

Georgetown University
Department of Government
Environmental Politics (GOVT-2253-10)
Summer 2025

When: Mondays through Fridays (May 19th to June 13th 2025 from 10:45 – 12:45 hrs)

Where: Car Barn 302

Instructor: Professor Franz Baumann, Ph.D.
e: franz.baumann@georgetown.edu

Office Hours: By Appointment

Seminar Description:

The seminar will survey the science, economics and politics of Climate Change. Sources and resources will be provided regarding the scientific consensus on climate change as an accelerating and perhaps irreversible threat to human civilization.

The solution to Climate Change is not mysterious: Decarbonization, i.e. reducing to zero Greenhouse Gas (GHG) emissions into the atmosphere and removing from the atmosphere GHGs already stored there. What is involved in decarbonization – and why is it so incredibly hard? To answer this, the analysis and the estimates of the economics and politics of climate change will be reviewed.

The climate is a global public good, and Climate Change – to which countries and people contribute unequally, and by which they are affected asymmetrically – a textbook case of a problem without borders that can be solved only through international cooperation. National efforts are essential, yet insufficient. The history of multilateral prevention efforts will be retraced and their promise and problems explored.

The scope of technical solutions to decarbonization – energy efficiency, renewable energy sources, carbon capture and sequestration, geoengineering – will be surveyed.

The consequences of inadequate policy responses to climate change will be explored.

Learning Objectives:

Students will be introduced to the:

- ▶ Richness and relevance of the work of natural scientists on Climate Change so as to appreciate the gap between the scientifically required and the politically feasible;
- ▶ Complexity of Climate Change as an international public policy issue that makes cooperation not just valuable, but essential since even the largest and richest countries – assuming they would be interested – cannot solve the problem on their own;
- ▶ Technical, financial and public policy options to mitigate and adapt to Climate Change;
- ▶ Implications of a failure to mitigate Climate Change.

Grading:

- ▶ Attendance and Participation: 40%
- ▶ Oral Presentations: 20%
- ▶ Briefing Note: 40%

Attending each class is required. Missing more than two classes will impact your grade. However, if you must miss a class due to illness or another unforeseeable circumstance, please email me in advance.

Students will give a 15 minute presentation on the subject of their briefing note and moderate the discussion.

The Briefing Note: You are a researcher in an institution – government, international organization or NGO – and your supervisor requests you to prepare a briefing note on a given topic.¹ The note should introduce the subject, summarize the science, list trustworthy sources, cite authoritative analyses, outline opposing views and close with a personal conclusion. The Briefing Note should be a Microsoft Word document (not google doc), typed in *Times New Roman* 12 pt, and not exceed five pages, be formatted similar to this syllabus, i.e. list the course details, the Briefing Note's title, contain a footer and list background information, references as well as cited sources in footnotes. Endnotes can be used for a general literature list.

Week One: Setting the Stage: The History and Science of Energy, Climate Change and Biodiversity Loss.

Week Two: Pressures on the Earth System and their Consequences

Week Three: Mitigation and Adaptation

Week Four: The Politics of Climate Change and Biodiversity Action – Where do we go from here?

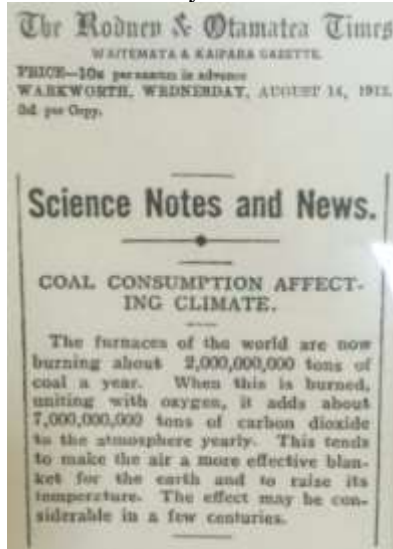
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- 1 **Briefing Note Subjects** – indicative Suggestions:
- Anthropocene: Has a new Geological Era begun?
 - Carbon Budget: Concept and Implications
 - Carbon Capture and Storage: Promises, Risks, Costs and Challenges
 - Carbon Footprint: Concept and Implications
 - Carbon Pricing: Promises, Politics and Prospects
 - Climate Club: Promises and Challenges
 - Geoengineering: Promises, Risks, Costs and Challenges
 - Global Heating: Visualizing CBDR
 - Hydrogen: Promises, Politics and Prospects
 - Litigation: The law as an Instrument to advance Climate Mitigation
 - Nuclear Energy: Promises, Risks, Costs and Challenges
 - Social Cost of Carbon: Concept, Promises and Challenges
 - Solar Radiation Management: Promises, Risks, Costs and Challenges
 - Renewable Energy: Promises, Risks, Costs and Challenges
 - Tipping Points: Risks, Challenges and Implications

Readings

For each week, please read at least three articles. The books are for those interested in more background or in-depth study. More reading suggestions will follow as the seminar progresses.

Week One: Setting the Stage: The History and Science of Energy and Climate Change

[Leandro Vigna](#), [Johannes Friedrich](#) and Thomas Damassa, “The History of Carbon Dioxide Emissions,” *World Resources Institute*, June 3, 2024; <https://www.wri.org/insights/history-carbon-dioxide-emissions>
National Library of New Zealand; <https://paperspast.natlib.govt.nz/newspapers/ROTWKG19120814.2.56.5>



Franz Baumann, “Sounding the Climate Alarm: Scientists and Politics,” in *Conservation Science and Advocacy for a Planet in Peril: Speaking Truth to Power*, Dominick DellaSala (ed.), Elsevier (New York-Amsterdam, 2021); ISBN: 9780128129883; <https://www.elsevier.com/books/conservation-science-and-advocacy-for-a-planet-in-peril/dellasala/978-0-12-812988-3>

NASA: Scientific Consensus: Earth's Climate is Warming; <https://climate.nasa.gov/scientific-consensus/>

Nathaniel Rich, “Losing Earth,” *The New York Times Magazine*, August 1, 2018; <https://www.nytimes.com/interactive/2018/08/01/magazine/climate-change-losing-earth.html>

Union of Concerned Scientists, 1992 World Scientists' Warning to Humanity; July 16, 1992; <https://www.ucsusa.org/resources/1992-world-scientists-warning-humanity>

Carl Sagan testifying before Congress on the Greenhouse Effect on December 10, 1985, <https://www.youtube.com/watch?v=Wp-WiNXH6hI>

James Hansen, NASA Goddard Space Institute, testimony to the U.S. Senate Committee on Energy and Natural Resources on Thursday, June 23, 1988; https://www.sealevel.info/1988_Hansen_Senate_Testimony.html

International Energy Agency (IEA), *World Energy Outlook 2024*, (16 October 2024); <https://www.iea.org/reports/world-energy-outlook-2024>

Week Two: Pressures on the Earth System and their Consequences

William J Ripple, Christopher Wolf, Jillian W Gregg, Johan Rockström, Michael E Mann, Naomi Oreskes, Timothy M Lenton, Stefan Rahmstorf, Thomas M Newsome, Chi Xu, Jens-Christian Svenning, Cássio Cardoso Pereira, Beverly E Law, Thomas W Crowther, “The 2024 state of the climate report: Perilous times on planet Earth,” *BioScience*, 8 October 2024; <https://doi.org/10.1093/biosci/biae087>

Intergovernmental Panel on Climate Change (IPCC), “Global Warming of 1.5 °C: an IPCC special report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change,

sustainable development, and efforts to eradicate poverty,” Summary for Policymakers, 6 October 2018; http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf

Will Steffen, Johan Rockström, Katherine Richardson, Timothy M. Lenton, Carl Folke, Diana Liverman, Colin P. Summerhayes, Anthony D. Barnosky, Sarah E. Cornell, Michel Crucifix, Jonathan F. Donges, Ingo Fetzer, Steven J. Lade, Marten Scheffer, Ricarda Winkelmann, and Hans Joachim Schellnhuber, “Trajectories of the Earth System in the Anthropocene,” *Proceedings of the National Academy of Sciences* (PNAS), Volume 115, No. 33, August 14, 2018; <http://www.pnas.org/content/pnas/115/33/8252.full.pdf>

World Economic Forum, *The Global Risks Report 2025* (20th edition; 15 January 2025); <https://www.weforum.org/publications/global-risks-report-2025/data-on-global-risk-perceptions-2025/>

Timothy M. Lenton, Johan Rockström, Owen Gaffney, Stefan Rahmstorf, Katherine Richardson, Will Steffen & Hans Joachim Schellnhuber, “Climate tipping points – too risky to bet against. The growing threat of abrupt and irreversible climate changes must compel political and economic action on emissions.” *Nature*, Wednesday, 27 November 2019; <https://www.nature.com/articles/d41586-019-03595-0>

Week Three: Mitigation and Adaptation

Henry Shue, "Mitigation gambles: uncertainty, urgency and the last gamble possible," *Philosophical Transactions of the Royal Society A*, 2 April 2018; <http://rsta.royalsocietypublishing.org/content/376/2119/20170105>

Elizabeth Kolbert, "Can Carbon-Dioxide Removal Save the World? CO₂ could soon reach levels that, it's widely agreed, will lead to catastrophe," *The New Yorker*, November 20, 2017; <https://www.newyorker.com/magazine/2017/11/20/can-carbon-dioxide-removal-save-the-world>

David Spratt and Ian Dunlop, “What lies beneath? The Understatement of existential Climate Risk.” *Breakthrough – National Centre for Climate Restoration*, 2018; https://www.academia.edu/37620051/What_Lies_Beneath_The_understatement_of_existential_climate_risk?auto=download

The Dasgupta Review: Final Report of the Independent Review on the Economics of Biodiversity,” 2 February 2021; <https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review>

United Nations Environment Programme (UNEP), *Making Peace with Nature: A scientific blueprint to tackle the climate, biodiversity and pollution emergencies*. February 2021; <https://www.unep.org/resources/making-peace-nature>

Week Four: The Politics of Climate Change Action – Where do we go from here?

Franz Baumann, "That Plan from Rio: The Promise and Limits of Multilateral Climate Governance." *Social Research: An International Quarterly* 90, No. 4 (2023); <https://doi.org/10.1353/sor.2023.a916349>

Franz Baumann, “Multilateral Climate Governance: its Promises and Limits,” *Global Governance: A Review of Multilateralism and International Organizations*, Vol 30 (2), 21 August 2024; <https://doi.org/10.1163/19426720-03002010>

Mark Carney, “Breaking the Tragedy of the Horizon: Climate Change and Financial Stability.” Speech at Lloyd’s of London, 29 September 2015; <https://www.bankofengland.co.uk/speech/2015/breaking-the-tragedy-of-the-horizon-climate-change-and-financial-stability>

United Nations Environment Programme (UNEP), *The Emissions Gap Report 2024: No more hot air ... please!* 24 October 2024; <https://www.unep.org/resources/emissions-gap-report-2024>

SEI, IISD, ODI, E3G, and UNEP. *The Production Gap Report: 2023*. 8 November 2023; <https://www.unep.org/resources/production-gap-report-2023>

Robin D. Lamboll, Zebedee R. J. Nicholls, Christopher J. Smith, Jarmo S. Kikstra, Edward Byers & Joeri Rogelj, “Assessing the size and uncertainty of remaining carbon budgets,” *Nature Climate Change*, 20 October 2023; <https://doi.org/10.1038/s41558-023-01848-5>

Isaak Mengesha, and Debraj Roy, “Carbon pricing drives critical transition to green growth,” *Nature Communication*, 16, 1321, 3 February 2025; <https://doi.org/10.1038/s41467-025-56540-3>

The Guardian Carbon Countdown Clock;
<https://www.theguardian.com/environment/datablog/2017/jan/19/carbon-countdown-clock-how-much-of-the-worlds-carbon-budget-have-we-spent>

Further Readings:

Jeff Goodell, *The Water will Come: Rising Seas, Sinking Cities, and the Remaking of the Civilized World* (New York: Little, Brown & Co, 2017) **2**

Dale Jamieson, *Reason in a Dark Time: why the struggle against climate change failed, and what that means for our future* (New York: Oxford University Press, 2014) **3**

Elizabeth Kolbert, *The Sixth Extinction: An Unnatural History*, (New York: Henry Holt & Company, 2014) **4**

Bill McKibben, *Falter: Has the Human Game Begun to Play itself out?* (New York: Henry Holt, 2019) **5**

Naomi Oreskes and Eric M. Conway, *Merchants of Doubt* (New York, Bloomsbury, 2010) **6**

John Vaillant, *Fire Weather: A True Story from a Hotter World* (New York: Knopf, 2024) **7**

Vaclav Smil, *How the World Really Works* (New York: Viking, 2022) **8**

Sources and Resources:

AidData; <https://www.aiddata.org/about>

Alliance of World Scientists; <https://scientistswarning.forestry.oregonstate.edu/>

Americans for Carbon Dividends; <http://www.afcd.org/>

Atlantic Council, Global Energy Center; <https://www.atlanticcouncil.org/programs/global-energy-center/>

The Atlantic – Weekly Planet (Robinson Meyer); weeklyplanet@theatlantic.com

BP Energy Charting Tool; <https://www.bp.com/en/global/corporate/energy-economics/energy-charting-tool.html>

Statistical Reviews of World Energy

Brookings Institution; <https://www.brookings.edu/>

Bulletin of the Atomic Scientists; <https://thebulletin.org/#>

Canadian Broadcasting Corporation (CBC) *What on Earth*; <https://www.cbc.ca/radio/whatonearth>

Carbon Brief; <https://www.carbonbrief.org/>

2 Franz Baumann, "Present at the Destruction: Humanity's Success in Ruining Nature," *Los Angeles Review of Books*, February 21, 2018; <https://lareviewofbooks.org/article/present-destruction-humanitys-success-ruining-nature/>

3 Jonathan Franzen, "Carbon Capture: How climate change made it harder for people to care about conservation," *The New Yorker*, March 30, 2015; <https://www.newyorker.com/magazine/2015/04/06/carbon-capture>

4 Robert McCrum, "The 100 best nonfiction books of all time: the full list," *The Guardian*, 31 December 2017; <https://www.theguardian.com/books/2017/dec/31/the-100-best-nonfiction-books-of-all-time-the-full-list> Elizabeth Kolbert's, *The Sixth Extinction: An Unnatural History*, is listed as #1

The Guardian, "The 100 best books of the 21st century," 21 September 2019; Elizabeth Kolbert's, *The Sixth Extinction: An Unnatural History*, is listed as #15; <https://www.theguardian.com/books/2019/sep/21/best-books-of-the-21st-century>

5 Franz Baumann, "Climate Change: The Problem from Hell," *Los Angeles Review of Books*, June 9, 2019; <https://lareviewofbooks.org/article/climate-change-the-problem-from-hell/>

6 Erica Goode, "Climate Change Denialists Say Polar Bears Are Fine. Scientists Are Pushing Back," *The New York Times*, April 10, 2018; <https://www.nytimes.com/2018/04/10/climate/polar-bears-climate-deniers.html>

7 John Washington, "Burning Up," *The New York Review of Books*, May 9, 2024; <https://www.nybooks.com/articles/2024/05/09/burning-up-fire-weather-john-vaillant/>

8 David Owen, "Vaclav Smil and the Value of Doubt," *The New Yorker*, February 20, 2024; <https://www.newyorker.com/culture/persons-of-interest/vaclav-smil-and-the-value-of-doubt>

Carbon Countdown Clock; <https://www.theguardian.com/environment/datablog/2017/jan/19/carbon-countdown-clock-how-much-of-the-worlds-carbon-budget-have-we-spent>

Carbon Disclosure Project, <https://www.cdp.net/en>

Carbon Dioxide Information Analysis Center; Oak Ridge National Laboratory; Oak Ridge, TN 37831-6290; http://cdiac.ornl.gov/ftp/ndp030/global.1751_2013.ems

Carbon Tax Center; <https://www.carbontax.org/>

The Carbon Tracker Initiative; <https://www.carbontracker.org/>

Carnegie Climate Governance Initiative (C2G); <https://www.c2g2.net/>

CD Links, Linking Climate and Development Policies – Leveraging International Networks and Knowledge Sharing; <http://www.cd-links.org/>

CE Delft; <https://www.cedelft.eu/en>

Center for biological Diversity; <https://biologicaldiversity.org/about/>

Center for Climate and Energy Solutions; <https://www.c2es.org/about/>

Center for Climate and Security; <https://climateandsecurity.org/>

Center for Global Development; <https://www.cgdev.org/>

Center for Progressive Reform; <http://progressivereform.org/>

Center for Research on Energy and Clean Air; <https://energyandcleanair.org/>

Center for International Environmental Law (CIEL); <https://www.ciel.org/>

Center for Strategic and International Studies (CSIS); <https://www.csis.org/>

Center for Sustainable Development; Earth Institute, Columbia University; <http://www.earth.columbia.edu/articles/view/1791>

Centre for Research on Energy and Clean Air (CREA); <https://energyandcleanair.org/>

Circle Economy; <https://www.circularity-gap.world/about>

 Circularity Gap Report; <https://www.circularity-gap.world/about>

CleanTechnica; <https://cleantechnica.com/cleantechnica/>

ClientEarth; <https://www.clientearth.org/>

Climate Accountability Institute; <https://climateaccountability.org/index.html>

Climate Action Tracker; <http://climateactiontracker.org/>

Climate Analytics; <http://climateanalytics.org/>

The Climate Brink – Andrew Dessler & Zeke Hausfather; <https://www.theclimatebrink.com/>

Climate Change Performance Index; <https://www.germanwatch.org/de/ksi>
<https://ccpi.org/downloads/>

Climate Central; <http://sealevel.climatecentral.org/about>

Climate Home News; <http://www.climatechangenews.com/>

Climate Impact Lab; <http://www.impactlab.org/>

Climate Investigations Center; <https://climateinvestigations.org/>

Climate Interactive; <https://www.climateinteractive.org/>

Climate Liability News; <https://www.climateliabilitynews.org/>

Climate Policy: An American Meteorological Society Project; <http://www.climatepolicy.org/climatepolicy/>

Climate Policy Initiative; <https://climatepolicyinitiative.org/>

Climate Policy Journal; <http://climatestrategies.org/climate-policy-journal/>
Climate Reality Project; <https://www.climateRealityproject.org/our-mission>
Climate Reanalyzer; <http://cci-reanalyzer.org/>
Climate Research; <https://www.epa.gov/climate-research>
Climatic Change; <https://link.springer.com/journal/10584>
Climatic Change Centre Austria (CCCA); <https://ccca.ac.at/startseite>
The Climate Docket; <https://www.climatedocket.com/about-us/>
Climate Watch; <https://www.climatewatchdata.org/about/description>
Climate Watch NDC Tracker; <https://www.climatewatchdata.org/2020-ndc-tracker>
Coalswarm; <http://coalswarm.org/about-coalswarm/>
CO₂–Earth: Are we stabilizing yet? <https://www.co2.earth/global-co2-emissions>
Conflict and Environment Observatory; <https://ceobs.org/>
Copernicus Climate Change Service; <https://climate.copernicus.eu/about-us>
DESMOG: Clearing the PR-Pollution that clouds Climate Science; <https://www.desmogblog.com/>
Deutsche Umwelthilfe; <https://www.duh.de/home/>
EarthJustice: Because the Earth needs a good Lawyer; <https://earthjustice.org/>
EcoHealth Alliance; <https://www.ecohealthalliance.org/about>
EndCoal – Coal Plant Tracker; <https://endcoal.org/global-coal-plant-tracker/>
Energiemonitor (Germany); <https://www.zeit.de/wirtschaft/energiemonitor-strompreis-gaspreis-erneuerbare-energien-ausbau>
Energy Education, University of Calgary; <https://energyeducation.ca/encyclopedia/Gigatonne>
Energy and Policy Institute; <https://www.energyandpolicy.org/>
Energy Policy Institute at the University of Chicago; <https://epic.uchicago.edu/about/>
Energy Watch Group; <http://energywatchgroup.org/>
Environment America; <https://environmentamerica.org/home>
Environment: Science and Policy for Sustainable Development;
<https://www.tandfonline.com/toc/venv20/current>
Environmental and Energy Study Institute (EESI); <https://www.eesi.org/about>
Environmental Integrity Project; <https://environmentalintegrity.org/>
Environmental Investigation Agency; <https://eia-global.org/>
Environmental Research Letters; <https://iopscience.iop.org/journal/1748-9326>
European Academies Science Advisory Council; <https://www.easac.eu/>
European Commission, *Climate Action: 2020 Climate and Energy Package*, (undated);
https://ec.europa.eu/clima/policies/strategies/2020_en#tab-0-0
European Commission, *Climate Action: Reducing CO₂ emissions from passenger cars*, (undated);
https://ec.europa.eu/clima/policies/transport/vehicles/cars_en
FloodList – Floods and flooding news from around the world; <https://floodlist.com/>
Follow This – Shareholder Action; <https://www.follow-this.org/>
Fossil Free Divestment; <https://gofossilfree.org/divestment/commitments/>

Fossil Free Indexes; <https://fossilfreeindexes.com/about-us/>

The Fund for Peace; <http://global.fundforpeace.org/>

German Council on the Environment (Sachverständigenrat Umwelt, SRU);
https://www.umweltrat.de/EN/home/home_node.html;jsessionid=2413DDDBA07232DF9FA0F8E1887946EB.1_cid321

German Watch; <https://germanwatch.org/en/climate-change>

Global CCS Institute; <https://www.globalccsinstitute.com/>

Global Center on Adaptation; <https://gca.org/our-work>

Global Challenges Foundation; <https://globalchallenges.org/>

Global Carbon Atlas; <http://www.globalcarbonatlas.org>

Global Carbon Project; <http://www.globalcarbonproject.org/carbonbudget/>

The Global Commission on the Economy and Climate; <http://newclimateeconomy.net/content/about>

Global E-Waste Strategic Partnership; <https://globalewaste.org/>

Global Footprint Network; <http://www.footprintnetwork.org/>

Global Forest Watch; <https://www.globalforestwatch.org/>

Global Livestock Methane Counter; <https://wolfkind.neocities.org/methane/counter.html>

Global Wealth Report, Credit Suisse; <https://www.credit-suisse.com/about-us/en/reports-research/global-wealth-report.html>

Grantham Institute – Climate Change and the Environment, Imperial College London;
<https://www.imperial.ac.uk/grantham/about-us/>

Grist; <https://grist.org/>

The Guardian Climate Change; <https://www.theguardian.com/environment/climate-change>

Heated; <https://heated.world/>

Inside Climate News; <https://insideclimatenews.org/>

Institute for Advanced Sustainability Studies Potsdam (IASS); <https://www.iass-potsdam.de/en>

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES);
<https://www.ipbes.net/>

Integrated Carbon Observation System (ICOS); <https://www.icos-cp.eu/about>

International Energy Agency (IEA); <http://www.iea.org/>

The International Commission on Stratigraphy, <http://www.stratigraphy.org/>

The International Council on Clean Transportation (ICCT); <https://theicct.org/>

International Institute for Applied Systems Analysis (IIASA); <http://www.iiasa.ac.at/>

International Panel on Climate Change (IPCC), <https://www.ipcc.ch>

“Global Warming of 1.5°C: an IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty,” Summary for Policymakers, 6 October 2018;
http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf

International Renewable Energy Agency (IRENA); <http://www.irena.org/>

Journal of Geophysical Research; <https://phys.org/journals/journal-of-geophysical-research/>

Klimafakten; <https://www.klimafakten.de/>

Klimareporter; <https://www.klimareporter.de/>

KLUG (Deutsche Allianz Klima und Gesundheit); <https://www.klimawandel-gesundheit.de/>

Mauna Loa, Hawaii Observatory Earth System; <https://www.esrl.noaa.gov/gmd/obop/mlo/>

Mercator Research Institute on Global Commons and Climate Change (MCC); <https://www.mcc-berlin.net/ueber-uns.html>

Met Office (United Kingdom); <https://www.metoffice.gov.uk/about-us/who>

Met Office Mauna Loa Carbon Dioxide Forecast; <https://www.metoffice.gov.uk/research/climate/seasonal-to-decadal/long-range/forecasts/co2-forecast>

MIT Center for Energy and Environmental Policy Research; <http://ceepr.mit.edu/>

NASA, Global Climate Change; <https://climate.nasa.gov/>

National Academies of Sciences; <http://sites.nationalacademies.org/sites/climate/index.htm>

Climate Change. Evidence and Causes; <http://nas-sites.org/climate-change/summary.html#.XNiR2BRKjIU%20http://dels.nas.edu/resources/static-assets/exec-office-other/climate-change-full.pdf>

Joint science academies' statement: Global response to climate change, 2005; <http://nationalacademies.org/onpi/06072005.pdf>

National Oceanography Centre, <https://www.noc.ac.uk/>

National Oceanic and Atmospheric Administration; <https://www.climate.gov/>

Nature; <https://www.nature.com/>

Nature Climate Change; <https://www.nature.com/nclimate/about>

Nature Geoscience; <https://www.nature.com/ngeo/>

The New York Times – Climate fwd; <https://www.nytimes.com/newsletters/climate-change>

The New Yorker – Climate Crisis (weekly newsletter, written by Bill McKibben); <https://www.newyorker.com/newsletter/the-climate-crisis>

Öko-Institut e.V. – Institut für angewandte Ökologie; <https://www.oeko.de/das-institut/>

Our World in Data; <https://ourworldindata.org/>

Outrider Foundation; <https://outrider.org/climate-change/interactive/climate-change/>

Pacific Northwest National Laboratory; <https://www.pnnl.gov/>

PBL Netherlands Environmental Assessment Agency; <http://www.pbl.nl/en/aboutpbl>

Potsdam Institute for Climate Impact Research; <https://www.pik-potsdam.de/pik-frontpage>

Proceedings of the National Academy of Sciences of the United States of America (PNAS); <http://www.pnas.org/>

Quaternary Science Reviews; <https://www.sciencedirect.com/journal/quaternary-science-reviews/articles-in-press>

Rainforest Action Network; <https://www.ran.org/>

Real Climate; <http://www.realclimate.org/index.php/archives/2007/05/start-here/>

Reclaim Finance; <https://reclaimfinance.org/site/en/home/>

Resources for the Future; <http://www.rff.org/>

Social Cost of Carbon; <https://www.rff.org/topics/scc/>

Royal Society; <https://royalsociety.org/>

The Basics of Climate Change; <https://royalsociety.org/news-resources/projects/climate-change-evidence-causes/basics-of-climate-change/>

Rocky Mountain Institute; <https://rmi.org>

Sachverständigenrat Umwelt (SRU), German Council on the Environment; https://www.umweltrat.de/EN/home/home_node.html

SDG Index and Dashboards Report; <http://sdgindex.org/>

Science; <http://www.sciencemag.org/>

Scientists4Future; <https://www.scientists4future.org/>

Scripps Institution of Oceanography; <https://scripps.ucsd.edu/>

The Shift Project; <https://theshiftproject.org/en/our-purpose/>

Sustainable Living Institute; <http://sustainablelivinginstitute.org/index.html>

Publishes Summary of current literature on *Climate Change: an Existential Threat*

Tellus A: Dynamic Meteorology and Oceanography; <https://www.tandfonline.com/toc/zela20/current>

Tellus B: Chemical and Physical Meteorology; <https://www.tandfonline.com/toc/zela20/current>

Transition Accelerator; <https://www.transitionaccelerator.ca/>

Transparent Supply Chains for Sustainable Economies (TRASE); <https://trase.earth/?lang=en>
350.org; <https://350.org/>

2000-Watt Society; <https://www.2000-watt-society.org/act>

The Tyee; <https://thetyee.ca/>

Umweltbundesamt (UBA, German Federal Environment Office); <https://www.umweltbundesamt.de/en/the-uba>

United Nations Environment Programme (UNEP); <https://www.unenvironment.org/about-un-environment>

United Nations Framework Convention on Climate Change (UNFCCC);
<https://unfccc.int/resource/docs/convkp/conveng.pdf> *Annual reports*; <https://unfccc.int/annualreport>

Urgewald; <https://urgewald.org/who-we-are-what-we-do>

U.S. Department of Commerce, National Oceanic & Atmospheric Administration (NOAA);
<https://www.esrl.noaa.gov/gmd/ccgg/trends/>

U.S. Department of Energy, Carbon Dioxide Information Analysis Center (CDIA); http://cdiac.ess-dive.lbl.gov/trends/emis/trends_coun.html

U.S. Energy Information Administration (EIA); SHORT-TERM ENERGY OUTLOOK DATA BROWSER;
<https://www.eia.gov/outlooks/steo/data/browser/#/?v=5&f=A&s=&start=2006&end=2020&linechart=GDPOXUS&ctype=linechart&maptype=o&id=>

U.S. Environmental Protection Agency (EPA); Global Greenhouse Gas Emissions (by Gas; by Economic Sector; by Country; Trends); <https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data> <https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data#Trends>

The Washington Post – Energy and Environment Newsletter;
https://www.washingtonpost.com/climate-environment/?itid=nb_hp_climate-environment

Weltethos-Institut, Universität Tübingen; <https://www.weltethos-institut.org/en/institute/>

Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen (WBGU, German Advisory Council on Global Change); <https://www.wbgu.de/de/>

World Bank:

Per capita (current \$); <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD>

Totals (current \$); <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD>

Electricity data; <https://data.worldbank.org/indicator/EG.USE.ELEC.KH.PC>
CO₂ Emissions per country; <https://data.worldbank.org/indicator/EN.ATM.CO2E.KT>
World Climate Research Program; <https://www.wcrp-climate.org/>
World Green Building Council; <http://www.worldgbc.org/>
World Inequality Database; <https://wid.world>
World Meteorological Organization; <https://public.wmo.int/en>
World Nuclear Industry Status Report; <https://www.worldnuclearreport.org/>
World Resources Institute; <http://www.wri.org/>
CAIT Climate Data Explorer; <https://www.wri.org/resources/data-visualizations/cait-climate-data-explorer>
Worldwatch Institute; <http://www.worldwatch.org/mission>
The World Weather Attribution Project; <http://www.climateprediction.net/weatherathome/world-weather-attribution/>
World Wildlife Fund (WWF), <https://www.worldwildlife.org>
Yale Program on Climate Change Communication; <https://climatecommunication.yale.edu/visualizations-data/>
Zentralanstalt für Meteorologie und Geodynamik; <http://www.zamg.ac.at/cms/de/klima/informationsportal-klimawandel>

Non-State Associations:

Global covenant of Mayors for Climate and Energy; <https://www.globalcovenantofmayors.org/>
RE 100; <http://there100.org/>
Renewable Energy Policy Network for the 21st Century (REN21); <http://www.ren21.net/gsr-2018/pages/ren21/ren21/>
Under2Coalition; <https://www.under2coalition.org/about>

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Sexual Misconduct: The following [SCS Syllabus Statement](#) has been endorsed by the Faculty Senate. It is therefore included in this syllabus.

Georgetown University and its faculty and staff are committed to supporting survivors and those impacted by sexual misconduct, which includes sexual assault, sexual harassment, relationship violence, and stalking. Georgetown requires faculty members, unless otherwise designated as confidential, to report all disclosures of sexual misconduct to the University Title IX Coordinator or a Deputy Title IX Coordinator. If you disclose an incident of sexual misconduct to a professor or staff member in or outside of the classroom (with the exception of disclosures in papers), that faculty or staff member must report the incident to the Title IX Coordinator, or Deputy Title IX Coordinator. The coordinator will, in turn, reach out to the student to provide support, resources, and the option to meet. Please note that the student is not required to meet with the Title IX coordinator and no action will be taken without the student's awareness. More information about reporting options and resources can be found on the Sexual Misconduct Website: <https://sexualassault.georgetown.edu/resourcecenter/>.

If you would prefer to speak to someone confidentially, Georgetown has a number of fully confidential professional resources that can provide support and assistance. These resources include:

- Health Education Services: Sexual Assault Response and Prevention: sarp@georgetown.edu
- Counseling and Psychiatric Services (CAPS): 202.687.6985

Additional resources are included below:

- Georgetown Self-Care Resource Guide: <https://studenthealth.georgetown.edu/health-promotion/self-care/>
- Georgetown Wellness Wheel: <https://studenthealth.georgetown.edu/hoya-wellness-wheel/>
- Georgetown Guide to Recognizing Students in Distress: <https://studentaffairs.georgetown.edu/studentoutreach/facultystaffresources/>

Pregnancy Modifications and Adjustments

Georgetown University is committed to creating an accessible and inclusive environment for pregnant students. At any point throughout their pregnancy students may request adjustments/modifications based on general pregnancy needs or accommodations based on a pregnancy-related complication or medical need. Students may also request accommodations following labor and delivery based on a complication or medical need.

To request pregnancy modifications, please complete the [SCS Pregnancy Modification Request Form](https://forms.gle/ZBfASxui7u13A8TU6): <https://forms.gle/ZBfASxui7u13A8TU6>

More information about pregnancy modifications can be found on the Title IX Georgetown University Website: <https://titleix.georgetown.edu/title-ix-pregnancy/student-pregnancy/>

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