No more global warming?

November 2007, by Richard Treadgold – *first published in Tool Magazine.*

It's been repeated so often that by now we take it for granted. The world's climate is warming up and is starting to produce bad consequences which will worsen.

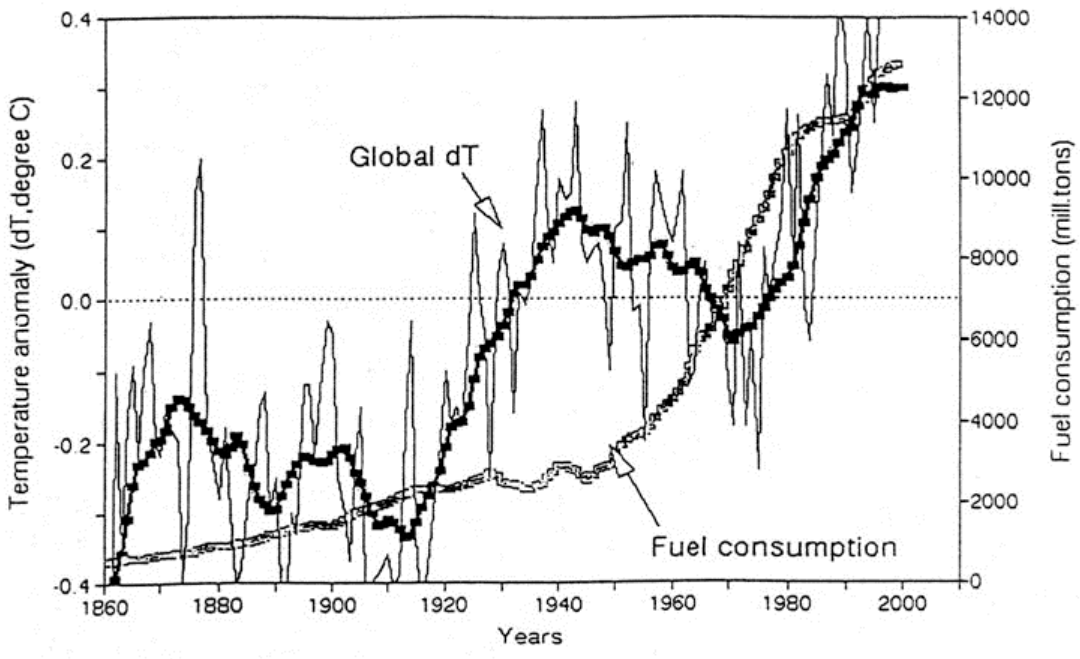
We're told sea levels are rising, icecaps are melting, glaciers are disappearing and storms are intensifying. Polar bears are at risk because the ice they know and love is shrinking, tropical diseases are about to spread everywhere and we'll soon be growing coconuts in Bluff.

Get ready for shorter ski seasons and be very cautious about buying seaside property.

The anthropogenic-warming theory is simple: Carbon dioxide, it suggests, drives the temperature of the earth. The more CO_2, the higher the temperature; the less CO_2, the lower the temperature. Since our CO_2 emissions have been mostly rising since about the middle of the 19th century, they have caused the temperature to rise over that period.

Simple, attractive and easily understood. But the weather is not so simple.

Let's look at temperature and CO_2 output. Since we create most of our CO_2 by burning fossil fuels, fuel use is a good indicator of CO_2 emissions, so here's a graph showing them together. This isn't supposed to stand for the whole amount of CO_2 in the air, just the anthropogenic bit.



First off—they don't match. There is almost zero correlation between temperature and anthropogenic CO_2 for 140 years. For example, notice how fuel use decreases during the depression in the 1930s while the temperature is soaring. From 1940 to 1975 fuel use skyrockets yet the temperature falls. In the last bit, temperature levels off while fuel use keeps rising.

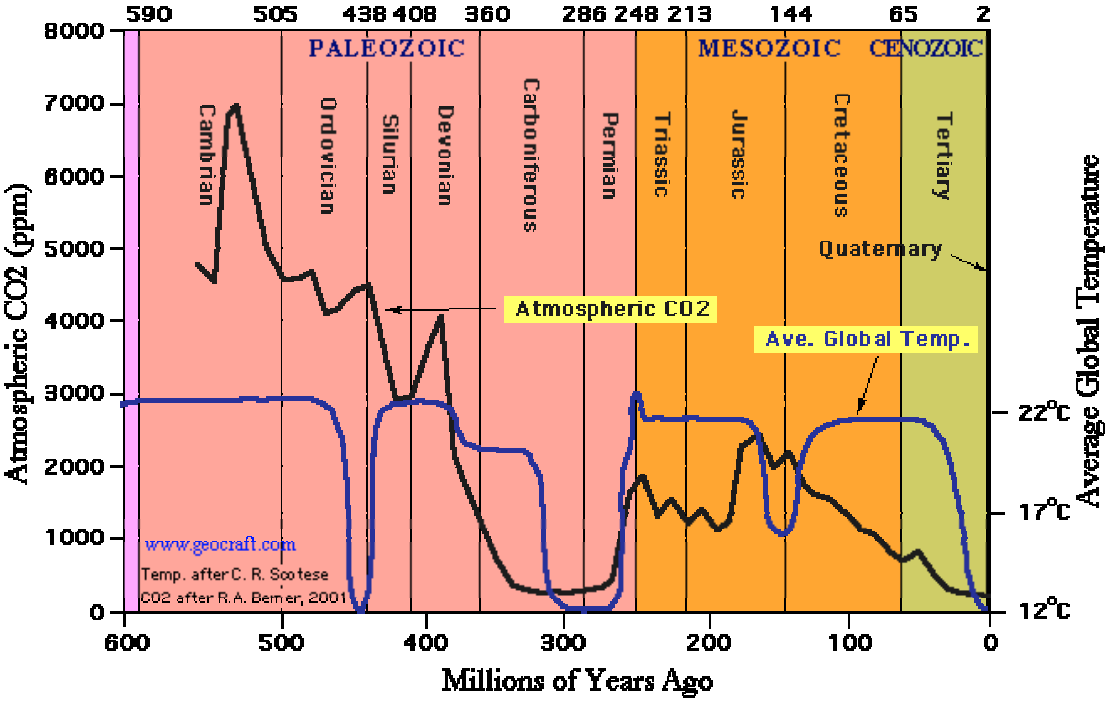
The Intergovernmental Panel on Climate Change (IPCC) tells us that global average temperature rose overall between 0.4 and 0.8°C since the late 19th century.

That's not much. Temperature changes more than that every night. A cloud passing over the sun has more effect than that. Still, perhaps we shouldn't have done it—even a small change

might be bad.

We'll look at the modern data, but first let's have a quick look at history—has the temperature changed before? Yes, it has. This next graph conveniently combines CO_2 and temperature. It goes back some 600 million years, which is effectively the entire history of the earth.

Previous to that lies a mind-bending stretch of about 4 billion years, starting with a red-hot, liquid earth that took more than a month of Sundays to cool down and start to do anything the least interesting, so we'll forget it.



First, the temperature. Notice that only twice before have global temperatures been as low as they are right now—about 300 and 450 million years ago. For most of the time temperatures have been almost double what they are now. Remember that the entire biosphere has evolved during the period shown on this graph, so it would be hard to say that the "high" temperatures were harmful.

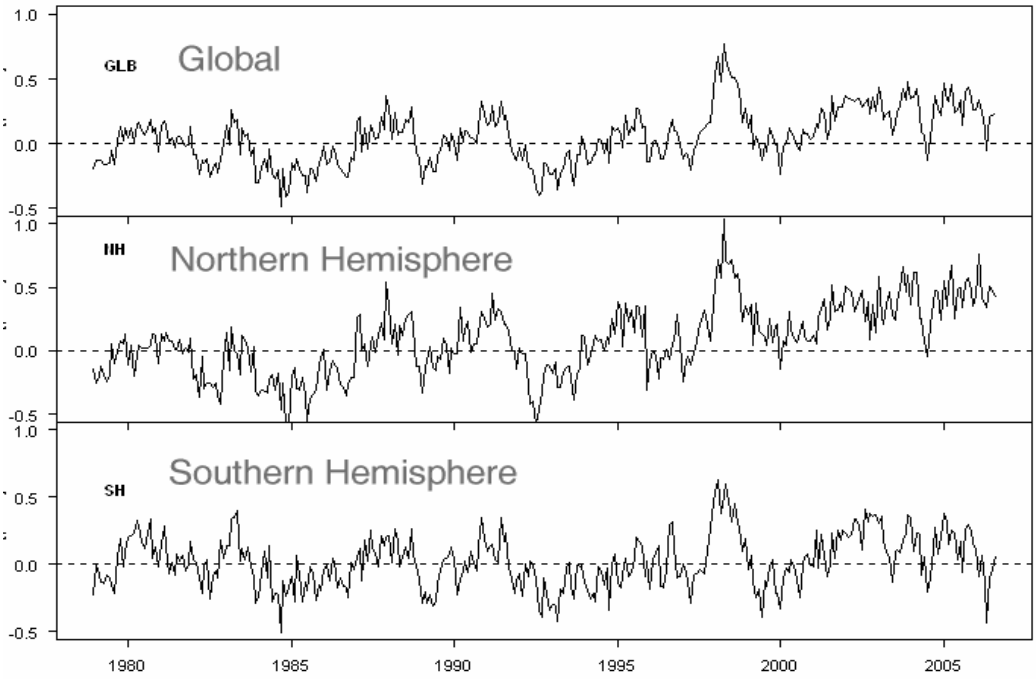
Next, atmospheric CO_2. Notice that it is not related to the temperature, that is, they move up and down independently, with no obvious link between them.

An important point is that CO_2 levels have only once before been as low as currently—from about 340 to 270 million years ago. They were usually higher, sometimes much higher—there's an incredible spike up to 7000 ppm (parts per million) in the Cambrian. Since then they've been lower, but they have at times persisted at levels much higher than today for millions of years.

I wonder if present-day plants feel a little breathless? They're almost starved of CO_2 compared with their ancestors. No wonder greenhouses often add extra CO_2 to help their plants grow faster and larger!

Now for the modern data. The satellite record is the highest quality temperature data we have. It shows that the temperature of the Southern Hemisphere has been flat, with a slight increase in the Northern Hemisphere. Note the El Niño peak in 1998.

The 28 years of high-quality satellite data



The Southern Hemisphere is the same temperature it was 28 years ago, while the Northern Hemisphere has warmed slightly.

So, there you are: no more global warming! Certainly none for 9 years, since the strong El Nino year of 1998, and probably none since 1979—28 years! How many years must go by without warming before we notice?

We're told that we're in the middle of a catastrophe, that we're reaching an irreversible "tipping point" after which we can only watch helplessly as calamities strike us more and more ferociously.

The present relentless warming will melt large pieces of ice in either Greenland or Antarctica or both, causing sea levels to rise and inundating, at first, defenceless island nations who already clamour loudly to be saved. Later, the sea will swamp cities and coastal communities around the world, causing widespread devastation of human property and disruption of human lives.

The IPCC, who tell us they don't do forecasts or predictions, but only offer "scenarios" or "projections", must have evidence for these scenarios, surely? Well, no they don't, actually. They're all produced by computer models, none of which have been validated—so there's no evidence, no observational data, at all.

In February 2007, the IPCC scaled back its estimate of sea level increases. Its previous report projected a rise of up to 820mm by 2100; now, it suggests up to 590mm.

What does observation tell us about sea levels? Have they risen before? Yes, and the principal cause has been ice ages, as one might expect. After the last ice age, which ended 18,000 years ago, levels rose about 130 metres. Most of that rise took 12,000 years; it wasn't quick. Interesting point: the sea rose about 11mm per year, leaving plenty of time to jump out of the way.

Over the last 3000 years, the rising slowed but was steady at about 0.1 to 0.2mm per year. Over the last hundred years, sea levels have gone up by about 150mm, or 1.5mm per year—a little faster, probably caused by warming temperatures expanding the ocean.

The land itself is rising and falling in different places, too, in response to tectonic processes. In the Northern Hemisphere some places are still rebounding after losing the crushing weight of mile-deep ice sheets in the last ice age.

So whether the tide actually creeps higher on a particular coastline depends on whether the land is moving up or down or not at all. That has nothing to do with global warming.

We're being told to take action now to prevent this.

The action we must take is to reduce our standard of living. Our Minister of Energy, David Parker, has just announced the New Zealand Energy Strategy, that paves the way for increased energy prices, through some form of carbon tax. Higher energy prices will in turn raise the price of anything requiring energy for its production and supply.

Which is pretty much everything, isn't it?

Isn't it strange that we believe the temperature is rising? People of New Zealand, look at your thermometers!

The Ministry for the Environment, the National Institute for Water and Atmospheric Research (NIWA) and the professional engineers' institute, IPENZ, are running seminars around the country for civil engineers.

These are the people who design infrastructure such as dams, bridges, roads, coastal protection, water supply networks and drainage systems. They use the time-honoured method of careful study of weather records, over as long a period as possible, to predict future rainfall and thus guide their design decisions.

They are now being told that both droughts and flood events will increase during this century. That means that water supply systems must hold more water to get through longer droughts, while drainage systems must hold and transport more water to handle more intense events. There is some likelihood of greater wind strength in places, but the greatest factor affecting planning revolves around water—more or less of it.

This advice is not based on past experience, as previously. Engineers are being prepared, effectively, to factor in to their projects the IPCC's guesses of future climate conditions, up to 100 years ahead.

Guesses that are based on non-validated computer models, not on experience.

Building and development projects around the country are already subject to higher costs on the basis of 100-year weather forecasts. Interesting, isn't it?

Interesting—and irritating, because it's simply not the truth. How can the global climate be warming when the temperature is not rising?

We Kiwis are renowned for being practical people. We can see through arguments as flawed as this global warming one. Importantly, we recognise the need for good environmental practices across the whole range of human activity. So a man who questions the wisdom of restricting carbon dioxide emissions can still love the country and the planet with a passion.

Keep an eye on your thermometers, though. Temperatures somewhere could go sky-high when this hits the streets.

If you're interested in learning more about the complex subject of global warming, in a scientific spirit of inquiry, visit www.climateconversation.wordshine.com and send an email. By press time, public meetings should have just started on the North Shore. It might be possible to start meetings in your area if there's enough interest.