

# In climate battle, change is the only constant

The planet's climate has been changing throughout its four-and-a-half-billion-year life and is expected to keep changing for the next four and a half. The extent to which climate can be altered by human activity is a more vexed question.



Geologist Professor Ian Plimer says the IPCC model on how long CO<sub>2</sub> resides in the atmosphere and the amount of fossil fuel CO<sub>2</sub> in the atmosphere is not supported by radioactive or stable carbon isotope evidence, and hence the basic assumptions are incorrect. Paul Harris



by [Trevor Sykes](#)

Pierpont will underline the health warning at the top of this column by declaring up front that he is a friend and admirer of Professor Ian Plimer.

That should send a few readers scurrying, because Ian is a robust fellow who must be the world's No. 1 sceptic on global warming and has just written a book (*Heaven And Hell*, Connor Court, \$30) advising Pope Francis on the subject.

Ian says that by equating moral virtue with green left political ideology the Pope is at risk of condemning the world's poor to eternal poverty and should not have allowed himself to be advised by green activists who have shown they are "mean, treacherous, shameless liars who are vulgar, cowardly, anti-environmental and ignorant".

Ian's not only a forthright chap but a jolly good geologist. He used to open each year's geology class at Adelaide University by letting first-year students handle a piece of moon rock. Ian drinks beer and Pierpont prefers Bolly, but otherwise we see eye to eye on most matters.

We both believe the [UN Climate Change Convention in Paris](#) is a great waste of time and money. The planet is maintaining itself fairly well, although we could hold a useful scientific conference every few years to discuss the latest climate research.

But instead we have politicians in Paris generating hot air about carbon dioxide, while extreme greens in Australia try to shut down our coal industry.

## RESISTED AN INVITATION

Pierpont was glad to see that our Prime Minister Malcolm Turnbull has resisted an invitation to join the anti-coal push, saying that if Australia did not provide the world's users with coal somebody else would, and emissions would stay exactly the same.

Malcolm pointed out that coal played an important part in alleviating poverty in developing countries, and said coal was likely to remain a very important part of the global energy mix for a long time. For this perfectly sensible observation he was roundly abused by greens.

The peril of global warming from CO<sub>2</sub> was famously publicised by Al Gore in a sensational movie. When the concept of global warming came under attack – temperatures not having risen for the past 18 years – environmentalists switched nomenclature and now campaign against man-made climate change.

We can agree on climate change, anyway. The planet's climate has been changing throughout its four-and-a-half-billion-year life and is expected to keep changing for the next four and a half. The extent to which climate can be altered by human activity is a more vexed question.

The atmosphere currently comprises, in round figures, 79% nitrogen and 21% oxygen. As well, there are trace gases.

The latest report Pierpont can find of the Intergovernmental Panel on Climate Change (IPCC) was released in 2014, relying on data up until 2010. The IPCC said greenhouse gas emissions – which include methane, nitrous oxide and other stuff, as well as CO<sub>2</sub> – had continued to rise since 1750AD. CO<sub>2</sub> emissions had increased from a "pre-industrial" value of about 280 parts per million to 379ppm in 2005. IPCC's computer models envisage CO<sub>2</sub> rising to 450 or even 1000ppm, melting the Greenland ice sheet and drowning us in rising sea levels.

## EVERYTHING IS CHALLENGEABLE

Everything in the previous paragraph is challengeable. To begin with, the pre-industrial reading of 280ppm was from one or more ice core readings from 1750AD.

Ice core readings used to be regarded as exact by climate scientists but are now becoming distrusted because they assume that the air bubble trapped in particular levels of ice could not over time have moved upwards under pressure. The IPCC also assumes that CO<sub>2</sub> levels were constant before 1750.

And the year 1750 is during the Little Ice Age, which lasted from 1280 to 1850 AD. So it's a low starting point for temperature and possibly for CO<sub>2</sub> as well.

For the benefit of any poor souls quivering in fear at the prospect of being roasted alive, ice core records show the planet was warmer in Egyptian, Minoan, Roman and Medieval times. So whether you believe or disbelieve the ice cores, humans have survived higher CO<sub>2</sub> in the past.

Further, there seems no historic link between CO<sub>2</sub> and temperature. Ian argues that CO<sub>2</sub> levels were higher than now in six of the past six ice ages. And a family in a house with the windows and doors closed could easily be in 1000ppm CO<sub>2</sub>.

Pierpont is still stumbling over square one in the argument. He's prepared to believe CO<sub>2</sub> levels might be rising a bit, but he doesn't understand how it can be accurately measured.

## SLOW, EXPENSIVE PROCESS

From 1812, atmospheric CO<sub>2</sub> was measured by the Pettenkofer method, a slow, expensive process that involved barium hydroxide, titrating and mathematical calculations. Very tiresome and accurate to only 1 per cent anyway.

Since 1961, measurements have been taken by infra-red spectroscopy at Mauna Loa mountain on Hawaii. The 379ppm number for atmospheric CO<sub>2</sub> stated by the IPCC for 2010 is based on Mauna Loa readings, which have since risen more than 400ppm.

One problem is that the Mauna Loa station was established by Charles Keeling, whose aim was to report the rise in atmospheric CO<sub>2</sub> from fossil fuel combustion. In other words, to confirm a pre-determined conclusion. His son now runs the station.

Although there was a 10-year overlap between the adoption of Mauna Loa infra-red readings and stopping Pettenkofer tests, there was never a calibration of the two methods against each other. So post-1961 data cannot be compared meaningfully with measurements taken beforehand.

Another problem is the way data is collected on Mauna Loa. Downslope winds transport CO<sub>2</sub> from volcanoes and increase the readings.

The raw data is an average of four samples per hour. In 2004 there were a possible 8784 measurements. Because of instrumental errors, 1102 samples had no data, 1085 were not used because of upslope winds (which record lower CO<sub>2</sub> because of photosynthetic depletion of CO<sub>2</sub> in canefields and forests) and 866 had large hour-by-hour variability. So none of those 3053 samples (34%) were used.

## DIFFICULT TO HAVE CONFIDENCE

The resulting figure was 385ppm CO<sub>2</sub>. It might even be right, but given that data "normalisation" had knocked out more than one-third of the readings, it's difficult to have confidence.

Photosynthesis does not happen at night, which leads Ian to question: "How can someone calculate with statistical significance a rise in the atmospheric CO<sub>2</sub> to fractions of a part per million when variation from night to day can be more than 170ppm?"

Satellites have been trying to measure CO<sub>2</sub> in the atmosphere, but cannot achieve total accuracy. The big problem is that the infra-red absorption spectrum of CO<sub>2</sub> overlaps with that of water vapor, ozone, methane and some other trace gases. And some CO<sub>2</sub> will dissolve in the cold water vapor.

NASA claims to be able to resolve the interference between water vapor and CO<sub>2</sub>. However, satellite and aircraft data shows the CO<sub>2</sub> content of the atmosphere varies greatly both laterally and vertically.

Importantly, Planet Earth is continuously recycling CO<sub>2</sub>. It is generated by animals exhaling, by burning carbon materials and by volcanic explosions. That same CO<sub>2</sub> is then absorbed by plant life and oceans.

Two isotopes, Carbon 12 and 13, are created by natural processes and fossil fuel burning. By studying the rate of absorption of Carbon 12 and 13 into the oceans, we can estimate the rate at which CO<sub>2</sub> is being absorbed. Such studies estimate the life of CO<sub>2</sub> in the atmosphere at about five years.

## NEVER EXPLAINED THE DISCREPANCY

The IPCC says CO<sub>2</sub> has a life of 50 to 200 years in the atmosphere. It has never explained the discrepancy between these numbers and five years. This is quite critical, because if our planet can naturally sequester atmospheric CO<sub>2</sub> at the rate of about 20% a year, the problem, if there is one, becomes much smaller than the IPCC or the alarmist greens are predicting.

Ian says: "The IPCC model on how long CO<sub>2</sub> resides in the atmosphere and the amount of fossil fuel CO<sub>2</sub> in the atmosphere is not supported by radioactive or stable carbon isotope evidence, and hence the basic assumptions are incorrect."

For further confirmation, go to Google and type in "Huntsville John Christy". John is a lead author for IPCC but obviously does not share their fanaticism, as evidenced by his latest work in December 2013.

If you can't be bothered reading the paper, at least glance at the graph on page 6, which compares dire computer predictions of global warming with physical observations. You will find global warming just isn't happening.

John thinks we need to know a lot more about climate before we can make big predictions. Ian thinks we might as well go have another Bolly (beer, in his case).

Even if Earth is warming, CO<sub>2</sub> is unlikely to be the only factor. Methane, water vapor and clouds have strong influences, and also minuscule changes in the Earth's orbit, which produce changes in solar radiation. Not to mention that big nuclear fusion reactor in the sky. In his non-scientific way, Pierpont has always fancied the Sun might have an impact on our climate.

Certainly it seems infantile to blame climate changes on our planet on the trace gas CO<sub>2</sub> alone.

## MANSION ON A SHORELINE

And if you're worried about sea levels, Pierpont can only point out that Al Gore lives in a mansion on a shoreline. So don't worry until Al moves to higher ground.

Since the alarmist IPCC reports began coming out, they have prompted substantial scientific research into climate subjects. Some research published since 2005 and 2010 is at odds with the IPCC computer predictions.

In 2007, for example, alarmists were saying the Arctic would be ice-free by 2013. Instead, the Arctic summer ice stopped retreating and has begun advancing again. The Arctic sea ice area should be related to the Atlantic Multidecadal Oscillation, whose warm cycle peaked in 2012. Seems right, because the European Space Agency has reported Arctic sea ice increased by 33 per cent in 2013 and 2014.

Sea levels rose 120 metres after the peak of the last glaciation 20,000 years ago. Before then, Aboriginals had strolled through Indonesia to Australia and down to Tasmania on dry land.

Recent IPCC measurements show seas rising by one to two millimetres. Negligible, and depends where you take the measurements, because sometimes the land is sinking. Galveston in Texas is sinking at the rate of 6.6mm a year. Norway and Scotland are rising. Finland and south-eastern England are sinking.

Either way, let's leave the Australian coal industry alone and maybe build a few more coal-fired power stations.

And finally, when Al Gore was born the world's estimated population of polar bears was 7000. Now it's 26,000.

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