Summary of the IPCC report, August 2021

The report makes clear that permanent climate changes have already taken place, leading to extreme weather events experienced throughout the world.[1] It is a compilation of scientific evidence, to inform policymakers in advance of COP26 (Conference of the Parties to the UN Climate Change Convention) in Glasgow in November.

The report's key findings are:

1. Emissions from industrialised society have caused approximately 1.0°C of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C.

2. Global warming is likely to reach 1.5°C between 2030 and 2052 if the current rate of increase continues.

3. Warming will persist for centuries to millennia and will continue to cause further long-term changes in the climate.

4. The emissions from the start of the industrial era to now will not on their own cause global warming of 1.5°C – it is what we do from now on that matters. In other words if we make drastic cuts starting right now there is a slim chance of keeping warming below 1.5°C.

5. If we do reach1.5°C above pre-industrial levels of warming, the risks for natural and human systems are greater than we face now, but lower than if we were to arrive at 2°C, an existential threat for eco-systems. In other words, it is worth fighting to achieve the Paris Agreement of emissions cuts to keep the temperature rise no higher than 1.5°C.

6. Some of the changes scientists have warned of for decades are already underway and will continue – extreme weather is here, polar ice is melting at both poles and sea levels are higher.

7. The risks each part of the world faces depend on the magnitude and rate of warming, geographic location, levels of development and vulnerability, and on the choices and implementation of adaptation and mitigation options.

8. This is the timescale

Surface warming:

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[1] The report's full title is: *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.*

Under a very low emissions scenario we could face a temperature rise of 1.5°C by 2040 and 1.6°C by 2060. Under a very high emissions scenario we could reach 1.5°C much sooner, and in fact it could be 1.9°C by 2040.

Sea levels:

With a very low emissions scenario there would be a rise of about 0.35m by 2050 and 0.5m by 2100, compared with 1900 levels.
But under a very high emissions scenario, there would be a rise of about 1m by 2100.

Where we are now
The changes that have already happened are pretty devastating. Over recent years, and most particularly last year and this, we have seen:

- extreme droughts
- extreme temperatures
- wildfires out of control
- flooding
- mudslides and other and collapses

Other impacts are:

- Coastal erosion
- Salination of fresh water supplies as rising seas push inland
- Increased acidification of oceans disrupting eco-systems and destroying coral reefs
- Loss of water supply in many regions, as glaciers melt, pouring water into the oceans at a rapid rate rather than steady melting sustaining streams and rivers.
- Top soil washed away in flooding
- Dried up river beds and aquifers.

The result for human beings is:

- Forced migration from climate damaged land
- Loss of subsistence agriculture and fishing
- Infrastructure damage – roads, bridges, railways, dams
- Existential danger from coast-located nuclear power stations
- Island nations face being inundated
- Increases in poverty, hunger and inequality