

If the weather man said the next 10 days were going to be 80 degrees and but all we got was rain. Would you ever believe him again?

Interesting example since it is quite possible to have ten days of rain at 80 degrees, so the weather forecast could have been correct. But, let's assume that it was cold instead. In that case, I would probably be suspicious for some time, until a track record of accuracy became evident.

For the past 50 years we have been told of climate crisis after another starting with that we wouldn't last through the 80s.

You seem to be conflating warnings. While the first inklings of a global warming problem were suggested 50 years ago, they were not widely disseminated. You may be confusing population growth warnings with climate warnings. While we may not be in quite the serious hole the predictions back then suggested, I think the global problems caused by population level and food/water shortages are sufficient to suggest the warnings were not totally off base.

Why should I believe anything that so-called climate scientists say?

I suspect that you are expressing doubt about the accuracy of the climate model projections. If I am wrong, please correct me. There has been much questioning of climate models. This is reasonable since models are only as good as the data and premises upon which they are based. Fortunately, we have had climate model projections available for some years now, and can actually test them. We can do this two ways: one method is to ask if the consequences of global warming have actually followed what the models suggest; the other is to run the model backwards and ask if they produce temperature trends consistent with what we have seen. I will address both tests:

Are actual trends consistent with models?

Modeling of temperature is currently based on scenarios that project future trends based on the concentration of greenhouse gases (GHGs) in the atmosphere. They are called Representative Concentration Pathways (RCPs). They project the warming influence that different trajectories of GHG concentration increases will have by 2100, measured in the watts per meter squared warming that those concentrations will impose. Our current warming, measured as the difference between warming prior to the industrial revolution. We crossed the 2.5 watts per square meter value during the first decade of this century.

The RCP values most commonly used are

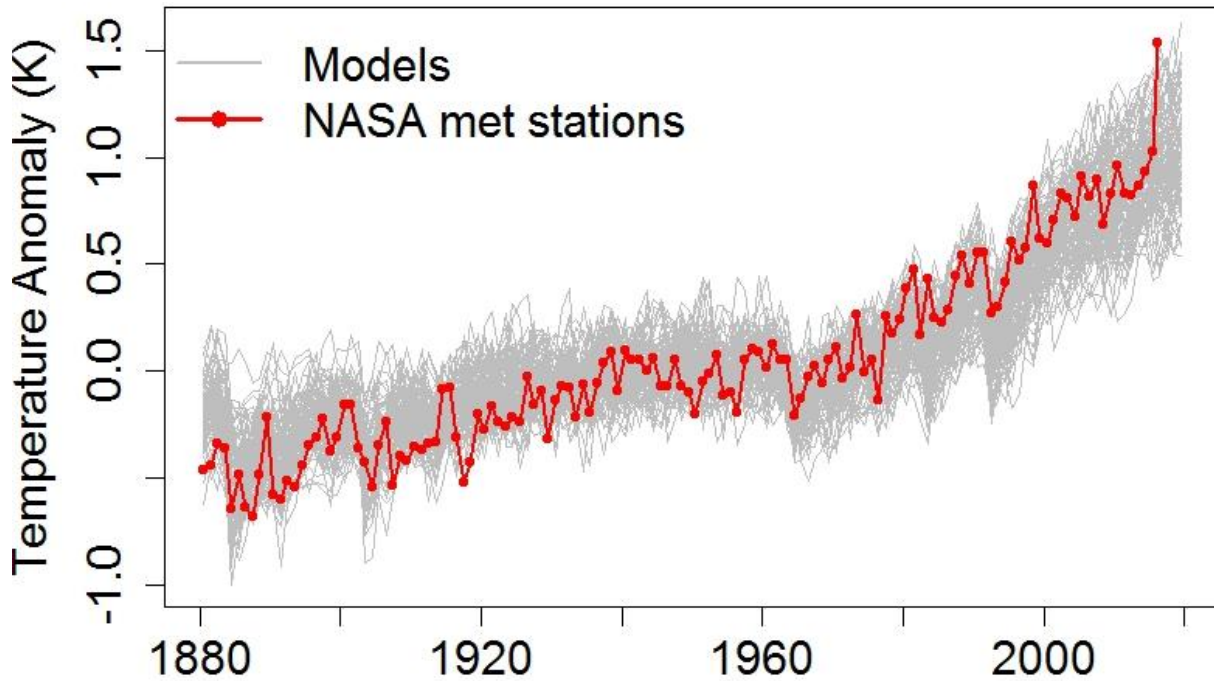
2.5 (which assumes that we return atmospheric greenhouse gases to that level)

4.5 (which assumes a substantial reduction in the current trajectory of increasing fossil fuel use and greenhouse gas emissions)

6.5 (which assumes some meaningful reduction in the below trajectory)

8.5 (which was designated as the worst-case scenario since it assumes continued accelerating fossil fuel use and emissions)

Let's look at what has been happening to global temperature compared to the RCP 8.5 scenario:



<https://tamino.wordpress.com/2016/05/17/models/>

As can be seen, the actual trend is pretty much in the middle of the RCP8.5 projection range.

What about sea level rise?

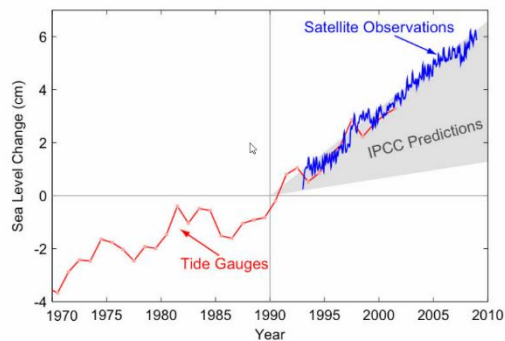


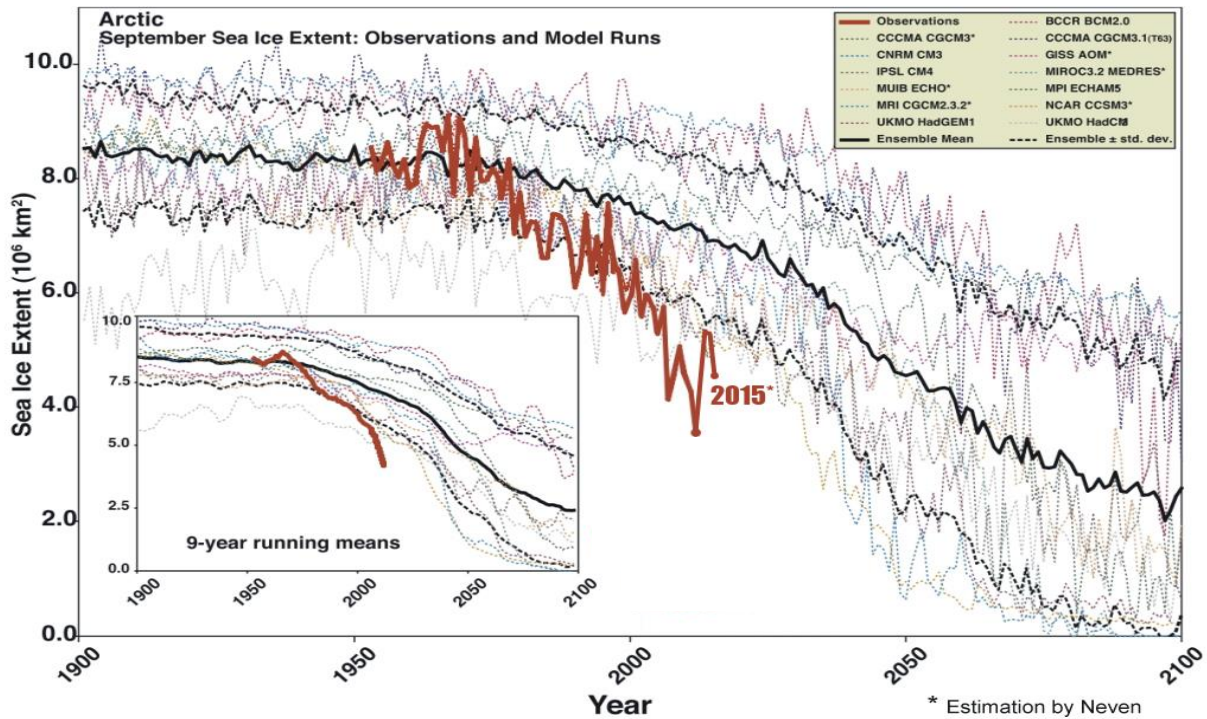
Figure 16: Sea-level change 1970-2010



http://www.ccrc.unsw.edu.au/sites/default/files/Copenhagen_Diagnosis_FIGURES.pdf

Again, it's pretty clear that the actual trend is at the high edge of the range of model projections.

And, finally, let's look at Arctic ice melt (at the late summer low in ice extent, before the onset of winter when the ice reforms).



It is evident that what has actually been happening to Arctic polar ice is more extreme than the models suggest.

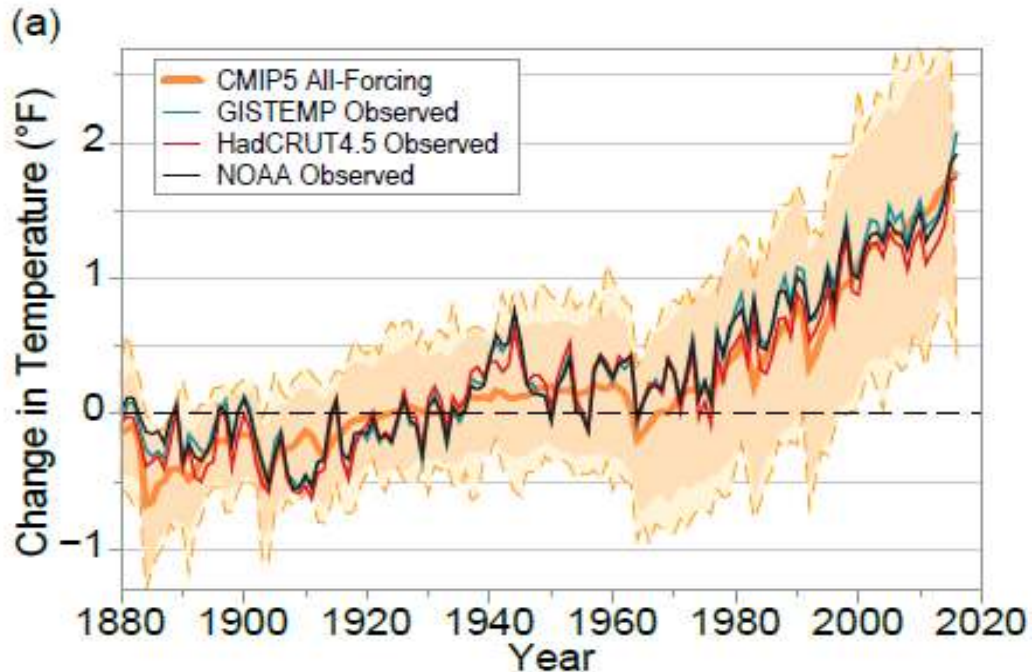
The pattern evident from these examples is not that models exaggerate the trends. Rather, it is that actual trends are at the most extreme edge of what models suggest, or even more extreme.

In my judgement, it is not, therefore, reasonable to argue that climate science has been wrong for years - unless one is arguing that the models have failed to tell us how alarming the situation really is.

Let's now look at what the models suggest if we run them backwards over temperature trends we have recorded.

In this assessment, the models have been run two ways: (A) includes the impact of human greenhouse gas emissions while (B) excludes these influences and includes only on natural (non-anthropogenic) impacts.

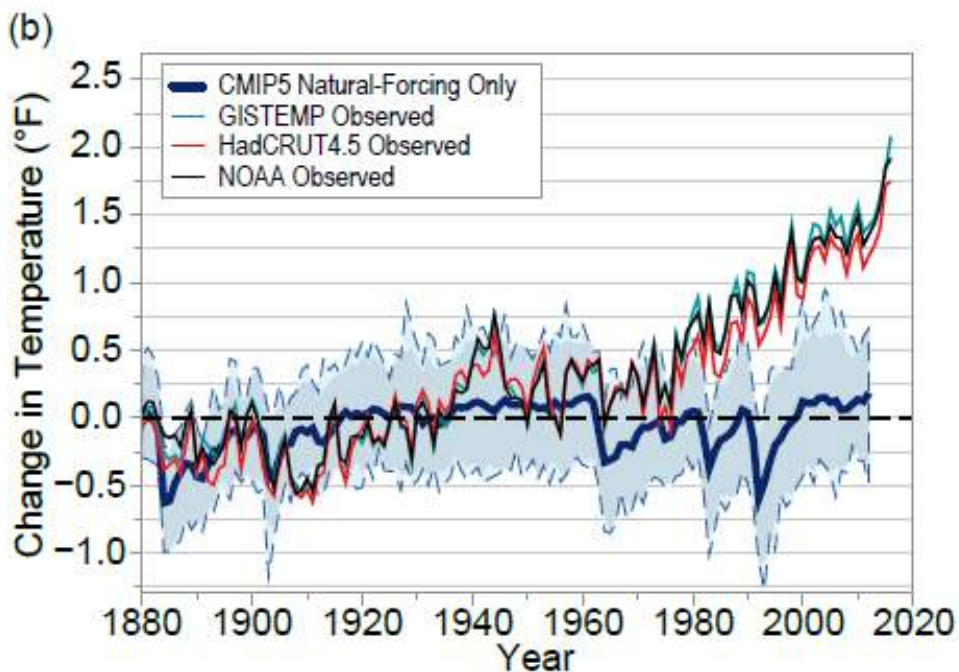
A)



The orange range and solid line represent what 36 models suggest the historical temperature should have been while the black and other colored lines represent actual data from three different atmospheric labs: GISTEMP is U.S. NASA, NOAA is the U.S. National Oceanic and Atmospheric Administration and HadCRUT is the British Meteorological Office collaborating with the University of East Anglia Climate Research Unit.

The similarity between what the mean model line suggests (Orange) and the actual data depict is striking.

B



In this graph, the blue range and line represent what the models without human emissions influences suggest. The actual data from the three sources are identical to graph A, but the models now suggest that absent human-induced emissions, the temperature trend should have been essentially flat. This analysis again suggests that the models are reasonable accurate so long as the impact of human activities emitting greenhouse gases into the atmosphere is included.

Maybe if you can come up with solutions that don't tax us more or control us more by limiting choices like plastic bags or straws. Why not come up with a business solution to recycling egg cartons then there would be more credibility.

It would be really wonderful if solving this problem were as simple as plastic bags, straws, egg cartons and light bulbs. Had we paid attention a couple of decades ago when the evidence was already quite convincing, instead of sticking our collective heads in the sand and continuing business as usual, the requirement for action would not have been as drastic as it is now. And, of course, the longer we postpone action, the steeper will be the necessary trajectory in emissions reduction - and thus the greater the danger of economic disruption.

Individual actions such as this are important, but they will not turn the tide. One of the critical components of SB1530 is that it does not dictate what businesses should do to reduce their emissions since that would be quite draconian. Rather, it simply encourages businesses to reduce emissions the best way that suits their individual business model.

It's easy to just tax and control others when you manufacture a crisis. As a personal sacrifice give up your clothes dryer and prove it to me that you did then you might be credible

There is no manufactured crisis here, unless you mean the crisis manufactured by our continuing to emit greenhouse gases when we should have curtailed that behavior and promoted renewable energy sources. It's interesting that you should nominate the clothes dryer as an example of sacrifice since we have, indeed, done that. We hang our clothes on the clothes line during summer, and on clothes racks inside the house during winter. It really is no great sacrifice; recall that's what our grand-parents did - and they survived.

There is nothing easy about the proposed remedy (SB1530). In fact, it has taken 6 years of proposals being developed, rejected, and modified to reach this point. Furthermore, it is not a tax any more than a fishing licence is a tax or the charge to pick up your garbage is a tax. What SB1530 does is place a reducing cap on greenhouse gas emissions in the state and require major emitters to buy permits emit. We know that if we don't restrict fishing to a limited number per day, our fish populations will be depleted and may go extinct. Also, one can reduce the fee by fishing less often. Similarly, if we don't require garbage pick-up, our streets will soon be shoulder deep in trash. We can reduce this fee by producing less trash. And, if we don't limit greenhouse gas emissions, the livability of our planet for our children and grand-children will be seriously compromised. The fee for emitting can be reduced by emitting

less and needing fewer permits. We have to decide if we care about our grandchildren, and, if so, how much we care.

SB1530 has been tailored to reduce the imposition on individual Oregonians as much as possible. Meanwhile, provisions in the proposal mean that there should be no increase in utility rates, that fuel costs for residents outside Metro Portland would not be impacted until several years later, and some may be no at all.

It is also important to know that other states in the U.S. that have imposed some form of Cap, Trade, and Invest on greenhouse gases have not experienced economic decline, and are actually doing better than surrounding states without such a program. In eastern states with a program such as this targeting utility emissions, electric bills have not increased while gasoline prices in California were lower a year after transportation was incorporated into the program than before.

This is not to suggest that life will continue as before and be unaffected. The whole point of the proposal is to reduce emissions. To the extent that we are responsible for emissions, we will - and should - be affected since the point is for us to adjust our behavior to reduce emissions and protect life as we know it for future generations.