

Geography 130. Food and the Environment

Prof. Nathan Sayre

Spring 2024

MWF 1:00-2:00pm, Li Ka Shing 245

INTRODUCTION

It is widely agreed that the world's food systems are in crisis. Hundreds of millions of people are malnourished; farmers around the world are impoverished; workers and animals are suffering; land and water are degrading; habitat loss and pollution are depleting biodiversity. Climate change and inequality magnify all of these problems, and agriculture magnifies climate change and inequality. This class explores these overlapping, intersecting issues.

A geographical approach to food begins from the proposition that human-environment interactions are neither preordained nor readily predictable. Rather, 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 or slogans.

We will ask not only how food is produced and consumed and with what effects, but also why different people think about food and agriculture in the ways that they do. When, where and why did these food systems come into being? Whose values and interests do they reflect and serve? What are their social and environmental implications for different peoples and places? And, moreover, how have they been understood and represented at various moments in history? Whose stories have gained traction and defined public debates, and whose have been overlooked or erased? If food generates ideas and stories, how do these ideas and stories affect food?

COURSE REQUIREMENTS AND GRADING

The course will be graded out of a possible 1000 points, distributed as follows:

Discussion section attendance and participation (250 points): Attendance at discussion sections is required. Students are expected to complete readings and assignments on time and to arrive each week prepared to participate actively.

NOTE: As a rule, sections focus on the material from the *preceding* week; the first section meetings will take place during week 2 (January 22-26).

Mid-term exams (300 points): There will be two in-class mid-term exams, on February 21st and March 20th.

Research paper (200 points): A 6-8-page paper will be due at the beginning of lecture on April 15th. More details will be provided in discussion sections.

Final exam (250 points): The final exam will take place on Tuesday, May 7th from 8:00-11:00 am. It will be cumulative, but with an emphasis on materials presented after the mid-terms.

Please Note:

- Students taking the course P/NP may elect to forego the research paper and have those points added to their final exam for grading purposes.
- You are responsible for all material in the assigned readings, *whether or not it is covered in lecture*.

GENERAL INFORMATION

DISCUSSION SECTIONS

Please consult the campus course catalog or CalCentral for room assignments

101	M	11-12 am	Anaya	107	T	2-3 pm	Elena
102	F	12-1 pm	Sophia	108	F	9-10 am	Grayson
103	W	4-5 pm	Crossley	109	Tu	3-4 pm	Elena
104	Th	8-9 am	Alba	110	F	10-11 am	Grayson
105	Th	9-10 am	Alba	111	Tu	1-2 pm	Sophia
106	M	2-3 pm	Anaya	112	W	10-11 am	Crossley

COURSE CAPTURE

Lectures will be recorded by the campus Course Capture program (audio + projection + video) and uploaded to the course bCourses site ***two weeks after the lecture occurs***. Please note that technical problems may cause any given lecture to be unavailable in this way. Powerpoint slides for the lectures will also be posted separately in pdf to bCourses under “Files”; in most cases they will be available the night before the lecture.

OFFICE HOURS

You are strongly encouraged to come to office hours at least once during the semester.

<i>Name</i>	<i>email address</i>	<i>office hours/location</i>
Nathan Sayre	nsayre@berkeley.edu	TW 2:30-3:30; 599 McCone
Elena Bell	elena.bell@berkeley.edu	TBD
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M 3-5; 197 McCone
M 12-1 & 3-4; 5 Giannini
M 2:30-30 W 11:30-12:30; 114 Giannini

READINGS

All readings are **required**, but students should read the syllabus carefully for specific instructions for some readings. All readings are available in pdf through the “Files” tab on the course website, accessible through bcourses.berkeley.edu. If there is student demand, a reader will also be made available at Vick’s Copy (corner of Hearst and Euclid).

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 a few of the many websites that may be of interest:

<https://www.fao.org/publications/sofi/2021/en/>
<https://www.nationalgeographic.com/what-the-world-eats/>
<https://foodfirst.org/>
<http://viacampesina.org/en/>
<https://www.poultryworld.net/>
<https://www.beefmagazine.com/>
<https://www.biofuelsdigest.com/>
<https://www.farmprogress.com/corn-soybean-digest>
<http://www.leopold.iastate.edu/>
<http://rodaleinstitute.org/>
<http://calclimateag.org/>
<https://thefern.org/>
<https://www.farmjournal.com/>
<https://foodsystemsmat.merid.org/map/>

COURSE POLICIES

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 or artificial intelligence (AI) tools 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.

ATTENDANCE

Success in this class depends on regular attendance in lectures and discussion sections. *Please do not come to class if you are (or believe you are) ill and contagious (e.g., with a cold, flu or COVID).* Provided that you communicate proactively with your TA—beforehand if at all possible—regarding such absences, we will work with you to help you make up missed work.

ASSIGNMENTS AND EXAMS

Assignments are due at the *beginning* of lecture or discussion section on the assigned due date. 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 arrangements.

LATE WORK

Any assignment handed in after the deadline is subject to a penalty of five percent per day, and no assignment will be accepted more than two weeks (14 days) after the deadline. No exceptions will be made, except (1) by formal DSP accommodation; (2) for documented personal or family emergencies; or (3) by prior arrangement with your GSI and/or the professor.

COMMUNICATIONS

Please direct all questions and concerns *to your GSI first*. If issues remain after working with your GSI, you are welcome to contact the professor. The preferred method of communication for GSIs and the professor is email; please include “GEOG 130” in the subject line.

TECHNOLOGY

Cell phones must be off or in silent mode and out of sight at all times in lecture and discussion.

Laptops are strongly discouraged in lecture. Research has demonstrated that taking notes by hand is significantly more effective for learning. Any students using laptops are asked to sit in the corner of the room nearest the podium to minimize distraction of neighboring students.

Artificial intelligence tools (e.g., ChatGPT, LLMs, etc.) are strongly discouraged for any purpose and prohibited for use in generating text for assignments. Submission of AI-produced text without attribution will be treated as plagiarism, and submission with attribution will be strongly penalized in grading.

SCHEDULE AND READINGS

1 Introduction

17 January The Syllabus

19 January Crises and Crisis-Talk about Food and the Environment

- Patrick Webb et al. 2020. The urgency of food system transformation is now irrefutable. *Nature Food* 1: 584-85.
- Henning Steinfeld and Pierre Gerber. 2010. Livestock production and the global environment: Consume less or produce better? *PNAS* 107(43): 18237-18238.
- C.C. Mbow et al. 2019. *Climate Change and Land*, IPCC Special Report, ch. 5, pp. 439-440, 475-480.

2 On Food and Being Human

22 January The Evolution of Humankind

- Colin G. Scanes. 2018. Animals and Hominid Development. *Animals and Human Society*, pp. 83-94.
- Tim Ingold. 2002. On the Distinction between Evolution and History. *Social Evolution & History* 1: 5-24.

24 January Hunting, Gathering and Fishing

- Bruce D. Smith. 2007. The Ultimate Ecosystem Engineers. *Science* 315: 1797-98.
- Jon M. Erlandson. 2010. Food for Thought: the role of coastlines and aquatic resources in human evolution. *Human Brain Evolution*, pp. 125-36.
- Marshall Sahlins. 1972. *Stone Age Economics*, pp. 32-39.

3 What is Agriculture?

26 January The Neolithic Revolution

- Colin G. Scanes. 2018. The Neolithic Revolution, Animal Domestication, and Early Forms of Animal Agriculture. *Animals and Human Society*, pp. 103-104 & 107-110 (sections 6.1, 6.2, 6.4 & 6.5).
- David Graeber and David Wengrow. 2021. *The Dawn of Everything: A New History of Humanity*, pp. 249-275.

29 January Livestock and Soil Fertility

- Marcel Mazoyer and Laurence Roudart. 2006. *A History of World Agriculture*, pp. 52-70.
- World Initiative for Sustainable Pastoralism. 2008. *Forgotten services, diminished goods: understanding the agroecosystem of pastoralism*. 4 pp.

31 January Film in lecture: *Grass: A Nation's Battle for Life* (selections)

- Visit:
 - <https://livestockdata.org/resources/pastoralist-map>
 - http://umap.openstreetmap.fr/de/map/a-map-of-pastoralists-worldwide_563977#3/21.78/37.53
 - <https://wamipglobal.com/>

4 Conquest, Slavery and Colonialism

2 February Ecological Imperialism

- Alfred W. Crosby. 1986. *Ecological Imperialism: the biological expansion of Europe, 900-1900*, pp. 294-308.
- Anthony D. Barnosky et al. 2004. Assessing the Causes of Late Pleistocene Extinctions on the Continents. *Science* 306: 70-75.

5 February Conquest of the Americas

- William M. Denevan. 1992. The Pristine Myth: The landscape of the Americas in 1492. *Annals of the Association of American Geographers* 82: 369–385.

7 February Slavery and Plantations

- Sidney W. Mintz. 2011. Plantations and the Rise of a World Food Economy: Some Preliminary Ideas. *Review (Fernand Braudel Center)*, Vol. 34, No. 1/2, pp. 3-14.
- Judith Carney. 2001. *Black Rice: The African Origins of Rice Cultivation in the Americas*, pp. 1-8.

5 “Improvement”

9 February The First Modern Agricultural Revolution

- Mazoyer and Roudart. 2006. *A History of World Agriculture*, pp. 313-331.

12 February Enclosure

- Mazoyer and Roudart. 2006. *A History of World Agriculture*, pp. 332-353.
- Simon Fairlie. 2009. A Short history of enclosure in Britain. *The Land* 7: 16-31.

14 February Fossil Fuels, Industry and Agriculture

- Mazoyer and Roudart. 2006. *A History of World Agriculture*, pp. 364-68.
- Chris Otter. 2020. *Diet for a Large Planet: Industrial Britain, Food Systems, and World Ecology*, pp. 222-37.

16 February Catch-up & Review

21 February **Mid-Term 1**

6 Political Economy: Three Theories of Modern Food

23 February Efficiency and Markets

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

26 February Scarcity and Population

- Thomas Robert Malthus. 1798. *Essay on the Principle of Population* (Norton Critical Edition, edited by Philip Appleman), pp. 15-46, 99-105, 131-134. **Focus on the first 15 pages and skim the rest.**

28 February Surplus and Capitalism

- Karl Marx. 1867. *Capital*, vol. 1, ch. 15, section 10, and ch. 25, sections 3 and 4 (pp. 636-639, 781-802).

7 The First (British) Food Regime

1 March Beef

- Otter. 2020. *Diet for a Large Planet*, pp. 21-31.

- William Cronon. 1991. Annihilating Space: Meat. *Nature's Metropolis*, pp. 207-224.
- Weis, T. 2013. *The Ecological Hoofprint: The global burden of industrial livestock*, pp. 58-70.

4 March Wheat

- William Cronon. 1991. Pricing the Future: Grain. *Nature's Metropolis*, pp. 97-147.

6 March Colonialism and Famine

- Mike Davis. 2002. *Late Victorian Holocausts: El Nino Famines and the Making of the Third World*, pp. 25-59, 119-121.
- Michael F. Lofchie. 1975. Political and Economic Origins of African Hunger. *Journal of Modern African Studies* 13: 551-567.

8 The Second Agricultural Revolution

8 March Pesticides

- Adam Romero. 2022. *Economic Poisoning: Industrial Waste and the Chemicalization of American Agriculture*, pp. 98-121.
- Emily Marquez, Marcia Ishii-Eiteman and Kristin Schafer. 2020. Drift Catchers Combatting Pesticide Power. In Saru Jayaraman and Kathryn De Master, eds. *Bite Back: People Taking on Corporate Food and Winning*, pp. 63-72.

11 March Hybrid Seeds and Plant Genetic Diversity

- Jack Kloppenburg. 1988 (2nd edition 2005). *First the Seed: The Political Economy of Plant Biotechnology*, pp. 50-65, 94-105, 152-57.
- Maywa Montenegro. 2016. Banking on Wild Relatives to Feed the World. *Gastronomica* 16: 1-8.

13 March Synthetic Fertilizer

- Mazoyer and Roudart. 2006. *A History of World Agriculture*, pp. 375-381, 450-451.
- Michael Pollan. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*, pp. 32-56.

15 March 22 Film in lecture: *King Corn*

- Explore the National Corn Growers' Association website at: <http://www.ncga.com/home>

March 18 Catch-up & Review

March 20 **Midterm 2**

9 The Second (U.S) Food Regime

22 March Supply Management and International Trade

- Bill Winders. 2017. *Grains*, pp. 24-51.

Spring break – no classes March 25-29

1 April Overproduction

- Weis. 2013. *The Ecological Hoofprint*, pp. 70-75.
- Willard C. Cochrane. 2003. *The Curse of American Agricultural Abundance: A Sustainable Solution*, pp. 107-111.
- Julie Guthman. 2011. *Weighing In: Obesity, food justice, and the limits of capitalism*, pp. 116-123.

3 April The Green Revolution

- Kloppenburg. 1988. *First the Seed*, pp. 157-67.
- Charles C. Mann. 2018. *The Wizard and the Prophet*, pp. 131-55.
- Carl Sauer. Letter to Rockefeller Foundation, June 13, 1952.

10 The Global Food System Today

5 April Neoliberalism and Globalization

- Winders. 2017. *Grains*, pp. 52-79.
- Becky Mansfield. 2007. Neoliberalism in the oceans: "Rationalization," property rights, and the commons question. *Neoliberal Environments*, pp. 63-73.
- Otter. 2020. *Diet for a Large Planet*, pp. 259-72.

8 April Labor, Efficiency and Inequality

- Mazoyer and Roudart. 2006. *A History of World Agriculture*, pp. 9-18.
- Weis. 2013. *The Ecological Hoofprint*, pp. 97-104.
- Joann Lo and Jose Oliva. 2020. Food Workers versus Food Giants. In Jayaraman and De Master, eds. *Bite Back*, pp. 99-106.

10 April Nutrition and Public Health

- H. Charles J. Godfray et al. 2018. Meat consumption, health, and the environment. *Science* 361: eaam5324. 8 pp.
- Kristine Madsen and Wendi Gosliner. 2020. Fast Food Embodied: Industrial Diets. In Jayaraman and De Master, eds. *Bite Back*, pp. 121-129.
- Julie Guthman. 2011. *Weighing In: Obesity, food justice, and the limits of capitalism*, pp. 100-113.
- SKIM: Mary J. Gilchrist et al. 2007. The Potential Role of Concentrated Animal Feeding Operations in Infectious Disease Epidemics and Antibiotic Resistance. *Environmental Health Perspectives* 115: 313-316.

12 April Livestock and Meat

- Neil Brenner, Swarnab Ghosh and Nikos Katsikis. 2022. The Global industrial feedlot matrix: A metabolic monstrosity. *Technical Lands: A Critical Primer*, pp. 133-54.
- Frédéric Leroy and Peer Ederer. 2023. The Dublin Declaration of scientists on the societal role of livestock. *Nature Food* 4:438-39.

15 April Papers due at the beginning of lecture

15 April Corporate Concentration

- Jennifer Clapp. 2020. Growing corporate control. *Food*, 3rd ed., pp. 100-140.

17 April Food and the Environment

- H. Charles J. Godfray and Tara Garnett. 2014. Food security and sustainable intensification. *Philosophical Transactions of the Royal Society B* 369 20120273. 10 pp.
- J. Poore and T. Nemecek. 2018. Reducing food's environmental impacts through producers and consumers. *Science* 360: 987-992.
- J.I. Macdiarmid and S. Whybrow. 2019. Nutrition from a climate change perspective. *Proceedings of the Nutrition Society* 78:380-87.
- Annie Shattuck. 2017. Food, Climate, and the Myths that Keep our Planet Hot. *Food First Backgrounder* 23, 4pp.

II The Future of Food

19 April Improvement, revisited

- Navin Ramankutty et al. 2018. Trends in global agricultural land use: Implications for environmental health and food security. *Annual Reviews of Plant Biology* 69: 789-815.
- Julie Guthman. 2022. The CAFO in the Bioreactor: Reflections on Efficiency Logics in Bio-Industrialization Present and Future. *Environmental Humanities* 14:71-88.
- Hannah Ritchie. 2022. The World Needs Processed Food. *Wired* November 23.

22 April Agroecology and Indigenous Foodways

- Global Alliance for the Future of Food. 2021. *The Politics of Knowledge*, pp. 10-17 & 76-87
- Kent Lightfoot and Otis Parrish. 2009. They Are Not Farmers. *California Indians and their Environment*, pp. 124-140.
- Ella Houzer and Ian Scoones. 2021. *Are Livestock Always Bad for the Planet? Rethinking the Protein Transition and Climate Change Debate*, pp. 51-57

24 April Land and Property

- Sarah K. Mock. 2021. Before (and Beyond) the Small Family Farm. *Farm (and Other F Words): The Rise and Fall of Small Family Farms*, pp. 185-210.
- Madeleine Fairbairn. 2020. *Fields of Gold: Financing the Global Land Rush*, pp. 1-13
- Tanya M. Kerssen and Zoe W. Brent. 2017. Grounding the U.S. Food Movement: Bringing Land into Food Justice. *The New Food Activism*, pp. 284-315

26 April Politics and Governance

- Wenonah Hauter. 2012. *Foodopoly*, pp. 287-310.
- 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.
- Geoff Tansey. 2013. Food and thriving people: paradigm shifts for fair and sustainable food systems. *Food and Energy Security* doi: 10.1002/fes3.22.