

GLASGOW CLIMATE CHANGE

The Results Explained

Representing Glasgow's UKCP results for a range of global average temperature increases over the 21st century.

The UK Climate Projections (UKCP) is a tool that provides information about future climate for the UK. It delivers cutting-edge climate science with the most up-to-date assessment of how the climate may change in the future.

Main advances in UKCP:



State-of-the-art global climate models



Innovative regional climate models



Up-to-date observational data



Significant user engagement



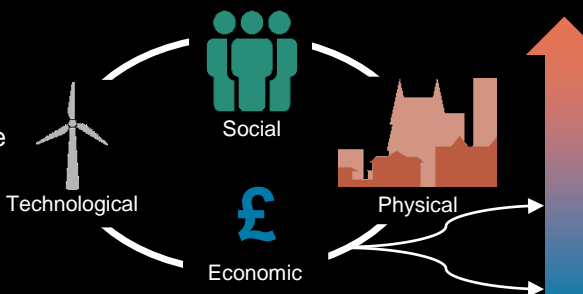
Locally relevant climate information to enhance resilience

Why are there a range of UKCP results?

Our future climate is determined by ongoing and future greenhouse gas emissions. To capture this uncertainty about the future, the results for Glasgow are from the UKCP probabilistic projections, which provide the most comprehensive assessment of uncertainty in UKCP.

What are RCPs?

Representative Concentration Pathways (RCPs) are used to describe possible futures based on assumptions about human activity and greenhouse gas emissions.



RCP8.5

Global greenhouse gas emissions grow unmitigated.

RCP4.5 and RCP6.0

Are two medium emission pathways, with varying levels of mitigation.

RCP2.6

Global emissions are strongly reduced.

How do these relate to changes in global temperature?

*RCP	**Change in Global Average Temperature (°C) by 2081-2100
RCP8.5	4.6 (3.5 – 5.8)
RCP6.0	3.3 (2.5 – 4.3)
RCP4.5	2.9 (2.1 – 3.7)
RCP2.6	1.9 (1.2 – 2.6)

**Global warming estimates relative to pre-industrial period are from UKCP probabilistic outputs. Bold number represents the median estimate. The range presented is the 10th and 90th percentiles.

*The RCP pathways represent a broad range of climate outcomes and are neither forecasts nor policy recommendations, however they offer approximate parallels for initial comparison.

We are already witnessing the impacts

of a global average temperature rise of 1°C compared to pre-industrial levels.

The Paris Agreement aims to curtail greenhouse gas emissions so that the future global average temperature increase is capped at below 2°C, ideally at the lower limit of 1.5°C. Recent research by the UN suggests that rapid reductions in emissions, beyond those currently pledged as part of the Paris agreement, may be required to limit warming to well below 2°C. The Committee on Climate Change (CCC) has advised that the UK should plan for a 2°C rise as a minimum, whilst preparing for a 4°C rise."



This factsheet is part of a set of prototype products, aimed at building a foundation of shared understanding and promoting robust use of the available UKCP climate change information.

The Climate Change series includes: (sample city shown)

1 The Science

2 The Results Explained

3 UKCP Results

Find out more about ...

UK Climate Projections (UKCP)

- <https://www.metoffice.gov.uk/research/approach/collaboration/ukcp>

Factsheets headline findings for the wider UK

- <https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-infographic-headline-findings-land.pdf>
- <https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/factsheets>

How to download and use the UKCP data using the Climate Projections User Interface (UI)

- <https://ukclimateprojections-ui.metoffice.gov.uk/ui/home>
- <https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-guidance---how-to-use-the-land-projections.pdf>

The historical data used to produce the climate stripes

- <https://www.metoffice.gov.uk/research/climate/maps-and-data/data/haduk-grid/haduk-grid>

Representative Concentration Pathways (RCPs)

- <https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-guidance---representative-concentration-pathways.pdf>
- https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter12_FINAL.pdf

This work was supported by the UK Research & Innovation (UKRI) Strategic Priorities Fund UK Climate Resilience programme. The programme is co-delivered by Met Office and NERC on behalf UKRI partners AHRC, EPSRC, ESRC.

