

# Geography 130. Food and the Environment

Prof. Nathan Sayre

Spring 2015

TTh 9:30-11:00, 10 Evans Hall

## INTRODUCTION

The production of food is the single most important arena of human interaction with the environment: it impacts most of the world's land, fresh water, and marine ecosystems; it has profound effects on human health, equity and well-being; and it contributes significantly to—and will be strongly affected by—climate change. How is food produced, distributed and consumed today? How did the world's food system come into being? What are its social and environmental implications? How might it change, or be changed, in the future?

Not surprisingly, the issue of food has long been central to both political economy and environmental activism. Ever since publication of Thomas Malthus's *Essay on the Principle of Population* in 1798, the English-speaking world has attributed famine and other human calamities to population growth, even though Malthus's theory was debunked well before his own demise in 1834. Adam Smith and Karl Marx saw strong links between wages and the price of food, and therefore between food and the economy as a whole. Concerns about food safety have provoked activism and government regulations in the US for more than a century. And with world population projected to increase by 2-3 billion in the next 40 years, many scholars, activists and policy-makers insist that the number of humans on Earth is of paramount importance for understanding environmental problems of all kinds.

This course begins from the proposition that human-environment relations are always social relations. How food and other natural resources are produced, distributed, valued, consumed, conserved and degraded are historically- and geographically-specific questions whose answers cannot be reduced to simple formulas. To be sure, the world's population has never been larger, and its environmental prospects have never been so dim as at present. But the outcomes of human-environment interactions are neither preordained nor very predictable.

The question is how to understand these relations as simultaneously social and ecological. We will examine trends in food, population and the environment, and take a closer look at Malthus's famous essay and its place in classical political economy. We will examine case studies of colonial famines, the Dust Bowl, the Corn Belt, meat production and population control. We will also consider the politics of food, food related social movements, issues of public health and obesity, and the prospects for agriculture in the face of climate change. We will see that issues of food and the environment are always intimately related to political and economic relations—colonialism, capitalism, the state, and scientific knowledge—and that to abstract “the natural” from “the social” is at best naïve and at worst dangerous.

## **COURSE REQUIREMENTS AND GRADING CRITERIA**

***Discussion section attendance and participation (25% of final grade):*** Attendance at discussion sections is required. Students are expected to arrive each week prepared to participate actively in discussion, and to complete homework assignments on time.

***Mid-term exam (20%):*** A take-home mid-term exam will be handed out at the end of lecture on February 26<sup>th</sup> and will be due at the beginning of lecture on March 5<sup>th</sup>. The exam will consist of 3-5 essay questions, of which you will be asked to answer two. Taken together, your essays should total 8-10 pages in length (double-spaced, 12-point font).

***Research paper (20%):*** A 5-7 page paper will be due in lecture on April 14<sup>th</sup>. Papers must address the topic of *processed food* through an examination of a specific crop or food product of your choosing. What exactly does “processed” food mean? Why is processed food generally cheaper than unprocessed or “fresh” food?

***Final exam (35%):*** The final exam will be given on Wednesday, May 13<sup>th</sup>, from 11:30 a.m. to 2:30 p.m.

### ***Please Note:***

- You must complete all four components to receive a passing grade in the course.
- You are responsible for all material in the assigned readings, *whether or not it is covered in lecture*.

## **ACADEMIC INTEGRITY**

Any test, paper, report or homework submitted under your name is presumed to be your own original work that has not previously been submitted for credit in another course. All words and ideas written by other people must be properly attributed: fully identified as to source and the extent of your use of their work. Cheating, plagiarism and other academic misconduct will result in a failing grade on the assignment, paper, quiz or exam in question and will be reported to Student Judicial Affairs.

## **ASSIGNMENT AND EXAM POLICY**

The paper, midterm, and any other assignments are due at the *beginning* of lecture on the assigned date. One letter grade will be deducted for each day past the due date that late work is submitted. If you anticipate a non-negotiable scheduling conflict for a paper or exam, let your GSI know as soon as possible in order to make appropriate alternate arrangements.

## ATTENDANCE POLICY

Success in this class depends on regular attendance and participation. Students will be allowed *one* unexcused absence from discussion section.

## OFFICE HOURS

<i>Name</i>	<i>email address</i>	<i>office hours/location</i>
Nathan Sayre	nsayre@berkeley.edu	W 2:15-3:15, Th 3:15-4:15; 599 McCone
Katie Epstein	Katie.epstein@berkeley.edu	
Niels Tomijima	nielstomijima@gmail.com	
Jessica DiCarlo	jdicarlo@berkeley.edu	W 12-1; 583 McCone
Jeff Martin	<a href="mailto:j.vance.martin@berkeley.edu">j.vance.martin@berkeley.edu</a>	W 1-2; 583 McCone

## PODCAST AND WEBSITE

Audio of the course lectures will be available for downloading from: <http://webcast.berkeley.edu/courses>. Please note that technical problems may cause any given lecture to be unavailable in this way. Powerpoint slides from the lectures will be posted to bspace.berkeley.edu; in most cases they will be available the night before the lecture.

## READINGS

All readings for the course are available on the course website, accessible through bspace.berkeley.edu. Click on the “Resources” link on the left side of the page. We will prepare a course reader if there is student demand for one.

## ONLINE RESOURCES

Food is in the news every day, and it is a topic of intense activism and debate locally, nationally and internationally. You are encouraged to follow (and participate in) these debates during the semester, whether through visiting local markets, gardens, and organizations; volunteering; or online. Here are some websites that may be of interest:

<a href="http://www.foodfirst.org/en/blog">http://www.foodfirst.org/en/blog</a>	<a href="http://garynabhan.com">garynabhan.com</a>
<a href="http://viacampesina.org/en/">http://viacampesina.org/en/</a>	<a href="http://bittman.blogs.nytimes.com/">http://bittman.blogs.nytimes.com/</a>
<a href="http://worldpoultry.net">worldpoultry.net</a>	<a href="http://michaelpollan.com">michaelpollan.com</a>
<a href="http://beefmagazine.com">beefmagazine.com</a>	<a href="http://www.leopold.iastate.edu/pubs">http://www.leopold.iastate.edu/pubs</a>
<a href="http://biofuelsdigest.com">biofuelsdigest.com</a>	<a href="http://rodaleinstitute.org/">http://rodaleinstitute.org/</a>
<a href="http://cornandsoybeandigest.com">cornandsoybeandigest.com</a>	<a href="http://calclimateag.org/">http://calclimateag.org/</a>

## SCHEDULE AND READINGS

### I. INTRODUCTION

#### **22 January: Food and Agriculture as Capitalist World Ecology**

Marcel Mazoyer and Laurence Roudart. 2006. *A History of World Agriculture*, pp. 9-16, 52-70.

Alfred Crosby. 2004. *Ecological Imperialism: The Biological Expansion of Europe 900-1900, New Edition*, pp. 2-7.

Judith Carney. 2001. *Black Rice*, pp. 1-8.

Richard Walker. 2004. *The Conquest of Bread: 150 Years of Agribusiness in California*, pp. 66-75.

#### **27 January: Feeding people or “feeding the world”? Why are so many people hungry, and what should we do about it?**

Vaclav Smil. 2000. Introduction. *Feeding the World: A Challenge for the Twenty-First Century*, pp. ix-xxviii.

Eric Holt-Gimenez. Food Security, Food Justice, or Food Sovereignty? Crises, Food Movements, and Regime Change. In *Cultivating Food Justice*, pp. 309-330.

Raj Patel. 2008. *Stuffed and Starved: the Hidden Battle for the World Food System*, pp. 1-19.

#### **29 January: Agriculture and Climate Change**

IPCC 5<sup>th</sup> Assessment Report. 2013. Working Group II Report, Part A, Section 7: Food security and food production systems, Executive Summary and Sections 7.1, 7.2, and 7.4, pp. 488-494 and 505-513.

McMichael, Anthony J., et al. 2007. Food, livestock production, energy, climate change, and health. *The Lancet* 370: 1253-1263.

David Biello. 2009. Farmed out: how will climate change affect global food supplies? *Scientific American*, 30 September 2009.

### II. DOCUMENTARY INTERLUDE

#### **3 February: Film in lecture: *Grass: A Nation’s Battle for Life***

Carl O. Sauer. 1950. Grassland Climax, Fire, and Man. *Journal of Range Management* 3: 16-21.

Robin S. Reid, Kathleen A. Galvin and Russell S. Kruska. 2008. Global Significance of Extensive Grazing Lands and Pastoral Societies: An Introduction. In *Fragmentation in Semi-Arid and Arid Landscapes: Consequences for Human and Natural Systems*, pp. 1-13.

#### **5 February: Film in lecture: *Food, Inc.***

Wenonah Hauter. 2012. *Foodopoly: The Battle Over the Future of Food and Farming in America*, pp. 62-77.

**10 February: Film in lecture: *Darwin's Nightmare***

Michael F. Lofchie. 1975. Political and Economic Origins of African Hunger. *Journal of Modern African Studies* 13: 551-567.

Becky Mansfield. 2011. "Modern" industrial fisheries and the crisis of overfishing. In *Global Political Ecology*, pp. 84-99.

### III. THEORETICAL FOUNDATIONS

**12 February: Malthus and "the Dismal Science"**

Thomas Robert Malthus. 1798. *Essay on the Principle of Population*. Preface, chs. 1-3, 5-7, & 16, plus selections from chs. 11 and 14 of the revised edition of 1803.

John Bellamy Foster. 2002. Malthus's essay on population at age 200. From *Ecology Against Capitalism*, pp. 137-153.

**17 February: The Market as the Solution**

Adam Smith. 1776. *An Inquiry into the Nature and Causes of the Wealth of Nations*. Book 1, chapters 4-8.

**19 February: The Market as the Problem**

Karl Marx. 1867. *Capital*, vol. 1, ch. 15, section 10: "Large-scale industry and agriculture"; ch. 25, sections 3 and 4: "The Progressive production of a relative surplus population or industrial reserve army" and "Different forms of existence of the relative surplus population. The general law of capitalist accumulation."

### IV. U.S. AGRICULTURE

**24 February: Producing the 'Corn Belt'**

Michael Pollan. 2006. The Farm. In *The Omnivore's Dilemma: A Natural History of Four Meals*, pp. 32-56.

Maureen Ogle. 2013. In *Meat We Trust*, pp. 26-62.

**26 February: Futures Markets**

William Cronon. 1991. *Nature's Metropolis: Chicago and the Great West*, pp. 97-147.

26 FEBRUARY: TAKE HOME MIDTERM EXAM HANDED OUT AT THE END OF LECTURE

**3 March: Germplasm and Science**

Jack Kloppenburg. 1988 (2<sup>nd</sup> edition 2005). *First the Seed: the Political Economy of Plant Biotechnology*, pp. 1-65

Joel Wainwright and Kristin L. Mercer. 2011. Transnational transgenes: the political ecology of maize in Mexico. In *Global Political Ecology*, pp. 412-430.

### **5 March: The Dust Bowl**

Donald Worster. 1979. *Dust Bowl: the Southern Plains in the 1930s*, pp. 9-43, 80-97.

5 MARCH: MIDTERM EXAM DUE AT THE BEGINNING OF LECTURE

## **V. GLOBAL FOOD AND POPULATION**

### **10 March: Colonial Famines and the Making of the Third World**

Mike Davis. 2002. *Late Victorian Holocausts*, pp. 25-59, 119-121.

### **12 March: The Demographic Transition**

Massimo Livi-Bacci. 2012. *A Concise History of World Population* (5<sup>th</sup> ed.), pp. 114-140.

### **17 March: Neo-Malthusianism and the Cold War**

Matthew Connelly. 2008. *Fatal Misconception*, pp. 115-154.

Thomas Robertson. 2012. *The Malthusian Moment*, pp. 85-103.

### **19 March: Fertilizers and The Green Revolution**

Marcel Mazoyer and Laurence Roudart. 2006. *A History of World Agriculture*, pp. 375-381, 450-451.

Thomas Hager. 2008. *The Alchemy of Air*, pp. 77-100.

John Bellamy Foster and Fred Magdoff. 2000. Liebig, Marx, and the Depletion of Soil Fertility: Relevance for Today's Agriculture. From *Ecology Against Capitalism*, pp. 154-169.

R.E. Evenson and D. Gollin. 2003. Assessing the impact of the Green Revolution, 1960 to 2000. *Science* 300: 758-762.

## **VI. PROBLEMS AND CRITIQUES OF THE FOOD SYSTEM**

### **31 March: Agrarian Critiques of Modern Agriculture**

Wendell Berry. 1977. *The Unsettling of America: Culture and Agriculture*, pp. 17-48.

Julie Guthman. 2004. *Agrarian Dreams: The Paradox of Organic Farming in California*, pp. 1-22, 172-185.

### **2 April: Hunger and Obesity**

Michael Moss. 2013. The Extraordinary Science of Addictive Junk Food. *New York Times Magazine* February 20. (Adapted from *Salt Sugar Fat: How the Food Giants Have Hooked Us*.)

Julie Guthman. 2011. *Weighing In: Obesity, food justice, and the limits of capitalism*, pp. 91-123.

Julie Guthman. 2011. Excess consumption or over-production? US farm policy, global warming, and the bizarre attribution of obesity. In *Global Political Ecology*, pp. 51-66.

### **7 April: The Meat Question**

Maureen Ogle. 2013. In *Meat We Trust*, pp. 90-122.

Jody Emel and Harvey Neo. 2011. Killing for profit: global livestock industries and their socio-ecological implications. In *Global Political Ecology*, pp. 67-83.

Gary Nabhan, Duncan Blair and Dennis Moroney. 2010. Ranching to Produce *Tacos Sin Carbon*. *Quivira Coalition Newsletter* (February), pp. 28-34.

### **9 April: Race and Food Justice**

Nik Heynen. 2009. Bending the bars of empire from every ghetto for survival: the Black Panther Party's radical antihunger politics of social reproduction and scale. *Annals of the Association of American Geographers* 99: 406-422.

Nathan McClintock. 2011. From Industrial Garden to Food Desert: Demarcated devaluation in the flatlands of Oakland, California. In *Cultivating Food Justice*, pp. 89-120.

Kari Marie Norgaard, Ron Reed and Carolina Van Horn. 2011. A Continuing Legacy: Institutional Racism, Hunger, and Nutritional Justice on the Klamath. In *Cultivating Food Justice*, pp. 23-46.

14 APRIL: PAPERS DUE AT THE BEGINNING OF LECTURE

### **14 April: Labor**

Saru Jayaraman. 2014. Shelved: How wages and working conditions for California's food retail workers have declined as the industry has thrived. UC-Berkeley Labor Center Report, pp. 1-16.

Sandy Brown and Christy Getz. 2011. Farmworker food insecurity and the production of hunger in California. In *Cultivating Food Justice*, pp. 121-146.

## **VII. WHAT IS TO BE DONE?**

### **16 April: Internalize Externalities: Ecosystem Services and Natural Capital**

Millennium Ecosystem Assessment. 2005. Summary for Decision-Makers, pp. 1-24 (this is Section 2, pp. 141-164; to print out only this section from the overall pdf file, select pp. 15-38).

Erik Gomez-Baggethun et al. 2010. The history of ecosystem services in economic theory and practice: From early notions to markets and payment schemes. *Ecological Economics* 69: 1209-1218.

John Bellamy Foster. 2000. The Ecological Tyranny of the Bottom Line. In *Ecology Against Capitalism*, pp. 26-43.

**21 April: Film in lecture: *The Garden***

Nathan McClintock. 2010. Why farm the city? Theorizing urban agriculture through a lens of metabolic rift. *Cambridge Journal of Regions, Economy, and Society* 3: 191-207.

**23 April: Alternative Agriculture**

Jack Kloppenborg, Jr., John Hendrickson and G. W. Stevenson. 1996. Coming in to the Foodshed. *Agriculture and Human Values* 13: 33-42.

Sally Eden. 2011. The Politics of certification: consumer knowledge, power, and global governance in ecolabeling. In *Global Political Ecology*, pp. 169-184.

Wenonah Hauter. 2012. *Foodopoly: The Battle Over the Future of Food and Farming in America*, pp. 98-115.

**28 April: Food Sovereignty and Anti-Trust Regulation**

Marcia Ishii-Eiteman. 2009. Food sovereignty and the International Assessment of Agricultural Knowledge, Science and Technology for Development. *Journal of Peasant Studies* 36: 689-700.

Wenonah Hauter. 2012. *Foodopoly: The Battle Over the Future of Food and Farming in America*, pp. 279-310.

## VIII. CONCLUSION

**30 April: Theories and Realities of Human-Environment Interactions**

David Harvey. 1974. Population, Resources, and the Ideology of Science. *Economic Geography* 50: 256-277.

Amartya Sen. 1994. Population: Delusion or Reality. *New York Review of Books* 41(15) (21 pp.). (If you have trouble accessing this through bspace, it is available from the web with your CalNet ID from any university-networked computer.)

Geoff Tansey. 2013. Food and thriving people: paradigm shifts for fair and sustainable food systems. *Food and Energy Security* doi: 10.1002/fes3.22.