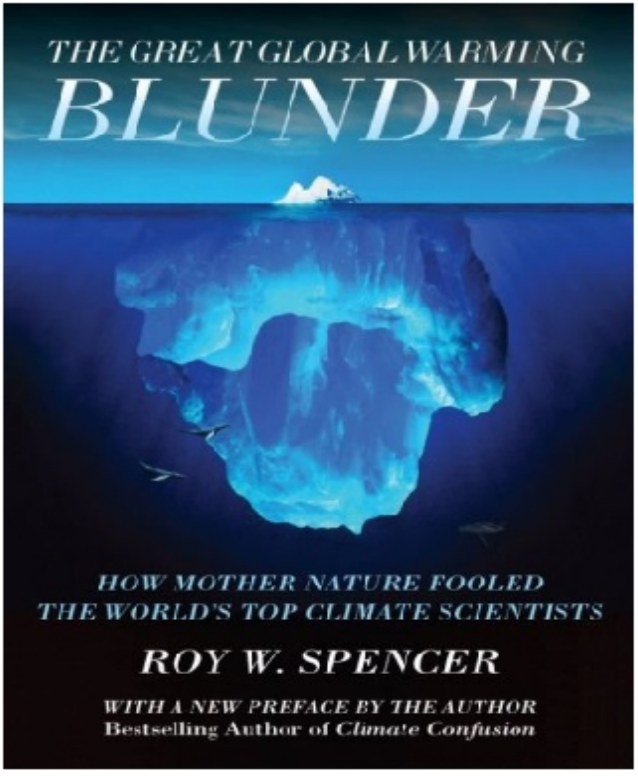

The Great Global Warming Blunder unveils new evidence from major scientific findings that explode the conventional wisdom on climate change and reshape the global warming debate as we know it. ***Roy W. Spencer***, a former senior ***NASA*** climatologist, reveals how climate researchers have mistaken cause and effect when analyzing cloud behavior and have been duped by Mother Nature into believing the Earth's climate system is far more sensitive to human activities and carbon dioxide than it really is.In fact, Spencer presents astonishing new evidence that recent warming is not the fault of humans, but the result of chaotic, internal natural cycles that have been causing periods of warming and cooling for millennia.

More carbon dioxide in the atmosphere is not necessarily to be feared; The Great Global Warming Blunder explains that burning of fossil fuels may actually be beneficial for life on Earth.

As group-think behavior and misguided global warming policy proposals threaten the lives of millions of the world's poorest, most vulnerable citizens,

The Great Global Warming Blunder is a scintillating expose and much-needed call for debate.

Excerpt 62p from Amazon Book Total 176pages published 2010-April

abridged Version reprinted for Our Website

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THE GREAT GLOBAL WARMING BLUNDER

How Mother Nature Fooled the World's Top Climate Scientists

ROY W. SPENCER

ENCOUNTER BOOKS
New York · London

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PRAISE FOR

The Great Global Warming Blunder

Striking. –*The Washington Times*

Roy Spencer's factual treatment of the global warming debate is essential reading for serious people of good will who are concerned about this matter. What you don't know in this debate can hurt you, and Dr. Spencer does an excellent job of bringing the crucial knowledge to the public. He lays out evidence that demands a verdict.

JOE BASTARDI

chief hurricane and
long-range meteorologist,
AccuWeather.com

With clarity and wit, Dr. Spencer explains the key aspects of global warming physics and makes a strong case that the satellite data of the past ten years are at odds with a central tenet of alarmist dogma–that the warming effects of carbon dioxide will be greatly amplified by clouds and water vapor. Moreover, he points out that higher levels of CO_2 are probably good for mankind, since plant life depends on CO_2 and preindustrial CO_2 levels are substantially lower than most plants would prefer. Dr. Spencer shows courage in speaking these and many other inconvenient truths.

WILL HAPPER
Professor of Physics,

Spencer devotes several chapters to the important role of feedback in understanding climate and the need to carefully separate it from existing forcing (causes) to avoid overestimating the sensitivity of climate to external changes.

CLAUDE SANDROFF, *Canada Free Press*

Spencer published this evidence in the peer-reviewed *Journal of Climate* in 2008, but it was ignored by the IPCC and by the mainstream press–hence the book. He is taking his case to the public. The book is written in layman's terms with easy-to-understand examples of how the climate works. He also takes on the establishment and shows how there is a vested interest in

maintaining the fiction that there is a climate change problem.

JONATHAN DUHAMEL, *TucsonCitizen.com*

Although Spencer is a scientist, he does a great job of presenting examples that draw on everyday activities that people engage in, to help explain how clouds and weather patterns affect the Earth's warming and cooling trends.

JOANNA SCHROEDER, *DomesticFuel.com*

Preface to the Paperback Edition

SINCE THE original publication of *The Great Global Warming Blunder* in 2010, I have received many favorable comments, from experts and non-experts alike. But there have also been several concerted attempts to discredit the central thesis of the book: *that natural cloud variations cause temperature variations, which give the illusion that the climate system is very sensitive to humanity's greenhouse gas emissions.*

The fight to undermine this message has taken the form of public ridicule by scientists in press reports, and political pressure on scientific journal editors to not publish our research on this subject. What is interesting about these antagonistic efforts is that they are usually made by scientists who do not publish in the same field of research, have not even read the paper in question, or are just repeating criticisms they have heard from a small

minority of activist scientists. Usually the criticisms are red herrings, straw men, *ad hominem* attacks, or simply made up out of thin air.

This is the nature of global warming research today. The issue is so divisive–even among scientists - that objectivity has been tossed out the window under the guise of Saving the Earth. Some scientists have taken to calling researchers like me and my colleagues "climate change deniers," even though (natural) climate change was being studied long before anthropogenic global warming became a popular topic.

Our most recent paper supporting the theme of this book was peer-reviewed and accepted by top experts in our field, and published in the journal *Remote Sensing* in 2011. Astonishingly, as a result of that paper being published, the chief editor of *Remote Sensing* was forced to resign after apparent pressure by an influential "gatekeeper" for the UN's Intergovernmental Panel on Climate Change (IPCC)–even though our paper was never retracted by the journal. The only scientific paper published in

response to ours also appeared in 2011, in *Geophysical Research Letters*, and it contained what I would consider to be sloppy and unprofessional science. We submitted a rebuttal, which included new evidence to further support our case, and which we made as bulletproof as possible. It was rejected outright in late 2011, given the next-to-worst numerical score by all four reviewers.

Such a suspiciously uniform negative response seems more like collusion than coincidence. Even our most controversial papers in the past had received favorable reviews from at least half the reviewers. If you doubt my thinly veiled accusation of collusion, just examine the Climategate I and Climategate II email releases widely available and discussed on the internet. The IPCC core scientists obviously have years of experience intimidating editors of scientific journals and skewing the peer review process. The IPCC has been working for over twenty years to build a scientific case to support carbon dioxide regulation, and our research is clearly a threat to their efforts.

Despite the attacks, I continue to stand behind our research 100 percent, as

well as the opinions put forth in this book.

The insistence of the IPCC and the scientific "consensus" that clouds cannot cause climate variations continues to astound me. All atmospheric scientists know that clouds are controlled by a multitude of factors; my position is that causation between clouds and temperature flows in both directions. In contrast, the IPCC's position is that clouds can only change in response to temperature change (temperature → clouds). But neglecting causation in the opposite direction (clouds → temperature) can lead to large errors in our understanding of how and why the climate system changes, as well as in our diagnosis of how sensitive the climate system is to human influences.

In science, nothing is ever "proved." Science provides a way to investigate alternative explanations (hypotheses) for how the world works. Unfortunately, in global warming research only one hypothesis is now allowed by the adherents to the IPCC process and narrative. Most observed

changes in the climate system are now interpreted under the assumption that humans are the cause.

The reason why such a bias exists in climate research is beyond the scope of this book, but I will say it involves political influence, money, worldviews, misunderstandings over economics and risk, and even religious beliefs regarding the role of humans in nature. I discussed all of these issues in my previous book, *Climate Confusion*.

I fear that the public's confidence in the scientific establishment they support with their tax dollars will eventually be destroyed, and climate science as a research discipline will be destroyed along with it. While scientists have been digging in their heels in spite of mounting evidence they could be wrong, public opinion has shifted in the last several years away from global warming having a predominantly human cause. As a result, the IPCC and its scientist-cheerleaders seem increasingly disconnected from the opinions of the citizens who financially support them, and there is no end in

Introduction & Background

CARBON FOOTPRINTS, carbon offsets, carbon taxes, carbon credits, carbon dioxide laws and regulations, cap-and-trade, going green, green energy–these terms are now part of our modern lexicon. We are told that Earth's average temperature is higher today than it has been for hundreds or even thousands of years; that humanity, not nature, now controls the climate system; that the evidence of a manmade climate crisis is everywhere; that we must drastically reduce our greenhouse gas emissions in order to save the planet. This is the new orthodoxy.

And if you have the audacity to question the world's leading climate experts on this matter? Well, you're not alone. In this book I will expose what I consider to be the Achilles' heel of the manmade global warming theory. It takes only one good piece of evidence to destroy a scientific theory,

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and I believe that I have come about as close to doing so as you can get in this business. I will present new evidence for two major scientific findings related to global warming and climate change. These findings could completely change the debate.

The first finding is that the climate system is much less sensitive to our greenhouse gas emissions than the experts claim it to be. This means that Earth's climate does not really care whether you travel by jet or SUV or bicycle. It also means that future global temperatures are about as likely to fall as they are to rise. This is something that most meteorologists, like me, already believe, but it has been difficult to prove because no one knew how to prove it–until now.

The second finding is that the climate system itself is probably responsible for most of the warming we have seen in the last 100 years or so. Contrary to popular belief, you don't need a change in the sun or a volcanic eruption or pollution by humankind to cause global warming or cooling. Climate change

is simply what the climate system does. We now have satellite-measured evidence of this self-induced climate change: a natural mode of climate variability called the Pacific Decadal Oscillation, or PDO. Having actual measurements of the source of climate change is doing better than the theory of manmade global warming. That theory depends on forcing that is too weak to be observed even from our best Earth-monitoring satellites. It has to be computed on a theoretical basis instead.

While the evidence I will present here shows that nature causes its own global warming, I find that many people think of "global warming" as synonymous with "manmade global warming." The alleged connection between global warming and human activity has become so firmly entrenched in our minds that even after I explain the evidence that warming might be more natural than manmade, I still get questions like, "What about the melting glaciers and sea ice? Isn't that evidence of global warming?"

Arghhh . . . Warming, yes. Manmade, *no*.

In fact, the question I am asked most frequently by the public is: “Couldn’t global warming just be part of a natural cycle?” And my answer to that question is yes!

INVASION OF THE BODY MODELERS

With so many other climate experts out there telling you that we are destroying the planet with our greenhouse gas emissions, why should you believe me when I disagree? To answer that question, I will illustrate my role in climate research with an analogy between climatology and human physiology.

The average temperature of the human body is 98.6 deg. F. And where does the energy come from to keep our bodies that warm? From the food we eat, of course.

Now let's suppose that everyone in the world has always consumed the same number of calories each day: 2,000. I know it sounds a little farfetched, but let's say this is a law instituted long ago by the King of the World and enforced with daily rationing of food. Then one day the King declares that he will repeal the 2,000 Calorie Law in three years. People will be free to eat as much food as they want.

Many physiologists, doctors, and medical researchers become worried that eating more food might cause our body temperature to rise, which would be dangerous to our health. They assume, with a certain logic, that if 2,000 calories a day produces a body temperature of 98.6 deg. F, then surely 3,000 calories a day will cause a higher body temperature. But this is uncharted territory. No one knows for sure what will happen, because in this story no one has ever eaten more (or less) than 2,000 calories a day.

The King asks the United Nations to convene a panel of the world's top medical experts to study the problem. The experts decide that different

research groups around the world will construct computer models of how the human body functions. When these models are completed, the body modelers will run modeling experiments to see how caloric intake affects the body's temperature. The body modeling project becomes massive, with many countries participating and their governments funding the effort with hundreds of millions of dollars each year. Because the human anatomy is so complex, the project requires expensive supercomputers and hundreds of medical specialists.

Each of these researchers is an expert in how some part of the human body functions. They develop mathematical equations that eventually do a pretty good job of mimicking various subsystems in the body. Equations for the heart, circulatory system, lungs, muscles, brain, nervous system and so forth are all assembled into computer models of how the entire human body works. After three years and billions of dollars of investment, over a dozen modeling groups around the world reach the point where their computer

models do reasonably well at describing the operation of an average body. They have adjusted their models to produce an average body temperature of 98.6 deg. F. While the modeling groups attack the problem in different ways, they agree that all their models put together must surely encompass all the potential outcomes for the purpose of predicting future body temperature.

The modelers then conduct experiments, gradually inputting more calories into their models to see what happens. Periodically they get together to compare their results and refine the models. Their conclusion is always the same: If people increase their food intake, their average body temperature will rise. A few of the models suggest that the temperature increase will be moderate, but others predict that it will be large enough to be dangerous and possibly deadly.

If I am a medical expert, what role do I play in this story? Well, I'm not part of the body modeling effort. Instead, I employ the latest medical monitoring devices in the laboratory to measure how the body's temperature

responds under different conditions. Rather than calculate theoretically what might happen, I investigate what actually happens with real humans. Specifically, I measure how the human body reacts when it is exposed to excessive heat or is fighting off an infection, pushing its temperature above 98.6 degrees. Since the human body experiences temperature changes for a variety of reasons on a routine basis, I consider it essential that we study and understand the body's natural response to these changes.

In the course of these experiments, I discover that the body has a thermostatic control mechanism that keeps its temperature right around 98.6 deg. F. I am not the first to discover this mechanism; a few other researchers with older equipment found similar evidence years before me.

The body modelers, however, do not believe my empirical results based on actual medical observations. They assert that their models do a good job of reproducing the body's average temperature of 98.6 degrees, and their models tell them that if we start eating more food, our body temperature will

rise. They vigorously defend their models against any criticism. Virtually all medical research dollars now go into body modeling. Careers and research infrastructure have been established in the field, and there are big incentives to keep the extremely complex and expensive modeling business going.

I then publish a research paper in the peer-reviewed scientific literature describing some of my early results suggesting that the body's temperature is thermostatically controlled. I also publish a paper describing how the body modelers might be fooled if they are not careful about how they interpret some very fundamental processes in the body that regulate temperature. But these articles are met by silence from the scientific community. Despite the importance of my new research to the body modeling effort and to the future of mankind's eating habits, even the news media refuse to report on the results. While my work suggests that people can eat more without having to worry about developing a fever as a consequence, the media are not interested in reporting good news. They would rather sensationalize any bad

news.

Besides, everyone knows that if people can eat more than 2,000 calories a day without getting a fever, the rich will be able to eat more than the poor because they can afford more food. Many scientists, and even many citizens, feel that this will only exacerbate the inequities that already exist in society. The TV talk shows are flooded with celebrities discussing how unfair this will be to the poor.

Ultimately I find enough evidence to virtually prove my theory, but now the research papers that I submit for publication are rejected outright. In fact, one reason given for the rejection is that I am trying to publish findings that contradict the body modelers. I am getting too close to proving that they have made some fundamental errors that will invalidate their predictions for the future of the human race.

The preceding story illustrates where I stand as a climate researcher today, late in 2009. The climate modelers and their supporters in government are largely in control of the research funding, which means that most government contracts and grants go toward those investigators who support the party line on global warming. Sympathizers preside as editors overseeing what can and cannot be published in research journals. Now they even rule over several of our professional societies, organizations that should be promoting scientific curiosity no matter where it leads.

In light of these developments, I have decided to take my message to the people. This message is that mankind's influence on climate is small and will continue to be small. While Al Gore likes to say that "the Earth has a fever," I will argue that the fever is natural and that it will eventually subside on its own.

This is a very different message from the one repeated *ad nauseam* in the news media: that the overwhelming consensus of scientists is that our

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something climate models involved in the effort, the 2007 report's official party line is that the total amount of warming expected to result from a doubling of atmospheric carbon dioxide is "likely to be in the range 2 to 4.5°C (3.8 to 8.1 deg. F) with a best estimate of about 3°C (5.4 deg. F), and is very unlikely to be less than 1.5°C (2.7 deg. F). Values substantially higher than 4.5°C (8.1 deg. F) cannot be excluded."

A date for the doubling of carbon dioxide is not mentioned because there are so many uncertainties about how much of it will be produced by humanity in the next 50 to 100 years. Assuming business as usual, with continued economic growth and fossil fuels dominating the global energy mix, a rough estimate is before the year 2100.

It is interesting that the predicted range of warming is not very different from what it was twenty years ago, when climate modeling was in its infancy. If we have made so much progress in computer modeling and understanding of the climate system, why is there still so much uncertainty? I

believe the uncertainty stems from a fundamental misinterpretation that climate researchers have made when observing natural climate variability. This misinterpretation has found its way into the computer models that are now forecasting levels of future warming that range from significant to catastrophic. In fact, we have a peer-reviewed scientific publication that addresses the issue.[2] Unfortunately, the mainstream media have refused to report on our work. And as far as I can tell, the published evidence has largely been ignored by the scientists who should be taking notice.

More than one scientist associated with the IPCC effort has asked me, "What else could be causing the warming, other than rising carbon dioxide concentrations?" Moreover, the argument goes, if the climate system is as sensitive as many researchers believe it to be, then increasing atmospheric carbon dioxide is sufficient to explain global warming. No other reason is needed, so why should anyone bother to look for a reason other than humanity's greenhouse gas emissions?

I will be presenting evidence that the climate system is not nearly sensitive enough for the extra carbon dioxide to be the culprit. Furthermore, our latest satellite measurements of natural climate variability, combined with a simple climate model, indicate that there is an alternative, *natural* explanation for most of our recent warming. As a result of this new evidence, I will argue that a natural cause for climate change mostly eliminates the need for a human cause. After all, if the IPCC can claim that humanity's greenhouse gas emissions are all that is needed to explain global warming, then why can't I show evidence that a natural source is all that is needed to explain warming?

I hope to convince you that the IPCC has systematically ignored the 800-pound gorilla in the room: natural, internally generated climate variability, or "climate chaos." And the source of this climate chaos? Clouds.

POLITICIZATION OF SCIENCE BY THE IPCC

The IPCC process for reviewing the science of global warming and climate change has been a peculiar perversion of the usual practice of scientific investigation. Science normally involves the testing of alternative hypotheses, not picking the first one that comes along and then religiously sticking to it. But that is exactly what the IPCC has done.

As I wrote this book, I found myself increasingly criticizing the IPCC's leadership and the way it has politicized my scientific discipline, atmospheric science, in order to promote specific policies. The truth is that the IPCC doesn't actually do scientific research. It is primarily a political advocacy group that cloaks itself in the aura of scientific respectability while it cherry-picks the science that best supports its desired policy outcomes, and marginalizes or ignores science that might contradict the party line. It claims to be policy-neutral, yet it will not entertain any science that might indicate there is no need for policy change on greenhouse gas emissions.

Contrary to what the public has been led to believe, the IPCC's relatively brief *Summary for Policymakers*– the only part of their voluminous report that a policymaker will ever read–is not written by hundreds of scientists, but by about fifty handpicked true believers who spin the science of climate change to support specific policy goals. And those goals have not changed in the twenty years of the IPCC's existence.

In the early 1990s, shortly after the IPCC was organized, President Clinton's chief environmental scientist, Dr. Robert Watson, told me that after he had helped get the production of Freon banned by the international community with the Montreal Protocol, next on the list to be regulated was carbon dioxide. There was no mention of investigating the science behind the claim that global warming was manmade–only a specific policy outcome that the IPCC was going to support. Dr. Watson later became one of the IPCC's directors, from 1997 to 2002.

The IPCC effort led to negotiation of the Kyoto Protocol to limit the

production of greenhouse gases, at Kyoto, Japan, in December 1997. Those countries that later signed and ratified the Kyoto treaty are now obligated to specific reductions in greenhouse gas emissions from 2008 to 2012, after which Kyoto runs out. A new agreement for post-2012 reductions in greenhouse gases was planned for a December 2009 meeting in Copenhagen, but a global economic recession combined with protests from undeveloped and developing countries have delayed any agreement until 2010 or later.

I want to make it clear that when I criticize the IPCC, I am mostly criticizing their leadership. Those leaders are the ones who have misused science for their own political, professional, or financial gain, and then told the rest of us not to question their conclusions. Aside from their almost total neglect of the role of nature in climate change, the scientists supporting the IPCC effort have done a pretty good job of summarizing the science of global warming, along with many of the uncertainties. It is the IPCC leadership that has decided to minimize those uncertainties, and to maximize

the alarm and political advocacy.

This doesn't mean there are not any concerned scientists involved in the IPCC effort; there are. But those scientists are not driving the process. As far as I can tell, the IPCC's influence and message are controlled by several dozen bureaucrats and politically active scientists who have a shared purpose and goal. The rest of the climate research community involved in the effort are just along for the ride, assured of continued funding from their respective governments on a subject of great importance to humanity. Not a bad gig for a scientist.

The primary goal of climate research is no longer the advancement of knowledge; it is instead the protection and dissemination of the IPCC party line. The peer review process for getting research proposals funded and scientific papers published is no longer objective, but is instead short-circuited by zealots adhering to their faith that humans now control the fate of Earth's climate. Scientific papers that claim all kinds of supposedly dire

consequences of anthropogenic climate change are uncritically accepted and rushed to publication, while any papers that cast doubt on the premise of a human-controlled climate system are rejected.

The global warming issue has accumulated so much political and financial baggage that it will now be extremely difficult to budge the "scientific consensus" away from what a handful of bureaucrats and politically savvy scientists have decided the scientific consensus should be. As I described in my first book, *Climate Confusion*, scientists are just as prone to bias as anyone else, and when it comes to global warming it seems that everyone has biases and vested interests.[3]

The IPCC's claim that climate change is caused by human activity has led to widespread fears that if we do not act to reduce greenhouse gas emissions soon, we are all doomed. Al Gore has been the leading political proponent of this view, having received both an Academy Award for his global warming documentary, *An Inconvenient Truth*, and a Nobel Peace Prize for taking on

an issue that some have apparently decided is central to world peace. The IPCC shared in that Nobel Prize as well. Mr. Gore even received a Grammy for best spoken word album, the audio version of *An Inconvenient Truth*. While Gore has falsely impugned the financial motives of scientists like me, he has made millions of dollars by actively selling the "cure" for the "disease" he claims we all have caused.[4] The hypocrisy of those who turn a blind eye to this financial conflict of interest continues to astound me.

Al Gore's leading scientific advisor on the issue, James Hansen, has also been increasingly vocal in his claim that global warming is a serious threat. Dr. Hansen, the director of NASA's Goddard Institute for Space Studies in New York City, has been modeling the climate system with computers longer than just about anyone else. He appears to be more convinced than ever that we are rapidly approaching climate "tipping points." For instance, Hansen claims that a meltdown of the Greenland ice sheet will be unavoidable if we do not start reducing our carbon dioxide emissions very soon.[5]

MY MOTIVES

Why am I willing to stick my neck out on an issue where there is so much momentum running in the opposite direction? Because the United States is making decisions on energy policy that will literally lead to death and suffering. The environmental lobby, activist news media, opportunistic politicians–and even a few Big Oil interests–have led the public to believe that we can "go green" in generating energy. But the truth is that there are still no large-scale replacements for fossil fuels that are going to make much of a difference to global carbon dioxide emissions in the foreseeable future.[6]

Should we be working on alternatives? Of course; and both government and the private sector are doing so. But all of the proposed alternatives so far are too meager and too expensive. And one of the most basic truths of economics is that when we divert resources away from more productive uses to less productive ones, people will suffer. It is usually the poor who are hurt

first, and hurt the worst.

Now appearing on the horizon are energy policy changes that I fear will cause a humanitarian crisis among the world's poor. The governmental regulation of carbon dioxide emissions is expected by many to begin soon, if it has not already started by the time you read this book. The U.S. House of Representatives has passed legislation that would cap the total carbon dioxide emissions from industry and business. This would require a new bureaucracy to oversee the management, accounting, and trading of carbon emissions credits among companies. Even if this legislation stalls in the Senate, the Supreme Court ruled in 2007 that carbon dioxide is a "pollutant" and told the Environmental Protection Agency (EPA) that it must decide whether to regulate CO_2 emissions under the Clean Air Act.[7] The early indications are that President Barack Obama would support either legislation or regulation.

Too many people still do not realize that the unintended consequences of

these decisions would be enormous. We have already seen corn prices skyrocket as we divert corn crops from food to ethanol production, a misguided policy that has directly hurt the world's poor. Gasoline prices have soared because we have not drilled for oil in enough places and our refinery infrastructure is too fragile. Expensive advertising campaigns by environmental groups have misled policymakers into thinking that the public opposes more drilling and refining. Even some energy companies are jumping on the bandwagon as they pander to public sentiment, misleading us by making it look like they are making great strides in green energy. Electric power companies are now being prevented from building new coal–fired plants. If they are required to use intermittent energy sources such as wind and solar power, we will eventually see brownouts and blackouts.

While relatively wealthy and environmentally conscious Westerners can deal with the higher food prices that result from diverting some of our food supply into liquid fuels, green energy policies will push many of the world's

poor who are already malnourished into starvation. Many Westerners are able to absorb the extra costs of CO_2 regulation that must inevitably be passed on to the consumer, but the war on global warming will increasingly become a war on the poor.

As the United States careens toward governmental controls on energy use, citizens of the United Kingdom and the European Union have already been down this road.[8] The British were initially very supportive of restrictions on CO_2 production. But with prices for energy and other goods soaring, and little or no progress made toward the goal of reducing greenhouse gases, they are now revolting against the political establishment. Global warming is now viewed as one more excuse for the government to get its hands on the people's money.

Meanwhile, Russia's growing control over Europe's natural gas supply is a security disaster just waiting to happen.[9] As green concerns have pushed some EU countries toward more reliance on natural gas, their political future

is increasingly in the hands of Gazprom and Vladimir Putin, who has been trying to buy up natural gas companies around the world–including in the United States.

Once CO_2 regulations are implemented, the price of virtually *everything* will increase, because all goods and services require some input of energy. These cost increases won't be absorbed by the energy companies, but by the consumers. If energy companies are required by law to absorb the increased costs, they will simply go out of business. The choice will come down to expensive electricity or no electricity.

If it were not for the supposed threat of global warming, Al Gore and the Supreme Court would not be able to get away with their claim that carbon dioxide is a pollutant. As most of us learned in school, atmospheric carbon dioxide is just as necessary for life on Earth as oxygen. Without CO_2 there would be no photosynthesis, and therefore no plants, and no animals, and no people either. Yet Mr. Gore has referred to our emissions of CO_2 as

equivalent to treating the atmosphere like an "open sewer."[10] He and James Hansen have even called for civil disobedience to prevent the future construction of coal-fired electric power plants, which are a major source of CO_2 emissions.[11]

Another reason why I am taking my case to the people is because of its simplicity. The fundamental mistake that the climate experts have made on the science of global warming is not overly complex or obscure: they have simply mixed up cause and effect when observing cloud and temperature behavior. You could say that they have been fooled by Mother Nature. In fact, I have found that the issue of causation is one that the public understands better than the scientists do.

Comments I have received from the public over the years indicate that many of our citizens–probably a majority of them–are distrustful of the claim that global warming is manmade. In October 2008, a survey commissioned by the Nature Conservancy revealed that only 18 percent of respondents

strongly believed that global warming was real, manmade, and harmful.[12] I now have evidence that the public has been right and the world's top scientists have been wrong. The importance of the global warming issue to humanity demands that the public become better informed on the reasons why so many scientists think global warming is manmade, and why they are wrong.

Unfortunately, the IPCC would have you believe that they are the only ones qualified to cast judgment on the causes of global warming.

SCIENTIFIC ELITISM

I claim that the theory that our greenhouse gas emissions cause global warming can be refuted with some fairly basic concepts combined with

satellite observations of Earth. The evidence and arguments should be understandable to most eighth-graders.

Climate modelers will try to convince you that the only way to understand and predict global warming is with their highly complex computerized models. This allows them to claim that the evidence for manmade global warming is beyond your capability to grasp. But their work is virtually impossible to replicate because the models are so complex and the modeling effort involves lots of people at great expense. Yet being able to replicate results is a basic requirement for scientific research.

The scientific elitists who claim to speak for the climate research community have considerable disdain for the views of meteorologists, like me. I have found that most meteorologists by training are suspicious of climate models, and the modelers don't like it. For instance, there was an American Meteorological Society conference in 2008 where TV and radio broadcast meteorologists were scolded by a panel of IPCC experts who told

them not to express doubts about manmade global warming on–air.[13] TV meteorologists are, after all, only meteorologists, while climate modelers are the Keepers of All Climate Knowledge.

Their complex models now supposedly constitute our main source of climate truth. Very little climate research is done anymore where scientists dig into actual observations of the climate system in order to figure out how nature works. Instead, computerized crystal balls are built and analyzed by wizards who alone are able to interpret their message for us. And just as in *The Wizard of Oz*, we are supposed to pay no attention to that man behind the curtain who is turning the knobs and pulling the levers.

But the climate modelers seem to have forgotten something that even the public recognizes: the output of computers is no better than the information that the programmers put in. As the old saying goes: garbage in, garbage out. This is not to say that climate models are garbage. I'm quite confident that if they were adjusted to agree with the satellite measurements I will be

describing, their predictions of substantial global warming would largely evaporate.

I admit that the allure of theoretical models is strong. They are clean, precise, even elegant, whereas actual observations of the climate system are often incomplete, ambiguous, and open to error. There is something magical about the numbers that come out of a computer, as if they have been imbued with some divine power to reveal nature's secrets to us. But a computer is just a tool; it will do only what it is instructed to do. A scientist might be surprised with the result that the computer spits out, but that is most likely because he didn't fully understand what he was telling the computer to do.

I believe that models are necessary for determining whether our concepts of how nature works can be supported with actual numbers and known physical laws. In this book I will be using a simple computer model to interpret what nature is telling us through our satellite measurements of the Earth. Even though this model is simple enough to run in a spreadsheet

program on your home computer, it is still powerful enough to study how the climate system really works.

So it isn't climate models *per se* that are the problem, but how they are used. I suppose you could say that climate models don't kill theories of natural climate change; climate modelers do.

MISSING THE FOREST FOR THE TREES

Climate models are built up from many components, or subsystems, each representing different parts of the climate system. The expectation of the modelers is that the greater the complexity in the models, the more accurate their forecasts of climate change will be. But they are deceiving themselves. The truth is that the more complex the system that is modeled, the greater the chance that the model will produce unrealistic behavior.

Fortunately, there is an alternative way to study complex physical systems, called emergent structures analysis. Rather then model the system from the bottom up with many building blocks, one looks at how the system as a whole behaves. The global climate system is an excellent example of an emergent structure because the operation of the whole is not obvious from how all the components work individually. In other words, even though the climate system is made up of all the individual weather systems scattered around the Earth, the way that the entire system behaves in response to some forcing is not obvious from how the individual components of the system work.

Emergent structures analysis is the kind of research that few climate scientists do anymore. I think that the modelers have missed the forest for the trees. They have been so intent on modeling individual trees in order to determine whether the whole forest will expand or shrink, that they have not bothered to examine the times when the forest actually did grow and shrink,

and try to understand the reasons.

In contrast to all the IPCC's modeled complexity masquerading as scientific evidence, I will show you actual observations of how the Earth as a whole behaves. These measurements strongly suggest that the climate modelers have made a fundamental error. We will see that researchers have reasoned themselves in a circle by first assuming that natural climate change does not exist, and then building climate models suggesting that only human pollution is needed to explain global warming. This circular reasoning has led to the construction of a huge house of cards, and it's only a matter of time before the whole edifice collapses.

FORCING & FEEDBACK (CAUSE & EFFECT)

Conceptually, there are two main processes that govern any kind of climate

change: forcing and feedback.[14] These terms might sound technical, but you are already familiar with the concepts from your everyday experience. While a few climate experts will probably cringe at the analogy, these two processes may also be called cause and effect.

On the forcing side of the climate change issue, I largely agree with the IPCC. Mankind's burning of fossil fuels is slowly adding more carbon dioxide to the atmosphere. And since CO_2 accounts for a minor portion of the natural greenhouse effect that helps keep the Earth's surface "habitably warm," it is reasonable to expect that more CO_2 should cause some level of warming.

It is the feedback part of the problem where major mistakes have been made. While forcing determines whether a temperature change will occur at all, feedbacks determine just how large that temperature change will be. Positive feedbacks make the temperature change larger, while negative feedbacks make it smaller. Positive feedbacks create what we call a sensitive

climate system, while negative feedbacks correspond to an insensitive climate system.

If the climate system is very sensitive, then the small warming tendency from increasing atmospheric concentrations of CO_2 will be amplified. This is the IPCC's position on feedbacks. In a sufficiently sensitive climate system we can explain most if not all global warming to date with humanity's greenhouse gas emissions alone. Furthermore, a sensitive climate system would also mean that we can expect significant manmade global warming to continue –maybe even accelerate–into the future. Scientists' belief in a sensitive climate system explains why you keep hearing about the dangers of methane emissions from cows and other seemingly innocuous forcings. If the climate system is highly sensitive, then we have to worry about many sources of greenhouse gases and particulate pollution.

But if the climate system is relatively insensitive to forcing, then the extra carbon dioxide in the atmosphere cannot explain the warming we have

observed. There must be some stronger, natural warming mechanism at work. An insensitive climate system will not really care how much methane has been produced by the time you eat your hamburger, or whether you drive a huge SUV. An insensitive climate system resists temperature change–not preventing it entirely, but reducing its magnitude.

If I am correct in regarding the climate system as insensitive, then the twenty computerized climate models being run in several countries around the world are predicting far too much global warming. If we are not causing global warming, then reducing carbon dioxide emissions to "fix" the problem will have no measurable effect on global temperatures.

The research community's confusion of forcing and feedback–cause and effect–is a major theme of this book. In particular, the role of causation in cloud behavior is at the core of what I believe to be the greatest scientific *faux pas* in history. The mistake that researchers have made can best be introduced in the form of a question: When the Earth is observed to warm,

and cloud cover decreases with that warming, did the warming cause the clouds to decrease, or did the decrease in clouds cause the warming? In the big picture of climate change, cloud changes causing temperature changes would be called forcing, while temperature changes causing cloud changes would be called feedback. Both occur in nature all the time. Yet when researchers have estimated feedbacks by analyzing natural climate variations, they have assumed causation in only one direction.

Because researchers have not accounted for natural cloud fluctuations forcing temperature variations, the illusion of a climate system dominated by positive feedback has emerged. I had always suspected that researchers were mixing up cause and effect even before I got into this line of research, but until recently I was not able to prove it.

What I am claiming is more than just an untested hypothesis; my colleagues and I have published papers in the peer-reviewed scientific literature that have been laying out the evidence step by step.[15] But chances

are you haven't heard about our work. This is because the mainstream media are not interested in covering any news stories about climate that do not support Al Gore's apocalyptic vision of a global warming Armageddon. Other scientists have had similar experiences with their published research. As a friend from a newspaper family once told me, "bad news is good news, and good news is no news."

When I have talked to reporters about our published research, they either ignore our results or find another scientist who will dismiss my views without knowing what I'm talking about. Or, more often, they do not even contact us in the first place. After all, how could the consensus of hundreds of the world's best scientists be wrong? And why would any reporter want to interview a scientist who is painted as the equivalent of a "Holocaust denier"[16] anyway?

One of the problems with climate research is that most researchers are so specialized that they either have no interest in reading your research

publication, or do not understand the implications of what you have presented. So, even if you publish research that does not support the belief in a sensitive climate system, most other researchers will be either unaware of your work or unable to figure out how your results fit into the global warming "big picture."

* * *

MANMADE CLIMATE CHANGE–OR NATURAL?

If the Earth's climate is largely insensitive to our greenhouse gas emissions, then what has caused the warming we have experienced over the last 100 years? If our greenhouse gas emissions are too weak to have caused it, there must be some stronger, natural forcing at work.

I will advance the argument that *natural, internally generated cloud*

variability is responsible for most of the climate change we have seen up to the present and will likely see in the future. And contrary to the claims of some scientists that recent warming is unprecedented, the warming we experienced through the twentieth century is not much different from that experienced during other centuries over the last 2,000 years.

At this point you might be thinking, "Well, of course natural climate change happens." But this has been surprisingly difficult to prove scientifically. The IPCC avoids the subject because it detracts from the claim that humans are now the main driver of climate. As we will see, the IPCC has even attempted to eliminate the Medieval Warm Period and the Little Ice Age, two events that we know from the historical record actually occurred.

The IPCC scientists proclaim confidence that their climate models are behaving realistically and can explain global warming by anthropogenic pollution alone. But does one hypothesized explanation remove the need to search for alternative explanations? What if there are other explanations that

fit the observations better? After all, alternative hypotheses are fundamental to the practice of science. Competing scientific explanations sharpen our understanding and help us arrive at a more accurate explanation of how the physical world works.

Except, apparently, when the subject is global warming.

ANOTHER GLOBAL WARMING BOOK?

Most books on global warming deal with a bunch of little pieces of a huge puzzle. I will instead address the single most important piece, the one that determines what the finished puzzle looks like: feedbacks.

I find it difficult to believe that I am the first researcher to figure out what I describe in this book. Either I am smarter than the rest of the world's climate scientists–which seems unlikely–or there are other scientists who

also have evidence that global warming could be mostly natural, but have been hiding it. That is a serious charge, I know, but it is a conclusion that is difficult for me to avoid.

For those who have read my first book, *Climate Confusion*, this book contains new and important science that supports my view that the Earth is much more resilient than most scientists claim. You might say that, rather than "hot, flat, and crowded," I believe the Earth to be cool, round, and spacious. I hope this book will lead to a better-informed public that can more critically evaluate the claim that adding carbon dioxide to the atmosphere is a menace to life on Earth. Whether carbon dioxide regulations or laws are still being debated as you read this or have already been implemented, you will be better equipped to influence the political process and to help prevent or rescind misguided and dangerous laws or regulations on the production of carbon dioxide.

I also hope to spur other scientists to investigate my claims on their own,

and to speak out if they agree with me that the last few decades of myopic global warming research has resulted in the greatest scientific blunder in history. I don't know whether it will take two years or twenty, but I predict that at some point in the future we will realize that the fear of catastrophic climate change was the worst case of mass hysteria the world has ever known.