International Cryosphere Climate Initiative





Loss of Mountain Water Resources and Sea-level Rise: Why even 1.5°C is Too High for 3.5 Billion

WHAT: UNFCCC Press Conference (June 7 2023) and Side Event (June 8) WHEN: Press Conference Wednesday June 7, 12-12:30CEST Side Event Thursday June 8, 11:45-13:00 CEST WHERE: Press Conference: Nairobi Room 04, WCC, Bonn, Germany Side Event: Room Kaminzimmer, WCC, Bonn, Germany AND (both events) Livestreamed/Cached at unfccc.int/SB58/schedule

As countries gather in Bonn, Germany to finalize the first evaluation of Paris climate agreement pledges – known as the Global Stocktake – scientists have joined an unusual new grouping of countries urging "2°C is too high" based on the most recent science of the world's ice.

The 20-nation *Ambition on Melting Ice* (AMI) group, formed at COP27, includes not just polar and mountain regions (Iceland and Chile co-chair), but Liberia, Vanuatu and Senegal – all highly vulnerable to sea-level rise from melting glaciers and ice sheets. Together with leading scientists, these countries point to fresh research on global impacts from the world's ice sheets, glaciers, and permafrost. It indicates the original Paris Agreement goal of 2°C is unacceptable. Even the lower 1.5°C limit could be too high.

The AMI countries met with other interested governments and stakeholders in Bonn on Friday, hearing from a wide range of scientists alarmed that both observations and projections are pointing to devastating and, most of all, permanent impacts from global ice melt, even if temperature rise is kept well below 2°C. Growing evidence from Antarctica, for example, points to thresholds closer to 1.5°C, especially in more vulnerable West Antarctica.

"We are on the edge of a cliff," said Professor Chris Stokes, a glaciologist at Durham University who spoke at the event in Bonn. "The latest science over the last two to three years tells us the threshold beyond which ice loss from the Antarctic will become irreversible over centuries to millennia is much lower than we thought. If we keep on as we are now, we could trigger runaway feedbacks within the next few decades, with sea level rise from ice sheets accelerating much, much faster than we feared."

"Knowing what we know today, 2°C should not even be on the table," said negotiator Carlos Fuller from the Caribbean nation of Belize, who attended the "cryosphere" (snow and ice) workshop. "Indeed, even 1.5°C may be too high," he added, a message mirrored in a <u>Nature study published earlier last week</u>. Johan Rockström, Joyeeta Gupta and their fellow authors conclude: "The world has already passed the safe and just climate boundary, which is set at 1°C above pre-industrial temperature levels, as tens of millions of people are already harmed by the current level of climate change."

The IPCC says up to 3.5 billion people live in regions highly vulnerable to even moderate sealevel rise from ice sheets, or at least seasonally dependent on water from glaciers and snow. "This science is jaw-dropping," said Izabella Koziell, Deputy Director of the eight-nation Himalayan group ICIMOD based in Nepal, a prominent AMI member. "We cannot continue emissions at these levels and expect any mountain community to survive." ICIMOD also includes Pakistan, where more than ten percent of the country was put under water last summer after days of intense rainfall driven by global temperature rises. A separate spring flood in the country last year was caused by snow melting, glacier and snow-related outflow.

The scientists noted that real-time field observations of the Greenland ice sheet and mountain glacier loss are running above the upper range of the latest IPCC projections, known as AR6.

"The scale of the change we are seeing should be a wake up call for every policy maker at this conference" emphasized Dr. James Kirkham, an Antarctic scientist formerly with the British Antarctic Survey and now working with the AMI group. "I was in Antarctica three months ago and the ice sheet looks unrecognisable compared to even just a few years ago because kilometres of ice have been lost. The term 'glacial pace' has taken on a completely different meaning."

"The damage is happening here and now, this is not about future impacts!" concluded ICIMOD's Koziell. "Melting glaciers and erratic snowfall disrupting water supplies, widespread flooding juxtaposed with heat and drought, disruption of the monsoon – it's the reality of 2 billion people in the Hindu Kush Himalayan region today. We simply must cut emissions now, even while we adapt for tomorrow."

Press Conference Speakers: Izabella Koziell, Deputy Director, ICIMOD Dr. James Kirkham, Antarctic Scientist, AMI

Side Event Speakers: Negotiators from Chile, Iceland, Belize, Sweden, Bhutan, as well as ICIMOD and ICCI; see attached full program.

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