

Climate change is likely to be worse than predicted





It is not an exaggeration to say that the next 10 years will define our future on this planet.

The IPCC has declared a '**red warning for humanity**' and warned that exceeding 1.5C warming will push us into "a highly uncertain world" - adding that "the current global commitments are not sufficient to prevent temperature rise above 2C, let alone 1.5C, and may reach 3C. A 2C increase would result in the average UK temperature during summer's hottest month increasing by about six degrees to 27C.

London could feel as hot as Barcelona by 2050, with Edinburgh's climate more like Paris, Leeds feeling like Melbourne and Cardiff like Montevideo. London could suffer from the type of extreme drought that hit Barcelona in 2008 - when it was forced to import drinking water from France at a cost of £20 million

Annual global temperature is likely to be at least 1°C warmer than preindustrial levels (defined as the 1850-1900 average) in each of the coming 5 years to 2025 and is very likely to be within the range 0.91 – 1.59°C.

The critical issue is whether, and how soon, we reach some of the major climate 'tipping points'. These include:

-  the melting of polar icecaps and glaciers. These act as reflectors, bouncing some of the sun's heat back out to space. When melted, sea ice will become dark ocean and absorb heat instead. Melting ice could be responsible for several metres increase in sea levels over the next century. Arctic sea ice extent averaged for December 2020 was the third lowest in the satellite record
-  the melting of permafrost. This will result in the release of huge amounts of methane (an even more dangerous greenhouse gas than carbon dioxide) - and accelerate planetary warming. Scientists say they have found evidence that frozen methane deposits in the Arctic Ocean have started to be released over a large area of the continental slope off the East Siberian coast.
-  the loss of forest cover. This occurs because of over-exploitation by humans and by natural change and fire. As temperatures increase, rain forest cover in Africa, Asia and South America will dry out and will become more prone to major fires.
-  Oceans become too acidic to absorb more CO₂. There are also signs that rising sea temperatures are affecting the meridional currents, such as the Gulf Stream, with consequent disruption to climate in much of the Northern Atlantic region.