

Global warming must not exceed 1.5C, landmark UN report warns

The Guardian · 8 ott. 2018 · Jonathan Watts Global environment editor

In a stark new warning, the world's leading climate scientists have said that global warming must be kept to a maximum of 1.5C to lessen the risks of drought, floods, extreme heat and poverty for hundreds of millions of people.

The authors of the landmark report by the UN Intergovernmental Panel on Climate Change released today say urgent and unprecedented changes are needed to reach this target, which is affordable and feasible although it lies at the most ambitious end of the Paris agreement's pledge to keep temperature rises between 1.5C and 2C.

The half-degree difference could also prevent corals from being completely eradicated and ease pressure on the Arctic, according to the 1.5C study, which was launched in Incheon, South Korea, after approval at a final plenary of all 195 countries that saw delegates hugging one another, with some in tears.

"It's a line in the sand and what it says to our species is that this is the moment and we must act now," said Debra Roberts, a co-chair of the working group on impacts. "This is the largest clarion bell from the science community and I hope it mobilises people and dents the mood of complacency."

Huge obstacles remain. Policy makers commissioned the report at the Paris climate talks in 2016, but since then the gap between science and politics has widened. Donald Trump has promised to withdraw the US – the world's biggest source of historical emissions – from the accord.

The world is currently 1C warmer than pre-industrial levels. Following devastating hurricanes in the US, record droughts in Cape Town, and forest fires in the Arctic, the IPCC makes clear that climate change is already here and warns that every fraction of additional warming will worsen the impact.

Scientists who reviewed the 6,000 works referenced in the report said the change caused by just half a degree came as a revelation. "We can see there is a difference and it's substantial," Roberts said.

At 1.5C, the proportion of the global population exposed to water stress could be 50% lower than at 2C, it notes. Food scarcity would be less of a problem and hundreds of millions fewer people, particularly in poor countries, would be at risk of climate-related poverty. At 2C, extremely hot days, such as those experienced in the northern hemisphere this summer, would become more severe and common, increasing heat-related deaths and sparking more forest fires.

The greatest difference, though, is to nature. Insects, which are vital for pollination of crops, and plants are almost twice as likely to lose half their habitat at 2C than at 1.5C. Corals would be 99% lost at the higher of these two temperatures, but more than 10% have a chance of surviving if the lower target is reached.

The IPCC maps out several pathways to achieve 1.5C, with different combinations of land use and technological change. Reforestation is essential to all of them, as are shifts to electric transport systems and greater adoption of carbon capture technology. “We have presented governments with pretty hard choices. We have pointed out the enormous benefits of keeping to 1.5C, and also the unprecedented shift in energy systems and transport that would be needed to achieve that,” said Jim Skea, co-chair of the working group on mitigation. “We show it can be done within laws of physics and chemistry. Then the final tick box is political will.”

He said the main finding of his group was the need for urgency. In the run-up to the final week of negotiations, there were fears the text would be watered down by the US, Saudi Arabia and other oil-rich countries that are reluctant to consider more ambitious cuts. The authors insisted nothing of substance was cut from a text, although it is inevitably a lowest common denominator.

Bob Ward, of the Grantham Research Institute on Climate Change at the London School of Economics, said the final document was “incredibly conservative” because it did not mention the likely rise in climate-driven refugees or the danger of tipping points that could push the world on to an irreversible path of extreme warming.

The report will be presented to governments at the UN climate conference in Poland at the end of this year. Even pro-Paris nations are involved in fossil fuel extraction that runs against the spirit of their commitments. The authors refused to accept defeat, however, and believe the increasingly visible damage caused by climate change will shift opinion their way.

“I hope this can change the world,” said Jiang Kejun, of China’s semi-governmental Energy Research Institute, who is one of the authors. “Two years ago, even I didn’t believe 1.5C was possible but when I look at the options I have confidence it can be done. I want to use this report to do something big in China.”

James Hansen, a former Nasa scientist who helped raised the alarm about climate change and is now supporting a related lawsuit by his granddaughter and other young people, said both 1.5C and 2C would take humanity into uncharted and dangerous territory because they were both well above the Holocene-era range in which human civilisation has developed.

But he said there was a huge difference: “1.5C gives young people and the next generation a fighting chance of getting back to the Holocene or close to it. That is probably necessary if we want to keep shorelines where they are and preserve our coastal cities.”