The Skeptic's Handbook

Rise above the mud-slinging in the Global Warming debate. Here are the strategies and tools you need to cut through the red-herrings and avoid the traps.

[skeptic: person indisposed to accept popularity or authority as proving the truth of opinions.]

The Bottom Line Is Simple

Don't fall for the "complexity" argument or accept vague answers. The climate is complex, but the only thing that matters here is whether *adding more CO_2 to the atmosphere will make the world much warmer.*

"What evidence is there that more CO_2 forces temperatures up further?"

Everything hinges on this one question. If carbon dioxide is not a significant cause, then carbon sequestration, cap-and-trade, emissions trading, and the Kyoto agreement are a waste of time and money. All of them divert resources away from things that matter—like finding a cure for cancer or feeding Somali babies. Having a real debate IS the best thing for the environment.

The Surgical Strike

1: Stick to the four points that matter

There is only one question and four points worth discussing. Every time you allow the conversation to stray, you get stuck in a dead end and miss the chance to definitively expose the lack of evidence that carbon is "bad."

2: Ask questions

Non-believers don't have to prove anything. Skeptics are not asking the world for money or power. Believers need to explain *their* case, so let them do the talking. As long as the question you asked doesn't get resolved, repeat it.

3: Greenhouse and global warming are different

Don't let people confuse **global warming** with **greenhouse gases**. Mixing these two different topics has confounded the debate. Proof of global warming is not proof that greenhouse gases caused that warming.

4: Deal with the bully-boy

It's entirely reasonable to ask for evidence. If you are met with dismissive, intimidatory, or bullying behavior, don't ignore it. Ask them why they're not willing to explain their case. In scientific discussions, no theory is sacrosanct. Dogma belongs in religions.

There are so many points to debate on global warming, it's tempting to tackle them all. But the surgical strike means cutting to the core of what matters.

Proof of global warming is not proof that greenhouse gases caused that warming.

NOTE: "Carbon," "carbon dioxide," and "CO_2" are all used interchangeably here for the sake of simplicity, as with public use (but not in scientific practice).

AGW: Anthropogenic Global Warming, the theory that human CO_2 emissions are the main cause of global warming (GW).

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The Global Warming Gravy Train Ran Out of Evidence

Here's how the facts have changed since 2003, to the point where *there is no evidence left*.

The only 4 points that matter

1 **The greenhouse signature is missing.**

Weather balloons have scanned the skies for years but can find *no sign* of the telltale "hot-spot" warming pattern that greenhouse gases would leave. There's not even a hint. *Something else caused the warming.*

2 **The strongest evidence was the ice cores, but newer, more detailed, data turned the theory inside out.**

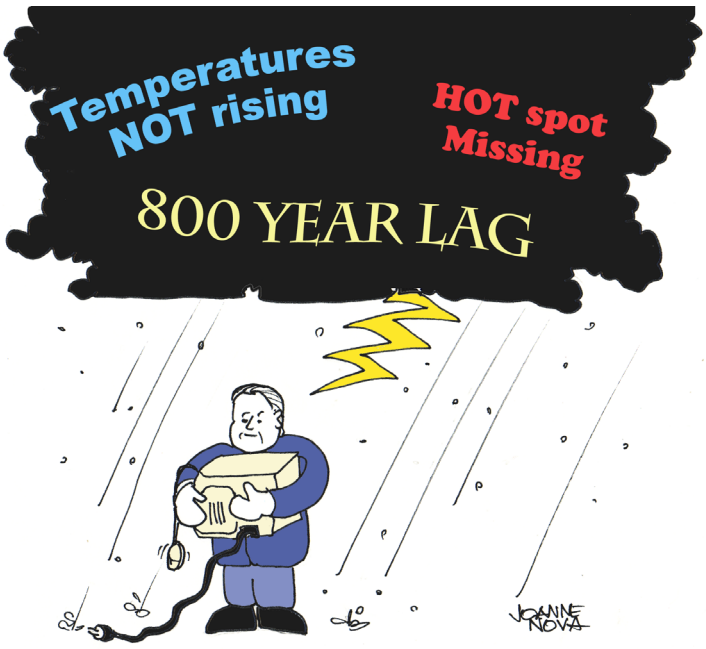
Instead of carbon pushing up temperatures, for the last half-a-million years temperatures have gone up *before* carbon dioxide levels. On average 800 years *before*. This totally threw what we thought was cause-and-effect out the window.
Something else caused the warming.

3 **Temperatures are not rising.**

Satellites circling the planet twice a day show that the world has not warmed since 2001. How many more years of NO global warming will it take? While temperatures have been flat, CO_2 has been rising, BUT *something else has changed the trend.* The computer models don't know what it is.

4 **Carbon dioxide is already doing almost all the warming it can do.**

Adding twice the CO_2 doesn't make twice the difference. The first CO_2 molecules matter a lot, but extra ones have less and less effect. In fact, carbon levels were ten times as high in the past but the world still slipped into an ice age. Carbon today is a bit-part player.



More Inconvienient Truths

Something out there affects our climate more than CO2 and none of the computer models knows what it is.

1

The greenhouse signature is missing

This is the knock-out blow. If greenhouse gases are warming the earth we are supposed to see the first signs of it in the patch of air 10 kilometers above the tropics. But this "hot spot" just isn't there.

Graph A (from the Intergovernmental Panel on Climate Change) shows the pattern of temperature changes the models predict for greenhouse gas-induced warming.

Graph B (published by the U.S. Climate Change Science Program) shows what actually occurred during the recent warming from 1979-1999. Weather balloons measured the global atmosphere but could find no sign of the predicted "hot spot."

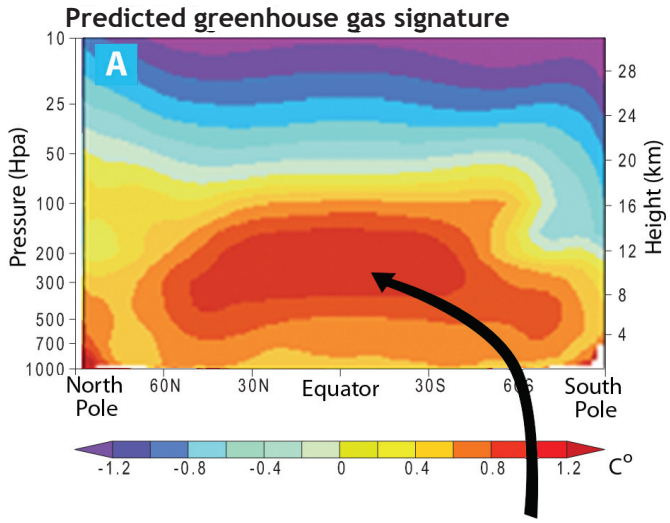
Thermometers are telling us, *"it wasn't caused by greenhouse gases."*

Conclusion: Something else was causing most or all of the warming. And the models don't know what it was.

AGW replies: The hot spot is not missing. It's been found. Read Sherwood or Santer.

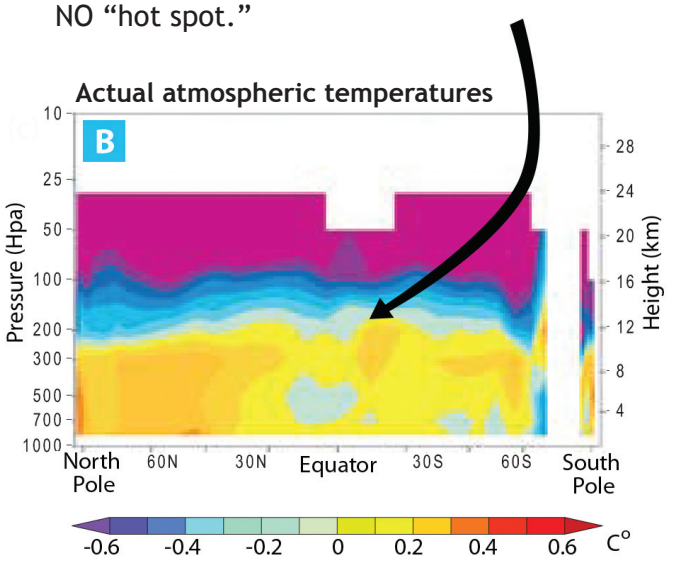
Skeptics say: Santer didn't find the hot spot, he found "fog in the data." After many attempts to statistically reanalyze the same old data his big news was that the hot spot *might be there* hidden in the noise. Sherwood, meanwhile, thinks we should ignore the thermometers and use wind gauges to measure the temperature instead. And if you'll believe that ...

Figure this: If we can't get good results from a simple weather balloon, what chance do we have with a computer model?



This is where computer models predict we would see global warming if greenhouse gases were the cause.

This is what the thermometers find—NO "hot spot."

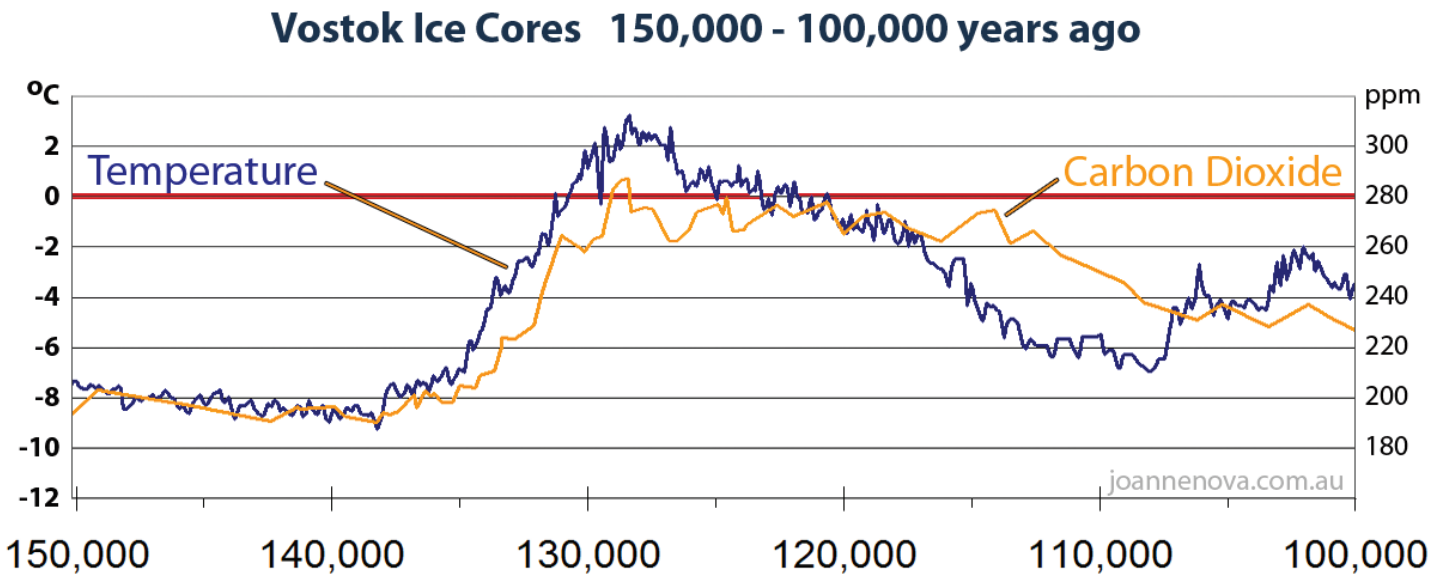


Thermometers ferrgoodnessake, are designed to measure the temperature. Why should wind gauges accidentally be better at it?

Sources: (A) Predicted changes 1958-1999. Synthesis and Assessment Report 1.1, 2006, CCSP, Chapter 1, p 25, based on Santer et al. 2000; (B) Same document, recorded change/decade, Hadley Centre weather balloons 1979-1999, p. 116 , fig. 5.7E, from Thorne et al., 2005.For an accessible account of the whole issue: http://www.sciencespeak.com/MissingSignature.pdf

2

Ice cores reveal that CO_2 levels rise and fall hundreds of years *after* temperatures change



On average CO_2 rises and falls hundreds of years after temperature does.

In 1985, ice cores extracted from Greenland revealed temperatures and CO_2 levels going back 150,000 years. Temperature and CO_2 seemed locked together. It was a turning point—the "greenhouse effect" captured attention. But in 1999 it became clear carbon rose and fell *after* temperatures did. By 2003 we had better data showing the lag was 800 ± 200 years. CO_2 was in the back seat.

AGW replies: There is roughly an 800-year lag. But even if CO_2 doesn't start the warming trend, *it amplifies it.*

Skeptics say: If CO_2 was a *major driver,* temperatures would rise indefinitely in a "runaway greenhouse effect." That hasn't happened in 500 million years, so either a mystery factor stops the runaway greenhouse effect, or CO_2 is a minor force. Either way, CO_2 is trivial, or the models are missing the dominant driver.

Amplification is speculation; it's a theory with no evidence that it matters in the real world.

Conclusion:

1. Ice cores don't prove what caused past warming or cooling. The simplest explanation is that when temperatures rise, more carbon enters the atmosphere (because as oceans warm they release more CO_2).

2. Something else is causing the warming.

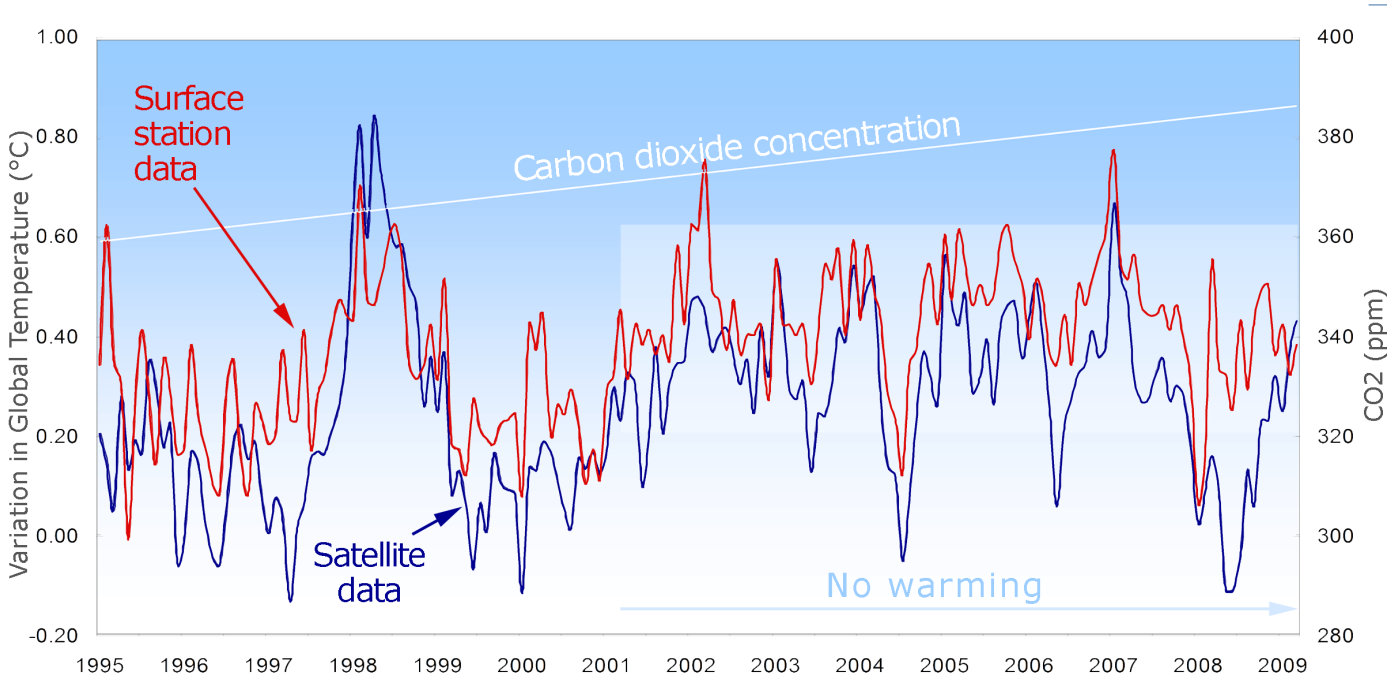
Al Gore's movie was made in 2005. His words about the ice cores were, *"it's complicated."* The lag calls everything about cause and effect into question. There is no way any honest investigation could ignore something so central.

Source: Carbon Dioxide Information Analysis Center http://cdiac.ornl.gov

A complete set of expanded graphs and images is available from http://joannenova.com.au/wp/global-warming/ice-core-graph/

3

The world is not warming any more



The world has not warmed since 2001.

AGW reply #1: In the last decade we've had six (or seven, or eight) of the top ten hottest years ever recorded.

Skeptics say: True, but it doesn't mean much. Clusters and longer trends are all that's left when you can't say '2008, or 2007, or 2006 was the hottest...' The kicker is that the world has been warming since the Little Ice Age of the 1700's, long before SUV's. And records only started around 100 years ago anyway. That's not long.

Plus, many records were set by ground based stations, and a lot of these can't be trusted (see page 7). The Urban Heat Island effect means thermometers in cities are really measuring urban development warming, or parking lot climate changes, not global warming. Satellites have circled the planet 24 hours a day for 30 years recording temperatures continuously. If temperatures were still rising, they would see it.

AGW reply #2: This flat patch is just "noise" and natural variation.

Skeptics say: "Noise" is caused by *something*. And it's more important than carbon. Even if the temperatures start going up again, the flat trend for seven years tells us the models are missing something big.

Models can't accurately predict the climate over seven years, why should they be right over 70?

Conclusion: This doesn't prove global warming is over, but it proves carbon is not the main driver. Something else is causing temperatures to change, something the computer models *don't include*.

Sources: Mauna Loa; GISS; UAH. Temperature variation is measured from the 1979 average. For updated graphs: www.junkscience.com

The main cause of global warming is air conditioners.

Look at these pictures of NOAA's U.S. temperature stations. These thermometers on the ground have recorded faster temperature rises than sensors on satellites and weather balloons.

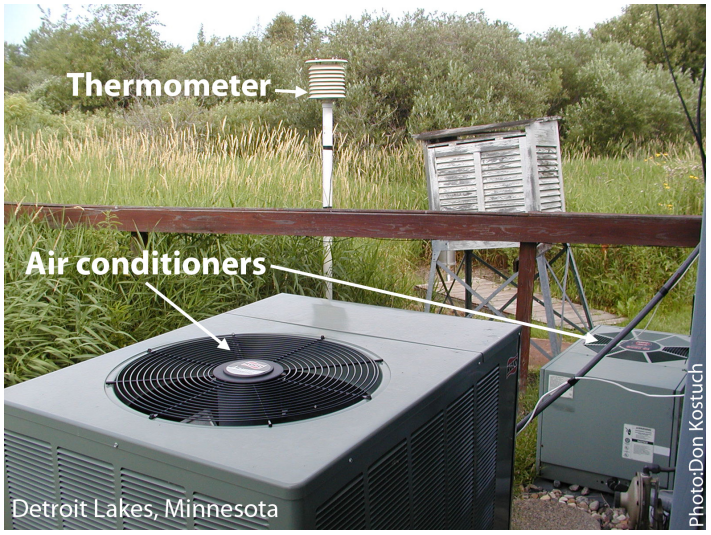
Would you trust data from sensitive thermometers in parking lots surrounded by concrete, beside busy roads and within meters of air conditioning outlets? NASA does.

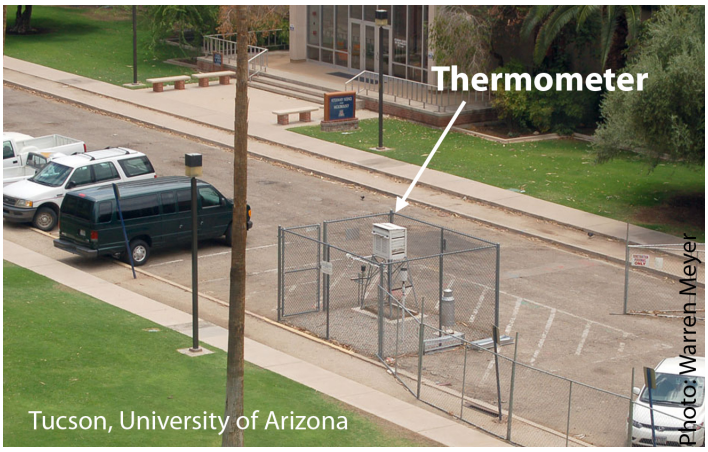
In Melbourne, Australia, one historic temperature collection point is on the corner of LaTrobe St. and Victoria Rd., sandwiched between nine lanes of traffic and a tram line.

How could recorded temperatures *not* rise under these circumstances?

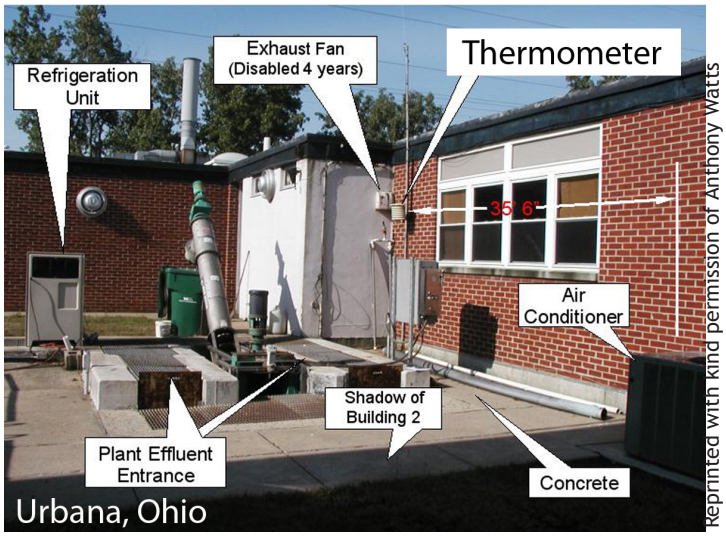
AGW Reply: Modellers have corrected for the Urban Heat Island effect.

Skeptics say: Modellers have adjusted for "measurable and predictable data biases," but they haven't done a site-by-site hands-on survey to account for heat sources nearby. (These photos were taken by volunteers for a blog: surfacestations.org.)





We can't trust thermometers in places now surrounded by engines, concrete, and air conditioners.



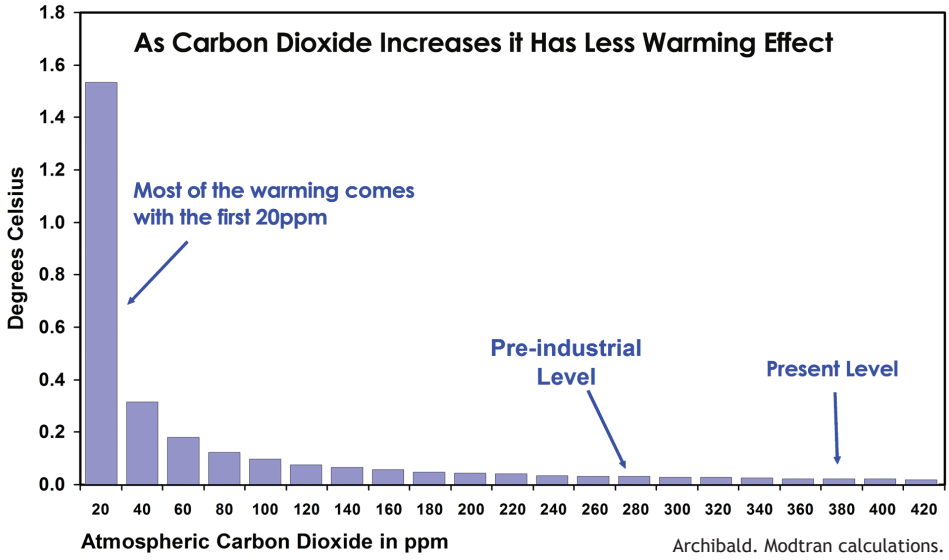
Source: For hundreds of other examples like this http://www.surfacestations.org/odd_sites.htm

4

Carbon dioxide is already absorbing almost all it can

Here's why it's possible that doubling CO_2 *won't make much difference*.

The carbon that's already up in the atmosphere absorbs most of the light it can. CO_2 only "soaks up" its favorite wavelengths of light and it's close to its saturation point. It manages to grab a bit more light from wavelengths that are close to its favorite bands but it can't do much more, because there are not many left-over photons at the right wavelengths.



This graph shows the additional warming effect of each extra 20ppm of atmospheric CO_2.

The natural greenhouse effect is real, and it does keep us warm, but it's already reached its peak performance. Throw more carbon up there and most of the extra gas is just "unemployed" molecules.

The sun won't put out more light just because we put out more carbon.

AGW says: The climate models are well aware of the logarithmic absorption curve and use it already.

Skeptics say: The models make brutal estimates and many assumptions (guesses). "Lab-warming" doesn't necessarily translate to "planet-warming": test tubes don't have ocean currents, clouds, *or* rain. The "clouds and humidity" factor is bogglingly complex. For example, high clouds tend to warm the planet but at the same time, low clouds tend to *cool it*. So which effect rules? Models don't know but they *assume* clouds are net-warming.

This is not a minor point, the feedback from clouds and humidity accounts for *more than half* of carbon's alleged 'effect'. E'Gad.

AGW says: It's not 100% saturated.

Skeptics say: True, but meaningless. Log curves *never* get to "100%". (So even the air on Venus, which is almost pure CO_2, does not absorb 100% of the infra red light). Every CO_2 molecule will increase warming by a small amount ad infinitum, but it has *less effect than the CO_2 that's already up there.*

And the effect is already so small, *it's unmeasurable*.

Conclusion: If adding more CO2 to the sky mattered, we would see it in ice cores and thermometers. We don't. Ergo: Carbon's effect is probably minor.

Believers are becoming skeptics

These notable people all felt global warming should be taken seriously until new evidence changed their minds. These are just a few.

NOTE: This is a curious aside and potentially distracting. No matter how qualified, how green, or how dedicated, their names and opinions prove nothing about carbon because *"argument by authority"* never can. But it proves that the debate has moved on from "believers" and "deniers"—there's a new group, those who used to believe and have changed their minds. *Their numbers are growing.*

Ivar Giaever, Nobel Prize winner for physics, says *"I am a skeptic…Global warming has become a new religion."*

Geophysicist Dr. Claude Allegre, who has authored more than 100 scientific articles and was one of the first scientists to sound global warming fears 20 years ago, now says the cause of climate change is "unknown."

Geologist Bruno Wiskel of the University of Alberta once set out to build a "Kyoto house" in honor of the Kyoto Protocol but recently wrote a book titled *"The Emperor's New Climate: Debunking the Myth of Global Warming."*

Astrophysicist Dr. Nir Shaviv, one of Israel's top young award-winning scientists, "believes there will be more scientists converting to man-made global warming skepticism as they discover the dearth of evidence."

Atmospheric scientist Dr. Joanna Simpson, the first woman in the world to receive a PhD in meteorology: *"Since I am no longer affiliated with any organization nor receiving any funding, I can speak quite frankly."* Formerly of NASA, she has authored more than 190 studies.

Mathematician and engineer Dr. David Evans devoted six years to carbon accounting, building an award winning model for the Australian Greenhouse Office. He wrote FullCAM that measures Australia's compliance with the Kyoto Protocol in the land use change and forestry sector. Evans became a skeptic in 2007.

Meteorologist Dr. Reid Bryson, dubbed one of the "Fathers of Meteorology," became a leading global warming skeptic in the last few years before passing away in 2008.

Botanist Dr. David Bellamy, a famed UK environmental campaigner, former lecturer at Durham University, and host of a popular UK TV series on wildlife, said *"global warming is largely a natural phenomenon. The world is wasting stupendous amounts of money on trying to fix something that can't be fixed."*

Climate researcher Dr. Tad Murty, a professor of earth sciences at Flinders University, says: *"I started with a firm belief about global warming, until I started working on it myself."*

Climate scientist Dr. Chris de Freitas of The University of Auckland, N.Z., converted from a believer in man-made global warming to a skeptic.

Dr. Kiminori Itoh, an award-winning PhD environmental physical chemist, says warming fears are the *"worst scientific scandal in the history…When people come to know what the truth is, they will feel deceived by science and scientists."*

Andrei Kapitsa, a Russian geographer and Antarctic ice core researcher, says *"The Kyoto theorists have put the cart before the horse. It is global warming that triggers higher levels of carbon dioxide in the atmosphere, not the other way around …"*

Atmospheric physicist James A. Peden notes, *"Many [scientists] are now searching for a way to back out quietly [from promoting warming fears], without having their professional careers ruined."*

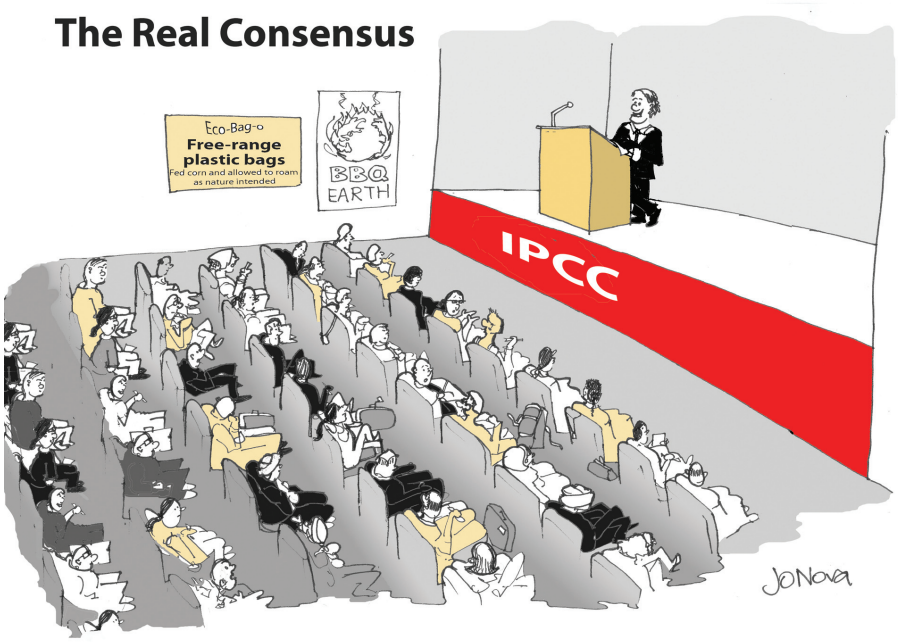
Dr. Richard Courtney, a UN IPCC expert reviewer and a UK-based climate and atmospheric science consultant: *"To date, no convincing evidence for AGW (anthropogenic global warming) has been discovered."*

Source: US Senate Minority Report. More than 650 scientists dissent over man-made global warming claims.

Consensus? What Consensus?

How many scientists does it take to prove the debate is not over? More than 30,000 scientists have signed The Petition Project. More than 9,000 of them have PhDs (not that that proves anything about carbon, but it does prove something about the myth of "consensus"). The petition's wording is unequivocal:

> *"There is no convincing scientific evidence that human release of carbon dioxide, methane, or other greenhouse gasses is causing or will, in the foreseeable future, cause catastrophic heating of the Earth's atmosphere and disruption of the Earth's climate. Moreover, there is substantial scientific evidence that increases in atmospheric carbon dioxide produce many beneficial effects upon the natural plant and animal environments of the Earth."*
>
> Source: www.petitionproject.org



Hands-up. Who thinks greenhouse gases have no effect, and therefore we all need new jobs? Anyone?

The Petition Project is funded by donations from individuals and run by volunteers. It receives no money from industry or companies. In late 2007, The Petition Project redid the petition to verify names again.

AGW says: *Everyone knows the petition is bogus and filled with duplicate and fake names.*

Skeptics say: Name 10 fakes.

NOTE: Watch out, this is potentially distracting. Science is not democratic. The numbers and qualifications on either side don't matter except to put an end to the statement that "the debate is over." Science is not done by consensus.

The climate does not respond to boatloads of scientists, no matter how much hot air they produce.

When did scientists vote anyway?

What Is Evidence?

Science depends on observations, made by people at some time and place. Things you can see, hold, hear, and record.

This would be evidence that carbon is a major cause of global warming:

- If temperatures followed CO_2 levels in the past. (They didn't.)
- If the atmosphere showed the characteristic heating pattern of increased greenhouse warming. (It doesn't.)

This is NOT evidence:

- Arctic ice disappearing
- Glaciers retreating
- Coral reef bleaching
- Mt. Kilimanjaro losing snow
- Madagascan lemurs doing anything
- Four polar bears caught in a storm
- Pick-a-bird/tree/moth facing extinction
- A change in cyclones/hurricanes/typhoons
- Droughts
- Dry rivers
- Computer models*
- There is no "better" explanation
- Some guy with a PhD is "sure"
- 2,500 scientists mostly agree
- A government committee wrote a long report
- Government spending on "Emissions Trading Plans" tops $100 million
- Geri "Ginger Spice" Halliwell signed a skeptics petition
- A failed theologian, ex-politician made a documentary

Anything that heats the planet will melt ice, shift lemurs, and cause droughts. None of these things tell us WHY the planet got warmer.

Finally:

Is there any evidence that would convince you that carbon was <u>not</u> significant?

*Why are computer models NOT evidence?

They're sophisticated, put together by experts, and getting better all the time. But even if they could predict the climate correctly (they can't), even if they were based on solid proven theories (they aren't), they still wouldn't count as evidence. Models of complex systems are based on scores of assumptions and estimates piled on dozens of theories. None of the current models forecast that temperatures would stop rising from 2001 – 2008. So there is at least one other factor that is more important than CO_2 and *the models don't know what it is*.

A belief is not scientific if there ***is no*** evidence, and no situation where it could be proven false.

Theories must be falsifiable. Anything else is faith-based.

Cutting through the Fog

"There's a mountain of peer-reviewed evidence that says we need to reduce carbon emissions."

There is a mountain of evidence on the effects of global warming. That's not the same thing.

"Can you name a single piece of evidence showing higher CO_2 means significantly higher temperatures today?"

Common Responses (no attempt to talk about "evidence")

A. Refer to an authority

The IPCC says ...

The IPCC is an international committee, it's not evidence.

Argument by authority is not proof of anything except that a committee paid to find a particular result can produce a long document.

But the IPCC reports are based on hundreds of peer-reviewed papers. You can't ignore that.

A committee report is not evidence itself. Can you point to any observations that show that CO_2 causes significant warming at its current levels? (The IPCC can't.)

That's the consensus of mainstream science.

It only takes one scientist to prove a theory is wrong.

Science is not democratic.

Natural laws aren't made by voting.

— The sun doesn't shine because the National Academy of Sciences says so.

— The clouds don't read David Suzuki.

— The ocean doesn't care what Al Gore thinks.

The climate IS what it IS.

B. Distractor

The debate is over.

What debate? Did I miss it?

Who says? (The media? Politicians? Celebrities?)

Have you got any evidence for that?

It's time to act now.

What, before we uncover more reasons not to act?

We make too much pollution anyway, we should be doing more research on renewables anyway.

So let's do those things for the right reasons. Random policy because it "feels good" is government-by-accident. Taxing the wrong thing is a lousy way to "solve" something else.

What about the precautionary principle?

How much should we spend to fix something that isn't a problem?

There's a cost involved in every action.

What's causing the warming then?

We don't need to know what **IS** changing the climate to be able to say ... *carbon didn't do it*.

Believers need to tell us why we should pay for carbon emissions.

C. Ad hominem attack

What would you know, you're not a climate scientist.

So? Neither is Al Gore.

I know what evidence is. (Do you?)

I can read a graph.

You are a denier.

Name-calling is the best you can do?

I could be a frigid fascist or an oil sheik, that doesn't change the satellite temperature record. My opinions don't affect ice core data.

You're an oil company shill.

Big Government outspends Big-Oil

From 1989-2007 US Government budgets include a total of $30 billion for pure scientific climate research vs Exxon: $23 million, at last count.

You can end up bogged down in endless detail. It's better to step back and focus on the process, on the basics of science, lest the conversation become a bottomless tit-for-tat point-scoring exercise. This is not to say we don't want debate, but unless you keep the debate tightly focused on the one question that matters, you can waste days on irrelevant (albeit interesting) sidelines.

It's also better NOT to bother defending irrelevant evidence (even if you know that sea ice is actually increasing, or that there is global warming on Mars). It's usually not worth defending qualifications, or trying to prove you or anyone is independent (i.e. unfunded), or that scientists on one side outnumber scientists on the other. *This plays into the false logic that those points matter*. Argument by authority, or ad hominem attacks, and questions about your motivation, show the other party doesn't understand what evidence really is.

Better Responses (attempts to discuss evidence)

D. Used-to-be evidence

Ice Cores

Rising Temperatures

These used to support the idea, but we've got better data now. (See points 1 - 3 on previous pages for details).

That's out of date.

E. Irrelevant evidence

Sea levels are rising. Ice is melting. Deserts are expanding. Droughts are at record levels. Rivers are running dry. Forests are disappearing ... etc., etc.

They're the effects of warming, not the trigger.

None of these tells us what caused the warming in the first place.

That's mixing cause and effect.

F. Theoretical

The warming effect of CO_2 has been known for a century, proven in laboratories, and we know the world is warmer because of it.

All true, but doesn't mean much at current levels of carbon. CO_2 absorbs only a few bands of light, and it's close to saturation level. Adding more CO_2 makes hardly any difference now. (See point 4.)

Laboratory theory is fine, but real observations don't back it up at current levels of carbon dioxide.

The real world trumps the laboratory every time.

It's peer-reviewed (so it must be right).

Some papers contradict each other so they can't **all** be right.

Studies show many peer reviewed papers turn out to be false, and many are never replicated.

Reviewers are usually unpaid, anonymous and their comments are not public. The system is only as good as the reviewer.

It doesn't count if it's not peer-reviewed.

Peer review is useful, but not proof. Each theory stands or falls on its evidence.

G. Computer Models

There are some two dozen climate models in the world that all confirm that anthropogenic greenhouse gases are heating the world.

All the models predicted temperatures would rise from 2001-2008. They're all missing factors that are more important than carbon.

Even if they *did* predict the current climate, they would still be theoretical and not empirical evidence. Models alone can never prove anything.

Current warming cannot be explained without AGW.

i.e., "We can't think of anything better."

Argumentum ad ignorantium.

For open-minded people who want more info ...

"How can so many scientists be wrong?"

1. Most scientists are not wrong, but they're not studying the central question either. Instead they're *researching the effects of warming* — not the causes. Whether orangutans in Borneo are facing habitat loss tells us nothing of what drives the weather. Likewise: wind-farm efficiency, carbon sequestration, and insect-borne epidemics. *Warm weather changes these things, but these things don't change the weather.*

2. Consensus proves nothing. It takes only one scientist to prove a theory wrong. Theories fit the facts or they don't. Instead of saying *"Which side has more PhDs?"* a better question is *"Where's the evidence?"* Once upon a time, the masses thought the world was flat, that no machine could fly, that the sun went 'round the Earth.

The only thing we know for sure about climate change is that big government-funded committees will keep going long after their use-by date.

"This cooler spell is just natural variation."

That IS the point. Natural variation, or "noise" is due to **something.** And at the moment, whatever that is, *it's more important* than greenhouse gases. In this case, "noise" is not some fairy force, it's affecting the planetary climate. If we can figure that out, and stick it in the computer models, the models might have more success.

Here's an idea: Let's base an economic system and global taxes on 50-year forecasts from computer models that can't tell us the weather next summer. If we're lucky they might work as well as the mark-to-model software did for Lehman Bros.

"Carbon dioxide is a pollutant."

Carbon dioxide feeds plants. It's a potent fertilizer. We can thank the extra CO_2 in our atmosphere for increasing plant growth by about 15 percent over the last century. (Fifteen percent!) Market gardeners pump extra CO_2 into their greenhouses to *increase their crop yield*, and we're not talking a piddling 2ppm extra a year. It's like, *"Will we double CO_2, or increase it five-fold?"* In other words, there are people alive today thanks to extra carbon in the atmosphere. It's scientifically accurate to say:

Carbon dioxide helps feed the starving.

"What about the precautionary principle?"

It cuts both ways. If we make it harder or more expensive for people in Africa to use their coal, it means they keep inhaling smoke from wood fires; babies get lung disease; forests are razed for fuel. Meanwhile electric trucks cost more to run, and that makes fresh food more expensive; desperate people eat more monkeys–wiping out another species; children die from eating meat that's gone off or get Kwashiorkor–severe protein deficiency. More children could miss out on refrigerated vaccines and die of dysentery as a result. At the same time in the West, money could have been used for gene therapy or cancer research but wasn't; the delay in medical advances means over 10 years, say,

half-a-million people die who wouldn't have if we'd put that money into medical labs instead of finding ways to pump a harmless gas underground. Either way we can't afford to get this wrong. That's why the responsible thing to do is look at the evidence.

There's a point about cost-benefit here. How many people are we willing to kill in order to protect us from the unproven threat of CO2?

"Shouldn't we be looking for greener alternatives to fossil fuels anyway?"

Hoping for a good outcome while acting on something for all the wrong reasons is called policy-by-accident. Oil is expensive and finite, so **Yes**, we *could* adopt a national taxation system based on a false assumption, employ more accountants and lawyers, and if we don't cripple the economy **too** badly, there *might* be enough money left to research greener alternatives (except we're not sure what "green" means anymore, since carbon dioxide feeds plants). It's true, *it could* work.

Here's the campaign slogan for that kind of government: *"Vote for us, we confuse cause and effect, mix up issues, and solve problems by tackling something else instead!"*

Good policies need good science. Everything else is random government.

"But carbon dioxide is at record levels."

Atmospheric carbon is at higher levels than at any time in the past 650,000 years. Yes. But go back 500 million years, and carbon levels were not just 10-20 percent higher, they were 10 to 20 *times* higher. The Earth has thoroughly tested the runaway greenhouse effect, and **nothing** happened. Indeed the Earth slipped into an ice age while CO_2 was far higher than today's levels. Whatever warming effect super-concentrated-CO_2 has, it's no match for the other climatic forces out there. Further, it doesn't matter if it's man-made CO_2 or ocean-made CO_2. They are the same molecule.

At the current rate we are increasing CO2 each year, we will hit historic record levels in just 3,300 years.

"The temperature is rising faster than ever before."

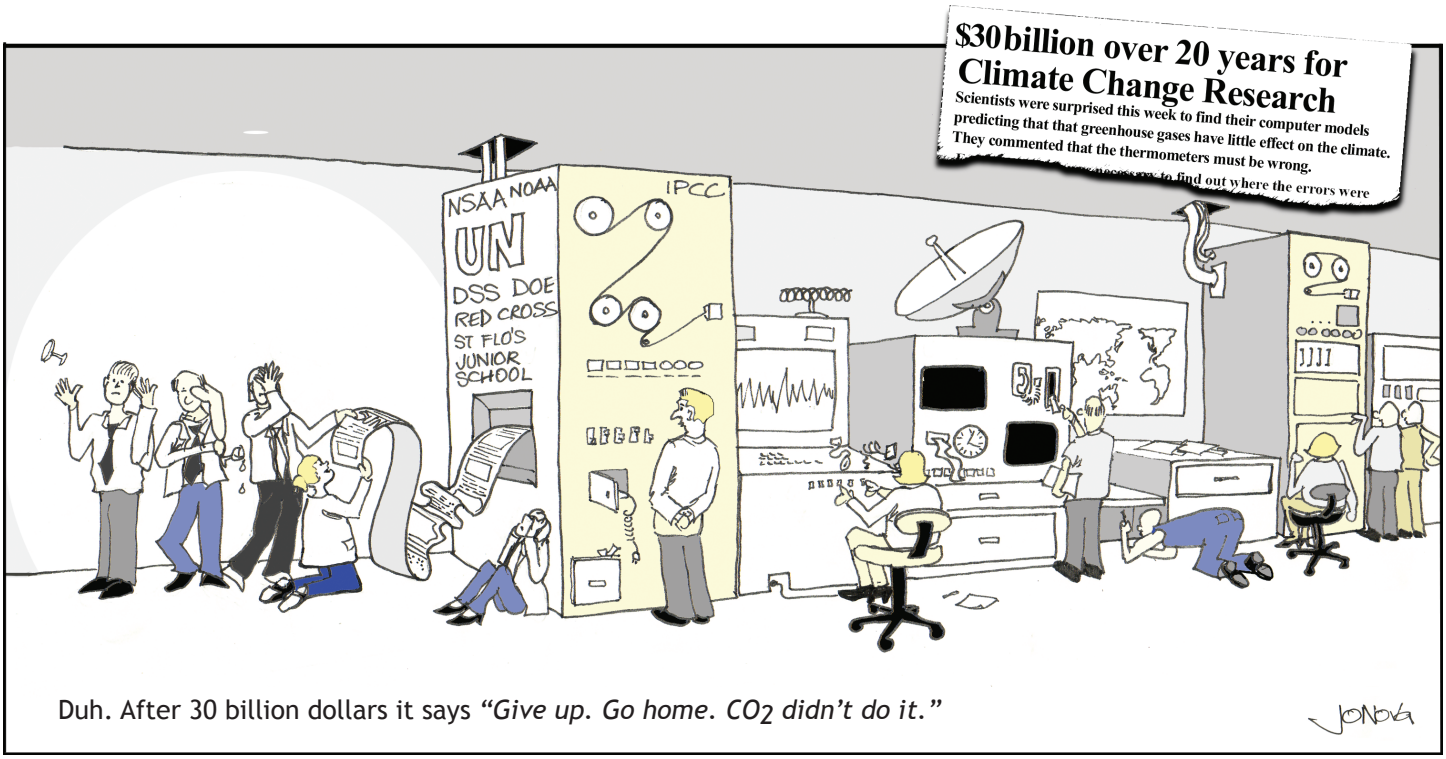
No. Last century, temperatures rose about 0.7°C (and most of that gain has been lost in the past 12 months). But around 1700, there was a 2.2°C rise in just 36 years. (As measured by the Central England Temperature record, one of the only reliable records of the era.) It was three times as large and three times as fast as the past century. Natural variation has been much larger than anything mankind may or may not have induced recently.

"This weather is extreme."

For most of the past 1.5 million years the world has been iced over and about 10°C colder. *That's* extreme. For most of the last half billion years, the world was 5 or 6 degrees warmer. Temperature wise, we are 'extremely' middle-of-the-road.

The bottom line:

Carbon doesn't seem to have driven temperatures before; probably isn't doing it now; things are not getting warmer; and computer models can't predict the weather.



Duh. After 30 billion dollars it says *"Give up. Go home. CO_2 didn't do it."*

An Emissions Trading Scheme is a bad solution to a problem that's gone, fighting a cause that never was ...

For more information on these points, for links to original sources, and to get copies of The Skeptic's Handbook, see joannenova.com.au.

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