

## Climate Change in the West: A History of the Future

History 243J  
Earth Systems 143  
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### COURSE DESCRIPTION

Global warming is changing the American West. Bigger more intense forest fires, dangerous summer heat waves, less water for cities and farms, species on the move, and rising seas are just some of the effects. But this region is no stranger to dramatic environmental change and human adaptation to harsh environments. How can history help us think more clearly about the current global warming crisis and our choices for the future? We will move from a deep history of climate change in California and the West, up to our current global warming crisis through scientific research, historical sources, histories of environmental change and human adaptation, and consider future visions through science fictions and prognostications.

### METHODOLOGY

California and the American West will be the focus for this course, although we will also consider transnational and global scales of climate change for context. The state of California and the region of the American West are tractable units of analysis, rich in a wide variety of historical sources and data, as well as a robust, diverse secondary literature in a variety of fields. Considering the state and the region will also allow for revealing comparisons and analysis across jurisdictional boundaries, regional scales, and ecological zones. Each week we will closely examine primary sources, as well as the secondary literature, and review sources of data, which students may choose to use for their final projects.

### REQUIRED COURSE READINGS

Course Reader: An online course reader will link to the articles and scientific reports included in the weekly readings.

Alfred Crosby, *Children of the Sun: A History of Humanity's Unappeasable Appetite for Energy*.

Tim Flannery, *The Eternal Frontier: An Ecological History of North America and Its Peoples*.

Ursula K. Le Guin, *Always Coming Home*.

Linda Nash, *Inescapable Ecologies: A History of Environment, Disease, and Knowledge*.  
Jared Orsi, *Hazardous Metropolis: Flooding and Urban Ecology in Los Angeles*.  
James Lawrence Powell, *Lake Powell, Global Warming, and the Future of Water in the West*.  
Marc Reisner, *A Dangerous Place: California's Unsettling Fate*.  
Upton Sinclair, *Oil!*  
Spencer Weart, *The Discovery of Global Warming*.

## **SUGGESTED READINGS FOR REVIEW ESSAY (ASSIGNMENT #1)**

Reid Bryson and Thomas Murray, *Climates of Hunger*.  
Michael P. Cohen, *A Garden of Bristlecones: Tales of Change in the Great Basin*.  
William deBuys and Joan Myers, *Salt Dreams: Land and Water in Low-Down California*.  
Kirstin Dow and Thomas Downing, *The Atlas of Climate Change: Mapping the World's Greatest Challenge*.  
James Roger Fleming, *Historical Perspectives on Climate Change*.  
Elizabeth Kolbert, *Field Notes from a Catastrophe*.  
Emmanuel Le Roy Ladurie, *Times of Feast, Times of Famine: A History of Climate Since the Year 1000*.  
Bill McKibben, *The End of Nature*.  
J.R. McNeil, *Something New Under the Sun: An Environmental History of the Twentieth-Century World*.  
Terry Tamminen, *Lives Per Gallon: The True Cost of Our Oil Addiction*.  
Ian Tyrell, *True Gardens of the Gods: California-Australian Environmental Reform, 1860-1930*.  
Donald Worster, *Rivers of Empire: Water, Aridity, and the Growth of the American West*.

## **ASSIGNMENTS & GRADING**

Participation: 20 percent  
Weekly reading response: 20 percent  
Writing assignment #1 (review essay): 20 percent  
Writing assignment #2 (research paper and presentation): 40 percent

**Participation.** Participation in class discussions and in our online discussion forum.

**Weekly reading response.** This is a 1-2 page critical assessment of the relationship between the primary and secondary source readings for the week to be posted in our online discussion forum.

**Writing assignment #1: Review essay.** This is a 6-10 page essay in which you will review one book — a secondary source — while bringing at least one primary source into conversation with the secondary source in the essay. The secondary source can either be

selected from a list provided or any other book you choose with prior approval. You will determine the primary source to engage in your essay. It should provide significant leverage for your argument in your review rather than being a trivial detail.

**Writing assignment #2: Research paper and final presentation.** This assignment consists of two parts, a research paper and an in-class presentation of your research. The presentation will constitute 25 percent of your grade for the assignment and 25 percent of your overall participation grade in the course. You have two options for this assignment: either an individual research paper or a collaborative research project.

**Option 1: Individual research paper.** This is a research paper in history. It should be at least 10 pages long. It must answer a historical “so what?” It may or may not have current policy implications or critiques. So it could also speak to a present “so what?” The best papers could do both. You will be required to complete this assignment in four stages: 1) a short, 1-page proposal, 2) a thesis statement and outline, 3) a draft, and 4) a revision.

**Option 2: Collaborative research project.** This is a research paper written by more than one student. It is designed to give students who want to work in a collaborative group, which is often how research proceeds in a field like climate change. It will be especially suited for students who want to take undertake an intensive examination of data as part of their research. This option will require prior approval. And the expectations for the final product will be proportionally greater. For example, if two people work together, you will be expected to produce the equivalent of a 20-page paper. But the final requirement will not simply be determined by a formulaic page-count. The scope of the research and the final product will need to be appropriate for the collaboration. Finally, each student on the collaborative team will be responsible for the whole team and all participants will receive the same grade.

## **COURSE SCHEDULE**

### **Week 1: What Do We Want from Nature? What Do We Get?**

Primary source reading: Ursula Le Guin, *Always Coming Home*.

Secondary source reading: Hugh Raup, “The View from John Sanderson’s Farm,” *Forest History*, and Jon Christensen, “Environmental Prospects in the 21<sup>st</sup> Century,” in *A Companion to California History*, ed. William Deverell and David Igler (Blackwell, 2008).

Data: A sampling of projections and predictions.

### **Week 2: Extreme Climate Change in the Past**

Primary source reading: Scientific reviews of extreme climate change in the last several thousand years, including rapid sea level rise in the San Francisco Bay, and the Little Ice Age.

Secondary source reading: Tim Flannery, *The Eternal Frontier: An Ecological History of North American and Its Peoples*.

Data: Tree ring data.

### **Week 3: Recent Global Warming**

Primary source readings: Intergovernmental Panel on Climate Change, *Working Group II Report: Impacts, Adaptation and Vulnerability*.

Secondary source readings: Roger Pielke, Jr. and Daniel Sarewitz, "Bringing Society Back Into the Climate Debate," *Population and Environment*, January 2005.

Data: Climate change impact data.

### **Week 4: Climate and Health**

#### **WRITING ASSIGNMENT #1 DUE**

Primary source reading: Scientific papers on human health and climate change.

Secondary source reading: Linda Nash, *Inescapable Ecologies*.

Data: Health statistics.

### **Week 5: Measuring Change**

#### **FINAL PROJECT PROPOSALS DUE.**

Primary source readings: Scientific papers from the Grinnell Resurvey Project and Scott Loarie, et al.

Secondary source readings: Spencer Weart, *The Discovery of Global Warming*, and Michelle Nijhuis, "The Ghosts of Yosemite," *High Country News*, 17 October 2005.

Data: Consortium of California Herbaria, botanical specimen records from 1840-present.

Field trip: Jasper Ridge Biological Preserve.

### **Week 6: Energy**

Primary source readings: Upton Sinclair, *Oil!*

Secondary source readings: Alfred Crosby, *Children of the Sun*

Data: Energy production and consumption.

## **Week 7: Water in the West**

### **FINAL PROJECT THESIS STATEMENT AND OUTLINE DUE.**

Primary source readings: John Wesley Powell, *Report on the Lands of the Arid Region of the United States*, 1879.

Secondary source readings: James Lawrence Powell, *Lake Powell, Global Warming, and the Future of Water in the West*.

Data: Historical Colorado River flows and precipitation.

## **Week 8: California and the Bay Area**

Primary source readings: : K. Hayhoe, et al., “Emissions Pathways, Climate Change, and Impacts on California,” PNAS, 101 (34): 12422-27, and A.L. Luers, et al. *Our Changing Climate: Assessing the Risks to California*; and San Francisco Bay Conservation and Development Commission, “A Sea Level Rise Strategy for the San Francisco Bay Region.”

Secondary source readings: Jared Orsi, *Hazardous Metropolis: Flooding and Urban Ecology in Los Angeles*.

Data: Sea level change in the San Francisco Bay.

Field trip: Salt pond restoration efforts in the South Bay and neighborhoods projected to be inundated by sea level rise in East Palo Alto.

## **Week 9: Climates of History**

### **FINAL PROJECT DRAFTS DUE.**

Primary source readings: Marc Reisner, *A Dangerous Place: California's Unsettling Fate*.

Secondary source reading: Dipesh Chakrabarty, “The Climate of History: Four Theses,” *Critical Inquiry*, Winter 2009.

## **Week 10: Final presentations**

### **FINAL PROJECT REVISIONS DUE.**

Primary source readings: You will critically read at least one of your classmate's primary sources.

Secondary source readings: You will critically read at least one of your classmate's secondary sources.