

TEACHING CLIMATE CHANGE

SueEllen Campbell, WLA, November 2014
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100 Views of Climate Change

<http://changingclimates.colostate.edu>

This is the site we run at Colorado State University; it currently annotates & links to over 450 sources on 23 topical pages (plus it has a few handouts). Perhaps especially these pages: Big Picture > Big Picture; Big Picture > Communication; Big Picture > Focus on Misinformation and Denial; Big Picture > Focus on Emotions; The Human Face > Impacts on People; The Human Face > Responses from Ethics, Art, Literature. Very accessible climate science resources populate the pages under The Climate Itself.

THE SCIENCE

National Climate Assessment, May 2014

<http://nca2014.globalchange.gov/>

THE place to start—and to get updated. Very clearly written, user-friendly, highly informative, and up-to-date, with features spanning a range from interactive graphs to footnoted primary sources. Good sections on regions.

The excellent, thorough, and very readable **FAQs** make a good stand-alone primer:
<http://nca2013.globalchange.gov/report/appendices/faqs>.

Everything You Need to Know about Global Warming

Brad Plumer, Vox.com, May 2014

<http://www.vox.com/cards/global-warming/what-is-global-warming>

An excellent primer, with brief, clear answers to key questions (22 originals, with more likely coming) and a wealth of source links. Good graphs and charts, too.

To What Degree? What Science Is Telling Us About Climate Change

National Science Foundation, Science 360

<http://science360.gov/files/>

Videos of leading scientists talking about how we know the climate is changing, the IPCC, the carbon and water cycles, the planet's heat balance, climate modeling, what Americans believe about this subject, and the history of climate research. The videos are broken into very short bites, each a lively, pithy response to a single question.

Climate Change 2014, Fifth Assessment Report, Synthesis

Intergovernmental Panel on Climate Change, November 2014

<http://ipcc.ch>; http://ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_SPM.pdf;

<http://www.washingtonpost.com/blogs/wonkblog/wp/2014/10/30/climate-scientists-arent-too-alarmist-theyre-too-conservative/>

For a quick summary of this important work on global climate change, see the [Summary for Policy Makers](#), which covers the current and projected changes in climate, effects on humans and other living things, adaptation possibilities, and the importance of mitigation. Surprisingly readable and full of important information, with key graphics included. Important to know: scientists say the IPCC reports are conservative and underestimate impacts, especially sea level rise.

Global Weirdness

Climate Central, Vintage, 2012, 224 pp

With their characteristic clarity and high quality, the writers from Climate Central address these big topics: "What the science says," "What's actually happening," "What's likely to happen in the future," and "Can we avoid the risks of climate change?" Each of the 60 "chapters" deals with one part of the puzzle in a succinct 1-3 pages.

The Thinking Person's Guide to Climate Change

Robert Henson, American Meteorological Society, 2014, 416 pp

Formerly *The Rough Guide to Climate Change*, of which this is essentially the 4th edition, this book is an excellent, highly readable overview, with major sections on the basics, the symptoms, the science, debates and solutions, "what you can do," and resources. A staff writer at the National Center for Atmospheric Research, NCAR, Henson is a gifted explainer of complicated subjects. A key basic resource (and a frequent textbook for introductory courses on climate change).

COMMUNICATION

The Psychology of Climate Change Communication

The Center for Research on Environmental Decisions, Columbia University, 2009

<http://guide.cred.columbia.edu/>

The best advice about better ways to communicate about climate change, especially with the general public and decision makers. Culling research findings from psychology, anthropology, economics, history, environmental science and policy, and climate science, this text's principles and examples are clear, practical, and interesting.

The Id and the Eco

Rosemary Randall, *Aeon*, December 2012

<http://aeon.co/magazine/psychology/rosemary-randall-climate-change-psychoanalysis/>

"Thinking about climate change makes people feel helpless and anxious—but that's why we must talk about it openly": so psychotherapist Randall explains in this terrific article. Rich in insights about human emotions as they interfere with our ability to deal well with climate change, and some good ideas about what we can do.

MISINFORMATION

Skeptical Science

<http://www.skepticalscience.com/>

Probably the best single source on this topic. Along with terrific information, resources, and graphics, they offer a phone app for those who want on-the-go corrections to bits of dis- and misinformation. Start with the thermometer on the left of the homepage.

The Debunking Handbook

John Cook and Stephan Lewandowsky

<http://www.skepticalscience.com/Debunking-Handbook-now-freely-available-download.html>

This short, clear piece offers excellent research-supported advice for debunking misinformation and incorrect "myths" about climate change (and other topics), including tips for avoiding reinforcing myths by accident.

How to Talk to a Climate Skeptic: Responses to the Most Common Skeptical Arguments on Global Warming

Coby Beck, Grist.org

<http://grist.org/series/skeptics/>

Indexed in several useful ways: by "stages of denial" ("climate change is natural"), by "scientific topic" ("scientific process"), by "types of argument" ("cherry picking"), and by "levels of sophistication" ("naive"). Well-informed, crystal-clear, and fun.

LITERATURE

Cli-Fi Books: Climate Change in Literature

<http://eco-fiction.com/>

A good source of short descriptions of a wide variety of fictional responses to climate change, with over 130 books covered so far, organized by general category.

MY 4 BIGGEST CLASSROOM HITS

Chasing Ice

<http://extremeicesurvey.org/>

Directed by Jeff Orlowski, this 2013 film about photographer James Balog and his Extreme Ice Survey project brings together the powers of art, narrative, and science to illuminate our situation and urge action. Balog and his team are creating a stunning body of still, time-lapse, and video images of glaciers that illustrates what is happening to icy landscapes today and the kinds of beauty they give to our world. The film (~75 minutes) is now available on iTunes and Netflix and the DVD costs just \$20.

Field Notes from a Catastrophe

Elizabeth Kolbert, Bloomsbury, 2006, 192 pp

Perhaps THE single best narrative introduction and overview for climate change, this book—first published as a series for *The New Yorker* magazine—offers lucid, compelling stories about the science of and scientists working on climate change, its current and likely effects on landscapes and ecosystems, and its impacts on human individuals and cultures.

Farewell, My Subaru: An Epic Adventure in Local Living

Doug Fine, Villard, 2008, 207 pp

It's rare to find a funny book about climate change, but this is one: the story of one man's effort to build a low-carbon life, off the grid in a rural corner of New Mexico. What might this mean in practical terms? How do you find enough Kung Pao cooking oil to run a bio-diesel truck? How do you keep the goats from eating your garden? How toxic is that purple stuff you use to connect pieces of PVC pipe? And why is all this so rewarding?

The View from Lazy Point: A Natural Year in an Unnatural World

Carl Safina, Henry Holt and Co., 2011, 416 pp

Set mostly at the eastern end of Long Island, but also ranging quite far afield, this eloquent book by biologist Safina is a grounded, concrete, straight-on look at the state of marine life in multiple contexts, including climate change, fishing for sport and food, economics, and ethics. With a good brain operating at full speed well into a distinguished career, Safina delivers sobering news in a way that ends up feeling energizing. He writes of hope as "the ability to see how things could be better," and he reminds us that each of us can search for ways to heal the world.

OTHER LIKELY CANDIDATES

Why We Should Believe in Science

Naomi Oreskes, Ted Talk, May 2014

https://www.ted.com/talks/naomi_oreskes_why_we_should_believe_in_science

Very interesting talk by science historian Oreskes, who talks us through the question of why we should trust science. Perhaps especially useful for non-scientists who aren't sure scientific information is any different from other matters of belief or personal opinion, but also interesting for scientists in what she says about the so-called scientific method.

Years of Living Dangerously, 2014

<http://yearsoflivingdangerously.com/>

Made for Showtime with impressive expertise from Hollywood, high-profile TV and print journalism, and climate science, this series (now readily available from Netflix and elsewhere) is excellent. Each episode covers two or three topics, always vividly, and excerpts should work very well in classrooms. Topics: Superstorm Sandy, the war in Syria, palm-oil in Indonesia, wildfire fighting in Idaho, drought and faith in West Texas, ice in Greenland, rising water in Bangladesh, and more.

Earth: The Operator's Manual

<http://earththeoperatorsmanual.com/>

Hosted by award-winning geoscientist Richard Alley and funded by the NSF, this 54-minute video from 2011 explains fossil fuels and their relationship to our warming climate, then shifts its attention to our many options for sustainable energy. The project's excellent website also offers two sequels, "Powering the Planet," which explores new energy initiatives around the world, and "Energy Quest USA," which does the same for the United States. You can watch it online, as a whole or in snippets. (*This might be especially good for more conservative students. So might the 2016 **Carbon Nation**, 84 min, which is also solution focused with an emphasis on people other than the usual liberal suspects. The film **Climate Refugees** is very compelling, but it isn't on Netflix; you can watch it with a Hulu subscription.*)

Also: *Moral Ground: Ethical Action for a Planet in Peril*, eds. Kathleen Dean Moore and Michael P. Nelson (lots of essays to choose from); *Facing the Change: Personal Encounters with Global Warming*, ed. Steven Pavlos Holmes (creative pieces); *Six Degrees: Our Future on a Hotter Planet*, Mark Lynas (alarming, but vivid stories); *Why We Disagree about Climate Change*, Mike Hulme (very "thoughty"); *The Green Boat: Reviving Ourselves in Our Capsized Culture*, Mary Pipher (great on dealing with despair and paralysis); perhaps the film version of the Oreskes/Conway book *Merchants of Doubt* (I haven't seen it yet; the book is eye-opening but long).