

Finding Reliable Information, Part 2

Not all blogs are created equal, especially if you're using them as an information source, so it's important to examine their claims.

For example, [an article on Hotair.com in 2010](#) claimed that research using fossilized pollen to study ancient climate change, and [published in the journal Science](#), overturned the prediction that the rise in temperature driven by man-made CO2 will lead to increased droughts in the Amazon Rainforest, eventually leading to a radical change in the ecosystem with an accompanying extinction of the plants and animals currently living there.

The first thing to note is that the author does not use the original research as his source, but rather a secondary article about the research that was [published in The Guardian](#). While this does not automatically mean that the Hot Air piece will be flawed, it does mean that it is an interpretation of an interpretation.

The Hot Air author claims that the research shows that plants and animals will simply adapt and would even thrive as the climate warms, as an increase in temperature in the past lead to "an explosion of diversity."

The author then implies that nobody really understands the systems in question, and throws out another erroneous concept - that there is an "optimal temperature for the planet."

He goes on to claim that climate science is mainly conjectural - a collection of "speculative horror stories," "already-busted myths," and failed predictions.

He finishes with this gem: "The study's authors conclude that warming presents little threat to the rainforest, and instead advises activists to focus on fighting deforestation instead."

So. Let's check his sources.

He quotes a portion of the Guardian article:

"In a study published today in *Science*, Jaramillo and his team studied pollen grains and other biological indicators of plant life embedded in rocks formed around 56m years ago, during an abrupt period of warming called the Paleocene-Eocene Thermal Maximum. CO2 levels had doubled in 10,000 years and the world was warmer by 3C-5C for 200,000 years."

The time frame is the first problem. The rise in CO2 during the Paleocene-Eocene Thermal Maximum took place over ten thousand years. Since the beginning of the industrial revolution, CO2 in the atmosphere has risen from 280pp to around 390ppm, and at the current rate will double from pre-industrial levels in a few hundred years. This difference in the rate of change makes his claim that organisms will adapt dubious at best.

Next, note that the explosion of diversity described in the quote took place over the course of 200,000 years. This suggests that the temperature rose and STAYED high for 200,000 years, and that the "explosion" in diversity, and adaptation to new conditions, took place over that same period of two hundred millennia.

Now, what does the research actually say? While the scientists DO indicate that there may be more capacity for adaptation to warming than many currently fear there is, it's a huge leap to assume that adapting to a 10,000 year doubling of CO2 is the same as adapting to a 500 year doubling of CO2.

The scientists did not call current understanding of climate science into question, nor did they say anything that lends support to Hot Air's assertion that "AGW science is mainly conjectural."

Based on this analysis, we see that the article makes accusations as if they were beyond doubt, and confuses the basic facts of the research on which it is "based". Examining the scientific evidence reveals the obfuscation without much effort.

That does not mean, however, that the point they failed to prove is incorrect, so is it hypothetically possible that the original claim, that plants and animals will be able to adapt to the rapidly warming climate, has merit?

In the next segment of this series, we'll delve into that question while providing an example of what GOOD use of research and scientific literature looks like.