



## September 2007 TRENDEVENTS

**Global Warming: How Do Scientists Know They're Not Wrong?** By Andrea Thompson, *Live Science*  
Staff Writer -- Posted July 16, 2007

From catastrophic sea level rise to jarring changes in local weather, humanity faces a potentially dangerous threat from the changes our own pollution has wrought on Earth's climate, but since nothing in science can ever be proved with 100 percent certainty, how is it that scientists can be so sure that we are the cause of global warming?

For years, there has been clear scientific consensus that Earth's climate is heating up and that humans are the culprits behind the trend, says Naomi Oreskes, a historian of science at the University of California, San Diego... A few years ago, she evaluated 928 scientific papers that dealt with global climate change and found that none disagreed about human-generated global warming. The results of her analysis were published in a 2004 essay in the journal *Science*... And the Intergovernmental Panel on Climate Change (IPCC), the National Academy of Sciences, and numerous other noted scientific organizations have issued statements that unequivocally endorse the idea of global warming and attribute it to human activities... "We're confident about what's going on," said climate scientist Gavin Schmidt of NASA's Goddard Institute of Space Science in New York... But even if there is a consensus, how can scientists be so confident about a trend playing out over dozens of years in the grand scheme of Earth's existence?

### Best predictor wins

Contrary to popular parlance, science can never truly "prove" a theory. Science simply arrives at the best explanation of how the world works. Global warming can no more be "proved" than the theory of continental drift, the theory of evolution, or the concept that germs carry diseases... "All science is fallible," Oreskes told *LiveScience*. "Climate science shouldn't be expected to stand up to some fantasy standard that no science can live up to."... Instead, a variety of methods and standards are used to evaluate the viability of different scientific explanations and theories. One such standard is how well a theory predicts the outcome of an event, and climate change theory has proven to be a strong predictor... The effects of putting massive amounts of carbon dioxide in the air were predicted as long ago as the early 20th century by Swedish chemist Svante Arrhenius.

Noted oceanographer Roger Revelle's 1957 predictions that carbon dioxide would build up in the atmosphere and cause noticeable changes by the year 2000 have been borne out by numerous studies, as has Princeton climatologist Suki Manabe's 1980 prediction that Earth's poles would be first to see the effects of global warming... Also in the 1980s, NASA climatologist James Hansen predicted with high accuracy what the global average temperature would be in 30 years time (now the present day)... Hansen's model predictions are "a shining example of a successful prediction in climate science," said climatologist Michael Mann of Pennsylvania State University.

Schmidt says that predictions by those who doubted global warming have failed to come true. "Why don't you trust a psychic? Because their predictions are wrong," he told *LiveScience*. "The credibility goes to the side that gets these predictions right."

### Mounting evidence

Besides their successful predictions, climate scientists have been assembling a "body of evidence that has been growing significantly with each year," Mann said... Data from tree rings, ice cores, and coral reefs taken with instrumental observations of air and ocean temperatures, sea ice melt, and greenhouse gas concentrations have all emerged in support of climate change theory... "There are 20 different lines of evidence that the planet is warming," and the same goes for evidence that greenhouse gases are increasing in the atmosphere, Schmidt said. "All of these things are very incontrovertible."... But skeptics have often raised the question of whether these observations and effects attributed to global warming may in fact be explained by natural variation or changes in solar radiation hitting Earth... Hurricane expert William Gray, of Colorado State University, told *Discover* magazine in a 2005 interview, "I'm not disputing that there has been global warming. There was a lot of global warming in the 1930s and '40s, then there was a slight global cooling from the middle '40s to the early '70s, and there has been warming since

the middle '70s, especially in the last 10 years -- but this is natural, due to ocean circulation changes and other factors. It is not human-induced."

Isaac Newton had something to say about all this: In his seminal "Principia Mathematica," he noted that if separate data sets are best explained by one theory or idea, that explanation is most likely the true explanation... And studies have overwhelmingly shown that climate change scenarios in which greenhouse gases emitted from human activities cause global warming best explain the observed changes in Earth's climate, Mann said — models that use only natural variation can't account for the significant warming that has occurred in the last few decades.

### **Mythic ice age**

One argument commonly used to cast doubt on the idea of global warming is the supposed predictions of an impending ice age by scientists in the 1970s. One might say: First, Earth was supposed to be getting colder; now scientists say it's getting hotter — how can we trust scientists if their predictions are so wishy-washy?... Because the first prediction was never actually made; rather, it's something of an urban climate myth... Mann says that this myth started from a "tiny grain of truth around which so much distortion and misinformation has been placed."

Scientists were well aware of the warming that could be caused by increasing greenhouse gases, both Mann and Schmidt explained, but in the decades preceding the 1970s, aerosols, or air pollution, had been steadily increasing. These tiny particles tended to have a cooling effect in the atmosphere, and at the time, scientists were unsure who would win the climate-changing battle, aerosols or greenhouse gases... "It was unclear what direction the climate was going," Mann said... But several popular media, such as *Newsweek*, ran articles that exaggerated what scientists had said about the potential of aerosols to cool Earth... But the battle is now over, and greenhouse gases have won... "Human society has made a clear decision as to which direction [the climate] is going to go," Mann said.

### **Future predictions**

To be sure, there is a certain degree of uncertainty involved in modeling and predicting future changes in the climate, but "you don't need to have a climate model to know that climate change is a problem," Oreskes said... Climate scientists have clearly met the burden of proof with the mounting evidence they've assembled and the strong predictive power of global warming theory, Oreskes said -- global warming is something to pay attention to... Schmidt agrees. "All of these little things just reinforce the big picture," he said. "And the big picture is very worrying.



### **Fuel for thought, Daniel Lewis -- September 4, 2007**

The drought and harsh winter have led to significant price rises in fruit and vegetables, but these are short-term compared to the impact some global forces could have at the farm gate... When visiting food industry figure Guillaume Bastiaens told a gathering of his Australian counterparts in Sydney that he had never seen anything like it in his 39 years in the game, he wasn't referring to the quality of the city's restaurants or produce... The vice-chairman of US Company Cargill was talking about the global impact of biofuels on agriculture and food prices... His firm, with 149,000 employees in 64 countries, including Australia, is involved in agricultural management services, buying, processing and distributing grain, livestock feed, and ingredients for processed foods... His comments are in the light of America's booming biofuels production, prompted by President George W. Bush who is determined to reduce his nation's reliance on oil from the Middle East... Ethanol plants are mushrooming across the Midwest grain belt and to satisfy their demand, U.S. farmers are planting millions of extra hectares of corn to harvest a record crop... So much land is now growing corn and so much of that corn is going into ethanol that global prices of other crops, such as wheat, are being forced up as the world scrambles to find supplies of grains formerly grown on the land. It has a knock-on effect with a rise in the price of foods that rely on grain. It includes beef, dairy, and eggs. At the same time, millions of newly-affluent people across Asia are developing the taste for the same foods, further driving demand.

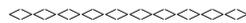
The latest Westpac-National Farmers Federation commodity index says global farm prices have increased by an average 15.5 per cent over the past year... In June alone, wheat prices rose 14.8 per cent and dairy 10 per cent. In the past year, they have risen 31 per cent and 66 per cent, respectively... In New Zealand, where the dairy industry is a major part of the economy, the Reserve Bank governor has asked 12,000 dairy farmers not to go on a spending spree on the back of rising profits and so drive up inflation. Mexico had food riots earlier this year after the price of the national staple, corn tortillas, rocketed.

China is so worried about the impact of biofuels on food supply it has banned any new projects involving crops... The renewable fuel industry in the US denies food prices are rising due to ethanol but Bastiaens pointed to an Iowa State University study released in May. Its conservative estimate was that since mid-2006, the ethanol-led rise in the price of corn of about 75 per cent had increased U.S. retail food prices by \$US14 billion (\$17.7 billion) -- about \$US47 a person.

The U. S. is already producing 24 billion litres of ethanol a year and expansion is underway to double that figure. President Bush's "20 in 10" initiative would have 132 billion litres of alternative fuels, including ethanol, produced by 2017. The U.S. could then cut its petrol usage by 20 per cent over the next 10 years. Such an increase would drive up the price of Australian wheat by at least 16 per cent, the Iowa study revealed.

Sydney's steak lovers could be in for a rude shock, particularly as we have become so attached to grain-fattened beef... Michael Pointer is chief executive of Certified Australian Angus Beef. The brand guarantees steak that is tasty and tender because its steers are fed a diet of mostly grain for more than 100 days at feedlots to ensure the flesh is marbled with fat... The number of certified Angus processed in Australia has grown from 12 in 1996 to an expected 120,000 this year, with about 20 per cent consumed locally.

Many Australians now buy beef in the same way they buy wine, he says, and they are prepared to pay much more for a brand that guarantees quality. "They understand they will get the same flavour, the same degree of tenderness..." The Kingsleys Steakhouse group serves expensive steak from steers fattened at Cargill's Jindalee feedlot in the Riverina. Kingsley's director George Vardis says his customers prefer grain-fed to grass-fed steak, with grain-fed meat accounting for about 60 per cent of orders. "People can tell the difference," he says... With a third of Australia's cattle now finished at feedlots, the beef and feedlot industries have been frantically lobbying to ensure Australia doesn't follow the lead of the US and create a vast biofuels industry through mandate and subsidies...



### **Lawmakers Decry FDA Plans to Close Labs**, By Andrew Bridges – *Associated Press*, July 18, 2007

Importers have learned to evade close federal scrutiny of the food they ship into the United States, putting consumers at increasing risk, congressional investigators said Tuesday.

Lawmakers also criticized the Food and Drug Administration's plan to close half of its laboratories. They called that idea misguided and questioned whether it would save money and enhance the agency's ability to target unsafe food, as FDA commissioner Dr. Andrew von Eschenbach said it would... FDA's ill-conceived decision to close seven of its 13 laboratories likely would expose American consumers to even more danger from unsafe foods, particularly imports, said Rep. Bart Stupak, D-Mich., at a hearing of a House Committee on Energy and Commerce subcommittee... Von Eschenbach said the lab plan was meant to modernize the FDA's food safety efforts.

The FDA's ability to police the nation's food supply has come under withering criticism from Congress and others amid a string of high profile cases of food borne illness, including E. coli-tainted spinach and salmonella-contaminated peanut butter and snack foods, as well as concerns about drug-laced farmed fish imported from China... An Energy and Commerce Committee investigation found the FDA now has little ability to police imports. In San Francisco, for example, the FDA's staff can conduct only a cursory review of imports, generally dedicating just 30 seconds to each shipment as it flashes by on a computer screen, according to investigators... Even when products are flagged by the FDA, importers have learned to manipulate the system, investigators said. For example, the FDA relies on results obtained from private labs, but those labs produce results driven by financial rather than scientific concerns, investigators told the subcommittee... Investigative counsel Kevin Barstow said he was told by an unnamed FDA deputy lab director that none of the test results he's seen are completely accurate. The words he used were "not good" and "spooky," Barstow said.

Importers also can reduce the level of scrutiny by having their products test negative five consecutive times, according to the investigators. Since some large fish, including tuna, can be flagged for high mercury levels, importers will arrange to have tested five lots of smaller fish -- generally younger and with comparatively less mercury -- to obtain an all-clear from the FDA. Once the monitoring decreases, the importers can then resume bringing in larger fish that otherwise might not pass muster, the investigators said... You're saying the importers know how to maneuver around the FDA?, asked Rep. Tim Murphy, R-Pa... Yes, said committee senior investigator David Nelson... Some potentially problematic seafood imports are being steered to enter the country in Las Vegas

to avoid the scrutiny they might receive in San Francisco and other West Coast seaports, according to Nelson and other investigators.

The problems go beyond food. In Puerto Rico, investigators learned importers were getting around the FDA's blocking of imports of Chinese-made toothpaste made with an antifreeze ingredient by co-packaging them with toothbrushes. Examples of the tainted toothpaste included a Crest knockoff called Crust, he added... The decision to close and consolidate labs is likely to have a negative impact on safety, said B. Belinda Collins, the FDA's Denver district director. Furthermore, the reorganization would likely force many employees to retire or leave, said Carol Heppe, who faces the loss of her job as the FDA's Cincinnati district director... This will result in a mass loss of institutional knowledge and expertise at a time when the agency is trying to be proactive in our operations to prevent more emergencies, Heppe added.

Several of the most recent and high profile food scares have involved imports from China, including deadly pet food ingredients spiked with industrial chemicals, farmed fish laced with antibiotics, and snack food seasoning contaminated by salmonella... We know that we are vulnerable to harm from abroad where rules and regulations governing food production often are more lax than they are at home, said Rep. Marsha Blackburn, R-Tenn., in raising the prospect of terrorists tampering with imports entering the U.S. food supply... Rep. Henry Waxman, D-Calif., said Congress shared some of the responsibility for the problems with food safety since it hasn't given the FDA enough money or power.

### **When environmental writers are part of the problem**, by John Feeney, July 11, 2007

<http://www.opednews.com/author/author6823.html>

Something's missing in today's environmental discussion. When talking about causes and proposed solutions for our ecological plight, few environmental writers are telling us more than half the story. Al Bartlett, Physics Professor Emeritus at the University of Colorado and long-time sustainability activist, calls it "the silent lie [[http://www.odac-info.org/bulletin/documents/al\\_bartlet/book\\_review-sciam\\_dec2006.htm](http://www.odac-info.org/bulletin/documents/al_bartlet/book_review-sciam_dec2006.htm)]. It's the near universal tendency to focus on the importance of cutting fossil fuel use while staying mum on the topic of population growth... John Holdren, last year's president of the American Association for the Advancement of Science, told us the whole story over a decade ago in an article titled, "Population and the Energy Problem."

[<http://www.springerlink.com/content/g55t115mu4545043/>]. He observed that the total energy consumption for a country or the world, is the product of population size multiplied by the average per capita energy use. Today, the developers of the "ecological footprint" measure, William Rees and Mathis Wackernagle, echo Holdren when they explain [[http://www.footprintnetwork.org/gfn\\_sub.php?content=global\\_footprint](http://www.footprintnetwork.org/gfn_sub.php?content=global_footprint)], "(The ecological footprint) for the world as a whole is the product of population times per capita consumption, and reflects both the level of consumption and the efficiency with which resources are turned into consumption products."

That the size and growth of the global population is a root cause of ecological degradation, including climate change, is in fact well known [<http://atlas.aaas.org/index.php?part=1>] to scientists. Yet statements to that effect get little traction in the mainstream media. We hear all about the need to save energy by switching to florescent light bulbs. We read about the ethanol debate and carbon trading schemes. We urge our representatives to establish tougher fuel economy standards; but in all the talk of ways of reducing per person consumption, how often does anyone mention the need to address the other factor in the equation? In today's environmental writing, population growth is the elephant in the room.

What are environmental writers thinking?

Why the silence? Population growth received a good deal of attention in the 1960s and 1970s, but then came China's draconian one child policy, right wing groups pushing free market capitalism by cheerleading growth and dismissing the need to limit our numbers, and political wrangling among environmental and social justice groups, all seeking the spotlight for their own issues. The result was the demotion of population from its status as social and environmental issue number one.

Indeed, some writers today actively avoid the subject of population despite recognizing its importance. David Roberts, staff writer at Grist, made it clear he recognizes that to reduce humanity's ecological footprint to a sustainable level we'll need to deal with the population problem. Yet he acknowledged he never writes on the subject... His reason? "Talking about population as such alienates a large swathe of the general public. It carries vague connotations of totalitarianism and misanthropy and eugenics. It has been used quite effectively to slander and marginalize the environmental movement. It is political poison"... From what I've seen, Roberts' view seems typical of many environmental writers and organizations, and my purpose is not to single him out. He's merely one



is free to dump as much as they wish into it although we all depend on it for our lives. In a real physical sense, virtually every attempt to solve any problem within our Price System makes no sense unless one interprets everything in financial terms.

Finally, after many years of waste, people are beginning to realize that we are about to reach the peak of world oil production. This concerns most people because they are concerned about the cost of gasoline, a petroleum derivative. The real concern should be that we are running out of virtually everything that is used in great quantities to produce our standard of living. We have been mining fresh water aquifers worldwide for decades. Our agriculture is dependent on it. It has taken millions of years to accumulate, and we are consuming it in decades. When it is gone, so will much of our agriculture.

***Since 1933, Technocracy has offered a plan based on scientific research for the organization of human society that would actually operate for the benefit of human beings rather than the mirage of money.***

Technocracy has stated that the operations of the social system should be measured and operated on the basis of energy consumption. One conserves and concerns oneself with that which is measured. Energy is the most fundamental constituent of anything physical.

Humanity is standing on the edge of a precipice of our own making. We can choose to change or put ourselves through a meat grinder of social upheaval that will leave us all worse off -- if we survive.