

Adams, J.B. 2003. "Proxy evidence for an El Niño-like response to volcanic forcing". *Nature* 426: 274 -278, (2003). Eruptions make natural climate swings twice as likely.

Ahrens, C. Donald. 1998. *Essentials of Meteorology 2nd ed.* Wadsworth. A good introduction.

Altabet, M A, et al., 2002. "The effect of millennial-scale changes in Arabian Sea denitrification on atmospheric CO₂" *Nature* 10 January 2002, vol 415: 159-162. Changes in nitrogen concentration in sediment cores from the Arabian Sea suggest a change in the rate release of nitrogen from the ocean during glacial periods.

Alley, Richard B. and Michael L. Bender. 1998. "Greenland Ice Cores: Frozen in Time." *Scientific American* 278 (2): 80-85. Glacial ice preserves a record of the earth's climate and atmosphere.

Alley, Richard, et al. 2002. "Abrupt Climate Change: Inevitable changes". *National Academy Press*. A special report by the National Academy of Science.

Alvarez, W., et al. 1990. "What Caused the Mass Extinction?" *Scientific American* 263 (4): 76-81. The debate over asteroids or volcanoes as the cause of extinction.

Andersen, K.K., et al. 2004. "High-resolution record of Northern Hemisphere climate extending into the last interglacial period." *Nature* 431: 147-151. Two deep ice cores from central Greenland provide a 123,000-year history of Northern Hemisphere climate.

Appenzeller, Tim and Dennis R. Dimick. 2004. "The heat is on." *National Geographic* 206 (3): 2-77. A report on the effects of global climate change. Excellent illustrations.

Arendt, A. A., et al. 2002. "Rapid wastage of Alaska glaciers and their contribution to rising sea level". *Science*, 297, 382 - 386, (2002). Alaskan glaciers are melting twice as fast as previously thought.

Arthur, M. A., and R. E. Garrison, eds. 1986. "Milankovitch Cycles through Geologic Time." *Paleo-oceanography* 1: 369-374. A special section on global climate changes.

Ayres, Robert U. 2001. "How Economists Have Misjudged Global Warming." *World Watch* 14 (5): 12-25. The Bush administration rejected the Kyoto climate treaty because it believed reducing carbon dioxide emissions would hurt the economy. This author argues that reducing pollution could help the economy prosper.

Beardsley, T. 2000. "Dissecting a Hurricane," *Scientific American* 282 (3): 80-85. Scientists fly into the eye of a hurricane to gain new insights into how they work.

Becker, L., Poreda, R. J., Hunt, A. G., Bunch, T. E. Rampino, M. 2001. "Impact event at the Permian-Triassic boundary: evidence from extraterrestrial noble gases in fullerenes."

Science 291:1530 – 1533. More evidence that an asteroid impact may have caused mass extinction at the end of the Permian epoch.

Bell, Michelle L. and Devra Lee Davis. 2001. "Reassessment of the Lethal London Fog of 1952: Novel Indicators of Acute and Chronic Consequences of Acute Exposure to Air Pollution" *Environmental Health Perspectives* Volume 109, Supplement 3, June 2001. The authors calculate 12,000 excess deaths occurred as a result of the December 1952 "Killer Smog."

Bentley, Charles R. 1997. "Rapid Sea-Level Rise Soon from West Antarctic Ice Sheet Collapse?" *Science* 275(5303):1077-1078. A cautiously optimistic appraisal of the potential for global warming to cause rapid melting of Antarctic ice.

Berger, A. & Loutre, M. F. 2002. "An exceptionally long interglacial ahead?" *Science*, 297, 1287 - 1288 (2002). We may be causing a permanent warm age.

Bindschadler, Robert A. and Charles R. Bentley. 2002. "On Thin Ice?" *Scientific American* 287(6): 98-105. How likely is it that the vast West Antarctic Ice Sheet may collapse?

Bolin, B. 1998. "The Kyoto negotiations on Climate Change: A Science Perspective." *Science* 279: 330-331. What's the science behind the Kyoto Protocol?

Boyle, R. H. 1999. "Global Warming: You're Getting Warmer," *Audubon* 101 (6): 80-87. An interview with climatologist James Hansen.

Bremer, D.J., et al. 1996. "Effect of Elevated Atmospheric Carbon Dioxide and Open-Top Chambers on Transpiration in a Tallgrass Prairie," *Journal of Environmental Quality* 25 (4): 691-701. Field studies of plant responses to elevated CO₂ can give very different results than greenhouse experiments.

Broecker, Wallace S. 1995. "Chaotic climate," *Scientific American* 273 (5): 62-69. Geologic records show that weather patterns have changed dramatically in the past.

Broecker, W. S., and G. H. Denton. 1990. "What Drives Glacial Cycles?" *Scientific American* 262 (1): 49-55. A discussion of how changes in the earth's orbit could lead to massive reorganization of ocean-atmosphere circulation patterns that determine climate.

Cerverny, R. S. & Coakley, K. J. 2002. "A weekly cycle in atmospheric carbon dioxide." *Geophysical Research Letters*, 29, 10.1029/2001GL013952 (2002). Records at Mauna Loa Observatory show lower concentrations of carbon dioxide in the atmosphere on weekends than during the week when cities have more traffic.

Chavez, F. P., Ryan, J., Lluch-Cota, S.E. & Niquen, M. 2003. "From anchovies to sardines and back: multidecadal change in the Pacific Ocean." *Science* 299: 217 - 221, (2003). Man's greedy take from the sea may not have caused the demise in the 1950s

California's sardine-canning business. A natural, five-decade Pacific Ocean cycle may have been to blame.

Chen, D., et al. 2004. "Predictability of El Nino over the past 148 years." *Nature* 428 (6984): 733-736. New models suggest that El Nino events may be predictable.

Commission on Geosciences, Environment and Resources. 2000. *Reconciling Observation of Global Temperature Change*. National Academy Press. A good presentation of the science behind global climate change.

Darst, Robert G. 2001. *Smokestack Diplomacy*. MIT Press. A fascinating look at international environmental politics.

Dauncey, Guy. 2001. *Stormy Weather: 101 Solutions to Global Climate Change*. New Society Publishers. Practical actions for individuals, communities, and nations to combat global climate change.

Davidson, Keay. 1996. "Winter in Paradise," *Earth* 5 (1): 20-23. During the Ice Age, the tropics may have cooled much more than we previously believed. How might man-made climate change affect these areas?

Davis-Jones, Robert. 1995. "Tornadoes," *Scientific American* 273 (2): 48-57. Current research on these destructive storms.

Dean, W. et al. 2003. "Progress in Global Lake Drilling Holds Potential for Global Change Research." *Eos*, 83, 90 - 91, (2003). Cores from African lakebeds may reveal a million-year climate record.

De Leo, G A. et al. 2001. "Carbon emissions: The economic benefits of the Kyoto Protocol". *Nature* 413: 478-479 (4 October 2001). Concludes that if the costs in terms of damage to human health, material goods, agriculture and the environment caused by greenhouse gas emissions are included in the equation, the economic argument against Kyoto is untenable.

Dickson, Bob, et al. 2002. "Rapid freshening of the deep North Atlantic Ocean over the past four decades." *Nature* 416: 832-837. Evidence suggests that deep ocean circulation in the North Atlantic has changed over the past four decades. Is this evidence of global climate change?

Drake, Frances. 2000. *Global Warming: the science of climate change*. Oxford University Press. Summarizes the available evidence for climate change.

Dunlop, Storm. 2003. *The Weather Identification Handbook*. Lyons Publisher. A beginner's guide to weather patterns.

Dunn, Seth and Christopher Flavin. 2002. "Moving the climate change agenda forward." In *State of the World 2002* p 24-50. Worldwatch Institute. What will it take to motivate nations to sign on to Kyoto?

Elvidge, C. D., et al. 2004. "Satellite observation of Keppel Islands (Great Barrier Reef) 2002 coral bleaching using IKONOS data." *Coral Reefs*, 23 (1): 123-132. Satellite imaging shows the extent of coral bleaching on the Great Barrier Reef.

Epstein, Paul R. 2000. "Is Global Warming Harmful to Health?" *Scientific American* 283 (2): 50-57. Suggests that infectious diseases will surge as the climate warms.

Falkowski, Paul G. 2002. "The Ocean's Invisible forest." *Scientific American* 287 (2): 54-61. Marine algae play a much larger role than previously thought in balancing the earth's climate, absorbing about as much carbon each year as all terrestrial plants.

Finney, B. P., Gregory-Eaves, I., Douglas, M.S.V. & Smol, J.P. 2002. "Fisheries productivity in the northeastern Pacific Ocean over the past 2,200 years". *Nature* 416: 729 – 733. Paleoecological studies show that fish stocks fluctuate widely over periods of centuries, apparently due to climate changes.

Fischer, H., Wahlen, M., Smith, J., Mastroianni, D. and Deck B. 1999. Ice core records of atmospheric CO₂ around the last three glacial terminations. *Science* 283: 1712-1714.

Flavin, Christopher. 1997. "Climate Change and Storm Damage: The Insurance Costs Keep Rising," *World Watch Journal* January/February 1997:10-11. Insurance companies are quite worried about potential losses if global climate change brings more severe weather.

Foley JA, et al. 2003. Green surprise? How terrestrial ecosystems could affect earth's climate. *Frontiers in Ecological Environment* 1: 38–44. An examination of how land-use and land cover change may affect global climate,

Freeman, C., et al. "Export of organic carbon from peat soils." *Nature* 412: 785-789 (2001). Oxidation of peat lands may be both a consequence and a cause of global warming.

Frischetti, Mark. 2001. "Drowning New Orleans." *Scientific American* 285 (4): 76-85. A major hurricane could swamp the city under 20 feet of water, killing thousands.

Ganopolski, A. & Rahmstorf, S. 2001. "Rapid changes of glacial climate simulated in a coupled climate model". *Nature* 409: 153 - 158 (2001). Suggests that the world's oceans may not have stopped circulating in glacial times, as has been thought. Instead, the site in the North Atlantic where cold, salty water sinks to the deep ocean may just have shifted slightly south.

Gelbspan, Ross. 1997. *The Heat is On*. Addison Wesley Longman, Inc. Criticizes fossil fuel and conservative politicians who confuse the public about global warming and the disruptive weather patterns that mark its initial stages.

Gillett, N. P., et al. 2003. "Detection of human influence on sea-level pressure". *Nature*, 422, 292 - 294, (2003). Climate-change predictions may be an underestimate.

Govindan, R. B. et al. 2002. "Global climate models violate scaling of the observed atmospheric variability". *Physical Review Letters*, 89, 28501, (2002). Models simulating global climate don't capture fine-scale temperature variations.

Graedel, T. E., and P. J. Crutzen. 1989. "The Changing Atmosphere." *Scientific American* 261 (3): 58-66. A good overview of the atmosphere and how greenhouse gases affect it.

Graham, N. E., and W. B. White. 1988. "The El Niño Cycle: A Natural Oscillation of the Pacific Ocean Atmospheric System." *Science* 240 (4857): 1293-1298. Proposes that ENSO cycles are an oscillating system regulated by baronic, subsurface Kelvin and Rossby waves.

Gregory, J. M., et al. 2004. "Threatened loss of the Greenland ice-sheet." *Nature* 428: 616-617. If the average annual temperature in Greenland rises by 3° C, enough ice is likely to melt to raise global sea levels 7 meters. Current trends suggest this is likely to occur by 2100.

Grimmond, C. S. B., King, T. S., Cropley, F. D., Nowak, D. J. & Souch, C. 2002. "Local-scale fluxes of CO₂ in urban environments: Methodological challenges and results from Chicago". *Environmental Pollution*, 116: 243-254, (2002). City centers emit CO₂, but leafy suburbs actually absorb it.

Grubb, Michael. 2001. "Hold tight at The Hague" *Climate Policy* 1(1): 3-4, See several other articles by Noble, Yamagata, Haites, Mastepanov, Begg, vrolijk, Sepledge, Cadena, et al summarizing the climate negotiations at the Hague.

Gupta, A. K. et al. 2003 "Abrupt changes in the Asian southwest monsoon during the Holocene and their links to the North Atlantic Ocean." *Nature* 421: 354-357 (2003) A record of monsoon variability from sediments in the Arabian Sea, reveals that the several intervals of weak summer monsoons in the past 11,000 years coincided with cold periods documented in the North Atlantic region.

Gupta, J., et al. 2003. "The role of scientific uncertainty in compliance with the Kyoto Protocol to the Climate Change Convention." *Environmental Science and Policy* 6 (6): 475-486. How do policy makers deal with scientific uncertainty?

Hall, A. & Stouffer, R. J. 2001. "An abrupt climate event in a coupled ocean-atmosphere simulation without external forcing". *Nature* 409, 171 - 174 (2001). A new model shows

how the ocean's circulation could change over a 15,000-year period if the climate remained as it is today, that is, without any further human impacts.

Hannien, H. 1995. "Assessing ecological implications of climatic change: can we rely on our simulation models?" *Climatic Change* 31 (1): 1-4. Can we depend on models to make decisions?

Hansen, J., R. Ruedy, Mki. Sato, and K. Lo 2002. "Global Warming Continues." *Science* 295: 275.

Hansen, J., and L. Nazarenko 2004. "Soot climate forcing via snow and ice albedoes." *Proc. Natl. Acad. Sci.* 101: 423-428. Soot darkens snow and causes more solar absorption.

Harris, Robert N. and David S. Chapman. 1997. "Borehole Temperatures and a Baseline for 20th-Century Global Warming Estimates," *Science* 275 (5306): 1618-1622. Deep wells provide a good record of climate over the past millennium. This study suggests that recent global warming is greater than previously suspected.

Hay, S. I. et al. 2002. Climate change and the resurgence of malaria in the East African Highlands. *Nature* 415: 905 – 909 (2002). Climate change can't explain the growth of malaria in the highlands of East Africa. Drawing simplistic links between global warming and local disease patterns could lead to mistaken policy decisions.

Herzog, Howard, et al. 2000. "Capturing Greenhouse gases." *Scientific American* 282 (2): 72-89. Discusses ways to collect CO₂ and bury it deep underground or in the ocean.

Hinrichsen, Don. 2000. "The Future of Coasts." *Worldwatch* 13 (6): 26-38. Global warming, rising sea levels, storms, and erosion threaten coastlines.

Hoffman, P. F. and D. P. Schrag. 2000. "Snowball Earth." *Scientific American* 282 (1): 68-75. Global cooling hundreds of millions of years ago may have caused mass extinctions and encouraged the rise of multicellular organisms.

Horgan, J. 1993. "Antarctic Meltdown." *Scientific American* 268 (3): 19-26. Although glacial ice melts faster in a warm climate, increased evaporation and precipitation replenish glaciers faster as well. Different speeds at which glaciers flow and calve off icebergs may have a strong impact on sea level.

Hungate, B.A., et al. 1997. "Stimulation of Grassland Nitrogen Cycling Under Carbon Dioxide Enrichment," *Oecologia* 109 (1): 149-153. CO₂ enhances plant growth but can cause stress in nitrogen-limited ecosystems.

Hungate, B. A., et al. 2003. "Nitrogen and Climate Change." *Science*. 302 (5650): 1512-1513, November 28, 2003.

Hurrell, J. W. "Decadal trends in the North Atlantic Oscillation: regional temperatures and precipitation". *Science*, 269, 676 - 679, (1995). Understanding climatic variations in the arctic could help researchers predict the effects of global warming.

Idso, Sherwood b. 1995. *CO₂ and the biosphere: the incredible legacy of the industrial revolution*, University of Minnesota Press. Since plants grow better under elevated CO₂, the author argues, we should increase emissions rather than reduce them.

Intergovernmental Panel on Climate Change (IPCC). 2001. *Climate Change IPCC Third Assessment*. Available as pdf files at: http://www.grida.no/climate/ipcc_tar/

Jackson, RB, et al. 2002 "Ecosystem carbon loss with woody plant invasion of grasslands," *Nature* 418:623-626.

Jacobs, S. S., Giulivi, C. F. & Mele, P. A. 2002. "Freshening of the Ross Sea during the late 20th century". *Science* 297: 386 - 389, (2002). Alaskan glaciers are melting faster than previously thought.

Jones, C. D., et al. 2003. "Carbon cycle feedbacks in a climate model with interactive CO₂ and sulphate aerosols." *Geophysical Research Letters* 30: 1479 - 1482. The twenty-first century could see more warming, more quickly, than was previously estimated, hints a new approach to modeling the Earth's climate

Jones, P. D., and T. M. L. Wigley. 1990. "Global Warming Trends." *Scientific American* 263 (2): 84-90. Recent results of climate changes and how to interpret them.

Joos, F., et al. 1999. "Global warming and marine carbon cycle feedbacks on future atmospheric" *CO₂ Science* 284: 464-467. An IPCC climate model predicts that North Atlantic thermohaline circulation weakens in all global warming simulations and collapses at high levels of carbon dioxide.

Kaiho, K. et al. "End-Permian catastrophe by a bolide impact: evidence of a gigantic release of sulfur from the mantle". *Geology* 29: 815 - 818, (2001). Suggests that an asteroid impact killed 95 percent of all species at the end of the Permian.

Kappelle, M., et al. 1999. "Effects of climate change on biodiversity: a review and identification of key research issues." *Biodiversity and Conservation* 8: 1383-1397. Changing climates are likely to have devastating effects on many species.

Karl, T. R. and K. E. Trenberth. 2003. "Modern global climate change." *Science* 302: 1175-1177. Part of a special issue on the state of the planet.

Karl, T. R. and K. E. Trenberth. 1999. "The Human Impact of Climate," *Scientific American* 281 (6): 100-105. (December 1999). A good review of the current state of climate research.

Karl, Thomas R. et al. 1997. "The Coming Climate," *Scientific American* 276 (5): 78-83. A cautious analysis of potential for severe weather and other climate extremes as a result of global warming.

Karliner, Joshua, et al. 1997. "The Barons of Bromide: The Corporate Forces Behind Toxic Poisoning and Ozone Depletion," *The Ecologist* 27 (3): 90-98. A caustic critique of the bromine industry.

Kasting, James F. 2004. "When methane made climate." *Scientific American* 291 (1): 78-86. Methane-generating bacteria dominated the earth for billions of years. The greenhouse effects they caused may have staved off a deep freeze and allowed other life forms to evolve.

Kerr, Richard A. 1995. "It's official first glimmer of greenhouse warming seen," *Science* 270: 1566-1567. The Intergovernmental Panel on Climate Change says there is a discernible human influence on global climate.

Kerr, Richard A. 1987. "Milankovitch Climate Cycles through the Ages." *Science* 235 (4792): 973-976. Brief review of climate cycles.

Khodri, M. et al. 2001. "Simulating the amplification of orbital forcing by ocean feedbacks in the last glaciation." *Nature* 410 (6828): 570-574. Including ocean effects in global climate models helps explain the Milankovitch theory.

Koch, G.W. and H.A. Mooney, eds. 1996. *Carbon Dioxide and Terrestrial Ecosystems*. San Diego, CA: Academic Press. Some ecosystems will flourish under CO₂ enrichment while others will be disturbed.

Koutavas, A., et al. 2002. "El Niño-like pattern in ice age tropical Pacific sea surface temperature". *Science* 297: 226 - 230, (2002). During past ice ages, the tropical Pacific Ocean behaved rather as it does today in an El Niño event, bringing downpours to some places and drought to others.

Knutti, Reto, et al. 2002. "Constraints on radiative forcing and future climate change from observations and climate model ensembles" *Nature* 416: 719-723 (18 April 2002). New climate models suggest that there is a 40% probability that global temperatures will exceed the range predicted by the IPCC, but only a 5% probability that warming will fall below that range.

Kump, Lee R. 2002. "Reducing uncertainty about carbon dioxide as a climate driver." *Nature* 419: 188 - 190 (2002); doi:10.1038/nature01087 Discusses ways to make climate prediction more accurate.

Langenfelds, R. L. et al. 2002. "Interannual growth rate variations of atmospheric CO₂ and its δ¹³C, H₂, CH₄, and CO between 1992 and 1999 linked to biomass burning."

Global Biogeochemical Cycles, 16: 1048, (2002). Tropical forest fires in 1997 added as much carbon to the atmosphere as all living plants removed that year.

Leggett, Jeremy. 2001. *Carbon War: Global Warming and the end of the Oil Era*. Routledge Press. An activist describes the scientific, governmental, and business perspectives on global warming.

Lelieveld, J. et al. 2002. "Global air pollution crossroads over the Mediterranean". *Science* 298: 794 - 799, (2002). Dirty air flows into the region from distant sources.

Liepert, B. G., et al. 2004. *Geophysical Research Letters*, 31: L06207, doi:10.1029/2003GL019060. Global warming plus pollution may result in reduced rainfall.

Lindzen, R. S., Chou, M-D., Hou, A.Y. 2001. "Does the Earth have an adaptive infrared - iris?" *Bulletin of the American Meteorological Society* 82: 417 - 432 (2001). Cloud effects may balance global warming.

Lindzen, R. S. 1990. "A Skeptic Speaks Out." *EPA Journal* 16 (2): 46-47. Criticism of climate models and climate change theories.

Liu, G., W. Skirving, and A.E. Strong. 2003. "Remote sensing of sea surface temperatures during 2002 Barrier Reef coral bleaching." *EOS*, 84 (15), 137-144. Rising water temperatures are causing disastrous bleaching of corals.

Logan, J. A, et al. 2003. "Assessing the impacts of global warming on forest pest dynamics." *Frontiers in Ecology and the Environment* 1 (3): 130-137. Climate change has unleashed massive pest outbreaks in the boreal forest.

Luterbacher, Urs and Detlef f. Sprinz.2001. *International Relations and Global Climate Change*. MIT Press. Conceptual, theoretical, and methodological approaches to dealing with global climate change.

Lynch, Colum. 1998. "Stormy Weather," *The Amicus Journal* 19 (4): 25-29. Introduction to the international conference in Kyoto -- and the controversies.

Lynch-Stieglitz, J., et al. 1999. "Weaker Gulf Stream in the Florida Straits during the Last Glacial Maximum." *Nature* 402: 644-647 (1999). Evidence suggests that during the last Ice Age, some 12,000 years ago, the deep-water current transported far less water than it does today and the sinking of dense water at the Poles may have stopped entirely

Manne, Alan S. and Richard G. Richels. 2001. "An alternative approach to establishing tradeoffs among greenhouse gases." *Nature* 410 (6829): 675-677. A model is proposed for establishing equivalences between greenhouse gases for the purpose of emissions trading.

Marland, Gregg, Kristy Fruit and Roger Sedjo 2001. "Accounting for sequestered carbon: the question of permanence" *Environmental Science and Policy* 4 (6): 259-268. Suggests that emissions credits should be rented, not sold, to account for re-emission when forests are cut.

Mastny, Lisa. 2000. "Coming to Terms with the Arctic." *World-Watch* 13 (1): 24-36. Climate change and cultural clashes affect the arctic more than any other area.

McKibben, Bill. 2004. "The submerging world." *Orion* 23 (5): 26-33. The Pacific island nation of Tuvalu is the first to be abandoned as rising sea levels submerge low-lying lands.

Milly, P. C. D., et al. 2002. "Increasing risk of great floods in a changing climate." *Nature* 415: 514-517 (31 January 2002). Records show that the frequency of floods with discharges exceeding 100-year levels increased substantially during the twentieth century, and models suggest the trend is likely to continue.

Minnis, P., et al. 1993. "Radiative Climate Forcing by the Mount Pinatubo Eruption." *Science* 259:1411. High altitude volcanic aerosols increased albedo over both clear and cloudy areas as measured by the ERBE satellite.

Missfeldt, Fanny and Erik Haites. 2001. "The potential contribution of sinks to meeting Kyoto Protocol commitments." *Environmental Science and Policy* 4 (6): 269 – 292. Analyses the potential contribution of sink enhancement activities to meeting commitments of industrialized countries in the Kyoto Protocol.

Monserud, R. A., et al. 1993. "Global Vegetation Change Predicted by the Modified Budyko Model." *Climatic Change* 25 (1): 59-65. A technical analysis of possible vegetation changes with varying levels of global warming.

Moore, B. and B. H. Braswell. 1994. "Understanding the carbon cycle," *Ambio* 23 (1): 4-9. A good explanation of the global carbon cycle.

Moore, N. & Rojstaczer, S. 2001. "Irrigation-induced rainfall and the Great Plains." *Journal of Applied Meteorology* 40: 1297 - 1309, (2001). Heavy irrigation in Texas is shifting normal rainfall patterns.

Moulin, C., et al. 1997. "Control of Atmospheric Export of Dust from North Africa by the North Atlantic Oscillation," *Nature* 386: 691-694. A report on transport of dust from North Africa across the ocean to North America.

National Assessment Synthesis Team, U. S. Global Change Research Program. 2000. *Climate Change Impacts on the United States*. Cambridge University Press. Interesting projections of the impacts of global climate change.

Nemitz, E., et al. 2002. "Micrometeorological measurements of the urban heat budget and CO₂ emissions on a city scale". *Environmental Science and Technology*, published online doi:10.1021/es010277e (2002). Cars and home heating account for most urban CO₂.

Nijhuis, Michelle. 2004. "Attack of the Bark Beetles." *High Country News* 36 (13): 8-14. Global warming is triggering expansion of beetles into new territory and destroying vast areas of forest.

Noss, R. F. 2001. "Beyond Kyoto: Forest Management in a Time of Rapid Climate Change." *Conservation Biology* 15: 578-590. We need to plan for climate change effects.

O'Dowd, Colin D. et al. 2002. "Marine aerosol formation from biogenic iodine emissions." *Nature* 417, 632-636 (6 June 2002). Dimethyl sulphide (DMS) released by marine phytoplankton has been thought to be the main source of cloud-forming aerosols, but iodine, also emitted by marine organisms may also play a role in global cooling.

O'Meara, Molly. 1997. "The Risks, and How We Will Manage Them," *World Watch Journal* 10 (6): 10-24. A preview of the 1997 International meeting on global climate change in Kyoto, Japan.

Obasi, G.O.P. 1998. "The atmosphere: global commons to protect," *Our Planet* 7 (5): 5-8. Describes the risks from climate change and ozone depletion, and how the World Meteorological Organization addresses the protection of the atmosphere.

Oren, R. et al. 2001. "Soil fertility limits carbon sequestration by forest ecosystems in a CO₂-enriched atmosphere." *Nature* 411: 469-472 (2001). Evidence that forests may not act as sinks for excess atmospheric carbon.

Ou, H.-W. 2001. "Possible bounds on the Earth's surface temperature: from the perspective of a conceptual global-mean model." *Journal of Climate* 14: 2976 - 2988, (2001). The Earth's climate may depend less on the Sun than we might think.

Pacala, S. and R. Socolow. 2004. "Stabilization Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies." *Science* 305 (5686): 968-972. We already have the fundamental scientific, technical, and industrial know-how to solve the carbon and climate problem for the next half-century.

Page, S. E. et al. 2002. "The amount of carbon released from peat and forest fires in Indonesia during 1997". *Nature* 420: 61- 65, (2002). Fires release millions of tons of carbon into the atmosphere.

Palmer, T. N. & J. Räisänen. 2002. "Quantifying the risk of extreme seasonal precipitation events in a changing climate." *Nature* 415: 512-514 (31 January 2002). Models suggest a fivefold increase in excessive rainfall, over parts of the British Isles

over the next 100 years and similar increases for the Asian monsoon region—with serious implications for flood-prone areas in Bangladesh.

Parmesan, Camille and Gary Yohe. 2003. “A globally coherent fingerprint of climate change impacts across natural systems.” *Nature* 421: 37 - 42. Evidence of global climate change.

Paterson, W. S. B & Niels Reeh. 2001 “Thinning of the ice sheet in northwest Greenland over the past forty years,” *Nature* 414: 60-62 (1 November 2001). In the northwest part of the Greenland ice sheet is thinning more rapidly than previously suspected.

Pearson, P. N. et al. 2001. “Warm tropical sea surface temperatures in the Late Cretaceous and Eocene epochs” *Nature* 413: 481-487 (4 October 2001) A paradox in palaeoclimatology has been the apparent existence of a cool sea surface in the tropics under conditions of high CO₂ in the atmosphere. New evidence suggests that the tropics were warmer during glacial periods than previously thought.

Peterson, T.C., et al. 1999. “Global Rural Temperature Trends: *Geophysical Research Letters* 26: 329-332. Rural measurements show global warming more accurately than urban stations.

Peterson, A.T. et al. 2002. “Future projections for Mexican faunas under global climate change scenarios”. *Nature* 416: 626 - 629, (2002). Computer models suggest that Climate change will rearrange wildlife and that many areas may have radically different inhabitants within 50 years.

Picaut, J., et al. 1996. “Mechanism of the Zonal Displacements of the Pacific Warm Pool: Implications for ENSO,” *Science* 274(5292): 1486-1489. What forcing factors drive El Nino?

Potter, C., et al. 2001. “Biomass burning losses of carbon estimated from ecosystem modeling and satellite data analysis for the Brazilian Amazon region.” *Atmospheric Environment*. 35 (10): 1773-1781.

Price, Tom. 2003. “High Tide in Tuvalu.” *Sierra* 88 (4): 34-37. This Pacific Island Nation is being abandoned due to rising sea levels.

Prokopenko, Alexander A., et al. 2002. “Muted climate variations in continental Siberia during the mid-Pleistocene epoch.” *Nature* 418: 65–68 (2002). The sediment record from Lake Baikal suggests that the climate change between glacial and interglacial 480,000 to 380,000 years ago was milder than the more recent glacial–interglacial transition of 100,000 to 10,000 years ago..

Prospero, J. M. & Lamb, A.B. 2003. “African droughts and dust transport to the Caribbean: climate change implications.” *Science* 302: 1024 - 1027. Increased long-range transport of African dust may be caused by global climate change.

Putkonen, J. & Roe, G. 2003. "Rain-on-snow events impact soil temperatures and affect ungulate survival." *Geophysical Research Letters* 30: 1188 (2003). Climate change could starve ungulates and their herders.

Ramage, C. S. 1986. "El Niño." *Scientific American* 254 (6): 76-82. A good description of atmospheric pressure anomalies in the equatorial Pacific and their effects on large-scale climate changes.

Ravelo, A. C., et al. 2004. "Regional climate shifts caused by gradual global cooling in the Pliocene epoch." *Nature* 429 (6989): 263-267. Low-latitude climate conditions can significantly influence global climate feedbacks.

Rauber, Paul. 2003. "The Melting Point." *Sierra*. 88 (4): 28-32. The world's ice is melting.

Reay, D. 2001. "New directions: my own private Kyoto". *Atmospheric Environment* 35: 4887 -4888, (2001). Individual actions can help reduce global warming.

Reich, Peter B. et al. 2001. "Plant diversity enhances ecosystem responses to elevated CO₂ and nitrogen deposition." *Nature* 410: 809-810. In grassland field experiments, plots with greater plant diversity had greater biomass accumulation in response to nitrogen fertilization and doubled CO₂ levels than plots with fewer species.

Richey, J. E., et al. 2002. "Outgassing from Amazonian rivers and wetlands as a large tropical source of atmospheric CO₂." *Nature* 416: 617 - 620, (2002). The rivers and wetlands of South America's Amazon rainforest breathe out as much carbon dioxide into the atmosphere each year as the dry regions of the forest absorb.

Rodhe, H. et al. 1997. " Svante Arrhenius and the Greenhouse Effect," *Ambio* 26 (1): 1-4 The lead article in a special issue commemorating the 100-year anniversary of the publication of Svante Arrhenius' landmark paper on the greenhouse effect.

Roig, Fidel A. et al. 2001. "Climate variability 50,000 years ago in mid-latitude Chile reconstructed from tree rings." *Nature* 410 (6828): 567-570. A tree ring chronology for a 1,229 year period developed from fossil stumps of *Fitzroya cupressoides* buried in coastal sediments shows that the climate 50,000 years ago was not dissimilar from today.

Romm, Joseph. J. 1999. *Cool Companies: How the Best businesses Boost Profits and Productivity by Cutting Greenhouse Gas Emissions*. Island Press. Examples of companies that save money and increase productivity by reducing greenhouse gases.

Root, T.L., et al. 2003. "Fingerprints of global warming on wild animals and plants." *Nature* 421, 57 – 60. Meta-analysis of 143 studies reveals a consistent temperature-related shift, or "global warming fingerprint", in species ranging from mollusks to mammals and from grasses to trees.

Rothman, D.H. 2002. Atmospheric carbon dioxide levels for the last 500 million years. *Proceedings of the National Academy of Sciences USA* 99: 4167-4171. Analysis of rock weathering, volcanic activity and other geologic processes suggests that CO₂ levels were much higher than today 175 million years ago.

Sagarin, R. & Micheli, F. 2001. "Climate Change in Nontraditional Data Sets". *Science*, 294, 811, (2001). Amateur observations of seasonal changes are helpful in documenting climate changes.

Schär, C. *et al.* 2004. "The role of increasing temperature variability in European summer heatwaves." *Nature* 427: 332–336 (2004). Climate models predict more stifling summers.

Schimel, D. S., *et al.*, "Recent patterns and mechanisms of carbon exchange by terrestrial ecosystems. *Nature* 414: 169-172 (8 November 2001). A new synthesis of recent information on continental and global patterns of terrestrial ecosystem carbon exchange confirms that the terrestrial biosphere was a carbon sink in the 1990s

Schlesinger, W. & Lichter, J. 2001. "Limited carbon storage in soil and litter of experimental forest plots under increased atmospheric CO₂". *Nature* 411: 466-469. Evidence that forests may not act as sinks for excess atmospheric carbon.

Schiermeier, Quirin. 2004 "Greenland's climate: A rising tide" *Nature* 428: 114-115. The ice covering Greenland holds enough water to raise the oceans seven metres — and it's starting to melt. How far will it go?

Schiermeier, Quirin. 2003. "Climate change: The oresmen." *Nature*: 421, 109–110. Some scientists have suggested that dumping iron into the ocean could help remove carbon dioxide (CO₂) from the atmosphere. Others are worried that interference with the marine food chain could have a dramatic and negative impact on ocean ecology

Schneider, David. 1997. "The Rising Seas," *Scientific American* 276 (3): 112-117. What is the likelihood that rapid movement of Antarctic ice sheets will cause catastrophic sea-level rises?

Schneider, Stephen H. and Terry Root (eds). 2001. *Wildlife Responses to Climate Change*. Island Press. Eight case studies of the effects of climate change.

Schneider, Stephen, *et al.* (eds) 2002. *Climate Change Policy: A Survey*. Island Press. A group of distinguished scientists analyze climate science and policy.

Schubert, S. D. *et al.* 2004. "On the Cause of the 1930s Dust Bowl." *Science* 303 (5665): 1855-1859. Suggests that drought that caused the Great Plains dust bowl was linked to anomalous tropical sea surface temperatures.

Sparks, T., Roy, D. & Mason, C. 2000. *Essex Naturalist* 17: 31-37, (2000). Amateur records show that many natural events now occur earlier across much of the northern hemisphere than they did 20 years ago.

Steiger, S. M., Orville, R. E. & Huffines, G. 2002. "Cloud-to-Ground lightning characteristics over Houston, Texas: 1989-2000". *Journal of Geophysical Research - Atmospheres*, 107, Published online doi:10.1029/2001JD001142 (2002). Hot, dirty air over big cities triggers lightning.

Stott, Peter A., et al. 2000. "External Control of 20th Century Temperature: Natural and Anthropogenic Forcings." *Science* 290: 2133-2137. A comparison of two major climate models shows that humans are playing a significant role in global warming.

Stott, L., Poulsen, C., Lund, S. & Thunell, R. 2002. "Super ENSO and global climate oscillations at millennial time scales". *Science*, 297, 222 - 226, (2002). During past ice ages, the tropical Pacific Ocean behaved rather as it does today in an El Niño event

Social Learning Group. 2001. *Learning to Manage Global Environmental Risks: Volume I, A Comparative History of Social Responses to Climate Change, Ozone Depletion, and Acid Rain*. MIT Press. A look at how ideas, interests, and institutions affect environmental management.

Taylor, David. 2003. "Small islands threatened by sea level rise." in *Vital Signs 2003* p 84-85. Worldwatch Institute. Several small island nations may have to be abandoned as a result of global climate change.

Tellez-Valdes, O., and P. DiVila-Aranda. 2003. "Protected Areas and Climate Change: a Case Study of the Cacti in the Tehuacan-Cuicatlan Biosphere Reserve, Mexico" *Conservation Biology* 17: 846-853. Many plants may not be able to adapt to sudden climate change.

Thomas, Chris, D. et al. 2004. "Extinction risk from climate change." *Nature* 427: 145 – 148. An examination of three scenarios for potential climate change predicts that 15 to 37 percent of all species in the study area could go extinct in the next 50 years.

Thuiller, W., et al. 2004. "Biodiversity conservation: Uncertainty in predictions of extinction risk." *Nature* 430 (6995): 145-148. Criticizes uncertainty in estimates of climate caused extinction.

Travis, D. J., Carleton, A. M & Lauritsen, R. G. 2002. "Contrails reduce daily temperature range". *Nature* 418: 601-603. (2002). The 2001 air-traffic moratorium opened window on contrails and climate.

Uppgren, Artur and Jurgen Stock. 2001. *Weather: How It Works and Why It Matters*. Freeman. A popular description of weather and climate.

Watson, Robert T., et al., eds. 1997. *The Regional Impacts of Climate Change: An Assessment of Vulnerability*. Cambridge University Press. This is the summary document of the Intergovernmental Panel on Climate Change Working Group on the risks of global warming.

Wilbanks, T. J., et al. 2003. "Integrating mitigation and adaptation." *Environment* 45 (5): 28-39. Discusses possible responses to global climate change.

Wolforth, Charles. 2004. "On thin ice." *Orion* 23 (2): 46-53. As the global climate warms, Inupiaq people are watching safety, subsistence, and a thousand-year-old way of life melt away.

Wohlforth, Charles. 2004. *The Whale and the Supercomputer*. North Point Press. A gripping description of the effects of global warming on arctic people.

Yamaji, Kazuyo, et al. 2003. "A country-specific, high-resolution emission inventory for methane from livestock in Asia in 2000." *Atmospheric Environment* 37(31) (2003) 4393-4406. An important issue in global warming.

Zwiers, F. W. and A. J. Weaver. 2000. "The Causes of 20th Century Warming." *Science* 290: 2081-2083. Considers evidence that that humans are playing a significant role in global warming.