



**SOCI 495E/599D**

**Demography of Disaster: Population Perspectives on Climate Disasters**

**2023-2024 Winter Term II**

**Tuesday 2pm-4:50pm, SWNG #206**

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Office Hours: Thursday 11am-12pm, ANSO 2318, or by appointment via Zoom

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### Course Overview

Climate change is exacerbating the severity and patterning of extreme weather hazards that cause disasters. At the same time, population settlement patterns and infrastructural investments are rendering more groups at risk of exposure, with key consequences for population mortality, morbidity, migration, and fertility. In this seminar, we examine the interrelationship between climate change, disasters, and population processes, using both sociological and demographic perspectives. Course content focuses on both the population causes of climate change and related disasters, and on the population consequences of disasters. The readings encompass both theoretical and empirical work. Particular attention will be paid to social inequalities along axes of race/ethnicity/indigeneity, socioeconomic status, age, and gender, and to methodological innovations, such as the use of remotely sensed data, spatial data, social media data, and administrative data.

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### Time and Place

The course meets from 2pm to 4:50pm in SWNG #206 on UBC's Point Grey Campus, which is located on the traditional, ancestral, and unceded territory of the xwməθkwəy̓əm (Musqueam) people. The land it is situated on has always been a place of learning for the Musqueam people, who for millennia have passed on in their culture, history, and traditions from one generation to the next on this site.

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### Objectives

- Understand the similarities and differences between concepts in the demography and sociology of disasters, such as hazard, disaster, mitigation, adaptation, vulnerability, and risk.
- Apply core concepts to the social scientific assessment of the population causes and consequences of disasters, namely migration, mortality, morbidity, and fertility.
- Assess the theoretical and empirical claims in sociology and demography articles and articulate clearly and succinctly a gap and how to address it with social science tools.

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### Assessment

In pursuit of the above objectives, you will be assessed using three modes: three response papers (45%), participation (25%), and a take home final assignment (30%).

#### *Response Papers (45%)*

Over the course of the term, you will write a series of short response papers. You will submit three, four-to-five-page, double-spaced response memos on dates indicated below (January 30; February 27; March 26). These papers should do three things: (1) articulate an unanswered question or limitation from the week's readings, (2) explain why this limitation is important for substantive, theoretical, and/or methodological reasons, and (3) propose how future research could address this question or limitation. This may be applied to an empirical, theoretical, and/or conceptual part of the readings for the week.



The response papers should not be simple summaries of the readings or solely a discussion of their similarities and differences. Instead, they should be an argument that could be used to support a future grant application, research proposal, master's thesis paper, or research article in social demography. State clearly your extension or critique, and explain why (or for whom, under what conditions, or in what way) it is important. It must be clear to me how you are advancing the field, not just what you object to in the readings. In your proposed future research, it is not necessary to identify a dataset or preregister precise analytic techniques or methods (types of regressions, number of interviews, hours in the field, etc.). Instead, give a broad sense of the kind of project that you might undertake to address the gap and why it would improve upon the existing research to potentially provide new knowledge.

Your response papers do not need to engage with each assigned reading from the prior weeks. We will discuss tips on how to do these well in class. After each submission and before the next deadline, I will provide each student written comments and a letter grade.

*Class Discussion (25% - 15% participation and 10% discussion leader)*

Your active engagement with and effective discussion of the readings will make or break this course. All students are expected to participate in the discussion throughout the semester. You must show up to class prepared to discuss the claims and evidence presented in the readings, as well as provide your personal evaluation of the extent to which they are satisfactory for addressing the research question. I will keep track of your class participation. To be clear, this is not a way to “pad” your final course grade. All students will be assigned one week to lead class discussion (undergraduates will co-lead). We will decide this in the second or third week of class together based on registration. Discussion leaders are in charge of providing a brief (25 minutes maximum) overview of the week's readings, drawing relations and contradictions between them (in their empirical approach, theoretical orientation, substantive topics, etc.), posing questions for the class to discuss, and ensuring the conversation stays on course. I will provide more details on leader requirements and mode of assessment during our first meeting. Note that I will also arrive with several questions to begin each class, which will supplement the discussion questions posed by the leaders for the week.

*Final Assignment (30%) – Due April 19<sup>th</sup> at 11:59pm.*

After class on April 9<sup>th</sup>, you will receive a list of three essay prompts. You select two and may use your readings and notes to form responses. Each should be between 4-and-5 double-spaced pages. The assignment is designed to get you to synthesize the course material together. It will encourage you to draw connections across the readings and give you the opportunity to compare (and contrast), in a greater way than the weekly response memos. The assignment is due on April 19<sup>th</sup> at 11:59pm. Please submit on Canvas.



## Course Outline and Weekly Readings

### Week 1 – January 9 – Introduction

- Frankenberg, Elizabeth, Maria M. Laurito, and Duncan Thomas. 2015. “Demographic Impact of Disasters” pg. 101-108 in *International Encyclopedia of the Social and Behavioral Sciences 2<sup>nd</sup> edition*. Elsevier Ltd.
- Arcaya, Mariana, Ethan J. Raker, and Mary C. Waters. 2020. “The Social Consequences of Disasters: Individual and Community Change.” *Annual Review of Sociology* 46: 671-691.

### Week 2 – January 16 – Theory I: Hazards, Disaster, Risk, and Vulnerability

- Tierney, Kathleen. 2014. “A Different Perspective: The Social Production of Risk” pg. 31-49 in *The Social Roots of Risk: Producing Disasters, Promoting Resilience*. Palo Alto: Stanford University Press.
- Burningham, Kate et al. 2008. “It’ll Never Happen to Me: Understanding Public Awareness of Local Flood Risk.” *Disasters* 31(2): 216-238.
- Wisner, Ben, et al. 2004. “The Disaster Pressure and Release Model,” pg. 49-86 in *At Risk: Natural Hazards, People’s Vulnerability and Disasters*. London: Routledge.
- Cutter, Susan L, Bryan J. Boruff, and W. Lynn Shirley. 2003. “Social Vulnerability to Environmental Hazards.” *Social Science Quarterly* 84(2): 242-261.

### Week 3 – January 23 – Mortality

- Klinenberg, Eric. 1999. “Denaturalizing Disaster: A Social Autopsy of the 1995 Chicago Heat Wave.” *Theory and Society* 28(2): 239-295.
- Browning, Christopher, Danielle Wallace, Seth L. Feinberg, Kathleen A. Cagney. 2006. “Neighborhood social processes, Physical Conditions, and Disaster-Related Mortality: The Case of the 1995 Chicago Heat Wave.” *American Sociological Review* 71(4): 661-678.
- Klinenberg, Eric. 2006. “Blaming the Victims: Hearsay, Labeling, and the Hazards of Quick-Hit Disaster Ethnography.” *American Sociological Review* 71(4): 689-698.
- Frankenberg, Elizabeth, Cecep Sumantri, and Duncan Thomas. 2020. “Effects of a Natural Disaster on Mortality Risks over the Longer Term.” *Nature Sustainability* 3(8): 614-619.
- Egilson, Michael et al. 2022. Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in B.C. in Summer 2021, Report to the Chief Coroner of British Columbia, June 7, 2022, pages 1-42.

### Week 4 – January 30 – Morbidity and Disease (*First Response Paper Due*)

- Zacher, Meghan et al. 2021. “Physical Health Symptoms and Hurricane Katrina: Individual Trajectories of Development and Recovery over a Decade after the Storm.” *American Journal of Public Health* 111(1): 127-135.
- Frankenberg, Elizabeth, Douglas McKee, and Duncan Thomas. (2005). “Health Consequences of Forest Fires in Indonesia.” *Demography* 42(1): 109-129.
- Baker, Rachel E., et al. 2019. “Epidemic Dynamics of Respiratory Syncytial Virus in Current and Future Climates.” *Nature Communications* 10: 5512.
- IPCC 5<sup>th</sup> Assessment Report. Chapter 7. “Health, Wellbeing and the Changing Structure of Communities.” 7.1.4 (pg. 1049) to 7.2.5 (pg. 1076); skip pg. 1067-1070.



### **Week 5 – February 6 – Theory II: Population and Environment Nexus**

- Jolly, Carole L. 1994. “Four Theories of Population Change and the Environment.” *Population and Environment* 16(1): 61-89.
- York, Richard, Eugene A. Rosa, and Thomas Dietz. 2003. “Footprints on the Earth: The Environmental Consequences of Modernity.” *American Sociological Review* 68(2):279- 300.
- Freudenberg, William, Robert Gramling, Shirley Laska, and Kai T. Erikson. 2008. “Organizing Hazards, Engineering Disasters? Improving the Recognition of Political-Economic Factors in the Creation of Disaster.” *Social Forces* 87(2): 1015-1038.
- Muttarak, Raya. “Demographic Perspectives in Research on Global Environmental Change.” *Population Studies* 75(1): 77-104.

### **Week 6 – February 13 – Population Composition**

- Raker, Ethan J. 2020. “Natural Hazards, Disasters, and Demographic Change: The Case of Severe Tornadoes in the United States.” *Demography* 57(2): 653-674.
- Logan, John R., Sukriti Issar, and Zengwang Xu. 2016. “Trapped in Place? Segmented Resilience to Hurricanes in the Gulf Coast, 1970-2005.” *Demography* 53(5): 1511-1534.
- Schultz, Jessica and James R. Elliott. 2013. “Natural Disasters and Local Demographic Change in the United States.” *Population and Environment* 34(3): 293-312.
- Pais, Jeremy F. and James R. Elliott. 2008. “Places as Recovery Machines: Vulnerability and Neighborhood Change after Major Hurricanes.” *Social Force* 86(4): 1415-1453.
- Donner, William and Havidan Rodriguez. 2008. “Population Composition, Migration and Inequality: The Influence of Demographic Changes on Disaster Risk and Vulnerability.” *Social Forces* 87(2): 1089-1114.

### **Week X – February 20 – Reading Break – NO CLASS**

### **Week 7 – February 27 – Migration, Immobility, Displacement (Second Response Paper Due)**

- McLeman, Robert A. and S. Kate Ploeger. 2012. “Soil and its Influence on Rural Drought Migration: Insights from Depression-era Southwestern Saskatchewan, Canada.” *Population and Environment* 33: 304–332.
- Rhodes, Anna and Max Besbris. 2022. “Best Laid Plans: How the Middle Class Make Residential Decisions Post-Disaster.” *Social Problems* 69(4): 1137-1153.
- Elliott, James R., and Junia Howell. 2017. “Beyond Disasters: A Longitudinal Analysis of Natural Hazards’ Unequal Impacts on Residential Instability.” *Social Forces* 1181-1207.
- Groen, Jeffrey A. and Anne E. Polivka. 2010. “Going Gome after Hurricane Katrina: Determinants of Return Migration and Changes in Affected Areas.” *Demography* 41(4): 821-844.
- Hauer, Matthew E., Steven R. Holloway, and Takashi Oda. 2020. “Evacuees and Migrants Exhibit Different Migration Systems After the Great East Japan Earthquake and Tsunami.” *Demography* 57(4): 1437-1457.

### **Week 8 – March 5 – Theory III: Aging and Life Course Perspectives**

- Lowe, Sarah R., Ethan J. Raker, and Meghan L. Zacher. 2020. “Extremes in Context: A Life-Course Approach to Disaster Mental Health.” *One Earth* 2(6): 497-499.
- Raker, Ethan J. 2022. “Climate-Related Disasters and Children’s Health: Evidence from Hurricane Harvey.” *Socius* (8).
- DeWaard, Jack. 2016. “Disaster and Life Course Processes,” pg. 321-338 In *Handbook of the Life Course*. Switzerland: Springer International Publishing.



- Maclean, Johanna Catherine, Ioana Popvici and Michael T. French. 2016. “Are Natural Disasters in Early childhood Associated with Mental Health and Substance use disorders as an Adult?” *Social Science & Medicine* 151: 78-91.
- Thiery, Wim, et al. 2021. “Intergenerational Inequities in Exposure to Climate Extremes.” *Science* 374 (6564): 158-160.
- Kawachi, Ichiro, Jun Aida, Hiroyuki Hikichi, & Katsunori Kondo. 2021. “Disaster Resilience in Aging Populations: Lessons from the 2011 Great East Japan Earthquake & Tsunami.” *Journal of the Royal Society of New Zealand*, 50(2): 263-278.
- Norberg, Samantha, Ann Toohey, and David Hogan. 2021. “How do non-Catastrophic Natural Disasters Impact Middle-Aged-to-Older Persons? Using Baseline Canadian Longitudinal Study on Aging Data to Explore Psychological Outcomes Associated with the 2013 Calgary Flood.” *Canadian Journal on Aging*, 41(2): 184-192.

### **Week 9 – March 12 – Fertility**

- Barreca, Alan, Olivier Descenes, and Melanie Guldi. 2018. “Maybe Next Month? Temperature Shocks and Dynamic Adjustments in Birth Rates.” *Demography* 55(4): 1269-1293.
- Grace, Kathryn. 2017. “Considering climate in studies of fertility and reproductive health in poor countries.” *Nature Climate Change* 7: 479-485.
- Nobles, Jenna, Elizabeth Frankenberg, and Duncan Thomas. 2015. “The Effects of Mortality on Fertility: Population Dynamics after a Natural Disaster.” *Demography* 52(1): 15-38.
- Nobles, Jenna and Amar Hamoudi. 2021. “Detecting the Effects of Early-Life Exposures: Why Fecundity Matters.” *Population Research and Policy Review* 38(6): 783-809.
- Sellers, Samuel and Clark Gray. 2019. “Climate Shocks Constrain Human Fertility in Indonesia.” *World Development* 117: 357-369.

### **Week 10 – March 19 – Mental Health**

- McMichael, A., Woodruff, R.E. and Hales, S. (2006). “Climate Change and Human Health: Present and Future Risks.” *Lancet* 367:859-869
- Goldmann, Emily and Sandro Galea. 2013. “Mental Health Consequences of Disasters” *Annual Review of Public Health* 35: 169-193.
- Frankenberg, Elizabeth, et al. (2008). “Mental Health in Sumatra after the Tsunami,” *American Journal of Public Health* 98(9): 1671-1677
- Raker, Ethan J. et al. (2019) “Twelve Years Later: The Long-Term Mental Health Consequences of Hurricane Katrina.” *Social Science and Medicine* 242.

### **Week 11 – March 26 – Inequalities (Third Response Paper Due)**

- Smiley, Kevin et al. 2022. “Social inequalities in climate change-attributed impacts of Hurricane Harvey.” *Nature Communications* 13(1): 1-10.
- Elliott, James R. and Jeremy Pais. 2006. “Race, class, and Hurricane Katrina: Social differences in human response to disaster.” *Social Science Research* 35(2): 295-321.
- Weitzman, Abigail and Julia Andrea Behrman. 2016. “Disaster, Disruption to Family Life, and Intimate Partner Violence: The Case of the 2010 Earthquake in Haiti.” *Sociological Science* 3: 167-189.
- Smiley, Kevin T., et al. 2022. “Inequalities and Interrelations: The Sociology of Disasters at a New Crossroads.” *Sociology Compass* 16: 1-16.
- Bolin, Bob and Lisa C. Kurtz. 2017. “Race, Class, Ethnicity, and Disaster Vulnerability,” pg. 181-203, in Rodriguez et al. (eds) *Handbook of Disaster Research*. Springer International.

## Week 12 – April 2 – Mitigation, Adaptation, Recovery, and the Future

- Elliott, Rebecca. 2018. “Sociology of Climate Change as a Sociology of Loss.” *European Journal of Sociology* 59(3): 301-337.
- Elliott, James R., Phylcia Lee Brown, and Kevin Loughran. 2020. “Racial Inequities in federal buyout of flood-prone homes: a nationwide assessment of environmental adaptation.” *Socius* 6.
- Castro, Brianna and Raka Sen. 2022. “Everyday Adaptation: Theorizing Climate Change Adaptation in Daily Life.” *Global Environmental Change* 75.
- Raker, Ethan J. et al. 2020. “Mitigating Health Disparities after Natural Disasters: Lessons from the RISK Project.” *Health Affairs* 39(12): 2128-2135.
- Siders, A.R. 2019. “Managed Retreat in the United States.” *One Earth* 1: 216-225.
- Raker, Ethan J. et al. 2023. Disasters and Subjective Assessments of Recovery in the Long Run. *Population and Environment*, forthcoming.

## Week 13 – April 9 – Final Assignment Due on April 19th at 11:59pm

- (Readings TBD)

### Additional Course Information and Policies

1. **COVID-19 Protocols.** This course is designed to be in person, and participation is very important. If I am sick, I will stay home. All attempts will be made to communicate plans for class as soon as possible (by email and on canvas). The classroom will still be available to sit in and attend an online session, which may include a student led discussion or an activity or reading in-place of class. If you are sick, please let me know as soon as possible.
2. **I am here to support you and your academic development.** If you are having a hard time understanding course content or have questions related to the materials we cover in class, please do not hesitate to come speak to me after class, during office hours or by appointment.
3. **Email Policy.** I ask that you try to use the resources available to you before emailing. Is the question answered in the syllabus? Is there a classmate or peer who could answer this question? Could Allison, the course TA, answer this question? If the answer to those questions is yes, I am unlikely to reply to the email.
4. **Respect.** The highest standards of respect will be upheld inside the SOCI 495/599 classroom. This includes respect for each other, respect for me, respect for you by me, and respect for those outside the classroom.
5. **Missed classes.** Attendance at each class session is expected of all students. If you miss a class, please get the notes from a classmate. Your colleagues in the class are exceptional resources, and I strongly encourage you to get the contact information of multiple classmates and to turn to your colleagues to discuss any issues you find unclear, confusing or would like to engage further with. We are all navigating the new normal together.

While I do my best to accommodate justified absences, students who plan to be absent for varsity athletics, family obligations, or other personal or professional commitments cannot assume that they will be accommodated. If you miss a key component of the course (e.g., an assignment), I will require



a letter from Arts Advising in order for you to make up the missed assessment. If you are experiencing circumstances that require that you be away from multiple classes and would like to discuss this, please get in touch.

6. **Laptop and handheld device use.** I should not see or hear cell phones, cameras, or other electronic equipment in the classroom, so please put them on silent mode and store them out of sight. While laptops will be allowed in the classroom, please refrain from using laptops for purposes unrelated to the class, as this can be distracting to other students. If you choose to use electronic equipment for purposes other than those related to our class, I may ask you to leave the classroom.
7. **Disability.** The University accommodates those individuals living with disability or ongoing medical conditions that may affect their academic success. I strongly encourage students living with disability or ongoing medical conditions to register with Access & Diversity and to access the university resources around academic accommodation found [HERE](#).
8. **Early Alert.** I will do my best to reach out and offer support if I am concerned about your academic performance or well-being. I also encourage you to come and speak with me if you need assistance. In addition, I may identify my concerns using [Early Alert](#). The program allows academic, financial, or mental health concerns to be identified sooner and responded to in a more coordinated way. This provides you with the earliest possible connection to resources like academic advising, financial advising, counselling, or other resources and support to help you get back on track. The information is treated confidentially and is sent because I care about your academic success and wellbeing.
9. **Academic Honesty.** Academic dishonesty will not be tolerated. This includes lying, cheating and plagiarism. I strongly recommend students retain copies of drafts and final versions of all assignments. All students should be familiar with UBC's policies on academic honesty and academic misconduct, which can be found on the university website.

Students are expected to know what constitutes plagiarism, that plagiarism is a form of academic misconduct, and that such misconduct is subject to penalty. Please review the [Student Discipline](#) section of the UBC Academic Calendar which includes the following:

“Plagiarism, which is intellectual theft, occurs where an individual submits or presents the oral or written work of another person as his or her own. Scholarship quite properly rests upon examining and referring to the thoughts and writings of others. However, when another person's words (i.e. phrases, sentences, or paragraphs), ideas, or entire works are used, the author must be acknowledged in the text, in footnotes, in endnotes, or in another accepted form of academic citation. Where direct quotations are made, they must be clearly delineated (for example, within quotation marks or separately indented). Failure to provide proper attribution is plagiarism because it represents someone else's work as one's own. Plagiarism should not occur in submitted drafts or final works. A student who seeks assistance from a tutor or other scholastic aids must ensure that the work submitted is the student's own. Students are responsible for ensuring that any work submitted does not constitute plagiarism. Students who are in any doubt as to what constitutes plagiarism should consult their instructor before handing in any assignments.”

10. **Academic Concession.** UBC supports students in their academic pursuits, including circumstances that may require academic concession. Students are invited to familiarize themselves with the university documentation around academic concession, which includes information on policies in place to enable students and members of faculty and staff to observe the holy days of their religions. If you encounter medical, emotional or personal problems that affect your attendance or academic



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performance, please contact the Faculty of Arts [Academic Advising Office](#), located in Buchanan D111, phone 604-822-4028, as soon as possible. There are a wide range of university resources available to support individuals who face challenges inside and outside the classroom. If you need help and are unsure of the available resources, please come and see me, and I will be happy to connect you.

- 11. Late Policy.** Ten percentage points will be deducted from the grade for each day that the assignment is late. (For example, if it is submitted 2 days late, the maximum score will be an 80.)