



Supporting facts and figures

'We are not on track to meet climate change targets and rein in temperature increases,' said WMO Secretary-General Petteri Taalas. 'Greenhouse gas concentrations are once again at record levels and if the current trend continues we may see temperature increases 3-5C by the end of the century,' he said. UN Secretary General Antonio Guterres adds: 'Climate change is a global issue, we are all failing'. The WMO report says that for the most recent decade, 2009-2018, the average temperature increase was 0.93C above the pre-industrial baseline which is defined as being between 1850-1900. For the past five years, the average was 1.04C.

Furthermore, the UN IPCC's dramatic October 2018 report on keeping global temperatures under 1.5C, says the world is now completely off track, heading instead towards 3C. ^{vi} Keeping to the preferred target of 1.5C above pre-industrial levels will mean 'rapid, far-reaching and unprecedented changes in all aspects of society'. It will be hugely expensive - but the window of opportunity remains open. There are some key messages that come through loud and clear.

'The first is that limiting warming to 1.5C brings a lot of benefits compared with limiting it to two degrees. It really reduces the impacts of climate change in very important ways,' said Prof Jim Skea, IPCC co-chair. 'The second is the unprecedented nature of the changes that are required if we are to limit warming to 1.5C - changes to energy systems, changes to the way we manage land, changes to the way we move around with transportation.'

We used to think if we could keep warming below two degrees this century, then the changes we would experience would be manageable. Not any more. **This new study says that going past 1.5C is dicing with the planet's liveability. And the 1.5C temperature "guard rail" could be exceeded in just 12 years, in 2030.** We can stay below it - but it will require urgent, large-scale changes from governments and individuals.

The IPCC report says there must be rapid and significant changes in four big global systems:
energy • land use • cities • industry

Five steps to 1.5C

1. Global emissions of CO2 need to decline by 45% from 2010 levels by 2030
2. Renewables are estimated to provide up to 85% of global electricity by 2050
3. Coal is expected to reduce to close to zero
4. Up to seven million sq km of land will be needed for energy crops (a bit less than the size of Australia)
5. Global net zero emissions by 2050

'There are costs and benefits you have to weigh up,' said Dr Stephen Cornelius, a former UK IPCC negotiator now with WWF. He says making big emissions cuts in the short term will cost money but be cheaper than paying for carbon dioxide removal later this century. 'The report also talks about the benefits as there is higher economic growth at 1.5 degrees than there is at 2C and you don't have the higher risk of catastrophic impacts at 1.5 that you do at two.' The researchers say that if we fail to keep temperature rises below 1.5C, we are in for some significant and dangerous changes to our world.

Coral reefs would be essentially 100% wiped out at two degrees of warming. Global sea-level will rise about 10cm (4in) more if we let warming go to 2C. That may not sound like much but keeping to 1.5C means that 10 million fewer people would be exposed to the risks of flooding. There are also significant impacts on ocean temperatures and acidity, and the ability to grow crops such as rice, maize and wheat.



EXTINCTION REBELLION BRIGHTON

ORDINARY PEOPLE WHO WANT TO ENSURE A WORLD FIT FOR GENERATIONS TO COME



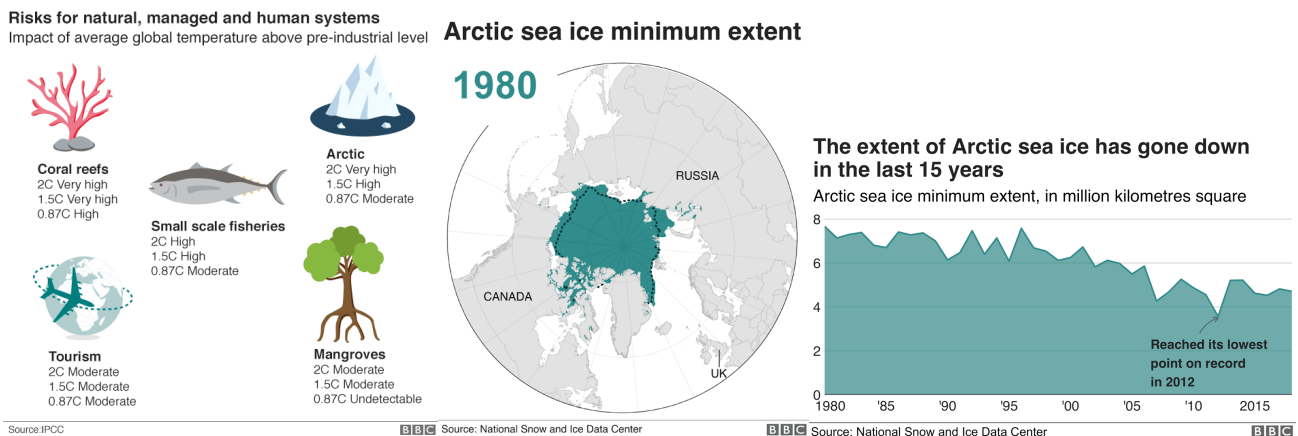
'We are already in the danger zone at one degree of warming,' said Kaisa Kosonen, from Greenpeace. 'Both poles are melting at an accelerated rate; ancient trees that have been there for hundreds of years are suddenly dying; and the summer we've just experienced - basically, the whole world was on fire.'

The countdown to the worst of global warming seems to have accelerated. Seriously damaging impacts are no longer on a distant horizon later this century but within a timeframe that appears uncomfortably close. By the same token, the report's "pathways" for keeping a lid on temperatures all mean that hard decisions cannot be delayed:

- a shift away from fossil fuels by mid-century
- coal phased out far sooner than previously suggested
- vast tracts of land given over to forests

Ultimately, politicians will face a difficult choice: persuade their voters that the revolutionary change outlined in the report is urgently needed or ignore it and say the scientists have got it wrong. The report says if the nations of the world don't act soon, they will have to rely even more on unproven technologies to take carbon out of the air - an expensive and uncertain road.

'They really need to start work immediately. The report is clear that if governments just fulfil the pledges they made in the Paris agreement for 2030, it is not good enough. It will make it very difficult to consider global warming of 1.5C,' said Prof Jim Skea.'If they read the report and decide to increase their ambitions and act more immediately, then 1.5C stays within reach - that's the nature of the choice they face.'



'This is the moment where we need to decide' said Kaisa Kosonen of Greenpeace. 'We want to move to clean energy, sustainable lifestyles. We want to protect our forests and species. This is the moment that we will remember; this is the year when the turning point happened.'^{vii}

ⁱ 'WMO Statement on The State of The Global Climate', *World Meteorological Organization*, 2018 <<https://public.wmo.int/en/our-mandate/climate/wmo-statement-state-of-global-climate>> [Accessed 24 January 2019].

ⁱⁱ 'Ipsos MORI Issues Index: 2018 In Review', 2019 <<https://www.ipsos.com/ipsos-mori/en-uk/ipsos-mori-issues-index-2018-review>> [Accessed 24 January 2019].

ⁱⁱⁱ 'Climate Change And Health', *Who.Int*, 2018 <<https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health>> [Accessed 24 January 2019].;

^{iv} Matt McGrath, 'Final Call To Halt "Climate Catastrophe"', *BBC News*, 2018 <<https://www.bbc.co.uk/news/science-environment-45775309>> [Accessed 24 January 2019].

^v *Declare A Climate Emergency*, 2019 <<https://climateemergency.uk/>> [Accessed 24 January 2019].

^{vi} 'Global Warming of 1.5 °C —', *Ipcc.Ch*, 2018 <<https://www.ipcc.ch/sr15/>> [Accessed 24 January 2019].

^{vii} McGrath, 'Final Call To Halt "Climate Catastrophe"', *BBC News*, 2018 [Accessed 24 January 2019].