

History 419: The Cold War and Climate Change
Fall 2013

Wednesday 2-5
Room: TBA

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Humanities 309
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Office hours: by appointment

Grading: participation, weekly assignment, and term paper are each worth one third of the total course grade.

Participation: If you attend class, contribute to discussion, and demonstrate a working knowledge of the readings you will get full participation credit.

Weekly assignment: Each week I would like you to locate a contemporary primary source relevant to the week's assigned readings. Use your imagination, but good sources would be editorials or articles in *Science*, *Nature*, *Physics Today*, *Bulletin of the Atomic Scientists*, *New York Times*, *Time*, etc. You should post a pdf or scan of your source on the course Owl-Space site by Sunday evening each week. You may not submit the same source as another student – so submit early rather than often!

Final paper: In lieu of a final exam; due by midnight the last day of exam period. Papers may cover any aspect of the connection between the Cold War and climate change – they need not be historical, nor need they focus on science and technology.

Note: any student with a documented disability needing academic adjustment or accommodations is requested to speak with me during the first two weeks of class. All discussions will remain confidential. Students with disabilities should also contact Disabled Student Services in the Ley Student Center.

Learning outcomes: By the end of this course, you should be able to articulate the longer-term trends that have contributed to humans' ability to perceive and measure anthropogenic climate change, as well as to our inability to do much about it. I fully expect that substantive content to disappear quickly from your consciousness after you graduate, but the more important outcome of this course is that you will be a more informed citizen when thinking about climate change's human dimensions: its causes, our knowledge of it, causes of climate denialism, etc.

Plagiarism and the Honor Code: Every assignment in this course is covered by Rice's Honor Code. That means that you **must** adhere to standard US academic practice when it comes to originality of work and citation of sources. **Any** time you quote from a source, you must cite that source and you must indicate that you are quoting rather than paraphrasing. Any time you paraphrase a source, you must acknowledge it. If you rely on an idea borrowed from someone else, you should indicate that. Whatever citation style you choose should be (A) consistent and (B) clear enough that your reader can track down your source and verify it.

Week of 8/28: Course Introduction (reading optional)

Paul Sabin, “‘The Ultimate Environmental Dilemma’: Making a Place for Historians in the Climate Change and Energy Debates,” *Environmental History* 15 (2010): 76-93.

Timothy Mitchell, “Carbon Democracy,” *Economy and Society* 38.3 (2009): 399-432.

Week of 9/4: Understandings of Climate Change at/before the Cold War’s Outset

Spencer R. Weart, “Global Warming, Cold War, and the Evolution of Research Plans,” *Historical Studies in the Physical and Biological Sciences* 27.2 (1997): 319-356.

Paul N. Edwards, “History of Climate Modeling,” *Wiley Interdisciplinary Reviews: Climate Change* 2 (2011): 128-139.

Ronald E. Doel, “Cold Conflict: The Pentagon’s Fascination with the Arctic (and Climate Change) in the Early Cold War,” in *LASHIPA: History of Large Scale Resource Exploitation in Polar Areas* (Groningen: University of Groningen, 2012): 147-160.

Week of 9/11: The Emergence of Earth and Climate as Military/Scientific Objects

Ronald E. Doel, “Constituting the Postwar Earth Sciences: The Military’s Influence on the Environmental Sciences in the USA after 1945,” *Social Studies of Science* 33.5 (2003): 635-666.

John Cloud, “Crossing the Olentangy River: The Figure of the Earth and the Military-Industrial-Academic Complex, 1947-1972,” *Studies in the History and Philosophy of Modern Physics* 31.3 (2000): 371-404.

Ryan Edgington, “An ‘All-Seeing Flying Eye’: V-2 Rockets and the Promises of Earth Photography,” *History and Technology* 28.3 (2012): 363-371.

Week of 9/18: Nuclear Weapons and the Science of Earth and Climate

Paul N. Edwards, “Entangled Histories: Climate Science and Nuclear Weapons Research,” *Bulletin of the Atomic Scientists* 68.4 (2012): 28-40.

Laura A. Bruno, “The Bequest of the Nuclear Battlefield: Science, Nature, and the Atom during the First Decade of the Cold War,” *Historical Studies in the Physical and Biological Sciences* 33.2 (2003): 237-260.

Kai-Henrik Barth, “The Politics of Seismology: Nuclear Testing, Arms Control, and the Transformation of a Discipline,” *Social Studies of Science* 33.5 (2003): 743-781.

Week of 9/25: Nuclear Weapons and Modification of the Globe

Ronald Rainger, “‘A Wonderful Oceanographic Tool’: The Atomic Bomb, Radioactivity, and the Development of American Oceanography,” in *The Machine in Neptune’s Garden: Historical Perspectives on Technology and the Marine Environment*, ed. Helen Rozwadowski and David van Keuren (Sagamore Beach, MA: Science History Publications, 2004): 96-132.

Mark D. Merlin and Ricardo M. Gonzalez, “Environmental Impacts of Nuclear Testing in Remote Oceania,” in *Environmental Histories of the Cold War*, ed. J.R. McNeill and Corinna R. Unger (New York: Cambridge University Press, 2010): 167-202.

Scott Kirsch and Don Mitchell, “Earth-Moving as the ‘Measure of Man’: Edward Teller, Geographical Engineering, and the Matter of Progress,” *Social Text* 54 (1998): 100-134.

Week of 10/2: Environmental Warfare: Modifying Climate and Biome on Purpose

Kristine C. Harper, “Climate Control: United States Weather Modification in the Cold War and beyond,” *Endeavour* 32.1 (2008): 20-26

Ronald E. Doel and Kristine C. Harper, “Prometheus Unleashed: Science as a Diplomatic Weapon in the Lyndon B. Johnson Administration,” *Osiris* 21 (2006): 66-85.

Jacob Darwin Hamblin, “A Global Contamination Zone: Early Cold War Planning for Environmental Warfare,” in *Environmental Histories of the Cold War*, ed. J.R. McNeill and Corinna R. Unger (New York: Cambridge University Press, 2010): 85-114.

David Zierler, “Against Protocol: Ecocide, Détente, and the Question of Chemical Warfare in Vietnam, 1969-1975,” in *Environmental Histories of the Cold War*, ed. J.R. McNeill and Corinna R. Unger (New York: Cambridge University Press, 2010): 227-256.

Week of 10/9: Measuring and Debating the Global/Local Risks of Nuclear Testing

Jacob Darwin Hamblin, “‘A Dispassionate and Objective Effort’: Negotiating the First Study on the Biological Effects of Atomic Radiation,” *Journal of the History of Biology* 40 (2007): 147-177.

Toshihiro Higuchi, “Atmosphere Nuclear Testing and the Debate on Risk Knowledge in Cold War America, 1945-1963,” in *Environmental Histories of the Cold War*, ed. J.R. McNeill and Corinna R. Unger (New York: Cambridge University Press, 2010): 301-322.

Scott Kirsch, "Harold Knapp and the Geography of Normal Controversy: Radioiodine in the Historical Environment," *Osiris* 19 (2004): 167-181.

Week of 10/16: The Erosion of the Establishment's Scientific Authority

Michael Egan, "The Social Significance of the Environmental Crisis: Barry Commoner's *The Closing Circle*," *Organization & Environment* 15.4 (2002): 443-457.

Michael Egan, "Why Barry Commoner Matters," *Organization & Environment* 22.1 (2009): 6-18.

Ralph H. Lutts, "Chemical Fallout: Rachel Carson's *Silent Spring*, Radioactive Fallout, and the Environmental Movement," *Environmental Review* 9.3 (1985): 210-225.

J. Samuel Walker, "The Atomic Energy Commission and the Politics of Radiation Protection, 1967-1971," *Isis* 85 (1994): 57-78.

Week of 10/23: Communes and Space Colonies as Cold War Escapism

Andrew Kirk, "Appropriating Technology: *The Whole Earth Catalog* and Counterculture Environmental Politics," *Environmental History Review* 6.3 (2001): 374-394.

Peder Anker, "The Ecological Colonization of Space," *Environmental History* 10 (2005): 239-268.

Sabine Höhler, "The Environment as a Life Support System: The Case of Biosphere 2," *History and Technology* 26 (2010): 39-58.

Week of 10/30: Proxy Wars, the "Third" World, and the Scarcity Debate

Jacob Darwin Hamblin, "Let There Be Light ... and Bread: the United Nations, the Developing World, and Atomic Energy's Green Revolution," *History and Technology* 25 (2009): 25-48.

Pierre Desrochers and Christine Hoffbauer, "The Post War Intellectual Roots of the Population Bomb: Fairfield Osborn's 'Our Plundered Planet' and William Vogt's 'Road to Survival' in Retrospect," *The Electronic Journal of Sustainable Development* 1 (2009): 37-61.

Lee Jared Vinsel, "The Crusade for Credible Energy Information and Analysis in the United States, 1973-1982," *History and Technology* 28 (2012): 149-176.

Week of 11/6: Steering Cold War Infrastructures toward Environmental Issues

Jacob Darwin Hamblin, "Environmentalism for the Atlantic Alliance: NATO's Experiment with the 'Challenges of Modern Society,'" *Environmental History* (2010): 54-75.

Frank N. Laird, "Constructing the Future: Advocating Energy Technologies in the Cold War," *Technology and Culture* 44 (2003): 27-49.

Matthew Wisnioski, "Inside 'the System': Engineers, Scientists, and the Boundaries of Social Protest in the Long 1960s," *History and Technology* 19 (2003): 313-333.

Week of 11/13: The Space Race and the (In)Visibility of Climate Change

Erik M. Conway, "Drowning in Data: Satellite Oceanography and Information Overload in the Earth Sciences," *Historical Studies in the Physical and Biological Sciences* 37.1 (2006): 127-151.

Kim McQuaid, "Selling the Space Age: NASA and Earth's Environment, 1959-1990," *Environment and History* 12.2 (2006): 127-163.

Roger D. Launius, "Managing the Unmanageable: Apollo, Space Age Management, and American Social Problems," *Space Policy* 24 (2008): 158-165.

Jeffrey Womack, "Failure to Launch: NASA's Solar Powered Dream" (forthcoming).

Week of 11/20: The Coldest War – Winters Asteroidal, Volcanic, Nuclear

Doug Davis, "'A Hundred Million Hydrogen Bombs': Total War in the Fossil Record," *Configurations* 9.3 (2001): 461-508.

Matthias Dörries, "The Politics of Atmospheric Sciences: 'Nuclear Winter' and Global Climate Change," *Osiris* 26 (2011): 198-223.

Lawrence Badash, "Nuclear Winter: Scientists in the Political Arena," *Physics in Perspective* 3 (2001): 76-105.

Week of 11/27: Climate Denialism in a Cold War Context

Naomi Oreskes, Erik M. Conway, and Matthew Shindell, "From Chicken Little to Dr. Pangloss: William Nierenberg, Global Warming, and the Social Deconstruction of Scientific Knowledge," *Historical Studies in the Natural Sciences* 38.1 (2008): 109-152.

Naomi Oreskes and Erik M. Conway, "Challenging Knowledge: How Climate Science Became a Victim of the Cold War," in *Agnotology: The Making and Unmaking of Ignorance* (Stanford: Stanford University Press, 2008): 55-89.

Myanna Lahsen, "Experiences of Modernity in the Greenhouse: A Cultural Analysis of a Physicist 'Trio' Supporting the Backlash against Global Warming," *Global Environmental Change* 18 (2008): 204-219.

Week of 12/4: Legacies: Geoengineering and Solar Power [among others]

James Rodger Fleming, "The Pathological History of Weather and Climate Modification: Three Cycles of Promise and Hype," *Historical Studies in the Physical and Biological Sciences* 37 (2006): 3-25.

James R. Fleming, "The Climate Engineers," *The Wilson Quarterly* 31.2 (2007): 46-60.

Andrew Schrank, "Green Capitalists in a Purple State: Sandia National Laboratories and the Renewable Energy Industry in New Mexico," in *State of Innovation: The US Government's Role in Technology Development*, ed. Fred Block and Matthew R. Keller (Boulder: Paradigm, 2011): 96-108.

Chris P. Knight, "Failure to Deploy: Solar Photovoltaic Policy in the United States," in *State of Innovation: The US Government's Role in Technology Development*, ed. Fred Block and Matthew R. Keller (Boulder: Paradigm, 2011): 173-195.