

Climate Change Denialism

Making sense of the myths about Climate Change

by Dr Phoebe Barnard

There are those who still believe that Climate Change is a myth. We've all heard the arguments – they surface after all the chat about sport and crime has been exhausted – usually at braais or supper parties after a beer or two, or maybe in the office or at the supermarket. You've heard them too: "Climate Change – yeah, right – a total hoax. I've read that glaciers are getting bigger, not smaller."

"We've had more rain in the last three years than I can remember – and my brother-in-law says that in KwaZulu-Natal they did, too. It can't possibly be global-warming – it's supposed to be getting drier."

"I saw a film which said it's all a scam ...the scientists are just trying to get more research money. It's all natural and caused by cosmic rays. How can there be snow in the mountains this winter if there's global-warming?"

How can we make sense of this contradictory information? You could be forgiven if you're a bit confused. The world in the Internet age is awash with information, and anyone with a blog-site can and does post their own views – right, wrong or somewhere in between. Who knows what they're talking about? Who's right?

Most people can't be expected to absorb the details of Climate Change science. It's

unbelievably complex, and off-puttingly technical. Even Climate Scientists struggle to grasp the details of every aspect. But what you need to know is this: while some details, on some aspects, are still uncertain, the bottom line is plain. Climate Change is happening, and is already under way. It's worsened by human energy-use, and it will cause very, very serious and major changes to the world as we know it. Here are a few tips for navigating between information and misinformation...

1. Where did you hear that?

As with anything based in science – Climate Change, medical treatments – it's important to check the source and reliability of the information.

Ask yourself: is this info from a well-known and respected institute, NGO or media outlet? Does it cite its sources for specific statements, to which you could refer if you wanted? Or is it published by a company or person with associations or vested interests which might not be completely neutral?


Those who still publicly dispute that Climate Change is happening are increasingly understood in society as isolated cranks, almost in the same league as the Flat Earth

Society, Holocaust denialists, HIV/Aids denialists, or those who believe that nicotine does not cause lung cancer.

But there is still confusion, because people hear contradictory rumours and can be easily persuaded. As a society, we are gullible, even if as individuals we're smart and mean well. We may believe our friends, or what we hear on a chat-show. More cynically, some of the multinational oil companies – in particular Exxon Mobil – deliberately sowed misinformation on Climate Change to protect their profits and market-share as long as possible – just as the tobacco industry did in the '60s. They put up websites, hired scientists who were prepared to endorse their message, and influenced the US and other governments through major political donations and intense lobbying. The notorious facts of this episode are now in the public domain, and admitted by the oil industry itself.

2. How certain is that?

Will it get wetter or drier in the Western Cape? Until the future happens, we can only say what the range of possibilities will likely be. Most of the evidence says probably drier on balance, with unseasonal rain in places, and

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drier winters. But we can't be 100% sure in detail – it depends on things like the influence of mountains and coasts. Farmers and others need to know how to plan, though, so we need to give them the best information possible.

Uncertainty is a fact of life with Climate Change. It's incredibly complicated to model how the atmosphere works, and how it interacts with the ocean and land. The more accurate you want to be, the more complicated you need to be. You need 'supercomputers' and very smart people. So projecting exactly how, for example, deforestation in the Amazon might speed up Climate Change means we need detailed, long-term data-sets on how trees 'breathe', how much land-cover is being ploughed up or burned for agriculture, how much CO₂ is being absorbed ... and so on.

All of these data-sets include small levels of uncertainty or error. So the computer models which use them also reflect this uncertainty. That's why the world body of government-appointed climate experts, the IPCC (the Intergovernmental Panel on Climate Change), writes about being "virtually certain" (>99% certain), "extremely likely" (>95% certain), "very likely" (>90%), "likely" (>66%), and so on. They are carefully weighing up the balance of huge volumes of very technical information that would make most of us, including myself, feel faint.

So if you hear someone spout confident, unadorned statements like those above, ask them where they heard or read this information, and how certain it is. And judge for yourself.

3. What, when and where?

Where exactly are those glaciers getting bigger? Well, of 104 glaciers monitored worldwide (2005-06 data), only seven – in Chile, Italy, Japan, New Zealand, Norway and the USA – are increasing in mass. Another 97 glaciers are shrinking, according to the World Glacier Monitoring Service. It's important to put facts into context. Glaciers

wax and wane in size, but the overriding trend is downwards, worldwide.

Most of the stuff you'll read in newspapers is about global averages – like a 2°C temperature increase. This may sound quite pleasant, especially in winter. Be aware that this is just the means of a wide range of temperature increases worldwide. This means that a few places could possibly get cooler, but already hot and dry areas are expected to increase by 6-10°C. Been to the Orange River valley at Christmas recently? Heat-waves of 50°C (already recorded in some years) make the tar melt on the roads – but 58°C could kill you. In 2004, a well-documented heat-wave in Europe killed 35 000 people, mainly old people and babies.

Most plant and animal species in the Cape have evolved with cooler, moister conditions than now. We are entering an era which is already stressing many species with warm, dry weather and frequent fire. Between 15 and 37% of species studied in different regions of the world in an important technical paper published in 2004, were estimated to be on a one-way street to extinction by the year 2050.

Climate Change involves changes in the pattern and intensity of weather. Weather is by nature variable – the 'noise' of our usual climate pattern. What Climate Change will mean is changes in that pattern of variability – changes in the 'signal'. So your brother-in-law in KwaZulu-Natal has mentioned lots of rain? Actually, that's entirely expected under Climate Change. The already dry western parts of our region will probably get drier overall (even if some years are wetter). The already moist eastern parts will most likely get wetter – and will see more destructive cyclones like Demoina.

The tide has now turned on climate denialists. The weight of evidence for Climate Change is now indisputable, and it is being rapidly accelerated by human activity. It has little to do with cosmic rays – they are not up to the task by at least two orders of magnitude


. The most reliable information can be found at www.realclimate.org (for those who prefer plain English) and www.ipcc.org (for those who are comfortable with scientific writing). The first website is written by Climate Scientists at the world's best institutes who have a passion for making sure the world understands our urgent messages, and are willing to volunteer their time to explain it all in plain speech.

Climate Change is, unfortunately, quite real. Don't be duped by loud-mouthed but vague friends at braais. There is far too much at stake, for your own future and those of your children and grandchildren. If, after looking at the websites I've mentioned and others, you still doubt it, do yourself a favour and buy the book *Carbon Detox* by George Marshall (Octopus Publishing, Gaia Thinking 2007). Despite its trendy-sounding name, it's a good, easy-read primer. You can't afford not to be well-informed about Climate Change.

4. And even if not...

And even if you are still convinced that Climate Change is a hoax or has absolutely nothing to do with the activities of people, remember this ... there is not a single behaviour or policy change being called for by the climate 'doom-sayers' that does not make good sense anyway. Better care of water, improved farming, more cautious development planning, less air pollution, stopping deforestation and the decimation of fish stocks. Do we want to deny the sense of all this too? ☸

1. <http://www.geo.uzh.ch/wgms/mbb/mbb10sum07.html>
2. Thomas, CD et al. 2004. *Extinction risk from Climate Change. Nature* 427:145-148.
3. www.sciencemag.org/cgi/content/summary/324/5927/576-b

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