



## REVIEW

### *The Thinking Person's Guide to Climate Change*

by Robert Henson

Boston: American Meteorological Society, 2014. 516 pages

reviewed by **Scott Mandia**

Robert Henson has written a complete and powerful climate change science book, updating and expanding upon his *The Rough Guide to Climate Change* (Henson 2011). Too often, climate books focus just on the science and either ignore or give short shrift to the reasons for public confusion on this important topic. Social science research has shown the information deficit model approach (believing more scientific information will change the minds of the doubtful) often fails when communicating climate science. A more successful strategy requires the communicator to understand motivated reasoning driven by cultural and political worldviews. Furthermore, it is critical to communicate the available solutions to address climate change. Henson delivers on both fronts.

Part 1 opens with a primer on global warming that answers many of the most often-asked questions, such as Is the planet really warming? Is the warming significant? and Is it really humans? By offering this primer, Henson captures the reader's interest while simultaneously setting up the rest of the content. One suggestion for the next revision is to change the "questions" so as not to reinforce myths. For example, replacing the bolded "Is the planet really warming up?" header with "Yes, the planet is really warming up" would avoid what is known to cognitive researchers as the Familiarity Backfire Effect. Despite this shortcoming in the phrasing of the questions, the author does well to avoid such issues in his explanations. I was particularly pleased to see the author explain the Enhanced Greenhouse Effect properly, for example, instead of simply referring to the effect as "heat trapping."

In part 2, Henson uses current resources to explain how climate change is influencing heat waves, floods, droughts, ice, oceans, and severe weather such as hurricanes and tornadoes. Scientists are more confident when linking climate change to heat waves, drought, and floods than they are when linking it to hurricanes and tornadoes, and Henson is careful not to overstep the research. Although he mentioned it, I would have preferred Henson to draw a stronger connection between sea level rise and hurricane intensities. All coastal storms are being made worse by the rising seas due to climate change.

Too often, climate change is presented as an environmental problem divorced from or external to human concerns (picture the polar bear floating on ice). Of course, thinking of humans as removed from the rest of the biotic world is a deeply flawed mindset and climate change is very much a human problem. Henson does not fall into this trap, and for each symptom of climate change described in part 2, Henson explains how nature—including humans—will be affected. Henson's readers will quickly understand that there are serious health, economic, and national security implications of a rapidly warming world.

This is an important way to frame the discussion because those who view environmentalism as a threat will not be motivated by an environmental message alone.

In part 3, Henson explains how scientists track rising global temperatures and that every tracking agency shows the same long-term warming trend. He takes the reader on a history tour to show that scientists have understood the link between increasing carbon dioxide and other greenhouse gases and global average temperatures for more than two centuries. Henson then carefully describes the various natural cycles that trigger climactic changes, from the long-term plate tectonics (millions of years) through the mid-term Milankovitch Cycles (tens of thousands of years) to the short-term sunspots, El Niño, volcanoes, and several others. He makes it clear to his readers that natural cycles cannot explain the warming over the past several decades—but increases in greenhouse gases do match the observed warming pattern quite well.

In part 4, Henson explains why many in the United States are still confused about the causes of climate change. He shines a bright light on contrarians, known as “merchants of doubt,” who have had extraordinary access to elected officials and exert influence at the bidding of the fossil fuel industry. Henson also explains how journalistic false balance leads many Americans to think that scientists are uncertain about their data and conclusions. For too long, journalists quote non-experts or contrarian “experts” in science news stories for the sake of a balance, thus conveying the impression that the science was split on whether the world was warming and if humans were the cause. One area where Henson could improve this section is to better elaborate on research that shows people subconsciously resist factual information that threatens their world-view. For example, some Americans deny anthropogenic climate change science because of the perceived threat to their individual rights and economic interests. When the impacts of climate change are properly framed with this understanding, communicators can be successful in reaching the undecided and doubtful.

Also in part 4, Henson explains the political reality of addressing the problem. Only a global solution can succeed, but each country has its own reasons for not participating. This is known as the tragedy of the commons, and China and the United States have been engaged in the carbon reduction “you go first” rhetoric for years. Henson shows us the math. Simply put, there is a finite amount of carbon in the ground that we can afford to dig up and burn before we surpass major tipping points. China, the US, and India hold most of that carbon, so there must be a global agreement. Fortunately, Henson shows the reader that we can achieve some measure of success by incorporating various “carbon wedges” using existing technology. Wedges described include energy efficiency, increased fuel mileage standards, adding renewable energy sources (such as solar, wind, and hydro-power), conservation, and several others. For each wedge, Henson explains the long and short-term pros and cons. For example, he describes renewables as being expensive when compared to coal and natural gas but when the “social cost” of these fuels (damage caused by climate change) is taken into account, then renewables are more price-competitive than the author suggests.

In part 5, Henson provides the reader with relatively simple solutions to reducing one’s carbon footprint, such as choosing local foods to eat, carpooling, unplugging devices such as DVRs and computers (due to their heavy use of “standby power” even when off), using

energy-efficient lighting, weather-stripping, and many others. Many of these solutions not only reduce carbon emissions, but also reduce personal expenses. This is a good strategy because readers need to know that solving the climate crisis can actually put money in their wallets.

Henson packs a lot of information into this easy-to-read, well-illustrated book. You cannot go wrong using it as a college textbook or for simply becoming a more informed global citizen. *The Thinking Person's Guide to Climate Change* is definitely a good addition to your collection.

## REFERENCES

Henson R. 2011. *The Rough Guide to Climate Change*, 3rd ed. London: Rough Guides.

## ABOUT THE AUTHOR

Scott Mandia is Professor of Earth and Space Sciences and Assistant Chair of the Physical Sciences Department at Suffolk County Community College.

## AUTHOR'S ADDRESS

Scott Mandia  
T-202 Smithtown Sciences Building.  
Suffolk County Community College  
533 College Rd.  
Selden NY 11784  
mandias@sunysuffolk.edu



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