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The importance of distinguishing climate science from climate activism

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I am concerned by climate scientists becoming climate activists, because scholars should not have a priori interests in the outcome of their studies. Likewise, I am worried about activists who pretend to be scientists, as this can be a misleading form of instrumentalization.

Background and motivation

It comes as no surprise that the slow production of scientific knowledge by an ever-growing international and interdisciplinary community of climate change researchers is not feasible to track the accelerating pace of cultural, political and economic perceptions of, and actions to the many threats anthropogenic global warming is likely to pose on natural and societal systems at different spatiotemporal scales. Recognition of a decoupling between “normal” and “post-normal” science is not new¹, with the latter often being described as a legitimization of the plurality of knowledge in policy debates that became a liberating insight for many². Characteristic for the yet unfolding phenomenon is an intermingling of science and policy³, in which political decisions are believed to be without any alternative (because they are scientifically predefined) and large parts of the scientific community accept a subordinate role to society (because there is an apparent moral obligation)⁴.

Motivated by the continuous inability of an international agreement to reduce greenhouse gas emissions to tackle global warming, despite an alarming recent rise in surface temperatures and associated hydroclimatic extremes⁵, I argue that quasi-religious belief in, rather than the understanding of the complex causes and consequences of climate and environmental changes undermines academic principles. I recommend that climate science and climate activism should be separated conceptually and practically, and the latter should not be confused with science communication and public engagement.

Climate science and climate activism

While this *Comment* is not a critique of climate activism per se, I am foremost concerned by an increasing number of climate scientists becoming climate activists, because scholars should not have a priori interests in the outcome of their studies. Like in any academic case, the quest for objectivity must also account for all aspects of global climate change research. While I have no problem with scholars taking public positions on climate issues, I see potential conflicts when scholars use information selectively or over-attribute problems to anthropogenic warming, and thus politicise climate and environmental change. Without self-critique and a diversity of viewpoints, scientists will ultimately harm the credibility of their research and possibly cause a wider public, political and economic backlash.

Likewise, I am worried about activists who pretend to be scientists, as this can be a misleading form of instrumentalization. In fact, there is just a thin line between the use and misuse of scientific certainty and uncertainty, and there is evidence for strategic and selective communication of scientific information for climate action⁶. (Non-)specialist activists often adopt scientific arguments as a source of moral legitimation for their movements⁶, which can be radical and destructive rather than rational and constructive. Unrestricted faith in scientific knowledge is, however, problematic because science is neither entitled to absolute truth nor ethical authority⁷. The notion of science to be explanatory rather than exploratory is a naïve over-estimation that can fuel the complex field of global climate change to become a dogmatic ersatz religion for the wider public. It is also utterly irrational if activists ask to “follow the science” if there is no single direction. Again, even a clear-cut case like anthropogenically-induced global climate change does not justify the deviation from long-lasting scientific standards, which have distinguished the academic world from socio-economic and political spheres.

The role of recent global warming

Moreover, I find it misleading when prominent organisations, such as the Intergovernmental Panel on Climate Change (IPCC) in its latest summary for policymakers⁵, tend to overstate scientific understanding of the rate of recent anthropogenic warming relative to the range of past natural temperature variability over 2000 and even 125,000 years^{8–11}. The quality and quantity of available climate proxy records are merely too low to allow for a robust comparison of the observed annual temperature extremes in the 21st century against reconstructed long-term climate means of the Holocene and before. Like all science, climate science is tentative and fallible⁷. This universal caveat emphasises the need for more research to reliably contextualise anthropogenic warming and better understand the sensitivity of the Earth’s climate system at different spatiotemporal scales¹². Along these lines, I agree that the IPCC would benefit from a stronger involvement in economic research^{13,14}, and that its neutral reports should inform but not prescribe climate policy^{3,15}.

Furthermore, I cannot exclude that the ongoing pseudo-scientific chase for record-breaking heatwaves and associated hydroclimatic extremes distracts from scientifically guided international achievements of important long-term goals to reduce greenhouse gas emissions and mitigate global warming¹⁶. It is therefore only a bitter irony that the partial failure of COP28 coincided with the warmest year on record^{17–19}. The temporal overshoot of 2023 now challenges the Paris Agreement to keep global warming well below 2°C²⁰. The IPCC’s special report²¹ on exactly this scientifically questionable climate target²⁰ can be understood as a useful example of science communication that fostered a wide range of climate action²². The unprecedented recent temperature rise that follows increasing greenhouse gas concentrations²³ and has been amplified by an ongoing El Niño event²⁴ is likely to continue in 2024. This unparallel warming, however, has the unpleasant potential to trigger a dangerous zeitgeist of resignation and disregard—If it happened once, why shouldn’t it happen twice?

A way forward

In essence, I suggest that an ever-growing commingling of climate science, climate activism, climate communication and climate policy, whereby scientific insights are adopted to promote pre-determined positions, not only creates confusion among politicians, stakeholders and the wider public, but also diminishes academic credibility. Blurring boundaries between science and activism has the potential to harm movements of environmentalism and climate protection, as well as the much-needed international consent for sustainable growth and a global energy transition. If unbound climate activism results in widespread panic or indifference, people may think that it is either too late for action or that action does not matter. This argument is not in disagreement with the idea that mass mobilisation as an effective social response to climate change is only possible if society is experiencing sustained levels of risk²⁵. Nevertheless, I would argue that motivations are more helpful than restrictions, at least in the long run. My criticism of an uncontrolled amalgamation of climate scientists and climate activists should not be understood as a general critique of climate activism, for which there are many constructive ways³⁶, especially when accepting that climate mitigation and adaptation are both desirable options, and that non-action can be an important part of activism.

In conclusion, and as a way forward, I recommend that a neutral science should remain unbiased and avoid any form of selection, over-attribution and reductionism that would reflect a type of activism. Policymakers should continue seeking and considering nuanced information from an increasingly complex media landscape of overlapping academic, economic and public interests. Advice from a diversity of researchers and institutions beyond the IPCC and other large-scale organisations that assess the state of knowledge in specific scientific fields should include critical investigations of clear-cut cases, such as anthropogenic climate change. A successful, international climate agenda, including both climate mitigation and adaptation, requires reliable reporting of detailed and trustworthy certainties and uncertainties, whereas any form of scientism and exaggeration will be counterproductive.

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Author contributions

U.B. conceived the study and wrote the manuscript.

Competing interests

The author declares no competing interests.

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