

## Mike Hulme on Climate Change

### Quotes from the journal *Nature*, 1997-2010

#### January 2010 – Beyond Copenhagen

“... we need to set near-term targets that are pragmatic and technology-based, and they should be achievable on the basis of credible social, technical and economic analysis, not aspirational targets driven by IPCC science. It's better to be pragmatic than to be overly aspirational; surely the lessons of the 12 years since Kyoto tell us that?”

Heffernan, O. (2010) The road from Copenhagen: the experts' views *Nature Reports Climate Change* (News Feature) Published online: 28 January 2010 | doi:10.1038/climate.2010.09

#### December 2009 – On Climategate

"It is possible that climate science has become too partisan, too centralized. The tribalism that some of the leaked e-mails display ... is not attractive when we find it at work inside science."

Schiermeier, Q. (2009) Battle lines drawn over e-mail leak *Nature* (News Feature) **462**, 551 (2 December 2009) | doi:10.1038/462551a

#### November 2009 – On different types of 'action'

“The point is not to engineer a global consensus for action, as though the 'action' that is being sought is somehow self-evident, unambiguous and uncontested. Palpably, it is not. Instead, the urgency is to articulate the many types of action — individual or collective, selfish or altruistic, conservative or radical — that can be justified by the prospect of climate change, and to understand why, in a plural and contradictory world, these actions may differ.”

Hulme, M. (2009) Many types of action are required to tackle climate change *Nature* (Correspondence) **462**, 158 (12 November 2009) | doi:10.1038/462158c

#### October 2009 – The limits of climate models

“... evidence that climate predictions can provide precise and accurate guidance about how the long-term future may evolve is fundamentally lacking. Scientists and decision-makers alike should treat climate models not as truth machines to be relied upon for making adaptation decisions, but instead as one of a range of tools to explore future possibilities.”

Hulme, M., Pielke, R. jr. and Dessai, S. (2009) Keeping prediction in perspective *Nature Reports Climate Change* (Commentary) Issue 11, pp.126-127 Published online: 29 October 2009 | doi:10.1038/climate.2009.110

### **April 2009 – On expertise and power**

“First, who decides what expertise is legitimate in different situations? Second, how do we translate such expertise into action? In the rough and tumble of political processes, there is frequently no clear judge. Custom and power relationships usually decide whose expertise is heard. Without a theoretically based and politically supported manifesto to address these problems, a call for scientific values to 'run our lives' risks giving too much power to certain forms of knowledge.”

Hulme, M. and Turnpenny, J. (2009) What does applying 'scientific values' mean in reality? *Nature* (Correspondence) **458**, 702 (9 April 2009) | doi:10.1038/458702b

### **June 2008 – On limits to adaptation**

“Effective and robust adaptation strategies are not significantly limited by the absence of accurate and precise regional climate predictions. They are limited more by a multitude of technological, institutional, cultural, economic and psychological factors that lie beyond the reach of climate models — and always will.”

Hulme, M. and Dessai, M. (2008) Ventures should not overstate their aims just to secure funding *Nature* (Correspondence) **453**, 979 (19 June 2008) | doi:10.1038/453979a

### **February 2007 – On the fallibility of ‘fear appeals’**

“Campaigners, media and some scientists seem to be appealing to fear in order to generate a sense of urgency. If they want to engage the public in responding to climate change, this is unreliable at best and counter-productive at worst.”

Hulme, M. (2007) Newspaper scare headlines can be counter-productive *Nature* (Correspondence) **445**, 818 (22 February 2007) | doi:10.1038/445818b

### **February 2007 – On the future of the IPCC**

"The IPCC needs a complete overhaul," says Mike Hulme, director of the Tyndall Centre for Climate Change Research in Norwich, UK. "The structure and process are past their sell-by dates."

Giles, J. (2007) Special Report: From words to action *Nature* (News Feature) **445**, 578-579 (8 February 2007) | doi:10.1038/445578a

## **February 2007 – On ethical judgements**

"How important a problem climate change is and what society should do about it is all about subjective [ethical] judgements," says Mike Hulme, director of the Tyndall Centre for Climate Change Research in Norwich, UK.

Odling-Smee, L. (2007) Climate change 2007: What price a cooler future? *Nature* (News Feature) **445**, 582-583 (8 February 2007) | doi:10.1038/445582b

## **November 2006 – On costing climate change impacts**

[Mike] Hulme says that the British government has asked him many times to conduct a study on the total cost of climate change. He declined, as he does not feel it's a question that researchers can answer. Difficulties in estimating the impact of strategies such as coastal defences are only part of the problem. When other assumptions, such as the economic cost of species extinctions, are included, Hulme feels that the uncertainties become so great that he would not be able to defend the end result.

Giles, J. (2006) How much will it cost to save the world? *Nature* (News Feature) **444**, 6-7 (2 November 2006) | doi:10.1038/444006a

## **October 2004 - On the weakness of target-setting**

And Mike Hulme, director of the Tyndall Centre, who is due to meet with ministry officials next week, says that the idea of a global target for greenhouse gases is too distant from people's immediate concerns about the impact of climate change. "It's too remote" he says. "It's not good [for] changing people's behaviour."

Giles, J. (2004) Blair to seek consensus on safe greenhouse-gas levels *Nature* (News Feature) **431**, 619 (7 October 2004) | doi:10.1038/431619a

## **December 2002 – On malaria and climate change**

"We conclude that a reliable assessment of long-term relationships between climate and malaria incidence requires increased local monitoring of appropriate climate and disease variables to establish data sets that can support long-term trend analysis."

Patz, J.A., Hulme, M., Rosenzweig, C., Mitchell, T.D., Goldberg, R.A., Githeko, A.K., Lele, S., McMichael, A.J. & Le Sueur, D. (2002) Regional warming and malaria resurgence *Nature* (Communication Arising) **420**, 627-628 (12 December 2002) | doi:10.1038/420627a

## **August 2002 – On the use of Bayesian statistics**

Mike Hulme, executive director of the Tyndall Centre for Climate Change Research at the University of East Anglia in Norwich, UK, agrees. "It is not a normal approach in the lab," he says. "But it is useful when communicating results to policy-makers."

Giles, J. (2002) Scientific uncertainty: When doubt is a sure thing *Nature* (News Feature) **418**, 476-478 (1 August 2002) | doi:10.1038/418476a

## **February 1999 – On detecting impacts of climate change**

"We find that, for some regions, the impacts of human-induced climate change by 2050 will be undetectable relative to those due to natural multi-decadal climate variability. If misleading assessments of—and inappropriate adaptation strategies to—climate-change impacts are to be avoided, future studies should consider the impacts of natural multi-decadal climate variability alongside those of human-induced climate change."

Hulme, M., Barrow, E.M., Arnell, N.W., Harrison, P.A., Johns, T.C. & Downing, T.E. (1999) Relative impacts of human-induced climate change and natural climate variability *Nature* (Letter) **397**, 688-691 (25 February 1999) | doi:10.1038/17789

## **October 1998 – On the importance of adaptation**

"Greenhouse-gas emissions targets to be discussed in Buenos Aires next month will have little effect on the potential impacts of climate change ... Current mitigation targets will not [avoid dangerous climate change] and should not be mistaken for effective climate management. The other 'half' of the [UN Framework] Convention — action to reduce impacts — needs to be considered at the same time."

Parry, M.L., Arnell, N.W., Hulme, M., Nicholls, R.J. & Livermore, M. (1998) Adapting to the inevitable *Nature* (Commentary) **395**, 741 (22 October 1998) | doi:10.1038/27316

## **December 1997 – On the Kyoto Protocol targets**

According to one climate model, if all developed countries kept to their Kyoto target of reducing emissions by 5.2 per cent from 1990 levels before 2012, world temperatures would [be] only 0.27°C lower than the 'business as usual' scenario of world temperature rise if no intervention is taken. The data were generated by Mike Hulme [who] says the temperatures indicated in his calculations may not turn out to be correct, as models are subject to many assumptions and uncertainties. Hulme ... thinks the change in temperature if countries adhere to the Protocol will be small enough to be masked by natural changes to the Earth's climate.

Masood, E. (1997) Kyoto agreement creates new agenda for climate research *Nature* (News) **390**, 649-650 (18 December 1997) | doi:10.1038/37686