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Mixed messages on climate 'vulnerability'

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One of the most striking new voices on climate change that's emerged since [the UN summit in Copenhagen](#) two years ago is the [Climate Vulnerable Forum](#).

The grouping includes small island states vulnerable to extreme weather events and sea level rise, those with immense spans of low-lying coastline such as Vietnam and Bangladesh, and dry nations of East Africa.

It's currently holding [a meeting in Bangladesh](#), with UN Secretary-General Ban Ki-moon as the keynote speaker.

These countries feel vulnerable as a result of several types of projected climate impact.

In increasing order of suddenness, there are what you might call "steady-state" impacts such as rising sea levels; increased separation of weather into more concentrated wet periods and dry periods; and a greater occurrence of extreme weather events such as hurricanes, floods, heatwaves and droughts.



There are concerns that climate change may exacerbate flooding in cities such as Bangkok

But what can science really tell us about these extremes?

While the vulnerable meet in Dhaka, the [Intergovernmental Panel on Climate Change \(IPCC\)](#) will be sitting down in Kampala to answer the question.

For almost a week, government delegates will pore over the summary of the IPCC's latest report on extreme weather, with the lead scientific authors there as well. They're scheduled to emerge on Friday with an agreed document.



Enhanced glacier melt could speed up sea level rise in the coming decades

The draft, which has found its way into my possession, contains a lot more unknowns than knowns.

On the one hand, it says it is "very likely" that the incidence of cold days and nights has gone down and the incidence of warm days and nights has risen globally.

And the human and financial toll of extreme weather events has risen.

Human hand fingered?

But when you get down to specifics, the academic consensus is far less certain.

There is "low confidence" that tropical cyclones have become more frequent, "limited-to-medium evidence available" to assess whether climatic factors have changed the frequency of floods, and "low confidence" on a global scale even on whether the frequency has risen or fallen.

In terms of attribution of trends to rising greenhouse gas concentrations, the uncertainties continue.

While it is "likely" that anthropogenic influences are behind the changes in cold days and warm days, there is only "medium confidence" that they are behind changes in extreme rainfall events, and "low confidence" in attributing any changes in tropical cyclone activity to greenhouse gas emissions or anything else humanity has done.

(These terms have [specific meanings](#) in IPCC-speak, with "very likely" meaning 90-100% and "likely" 66-100%, for example.)

And for the future, the draft gives even less succour to those seeking here a new mandate for urgent action on greenhouse gas emissions, declaring: "Uncertainty in the sign of projected changes in climate extremes over the coming two to three decades is relatively large because climate change signals are expected to be relatively small compared to natural climate variability".

It's also explicit in laying out that the rise in impacts we've seen from extreme weather events cannot be laid at the door of greenhouse gas emissions: "Increasing exposure of people and economic assets is the major cause of the long-term changes in economic disaster losses (high confidence).

"Long-term trends in normalized economic disaster losses cannot be reliably attributed to natural or anthropogenic climate change."

The succour only lasts for so long, however.

If the century progresses without restraints on greenhouse gas emissions, their impacts will come to dominate, it forecasts:

- "It is very likely that the length, frequency and/or intensity of warm spells, including heat waves, will continue to increase over most land areas..."
- "It is likely that the frequency of heavy precipitation or the proportion of total rainfall from heavy falls will increase in the 21st Century over many areas of the globe..."
- "Mean tropical cyclone maximum wind speed is likely to increase..."
- "There is medium confidence that droughts will intensify in the 21st Century in some seasons and areas..."
- "Low-probability high-impact changes associated with the crossing of poorly understood thresholds cannot be excluded, given the transient and complex nature of the climate system."

The draft report makes clear that lack of evidence or lack of confidence on a particular impact doesn't mean it won't occur; just that it's hard to tell.

Climate a distraction?



President Nasheed of the Maldives has warned that climate change may mean the end of his nation

It's impossible to read the draft without coming away with the impression that with or without anthropogenic climate change, extreme weather impacts are going to be felt more and more, simply

because there are more and more people on planet Earth - particularly in the swelling "megacities" of the developing world that overwhelmingly lie on the coast or on big rivers close to the coast.

The current Bangkok floods are a case in point.

[As UK academic Mike Hulme and others have argued](#), such events will occur whether exacerbated by climate change or not; and vulnerable societies need protection irrespective of climate change.

He's argued for a divorce, therefore, between the issues of adaptation, which he says could usefully be added into the overall process of overseas development assistance, and mitigation of emissions.

It's not proved to be a popular notion with developing world governments, which remain determined to tie the two together in the UN climate process.

Governments of vulnerable countries argue that as developed nations caused the climate change problem, they must compensate those that suffer its impacts with money above and beyond aid.

Developing countries like the fact that under the UN climate process, the rich are committed to funding adaptation for the poor.

Yet as [the brief prepared for the Dhaka meeting by the humanitarian charity Dara](#) shows, it isn't happening anywhere near as fast as it ought to be.

Only 8% of the "fast-start finance" pledged in Copenhagen, it says, has actually found its way to recipients.

It's possible - no, it's "very likely" - that the IPCC draft will be amended as the week progresses, and presumably the governments represented at the Climate Vulnerable Forum will be asking their delegates to inject a greater sense of urgency.

Although there are sobering messages, they're not for everyone.

The warning that "some local areas will become increasingly marginal as places to live or in which to maintain livelihoods" under increased climate impacts, and that "for locations such as atolls, in some cases it is possible that many residents will have to relocate" are, in their understated way, quite chilling.

But very few of the world's seven billion live on atolls; so will this be enough to provide a wake-up call to other countries?

It's also possible to argue that extreme weather isn't really the issue for the small island developing states, or for those with long flat coastlines.

The big issue (which the IPCC is much more confident about) is sea level rise - slow, progressive, predictable; capable of being dealt with in some cases (think the Netherlands) provided the will and money are there.

But capable of wiping a country off the map if those two factors are absent.

This is one of the reasons why the Climate Vulnerable Forum established itself.

They felt that although both developed and developing nations understood vulnerability in theory, they didn't get the message viscerally.

Whether they will by the end of the week when the IPCC releases the final version, I'm not so sure.