

# Are we ready for Global Cooling?

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That's a strange question today, but actually it has been a concern in the past. Are you worried about the risks of global cooling, and the impacts that might have? Perhaps we haven't thought of it so much in the last couple of decades because of the recent concern over global warming. Today, I hope to convince you that global cooling remains an important risk, and may actually be more likely than global warming.

During this presentation I will continually refer to the handout, but I won't touch on some of the "slides" at all – they are there for your reference at some future time.

## 1. Questioning the Global Warming Mindset

But to start with, I do want to take you through some quick questions that hopefully will set the context for rethinking the risks of climate change. So fold open the handout to page 2, without exposing page 3. As I am reading the questions you may want to write down your own impressions. Notice that the question isn't what YOU think, it's what you think that OTHER PEOPLE think (there's a reason for posing the question that way).

[...read questions...]

I'll give you 30 seconds to look over the questions silently.

Slide 3: Now let's unfold the handout and take a look at page 3. I won't go through all of the answers in detail as you can do that later. Please note that the "answers" aren't definitive and can be contested. The key point is that conventional climate change discussions can be quite misleading, so it's up to you to check the actual data, and to think critically. There are alternative interpretations to concepts that sometimes fit the data better.

I will point out two items from page 3:

1. **temperature drives CO<sub>2</sub>** – is a better (first order) assumption than CO<sub>2</sub> drives temperature, even though they do inter-relate and there are many other drivers besides those two.
2. One could easily conclude that the probability of global cooling is higher than that of global warming, and I'll show some of the reasons why. However, please keep in mind that this isn't a sure thing.

## 2. Selected arguments for global cooling

It is my opinion that one must look at multiple time scales when considering climate change trends, and several authors have been careful to present arguments on that basis.

Slide 4: On page 4 you can see temperature and CO<sub>2</sub> information for ice cores that covers the last ~700 ky.

a) First of all, please note that we are currently at the upper range of temperatures over this time period. But what is normal? Longer "peak durations" for intermediate to low peaks? Are we entering a completely different phase of climate system behaviour? I know of only one person who is analyzing the issue from the latter point of view, but there must be others. Notice that more time is spent at the low end of the scale than at the peaks.

b) Secondly, what you cannot see is that the temperature changes occur perhaps 500 to 3,500 years BEFORE [CO<sub>2</sub>] on a corrected (time-shifted) basis!! However, it is my understanding that the raw data says the opposite. I don't understand why there isn't far more heated debate on this point.

Slide 5: Please note that over the last 1,000 years that there is almost no relation between temperature and CO<sub>2</sub>. Only in the last 150 years does that seem to occur. Has the behaviour of the climate system radically changed because of some threshold CO<sub>2</sub> effect? Are things really radically different today?

Slide 6: Note that solar activity DOES describe temperatures (and CO<sub>2</sub>) throughout this period (and throughout the last ~700 ky as shown on the previous slide).

There are many other analysis that could be brought to bear, but that's all that I will cover today. Suffice it to say that papers discussing global cooling have been reappearing in the last few years. We need to watch the sun very closely (and in my view, the interior of the earth and cosmic rays may also be interesting).

### **3. Consequences of cooling**

I can't cover all of the consequences of global cooling. But many of the same fears related to global warming also apply to global cooling. Plus, in extreme cases, your house could be buried under 10,000 feet of ice!!

Slide 8: But more seriously, let's take a quick look at just one correlation – influenza pandemics and solar activity.

### **4. Conclusion**

In conclusion, there seem to be better arguments for, and a higher probability of, global cooling as compared to global warming. We should consider the risks both ways, because we don't really know which way things will go, and in any case, the climate has always been hugely variable.

Civilisation has been built on the peak of a warm period. We're lucky.