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INSTITUT DE HAUTES
ÉTUDES INTERNATIONALES
ET DU DÉVELOPPEMENT
GRADUATE INSTITUTE
OF INTERNATIONAL AND
DEVELOPMENT STUDIES

Interdisciplinary Programmes

Academic year 2020-2021

Climates and History: What the Past Can Tell Us about the Present and the Future

MINT135 - Autumn - 6 ECTS

Thursday 18h15 - 20h00

Course Description

Global climate change is already one of the critical environmental questions as more frequent and more intense hurricanes, drought, soaring urban temperatures and vegetation change seem to affect human societies and landscapes and transform disease profiles. Places that seemed immune to natural devastation—Portugal, Switzerland, New York, Sta Barbara, Houston, Mumbai, Sao Paulo, Dubai, Los Angeles, now buckle under the onslaughts. Climate change is one of the distinctive features of what is now called the Anthropocene and with this come major changes in the dynamics of the natural world. Models of incremental change have informed popular thinking about the questions, confusions about differences between weather and climate and the muddles of policy makers (and active attempts to confuse them) speak to an emerging crisis climate crisis that has its analog in the Corona Crisis. In part, models have lulled analysts into a reactive rather than an adaptive mode of addressing the inevitable issues of change and also more general a lack of attention to how incremental change can become exponential.

The scientific community, however, believes that the dynamics of change will now only accelerate and we are only at the beginning of the beginning. But climate has been affected by, and affected many different kinds of earth system phenomena, and it's useful to keep these in mind as well. First because they were profound and consequential, second because the response to them was varied: that is, these events had "long tails"—their influences were multiple and had more historical influence than we give them credit for; and finally as we look at current dynamics amplify their effects. While previous versions of this course have emphasized past phenomena a bit more, this round emphasizes more of the contemporary history and what it means. Given the wide geographic origins of you students, it might be useful to put more of your own places into the analysis.

> PROFESSOR

[Susanna Bettina Hecht](#)

[Office hours](#)

> ASSISTANT

[Severyan Dyakonov](#)

[Office hours](#)

Syllabus

This is a research/ lecture that seeks to explore the "big" histories of approaches to global climate change and its implications. The idea of this class is to develop a working background with the central issues by looking at some of the effects of climate on societies in the past, the contemporary dynamics, and the range of possible approaches for the futures. The point of the seminar is to think about structures and forms of transitions, but also to think about what these activities might entail and what one might want to think about for the future. The "charge" of the course is really to think concretely but very creatively at the same time about the defining set of questions of the 21st century.

While the readings are historical, I have also included the literature on the science about these events, as well as current implications of these events as in the current climate landscape. I'll be sending and posting articles and summaries from NYT, Washington Post, Science, Nature, The Guardian and other fake news sites. The later part of the course moves into IPCC scenarios.

Twelve weeks is not much time, and we are all going to be distracted and fragile as the pandemic takes its toll, and as, we will we see climate change takes its interactive toll with the on going pandemic later in the season in the form of additive crises.

Because this is a research seminar, many of the topics should be student developed and directed. The first part of the course will address some of the background issues (history; the current science): We will develop the remainder of the course following the clusters of interest of students. Thus, this syllabus is a "climate change 1.0" which we will shape together. The point of the readings is to familiarize you with some of the methods, the history of science, and the "Classics", but also to use this as springboards for thinking and rethinking the questions of development, civilization, our social world etc. For this reason I have put quite a bit of reading in the course on environmental ethics and philosophy.

URLs of relevant websites will be on the class site, and regular postings of "news of the week" should go on it as well. Think also of the class website as a developing bibliography for your own futures. Also relevant webinars etc will also be posted

Course Requirements.

- 1) **Grab one story per week from the climate news and write a paragraph on it. This will help with our class discussions.**
- 2) **Three two page papers on some of the reading "clusters" or related areas**
- 3) **Small group presentation on the topic of your choice---although we have to see how this goes in the context of the teaching format**
- 4) **A take home midterm. This is open book: these are basically analytic questions**
- 5) **A take home final**

Lynas, M. 2020. *Our Final Warning: Six degrees of Climate emergency*
 Worster, D. 1978. *Dustbowl*. New York: Cambridge University Press
 Wood, G. 2014. *Tambora: the Eruption that Changed the World* Princeton, Princeton University Press

Recommended for your library or for review. We'll be using selections from some of these

Wallace Wells. D. 2019. *The Uninhabitable Earth*. New York. Tim Duggin Books
 Mike Hulme 2009. *Why we Disagree about Climate Change*. Cambridge, Cambridge University Press.
 Jamieson, D 2013. *Reason in a Dark Time*. New York Oxford Press
 Kolbert, E. 2006. *Field Notes from a Catastrophe*. New York, Random House
 Oreskes, N 2011. *Merchants of Fear* New York. Bloomsbury Press,
 R. McNeill, P Engelke. 2014. *The Great Acceleration: An Environmental History of the Anthropocene*. Belnap, Harvard University Press

Week One.: Meet and greet! I hope I am there, if not this will be a zoom universe. We introduce ourselves to each other. The class is structured along the lines periods where climate impacts were quite different, and then, more or less where we are now in the realms of climate related impacts at 1, 2, 3 degrees Celsius of warming---in this we'll be following Lynas' analytics, but filling them out with a specific case studies. Planning the presentations in the context of pandemic...

Week Two

Conceptual lectures and Intro to topic: "The Climate Kaleidoscope" Wallace-Wells
 The rise of climate change as science and politics:
 Mike Hulme (Chaps 1 and 2) The social meaning of climate, origins of climate science (this is chapter 2: if you know this, skip) Chapter 3" the performance of science."
 Chakrabarty, D. (2009) The climate of history: Four theses. *Critical Inquiry*, 35, 197-222
 Lynas. Forward.

Holleman, H. (2017) De-naturalizing ecological disaster: colonialism, racism and the global Dust Bowl of the 1930s. *The Journal of Peasant Studies*, 44, 234-260.

Lewandowsky, S., T. D. Pilditch, J. K. Madsen, N. Oreskes & J. S. Risbey (2019) Influence and seepage: An evidence-resistant minority can affect public opinion and scientific belief formation. *Cognition*, 188, 124-139.

McLeman, R. A., J. Dupre, L. B. Ford, J. Ford, K. Gajewski & G. Marchildon (2014) What we learned from the Dust Bowl: lessons in science, policy, and adaptation. *Population and environment*, 35, 417-440.

Oreskes, N., M. Oppenheimer & D. Jamieson (2019) Scientists have been underestimating the pace of climate change. *Scientific America*. Available at: <https://blogs.scientificamerican.com/observations/scientists-have-been-underestimating-the-pace-of-climate-change>.

Commented [S1]:

Week Three. Climate and Pandemics in the construction of the modern world.
Indigenous Americas, teleconnection and the little ice age. How the decimation of the peoples of the Americas changed European climates and colonial history

Dull, R. A., R. J. Nevle, W. I. Woods, D. K. Bird, S. Avnery & W. M. Denevan (2010) The Columbian encounter and the Little Ice Age: abrupt land use change, fire, and greenhouse forcing. *Annals of the Association of American Geographers*, 100, 755-771.

Nevle, R. J., D. K. Bird, W. F. Ruddiman & R. A. Dull (2011) Neotropical human-landscape interactions, fire, and atmospheric CO₂ during European conquest. *Holocene*, 21, 853-864.

Lovell, G. 1992. Heavy Shadows and Black Night: Disease and Depopulation in Colonial Spanish America. *Annals of the AAG* 8(23)42

Clement, C. R., W. M. Denevan, M. J. Heckenberger, A. B. Junqueira, E. G. Neves, W. G. Teixeira & W. I. Woods (2015) The domestication of Amazonia before European conquest. *Proceedings of the Royal Society B: Biological Sciences*, 282, 20150813

The past as future.

<https://nymag.com/intelligencer/2020/07/coronavirus-pandemic-plagues-history.html>

Week Four

Modern Vulcanism and the making of the 19th century: and pre boards to our time.

“And the icy earth swung
Blind and blackened in the
Moonless air” (Byron)

Cole-Dai, J., D. Ferris, A. Lanciki, J. Savarino, M. Baroni & M. H. Thiemens (2009) Cold decade (AD 1810–1819) caused by Tambora (1815) and another (1809) stratospheric volcanic eruption. *Geophysical Research Letters*, 36.

Dai, J., E. Mosley-Thompson & L. Thompson. (1991) Ice core evidence for an explosive tropical volcanic eruption 6 years preceding Tambora. *Journal of Geophysical Research*, 96, 361-17

Read *Tambora* . Chapters 1-4

Week Five: Diaspora? Switzerland and the construction of a racialized colonialism: the “long tails” of climate events

White colonialism, scientific racism and the significance of the swiss diaspora in Latin America.

Clavel, D., and Hecht, S.B. 2020. Exiles in Paradise: Portuguese Royal Banishment, Swiss Diaspora and the Tambora explosion. Submitted, *Environmental History*

**Week 6. Dust Bowl and its politics: A broader colonial story, State and migration
The state and poverty alleviation. The long tail of the New Deal in development
practice(Ekbladh 2010)**

Worster: *Dust Bowl*

Ekbladh, D. (2010) Meeting the Challenge from Totalitarianism: The Tennessee Valley Authority as a Global Model for Liberal Development, 1933-1945. *International History Review*, 32, 47-67.

Cook, B. I., R. Seager & J. E. Smerdon (2014) The worst North American drought year of the last millennium: 1934. *Geophysical Research Letters*, 41, 7298-7305.

Holleman, H. (2017) De-naturalizing ecological disaster: colonialism, racism and the global Dust Bowl of the 1930s. *The Journal of Peasant Studies*, 44, 234-260.

Marengo, J. A., R. R. Torres & L. M. Alves (2017) Drought in Northeast Brazil-past, present, and future. *Theoretical and Applied Climatology*, 129, 1189-1200.

McLeman, R. A., J. Dupre, L. B. Ford, J. Ford, K. Gajewski & G. Marchildon (2014) What we learned from the Dust Bowl: lessons in science, policy, and adaptation. *Population and environment*, 35, 417-440.

Week seven (take home)

Exam: Concepts and case studies: Probably three short essays

Week Eight. Global Climate Change: water and Ice. (1 degree up)

Climate policy reviews: From Communities of interest to Climate denials: Rio to Paris.

Cook, J., N. Oreskes, P. T. Doran, W. R. Anderegg, B. Verheggen, E. W. Maibach, J. S. Carlton, S. Lewandowsky, A. G. Skuce & S. A. Green (2016) Consensus on consensus: a synthesis of consensus estimates on human-caused global warming. *Environmental Research Letters*, 11, 048002.

Supran, G. & N. Oreskes (2017) Assessing ExxonMobil's climate change communications (1977-2014). *Environmental Research Letters*, 12, 084019.

Masco, J. (2010) Bad Weather: On Planetary Crisis. *Social Studies of Science*, 40, 7-40.

Week 9. Lynas: Chapter 1 C

IPPC Synthesis report :Oceans and Cryosphere

<https://www.ipcc.ch/srocc/chapter/summary-for-policymakers/>

de Magalhães, N., H. Evangelista, T. Condom, A. Rabatel & P. Ginot (2019) Amazonian Biomass Burning Enhances Tropical Andean Glaciers Melting. *Scientific reports*, 9, 1-12.

<https://www.nytimes.com/2020/06/25/world/europe/siberia-heat-wave-climate-change.html>

The rate of sea level rise is higher and more rapid than thought

<https://www.nature.com/articles/s41467-019-12808-z>

Adaptation: The Dutch example

<https://www.nature.com/articles/s41467-019-12808-z>

Week ten

Lynas 2 C Fires and tipping points: Amazonia, Australia, California: cascades and synergies, heat islands and urban burning.

Dynamics of clearing and rising fires in Amazonia and climate effects

Fearnside, P. 2017. Deforestation of the Brazilian Amazon. In *Oxford research encyclopedia of environmental science*.

Scientific Panel on the Amazon: 2020 Select chapters

Lovejoy, T. E. & C. Nobre. 2018. Amazon tipping point. American Association for the Advancement of Science.

California update documents

**Week Eleven : Too much water and not enough: Hurricanes: deluges and droughts
Lynas 3 degree.**

Chakraborty, J., T. W. Collins & S. E. Grineski (2019) Exploring the environmental justice implications of Hurricane Harvey flooding in Greater Houston, Texas. *American journal of public health*, 109, 244-250.

Kimmelman, M. (2017) Lessons from Hurricane Harvey: Houston's struggle is America's tale. *New York Times*. <https://www.nytimes.com/interactive/2017/11/11/climate/houston-flooding-climate.html>.

Zhang, W., G. Villarini, G. A. Vecchi & J. A. Smith (2018) Urbanization exacerbated the rainfall and flooding caused by hurricane Harvey in Houston. *Nature*, 563, 384-388.

Week Twelve:

Lynas and a broader assessment

