Scientists are more confident than ever that climate change is happening and is largely caused by human activities. Yet, according to a recent poll, the American public is *less* likely to believe that climate change is caused by humans than they were even last year. When it comes to climate science, are we a *misinformation* nation?

A new report from the Yale Project on Climate Change Communication and the George Mason University Center for Climate Change Communication finds that since November 2011, public belief that global warming is happening increased by 3 percentage points, to 66 percent overall. However, public belief that global warming is caused mostly by human activities decreased four percentage points, to 46 percent.

Even more striking: Since November, there has been a 6 point decrease (to 35%) in the proportion of Americans who believe that most scientists think global warming is happening, with a 2 point increase (to 41%) in those who believe there is substantial disagreement among scientists.

What the Science Says

The Intergovernmental Panel on Climate Change (IPCC) has made pronouncements on anthropogenic climate change dating back to 2001 and further strengthened in its Fourth Assessment report. The IPCC stated in 2007: "Most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic GHG concentrations." This statement is worth far more weight than a single dissenting view; more than 800 scientists and experts from all over the world contribute to the preparation of IPCC reports as authors, contributors, and expert reviewers.

A 2009 survey of 3,146 earth scientists posed the question *"Do you think human activity is a significant contributing factor in changing mean global temperatures?"* (Doran 2009). The study found that 97.5% of climatologists who actively publish research on climate change responded "yes."

Clouding the Air

Why then does the climate change "debate" continue? There seem to be a few factors at play:

- The intense polarization of our political parties, with environmentalism tagged as a Democratic issue, even when a healthy number of Republicans support clean energy;
- Mainstream media's bias towards the debate format, which lends disproportionate air time to climate change deniers.
- Lack of clear information and reporting on the scientific consensus that climate change is real and that humans are a major contributor.
- Prioritization of economic issues over environmental issues and the public perception that environmental regulation hurts job growth.
- In the digital age, easy access to authorship, strong trends towards personalization in media consumption, and instantaneous dissemination of information – whether accurate or not.

These factors, among others, have contributed to our current state: the public is simply not aware of, or not convinced by, the degree of scientific agreement on anthropogenic climate change. The challenge, therefore, is how to cut through the haze and effectively communicate this scientific consensus.

Show and Tell

Perhaps visualizing the weight of scientific opinion on anthropogenic climate change will advance understanding:

This chart summarizes the results of eight different reviews of scientific literature examining anthropogenic climate change. Visualizing information is just one tool at the disposal of scientists and the media alike. We can all recall the graphs and charts that Al Gore famously pointed to in *An Inconvenient Truth*. Tacky? Maybe. But he made his point. Re-visualizing scientific information may prove useful as a way of demonstrating the true weight of scientific opinion.

Regardless of personal opinion, there is a clear need for more information on the current views of scientists, their research methods, and the true level of dissent among scientific experts concerning climate change.