Contact information

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Objectives for the contribution

1a. We have set the following three objectives for our contribution:

- **it is seen as a fair and ambitious contribution – both by international and domestic audiences**
- **costs and impacts on society are managed appropriately**
- **it must guide New Zealand over the long term in the global transition to a low emissions world.**

Do you agree with these objectives for our contribution?

No. It is based on the assumption that global warming is man-made, real, and dangerous. All three assumptions are not confirmed by the data. In particular, they take no account of the lack of warming over the past 18 years that the climate models failed to predict. This indicates that the climate models, upon which the predictions of impending climatic disaster are based, are worthless for predicting future temperatures.

1b. What is most important to you?

That New Zealand looks at the evidence, rather than following the hype. The technical reports of the IPCC agree that the world has not warmed, that there is serious doubt about the credibility of the climate models, and that there is no evidence of a statistically significant increase in floods, droughts, cyclones, tornadoes and sea level rise. The Ministry should read these technical reports carefully and note that they express great uncertainty about the predictions of future temperatures and, in particular, the “climate forcing factor" without which the climate models would predict only a moderate rise in temperature as carbon dioxide increased. (About 1.1° for a doubling in carbon dioxide levels.)

The Ministry should also look at independent evidence.

One example is the website http://www.co2science.org that shows that increased levels of carbon dioxide and produced large agricultural benefits and will continue to do so. Ministry should take into account the fact that greenhouses in New Zealand spent more than $1 million a year to increase carbon dioxide levels to 900 parts per million. This gives them a 40% increase in production with no increase in water consumption. According to one report, the increase in carbon dioxide levels has produced agricultural benefits worldwide in excess of $3 trillion.

Another example is recent research on past temperatures based on the shells of giants clams in south-east Asia. This showed that the middle ages warm period was, in fact, worldwide and the temperatures were significantly higher than they are now. http://wattsupwiththat.com/2015/01/05/hottest-year-ever-giant-clam-reveals-middle-ages-were-warmer-than-today/

Support for a worldwide middle ages warm period is also provided by the fact that the Polynesians voyaged to and from to New Zealand during the middle ages warm period and this ended when the Little ice age started. Anyone experienced in ocean voyaging will understand that to survive a voyage in an open canoe over very long distances it is necessary to have calm seas and warm conditions.

I hope that Ministry staff will read the submission carefully and, by looking at the references I have provided them, satisfy themselves that what I say is supported by the evidence – and ignore anything that I've said that is not supported by the evidence.

I hope that Ministry staff will treat all other submissions in the same way and, in particular, make sure that the claims are supported by evidence. For instance, there is, to my knowledge no unequivocal evidence that the world will warm by 2, 4 or 6° in the foreseeable future. As far as I know, there is no evidence – outside of computer models which have failed to make accurate predictions – that man-made carbon dioxide causes dangerous warming. That does cause some warming is probably beyond doubt. The question is "how much?"

What would be a fair contribution for New Zealand?

2. What do you think the nature of New Zealand's emissions and economy means for the level of target that we set?

We should not set any target. The science of dangerous man-made global warming is far from settled and there is convincing evidence that the theory does not match the evidence. In most branches of science this causes the theory to be abandoned. Unfortunately, this does not apply to climate science. We also have convincing evidence that the climate models are worthless for predicting future temperatures.

It does not matter how many people believe that they are valid: the simple fact that they have failed to make accurate predictions overrules their opinions. **Science is about evidence, consensus is the stuff of politics.**

How will our contribution affect New Zealanders?

3. What level of cost is appropriate for New Zealand to reduce it greenhouse gas emissions? For example, what do you think would be a reasonable impact on annual household consumption?

No cost at all. For the reasons set out above.

4. Of the opportunities for New Zealand to reduce its emissions (as outlined on page 15 of the discussion document), which do you think are the most likely to occur, or be most important for New Zealand?

There are no valid reasons for New Zealand to reduce its emissions. The failure of the climate models to predict 18 years of no significant warming confirms that man-made carbon dioxide does not cause dangerous global warming. There is no evidence that there is a delayed effect and if such an effect existed, it should have been incorporated in the computer models.

Summary

5. How should New Zealand take into account the future uncertanties of technologies and costs when setting its target?

It should take them very seriously. The uncertainties in climate science are huge and independent and objective research is needed to confirm what the evidence strongly indicates – that man-made carbon dioxide does not cause dangerous global warming.

Other comments

6. Is there any further information you wish the Government to consider? Please explain.

The following explains why there are very good reasons to be sceptical of claims that man-made global warming is real and dangerous.

Global warming: 10 reasons to be sceptical

Referenced version of an article published in the Dominion Post on 5 March 2015 entitled "Hypothetical global warming: scepticism needed"

We are constantly told that man-made carbon dioxide has caused global warming that will bring doom and disaster in a few years. These predictions are largely based on the output of computer models, rather than observations of what is happening in the real world. Always remember the parental advice: "Believe nothing of what you hear and half of what you see". One should always be sceptical and, in science, nothing is more important.

1. The five internationally accepted temperature records – three surface and two satellite – show that the world has not experienced any significant warning over the last 18 years even though atmospheric carbon dioxide increased by 10%. Claims that 2014 was the warmest year don't mention that the increase in temperature was a miniscule 0.02° and the more accurate satellite records show that it was not the warmest year.

   111 of the IPCC's 114 climate model runs failed to predict this lack of warming. In most

branches of science, when the theoretical predictions do not line up with the observations, the hypothesis is abandoned. In climate science, the observations are discounted or ignored. We can now be confident that man-made carbon dioxide does not cause dangerous global warming and that the predictions of computer models of the climate are worthless. (1)

2. Global sea ice area is well above the 1979 – 2013 average. In the Arctic it is close to average extent and in the Antarctic it is at the highest level since 1979. Once again, there is a large disparity between the computer based predictions of ever increasing loss of sea ice and reality.(2)

3. Sea levels are rising steadily at between 1 and 3 mm per year as they have done for the last 100 years. According to satellite measurements it rose at 4.1 mm per year from 1996 to 2006 but only 2.75 mm per year from 2006 to 2014. In New Zealand, tectonic movements have a far greater influence on sea levels. (3)

4. Polar bear populations have increased from about 5000 to 25,000 since hunting was restricted in 1970. A population that can recover that quickly in spite of 700 per year still being hunted can hardly be threatened. Various experts claim that the population is now increasing, steady, or decreasing. Take your pick. (4)

5. Coral atolls are not disappearing beneath rising oceans. The highly accurate tide gauge at Tuvalu shows that sea level rise is minimal. Tuvalu certainly does have problems, but they are not due to rapidly rising sea levels. 15,000 years ago sea levels were rising at 3 m per century and coral atolls and the Great Barrier reef survived this rapid rise thus proving that they can cope with rapid sea level rise. (5)

6. Glaciers are retreating in some areas and advancing in others but we do know that 5000 years ago the European Alps had less ice than now and the Canadian tree line lay further north. It has all happened before! (6)

7. Historical records show that the world was warmer during the Middle Ages Warm Period. This is supported by many peer-reviewed papers and recent records from fossil giant clams in the Pacific Ocean. Warming in the Bronze, Roman and Middle Ages Warm periods led to prosperity and progress. (7)

8. Ocean “acidification” is supposed to be a dire threat to marine life. In fact, the ocean is alkaline and is at no more risk of becoming acidic than you would get from putting a teaspoonful of sulphuric acid into a bucket of caustic soda. Recent analysis indicates that the ocean has become more alkaline since 1910 and that there are quite large fluctuations in the short term. (8)

9. Plants cannot grow without carbon dioxide and the increased levels of carbon dioxide have boosted plant growth worldwide by 11%without the need for additional water. The agricultural benefit to the world is valued at trillions of dollars. Modern greenhouses burn natural gas to double the carbon dioxide concentration and hence increase production by 40%. (10)

10. Droughts, floods and cyclones are often claimed to have increased because of global warming. But an IPCC study shows that the frequency of droughts has hardly changed and cyclones have declined. (9)

What can we expect in the future? The only honest answer is that nobody knows. The British Meteorological Office has predicted that the present lack of warming will continue until 2018 at least. Scientists who study natural climate cycles and the effect of the sun and sunspot cycles on the climate believe that there is a high probability that the world has – or soon will – enter a cooling cycle. If this happens and history repeats itself, we will be faced with famine, disease and war.

Most mainstream climate scientists agree that 2° of warming would not be harmful so let us hope that temperatures stay constant – which is most unlikely – or warm enough to get us back into the situation during the Middle Ages Warm Period.

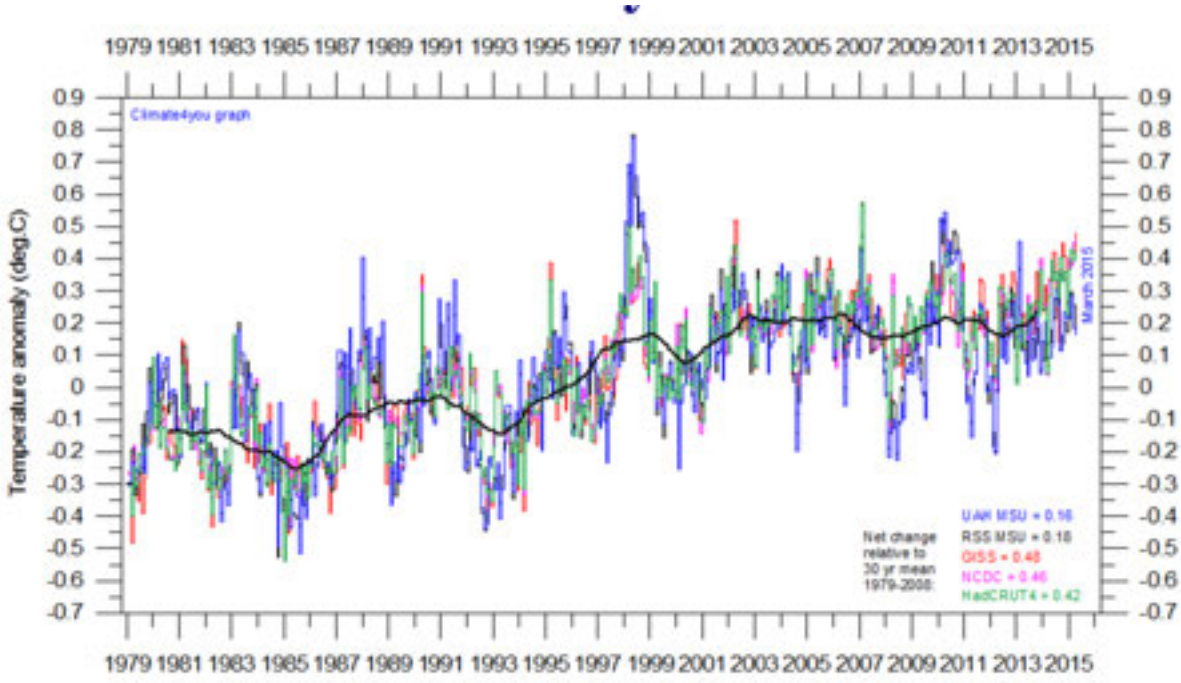
The obvious conclusion is that the science is not settled. As Dr Pachauri, Chairman of the IPCC, stated in a recent interview, open debate is needed.(11)

The media needs to start encouraging intelligent, evidence-based debate between all those with an interest in current and future climate trends.

References:

(1) http://www.drroyspencer.com/2014/02/95-of-climate-models-agree-the-observations-must-be-wrong/

(2) climate4you.com



Superimposed plot of all five global monthly temperature estimates shown above. As the base period differs for the different temperature estimates, they have all been normalised by comparing to the average value of 30 years from January 1979 to December 2008. The heavy black line represents the simple running 37 month (c. 3 year) mean of the average of all five temperature records. The numbers shown in the lower right corner represent the temperature anomaly relative to the above average. See also the diagram below. Values are rounded off to the nearest two decimals, even though some of the original data series come with more than two decimals. The above air temperature estimates may be compared with variations in the global oceanographic heat content above 700 m depth. Last month shown: March 2015. Last diagram update: 29 April 2015.

(3) http://sealevel.colorado.edu

(4) http://www.ibtimes.com/polar-bear-population-higher-20th-century-something-fishy-about-extinction-fears-821075

(5) http://www.bom.gov.au/pacific/projects/pslm/index.shtml

(6) http://www.lpc.uottawa.ca/publications/pdfs/NQue_Snapshots.pdf http://hockeyschtick.blogspot.co.nz/2013/07/paper-finds-alps-were-nearly-ice-free.html

(7) http://wattsupwiththat.com/2015/01/05/hottest-year-ever-giant-clam-reveals-middle-ages-were-warmer-than-today/

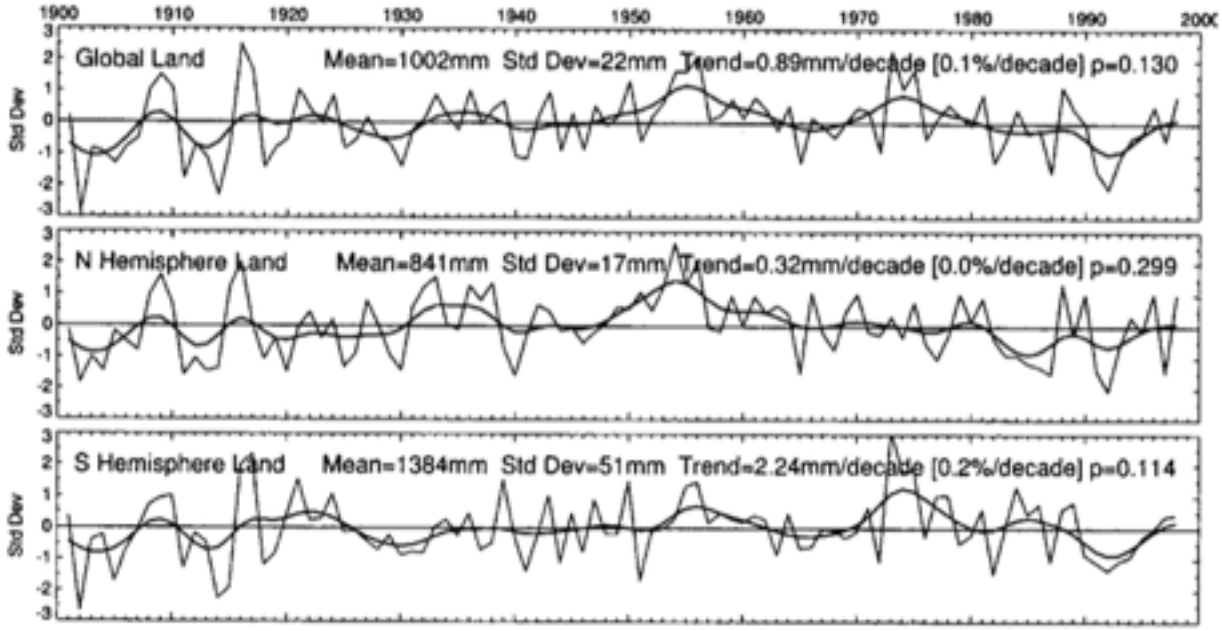
(8) http://www.breitbart.com/london/2014/12/23/noaagate-how-ocean-acidification-could-turn-out-to-be-the-biggest-con-since-michael-manns-hockey-stick/

(9)
Statements from the IPCC AR5 WGI Chapter 2 on extremes.

- "Overall, the most robust global changes in climate extremes are seen in measures of daily temperature, including to some extent, heat waves. Precipitation extremes also appear to be increasing, but there is large spatial variability"
- "There is limited evidence of changes in extremes associated with other climate variables since the mid-20th century"
- "Current datasets indicate no significant observed trends in global tropical cyclone frequency over the past century … No robust trends in annual numbers of tropical storms, hurricanes and major hurricanes counts have been identified over the past 100 years in the North Atlantic basin"
- "In summary, there continues to be a lack of evidence and thus low confidence regarding the sign of trend in the magnitude and/or frequency of floods on a global scale"
- "In summary, there is low confidence in observed trends in small-scale severe weather phenomena such as hail and thunderstorms because of historical data inhomogeneities and inadequacies in monitoring systems"
- "In summary, the current assessment concludes that there is not enough evidence at present to suggest more than low confidence in a global-scale observed trend in drought or dryness (lack of rainfall) since the middle of the 20th century due to lack of direct observations, geographical inconsistencies in the trends, and dependencies of inferred trends on the index choice. Based on updated studies, AR4 conclusions regarding global increasing trends in drought since the 1970s were probably overstated. However, it is likely that the frequency and intensity of drought has increased in the Mediterranean and West Africa and decreased in central North America and north-west Australia since 1950"
- "In summary, confidence in large scale changes in the intensity of extreme extratropical cyclones since 1900 is low".

Farming, Fishing, Forestry, and Hunting in an Era of Changing Climate: Hearing Before the

Figure 14.[129]

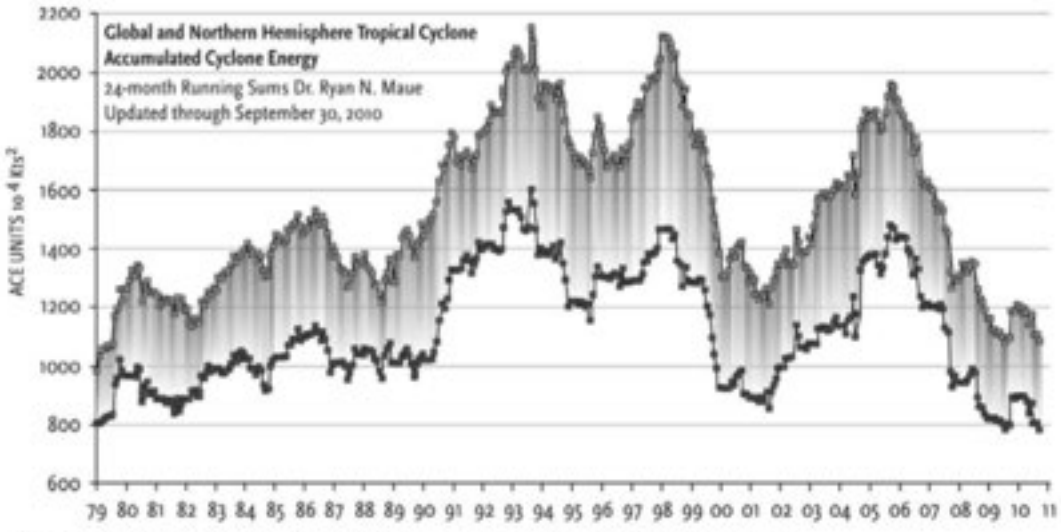


Graph: Precipitation for the globe and both hemispheres for the Twentieth Century (from Figure 3 of New et al. (2001). p-values indicate that none of these trends are statistically significant.

Subcomm. on Green Jobs and the New Economy of the S. Comm. on Env't and Pub. Works, 113th Cong. 2 (2014) (testimony of Dr. David R. Legates).

Ryan Maue, *Global Tropical Cyclone Activity Update*, POLICLIMATE, http://www.coaps.fsu.edu/~maue/tropical (last visited Sept. 2, 2014).

Figure 18.[136]



Graph: Global and Northern Hemisphere tropical cyclone energy 1979 to 2010.

(10) [77] Farming, Fishing, Forestry, and Hunting in an Era of Changing Climate: Hearing Before the Subcomm. on Green Jobs and the New Economy of the S. Comm. on Env't and Pub. Works, 113th Cong. 5 (2014) (responses to questions for the record of Dr. David R. Legates).
[78] Id. at 4 (Figure provided by Dr. Sherwood Idso, President, Ctr. for the Study of Carbon Dioxide and Global Change).

Figure 6. [78]

Picture: Dr. Sherwood Idso showing the effect of carbon dioxide on spruce trees under different atmospheric carbon dioxide concentrations.

(11) http://www.theaustralian.com.au/news/nothing-off-limits-in-climate-debate/story-e6frg6n6-1226583112134

An unreferenced version of the above article was published in the Dominion Post and criticised by Drs Wratt, Reisniger and Renwick who have long been committed to the notion of dangerous man-made global warming. When we examined their article carefully, it transpired that they agree with us on most of the key points but they stuck strongly to their belief that the world would once again start warming. They are entitled to their beliefs but, as they did not provide any strong supporting evidence, they cannot be taken as convincing evidence.

Discussion of remarks made by Wratt, Reisinger & Renwick (WRR) in the Dominion-Post on global warming

By Bryan Leyland & Bob Carter (LC)

(Original WRR comments are *italicized*, LC responses are in normal type)

Commentary on the Wratt, Reisinger & Renwick article

1a. The observed long-term trend in global surface temperature over the past 100 years is clearly upwards. Earth's surface is now on average about 0.85°C warmer than in the late 19th century.

Though the statement is true, 100 years is too short a period of time to assess true climatic change, consisting as it does of just three climate data points.

A slightly better statement would be that temperature has increased by perhaps 1 degree since the end of the Little Ice Age around 1860, for the self-evident reason that warming periods occur naturally after cold periods. No evidence exists that the bulk of this warming was caused by human-related carbon dioxide emissions.

A better statement still would be that modern temperatures are about 1-2 degrees cooler than at the time of the Holocene Climatic Optimum, 8,000 years ago; therefore the current long-term rate of temperature change is one of cooling.

1b. Last year - 2014 -was the warmest year globally since comprehensive records began in about 1880.

The statement is partly true only if "since comprehensive records began" is interpreted as meaning "since a global set of thermometer measurements" became available. That understood, in the context of known solar and atmospheric-ocean climatic cycles that operate over much longer timescales than just the brief last 130 years, it was entirely predictable that the late 20th and early 21st century would be relatively warm (for natural reasons) compared with the centuries before and after.

Even then, the statement is but partly true again, because only one of the recognized global thermometer temperature records shows 2014 as the hottest year since 1880, and then by less than the margin of error of the measurements.

Even if 2014 was a tiny bit warmer than 1998, 2005, 2010 and 2013) it simply reinforces the fact that there has been no overall global warming trend for the last 18 years, even though atmospheric carbon dioxide increased by 10% over the same period.

1c. The long-term warming trend shows intermittent ups and downs due to natural variations in the exchange of heat with the ocean, volcanic eruptions, and fluctuations in energy from the sun. So periods of slower atmospheric warming are expected from time to time, followed by periods of faster warming. These short-term wiggles don't change the long-term picture while greenhouse gas concentrations continue to increase.

The first two sentences are indeed true, but the implication of the third sentence is not.

As we showed in 1b above, the currently increasing levels of atmospheric carbon dioxide are producing no measurable warming at all, let alone dangerous warming.

2. Arctic sea ice shows a long-term trend of retreat. The average rate of decrease in summer Arctic sea-ice minimum cover since 1979 has been between 9 per cent and 14 per cent per decade - greater in some years, less in others. Antarctic sea ice, which surrounds a huge, isolated and very cold continent, has behaved differently, where some areas have decreased and others increased. Total sea-ice extent (the sum of Arctic and Antarctic) is estimated to have decreased by around 1.5 per cent per decade since 1979.

The assertions about the Arctic Ocean are incorrect, because there is significantly more sea-ice in the Arctic Ocean today than there was during the earlier, warmer parts of the Holocene. The "long term trend" of decreasing sea-ice referred to by WRR refers to the period since 1979, when satellite observations first began. This period represents barely one climate data point, and therefore cannot be used to make any statement about climate change. Instead, these changes are part of what WRR referred to as "short term wiggles" of natural environmental change in their Comment 1c.

Regarding Antarctica, sea-ice reached a short-term (i.e., since 1979) record increase in area in 2014, at the same time that the Arctic area had recovered from its 2013 low to rest slightly below its post-1979 average. These facts conflict directly with IPCC's computer modelling, which almost unanimously projects that carbon-dioxide forced sea-ice melting should be occurring at both poles simultaneously.

The total global sea-ice area has hardly changed since 1979, and to ignore or understate this fact is deceptive.

3a. Sea-level has risen by about 19 cm between 1901 and 2010. Natural year-to-year climate fluctuations affect sea-level change over short periods, but the average rate of sea level rise during the past century has been larger than the average during the previous 2000 years.

As they point out, sea level rise has been less than 2 mm per year and there is no indication that it has started to rise rapidly since the 1970s.. This is nothing like the sea level rise predicted by the computer models.

The claims are highly tendentious because it is difficult to reconstruct local, let alone global average, sea-level for periods prior to the availability of tide-gauge data (about 1780). Besides, in far-field locations away from the vertical earth deformations produced by ice-caps and their melting, local relative sea-level in the mid-Holocene (5,000 years ago) was about 2 m higher than today, i.e. the long-term record is one of sea-level fall, not rise.

3b. This makes sense as oceans are warming and hence their water is expanding, and land-based ice is melting. As ice melt accelerates, a faster rise is expected in future.

Not really. Over the last several thousand years the global ocean has undergone phases of both warming and cooling, in line with defining climatic events such as the Mediaeval Warm Period and the Little Ice Age. Hence ocean volume has both expanded and contracted and land-based ice has both melted and reformed.

Outside of unvalidated computer model projections that allocate too high a sensitivity to carbon dioxide, no reason exists to believe that ice melt, and therefore sea-level rise, will accelerate in the near future.

Indeed, recent research establishes that the rate of global sea-level rise has actually slowed down in the last 60 years.

3c. "Tectonic land movement" may either offset or increase local sea-level change in some places, but earthquakes won't make those risks disappear.

Local relative sea-level represents the summation of eustatic change with any local vertical tectonic movement; it is the only measure of sea-level change relevant to coastal management. As it happens, however, New Zealand's four main ports are situated in relative stable locations at which little tectonic movement is occurring.

Thus the average long-term rate of regional (NZ-wide) sea-level rise is about 1.7 mm/yr, which falls within the estimates from tide gauges of an average global rate of rise between about 1.0 and 1.8 mm/yr.

4a. Many Arctic ecosystems are already impacted. Effects in recent decades have been observed on permafrost, non-migratory Arctic species, Arctic sea birds, and livelihoods of Arctic indigenous people. Larger changes are expected in future.

One presumes that the impacts referred to are supposed to have been caused by human-related greenhouse emissions (and consequent global warming) rather than natural climate variation.

WRR advance no factual evidence in support of Arctic ecosystem destruction caused by human-related carbon dioxide emissions, let alone for the speculation that larger (non-natural) changes will occur in the future.

4b. Polar scientists dispute the numbers quoted in last week's article for increases in total polar bear populations since 1970. The cited numbers appear to have spread across the internet without a basis in published research data.

The relevant, and definitive, recent summary of this topic is by Susan Crockford, whose research confirms our earlier statement that polar bear numbers are currently running at a historic high level of around 25,000 individuals, having increased from about 5000 in the 1960s even though about 700 are being killed by hunters each year..

Crockford concludes:

> *On almost every measure, things are looking good for polar bears. Scientists are finding that they are well distributed throughout their range and adapting well to changes in sea ice. Health indicators are good and they are benefiting from abundant prey. It really is time for the doom and gloom about polar bears to stop.*

5a. Low-lying small islands and global coastlines are at risk from observed and expected further sea level rise.

These statements are not just oversimplifications but also distortions of fact.

Yes, of course low-lying coastal regions are at risk from a rising sea-level in places where natural sea-level rise rather than fall is occurring or the land is sinking. It has ever been thus and the appropriate response is to adapt to the changing circumstances as the Dutch have been doing for centuries.

No evidence exists that human-related carbon dioxide emissions are having a measurable effect on rates of either local relative or global sea-level change; and, as a matter of fact, several recent papers have shown global sea-level has been decelerating over the last 50 years.

5b. Heat-induced mass coral bleaching and ocean acidification pose further severe future risks for coral reefs.

No evidence exists for increased bleaching events on coral reefs during the 1979-1997 period of mild global warming, nor for any other change in rates of bleaching during the subsequent 18 years of temperature stasis.

The minor decrease in global ocean alkalinity projected by speculative computer models to occur over the next hundred years is an order of magnitude less than the daily fluctuations in pH that many thriving coral reefs experience every day.

6. Glaciers have continued to shrink long-term almost worldwide, and Northern Hemisphere spring snow cover has continued to decrease in extent. Again, year-to-year fluctuations and local deviations from the decreasing trend exist, but they don't change the global picture.

Again, the changes referred to are over such a short period that they tell us nothing significant about climate change as opposed to short-term shifting balances of snowfall and ablation. As discussed in detail in the 2013 NIPCC report, *Climate Change Reconsidered II: Physical Science*, Chapter 5, The Cryosphere, no simple global generalisation can be applied to all montane glaciers. Some are advancing, some retreating and some are static.

Finally, the more regionally consistent retreat of glaciers in the European Alps commenced at the end of the Little Ice Age around 1860, which is almost 100 years before human-related carbon dioxide emissions might have had an effect.

7. A substantial contribution to the observed increase in average global surface temperature since the mid-20th century has come from increasing greenhouse gas concentrations. There is no other plausible way to explain the observed changes. This differs from conditions during the "medieval warm period", when some regions were as warm as in the mid-to-late 20th century, but the warm periods did not occur coherently across the globe. For the Northern Hemisphere as a whole, 1983-2012 was likely the warmest 30-year period in at least the last 1400 years.

Most scientists would accept that some part of late 20th century warming may have been caused by human-related carbon dioxide emissions, but no evidence exists that allows that part to be declared “substantial”; indeed, that any human effect cannot even be isolated and measured suggests that it remains buried in the noise of natural temperature variation.

Second, “we can’t think of any other explanation” is and never has been a scientific argument but rather represents a statement of blind belief in one of many possible explanations. There are many other explanations and the most credible is that it is due to sunspot related effects. The IPCC has ignored these.

Third, the conclusion that warmth did not occur uniformly across the globe during the Mediaeval Warm Period is obvious, for all climatic episodes are characterised by regional variability. Nonetheless, extensive evidence summarised by Idso in the Medieval Warm Period Project indicates that the MWP had global manifestation.

Fourth, that the period 1983-2012 was “likely the warmest 30-year period in at least the last 1400 years” is probably untrue, as shown by studies such as Loehl & McCullough (2008). Furthermore, even if the statement were true it is certain that significantly warmer periods have occurred associated with natural climate variation during recent geological history.

8. As the oceans are absorbing much of the carbon dioxide added to the atmosphere, they have become more acidic compared to pre-industrial times. There are regional and temporal fluctuations due to natural processes, but the overall global direction is clear and will continue given ongoing carbon dioxide emissions. This poses substantial risks to polar marine ecosystems and to coral reefs, especially under medium-to-high future carbon dioxide emission scenarios.

See the comments made under Point 5 above.

As a matter of scientific accuracy, the oceans have not become more acid, nor “acidified”, but instead may have become slightly less alkaline over the last 50 years. However, even this statement is subject to challenge given that the ocean pH measurements on which the statement was first based contain gaps that were subsequently interpolated by computer projections. Also, much larger changes in alkalinity have occurred naturally throughout geological history.

Today, different areas of the surface global ocean are characterised by an average pH between about 7.8 and 8.4, and similar or larger variability in alkalinity occurs in many places on a daily, seasonal or longer term geological basis.

Marine organisms, having evolved through several hundred million years of oceanic pH variability, are well pre-adapted to cope with the sort of minor change in average pH that is projected by current computer modelling to occur from the absorption of human-related carbon dioxide emissions in the ocean.

9. Climate change risks severe yield decreases in major crops (wheat, rice and maize). While carbon dioxide can act as fertiliser, plants also need a supportive climate and soils. The negative effects of increases in temperature (including heat waves) and changes in rainfall and evaporation patterns are expected to outweigh benefits of higher carbon dioxide concentrations for crops in many regions of the world.

WRR concede the critical point that higher carbon dioxide levels are beneficial for plant growth. However, their other assertions are divorced from the bulk of the scientific literature on the topic of plant growth, and are so generalized as to be strongly misleading.

A very large corpus of research literature shows the benefits in both enhanced plant growth and efficiency of water usage under raised levels of atmospheric carbon dioxide. This is scarcely surprising given that carbon dioxide is effectively a plant fertilizer. The benefits are manifest at global level - as documented by the recent study of Donahue et al. (2013) who showed that an 11% increase in plant productivity worldwide was associated with a 14% increase in atmospheric carbon dioxide between 1982 and 2010 - and at the level of individual groups of plants. Importantly for feeding the world, the beneficial effects of enhanced carbon dioxide levels are strongly present in most cereal crops. For New Zealand, carbon dioxide driven enhanced growth is an enormous benefit.

Hundreds of research papers that discuss the carbon dioxide fertilization effect on plants can be accessed through the summaries provided in Idso & Idso (2011) and Chapters 1-4 in the NIPCC (2014) report, *Climate Change Reconsidered: Biological Impacts*, and provide a detailed documentation of the variety and extent of plant response to carbon dioxide fertilization.

10a. Changes have been observed in many extreme weather events - and larger changes are expected as the climate continues to warm. These include increases in frequency and duration of heat waves over many land areas, increases in frequency and intensity of heavy rainfall, and more extreme high sea levels.

Though such changes were strongly speculated, including by the IPCC, between about 1990 and 2010, more recent research has failed to establish any links between increased carbon dioxide level or increased temperature and either the frequency or magnitude of extreme weather events.

Specifically, in 2014 the IPCC asserted that "… *There continues to be a lack of evidence… regarding the sign of the trend in the magnitude and frequency of floods…* “, this statement being based on information contained in the *Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation* (IPCC, 2013).

The matter is also extensively discussed, with a similar conclusion, by the NIPCC 2013 report *Climate Change Reconsidered II: Physical Science*, Chapter 7, Extreme weather.

10b. Human influence on the climate system is clear and growing, and impacts are evident on all continents.

A true statement, but one which bears no relationship to testing the DAGW hypothesis.

No one doubts that humans exert local influences on climate. For example, an urban heat island effect is created by locally built up city structures, and a widespread cropping cooling effect, caused by reflected solar radiation, is associated with the cultivation of many cereal or other crops. The degree to which those influences have a measurable global manifestation remains quite unclear.

What is certain, however, is that a global man-made carbon dioxide temperature signal cannot currently be isolated and measured.

10c. If left unchecked, climate change will increase the likelihood of severe, pervasive and irreversible impacts for people and ecosystems.

Natural climate change and extreme events will indeed be associated with intermittent and sometimes unfavourable impacts on both ecosystems and humanity. Pretending that in our present state of knowledge we have the capability to “check” such changes is pure hubris.

No evidence exists that the overall influence of human activities on global climate is yet measurable, let alone causing dangerous warming.

10d. We do have options to reduce risks by reducing greenhouse gas emissions and adapting to some climate change, but time is running short if we want to limit changes to manageable levels.

No scientific evidence exists that reducing human-related greenhouse emissions will result in measurable, net-beneficial changes in global climate. Indeed, the very idea that a single “ideal” global average temperature can be defined and then achieved through atmospheric engineering is a scientific fantasy.

Presuming that (say) the 1980 global temperature was “ideal”, no cost-benefit analysis has been conducted that identifies a warming of a given amount above the 1980 figure as more costly or undesirable from the human viewpoint than an equivalent amount of cooling. Furthermore, the complexities of the issues involved are such that objective analyses of this type are simply beyond our capabilities to conduct, whether with or without computer assistance.

Yet again, WRR are not conducting a scientific discussion, but simply recycling urban myths.

Finally, we add the following introductory remark by WRR as an eleventh point on which we wish to comment.

11. These are the conclusions from leading scientists around the world, based on a careful assessment of all the relevant climate research, summarised in recent IPCC reports.

Clearly, then, WRR claim that their views are derived from recent IPCC reports.

Here, as summarised by John McLean, a Melbourne climate analyst, is a short listing of some of the most recent views of the IPCC quoted from their 2014 5th Assessment Report.

- "... the rate of warming over the past 15 years (1998–2012; 0.05 [–0.05 to 0.15] °C per decade) ... is smaller than the rate calculated since 1951 (1951–2012; 0.12 [0.08 to 0.14] °C per decade)." [SPM, page 3, section B.1, and in full Synthesis Report on page SYR-6].

- "... an analysis of the full suite of CMIP5 historical simulations (...) reveals that 111 out of 114 realisations show a GMST trend over 1998–2012 that is higher than the entire HadCRUT4 trend ensemble ...." [WGI contribution, chapter 9, text box 9.2, page 769, and in full Synthesis Report on page SYR-8].

- "There may also be a contribution from forcing inadequacies and, in some models, an overestimate of the response to increasing greenhouse gas and other anthropogenic forcing (dominated by the effects of aerosols)." [SPM, section D.1, page 13, and full Synthesis Report on page SYR-8].

- "This difference between simulated [i.e. model output] and observed trends could be caused by some combination of (a) internal climate variability, (b) missing or incorrect radiative forcing and (c) model response error". [WGI contribution, chapter 9, text box 9.2, page 769].

These highly technical statements by the IPCC can be summarised as follows: no certainty exists that there has been any warming at all over the 15 years prior to the writing of the 5AR report, yet most climate models falsely predicted that warming would occur then, with some "over estimating" the influence of greenhouse gases.

Conclusions

The discussion above shows that WRR's views are based upon repetition of the same speculative environmental scares as have characterized the alarmist IPCC message on dangerous warming since the early 1990s.

Furthermore, WCC clearly identify their views as coming from the IPCC, saying that they correspond to *"conclusions from leading scientists around the world, based on a careful assessment of all the relevant climate research, summarised in recent IPCC reports".*

Given that the IPCC models falsely predicted warming when there has been none and exaggerate the influence of greenhouse gases on global temperature, their estimates of the human influence on temperature are most unlikely to be accurate. **In its 5th Assessment Report the IPCC has admitted its incapacity to estimate whether the human influence on global temperature is negligible, middling or large.**

We have shown throughout our remarks above that virtually none of WRR's assertions are supported by the evidence. And numbered paragraph 12 makes it crystal clear that the views of the IPCC actually differ markedly from those presented on its behalf by WRR. WRR have in fact failed to present accurately even the recent views of the IPCC, let alone those of the wider community of qualified independent scientists.

The opening sentence of WRR's article says "*Warming of the climate system is unequivocal, and human influence on the climate system is clear".* As we have shown in our summary opinion piece (LINK here), the statement is both wrong and ambiguous, which in large part explains why the main body of the article that follows, and that has been discussed in detail above, is so ineffectual at arguing the case for dangerous anthropogenic global warming.

Additional evidence

The ministry should also bear in mind the long list of dire predictions that have already been made and did not come true. This from http://donaitkin.com/25-years-of-failed-predictions/

"*For decades now, those concerned about global warming have been predicting the so-called "tipping point" — the point beyond which it'll be too late to stave off catastrophic global warming. It seems like every year the "tipping point" is close to being reached, and that the world must get rid of fossil fuels to save the planet. That is, until we've passed that deadline and the next such "tipping point" is predicted. Would you believe it was eight years ago today that the United Nations predicted we only had "as little as eight years left to avoid a dangerous global average rise of 2C or more." This failed prediction, however, has not stopped the UN from issuing more apocalyptic predictions since.*

Then comes his list of 25, the first nine of which I have seen before. I'll just give you the list and a little accompanying text. You can read the article here.

1. **2015 is the 'last effective opportunity' to stop catastrophic warming.** The UN said basically the same thing about 2014's climate summit.

2. France's foreign minister said we only have "500 days" to stop "climate chaos" *Ironically at the time of [his] comments, the UN had scheduled a climate summit to meet in Paris in December 2015 — some 565 days after his remarks. Looks like the UN is 65 days too late to save the world.*

3. President Barack Obama is the last chance to stop global warming *In 2012, the United Nations Foundation President Tim Wirth told Climatewire that Obama's second term was "the last window of opportunity" to impose policies to restrict fossil fuel use. Wirth said it's "the last chance we have to get anything approaching 2 degrees Centigrade," adding that if "we don't do it now, we are committing the world to a drastically different place." Even before that, then-National Aeronautics and Space Administration Goddard Space Flight Center head James Hansen warned in 2009 that Obama only "has four years to save Earth.*"

4. Remember when we had "hours" to stop global warming.*"We have hours to act to avert a slow-motion tsunami that could destroy civilization as we know it," Elizabeth May, leader of the Greens in Canada, wrote in 2009. "Earth has a long time. Humanity does not.*

We need to act urgently. We no longer have decades; we have hours. We mark that in Earth Hour on Saturday."

5. United Kingdom Prime Minister Gordon Brown said there was only 50 days left to save Earth.

6. Let's not forget Prince Charles's warning we only had 96 months to save the planet. It's only been about 70 months since Charles said in July 2009 that there would be "irretrievable climate and ecosystem collapse, and all that goes with it." So the world apparently only has 26 months left to stave off an utter catastrophe.

7. The U.N.'s top climate scientist said in 2007 we only had four years to save the world. Rajendra Pachauri, the former head of the Intergovernmental Panel on Climate Change said in 2007 that if "there's no action before 2012, that's too late."

8. Environmentalists warned in 2002 the world had a decade to go green. *Environmentalist write George Monbiot wrote in the UK Guardian that within "as little as 10 years, the world will be faced with a choice: arable farming either continues to feed the world's animals or it continues to feed the world's people. It cannot do both."*

9. The "tipping point" warning first started in 1989. *The San Jose Mercury News reported on June 30, 1989 that a "senior environmental official at the United Nations, Noel Brown, says entire nations could be wiped off the face of the earth by rising sea levels if global warming is not reversed by the year 2000.*"

How many more times can those who believe in dangerous man-made global warming cry "Wolf" and be proved wrong?