Reduce, reuse, recycle: It's the simple mantra of a movement to help save the earth. While most of us have installed eco-efficient light bulbs and neatly bundle our old newspapers for weekly pickup, crafting environmental collections that serve the needs of our patrons is often a haphazard process at best. Global warming is a hot topic for publishers, so much so that it is hard to separate the important, well-researched, and useful books from all the noise surrounding the issue.

Denise A. Brush, subject librarian for science and engineering at Rowan University Libraries in Glassboro, New Jersey, is well qualified to suggest a strategy for developing a solid collection in this area of environmental studies. While earning her BS in Civil and Environmental Engineering from MIT, she worked for the late climatologist Helmut Landsberg at the University of Maryland's Department of Meteorology. A public services librarian, she earned her library degree from Drexel University in 2004 and is a reviewer for *Science Books & Films.*

W hile the rest of the world has recognized the reality of global warming since the 1990s, the United States has not taken it seriously until very recently. The 2008 presidential election was the first time that both major party candidates campaigned on the need for the United States to address global warming.

The 2007 Nobel Prize for Peace was awarded to former vice president Al Gore and the United Nations Intergovernmental Panel on Climate Change (IPCC) “for their efforts to build up and disseminate greater knowledge about man-made climate change.” The IPCC, in their April 2007 report, stated that there is a 90 percent probability that the measured increase in global temperatures in the past three decades was caused by greenhouse gases added to the atmosphere since 1950 by humans. The report described the many climate changes that have already occurred and their consequences for communities and ecosystems, making it clear that global climate change is happening, whether it is man-made or natural.

According to columnist Gregg Easterbrook of the *New York Times,* there is now a consensus among American scientists that global warming is real:

The American Geophysical Union and American Meteorological Society in 2003 both declared that signs of global warming had become compelling. In 2004 the American Association for the Advancement of Science said that there was no longer any “substantive
disagreement in the scientific community” that artificial global warming is happening. In 2005, the National Academy of Sciences joined the science academies of Britain, China, Germany, Japan and other nations in a joint statement saying, “There is now strong evidence that significant global warming is occurring.”

This is a time when libraries can provide a vital educational service. The following bibliography recommends books, films, reference works, journals, scholarly articles, databases, and websites to help students, faculty, and the public learn about global warming.

**BOOKS**

Global warming is a field that is changing extremely rapidly as new research results come to light. Except for some key historical books identified below, purchases of books on global warming should focus exclusively on the past few years. University libraries should also consider reviewing and updating their collections on renewable energy technologies such as solar, wind, nuclear, biofuels, and hydrogen power.


Penn State geology professor Richard Alley explains how ice cores can tell the story of past climates hundreds of millions of years ago, and also provide valuable insight into what the future could bring. This older book remains relevant because it describes a scientific methodology that continues to play a big part in climate science. For academic and public libraries.


In this important book, photojournalist Gary Braasch presents photographic evidence from his six years of travel around the globe that the environmental effects of global warming are real. Key ecosystem and climate changes, from glacial and permafrost melting to physical changes in the oceans to a multitude of effects on animals and plants, are described in photographs and with essays contributed by experts. For all libraries.


This collection discusses the political, economic, and social implications of global warming for Canada. Each chapter is written by an expert in a particular academic discipline. Some experts favor adaptation and others argue for various types of efforts to slow global warming, but all agree that Canada is experiencing real climate change already and will continue to do so. For academic libraries.


This is one of the most comprehensive and readable overviews of the subject of global warming. It was nominated for the 2007 ALA Notable Books Award. Tim Flannery, who provides an Australian perspective, explains how climate change research has lead to the current scientific consensus and describes some of the options for solving the crisis. This book summarizes many of the other top books on global warming as well as key scholarly articles, making it an essential purchase. For public and academic libraries.


Former vice president Al Gore explains global warming to the general public and makes the case for action, in this book that accompanied the documentary film and launched the worldwide campaign that resulted in the Nobel Peace Prize. For public and academic libraries.


This how-to manual is written for companies that want to develop a proactive plan to cope with climate change. It recommends specific business strategies, and offers numerous case studies detailing what various companies have done both to plan for future carbon emissions regulation and to take advantage of climate-related market opportunities. A very useful source of ideas for business students and faculty interested in climate change, as well as for business owners. For academic and public libraries.


This book, now in its third edition, developed from the original briefing on global warming given to Prime Minister
THE ALERT COLLECTOR

Thatcher in 1990 by Sir John Houghton, former chairman of the Scientific Assessment Working group of the Intergovernmental Panel on Climate Change. It “aims to state the current scientific position on global warming clearly, so that we can make informed decisions on the facts.” This work has become an essential primary source that is frequently cited. For academic libraries.


Journalist Elizabeth Kolbert traveled all over the world to learn about the effects of global warming, from melting permafrost in Alaska and Greenland to changing butterfly habitats in the United Kingdom. She interviewed scientists and government officials worldwide to create an overview of the climate crisis, from where we are now to where we are headed. For academic and public libraries.


This is the most recent book by radical British scientist and public intellectual James Lovelock. Since the 1970s, Lovelock has been writing about his Gaia Hypothesis, which describes the Earth as an inter-connected, self-regulating system. While elements of his theory have become widely accepted over the years ("Gaia hypothesis" is now a Library of Congress Subject Heading), some of his views (such as his belief that only nuclear power can save our civilization) may alienate readers. For academic and public libraries.


Science writer Mark Lynas (author of High Tide: The Truth about our Climate Crisis, 2004) synthesized the results of hundreds of scholarly climate science studies (which he cites) to create this nightmare-inducing book. Each chapter describes what the Earth is predicted to be like with an additional degree (Celsius) of average global temperature up to 6 degrees warmer. For academic and public libraries.


In this book, economists Warwick McKibbin and Peter Wilcoxen propose a hybrid type of national carbon emissions trading for the United States, which they feel is more realistic than some other approaches. Unfortunately it does not guarantee a specific level of emissions reduction. The book provides an in-depth analysis of the pros and cons of various carbon trading systems. For academic libraries.


This is a comprehensive overview of the biodiesel industry worldwide, for general audiences. Biodiesel offers a combination of benefits to society—reductions in greenhouse gas emissions, agricultural jobs, energy security, and the opportunity to recycle wastes such as used food oils. Pahl describes the significant progress that Europe and Asia have made with biodiesels, then goes on to discuss a variety of recent American initiatives, including activists who make biodiesel in their backyards. For academic and public libraries.


Based on interviews with many of the key scientists studying global warming today, environmental journalist Fred Pearce describes growing evidence of the potential for dangerous and abrupt climate changes. Data being collected in the Arctic, Antarctic, and rain forest regions indicate the possibility of climate tipping points beyond which rapid and irreversible change could occur. For academic and public libraries.


The third novel in a trilogy of “eco-thrillers” by science fiction writer Kim Stanley Robinson (author of the Blue Mars trilogy), Sixty Days and Counting must be one of the first books to be cataloged as “Global Warming Fiction.” Describes the first 60 days of a fictional U.S. presidential administration (set in the near future) that is elected with a mandate to take global warming seriously, and does so by means of several large scale engineering projects. The heroes of this novel are all federal government scientists. The previous volumes in the trilogy, which are also excellent, are Forty Signs of Rain and Fifty Degrees Below. For public libraries.


Joseph Romm, Acting Assistant Secretary of Energy in the Clinton administration, shares his views on the urgency of taking action on global warming and exposes the way in which climate science has been manipulated by various political interest groups in the United States. Romm produces considerable evidence of cover-ups, lies, and misinformation promulgated by corporate lobbyists and government officials, which indicates a deliberate plan to prevent Americans from taking global warming seriously. For public libraries.

Ruddiman, a retired climate scientist, describes in this fascinating book his theory that humans have actually been affecting the climate significantly over the past eight thousand years (primarily because of deforestation and farming), not just in the last two hundred years. The book is footnoted with references to many peer-reviewed publications but written in a very accessible style. It is sure to become a classic. For academic and public libraries.


This book takes the pragmatic approach one would expect of a senior editor at *IEEE Spectrum* (the news magazine of the professional association of U.S. electrical engineers). After a review of what climate scientists have learned about global warming, as well as some background on the coal industry, Sweet discusses the economic, political, and technical factors that make various types of low-carbon or zero-carbon technologies better or worse bets for stabilizing Earth’s climate. For academic libraries.


This in-depth discussion of the economic realities behind the Kyoto Protocol is now dated, but contains important background for those who want to understand the issues around worldwide carbon emissions trading from its origins. For academic libraries.


This history of the scientific study of climate change traces the evolution of the field from its origins in the geophysical study of the causes of ice ages to the present focus on human-induced global warming. Historian Spencer Weart also includes insights from personal interviews with climate scientists, and discusses changing public perceptions of the reality and seriousness of climate change. It is widely cited as the best historical overview of the subject. Weart, director of the Center for the History of Physics, maintains a website with updates for this book at www.aip.org/history/exhibits/climate/index.html#contents. For academic libraries.

**FILMS**


This documentary on global warming, narrated by former vice president Al Gore, provides an overview of what scientists now know about global warming and makes the case for immediate action. It won the 2007 Academy Award for best documentary film. For all libraries.


Produced by BBC to explain global warming and its potential effect to the British public, the “looming ice age” refers to the scenario in which melting of Arctic glaciers results in shutdown of the Gulf Stream, which could bring Alaska-like conditions to the temperate United Kingdom. This particular danger is somewhat overplayed for dramatic effect, but the documentary does provide a good multimedia overview of the state of climate warming for those who might not pick up a book on the subject. For academic libraries.


The best-known popular motion picture about global warming is the 2004 film *The Day After Tomorrow*, which imagines the catastrophic consequences of abrupt climate change resulting from the shutdown of the Gulf Stream. For public libraries.

**REFERENCE WORKS**

Several excellent reference titles are available that deal specifically with climate change and its effects.


An invaluable resource for students and researchers, this concise atlas offers an abundance of color maps and graphs covering all aspects of global warming. It graphically illustrates many concepts that might otherwise be difficult for nonscientists to fully grasp. For academic and public libraries.


This three-volume reference work provides a comprehensive, objective, and up-to-date overview of global warming for the scientifically literate nonspecialist. It is a synthesis of the scientific literature on all aspects of the subject, including potential technological solutions. Volume 1 is *Our Evolving Climate Crisis*, volume 2 is *Melting Ice and Warming Seas*, and volume 3 is *Plants and Animals in Peril*. One of the most comprehensive reference works available on global warming, it belongs in all academic libraries.


This three-volume encyclopedia covers all aspects of the Arctic region, which is currently experiencing global warming at a much faster rate than the rest of the earth. For academic libraries.
Comprehensive Scientific Journals

Research on global warming is often published in three of the oldest and most prestigious weekly science journals: Nature, PNAS, and Science. These journals are indexed in General Science Index, Science Citation Index, and many other sources.


Ecology, Geology, and Climatology Journals

Research on global warming is also frequently published in these earth- and environmental-science journals and others similar to them.


Ecological Applications. Washington, D.C.: Ecological Society of America, 1991–. 6 times a year (ISSN: 1051-0761). Indexed in Agricola, Biological Abstracts, Environment Complete, Geobase, Medline, Science Citation Index, and other sources.


Global Environmental Change. Oxford, U.K.: Pergamon ( Elsevier), 1990–. 4 times a year (ISSN: 0959-3780). Indexed in Environment Complete, Geobase, Science Citation Index, and other sources.

Journal of Climate. Boston: American Meteorological Society, 1986–. Semimonthly (ISSN: 0894-8755). Indexed in Compendex, Geobase, Science Citation Index, and other sources.

Journal of Quaternary Science. Chichester, U.K.: Wiley, 1986–. 8 times a year (ISSN: 0267-8179). Indexed in Geobase, Science Citation Index, and other sources.

Subscription databases offer students and researchers a way to effectively search the periodical literature on a given topic.

Environment Complete. Ipswich, Mass.: EBSCO, 1947–. Online successor to Environment Index, available on the EBSCOHost platform. Search on: adaptation, biodiversity, extinction, ranges, phenology, blooming, or mating, in conjunction with climate change or global warming, to explore the ecological effect of climate change worldwide.


GreenFILE. Ipswich, Mass.: EBSCO, 2008–. Complimentary to all users (academic and public). This new multidisciplinary database is a good entry to the literature on “green” technologies and practices. Search on: recycling, green building, sustainability, renewable energy, and similar topics combined with climate change to understand the options available for minimizing the effects of global warming.


Web of Science. Philadelphia: Thomson Scientific (ISI), 1961–. Online edition of Science Citation Index. Search on: global warming, climate change, anthropogenic CO2, and greenhouse gases to explore the scientific literature on global warming by citation frequency.

Key Articles

Frequently cited, these articles help provide a framework for understanding issues of global warming and point to topics within the subject of interest to researchers.


WEBSITES


Provides scientific information about climate change to guide United Nations policy makers. The website offers many high-profile technical reports free in PDF format.


The MIT Center for Global Change Science is an interdisciplinary academic research center associated with the Massachusetts Institute of Technology. Technical reports on various aspects of climate change are available.


This site, part of the U.S. National Oceanic and Atmospheric Administration (NOAA), offers for sale officially certified climate data and related products.

Pew Center on Global Climate Change. “Pew Center on Global Climate Change.” www.pewclimate.org.

The Pew Center on Global Climate Change is a nonprofit, independent organization devoted to providing the public with information and policy solutions for global climate change. The website offers news briefs, fact sheets, summaries of climate change actions by government and business, and even a kids’ page.

RealClimate. “Real Climate: Climate Science from Climate Scientists.” www.realclimate.org.

This is a good place to find out what the latest controversy in climate science is and what scientists are saying about it. This site received the 2005 Science and Technology Web Award from Scientific American.

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