

Course Syllabus

PPOL 450: Climate Change – Tools for Planning and Policy

Credits:

CRN:

Instructor Information:

Instructor: Chris B. Fryefield (she/her)

Email: fryefiec@oregonstate.edu

Office Hours (on Zoom): Wednesdays 12pm – 2pm (link)

Course Description: Are you concerned about the impact climate change will have on your community, but don't know where to find the right tools to help you plan for current and future conditions? This practice-oriented online course will introduce planners and policymakers to climate modeling and familiarize them with the array of online resources for projecting future climate impacts like sea level rise and wildfire risk. These tools will range in focus from global/international to local, and we will discuss the limitations of large-scale and small-scale data in climate modeling and risk analysis. We will compare maps of temperature and precipitation predictions, land-use patterns, and demographic data including public health and environmental justice indicators to identify high-risk zones or disproportionately vulnerable stakeholder groups, potential climate refuges, and opportunities for adaptation and mitigation projects on public and private lands. The emphasis will be on free open-source models, maps, and tools that are available for agency employees, nonprofit staff, and academics who are working on climate change planning with limited resources. An account with the open-source online mapping tool Data Basin will be required for some assignments, but previous familiarity with GIS or other mapping software is not essential.

Learning Outcomes:

After successful completion of this course, students will be able to:

- Use simple climate models to project a range of future impacts, such as sea level rise and wildfire risk, at various spatial scales and under variable future greenhouse gas emission scenarios. Construct maps that overlay climate projections with demographic and policy spatial data from online databases.
- Explore and then apply a sample of accessible online resources, including national, state, and local tools for climate change planning and policy development such as Climate Toolbox or the U.S. Climate Toolkit.
- Assess the quality, accuracy, and limitations of climate data and analyze the implications of model uncertainty on risk analysis.

- Develop effective online communication skills to convey climate-related information to diverse stakeholders in your community. Explore ways to receive information and concerns from the public about climate impacts and risk through citizen science and public participation in policy development, with an emphasis on reaching diverse populations who may be disproportionately vulnerable to certain climate impacts.

Instructor Communication:

Please use email (fryefiec@oregonstate.edu) or Canvas message to contact me. I generally respond to emails during regular business hours (M - F; 8am - 5pm). I make a significant effort to respond promptly, and should do so within two business days at maximum. At that point, feel free to send me a polite reminder. I may occasionally respond outside of work hours, but do not expect or plan on this. Please be proactive in communicating about issues or questions you have. I am always happy to chat over email, during my online office hours, or we can set up an additional appointment to talk on Zoom.

Course Participation Policies:

This course is asynchronous but not self-paced. Students are expected to participate in discussions and exercises multiple times each week. Meeting deadlines is important for you to keep your learning on pace, for your group project teammates to get term project tasks completed, and for me to give you timely feedback. Please review the course schedule carefully and pay attention to Canvas due dates. Late work is accepted, with a reduction of 10 percentage points per day, for up to half credit. Extensions and additional help are always available, but please contact me in advance so we can arrange an alternative schedule for you to get caught up.

Class Participation and Building Community - Active interaction with peers and your instructor is essential to everyone's success in this online course. I encourage you to please practice the following:

- Value the diversity of the class. Recognize and respect the experiences, abilities, and knowledge each person brings to our learning environment.
- Challenge others' ideas with the intent of facilitating growth. Acknowledge your peers' contributions and highlight areas of further inquiry.
- Be open to being challenged on your ideas or prejudices.
- Practice self-awareness in your communication with peers and consider that your comments may hurt others unintentionally.
- Assume the best of your classmates and instructor and expect the best from them.

Academic Integrity Policy:

It is important that you understand what student actions are defined as academic misconduct at Oregon State University. The OSU Libraries offer a [tutorial on academic misconduct](#), and you

can also refer to the [OSU Student Code of Conduct](#) and [the Office of Student Conduct and Community Standards](#) for more information. More importantly, if you are unsure if something will violate our academic integrity policy, ask your professors, GTAs, academic advisors, or academic integrity officers.

Academic misconduct, or violations of academic integrity, can fall into seven broad areas, including but not limited to: cheating; plagiarism; falsification; assisting; tampering; multiple submissions of work; and unauthorized recording and use.

In this course, AI tool use is allowed, with some restrictions. If an AI tool for generating text or images is used it must be cited and the prompt(s) listed. Additional details will be shared in course activity and assignment prompts. I encourage you to contact me if you have questions about the use of AI tools so that, together, we can ensure that we are using these tools in productive and ethical ways.

Technical Assistance:

If you experience any errors or problems while in your online course, contact 24/7 Canvas Support through the Help link within Canvas. If you experience computer difficulties, need help downloading a browser or plug-in, or need assistance logging into a course, contact the IS Service Desk for assistance. You can call (541) 737-8787 or visit the [Service Desk](#) online.