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THE LATEST IPCC REPORT

Intergovernmental Panel on Climate Change

- United Nations body for assessing the science related to climate change
- provides regular global assessments of the scientific basis of climate change, its impacts and risks, as well as options for adaptation and mitigation... based on published research, including different views on a subject
- informs UN climate negotiations, other policy, ambition and action
- policy relevant, not policy prescriptive

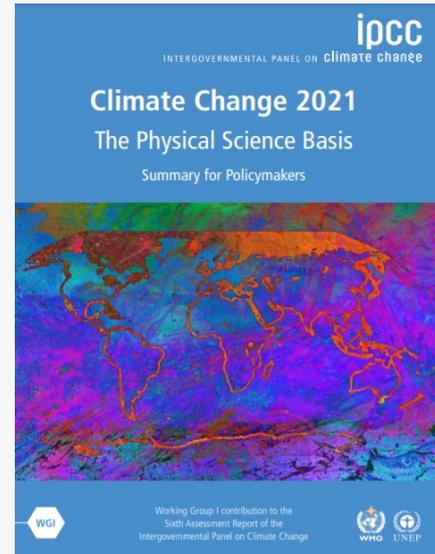


Climate Change 2021, The Physical Science Basis, in context

- part of the Sixth Assessment Report (AR6) of the IPCC
 - three Special Reports (2018-2019)*
 - Guidelines for national GHG inventories (2019)
 - *The Physical Science Basis (2021)*
 - two additional reports**, and a Synthesis Report (in 2022)
- 234+ authors, based on 14 000 published research articles, incorporates 78 007 comments

*incl *Climate Change and Land*

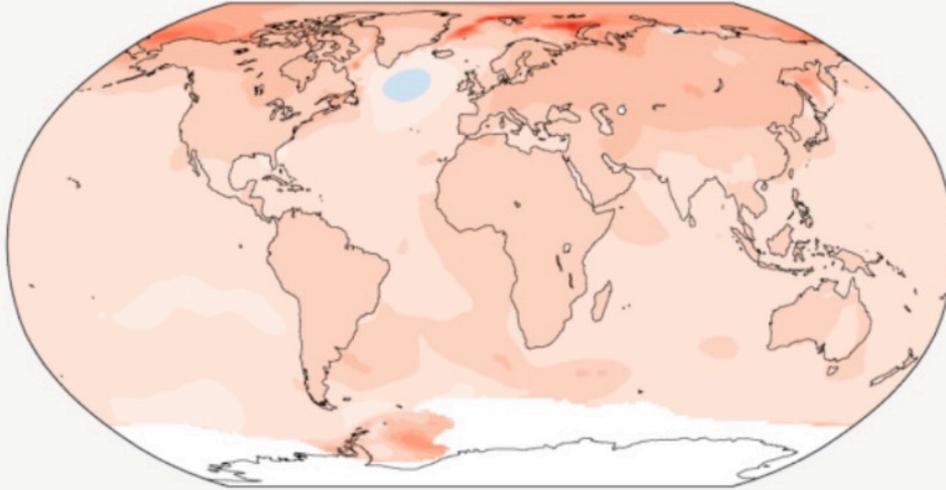
***Impacts, Adaptation and Vulnerability; Mitigation of Climate Change*



Key findings

- recent changes in the climate are widespread, rapid, and intensifying, and unprecedented in thousands of years
- it is indisputable that human activities are causing climate change, making extreme climate events more frequent and severe
- climate change is already affecting every region on Earth, in multiple ways. The changes we experience will increase with further warming
- unless there are immediate, rapid, and large-scale reductions in greenhouse gas emissions, limiting warming to 1.5°C will be beyond reach
- there's no going back from some changes in the climate system..., some changes could be slowed and others could be stopped by limiting warming
- deep uncertainty about “tipping points”

Climate change to date: Global warming of 1.1 °C, and...



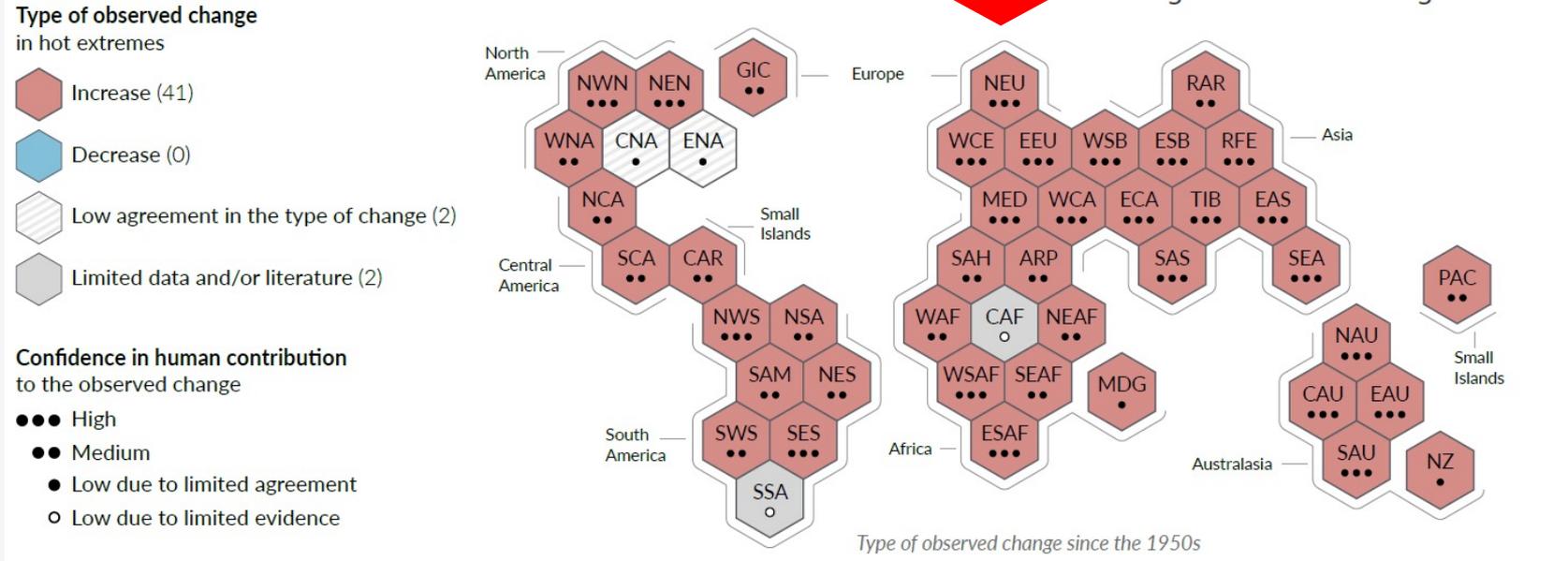
IPCC 2021: Observed warming corresponding to 1 degree C global mean rise

...

- sea level rise
- ocean acidification
- melting snow and ice
- changes in precipitation
- increasing extremes

...

Climate change is already contributing to observed changes in extremes



Carbon budget for 1.5°C

The near linear relationship between the cumulative CO₂ emissions and the global warming means that there is a given "carbon budget" for a given temperature goal.

- emissions until 2019: 2400 Gton CO₂
 - at the start of 2020 remained for 1.5°C (50%): 500 Gton
 - remained for 1.5°C (66%): 400 Gton
 - annual emissions, around 40 Gton

- **remaining carbon budget** for 1.5°C (66%): <340 Gton,
which corresponds to 8-9 years of emissions at the current level

Note: The budgets assume that also other climate emissions are reduced, such as methane and nitrous oxide

”Just ten years left” (to get going)

- for 1.5°C, the global CO₂ emissions need to
 - stop increasing and rapidly decrease
 - be cut by half by 2030
 - reach net zero by 2050...
 - ... be followed by negative emissions
- other climate emissions also need to be reduced...
 - ... and carbon sinks increased



UNEP 2019

”Very low” and ”Low” emission scenarios in the report

SSP1-1.9	Warming around 1.5°C in 2100, poss. overshoot before
SSP1-2.6	Warming less than 2.0°C

(SSP1 is a world characterised by sustainability)

This means...

- confirms and adds to the earlier scientific assessments of the IPCC: a robust state of knowledge and understanding of climate change and its causes, and how the future will unfold under different climate ambitions
- the global emissions are rapidly exhausting the remaining carbon budget(s)
 - increased climate ambition necessary for the Paris Agreement goals (global, regional, local; sectors and economy-wide; reduce emissions, increase sinks)
 - climate adaptation and risk management ever more important
- nextcoming IPCC-reports (2022)
 - *Impacts, Adaptation and Vulnerability*
 - *Mitigation of Climate Change*

Climate change and other sustainable development goals are interlinked

