Department of History, Western University

History 3721G – Climate of the Past, Present, & Future

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Tuesdays, 2:30-5:30, Stevenson Hall 3166

Prof. Alan MacEachern
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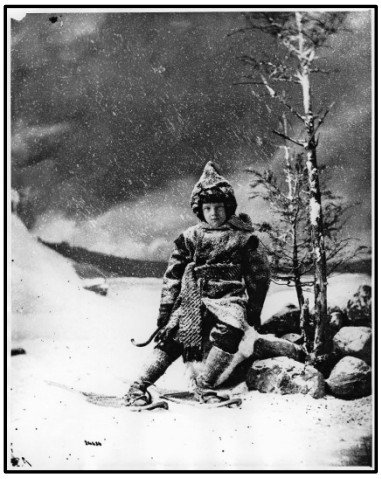
office hours Thursdays 9:30-11:30 or by appointment



William Notman, *Young Canada*, 1867

Course description: This seminar course explores the role of climate in history, from the last ice age to the present. Using the tools of environmental history, we examine how the climate has changed, how it has influenced human societies and how, now more than ever, humans are influencing it. Beyond that broad span, the course has three somewhat inter-related emphases:

- *Canada's relationship with climate.* From Voltaire's taunt about "a few acres of snow" to the true North strong and free, climate has figured heavily in our national development and identity.
- *The development of meteorology.* Advances in meteorology in the mid-19th century meant not only that humans, for the first time, were able to make rudimentary weather predictions, but that they gained much better understanding of longer-term climate trends.
- *The discovery of global warming.* Scientists in the 20th century discovered that global temperatures and CO_2 levels were on the rise, coincident with the rise of fossil fuel use. Historical data – whether from ice cores, lake sediments, or more traditional textual sources such as farmer's diaries or photographs showing glacial retreat – has proven critical in documenting and understanding climate change.

The first two hours of class involve a short lecture followed by seminar discussion. In the third hour, we will work on assignments, in particular the archival collection that will be the basis of your major research essay: the Environment Canada archival collection of 1820s-1960s

meteorological and climatological material that was recently transferred to Western. You will be the first students – in some cases the first researchers – to use these sources.

Learning outcomes:
Upon completion of this course, students will be able to

- Identify major concepts and periods in the history of climate, climatology, and meteorology,
- discuss the role of climate in the evolution of Canada's national identity,
- consider contemporary environmental issues from a long-term perspective,
- assess and analyze secondary sources, including their argument, methods, strengths, limitations, and significance for the field and/or implications for broader public discourse,
- assess and analyze primary source texts, utilizing them in an original research essay, and
- continue to improve your writing skills.

Required texts:

- Wolfgang Behringer, *A Cultural History of Climate* (Cambridge: Polity Press, 2010).
- Spencer Weart, *The Discovery of Global Warming*, revised ed. (Cambridge, MA: Harvard University Press, 2008).

Supplementary course material is available through the course OWL site.

Grade breakdown:
All assignments will be discussed further in class.

- ***Participation 20%***
  Student participation is essential to the success of a seminar course. You are expected to read all assigned readings and participate in each class. Attendance is not in and of itself participation: participation demands speaking, and speaking demands knowledge of the material under discussion.

- ***Primary research short essay xxxx 15%***
  You are to choose from a series of excerpts, provided to you by the instructor, of 17th-19th century European explorers, settlers, priests, and others reporting on the weather or climate of Canada. In 750 words, discuss how the writer was interpreting Canadian climate/weather and in particular how that interpretation related to understanding of climate/weather in (and of) Europe at the time.

- ***Primary research major essay***
  Students will utilize primary sources as the foundation of a 2500-word research essay. Students may use:
  an item or items from the Environment Canada collection acquired by Western Archives on long-term loan in 2014. The collection consists of 1000 volumes of the Meteorological Service of Canada's extant meteorological observations from its beginnings until 1960, and another 250 items, from the 1820s on, related to the history of Canadian climate and meteorology,
  or

some other documents or documents, determined in consultation with the instructor, related to a defining moment in the international debate on global warming.

Presentation ***xxxx*** ***5%***
Toward the end of the course (weeks 8-9), you will give a 10-minute presentation that introduces your draft research essay, raises any issues you are facing, and opens up discussion where you can seek input for improvement. The draft need not be submitted to either the students or professor, although you are free to provide a handout.
Initial draft ***xxxx*** ***10%***
You will submit a draft of your completed essay, to be graded and returned by 27 March at the latest.
Final draft ***xxxx*** ***25%***

- ***Take-home exam*** ***xxxx*** ***25%***
  This exam will be distributed on xxxx, to be completed and returned within a week. Students will be given six questions and asked to write essays on three.

Schedule and readings:

- xxxx **1. Introductions**
  - Dipesh Chakrabarty, "The Climate of History: Four Theses," *Critical Inquiry* 35 no.2 (2009), 197-222.

- xxxx **2. Climate: what we know, how we know it**
  - The AAAS Climate Science Panel, *What We Know: The Reality, Risks, and Response to Climate Change* (2014).
  - Wolfgang Behringer, *A Cultural History of Climate* (Cambridge: Polity Press, 2010) [henceforth, Behringer], Introduction and ch.1.

- xxxx **3. Climate change, adaptability & collapse during the Holocene**
  - Behringer, ch.2
  - Jared Diamond, *Collapse: How Societies Choose to Fail or Succeed*, revised ed. (New York: Penguin, 2011), ch.8.
  - Joel Berglund, "Did the Medieval Norse Society in Greenland Really Fail?" in *Questioning Collapse: Human Resilience, Ecological Vulnerability, and the Aftermath of Empire*, eds. Patricia A. McAnany and Norman Yoffee (New York: Cambridge University Press, 2010), 45–70.

- xxxx **4. The Little Ice Age**
  - Behringer, ch.3-4

- xxxx **5. The Little Ice Age & why it matters**

- Morgan Kelly and Cormac Ó Gráda, "The Waning of the Little Ice Age: Climate Change in Early Modern Europe," *Journal of Interdisciplinary History* 44/3 (Winter 2014), 301-25.
- Sam White, "The Real Little Ice Age," *Journal of Interdisciplinary History* 44/3 (Winter 2014), 327-52.
- Morgan Kelly and Cormac Ó Gráda, "Debating the Little Ice Age," *Journal of Interdisciplinary History* 45/1 (Summer 2014), 57-68.

xxxx **6. The Little Ice Age in Canada**

- William R. Fitzgerald, "Contact, Neutral Iroquoian Transformation, and The Little Ice Age." eds., Robert C. Mainfort et al. *Societies in eclipse: Archaeology of the Eastern Woodlands Indians, A.D. 1400-1700* (Tuscaloosa: University of Alabama Press, 2010), 37-47.
- Thomas Wickman, "'Winters Embittered with Hardships': Severe Cold, Wabanaki Power, and English Adjustments, 1690-1710," *The William and Mary Quarterly*, 72 no.1 (Jan 2015), 57-98.
- Liza Piper, "Colloquial Meteorology," *Method and Meaning in Canadian Environmental History*, eds. Alan MacEachern and William J. Turkel (Toronto: Nelson, 2009), 102-23.

xxxx **7. Climate & Canadian identity**

- Carl Berger, "The True North Strong and Free," *Nationalism in Canada*, ed, Peter Russell, ed. (Toronto: McGraw-Hill Co., 1966), 3-26.
- Judith Fingard, "The Winter's Tale: The Seasonal Contours of Pre-Industrial Poverty in British North America, 1815-1860," *Historical Papers of the Canadian Historical Association*, 9 no.1 (1974), 65-94.
- Joshua MacFadyen, "Cold Comfort: A History of Firewood, Ice Storms, and Hypothermia in Canada," NiCHE website, January 2014.

xxxx **8. A science of the Canadian weather (1)**

- Suzanne Zeller, *Inventing Canada: Early Victorian Science and the Idea of a Transcontinental Nation* (Toronto: University of Toronto Press, 1987), ch. 7-8.

xxxx **9. A science of the Canadian weather (2) / Energy transitions**

- Zeller, ch.9.
- Behringer, ch.5.

xxxx **10. The discovery of global warming (1)**

- Paul J. Crutzen and Eugene F. Stoermer, "The 'Anthropocene,'" *Global Change Newsletter* 41(2000), 17-18.
- Weart, ch.1-4.

xxxx **11. The discovery of global warming (2)**

- Conference proceedings from *The Changing Atmosphere: Implications for Global Security*, Toronto, June 1988, 31-4 and 59-67.
- Weart, ch.5-9.
- Behringer, ch.6.

xxxx **12. A more intentional anthropocene?**

- Garrett Hardin, "The Tragedy of the Commons," *Science*, 162 (1968), 1243-8.
- James R. Fleming, "The Climate Engineers," *Wilson Quarterly* 31 (2007), 46-60.
- Michael Specter, "Climate by Numbers," *The New Yorker* November 11, 2013.

xxxx **13. Conclusions**

- Qapirangajuq: Indigenous Knowledge and Climate Change.
- Laurence C. Smith, *The World in 2050: Four Forces Shaping Civilization's Northern Future* (New York: Dutton, 2010), 145-70.
- Laurel Sefton MacDowell, "The North and Climate Change," from *An Environmental History of Canada* (Vancouver: UBC Press, 2012), in particular 318-23.