What Makes Consensus “Knowledge-Based”?

There is an overwhelming scientific consensus that humans are warming the climate. Miller (2013) contends that when consensus is “knowledge-based” (achieving social calibration, consilience of evidence, and social diversity) it is less likely to be faulty or incorrect, and can be considered approximately true.

Incorrect consensus can arise from bottom-up bias, such as episodic luck: incorrect agreement arises because evidence happens to point to the right conclusion for the wrong reason (i.e. broken clock), or because chance gives the appearance that the right conclusion is correct. False consensus can also arise due to top-down biases such as non-cognitive agreement, which are not knowledge-based and form regardless of whether the consensual view is correct, such as “consensus” among tobacco companies that cigarettes are safe.

Social Calibration as a Condition of Consensus

Knowledge-based consensus vs. superfluous consensus depends on social calibration, or “shared schema, frameworks, and ontological schemes”. Climate scientists and experts publishing in peer reviewed physical science journals enjoy social calibration with each other, whereas politicians who believe in divine revelation will have different standards of “evidence”.

Consilience of Evidence in Scientific Consensus

Consilience is achieved when multiple lines of independent evidence pointing to one conclusion and agreeing with each other. Observed increases in the greenhouse effect represent some of these lines.

In addition to observed evidence of an anthropogenically-enhanced greenhouse effect, we can rule out other potential drivers by observing their behavior directly. Solar activity, volcanoes, and cosmic rays are often-cited alternatives to the consensus. However, in addition to their incompatibility with the evidence for anthropogenic warming, their behavior itself is consistent with the observed climatic change.

Despite the overwhelming scientific consensus on anthropogenic warming, the public perceives a divided scientific community. Being aware of the high level of agreement among experts increases public belief in key facts about climate change (including human causation), as well as increasing belief that action should be taken, including policy changes (Ding et al., 2011; Lewandowsky, 2012; MCGath et al., 2013).

References

1. George Mason University, Fairfax, VA, USA;
2. Global Change Institute, University of Queensland, Brisbane, QLD, Australia;
3. Skeptical Science, Brisbane, QLD, Australia


Policy Support: 55% vs. 97%

Even corporations with a vested interest in denying the consensus have publicly endorsed it.

Social Diversity and the Consensus on Climate