

HIST 708: THE ENVIRONMENTAL HISTORY OF THE LITTLE ICE AGE



Essential Information:

Seminars: Tuesdays, 14:00-16:30, ICC 208A.

Professor: Dr. Dagomar Degroot. Email: dd865@georgetown.edu. Website: DagomarDegroot.com. Office: ICC 617B.

Professor's Office Hours: Thursdays, 2:00-4:00 PM.

Class website: hist708.weebly.com

Course Description:

Human greenhouse gas emissions are today transforming our world. The hot Earth of our imminent future will scarcely resemble that of our past. Yet natural forces have long changed Earth's climate, often on smaller scales that nonetheless powerfully influenced human history. In the thirteenth century, for example, Earth's climate cooled of its own accord, beginning a "Little Ice Age" that endured – with frequent interruptions – for roughly six centuries. Today, environmental historians work with scientists to understand how Earth's weather changed during the Little Ice Age, and to identify the consequences for human history.

In this course, we will discover why Earth's climate changes, contemplate how these changes have influenced human beings, and reconstruct past climatic trends using interdisciplinary sources. We will use case studies to investigate why some societies were vulnerable and others more resilient in the face of the Little Ice Age. We will evaluate how climate change influenced organized violence, social upheaval, technological progress, and artistic responses. Finally, we will consider what the new histories of the Little Ice Age can tell us about our warmer future.

Course Goals:

Like other courses offered by the Department of History, this course will help you:

1. Gain a deeper appreciation of the nature and practice of history as a discipline, and as the study, based on evidence, of human experiences, interactions, and relationships as they change over time.
2. Learn that history does not consist of a simple succession of self-evident facts, and that evidence-based interpretation and analysis are central to all historical work.
3. Hone reading, writing, and oral communication skills.
4. Develop your capacity to think historically: to situate events and developments in their historical context for the purpose of critical analysis.
5. Expand your ability to engage with complex causal analysis, and to articulate arguments that integrate supporting evidence and analytical commentary.
6. View the world from perspectives other than your own.

This course in particular will also:

1. Introduce you to the disciplines of environmental history, climate history, and historical climatology.
2. Teach you how to combine humanistic and scientific disciplines to tackle old historical questions in new ways.
3. Help you appreciate the significance and deep context of modern climate change.

Breakdown:

Participation:	30%
Annotated Bibliography:	10%
Primary Source Essay First Draft:	15%
Primary Source Essay First Draft Peer Review:	5%
Primary Source Essay Final Draft:	40%



Evaluation:

Participation:

Participation is central to this class. Your readings are long, and I strongly recommend that you attend class with at least one page of point-form notes. You will find “big questions” alongside your reading assignments in the schedule below. They will serve as points of departure for our weekly discussions. Before class, I encourage you to think of how you might answer those questions.

In each seminar, you will earn a grade for both the quantity and quality of your comments. You will earn top grades for thoughtful comments that advance our discussion. This class will function best if you speak and I facilitate the conversation that emerges. The more you debate issues with one another, the happier you (and I) will be. You will earn no grades for attendance, but you will want to make sure that you show up on time.

Annotated Bibliography:

DUE DATE: OCTOBER 3

A five-page summary of the primary and secondary sources you plan to use for a primary source essay that ties weather associated with the Little Ice Age to an event and/or trend in early modern history. In your first page, list and provide a description of your primary source(s). Then, give me a hypothesis – a question that will structure your approach to your primary sources - and outline how you hope to answer this hypothesis using those sources. Your grade will reflect your choice of sources, your understanding of your sources, the value of your hypothesis, and your awareness of how your sources tie into the narratives we explore in this course.

List your secondary sources on the following pages. These sources should cover an issue relevant to the Little Ice Age. They should be written after 1970 unless I approve of an older source. You should use no fewer than seven books, with one book equal to two articles (in other words, you can use four books and six articles). Each secondary source citation should be accompanied by a short paragraph (at least 3 sentences) clearly stating its argument, the strengths and weaknesses of that argument, and how it compares to the positions taken in your other secondary sources. You should also describe how your secondary sources might frame your investigation of the primary sources you selected.

Contact me no less than one week before the due date to confirm your topic with me. I am happy to offer suggestions for where you might look for primary sources.

Primary Source Essay Draft and Critique:

ESSAY DRAFT DUE DATE: OCTOBER 31

ESSAY CRITIQUE DUE DATE: NOVEMBER 14

You will write a draft, 25-page analysis of an issue relevant to the Little Ice Age, supported by the sources you described in your annotated bibliography. Primary sources should be central to your argument, but your interpretation of the source, and your investigation of context, should be supported by secondary sources. Be sure to place your argument in a historiographical *and* scientific context (that means, in the context of arguments made by scientists and other historians)!

Your draft copy should represent your best work, but it will not be the final iteration of your paper. You must submit one copy of your draft to me at the beginning of class on October 31st, and another copy, at the end of class, to a classmate whom I will name. Your classmate will take two weeks to craft a three-page critique of your paper. On November 14th, she or he will submit a copy of the critique to me, and another copy to you. Your classmate will then present the critique to the class for no more than ten minutes. You will have a chance to briefly respond to the constructive criticism you receive.

At the end of class on November 14th, I will return your first drafts with my recommendations for revision. Note that a positive attitude is essential for this exercise! *Ad hominem* insults and mean-spirited criticism will sharply reduce your grade.

Primary Source Essay Final Draft:

DUE DATE: DECEMBER 5

You will submit the final copy of your original investigation of an issue relevant to the Little Ice Age. It *must* be modified in light of the constructive criticism you received from your classmates and me. Even if you received an A on your first draft, you will need to make some revisions, because no first draft is ever perfect. If you do not make those revisions, you will receive a much lower grade on the final product.

When you submit your final draft, include a brief (no more than one page) summary of the revisions you made. If you disagreed with a recommendation and therefore did not follow it, use your summary to explain your reasoning. If your explanation makes sense to me, your grade will not suffer.

Required Course Texts:

Brooke, John L. *Climate Change and the Course of Global History*. New York: Cambridge University Press, 2014.

Campbell, Bruce. *The Great Transition: Climate, Disease and Society in the Late-Medieval World*. Cambridge: Cambridge University Press, 2016.

D'Arcy Wood, Gillen. *Tambora: The Eruption That Changed the World*. Princeton: Princeton University Press, 2014.

Degroot, Dagomar. *The Frigid Golden Age: Climate Change, the Little Ice Age, and the Success of the Dutch Republic, 1560-1720*. Cambridge University Press (forthcoming). I'll provide a PDF.

Parker, Geoffrey. *Global Crisis: War, Climate Change and Catastrophe in the Seventeenth Century*. London: Yale University Press, 2013.

White, Sam. *The Climate of Rebellion in the Ottoman Empire*. Cambridge: Cambridge University Press, 2011.

Zilberstein, Anya. *A Temperate Empire: Making Climate Change in Early America*. New York: Oxford University Press, 2016.

Important Notes:

House Rules:

Do not show up late to our discussions. This detracts from your learning and disturbs your classmates. If you are repeatedly late, I may lower your participation grade without informing you.

Do not interrupt your classmates. If you have a point to make and feel like you aren't getting through, just raise your hand. I will call on you.

Submitting Assignments:

Assignments are due **at the beginning of class**. Any assignment submitted after the first 15 minutes of class is late. Late assignments will receive a 5%/day penalty. I will not grade assignments that are more than one week late, unless you have negotiated an extension with me (see below).

Extensions:

You may ask me for a **short** extension *before an assignment is due*. I am more likely to grant your request if you A) give me a convincing explanation for your tardiness; B) give me a roadmap that outlines how you will complete your assignment; and C) propose a new due date.

I will only grant requests for an extension on or after the assignment due date in truly exceptional circumstances (a death in the family, for example, or a very serious illness).

Missing Assignments:

If you fail to hand in an assignment, you will receive a zero for that assignment. You will not fail the course, but your ability to pass the course will be in serious jeopardy. You will **not** receive a message from me that inquires about your missing assignment. I expect you to handle your obligations yourself.

Missing Discussions:

You have only **one** excused absence per term. If you think that you will need to miss several seminars for significant and predictable reasons (such as religious observances), you must inform me of the specific circumstances and dates **at the start of the term**.

Note that you receive a grade for every discussion you attend. If you do not attend a discussion and you have already had your one excused absence, you will receive a grade of **zero** for the discussion you missed. This will significantly lower your overall grade.

Beyond the Course:

I am committed to supporting survivors of sexual misconduct, which includes relationship violence, sexual harassment and sexual assault. However, university policy requires faculty to report any disclosures about sexual misconduct to the Georgetown Title IX Coordinator, who directs the University's response to sexual misconduct.

Georgetown has a number of fully confidential professionals who provide support and assistance to survivors of sexual assault and other forms of sexual misconduct. They include:

Jen Schweer, MA, LPC, Associate Director of Health Education Services for Sexual Assault Response and Prevention. Contact: (202) 687-0323, jls242@georgetown.edu.

Erica Shirley, Trauma Specialist, Counseling and Psychiatric Services (CAPS). Contact: (202) 687-6985, els54@georgetown.edu.

More information about campus resources and reporting sexual misconduct can be found at: <http://sexualassault.georgetown.edu>.

Schedule:

- *I may modify this schedule, but if I do you will have at least a week's notice.*
- *Try to complete these readings in the order in which they are listed.*

September 5: Introducing environmental history, climate history, and historical climatology.

Readings:

1. J. R. McNeill, "Observations on the Nature and Culture of Environmental History," *History and Theory*, 42 (2003), 5-43.
2. Cronon, William. "The uses of environmental history." *Environmental history Review* 17:3 (1993): 1-22.
3. White, Sam. "Climate Change in Global Environmental History." In *A Companion to Global Environmental History*, edited by John McNeill and Erin Maulden, 394-410. London: Blackwell, 2012.
4. Carey, Mark and Philip Garone, "Forum Introduction." *Environmental History* 19 (2014): 282-293.
5. Brazdil, Rudolf et al. "Historical Climatology in Europe - the State of the Art," *Climatic Change* 70 (2005): 363-430.

September 12: NO CLASS.

September 19: Reconstructing past climate changes: paleoclimatology and historical climatology.

Readings:

1. PAGES2k Consortium, "A global multiproxy database for temperature reconstructions of the Common Era." *Scientific Data* 4 (2017). doi:10.1038/sdata.2017.88
2. Sigl, Michael, M. Winstrup, J. R. McConnell, K. C. Welten, G. Plunkett, F. Ludlow, U. Büntgen, M. Caffee, et al., "Timing and Climate Forcing of Volcanic Eruptions for the Past 2,500 Years," *Nature* 523 (2015): 543-49.
3. Moreno-Chamarro, Eduardo, Davide Zanchettin, Katja Lohmann, and Johann H. Jungclaus. "An abrupt weakening of the subpolar gyre as trigger of Little Ice Age-type episodes." *Climatic Dynamics* (2016). DOI: 10.1007/s00382-016-3106-7.

4. Ayre, Matthew, John Nicholls, Catharine Ward, and Dennis Wheeler. "Ships' Logbooks from the Arctic in the Pre-Instrumental Period." *Geoscience Data Journal* 2 (2015): 57.
5. Gallego, David et al., "An instrumental index of the West African Monsoon back to the nineteenth century." *Quarterly Journal of the Royal Meteorological Society* 141:693 (2015): 3166-3176.

September 26: Climate change and *Homo sapiens*: the very big picture.

Readings:

1. Selections from Brooke, *Climate Change and the Course of Global History*.
2. Kaplan, Jed O., Kristen M. Krumhardt, Erle C. Ellis, William F. Ruddiman, Carsten Lemmen, and Kees Klein Goldewijk. "Holocene carbon emissions as a result of anthropogenic land cover change." *Holocene* 21 (2011): 775-791.

October 3: Medieval warmth and the crisis of the fourteenth century.

ANNOTATED BIBLIOGRAPHY DUE

Guest appearance by Professor Tim Newfield, Georgetown environmental historian of medieval disease and climate change.

Readings:

1. Campbell, *The Great Transition*.
2. Andrew J Dugmore et al., "'Clumsy solutions' and 'elegant failures': Lessons on climate change adaptation from the settlement of the North Atlantic islands." In *A Changing Environment for Human Security: Transformative Approaches to Research, Policy and Action*, ed. Johanna Wolf and Linda Sygna. (New York: Routledge, 2013): 445.
3. N. R. Rigozo et al., "Reconstruction of Wolf Sunspot Numbers on the Basis of Spectral Characteristics and Estimates of Associated Radio Flux and Solar Wind Parameters for the Last Millennium." *Solar Physics* 203 (2001): 181.

October 10: Overview of the Little Ice Age and its first great cold phases.

Readings:

1. Kelly, Morgan, and Cormac Ó. Gráda. "The waning of the little ice age: climate change in early modern Europe." *Journal of Interdisciplinary History* 44:3 (2014): 301-325.
2. White, Sam. "The real little ice age." *Journal of Interdisciplinary History* 44:3 (2014): 327-352.
3. Camenisch, C., K. M. Keller, M. Salvisberg, B. Amann, M. Bauch, S. Blumer, R. Brázdil, et al. "The 1430s: A Cold Period of Extraordinary Internal Climate Variability during the Early Spörer Minimum with Social and Economic Impacts in North-Western and Central Europe." *Climate of the Past* 12 (2016): 2107-26.
4. Selections from White, *The Climate of Rebellion in the Ottoman Empire*.

October 17: Cooling and crisis: correlations, causes, big consequences.

Readings:

1. Parker, *Global Crisis*, xv-109.
2. Bauernfeind, W. and U. Woitek, "The Influence of Climatic Change on Price Fluctuations in Germany during the 16th Century Price Revolution," *Climatic Change* 43:1 (1999): 303-321.
3. Bell, Dean Phillip. "The Little Ice Age and the Jews: Environmental History and the Mercurial Nature of Jewish-Christian Relations in Early Modern Germany." *AJS Review* 32:1 (2008): 1-27.
4. Wolfgang Behringer, "Climatic Change and Witch Hunting: The Impact of the Little Ice Age on Mentalities," *Climatic Change* 43 (1999): 335-51.
5. Zhang, David D. and Harry F. Lee, "Climate Change, Food Shortage and War: A Quantitative Case Study in China during 1500-1800," *Catrina* 5:1 (2010): 63-71.

October 24: The "Global Crisis:" triggers and traumas around the world.

Readings:

1. Parker, *Global Crisis*, 211-483.
2. Cullen, Karen J., Christopher A. Whatley, and Mary Young. "King William's Ill Years: new evidence on the impact of scarcity and harvest failure during the crisis of the 1690s on Tayside." *Scottish Historical Review* 85:2 (2006): 250-276.

October 31: Climate change, disaster and memory.

ESSAY DRAFT DUE

Readings:

1. Christian Pfister, "The Monster Swallows You": Disaster Memory and Risk Culture in Western Europe, 1500-2000, *Rachel Carson Center Perspectives* 2011/1 (Munich: Rachel Carson Center, 2011).
2. Frank Oberholzner, "From an Act of God to an Insurable Risk: The Change in the Perception of Hailstorms and Thunderstorms since the Early Modern Period," *Environment and History* 17 (2011): 133-52.
3. Adam Sundberg, "Claiming the Past: History, Memory, and Innovation Following the Christmas Flood of 1717," *Environmental History* 20 (2015): 238-61.
4. Marie Jeanne Royer, "'The ice shards are gone': traditional ecological knowledge of climate and culture among the Cree of the Eastern James Bay, Canada." In *Cultural Histories, Memories, and Extreme Weather: A Historical Geography Perspectives*. Edited by Georgina H. Endfield and Lucy Veale. London: Routledge, 2018.

5. Vladimir Jankovic and James Rodger Fleming, "Post-scripting extreme weather: textuality, eventhood, resilience." In *Cultural Histories, Memories, and Extreme Weather: A Historical Geography Perspectives*.

November 7: Resilience and adaptation in the face of the Little Ice Age.

Readings:

1. Degroot, *The Frigid Golden Age*. Introduction, conclusion, and parts one or two (your choice).
2. Parker, *Global Crisis*, 484-506; 587-667.

November 14: Art, literature, and technology in a chilly climate.

ESSAY CRITIQUE DUE

Readings:

1. Degroot, *The Frigid Golden Age*, part three.
2. Markley, Robert. "Summer's Lease: Shakespeare in the Little Ice Age," in *Early Modern Ecocriticism: From the Florentine Codex to Shakespeare*, ed. Thomas Hallock, Ivo Kamps, and Karen Raber (New York: Palgrave Macmillan, 2008).
3. Adam Trexler and Adeline Johns-Putra, "Climate Change in Literature and Literary Criticism," *Wiley Interdisciplinary Reviews: Climate Change* 2 (2011): 185–200.

November 21: Perceiving (anthropogenic) warming in the New World.

Readings:

1. Zilberstein, *A Temperate Empire*.

November 28: The Year without a Summer: Tambora and the last gasp of the Little Ice Age.

Readings:

1. D'Arcy Wood, *Tambora*.

December 5: The Little Ice Age and global warming.

ESSAY FINAL DRAFT DUE

Readings:

1. Parker, *Global Crisis*, 668-697.

2. Dagomar Degroot, "Will Climate Change Cause Conflict in the Arctic? Searching for Answers in the Past." HistoricalClimatology.com.
3. McNeill, J. R. "Can History Help Us with Global Warming?" In *Climatic Cataclysm: The Foreign Policy and National Security Implications of Climate Change*, edited by Kurt M. Campbell, 26-48. Washington, DC: Brookings Institution Press, 2008. See course website.
4. Mike Hulme, "Reducing the Future to Climate: A Story of Climate Determinism and Reductionism," *Osiris* 26 (2011): 245–66.