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Let the data speak for itself

Despite the message favoured by environmental campaigners, temperatures in this decade have not been worse than expected

Björn Lomborg, Tuesday October 14 2008 08.00 BST

Have you noticed how environmental campaigners almost inevitably say that not only is global warming happening and bad, but also that what we are seeing is even worse than expected?

This is odd, because any reasonable understanding of how science proceeds would expect that, as we refine our knowledge, we find that things are sometimes worse and sometimes better than we expected, and that the most likely distribution would be about 50-50. Environmental campaigners, however, almost invariably see it as 100-0.

If we are regularly being surprised in just one direction, if our models get blindsided by an ever-worsening reality, that does not bode well for our scientific approach. Indeed, one can argue that if the models constantly get something wrong, it is probably because the models are wrong. And if we cannot trust our models, we cannot know what policy action to take if we want to make a difference.

Yet, if new facts constantly show us that the consequences of climate change are getting worse and worse, high-minded arguments about the scientific method might not carry much weight. Certainly, this seems to be the prevailing bet in the spin on global warming. It is, again, worse than we thought, and, despite our failing models, we will gamble on knowing just what to do: cut CO2 emissions dramatically.

But it is simply not correct that climate data are systematically worse than expected; in many respects, they are spot on, or even better than expected. That we hear otherwise is an indication of the media's addiction to worst-case stories, but that makes a poor foundation for smart policies.

The most obvious point about global warming is that the planet is heating up. It has warmed about 1C (1.8F) over the past century, and is predicted by the United Nations' climate panel (IPCC) to warm between 1.6-3.8C (2.9-6.8F) during this century, mainly owing to increased CO2. An average of all 38 available standard runs from the IPCC shows that models expect a temperature increase in this decade of about 0.2C.

But this is not at all what we have seen. And this is true for all surface temperature measures, and even more so for both satellite measures. Temperatures in this decade have not been worse than expected; in fact, they have not even been increasing. They have actually decreased by between 0.01 and 0.1C per decade. On the most important indicator of global warming, temperature development, we ought to hear that the data are actually much better than expected.

Likewise, and arguably much more importantly, the heat content of the world's oceans has been dropping for the past four years where we have measurements. Whereas energy in terms of temperature can disappear relatively easily from the light atmosphere, it is unclear where the heat from global warming should have gone – and certainly this is again much better than expected.

We hear constantly about how the Arctic sea ice is disappearing faster than expected, and this is true. But most serious scientists also allow that global warming is only part of the explanation. Another part is that the so-called Arctic oscillation of wind patterns over the Arctic Ocean is now in a state that it does not allow build-up of old ice, but immediately flushes most ice into the North Atlantic.

More importantly, we rarely hear that the Antarctic sea ice is not only not declining, but is above average for the past year. IPCC models would expect declining sea ice in both hemispheres but, whereas the Arctic is doing worse than expected, Antarctica is doing better.

Ironically, the Associated Press, along with many other news outlets, told us in 2007 that the "Arctic is screaming," and that the Northwest Passage was open "for the first time in recorded history." Yet the BBC reported in 2000 that the fabled Northwest Passage was already without ice.

We are constantly inundated with stories of how sea levels will rise, and how one study after another finds that it will be much worse than what the IPCC predicts. But most models find results within the IPCC range of a sea-level increase of 18-59cm (7-23in) this century. This is of course why the thousands of IPCC scientists projected that range. Yet studies claiming one metre or more obviously make for better headlines.

Since 1992, we have had satellites measuring the rise in global sea levels, and they have shown a stable increase of 3.2mm per year (1/8 of an inch) – spot on compared to the IPCC projection. Moreover, over the last two years, sea levels have not increased at all – actually, they show a slight drop. Should we not be told that this is much better than expected?

Hurricanes were the stock image of Al Gore's famous film on climate change, and certainly the United States was battered in 2004 and 2005, leading to wild claims of ever stronger and costlier storms in the future. But in the two years since, the costs have been well below average, virtually disappearing in 2006. That is definitely better than expected.

Gore quoted MIT hurricane researcher Kerry Emmanuel to support an alleged scientific consensus that global warming is making hurricanes much more damaging. But Emmanuel has now published a new study showing that even in a dramatically warming world, hurricane frequency and intensity may not substantially rise during the next two centuries. That conclusion did not get much exposure in the media.

Of course, not all things are less bad than we thought. But one-sided exaggeration is not the way forward. We urgently need balance if we are to make sensible choices.