

Comment on “Scientists’ Views about Attribution of Global Warming”

Verheggen et al.¹ report a survey of scientists’ views on climate change. However, they surveyed a large number of psychologists, pollsters, philosophers, etc. The number of nonclimate scientists who responded is undisclosed, and is likely unknowable given the design. Thus, the valid results of the study are unknown, and it should be withdrawn. Moreover, the core method of including mitigation and impacts researchers creates a structural inflationary bias, ultimately conflating career choice with consensus. Finally, an estimate of the consensus is unlikely to be reliable without accounting for the extraordinary personal cost of dissent, especially when an issue is moralized.

Verheggen et al. searched the topics “global warming” and “global climate change” at Web of Science, and surveyed the authors of *all the resulting articles*. This produced 6000 of their pool of 8000 authors (1868 responded.) Examples of the WoS results:

Gonzalez, G. A. An eco-Marxist analysis of oil depletion via urban sprawl. *Environ. Polit.* **2006**, *15*, 515–531.

Entman, R. M. Improving Newspapers’ Economic Prospects by Augmenting Their Contributions to Democracy. *Int. J. Press-Polit.* **2010**, *15*, 104–125.

Harribej, J. M. The unsustainable heaviness of the capitalist way of development. *Pensee* **2002**, 31 – +.

The searches yield 14,144 articles, with likely overlap. If we deselect the Social Science and Arts & Humanities indices—which the authors did not do—we lose 1235. Counting only the subset of 895 such papers from the “global warming” search, they plausibly represent 380 authors. (14 144/6000 = 2.36 papers per author.) Notably, authors classified as *Other Expertise*—a plausible destination for psychologists, eco-Marxists, etc.—were especially likely to respond to the survey (Figure S1, Supporting Information.)

This understates the problem. The remaining search results still include a large number of irrelevant papers, such as

Delmelle, E. C.; Thill, J.-C. Urban Bicyclists Spatial Analysis of Adult and Youth Traffic Hazard Intensity. *Transp. Res. Record* **2008**, 31–39.

Howard, C.; Parsons, E. C. M. Attitudes of Scottish city inhabitants to cetacean conservation. *Biodivers. Conserv.* **2006**, *15*, 4335–4356.

McCright, A. M.; Dunlap, R. E. Cool dudes: The denial of climate change among conservative white males in the United States. *Glob. Environ. Change-Human Policy Dimens.* **2011**, *21*, 1163–1172.

The number of authors of such papers in the survey responses is unknown, and is unknowable given the failure to log the specific fields of all respondents. This invalidates most of the reported findings. The paper should be withdrawn and the correct figures reported when available.

There is a deeper problem. Inclusion of mitigation and impacts papers—even from physical sciences or engineering—creates a structural bias that will inflate estimates of consensus, because these categories have no symmetric disconfirming

counterparts. For example, a mitigation article often mentions climate change to frame an engineering project. However, most engineering papers do not mention climate—those authors will not be surveyed. Thus, the views of most “mitigation” researchers cannot be contested. What epistemic information is carried by the views of the <1% of engineers who mention climate change? Consider the following abstract:²

We are facing accelerated global warming due to the accumulation of greenhouse gases. . . Palladium has the potential to play a major role in virtually every aspect of the envisioned hydrogen economy. . .

The opening sentence admitted them into this survey. However, these researchers have simply *imported* a consensus on global warming. They then proceed to their area of expertise—palladium. I have a soft spot for the platinum group, but this paper will not carry any data or epistemic information about climate change or its causes, and the authors are unlikely to be experts on the subject, since it is not their field. This phenomenon is pervasive in the results.

Increased public interest in any topic will reliably draw scholars from various fields. Economists who in another universe would investigate monopsony are instead modeling carbon taxes. Biologists who would study cyanobacteria in any universe now frame their research by noting concerns that warming could cause more blooms. Policy analysts who started in Soviet studies now focus on climate. Thousands of people who would otherwise be doing whatever people did before 1995 instead work on climate, and are scooped up by casual searches. However, their endorsement (or rejection) of human-caused warming does not represent knowledge or independent assessment. Their votes are not quanta of consensus, but simply artifacts of career choices and the changing political climate. Their inclusion will artificially inflate sample sizes, and will likely bias the results.

Even when constrained to climate scientists, it is ill advised to report a consensus as though it is an aggregation of independent judgments. Humans are an ultrasocial species, and dissent is far costlier than assent to a perceived majority. Global warming has become an ideological, and thus *moral*, issue. This is alarming because moral rebuke and ostracism are extremely powerful deterrents for humans.^{3–5} Causes for concern include (1) A scientist who contests the prevailing narrative on human-caused warming, or merely produces smaller estimates, will likely end up on a McCarthyite blacklist of “deniers”.^{6,7} (2) Self-described mainstream climate scientists refer the public to such lists, implicitly endorsing the smearing of their colleagues.⁸ This is disturbing, and unheard of in other sciences. (3) A venerable climate scientist was recently savaged by his colleagues for choosing to advise a nonleftist policy foundation.⁹

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This is a noxious climate for serious science. We should ask whether it has deterred young scientists from the field. Who wants to end up on a blacklist? It is also advisable to explore whether climate science selects for environmentalists—scientists who believe that “nature” is sacred, or that ecological stasis is inherently desirable, may struggle to maintain an appropriate scientific posture. If the field is deterring bright minds or selecting for a particular creed, it would install a self-reinforcing and unreliable consensus for decades. In any event, groupthink is always a threat to the epistemic utility of a consensus, and in climate science, dissent is likely to impose extraordinary costs. Consensus studies will be more rigorous if they account for these facts.

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Notes

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