

STS Perspectives on Weather Knowledge

Roger Turner

Thursdays, 2-5pm.

Course Description

Polyvalent phenomena like the weather reveal how modern technocratic societies use scientific and technical knowledge to manage the tightly coupled infrastructure necessary for industrial life on an increasingly crowded planet. Scholars have begun to approach the air from disciplinary perspectives as diverse as environmental history, cultural geography, sociology of science, and the history of medicine. In this graduate reading seminar, we will focus on the work of a cadre of rising scholars who have developed new insights into weather and meteorology, tackling topics like selling the weather, atmospheric science's central role in the development of computing, and the politics of public prediction. We'll also map a few of the storm fronts making their way across the historiography. As we are confronted with environmental crises like global warming and Hurricane Katrina, weather studies have become a barometer of the changing scholarly climate. In this class, you'll learn how to untangle this metaphor.

Assignments

Book Reviews: In addition to reading and participating in class discussion, you will complete two or three reviews (800-1200 words) of works on the history of weather, climate, and meteorology not covered on the syllabus. Please follow the review format described by a major journal in our field (e.g. *Isis*, *Social Studies of Science*, *Technology & Culture*). I will provide a list of books available for review. One or two students will present their reviews each week, circulated to the class by email at least a day before we meet.

Final Paper: Book Proposal. There are a wealth of topics and unexplored sources for new social studies of the weather and atmospheric science. In the final paper, I'd like to know what topic and approach you'd find most interesting. Your task is to write a mock book proposal, describing the subject, the intellectual approach, and the kinds of sources/research you would use to develop the argument. You should also include what kinds of classes might assign this book for teaching purposes, and what existing books and scholarship bear on your topic.

Schedule and Readings

Week 1. Introductory discussion: Why current interest in the atmosphere?

Week 2. Foundational Scholar: Jim Fleming

Meteorology in America, 1800-1870, James Rodger Fleming (Johns Hopkins Press, 1990).

Week 3. Foundational Scholar: Robert Marc Friedman

Appropriating the Weather: Vilhelm Bjerknes and the Construction of a Modern Meteorology, Robert Marc Friedman (Cornell University Press, 1990).

Week 4. Vlad Jankovic's Expansive Vision of Meteorology

Reading The Skies: A Cultural History of English Weather, 1650-1820, Vladimir Jankovic (University of Chicago Press, 2001).

“Intimate Climates: From Skins to Street, Soirées to Societies,” in *Intimate Universality: Local and Global Themes in the History of Weather and Climate*, edited by James Rodger Fleming, Vladimir Jankovic, and Deborah R. Coen (Science History Publications, 2006).

Week 5. Jan Golinski's Reply

The Climate of Enlightenment, Jan Golinski (University of Chicago Press, 2007)

Week 6. Conevery Bolton Valencius Integrates Popular Culture, Environmental History, and History of Medicine

The Health of the Country. Conevery Bolton Valencius, (Basic Books, 2002).

Week 7. The Tensions of Public Prediction: Katey Anderson

Predicting the Weather: Victorians and the Science of Meteorology, Katharine Anderson (University of Chicago Press, 2005).

Week 8. Debbie Coen on the generations of Austrian Climate Science

Vienna in the Age of Uncertainty: Science, Liberalism, and Private Life, Deborah R. Coen (University of Chicago press, 2007).

Deborah R. Coen, “Scaling Down: Mapping the ‘Austrian’ Climate,” in *Intimate Universality: Local and Global Themes in the History of Weather and Climate*, edited by James Rodger Fleming, Vladimir Jankovic, and Deborah R. Coen (Science History Publications, 2006).

Week 9. Two Views of Computing the Atmosphere, Kris Harper and Paul Edwards

Weather by the Numbers: The Genesis of Modern Meteorology, Kristine C. Harper (MIT Press, 2008).

Paul N. Edwards, “Meteorology as Infrastructural Globalism,” in *Global Power Knowledge: Science and Technology in International Affairs*. *Osiris*, v. 21 (2006), John Krige, and Kai-Henrik Barth (Eds.): 229-250.

Paul N. Edwards, “Representing the Global Atmosphere: Computer Models, Data, and Knowledge about Climate Change,” in *Changing the Atmosphere: Expert Knowledge and Environmental Governance*, edited by C. A. Miller and P. N. Edwards. (Cambridge, MA: MIT Press, 2001).

Week 10. “and now Erik Conway with the Weather from Space...”

Atmospheric Science at NASA: A History, Erik M. Conway (Johns Hopkins University Press, 2008).

Week 11. Sell the weather? Sam Randall and Ted Steinberg show how people try
“Cloud Busting in Fulton County,” in *Slide Mountain: Or, The Folly of Owning Nature*, Theodore Steinberg (California, 1996).

Pollard, J.S., Oldfield, J., Randalls, S., Thornes, J.E. (2008). “Firm finances, weather derivatives and geography.” *Geoforum* 39(2), 616-624.

Thornes, J.E., Randalls, S. (2007). “Commodifying the atmosphere: 'pennies from heaven'?” *Geografiska Annaler: A* 89(4), 273-285.

Week 12. Gary Fine explores the social dynamics of Weather Forecasting
Authors of the Storm: Meteorologists and the Culture of Prediction, Gary Alan Fine (University of Chicago Press, 2007)

Week 13. Weather as News: Views from Media Studies

Kris M. Wilson, “Television Weathercasters as Prominent Science Communicators.” *Public Understanding of Science*, v. 17, n.1, p. 73-87. 2008.

Roger Turner, “Keeping Meteorology Masculine: The American Meteorological Society’s Response to TV ‘Weather Girls’ in the 1950s.” *Weather, Local Knowledge and Everyday Life: Issues in Integrated Climate Studies*, Vladimir Jankovic and Christina Barboza, eds (2009): 147-158.

Marita Sturken, “Weather Media and Homeland Security: Selling Preparedness in a Volatile World,” “Understanding Katrina,” Social Science Research Council, 2006 (<http://understandingkatrina.ssrc.org/Sturken/>)

Sample Books for Review

James Rodger Fleming, *Historical Perspectives on Climate Change* (Hopkins, 1998).

James Rodger Fleming, *The Callendar Effect: The Life and Times of Guy Stewart Callendar (1898-1964), the Scientist Who Established the Carbon Dioxide Theory of Climate Change* (American Meteorological Society, 2007)

Robert Henson. *Television Weathercasting: A History*. (MacFarland, 1990).

William B. Meyer, *Americans and their Weather* (Oxford ; New York : Oxford University Press, 2000).

Frederik Nebeker, *Calculating the Weather: Meteorology in the 20th Century* (Academic Press, 1995).

Frederick Sargent II, *Hippocratic Heritage: A History of Ideas about Weather and Human Health* (New York: Pergamon Press, 1982).

Clark C. Spence, *The Rainmakers: American "Pluviculture" to World War II*. Lincoln: University of Nebraska Press. 1980.

Liba Taub, *Ancient Meteorology* (Cambridge University Press, 2004).

Spencer Weart, *The Discovery of Global Warming*, (Harvard University Press, 2003).

Donald R. Whitnah, *A History of the United States Weather Bureau*. Urbana-Champaign: University of Illinois Press. 1961.

Collected Essays

Intimate Universality: Local and Global Themes in the History of Weather and Climate, James Rodger Fleming, Vladimir Jankovic, and Deborah Coen, eds. (Science History Publications, 2006)

Historical Essays on Meteorology 1919-1995, James Rodger Fleming, ed. (American Meteorological Society, 1996).

Changing the Atmosphere: Expert Knowledge and Environmental Governance, edited by Clark Miller and Paul N. Edwards (MIT Press, 2001)