Global Warming – the Historical Context of Climate Change
HIST S420

Summer 2024
JG Manning
[Preliminary Syllabus]

The course will examine what and how we know about past climate change and what role these changes have played in human responses and adaptations. We will explore the deep history of Earth's climate system and how a wide variety of human societies have understood and responded to sudden and longer-term changes, why this matters for understanding current climate change, and how historical experience might inform policies and adaptations in the future. At its core, this course is about understanding historical change. The reasons for the rise and fall of human civilizations have been debated in the West since Edward Gibbon published the first installment of *The History of the Decline and Fall of the Roman Empire* in 1776. As great as Gibbon's work is, it was actually the 14th century Islamic historian Ibn Khaldun who first theorized the basic ideas of why and how states rise and fall. From Gibbon onward there has been considerable work in several fields, among them History, Archaeology, Economics, Sociology and Political Science, addressing the basic question: Are some societies more durable than others? Why was the Roman Empire enduring while the empires of the ancient Near East experienced cycles of rise and decline? The idea that history moved in "cycles" or "waves" was first made popular by Oswald Spengler's *The Decline of the West* (1918-22), although the cyclical idea of history goes back to the ancient Greeks. It has come roaring back into fashion in recent historical work and in popular discourse as well. It was made especially popular by Malcolm Gladwell in his *The Tipping Point: How Little Things Can Make a Big Difference*. This kind of thinking can explain much, but not everything, about patterns in human history and behavior. The field of Paleoclimatology had revolutionized our understanding of historical change, and that is our goal in this course.

Requirements

- Participation 20%
- Two Short essays 20% for each essay
- Final essay project, draft to be workshopped 10%
- An historical case study of climate and history 30%

Main Texts

- John Brooke, *Climate Change and the Course of Global History. A Rough Journey*. 2d ed. Cambridge UP.
- Mark Maslin, *Climate Change: A Very Short Introduction*. 4th ed. Oxford.
- Spencer Weart, *The Discovery of Global Warming*. Rev. Ed. Harvard UP.

Academic Integrity

The strength of the university depends on academic and personal integrity. In this course, you must be honest and truthful. Plagiarism is the use of someone else's work, words, or ideas—

including those generated by AI composition software—as if they were your own. Here are three reasons not to do it:

- By far the deepest consequence to plagiarizing is the detriment to your intellectual and moral development: you won't learn anything, and your ethics will be corrupted.
- Giving credit where it's due but adding your own reflection will get you higher grades than putting your name on someone else's work. In an academic context, it counts more to show your ideas in conversation than to try to present them as *sui generis*.
- Finally, Yale punishes academic dishonesty severely. The most common penalty is suspension from the university, but students caught plagiarizing are also subject to lowered or failing grades as well as the possibility of expulsion. Please be sure to review Yale's Academic Integrity Policy.

You can find a fuller discussion of using sources and avoiding plagiarism on the Writing Center Website.

Week 1 Understanding climate change

Monday Introduction: What is Climate Change?

Reading:

- Mark Maslin, *Climate Change. A Very Short Introduction*. 4th ed. Oxford, 2021. Chapter 1.

Wednesday Paleoclimatology and climate proxies

Reading:

- Paul Erdkamp, "An historian's introduction to Paleoclimatology," In *Climate Change and Ancient Societies in Europe and the Near East*. Ed. P. Erdkamp, JG Manning And K. Verboven Springer, 2021.

https://link-springer-com.yale.idm.oclc.org/chapter/10.1007/978-3-030-81103-7_1

Friday The Discovery of climate change and modern climate sciences

Reading:

- Mike Hulme, *Why We Disagree About Climate Change. Understanding Controversy, Inaction and Opportunity*. Cambridge, 2009, Chapter 2.

Week 2 Physical Drivers of global climate change

Monday The Earth's orbit, El-Niño-Southern Oscillation

Reading:

- Neil Roberts, *The Holocene. An Environmental History*. 3d ed. Chapter 2. https://ebookcentral-proquest-com.yale.idm.oclc.org/lib/yale-ebooks/reader.action?docID=7103978&ppg=24

Wednesday "Mattie and the Scientist:" Volcanoes and Climate

Reading:

- Alan Robock, "Volcanic eruptions and climate," *Reviews of Geophysics* 38 (2000):191-219.

- L. Marshall et al., "Volcanic effects on climate: recent advances and future avenues," *Bulletin of Volcanology* (2022):84, 54. https://doi.org/10.1007/s00445-022-01559-3

- C.G. Abbot, "Do volcanic explosions affect our climate" *National Geographic* 24/2 (February 1913).
- https://www.scientificamerican.com/article/get-ready-for-more-volcanic-eruptions-as-the-planet-warms/
- S. Zielinski, "How paintings of sunsets immortalize past volcanic eruptions," *Smithsonian Magazine*. March 25, 2104

https://www.smithsonianmag.com/science-nature/how-paintings-sunsets-immortalize-past-volcanic-eruptions-180950254/

Friday Climate change and disease

Reading:

- Brandon McDonald, "The Antonine crisis:climate change a trigger for epidemiological and economic turmoil," in In Climate Change and Ancient Societies in Europe and the Near East. Ed. P. Erdkamp, J.G. Manning and K. Verboven Springer, 2021.

https://link-springer-com.yale.idm.oclc.org/chapter/10.1007/978-3-030-81103-7_13

Week 3 The Long View

Monday Climate, Agriculture and the Origins of Civilization

Reading:

- John Brooke, *Climate Change and the Course of Global History: A Rough Journey*. Cambridge. 2d ed. Chapter3.

Wednesday Climate History- Neolithic and Bronze Ages

Reading:

- John Brooke, *Climate Change and the Course of Global History: A Rough Journey*. Cambridge. 2d ed. Chapter 4.

Friday The Iron Age and Upscaling

Reading:

- John Brooke, *Climate Change and the Course of Global History: A Rough Journey*. Cambridge. 2d ed. Chapters 7-8.

Essay 1 due

Week 4 Historical Case Studies

Monday The Nile flood and Egyptian history

Reading:

- Karl Butzer, "Long-Term Nile Flood Variation and Political Discontinuities in Pharaonic Egypt,"
- J.G. Manning et al., "Volcanic Suppression of Nile Summer Flooding Triggers Revolts and Constrains Interstate Conflict in Ancient Egypt," *Nature Communications* 8. doi: 10.1038/s41467-017-00957-y. https://www.nature.com/articles/s41467-017-00957-y

Wednesday Rivers and Chinese History
Reading:

- Ge, J., Hu, Y. (2021). "The Yellow River and the Yellow River Civilization," In: *A Historical Survey of the Yellow River and the River Civilizations. Understanding China*. Springer, Singapore. https://doi.org/10.1007/978-981-33-4481-5_1

Friday Historical Case Studies: The declines of Rome
Reading:

- John Brooke, *Climate Change and the Course of Global History: A Rough Journey*. Cambridge. 2d ed. Chapter 6.

Essay 2 due

Week 5 Historical Case Studies
Monday The Medieval Climate Anomaly- Vikings and Mayan civilization
Reading:

- John Brooke, *Climate Change and the Course of Global History: A Rough Journey*. Cambridge. 2d ed. Chapter 10.

Wednesday The Little Ice Age
Reading:

- John Brooke, *Climate Change and the Course of Global History: A Rough Journey*. Cambridge. 2d ed. Chapter 11.

Friday Climate change and the Future
Reading:

- Mark Maslin, *Climate Change: A Very Short Introduction*. 4th ed. Oxford. Chapters 8-9

Final Essay Project due