Dear Asher, and all,

I think this is a real problem, and I agree with Nick that climate change might be a better labelling than global warming. But somehow I also feel that one needs to add the dimension of the earth system, and the fact that human beings for the first time ever are able to impact on that system. That is why the IGBP in a recent publication "Global Change and the Earth System" underline that we now live in the anthropocene period. Climate change is one of the central elements of this process, but not the only one: loss of biological diversity, water stress, land degradation with loss of topsoil, etc etc all form part of this - and they are all linked in some way or another. Therefore a central message probably has to be that humans are now interfering with extremely large and heavy global systems, of which we know relatively little: we are in a totally new situation for the human species, and our impact added to all the natural variations that exist risks to unsettle subtle balances and create tensions within the systems which might also lead to "flip-over" effects with short-term consequences that might be very dangerous.

And then, the good old precautionary principle must be guiding our effort. During the cold war, enormous resources were put into missiles, airplanes, and other military equipment to check Soviet expansion and make containment policy credible - in the firm hope that all this equipment would never have to be used. And it wasn’t, and nobody complained about the costs. Now, in the face of a different, but clearly distinguishable global threat "more dangerous than terrorism" the cost issue surfaces all the time. Somehow we all need to help in creating an understanding that the threat of global change is real and that we need to develop a new paradigm of looking at the world and the future: this is not just a scientific or technological issue. It involves important philosophical and ethical considerations where some fundamental value systems have to be challenged.

Bo

-----Original Message-----
From: Asher Minns [mailto: redacted] On Behalf Of Asher Minns
Sent: 20 February 2004 17:01
To: redacted; redacted
Subject: RE: FWD: Abrupt Climate Change

In my experience, global warming freezing is already a bit of a public relations problem with the media, which can become public perception. It provides a new story for the old news that is climate change - a story that has been running since 1985/88.
Last Friday, even NERC put-out a press release that opened 'British scientists set sail today from Glasgow to begin work aimed at discovering if Britain is indeed in danger of entering the next ice age.'

Asher

>===== Original Message From <e.tompkins@uea.ac.uk> =====
>FYI 3
>-----Original Message-----
>From: John Shepherd [mailto: redacted]
>Sent: 20 February 2004 12:58
>To: Alex Jackson; Gareth Morgan; Claire Powell; Stephen Powell; Lindsey Stones; Ben Ward; Maxwell Gonzales; Mathieu Theron; Helen Luke; Rachel Hadfield; Adam Williams
>Cc: redacted
>Subject: Abrupt Climate Change
>
>Dear Andy,
>
>I'll have more to say later about this subject, but here are a few preliminary thoughts.
>First, I very much agree with David Lea's comments.
On Friday, February 13, 2004, at 06:38 AM, David Lea wrote:

I think the notion of telling the public to prepare for both global warming and an ice age at the same creates a real public relations problem for us.

This scenario is based on a lot of sloppy and sensationalistic writing by the brain guy (Calvin?) who wrote the Atlantic Monthly article, and the fact that others, like the Beeb I guess, like to have the opportunity to show pictures of icebergs floating down the Thames. It's not absolutely out of the question, but given the direct effects of greenhouse gases in warming the planet, it's more likely that a THC shutdown would moderate the European warming at the expense of making someplace else in the world hotter. Those who lived through the Canicule in Europe last summer would find this scenario appealing, but at the same time the heat wave shows that there are other circulation changes (so far not at all understood) that could in fact make Europe a very hot place. What kind of circulation change could lock Europe into deadly summer heat waves like that of last summer? That's the sort of thing we need to think about.

The message regarding the lesson of the THC should NOT be "global warming will cause an ice age." The message should be one about year to year or decadal variability, and the way alternation of cold years/decades/centuries with very hot ones will exacerbate the problem of adaptation. Imagine a decade of torrid heat, thirty years of pretty good climate, fifty years of early frosts, a century of drought, twenty years of flood -- that's the kind of thing we need to worry about, not the simple "icebergs in the Thames" scenario.

I think it would be very premature to conclude that the angry beast is a creature of cold climates, just because our very feeble present understanding of Younger Dryas and D-O events suggests it. I'm not even sure that I agree with Richard Alley regarding the claim that Vellinga and Wood show that models have an adequate response to THC shutdown. We still have to worry about the southern hemisphere response, and those New Zealand glaciers are still a thorn in the side.
> of the whole theory. There is ample evidence from past climates that
> the real system may be more sensitive to small changes in forcing
> than our current models predict. The southern hemisphere cooling
> during the LGM, and the continuing puzzle of Cretaceous and Eocene
> warm climates are two particular examples that come to mind.
>
> I don’t think it is even fair to say we understand THC shutdown and the
> conditions for triggering it. Some highly simplified models can be made
> to show a greater sensitivity in cold climates (cf the work cited by
> Mark Cane)
> and while these say something about how the physics could play out,
> 3D ocean models have many more ways to re-arrange the ocean circulation
> than simple models do. For that matter, even the sign of THC response
> to
> freshwater dumping is in dispute. It turns out to depend on the supply
> of "mixing energy" and the vertical ocean mixing. J. Nilsson of
> Stockholm,
> and R. Huang of Woods Hole have excellent work showing you can actually
> change the sign of response depending on what vertical mixing model
> you use.
>
> Finally, there's more to life than the THC. Just because the THC is the
> most
> favored theory and the most well worked out for D-O events and YD, that
> doesn't
> mean its the only surprise lurking in the system. My own work shows
> that
> a change in the tropical transient eddy activity can have profound
> warming or
> cooling effects through its influence on water vapor feedback. Nobody's
> found
> a real "switch" yet involving the tropical Pacific, but I'm not sure we
> would
> have identified the THC switch either, if we didn't have an example from
> Nature (herself, not the magazine) in front of us. It's the things we
> DON'T YET
> HAVE EXAMPLES OF that we need to worry about most.
>
> I'm on sabbatical in Paris just now, and will be away for the next two
> weeks
> for winter break travels. Hence only intermittently in contact.
> Nonetheless,
> I'll try to check in on the evolution of this discussion from time to
> time. A
> good Science Times article on the true perils of abrupt change and the
> angry beast would be very salutary.
---Ray Pierrehumbert
>
>
>

</blockquote></x-html>

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Asher Minns
Communication Manager
Tyndall Centre for Climate Change Research
Tel: redacted