

CORRESPONDENCE:

Challenging convention

To the Editor — Parmesan and co-authors¹ offer a welcome tonic to overstated claims that attribute various localized changes in biological systems to human-induced climate change. However, their Commentary is off target when it lays blame for the misguided focus on attribution on the Intergovernmental Panel on Climate Change (IPCC) “effectively yield[ing] to the contrarians’ inexhaustible demands for more ‘proof.’” As compelling as battle with the sceptics seems to be in virtually every aspect of the climate issue, the overstated role of attribution in the climate debate has a far more prosaic origin in the fundamental design of the Framework Convention on Climate Change.

The Climate Convention defines ‘climate change’ narrowly, as “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability over comparable time periods.” Under this definition, the very existence of ‘climate change’ depends on the ability of the scientific community to attribute change to human activity².

The Climate Convention goes further, and in its Article 2 establishes a threshold for action — to stabilize “greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous atmospheric interference with the climate system.” Attribution is necessary to help delineate where danger lies. Without attribution to specific biological, human and other impacts that people care about there would be no basis for action under the formal logic of the convention.

To the extent that the IPCC sees its activities as being in support of the Climate Convention³, there will be continuing demands, both explicit and implicit, to emphasize the impacts of greenhouse-gas emissions on specific biological systems and to downplay or even ignore other important drivers of change. This emphasis is only logical as the Climate Convention is poorly positioned to influence this broader set of drivers.

An obvious solution to this quandary would be to recast the Climate Convention explicitly on emissions of long-lived greenhouse gases rather than on ‘climate change’ *per se*. Meanwhile, the climate

science community would do well to recognize that the important work that they do is deeply and inevitably influenced by such mundane political considerations. Rather than avoiding this reality, the IPCC would be well served to situate itself more directly with respect to policy options, and to openly discuss the implications of policy design for the scientific community. Parmesan and co-authors tell us that, in one respect at least, the political framework for action on climate change asks biological scientists to do the impossible. □

References

1. Parmesan, C., Duarte, C., Poloczanska, E., Richardson, A. J. & Singer, M. C. *Nature Clim. Change* **1**, 2–4 (2011).
2. Pielke, R. A. Jr *Environ. Sci. Policy* **8**, 548–561 (2005).
3. <http://www.ipcc.ch/pdf/10th-anniversary/anniversary-brochure.pdf>

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CORRESPONDENCE:

The value of attribution

To the Editor — The Commentary by Parmesan and co-authors in the April 2011 issue of *Nature Climate Change*¹ argues that attribution studies to evaluate the impacts of anthropogenic climate change are ill-advised. We disagree — on the contrary they are essential for credible prediction of future impacts. Regional and local attributions make a remote concern — that of long-term global climate change — relevant on a scale that the public and policymakers can relate and respond to. Such studies are difficult and, as in any new area of science, opinions differ about the best way forward. We agree with Parmesan and co-authors that “it is rarely possible to attribute specific responses of

individual wild species to human-induced climate change”, but attempts to do so^{2,3} are nevertheless valuable.

Parmesan and co-authors are concerned that attribution studies will divert resources from urgent work on adaptation. But this is not a zero-sum game — credible regional and local attribution will stimulate resourcing of both attribution and adaptation. A home-owner confronted by flood damage, alteration of local ecosystems and potential loss of equity may demand attribution studies as well as increased individual and public efforts in adaptation and mitigation⁴. Detailed, quantified attribution helps target adaptation more effectively⁵ and

may also counter recent tendencies to over-attribute, a phenomenon shown by the range of human and resource problems brought to the United Nations Climate Change Conference in Copenhagen in 2009. Climate change should not mutate from an inconvenient truth into a convenient scapegoat for other human pressures. Indeed, we agree that managing other stressors on biological systems provides a robust no-regret strategy with benefits for climate adaptation and other goals⁶, a view that seems widely accepted⁷.

Increasingly, scientists are responding to demands for predictions of regional climate impacts⁸, but with insufficient