

The Climate Crisis in Historical Perspective

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Upcoming Courses:

HIST 060

Global Environmental History From Paleolithic To the Present
Instructors: Professor Marcy Norton and Professor Anne Berg
TR 12:00 PM-01:30 PM

HIST 234-301

Wastes of War: A Century of Destruction
Instructors: Professor Anne Berg
W 02:00 PM-05:00 PM

UPENN DEPARTMENT OF HISTORY

Climate Change? We are living it, if in profoundly unequal ways. Already, climate change disproportionately affects the poor — poor countries and poor people in rich countries. Experts agree the current changes are anthropogenic (human-induced). Climate “skeptics” and climate change deniers, in contrast, insist that climate science is inconclusive, citing excessive snow fall or cold spells as evidence that the world isn’t actually warming at an alarming rate. Or, more insidiously, they simply insist that there has always been climate and it’s always been changing. Such truisms are profoundly unhelpful and deliberately obscure the scientific consensus according to which current and projected changes in climate are not part of a natural fluctuation but the direct result of the exponential increase in CO₂ emissions since the middle of the 20th Century.

The changes we are witnessing now are quantitatively and qualitatively different from periods of relative cooling or warming in the past. Instead, as the scientific consensus suggests, human activity has fundamentally transformed geology and planetary deep time, inspiring the coinage of a new geological epoch – the Anthropocene. While natural and social scientists still argue amongst themselves and with each other when this epoch started – with the neolithic revolution ca 10,000 BCE, the 19th century industrial revolution and the first atomic test in 1945 being the prominent contenders – the fact of human induced climate change is not in dispute.

The last, and in my view most convincing of these contesters, the period since 1945, coincides with what social scientists term the Great Acceleration – an exponential increase in population growth, energy output



Gradual desertification in Africa is having a far-reaching impact on human health, food security and economic activity Credit: TREEAID / Flicker

and consumption, chemical production, water use, transportation, communication, urbanization, global GDP, waste production, carbon emissions. Indicators measuring life expectancy, health, standard of living, decline in infant mortality, equality between the sexes, access to education, spread of democracy, improvements in human civil rights and so forth follow a parallel trajectory. While the arch of history might have bent toward justice, there is no evidence to suggest that it will continue to bend in this way.

Since emissions are directly linked to rising temperatures, the United Nations Intergovernmental Panel on Climate Change (IPCC) insists that if we (“we” as in “humanity”) do not take immediate and drastic action to arrest emissions, the planet is likely to heat by 3.2 centigrade by the end of the century; projecting a worst case scenario of average planetary temperature increase of 8 degrees in the same timeframe. When the Kyoto Protocols were signed (or in the case of the U.S. not signed) in 1997, two degrees of warming was projected as the threshold of catastrophe. As David Wallace Wells explains in *Uninhabitable Earth: Life After Warming*, even if we manage to stay just short of 2 centigrade of warming, we would nonetheless face sea level rises of 130 meters, which would be “enough to draw a new American coastline as far west as I-95.” With every degree of warming

the cost will increase exponentially. According to Wells, 150 million more people would die of air pollution in a 2 degree warmer world than in a 1.5 degree warmer world, illustrating why climate change is in fact “an existential crisis – a drama we are now haphazardly improvising between two hellish poles, in which our best-case outcome is death and suffering at the scale of twenty-five holocausts, and the worse-case outcome puts us on the brink of extinction.”

Scientists are very good at calculating glacial decline and sea level rises, projecting increases in desertification, drought, floods and “natural” disasters, computing costs for disaster clean-up and infrastructure repair (which will quickly exceed global wealth), and estimating deaths due to excessive heat, air pollution, water shortages, and hunger. But these calculations and estimates are abstractions whose shock value can be increased by rendering them multiples of holocausts (a practice I do not endorse!). There is little doubt that the extend of suffering will be absolutely horrific,

indiscriminate, yet unequal, and likely dwarf any disaster “natural” or man-made in recorded history. However, that doesn’t tell us very much, it doesn’t provide a helpful guide towards policy making or contingency planning. In contrast, projections about unprecedented impending horrors are more likely to inspire apathy, fatalism or denial.

“Wildlife-friendly” border wall in Brownsville, Texas, which would allow wildlife to cross the border. A young boy climbs the wall using horizontal beams for foot support.

catapult the earth out of its orbit to increase its distance to the sun offer fantasies (or delusions) of different orders of magnitude but neither is willing to grapple with the hard fact that the way we live now, particularly the way people live in the rich countries of the so-called Global North, is unsustainable and will change, like it or not. What role individual people, countries and international institutions will play when trying to manage that change is still up in the air.

What is clear is that here won’t be a “fix.” Painting the Andes white, fertilizing the oceans, or attempting to

The true horrors of climate change are the effects that cannot be readily quantified. Science and technology offer poor models for understanding how these apocalyptic imaginaries might intersect. Toxins, scarcity, heat,



disasters will be distributed unequally and accordingly, likely exacerbate existing conflicts within and between societies and give rise to new conflicts and wars, which in turn will produce millions upon millions of refugees and further destruction of already scarce resources. The current number of refugees and displaced people dwarf the astronomical figures of the refugee crisis that followed in the footsteps of World War II. Displacement in response to desertification, excessive heat, floods and sea level rises can perhaps be estimated. But these estimates are bound to be off by several orders of magnitude given that they cannot include the forced displacements that will occur as a result of violent conflicts that have not yet materialized. Accordingly, the extent of the climate crisis depends in large part on how relief and suffering will be distributed, how local and international organizations respond to various aspects of the crisis, and how resilient governments and democratic institutions prove to be. These are factors that cannot be effectively modeled and accordingly the projected costs and horrors of the calculable effects of climate change are likely to be infinitely higher given the matrix of intersecting problems to which we will only be able to develop responses once we can begin to describe their precise nature. History is unlikely to offer comfort or solace. But history can provide some useful sets of questions, give complex narratives of past conflicts, and offer a better understanding of what kinds of interventions have had success in mitigating or exacerbating the humanitarian dimensions of war and conflict. Moreover, local histories can help us anticipate how climate crises might connect with and sharpen existing social and political conflicts.

Wastes of War: A Century of Destruction, the seminar I'll be teaching in the spring, may illustrate some of these terrifying complexities. Instead of speculating about the future, we will examine the history of past wars, how they violently transformed social and physical environments; how they produced both myopias about the past and visions for new worlds; how questions about restitution, cleanup and remediation only enter into considerations after the fact. While this seminar really thinks about very particular kinds of environments - those shaped and brought forth by war, *Global Environmental History from the Paleolithic to the Present*, the course I will be co-teaching with my colleague Marcy Norton, takes on the whole world and "all" of its environments. Getting students to think about broad themes, macro and micro scales, and the different and changing interactions between humans and their environments, we will push back against the assumptions that the "stuff" of the environment is only now of particular concern. While environmentalism and certainly the very justified fears about climate change are indeed very new - less than fifty years old mind you - humans have always struggled with their environments, depended on them, tried to understand them, shape and master them, whether they encountered environmental forces in the form of weather, plagues, acts of god, idyllic forests, grazing pastures, smoke stacks, garbage dumps, oil fields or backed-up sewers.

History is the "inter-discipline" that serves not only as the memory but also as a conduit to bring different kinds of knowledge together. Perhaps, history might offer some guidance for how to imagine different futures. Historians who focus on periods in human history of relative scarcity and limited mobility might sketch models of resilience in the face of austerity; the work of Julia Adeney Thomas is instructive in this respect. Dagomar Degrot's history of the Dutch Republic during the Little Ice Age in 17th Century shows that bad things aren't equally bad everywhere and climate pressures might also lead to innovative responses. Economic historians can help explain some of the obstacles to wide ranging global change by showing the tenacity of capitalist structures and incentives; Timothy Mitchell's *Carbon Democracy* comes to mind here. Legal historians may help us appreciate how complicated it is to enforce international rules and agree on binding regulations. Urban History might help us appreciate not just the particular challenges faced by cities but also remind us of the transformations cities will likely experience. Mike Davis' histories from *City of Quartz* to *Planet of Slums* present a chilling trajectory that should guide the thinking not just of urban planners but of governmental institutions such as FEMA and intergovernmental organizations more generally. History won't offer quick fixes, nor will it identify straight forward culprits. As a historian of Nazi Germany, of war, racism, and genocide, I am at a loss when it comes to hopeful stories or readily applicable lessons. Instead, the history I know best allows us to understand the current populist trends of wall-builders and border-closers not just as reactionary fringe movements but as a political force that is trying, with a considerable degree of urgency and popular support, to actively shape a protectionist, exclusionary, hypernational world order in which as Anand Giridharadas explains the "Winners Take All."

