Key UN climate science talks open amid floods, fires

July 26 2021, by Marlowe Hood

Experts say the IPCC climate science report is "going to be a wake-up call"

Nearly 200 nations start online negotiations Monday to validate a UN science report that will anchor autumn summits charged with preventing climate catastrophe on a planetary scale.

Record-smashing heatwaves, floods and drought across three continents in recent weeks, all amplified by global warming, make the Intergovernmental Panel on Climate Change (IPCC) assessment more than timely.

"It's going to be a wake-up call, there's no doubt about that," said Richard Black, founder and senior associate of the London-based Energy and Climate Intelligence Unit.

The report, he noted, comes only weeks ahead of a UN General Assembly, a G20 summit, and the 197-nation COP26 climate summit in Glasgow.

The world is a different place since the IPCC's last comprehensive assessment in 2014 of global heating, past and future.

Lingering doubts that warming was gathering pace or almost entirely human in origin, along with the falsely reassuring notion that climate impacts are tomorrow's problem, have since evaporated in the haze of deadly heatwaves and fires.

Another milestone since the last IPCC tome: the Paris Agreement has been adopted, with a collective promise to cap the planet's rising surface temperature at "well below" two degrees Celsius (36 degrees Fahrenheit) above late-19th century levels.

Carbon pollution from burning fossil fuels, methane leaks and agriculture has driven up the thermometer 1.1 degrees Celsius so far, and emissions are rising sharply again after a brief, Covid-imposed interlude, according to the International Energy Agency (IEA).

The 2015 treaty also features an aspirational limit on warming of 1.5 degrees Celsius, with many parties no doubt assuming this goal could be

safely ignored.

But an IPCC special report in 2018 showed how much more devastating an extra 2 degrees Celsius would be, for humanity and the planet.

Scientists have said greenhouse gas emissions must decline 50 percent by 2030, and be phased out entirely by 2050 to stay within range of 1.5C.

Low-balling the danger

"1.5 Celsius became the de facto target"—and proof of the IPCC's influence in shaping global policy, IPCC lead author and Maynooth University professor Peter Thorne told AFP.

Scientists have calculated that greenhouse gas emissions must decline 50 percent by 2030, and be phased out entirely by 2050 to stay within range of 1.5 degrees Celsius.

A third sea change over the last seven years is in the science itself.

"Today we have better climate projection models, and longer observations with a much clearer signal of climate change," climatologist Robert Vautard, also an IPCC lead author and director of France's Pierre-Simon Laplace Institute, told AFP.

Arguably the biggest breakthrough is so-called attribution studies, which for the first time allow scientists to rapidly quantify the extent to which climate change has boosted an extreme weather event's intensity or likelihood.

For example, within days of the deadly "heat dome" that scorched Canada and the western US last month, the World Weather Attribution consortium calculated that the heatwave would have been virtually impossible without manmade warming.

But after-the-fact analysis is not the same as foresight, and the IPCC—set up in 1988 to inform UN climate negotiations—has been criticised by some for low-balling the danger, a pattern that Harvard science historian Naomi Oreskes has called "erring on the side of least drama".

IPPC chairman Hoesung Lee (R) and co-chairs attend a press conference on a special IPCC report on climate change and land on August 8, 2019 in Geneva.

'Transformational change'

From Monday, representatives from 195 nations, with lead scientists at their elbow, will vet a 20 to 30-page "summary for policymakers" line by line, word by word.

The virtual meeting for this first instalment—covering physical science—of the three-part report will take two weeks rather than the usual one, with the document's release slated for August 9.

Part two of the report, to be published in February 2022, covers impacts.

A leaked draft obtained by AFP warns that climate change will fundamentally reshape life on Earth in the coming decades even if planet-warming carbon pollution is tamed, and calls for "transformational change" lest future generations face far worse.

Part three, to be unveiled the following month, examines solutions for reducing emissions.

Based almost entirely on published research, the report under review this week will likely forecast—even under optimistic scenarios—a temporary "overshoot" of the 1.5 degrees Celsius target.

There will also be a new focus on so-called "low-probability, high-risk" events, such as the irreversible melting of ice sheets that could lift sea levels by metres, and the decay of permafrost laded with greenhouse gases.

"Feedbacks which amplify change are stronger than we thought and we may be approaching some tipping point," said Tim Lenton, Director of the University of Exeter's Global Systems Institute.

Citation: Key UN climate science talks open amid floods, fires (2021, July 26) retrieved 4 May 2024 from https://phys.org/news/2021-07-key-climate-science.html