

Climate controversies: past, present, and future

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Présentation de l'enseignement / Course topic

This course provides a special perspective on contemporary debates about climate change through a study of their long history. After some background about climate science and a look at how people thought about climate in the 18th and 19th centuries, we explore the co-evolution of climate science and climate politics from the 2nd World War to the present through a series of political issues that established human effects on the global atmosphere as serious problems. We then focus on how climate change rose to the top of the global political agenda in the 1990s. In the final weeks of the course, we consider new issues likely to arise in the coming decades, including climate refugees, massive adaptation projects, and geo-engineering.

Modalités d'évaluation / Assignments and grading

- **Active** participation in class discussions — 20% of grade
- One in-class presentation of 15-25 minutes, including a 1-page handout for the class — 30% of grade
- Final paper of 8-10 pages (details to be announced later in the course) — 50% of grade
- Attendance at no fewer than 10 of the 12 class sessions is required to pass the course

Discussions: details

This is a discussion seminar. Its success depends on the commitment, involvement, and timeliness of all participants. Therefore, I expect you to arrive in class on time and thoroughly prepared to participate actively in all discussions.

Cold calls: to encourage full involvement and preparation, I will “cold call” several students during each class. This means that I will ask you a direct question on the readings; I will expect answers that demonstrate your knowledge of the material. This practice is intended to help you prepare for class and to learn to think and talk “on your feet,” a crucial skill required by almost every profession.

I will grade you on both the regularity and the quality of your participation, including your responses to cold calls. Attendance without regular, thoughtful, constructive participation is not acceptable.

Class presentations: details

Once during the term, you will make a presentation to the class.

- Read all the course materials for that session (including the recommended readings).
- Spend 3-4 hours conducting additional research. Online research is fine, but you must go beyond Wikipedia. Try to find original sources, i.e. documents and images from the period or episode we're reading about.
- Meet with the other student(s) presenting in that session and collectively preparing a one-page handout on your findings. This should include (a) the 3-4 most important points from the readings and (b) new points from your own research. Bring paper copies of this handout to all class members at the start of the seminar.
- At the beginning of that class session, presenters will jointly spend a maximum of 25 minutes expanding upon the main points in the readings and telling us what you learned in your research. Presentations should draw upon the recommended readings as appropriate, but they should NOT engage in extended reviews of those readings (that's what the pre-circulated "think pieces" are for). **All presenters should participate in the presentation.** You can use the projector if you want, but it's not required.
- Presentations will be timed. You will receive warnings at the 15-minute and 20-minute marks. A timer will go off at 25 minutes, and you must stop talking then. This practice is meant to prepare you for professional presentations, which are always time-limited. Speaking concisely and effectively is an important skill in any profession.

Plagiarism

I assume that you will do all the written assignments yourself, and that when you make use of the words and ideas of other writers, you will quote and cite them correctly. Nevertheless, we are obligated by SciencesPo policy to verify that you have done so. You are therefore **required** to process all assignments through the Urkund anti-plagiarism system. Please refer to the assignments for further details.

Plan du cours / Course schedule

Séance n°1 | 22 January | Introduction: a brief history of climate knowledge

Required reading:

- Edwards, *A Vast Machine (AVM)*, [Introduction](#) and [Chapter 1](#). You may also wish to visit the book's [website](#).

Séance n°2 | 29 January | Climate politics before the 20th century

Presenters: Tamara and Constance

Required readings:

- Edwards, *AVM*, chapter 3-4
- Fleming, *Historical Perspectives on Climate Change*, Chapter 2
- Stehr and von Storch, "Eduard Brückner's Ideas: Relevant in His Time and Today"
- Eduard Brückner, "How constant is today's climate?"

Recommended reading:

- Fleming, *Fixing the Sky*, Chapter 1
- Fleming, *Historical Perspectives on Climate Change*, Introduction and Chapter 1

Séance n°3 | 5 February | 1939-1959: reviving the CO₂ theory of climate change

Presenters: Sam and Ana

Required readings:

- Edwards, *AVM*, chapters 5 and 7
- Fleming, *Historical Perspectives on Climate Change*, chapter 9

Recommended readings:

- Fleming, *Historical Perspectives on Climate Change*, chapters 5-7
- G.S. Callendar, "The Artificial Production of Carbon Dioxide and Its Influence on Temperature"
- R. Revelle and H. Suess, "Carbon Dioxide Exchange Between the Atmosphere and Ocean and the Question of an Increase of Atmospheric CO₂ during the Past Decades"

Séance n° 4 | 12 February | Weather and climate modification

Presenters: Sara and Hind

Required readings:

- Fleming, *Fixing the Sky*, chapters 5-6
- von Neumann, "Can we survive technology?"

Recommended readings:

- Fleming, *Fixing the Sky*, chapter 4

Séance n°5 | 19 February | *Limits to Growth*, the supersonic transport, and global cooling

Presenters: Lorena and Almira

Required readings:

- Edwards, *AVM*, chapters 13-14
- *Limits to Growth* (excerpts)
- Fleming, *Historical Perspectives on Climate Change*, chapters 5-7

Recommended readings:

- Oreskes and Conway, *Merchants of Doubt*, Introduction and Chapter 1
- E. Vieille Blanchard, "The origins of integrated models of climate change"
- *Study of Man's Impact on Climate* (excerpts)

Séance n°6 | 26 February | Nuclear winter and the ozone hole

Presenters: Timothée and Joseph

Required readings:

- Edwards, "Entangled histories: Climate science and nuclear weapons research"
- Edwards, *AVM*, Chapter 14 (review)
- Oreskes and Conway, *Merchants of Doubt*, Chapter 4

Recommended readings:

- Dörries, "The Politics of Atmospheric Sciences: 'Nuclear Winter' and Global Climate Change"

Séance n°7 | 12 March | "The balance of evidence:" the 1995 IPCC report

Presenters: Johanna and Liz

Required readings:

- Edwards, AVM, Chapter 15
- Oreskes and Conway, *Merchants of Doubt*, Chapter 6, Conclusion

Séance n°8 | 19 March | Climate Audit, Climategate, and the future of public science

Presenters: Kai, Dimitrios, and Rose

Required readings:

- Lahsen, "Climategate: The Role of the Social Sciences"
- Grundmann, "The legacy of climategate: revitalizing or undermining climate science and policy?"
- S. Beck, "Between Tribalism and Trust: The IPCC Under the Public Microscope"

Recommended readings:

- Oreskes and Conway, *Merchants of Doubt*, Epilogue

Séance n°9 | 26 March | Climate change adaptation: guest session with Nicolas Baya-Lafitte and Ian Gray of Medialab on MEDEA, Mapping Environmental DEbates on Adaptation

Presenters: Julia and Hildur

Required readings:

- Dessai, S., M. Hulme, R. Lempert, and R. Pielke Jr. "Climate Prediction: A Limit to Adaptation." In *Adapting to Climate Change: Thresholds, Values, Governance*, edited by W. N. Adger, I. Lorenzoni, and K. L. O'Brien, 64-78. Cambridge, UK: Cambridge University Press, 2009.
- Schipper, E.L.F. "Conceptual History of Adaptation in the Unfccc Process." *Review of European Community & International Environmental Law* 15, no. 1 (2006): 82-92.
- Five short articles on "the Rahmstorf Affair"
 - Rahmstorf, S. "A Semi-Empirical Approach to Projecting Future Sea-Level Rise." *Science* 315, no. 5810 (2007): 368-70.
 - Oppenheimer, M, and and others. "Letters to Science." *Science* 319 (2008): 409-10.
 - Rahmstorf, S. "Response to Comments on "a Semi-Empirical Approach to Projecting Future Sea-Level Rise"." *Science* 317, no. 5846 (2007): 1866d-1866d.
 - Oppenheimer, M, O'Neill, BC, Webster, M, and Agrawala, S. "Climate Change. The Limits of Consensus." *Science* 317, no. 5844 (2007): 1505-06.
 - Holgate, S., Jevrejeva, S., Woodworth, P., and Brewer, S. "Comment on" a Semi-Empirical Approach to Projecting Future Sea-Level Rise"." *Science* 317, no. 5846 (2007): 1866-1866.

Séance n°10 | 2 April | Guest session with Bruno Latour

Presenters: Astrid, Anna, and Patrick

Reading TBA

Séance n°11 | 9 April | Climate migration: guest session with François Gemenne

Presenters: Angelina and Tatiana

Required readings:

- F. Gemenne, "Climate-Induced Population Displacements in a 4 Degrees C+ World"
- F. Gemenne, "Why the Numbers Don'T Add Up: A Review of Estimates and Predictions of People Displaced By Environmental Changes." *Global Environmental Change* 21 (2011): S41-S49.

Séance n°12 | 16 April | Geoengineering, and conclusion of the course

Required reading:

- Fleming, *Fixing the Sky*, Chapters 7-8

Bibliographie / Bibliography

To buy (as a paper book or as an ebook) :

Paul N. Edwards, *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming* (MIT Press, 2010)

James R. Fleming, *Fixing the Sky: The Checkered History of Weather and Climate Control* (New York: Columbia Univ Press, 2010)

Naomi Oreskes and Erik M. Conway, *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues From Tobacco Smoke to Global Warming* (New York: Bloomsbury Press, 2010)

James R. Fleming, *Historical Perspectives on Climate Change* (New York: Oxford University Press, 1998)

All other readings (articles and book chapters) will be available online AFTER JANUARY 22 at <http://pne.people.si.umich.edu/PDF/CCPPF2012.zip> (caution: large file).