Bookshelf

Climate Science

[Michael E. Mann & Lee R. Kump, Dire Predictions – Understanding Global Warming. The Illustrated Guide to the Findings of the IPCC (2015)](). This book offers a visual guide to the major topics in climate science, presented in an easy-to-read question and answer format. *Dire Predictions* is very useful for gaining an accurate big-picture understanding of the most important findings. It's also terrific as a guide for discussing climate change with skeptics or those who do not have time for the deeper dive that K2P offers.

[Spencer Weart, The Discovery of Global Warming (2008](). Spencer Weart is a physicist and historian who has devoted enormous scholarly efforts to describing how anthropogenic climate change was discovered. In his superbly researched and well-written book, Dr. Weart colloquially describes how the central scientific findings were made and, importantly, how they were received by the government that paid for most of the efforts. The book offers great insight into the challenges of scientific investigation, showing what a genuine paradigm shift looks like. *The Discovery of Global Warming* is the just the tip of the iceberg of Dr. Weart's work; for the full picture and a list of dozens of other books on the discovery of climate change, see [here]().

[Paul Edwards, A Vast Machine. Computer models, climate data, and the politics of global warming (2013)](). Like *The Discovery of Global Warming*, *A Vast Machine* is also a scientific history – this time of how the vast enterprise of meteorological investigation was established. In this detailed and absorbing work, we learn how the climate scientists who specialize in the atmosphere come to *know what they know*. This means a deep dive into the worldwide infrastructure for measuring the weather, and how the many strands of data are assembled to create the computer models that are the foundation for all our projections of the future climate.

[Mark Bowen, Thin Ice: Unlocking the secrets of climate in the world's highest mountains (2005)](). This is a thrilling description of how glaciologist Lonnie Thompson and his team journey to the highest mountain ice caps, obtaining data about Earth's past climates by retrieving and analyzing ice cores. Stories of the expeditions are intertwined with explanations of the science of climate change and how the new data are interpreted. While *A Vast Machine* tells the story of climate change primarily by explaining the development of computer models, physicist and science writer Mark Bowen tells the other essential story about how experimental data about the changing Earth are obtained.

[Jeff Goodell, The Water Will Come: Rising Seas, Sinking Cities, and the Remaking of the Civilized World (2018](#)). One of the best recent books on the impacts of climate change, this work by journalist Jeff Goodell explores the consequences of sea level rise for coastal communities around the world. Disappearing ice sheets, retreating coasts and nuisance flooding are part of the story, but perhaps of greater importance is Goodell's focus on how people and organizations in high-risk areas resist the reality of what is happening, and how the United States and other countries exacerbate the problem with policies that incentivize continued building instead of adaptation and retreat.

[Elizabeth Kolbert, The Sixth Extinction (2015)](#). In this book, journalist Elizabeth Kolbert embeds herself with biologists and geologists at field sites around the world, and emerges with compelling stories about the impact of anthropogenic climate change on biodiversity and the extinction of species. Essential reading for anyone with an interest in the natural world and a desire to learn how climate change acts as a threat multiplier - amplifying the harmful effects that humans have already brought about by deforestation, industrial agriculture and exploitation of Earth's animal, fiber and mineral resources.

Politics, Culture and Denialism

[Nathaniel Rich, Losing Earth: A Recent History (2019)](#). In this sobering account, journalist Nathaniel Rich looks at how information about climate change first began to penetrate the corridors of Washington DC in 1979. It tells the story of efforts by pioneering climate advocates, scientists and some US government officials and lawmakers over the following decade, to enact crucial emissions reduction laws before the heatwaves, floods and forest fires could become as severe as they are today. The failure of these advocates was catalyzed by the rise of climate denialism and the nearly full capture of the Republican party by fossil fuel interests, a situation that still persists today.

[Naomi Oreskes and Erik Conway, Merchants of Doubt (2010)](#). This is the definitive story of how the scientific facts about climate change were distorted by a small group of individuals with ties to the fossil fuel industry and hard Right political action networks. Most striking is the description of how the precise same network of individuals promoted misinformation about both the dangers of smoking and the science of global warming. The authors go further to expose the campaigns against the scientific foundations of acid rain and depletion of the ozone layer. In the process, they make crucial observations about the nature of the scientific enterprise and the way that the news media abets the spread of misinformation by improperly casting the scientific and denialist worldviews as two sides of a legitimate debate.

[Michael Mann, The New Climate War: The Fight to Take Back Our Planet (2021)](#). Dr. Michael Mann is a leading climate scientist and a favorite target of denialists for his pioneering work in unravelling the record of Earth's temperature from ancient eras until today. In this book, Dr. Mann explains how the campaign to obscure the facts of global warming has shifted from flat-out denial to other misleading arguments about how much humans are responsible and how much damage climate change is already causing. He also describes the campaigns aimed at deflecting the blame for warming from fossil fuel corporations to individuals. These campaigns began with the iconic "crying American Indian" TV ad - part of a cynical plastics industry campaign to prevent bottle bills and other tough regulation of waste.

Policy Solutions

[Mark Jaccard, The Citizen's Guide to Climate Success. Overcoming Myths That Hinder Progress (2020)](#). A unique and very engaging description of the many ways that we can become swayed by persuasive and pervasive false stories about climate solutions. Dr. Jaccard lays out the human capacity for self-deception, and shows how individuals and groups create myths that confuse and misrepresent the climate change problem. The existence of these myths deters our ability to focus on real solutions that can be implemented now. Among many others, Dr. Jaccard examines the myth that solving climate change requires dismantling capitalism, the myth that we have no alternative to fossil fuels, and the myth that changing personal behavior is the most important way to decrease greenhouse gas emissions.

[Hal Harvey, Designing Climate Solutions: A Policy Guide for Low-Carbon Energy (2017)](#). This book provides an outstanding resource that gives detailed information on which policies are effective in particular economic sectors, covering electric power, industry, transportation and buildings. Dr. Harvey uses careful computer modeling to estimate the contributions of each policy to reducing emissions. The book is exceptionally well organized and illustrated, offering a thorough, readable guide to how policies in every sector can be optimally designed. Although written for policymakers, this volume is very readable and a terrific resource for savvy advocates who wish to petition local, state and federal governments for effective change.

[Peter Fox-Penner, Power After Carbon: Building a Clean, Resilient Grid (2020)](#). This book distills a great deal of information about the US electricity industry. Dr. Fox-Penner, a leading expert on the power sector, describes the presently fragmented electric grid and reviews ideas and technologies for how it can be integrated into a national network, while also building capacity for local power. The challenges of transitioning to fully carbon-free power no later than mid-century are also discussed. Finally, a great deal of attention is

given to how utilities will have to organize their business models as they negotiate the complexities of federal oversight, state regulation, and the coming large new buildout of transmission lines. This is a detailed yet readable deep dive that is essential for advocates who want to focus their efforts on the all-important power sector.

[William Nordhaus, The Climate Casino: Risk, Uncertainty and Economics for a Warming World (2013)](). Without government policy, greenhouse gas emissions continue unabated because burning fossil fuels is profitable while the costs of warming are externalized to everyone else. Professor William Nordhaus won the Nobel Prize in Economics for showing that carbon prices offer – at least in theory - the most effective approach for solving this problem. In his most widely read work for laypersons, Dr. Nordhaus frames the full scope of the climate problem and explains the policy challenges involved in putting the different kinds of carbon pricing policies in place.

[Danny Cullenward and David G. Victor, Making Climate Policy Work (2020)](). In this insightful new book, political scientists Danny Cullenward and David Victor offer a new understanding of the politics of market-based climate solutions. They explain why these potentially highly effective policies have, for the most part, not been put in place at anywhere near the scale needed to be effective. For cap-and-trade programs, the problems are administrative complexity and susceptibility to be gamed by industry demands for free allowances and dubious offsets. With carbon taxes, in contrast, the visibility of the price makes lawmakers who advocate for them easy targets for political opponents. Nonetheless, with a simple political model that features only interest groups and institutional factors, the authors are able to gain comprehensive insights into why market-based strategies have not reached their full promise. The insights then yield some simple proposals for improving the way the programs are designed.