Response Time

I am providing the following list to give you an idea of my intended availability throughout the course. Remember that you can call 614-688-4357 (HELP) at any time if you have a technical problem.

- **Preferred contact method:** If you have a question, please contact me first through my Ohio State email address. I will reply to emails within **36 hours on days when class is in session at the university**.
- **Class announcements:** I will send all important class-wide messages through the Announcements tool in CarmenCanvas. Please check your notification preferences (go.osu.edu/canvas-notifications) to ensure you receive these messages.
- **Grading and feedback:** For assignments submitted before the due date, I will try to provide feedback and grades within **seven days**. Assignments submitted after the due date may have reduced feedback, and grades may take longer to be posted.

Other Course Policies

Discussion and Communication Guidelines

The following are my expectations for how we should communicate as a class. Above all, please remember to be **respectful** and **thoughtful** in your communication with others.

- **Writing style**: While there is no need to participate in class discussions as if you were writing a research paper, you should remember to write using good grammar, spelling, and punctuation.
- **Tone and civility**: While we hope our discussions will involve an active and enthusiastic exchange of ideas, instructors and students are expected to demonstrate respect for one another and for diverse and different ideas. Some of the topics discussed in class may be challenging and closely associated with our values and identities. We ask for respect for one another even when our perspectives may conflict. Disrespectful comments, interactions or behavior towards classmates or the instructor and TA's will not be tolerated and may result in a loss of points. Please remember that sarcasm doesn't always come across to others.
- **Citing your sources**: When we have academic discussions, please cite your sources to back up what you say. For course materials, list the title and, where relevant, the page numbers. For online sources, include a link. In reflections, this can be done in the body of the text.
- **Backing up your work**: Consider composing your academic posts in a word processor, where you can save your work, and then copying into the Carmen discussion.

Copyright for Instructional Materials

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Creating an Environment Free from Harassment, Discrimination, and Sexual Misconduct

The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also

have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity:

1. Online reporting form at equity.osu.edu,
2. Call 614-247-5838 or TTY 614-688-8605,
3. Or email equity@osu.edu

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Office of Institutional Equity to ensure the university can take appropriate action:

- All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.
- The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member.

Your Mental Health

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. No matter where you are engaged in distance learning, The Ohio State University's Student Life Counseling and Consultation Service (CCS) is here to support you. If you find yourself feeling isolated, anxious or overwhelmed, on-demand mental health resources (go.osu.edu/ccsondemand) are available. You can reach an on-call counselor when CCS is closed at 614- 292-5766**. 24-hour emergency help** is available through the National Suicide Prevention Lifeline website (suicidepreventionlifeline.org) or by calling 1-800-273-8255(TALK). The Ohio State Wellness app (go.osu.edu/wellnessapp) is also a great resource.

Accessibility Accommodations for Students with Disabilities

Requesting Accommodations

The university strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability including mental health, chronic or temporary medical conditions, please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services (SLDS). After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's request process, managed by Student Life Disability Services.

Disability Services Contact Information

- Phone: 614-292-3307
- Website: slds.osu.edu
- Email: slds@osu.edu
- In person: Baker Hall 098, 113 W. 12th Avenue

Accessibility of Course Technology

This course requires use of CarmenCanvas (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations as early as possible.

- CarmenCanvas accessibility (go.osu.edu/canvas-accessibility)
- CarmenZoom accessibility (go.osu.edu/zoom-accessibility)

Course Schedule

See below for the preliminary schedule of course topics, readings, and assignments. The schedule and assigned readings may be adapted based on student interest, class needs, and availability of guest speakers. Refer to the CarmenCanvas course for up-to-date due dates.

Week	Topics, Readings, Assignments, Due Dates
1	**Introduction** Discuss course: 1) outcomes/expectations, 2) background/goals of participants, 3) assignments, and 4) schedule. • What is climate change and why is action to address climate change required? • How have we organized ourselves to better understand climate change and potential responses (big picture--illustrating history and current organization-science, domestic policy, and international negotiations)? Interested parties and scales of responses. What can be done about it (mitigation and adaptation)? ***Assignments*** • Following our first class, students will sign up through the appropriate Carmen Discussion for their topic of interest for the impacts summaries/presentations for week 4 (projected impacts in Ohio/Midwest U.S.; list of resources to use as starting point posted on Carmen). Sign up on Carmen (Impacts Summary page...link available through home page).
2	**State of science…known knowns, known unknowns, unknown unknowns** • The state of climate change science • Alternative hypotheses and conclusions • Remaining gaps and uncertainties ***Readings*** IPCC, 2021: Climate Change 2021: The Physical Science Basis. Working Group 1 Contribution to the Sixth Assessment Report of the IPCC. Geneva, Switzerland. *(Review the Summary for Policy Makers)* IPCC Assessment Report 6, Working Group 1 full report*:* https://www.ipcc.ch/report/ar6/wg1/#FullReport *(not required to read, but review to see how report is organized and information communicated)* NIPCC. 2013. Summary for Policy Makers. (scan website for additional materials - http://www.nipccreport.org/) Hulme, M. 2018. “Gaps” in Climate Change Knowledge: Do They Exist? Can They Be Filled?. *Environmental Humanities.* 10(1): 330-337. Rittell, H. and M. Webber. 1973. Dilemmas in a general theory of planning. Policy Sciences 4: 155-169. ***Assignments***

	• Briefing memo: Summarize state of science for policy makers. Describe state of knowledge, level of certainty, and conclude whether this current state of knowledge warrants action.
3	**Philosophy of Science; Science – Policy Interface** Introduction to philosophies of science, coupled human and natural systems, and wicked problems. ***Readings*** Liu, J. et al. 2007. Coupled human and natural systems. Science 317: 1513-1517. Steele, B. P. List, D. Lach, and B. Shindler. 2004. The role of scientists in the environmental policy process: a case study from the American west. Environmental Science & Policy 7: 1–13 Proctor, R.N. 2008. Agnotology: A Missing Term to Describe the Cultural Production of Ignorance (and Its Study). Ch. 1 in Agnotology: the making and unmaking of ignorance. R. Proctor and L. Schiebinger, eds. Stanford California: Stanford University Press. Cash, D.W., J.C. Borck, and A.G. Patt. 2006. Countering the Loading-Dock Approach to Linking Science and Decision Making: Comparative Analysis of El Nino/Southern Oscillation (ENSO) Forecasting Systems. Science, Technology & Human Values. 36: 465-493 Sarewitz, D. 2004. How science makes environmental controversies worse. Environmental Science and Policy 7: 385-403. ***Assignments*** • Open reflection on class concepts, readings, and/or discussions to date
4	**Regional / Sectoral impacts** State of science regarding regional and sectoral impacts from climate change. Student presentations on select topic areas. National to Regional climate projections—*Student presentations on following topics (one team per topic)* 1. Water Resources: Describe projected impacts on water quantity and quality in the U.S., the Midwest, and Ohio 2. Agriculture: Describe the projected effects on agricultural and forest productivity in the U.S., the Midwest, and Ohio 3. Ecosystems: Describe projected expected effects on ecosystems in the U.S., the Midwest, and Ohio 4. Public health: Describe projected public health challenges in the U.S., the Midwest, and Ohio

	5. Energy use/production: Describe projected impacts of climate change on energy use and production *Use the resources shared on Carmen as a starting point, and feel free to identify and use other resources as well. See the National Climate Assessment Website for additional information. ***Readings*** Everyone read: National Climate Assessment. Available at: https://science2017.globalchange.gov (read the Executive Summary – skim other sections) ***Assignments*** • Student presentations: Follow guidelines on Carmen for in-class presentations. • Summary of topic area: Following guidelines provided on Carmen, each team will develop a summary of on your selected topic area. One summary will be submitted per team. ***Summaries should be posted to the appropriate Carmen "Discussion" by 12PM the day of class.***
5	**Contributions from the social sciences (Groups)** Introduce social science disciplines; discuss contributions of sociological research to understanding climate change and potential responses. ***Readings*** Mascia, M.B.,J.P. Brosius, T.A. Dobson, B.C. Forbes, L. Horowitz, M.A. McKean, N.J. Turner. 2003. Conservation and the Social Sciences. Conservation Biology. 17(3): 649-650 Wallace, R. and A. Wolf. 1999. Contemporary sociological theory: Expanding the classical tradition. Prentice Hall, Upper Saddle River, NJ. (Read Ch 1, The understanding of society) Vaske, J.J., and M.P. Donnelly. 1999. A Value-Attitude-Behavior Model Predicting Wildland Preservation Voting Intentions, Society & Natural Resources. 12:6, 523-537 *(read pp. 523 – 527)* Wynne, B. 1996. Misunderstood misunderstandings: Social identities and public uptake of science. In A. Irwin & B. Wynne (Eds.), Misunderstanding Science?: The Public Reconstruction of Science and Technology. Cambridge: Cambridge University Press. Kollock, P. 1998. Social Dilemmas. Annual Review Sociology. 24: 183-214. ***Assignments*** • Open reflection on class concepts, readings, and/or discussions to date

6	**Contributions from the social sciences continued (Individuals)** Discuss contributions of psychological research to understanding climate change and potential responses. ***Readings*** Pearson, A.R., Schuldt, J.P., & Romero-Canyas, R. (2016). Social Climate Science: A New Vista for Psychological Science. Perspectives on psychological science: a journal of the Association for Psychological Science, 11(5): 632-650. **(Available for Discussion Leaders)** Gifford, R. 2011. The dragons of inaction. American Psychologist, 66(4): 290-302. **(Available for Discussion Leaders)** Fielding, K.S., M.J. Hornsey, and J.K. Swim. 2014. Developing a social psychology of climate change. European Journal of Social Psychology, Eur. J. Soc. Psychol. 44, 413–420. **(Available for Discussion Leaders)** Clayton, S. 2019. Psychology and Climate Change. Current Biology. 29: R92-R995. **(Available for Discussion Leaders)** ***Assignments*** • Open reflection on class concepts, readings, and/or discussions to date • *Discussion Leaders* – lead discussion of assigned readings
7	**Where are we now?-Public awareness, attitudes, and influencing factors** Discuss current attitudes, levels of support for action in U.S. ***Listen to: Hidden Brain podcast, episode from 9/23/21 "Group Think"*** *https://hiddenbrain.org/podcast/group-think/* ***Readings*** Maibach, E., C. Roser-Renouf, and A. Leiserowitz. 2009. Global Warming's Six Americas: An Audience Segmentation Analysis. Yale Project on Climate Change, George Mason University Center for Climate Change Communication. **– Read the Executive Summary and Overview, scan the findings** • Scan the updated findings here: https://climatecommunication.yale.edu/about/projects/global-warmings-six-americas/ Kahan, D. 2010. Fixing the communication failures. Nature. 463(21): 296-297. See also: http://blogs.discovermagazine.com/intersection/2011/05/05/what-is-motivated-reasoning-how-does-it-work-dan-kahan-answers/ 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: 155-194 **(Available for Discussion Leaders)**

	Hansson, S.O. 2018. Dealing with climate science denialism: experiences from confrontations with other forms of pseudoscience, Climate Policy, 18:9, 1094-1102, DOI: 10.1080/14693062.2017.1415197 **(Available for Discussion Leaders)** ***Additional readings – not required but may be of interest*** Leiserowitz, A., Carman, J., Buttermore, N., Wang, X., Rosenthal, S., Marlon, J., & Mulcahy, K. 2021. *International Public Opinion on Climate Change*. New Haven, CT: Yale Program on Climate Change Communication and Facebook Data for Good. Available at: https://climatecommunication.yale.edu/publications/international-public-opinion-on-climate-change/ Leiserowitz, A., Maibach, E., Rosenthal, S., Kotcher, J., Carman, J., Wang, X., Marlon, J., Lacroix, K., & Goldberg, M. (2021). Climate Change in the American Mind, March 2021. Yale University and George Mason University. New Haven, CT: Yale Program on Climate Change Communication. Available: https://climatecommunication.yale.edu/publications/climate-change-in-the-american-mind-march-2021/ Report database from Yale Project on Climate Change: https://climatecommunication.yale.edu/publications/ ***Assignments*** • Prior to class, use the survey questions developed in class (available on Carmen) to interview 3 non-classmates • Complete reflection on your interviews • Draft plan for climate literacy tool to discuss with classmates • *Discussion Leaders* – lead discussion of assigned readings
8	**Elite cues, Media effects – Agenda setting and Balance** Carmichael, J.T. & R.J. Brulle (2016): Elite cues, media coverage, and public concern: an integrated path analysis of public opinion on climate change, 2001–2013, Environmental Politics, DOI: 10.1080/09644016.2016.1263433 **(Available for Discussion Leaders)** Groffman, P.M. et al. 2010. Restarting the conversation: challenges at the interface between ecology and society. Front Ecol Environ 8(6): 284–291. **(Available for Discussion Leaders)** Freudenburg, W.R., R. Grambling, D.J. Davidson. 2008. Scientific Certainty Argumentation Methods (SCAMs): Science and the Politics of Doubt. Sociological Inquiry 78(1): 2–38. **(Available for Discussion Leaders)** Boykoff, M. 2008. Lost in translation? United States television news coverage of anthropogenic climate change, 1995-2004. Climatic Change 86: 1 - 11 **(Available for Discussion Leaders)**

	Clynes, T. 2012. The battle over climate science. Popular Science. Available : https://www.popsci.com/science/article/2012-06/battle-over-climate-change/?single-page-view=true ***Assignments*** • Open reflection on class concepts, readings, and/or discussions to date • *Discussion Leaders* – lead discussion of assigned readings
9	**Climate Mitigation Policies** Introduction to policy analysis and consideration of current policies ***Listen to podcast Civics 101 episode: "How a bill (really) becomes a law*** https://www.civics101podcast.org/civics-101-episodes/howabill ***Readings*** Dye, T.R. 1998. Understanding Public Policy (9th edition). New Jersey: Simon and Schuster. 360 p. **(Read Ch's. 1 and 2)** Leggett, J.A. 2011. Climate Change: Conceptual Approaches and Policy Tools. Congressional Research Service. Ramseur, J.L. 2021. Market-based Greenhouse Gas Emission Reduction Legislation: 108th through 117th Congresses. Congressional Research Service R45472 ***– Skim to get an idea of introduced legislation.*** Lutsey, N.P. and D. Sterling. 2008. America's Bottom-Up Climate Change Mitigation Policy. Energy Policy. Energy Policy 36: 673–685. **(Available for Discussion Leaders)** Berardo, R. and F. Holm. 2018. The participation of core stakeholders in the design of, and challenges to, the US Clean Power Plan, Climate Policy, 18:9, 1152-1164, DOI: 10.1080/14693062.2018.1478792 **(Available for Discussion Leaders)** Levin, K., B. Cashore, S. Bernstein, G. Auld. 2012. Overcoming the tragedy of super wicked problems: Constraining our future selves to ameliorate global climate change. Policy Sciences 45: 123-152. **(Available for Discussion Leaders)** ***Assignments*** • Open reflection on class concepts, readings, and/or discussions to date Submit draft paper topic • *Discussion Leaders* – lead discussion of assigned readings
10	**Climate Change Adaptation** ***Readings*** Pielke, Jr. and D. Sarewitz. 2005. Bringing society back into the climate debate. Population and Environment. 26(3): 255-268. **(Available for Discussion Leaders)**

	Bennett, N.J., J. Blythe, S. Tyler, N.C. Ban. 2015. Communities and change in the anthropocene: understanding social-ecological vulnerabitlity and planning adaptations to multiple interacting exposures. Regional Environmental Change. online. http://doi.org/10.1007/s10113-015-0839-5 **(Available for Discussion Leaders)** Hallegate, S. 2009. Strategies to adapt to an uncertain climate change. Global Environmental Change 19: 240-247 **(Available for Discussion Leaders)** Archie, K.M. L. Dilling, J.B. Milford, F.C. Pampel. 2014. Unpacking the 'information barrier': Comparing perspectives on information as a barrier to climate change adaptation in the interior mountain West. Journal of Environmental Management. 133: 397-410 **(Available for Discussion Leaders)** ***Assignments*** • Submit final Climate Literacy Tool • *Discussion Leaders* – lead discussion of assigned readings
11	**International negotiations** Discuss history and current status of the UN Framework Convention on Climate Change negotiating process. ***Readings*** Legget, J.A. 2010. A U.S.-centric Chronology of the International Climate Change Negotiations. Congressional Research Service. Legget, J.A. 2017. Climate Change: Frequently Asked Questions About the 2015 Paris Agreement. Congressional Research Service. Karlsson-Vinkhuyzen, S.I. et al. 2018. Entry into force and then? The Paris agreement and state accountability. Nature Climate Change. **(Available for Discussion Leaders)** Markkanen, S. And A. Anger-Kraavi. 2019. Social impacts of climate change mitigation policies and their implications for inequality. Climate Policy. DOI: 10.1080/14693062.2019.1596873 **(Available for Discussion Leaders)** Review UNFCCC website and news summaries of recent Conference of the Parties (COP) meetings posted on Carmen ***Assignments*** • Open reflection on class concepts, readings, and/or discussions to date.

	• *Discussion Leaders* – lead discussion of assigned readings
12	**Model UNFCCC negotiation activity** Complete in-class negotiation activity following guidelines posted on Carmen. ***Readings*** Complete readings specific to assigned role prior to class. ***Assignments*** • Prepare for in-class negotiation activity by reviewing information about meetings, consider position of assigned country, and considering potential alliances as appropriate • Briefing memo: Summarize your negotiating position and supporting evidence (follow format provided on Carmen)
13	**Climate Justice** Gardiner, S.M. 2011. Climate Justice. In The Oxford Handbook of Climate Change and Society. J.S. Dryzek, R.B. Norgaard, and D. Schlosberg (eds.) **(Available for Discussion Leaders)** Harlan, S.L. et al. 2015. Climate Justice and Inequality. Ch. 5 in Global Climate Change and Society: Sociological Perspectives. R.E. Dunlap and R.J. Brulle (eds.). New York: Oxford University Press. **(Available for Discussion Leaders)** Kartha, S. 2011. Discourses of the Global South. In The Oxford Handbook of Climate Change and Society. J.S. Dryzek, R.B. Norgaard, and D. Schlosberg (eds.) **(Available for Discussion Leaders)** Blicharska, M. et al. 2017. Steps to overcome the North–South divide in research relevant to climate change policy and practice. Nature Climate Change 7: 21-27. **(Available for Discussion Leaders)** ***Assignments*** • Complete reflection on challenges and opportunities to integrate climate change in planning and management activities • *Discussion Leaders* – lead discussion of assigned readings
14	**Incorporating climate change in planning and decision-making** ***Readings*** Peterson, G. 2003. Scenario planning: A tool for conservation in an uncertain world. Conservation Biology. 17(2): 358-366. **(Available for Discussion Leaders)** NRC. 2009. Informing decisions in a changing climate. Washington, D.C.: The National Academies Press. (Read ch. 2-Effective decision support)

	Wilson, R.S. and J.L. Arvai. 2011. Structured decision making: Using decision research to improve stakeholder participation and results. Oregon Sea Grant ORESU-H-11-001. Corvallis, OR. ***Assignments*** • Complete reflection on challenges and opportunities to integrate climate change in planning and management activities • *Discussion Leaders* – lead discussion of assigned readings
15	**Where do we go from here?** Review and summarize concepts, discuss implications Roundtable discussions of student projects ***Readings to be determined*** Hajer, M. And W. Versteeg. 2011. Voices of Vulnerability: The Reconfiguration of Policy Discourses. The Oxford Handbook of Climate Change and Society ***Assignments*** • Complete course evaluation form on Carmen to provide feedback and suggestions on course