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

Interdisciplinary Programmes

Academic year 2021-2022

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

MINT135 - Autumn - 6 ECTS

Thursday 18h15 - 20h00

Course Description

July of 2021 was the hottest month ever recorded by humans. In Europe, Sicily recorded a temperature of 120 F (39 C), a level of heat largely unimaginable in Europe.

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 roil human societies and landscapes. Place that seemed immune to natural devastation---Napa Valley, Sta Barbara, Houston, Los Angeles, Iceland, the Swiss Alps, Paris (!!) now buckle under onslaughts. Climate change is one of the distinctive features of what is now called the Anthropocene. Models of incremental change have informed popular thinking about the questions, but it appears to be far more discontinuous, and far more complex than we have thought. Four major policy documents (the last IPCC and the current one to be released in this October, the UN land use change and climate analysis and the International Biodiversity assessment paint an urgent and dire picture. This class looks at how people have responded (and what has happened) in earlier intense climate events, (including climate events we didn't have to have, like nuclear winter), and through looking at the current assessments. Eve in light of excellent science, a strong streak of denialism among the most critical polities, the US remains.

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 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 also because current dynamics can amplify their effects.

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Syllabus

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MAISON DE LA PAIX

This is a research/ lecture that seeks to explore the "big" histories of approaches to global climate change. 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. 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 this defining set of questions of the 21st century.

While many of 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. You do need to read the current reports and understand their implications as the later part of the course moves into IPCC scenarios.

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 as expressed through Thus, this syllabus is a "climate change 1.0" which we will shape together.. The last part of the course will focus on presentations looking at climate change by continent, case studies scenarios and projections. The point of the readings is to familiarize you with some of the methods and the "Classics", but also to use this as springboards for thinking and rethinking the questions of development. 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.

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. (this is about 10% of your grade: it's a give away, and allows you to get into the class thinking)**
- 2) **Two two page papers on some of the reading "clusters" or related areas.**
- 3) **Small group presentation 45 minutes on some key topics although we have to see how this goes in the context of the teaching format: Possible topics: Climate refugees, The Urban questions of climate; the end of some countries, Implications of climate change for the Third Pole (Mountains). Etc etc. Because there is a big COP meeting we should also have some review and discussion of these events too.**

4) **A take home final or analytic book report (10 pages)**

These are all excellent books, and we will be using selections from these but you should have them in your personal libraries. Conceptually and empirically very rich.

Ellis, Earle. 2019. *The Anthropocene*. Oxford University Press (a short review)
Chakrabarty, D. 2021. *The Climate of History in a Planetary age*. Chicago, University of Chicago Press.
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
Elizabeth Kolbert: *The Sixth Extinction* New York, Random House

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!

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:

Ellis, E. 2019. *The Anthropocene*. Oxford

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. The climate of history in a plenary age Four theses. *Chapter 1*

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>.

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.

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

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

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*

Review other impacts of Tambora as part of this section. Keep your eye on the "long tails"

**Week six Cop 21 Review of ideas and politics at an especially intense moment
Concepts and case studies.**

Lynas: Our Final warning. Look at the 1.5-3.5

Tipping points: current papers to be added.

Lots of stuff will be surging on the internet as a consequence of the COP

<https://www.washingtonpost.com/climate-environment/2021/08/09/ipcc-climate-report-global-warming-greenhouse-gas-effect/>

**Week 7. Dust Bowl and its politics: State and migration
The state and poverty alleviation.**

Worster: *Dust Bowl*

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.

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.

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.

Week Eight. Global Climate Change: Ice.

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

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

Mark Carey, M. Jackson, Alessandro Antonello and Jaclyn Rushing (2016) Glaciers, gender, and science: A feminist glaciology framework for global environmental change research. *Progress in Human Geography* 2016, Vol. 40(6) 770-793

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.

Commented [S1]:

Week Nine Sea level rise and water more generally

IPPC Synthesis report :Oceans and Cryosphere

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

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

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

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

Wei Zhang, et al (2018). Urbanization exacerbated the rainfall and flooding caused by hurricane Harvey in Houston *Nature* volume 563, pages384–388 (2018)

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>.

<https://www.washingtonpost.com/world/2021/07/21/china-floods-zhengzhou-volunteers/>

But take your pick : Germany, London etc etc. Deluges versus organized storms like hurricanes.

Week 10: Welcome to the Pyrocene:

Arctic fires

Alexander V Kirilyanov *et al* 2020 Long-term ecological consequences of forest fires in the continuous permafrost zone of Siberia
Environ. Res. Lett. 15 034061

Tropical Fires

Selections from the Scientific Panel on the Amazon.

Week Eleven The urban Fire impacts

The new European fire regimes.

American West.

Week Twelve

Summing up

Week 12. Summing up