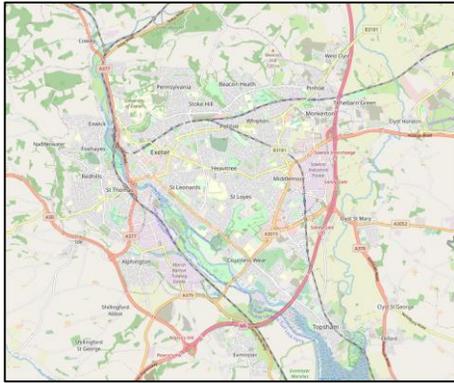


# EXETER CLIMATE CHANGE

## The Science

### What affects Exeter's weather?



© OpenStreetMap contributors



**Temperature** – The maritime influence of the coast results in Exeter experiencing low annual temperature variation. Although rare, extreme summertime high temperatures can occur with south easterly winds from mainland Europe. Winters are typically mild.



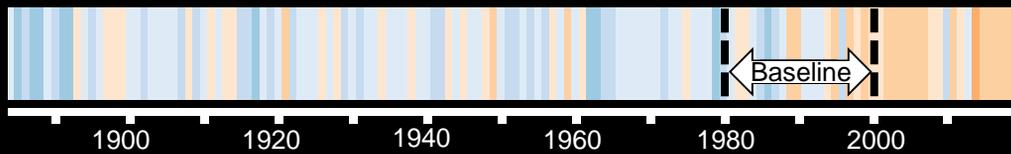
**Rainfall** - As Exeter is in the lee of the Dartmoor uplands, the annual rainfall is typically lower than the average for the south-west. Rainfall in the winter and autumn is associated with Atlantic depressions. Summer rainfall is typically associated with convective heating and results in showers and possible thunderstorms. The south west is prone to rare, but very heavy rainfall events.



**Wind** – Exeter experiences stronger winds than the English average. Strong winds may be associated with the passage of deep depressions close to, or across the British Isles, occurring most frequently in the Winter months. Prevailing winds in Exeter are from the south-west.

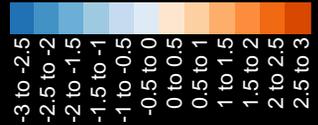
### How has Exeter's climate changed?

The Exeter\* climate stripes show how annual average temperature has changed since 1884, compared with a baseline average between 1981 and 2000.



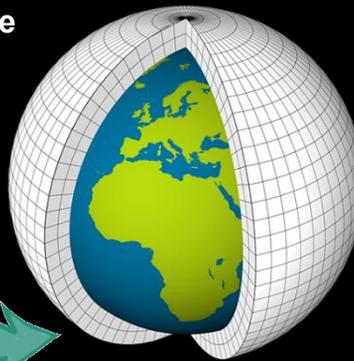
\*Based on HadUK-Grid data for Devon

Scale: Temperature difference in °C



### Calculating Exeter's future climate

The Met Office uses computer models to simulate decades into the future. These models tell us that increasing greenhouse gas concentrations in the atmosphere leads to an increase in global temperature – the basis for climate change.

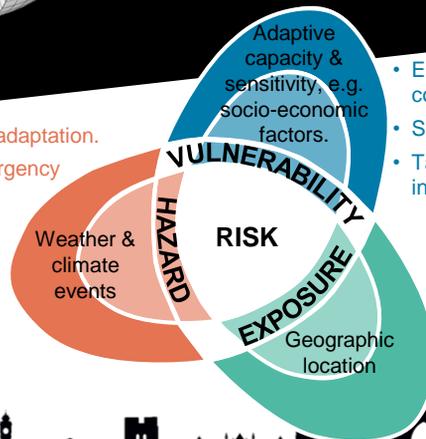


However, the climate is complex and small changes in global temperature can cause large changes to the weather patterns that we experience at a local level. To provide the best available information, multiple variations of the Met Office's latest global climate model are used to simulate the plausible future climate outcomes - this is known as a climate model ensemble.

### Turning data into a decision:

The impact of a changing climate depends on three key factors - the hazard itself, exposure levels and vulnerability. Actions to reduce these could, for example, include...

- Mitigation & adaptation.
- Climate emergency declaration.
- Global emissions reductions.
- UK carbon neutral 2050.



- Empowered & engaged communities.
- Supporting livelihoods.
- Tackling health inequalities.

- Long-term & integrated planning.
- Nature-based solutions.
- Flood defence schemes.

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](https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter12_FINAL.pdf)

**OpenStreetMap**

- City maps provided by OpenStreetMap under Open Database Licence, see [www.openstreetmap.org/copyright](http://www.openstreetmap.org/copyright) or [www.opendatacommons.org/licenses/odbl](http://www.opendatacommons.org/licenses/odbl) for further details.

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.

