ESM 292-1F: Readings in Climate Change Communication

"The single biggest problem in communication is the illusion that it has taken place" - George Bernard Shaw.

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📅Office Hours: Wednesdays, 4-5 pm
⏱️Class Time: Wednesdays, 12-1:50 pm
🏫Class Location: Bren Hall 1510

I. Course Description

This ten-week reading group course is a ***deep dive into the science behind climate change communication***. Each week, students will read two papers that center around different themes, such as communicating climate science across religious identities, using climate art or fiction to promote engagement, the power of emotional climate storytelling, or the spread of climate misinformation online. All participants are expected to carefully read the papers before class, critically answer weekly online reflection questions, and actively participate in group discussions. In place of a final, students will present in small groups on another set of papers of their choice that complement the course's readings.

I. Eligibility

This class has no prerequisites and is open to any graduate students at the Bren School, including the MESM, MEDS, and PhD programs. ***Priority for enrollment will be given to MESM students***. This course is eligible for units towards the optional MESM Environmental Communication Focus. If additional space is available, graduate students from other departments may join the class. Undergraduates must petition to enroll. To do so, please send a copy of your unofficial transcript and the completed UCSB form to the instructor, cc-ing academics@bren.ucsb.edu. This course is ESM 292-1F, and the enrollment code is 62471.

II. Learning Goals

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

- 🔍 Identify challenges and evidence-based best practices in climate change communication
- 🎯 Adapt communication strategies across audiences with different values and contexts
- 📝 Analyze social science study designs and methods, noting strengths and weaknesses
- 📚 Synthesize insights across multiple readings to build broader conclusions
- 💬 Engage in respectful, evidence-based discussions that integrate diverse perspectives.
- 🎤 Present and explain climate communication research to peers with a clear evaluation

III. Inclusion Statement

Every student has a unique background and perspective. As a classroom, we should strive for an inclusive atmosphere that respects this diversity. Everyone is expected to adhere to the Bren School Code of Conduct (pg 31-34) and the UCSB Code of Conduct. While taking this class, we ask students to:

- Provide fellow students with feedback that is kind, thoughtful, and constructive
- Respect peers by actively participating during labs in group feedback sessions
- Share your own values, experiences, and beliefs, but remain open to the views of others
- Communicate respectfully (in disagreements, challenging the idea, not the person)
- Share responsibility for including all voices in group discussions (step up, step back)
- Avoid playing devil's advocate for the sake of conflict; ask genuine questions for genuine answers

IV. Accessibility Statement

Students with disabilities may request academic accommodations for assignments online through the UCSB Disabled Students Program at http://dsp.sa.ucsb.edu/. Please make your requests for accommodations through the online system as early in the quarter as possible to ensure proper arrangements; for certain accommodations, ***DSP requires at least 10 days' notice***.

V. Weekly Readings

This is a 2-unit course, which equates to ~6 hours of work per week. With 2 hours of class each week, ***students are expected to spend ~4 hours each week to read papers and answer reflection questions***. Note that we will skip class during Thanksgiving (November 26th), and there will be no class during finals week (December 10th). All readings and questions are posted on the course Canvas page and in the links below.

🎯Week One: Climate Audiences

October 1, 2025

- Leiserowitz, A., Roser-Renouf, C., Marlon, J., & Maibach, E. (2021). Global Warming's Six Americas: A review and recommendations for climate change communication. Current Opinion in Behavioral Sciences, 42, 97–103.
- Doherty, K. L., & Webler, T. N. (2016). Social norms and efficacy beliefs drive the Alarmed segment's public-sphere climate actions. Nature Climate Change, 6(9), 879–884.

🌀 Week Two: Conspiracy Theories

October 8, 2025

- Bolsen, T., & Druckman, J. N. (2018). Validating Conspiracy Beliefs and Effectively Communicating Scientific Consensus. Weather, Climate, and Society, 10(3).
- Hornsey, M. J., Harris, E. A., & Fielding, K. S. (2018). Relationships among conspiratorial beliefs, conservatism and climate scepticism across nations. Nature Climate Change, 8(7), 614–620.

🎨 Week Three: Art Exhibitions

October 15, 2025

- Lustig, A. R., et al. (2025). Bringing art and science together to address climate change. Climatic Change, 178(3), 47.
- Klöckner, C. A., & Sommer, L. K. (2021). Visual art inspired by climate change—An analysis of audience reactions to 37 artworks presented during 21st UN climate summit in Paris. PLOS ONE, 16(2), e0247331.

📚Week Four: Climate Storytelling

October 22, 2025

- Schneider-Mayerson, M., Gustafson, A., Leiserowitz, A., Goldberg, M. H., Rosenthal, S. A., & Ballew, M. (2023). Environmental Literature as Persuasion: An Experimental Test of the Effects of Reading Climate Fiction. Environmental Communication, 17(1), 35–50.
    - Bacigalupi, P. (2006). The Tamarisk Hunter. Windupstories.com.
    - Simpson, H. (2012). In-Flight Entertainment. Knopf Doubleday Publishing Group.

- Gustafson, A., Ballew, Matthew T., Goldberg, Matthew H., Cutler, Matthew J., Rosenthal, Seth A., & Leiserowitz, A. (2020). Personal Stories Can Shift Climate Change Beliefs and Risk Perceptions: The Mediating Role of Emotion. Communication Reports, 33(3), 121–135.
    - Peach, S. (2015). A hunter/fisherman sees impacts of a warming world. Yale Climate Connections. Yale Climate Connections.

💻 Week Five: Online Misinformation

October 29, 2025

- Treen, K. M. d'I., Williams, H. T. P., & O'Neill, S. J. (2020). Online misinformation about climate change. WIREs Climate Change, 11(5), e665.
- Gounaridis, D., & Newell, J. P. (2024). The social anatomy of climate change denial in the United States. Scientific Reports, 14(1), 2097.

📊 Week Six: Data Visualizations

November 5, 2025

- Liu, Grace, Jake C. Snell, Thomas L. Griffiths, and Rachit Dubey. 2025. "Binary Climate Data Visuals Amplify Perceived Impact of Climate Change." Nature Human Behaviour 1–10.
- McMahon, R., Stauffacher, M., & Knutti, R. (2015). The unseen uncertainties in climate change: Reviewing comprehension of an IPCC scenario graph. Climatic Change, 133(2), 141–154.

⛪ Week Seven: Religious Beliefs

November 12, 2025

- Syropoulos, S., & Sparkman, G. (2025). Most Christian American religious leaders silently believe in climate change, and informing their congregation can help open dialogue. Proceedings of the National Academy of Sciences, 122(13), e2419705122.
- Kane, J. V., & Perry, S. L. (2024). Belief in divine (versus human) control of earth affects perceived threat of climate change. Npj Climate Action, 3(1), 78.

🌡️ Week Eight: Tipping Points

November 19, 2025

- Heinze, C., et al. (2021). The quiet crossing of ocean tipping points. Proceedings of the National Academy of Sciences, 118(9), e2008478118.
- Kopp, R. E., et al. (2024). 'Tipping points' confuse and can distract from urgent climate action. Nature Climate Change, 1–8.
    - Smith, S. R., Milkoreit, M., Geels, F. W., & Lenton, T. M. (2025). Advancing science, policy, and action in tipping points research. Nature Climate Change, 15(6), 576–577.

🦃Week Nine: Thanksgiving Break

November 26, 2025

🎉 Week Ten: Student Presentations

December 3, 2025

VI. Specifications Grading

This class will implement an alternative grading approach called specifications (or "specs") grading. Specifications grading is *"An alternative grading method where instructors create a list of specifications that describe the qualities and characteristics of a successful submission for an assignment. Student work is graded holistically based on those specifications, earning a single mark: "Satisfactory" or "Not Yet". Students have the chance to use feedback by revisiting and resubmitting for full credit."* (Clark et al. 2023). In ESM 292-1F, ***your final letter grade is the highest level for which you meet all of the following specifications***:

Grade	❓ Reflection Questions	💬Class Participation	📑 Final Presentation
A	*Satisfactory* on **9/9** reflection question sets	*Satisfactory* on **7/8** class discussions	*Satisfactory* on the final presentation
B	*Satisfactory* on **7-8/9** reflection question sets	*Satisfactory* on **6/8** class discussions	
C	*Satisfactory* on **5-6/9** reflection question sets	*Satisfactory* on **5/8** class discussions	*Not Yet* on the final presentation
F	*Satisfactory* on **4** or fewer reflection question sets	*Satisfactory* on **4** or fewer class participations	*Unsatisfactory* on the final presentation

(+)	*Satisfactory* on **8/8** class discussions and no reflection questions submitted >12 hours late	**(-)**	*Unsatisfactory* on 1+ reflection questions by submitting >12 hours late (without the use of a token for a 72 hr extension)

- 🪙**Tokens:** Life happens. In specifications grading, tokens represent flexibility. ***Every student in ESM 292 begins with two tokens.*** There will be no additional tokens. For unexpected absences or illnesses, you should rely on the token system. Tokens may also be used if you are traveling, feeling overwhelmed, or just need extra space. Whatever the reason, you don't need to explain — tokens are yours to use without questions asked. Unused tokens simply expire at the end of the quarter. Tokens may be exchanged at any point during the course by submitting this Google form for:
  - One "satisfactory" grade for class participation
  - One 72-hour extension for a reflection question set

  ➡️*Example: You are traveling to attend a research conference and know you will miss week two's class. You complete the readings ahead of time and submit your reflection questions on schedule, then use the form to exchange a token to receive a Satisfactory for participation for that week.*

  ➡️*Example: In week six, you get sick and don't have the energy for class or assignments. You use both tokens: one for a 72-hour extension on reflection questions and one to excuse your absence. By week seven, you're feeling a bit better; you submit the reflections on time but still miss class. Because an A allows one additional absence without penalty, you are still on track for the grade you wanted.*

VII. Specification Rubrics

One of the tenets of specifications grading is clear expectations. Students must meet all listed specs to receive a *Satisfactory* grade on that work. If you meet some but not all, you will receive a *Not Yet*, which you can elevate through re-submission (see "paths to redemption" below).

	❓ Reflection Questions	💬Class Participation	📑 Final Presentation
Satisfactory	☐ Answers all three reflection questions ☐ Submits reflection questions on time ☐ ~150-word or more answers per question ☐ Written clearly, correct grammar & spelling ☐ Answers all prompts in each question ☐ Integrates quotes or concepts from reading	☐ Arrives on time or warns of tardiness ☐ Integrates papers' concepts in discussion ☐ Offers perspective in group discussions ☐ Remains engaged throughout class ☐ Listens actively when peers are speaking ☐ Acts respectfully to peers & instructor	☐ Selects two papers on climate communication ☐ Summarizes papers' methods and findings ☐ Critiques strengths and weaknesses of papers ☐ Connects papers to course themes ☐ Has clear, organized, and engaging slides ☐ Presents within the allotted time

- 🔄**Paths to Redemption:** Another tenet of specs grading is that students have opportunities to demonstrate growth and receive credit. Paths to redemption are outlined below for each type of assignment. As a reminder, if you do not attend class or do not submit an assignment without communication/tokens, you will receive an Unsatisfactory, ***which is not eligible for redemption***.
    - ❓ Reflection questions: Students who receive a *Not Yet* may revise and resubmit their answers by Friday at midnight of the same week to elevate their grade to a *Satisfactory*.
    - 💬Class Participation: Students who receive a *Not Yet* may attend office hours within one week to reflect on their participation and set goals for improvement.
    - 📑Final presentation: Students who receive a *Not Yet* may submit a 2-page analysis of their selected articles (including a summary, critique, and connection to course themes).

VIII. Example Calendar

Below is an example calendar. I recommend reading the papers early in the week. On Tuesdays, you will submit answers to the reflection questions by midnight. This timing ensures that you come to class on Wednesday ready to participate, having critically evaluated the papers. On Wednesday afternoons, I also hold office hours. By Thursday morning, I will post grades for reflections and attendance. Resubmissions are due Friday by midnight and will be graded by the following Monday morning.

Mondays	Tuesdays	Wednesdays	Thursdays	Fridays
📝 Resubmissions graded by 11 am 📚Suggested paper reading day!	📚Suggested paper reading day! 🚨Reflections due by midnight	💬 Class in BH 1510 from 12-1:50 pm 🏢Office hours BH 4426 from 4-5 pm	✅Reflections graded by 11 am 🙋🏽‍♀️Attendance graded by 11 am	🚨Resubmissions due by midnight 🪙Reflections due for token extensions

IX. Generative AI Policy

Although AI can be a useful tool, ***you may not use it to complete any written assignments in ESM 292-1F***. Students may use AI programs like ChatGPT for tasks like paper discovery and editing, but not for any original writing. If you use Gen AI assistance such as ChatGPT, you must formally submit an explanation with each assignment about how and why you have used it. You must also include any prompts you used in your AI queries, if appropriate. Students will receive a written warning if there is evidence that generative AI is used for original writing, including reflection questions. Repeated improper use of AI will be treated as academic dishonesty and may result in disciplinary action following a campus report.

X. About the Instructor

Alexandra A. Phillips is an Assistant Teaching Professor in environmental communication at UC Santa Barbara's Bren School, where she leads the communication focus for the Master's of Environmental Science and Management (MESM) program. Her teaching and research center on how environmental science can be communicated more effectively to students, the public, and policymakers. Alex holds a PhD in Geochemistry from Caltech and a BA in Biology from UC Santa Barbara's College of Creative Studies. She was the first AAAS Congressional Science Fellow in climate science, working in the office of U.S. Senator Alex Padilla on federal climate policy. She also served as an author and graphics lead for the U.S. Sixth National Climate Assessment's Oceans Chapter, contributing scientific analysis and visual design. Before joining the Bren faculty, she was a postdoctoral researcher at the Large Lakes Observatory and a science communicator at the National Center for Ecological Analysis and Synthesis. Alongside her academic work, Alex is also a professional photographer and graphic designer, passionate about harnessing visual storytelling to make climate communication more beautiful, inclusive, and impactful.