Subject to revision

Advance paper submitted to the
IPCC Expert Meeting on Communication, Oslo, Norway, 9-10 February 2016

The role of misinformation in undermining IPCC science and how to neutralize it

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Communicating the findings of climate science research is integral to raising public levels of climate literacy, which is associated with increased support for mitigation policies. A great deal of research has been conducted into effective methods of climate communication. However, less effort has been directed towards addressing the role of misinformation in undermining communication efforts and reducing climate literacy.

McCright et al. (2015) found that misinformation reduces the effectiveness of climate communication efforts. Similarly, van der Linden (2016) observed that misinformation casting doubt on the scientific consensus on climate change completely neutralizes messages that communicate the consensus. The implication of this psychological research is that climate communicators need to consider the role of misinformation and design their content accordingly.

This is particularly the case with the IPCC, which is a prominent target for the purveyors of misinformation. The release of the IPCC Working Group I report in September 2013 was preceded by a blitz of pre-emptive misinformation designed to undermine the IPCC report and climate science in general (Figure 1).

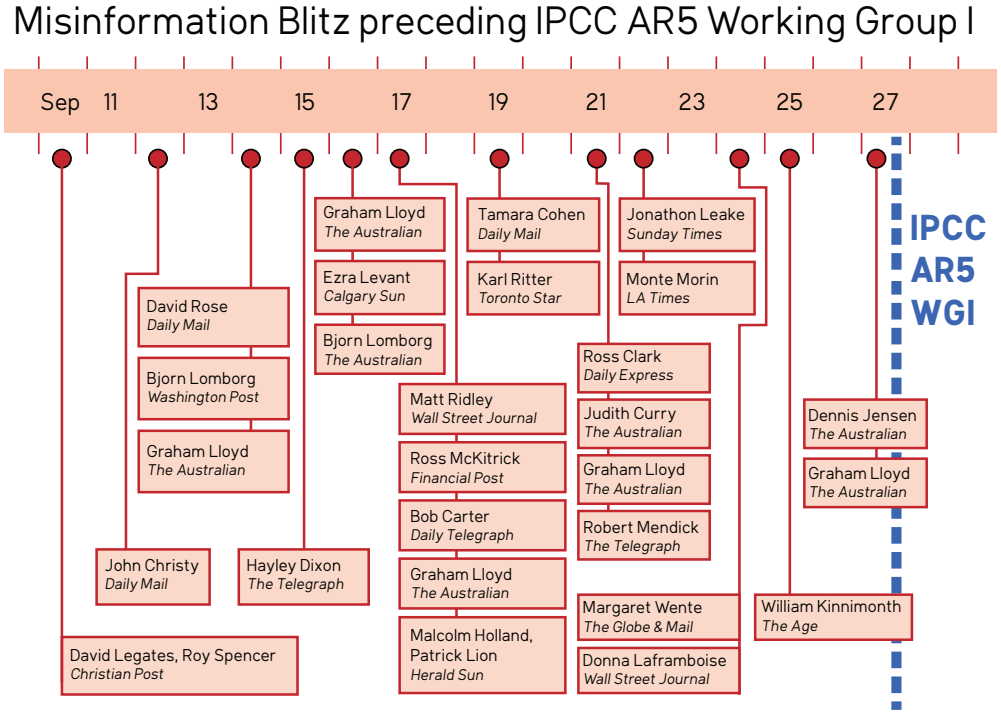

Figure 1: Mainstream media articles casting doubt on climate science and the IPCC report in the lead up to the release of AR5 Working Group I report.

Since 2013, misinformation focused on undermining climate science has persisted. While the common expectation is that public discourse about climate change should transition from questioning the science to discussing policy options, Figure 2 shows how conservative think-tanks and climate blogs have instead moved in the opposite direction, increasing their attacks on climate science over the last decade (Boussalis & Coan, 2016).

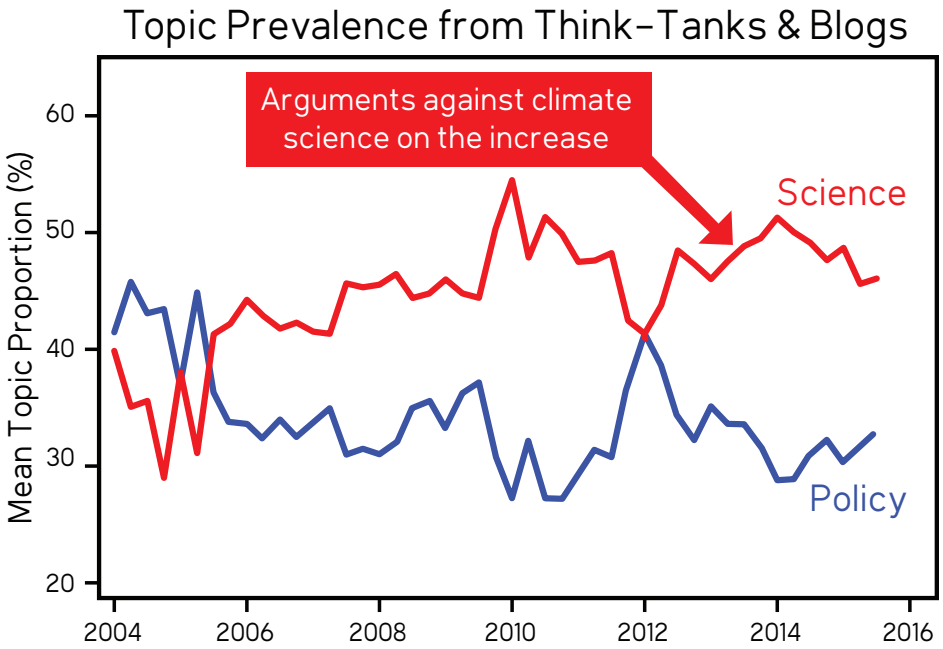

Figure 2: Relative prevalence of arguments against climate science and climate policy from climate blogs and conservative think-tanks through to end of 2015.

Given the persistence of misinformation targeting climate science, and the evidence that such efforts are effective in undermining communication efforts, I recommend that the findings of psychological research, and the assistance of psychological researchers, be incorporated into IPCC communication efforts, thus preserving the efficacy of science explanations (Lewandowsky et al., 2012).

In order to neutralize misinformation, explaining the science alone isn't sufficient. This has been found in a strand of psychological research known as inoculation theory, which borrows the metaphor of vaccination and applies it to knowledge. Just as a vaccination helps build resistance to a virus by exposing people to a weak form of the virus, in the same way, the most effective way to neutralize the influence of misinformation is to expose people to a "weak form" of the misinformation (McGuire & Papageorgis, 1961).

By weak form of misinformation, I mean introducing the myth in a specific fashion:

1. Place primary emphasis on the facts and scientific concepts, explained clearly and concisely. The golden rule of debunking is "Fight sticky myths with stickier facts".
2. An explicit warning (e.g., textual or a visual cue) should be given before introducing the myth.
3. The argumentative technique or fallacy that the myth employs must be explained. Understanding how the myth distorts the facts enables people to reconcile the facts with the myth.

References

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