

# UKCP18

# National Climate Projections

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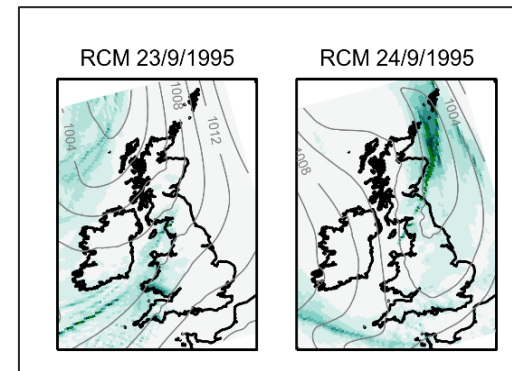
# Philosophy of UKCP18



The best new science



Developed with users



From climate trends to  
future weather

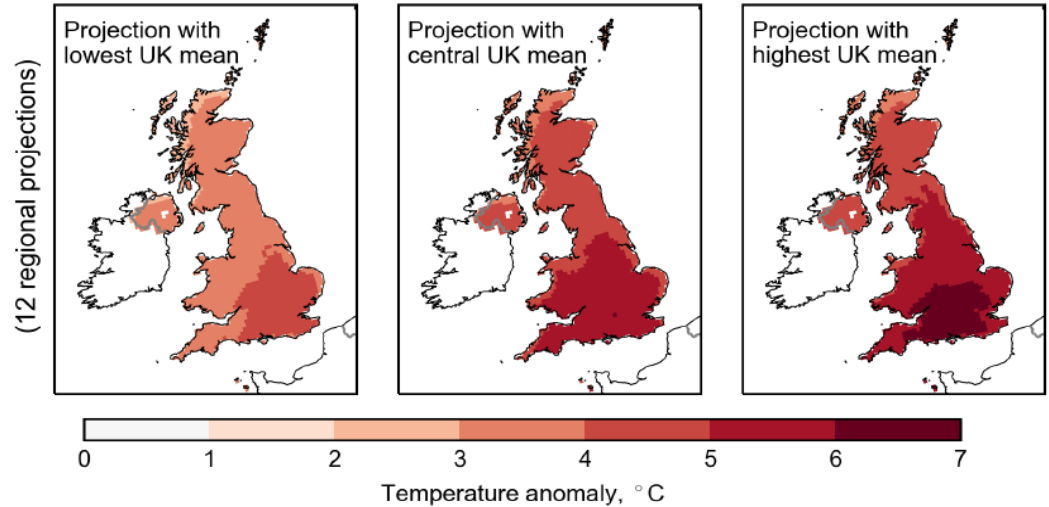
Headline result:

“a greater chance of warmer, wetter winters and hotter, drier summers”



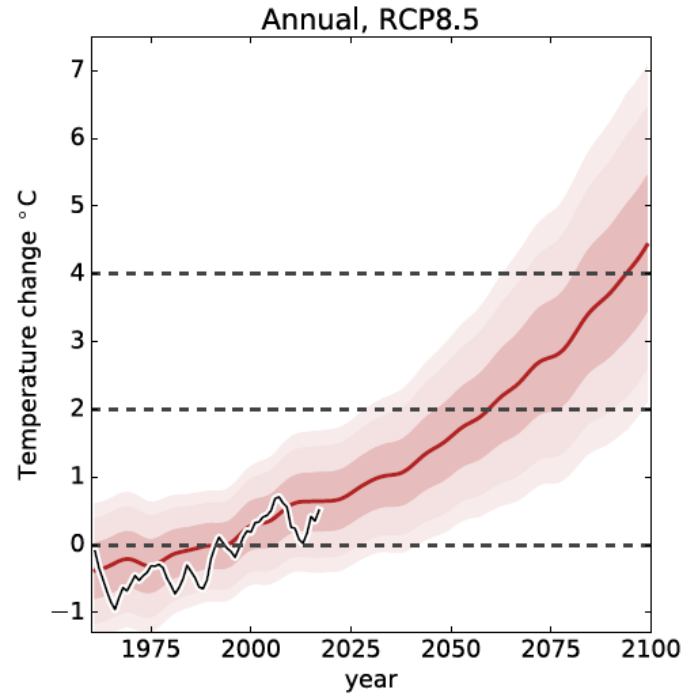
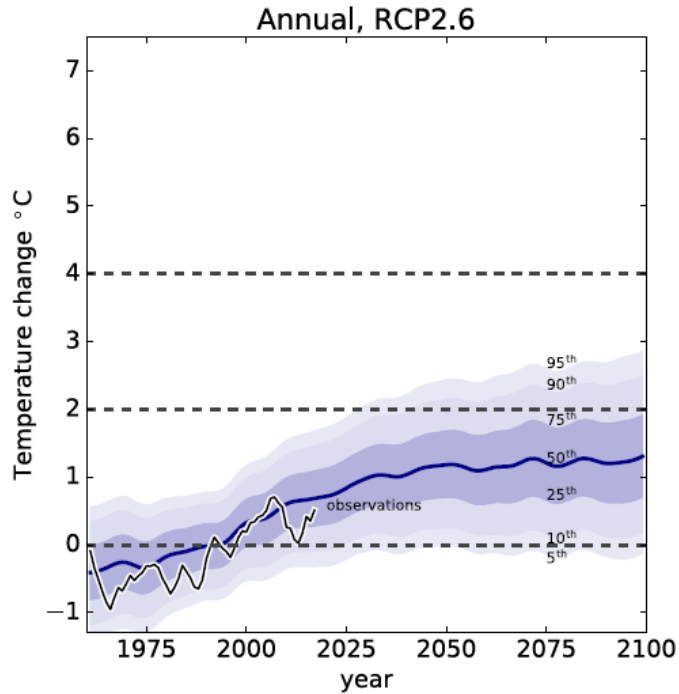
# Future UK temperatures

- All areas of the UK are projected to experience warming
- Warming is greater in the summer than the winter
- Future rise depends on the amount of greenhouse gases the world emits
- The lowest scenario is compatible with aims to limit global warming since pre-industrial levels to below 2°C
- The highest scenario will likely require significant further adaptation



2061-2080, RCP8.5

# Future UK temperatures



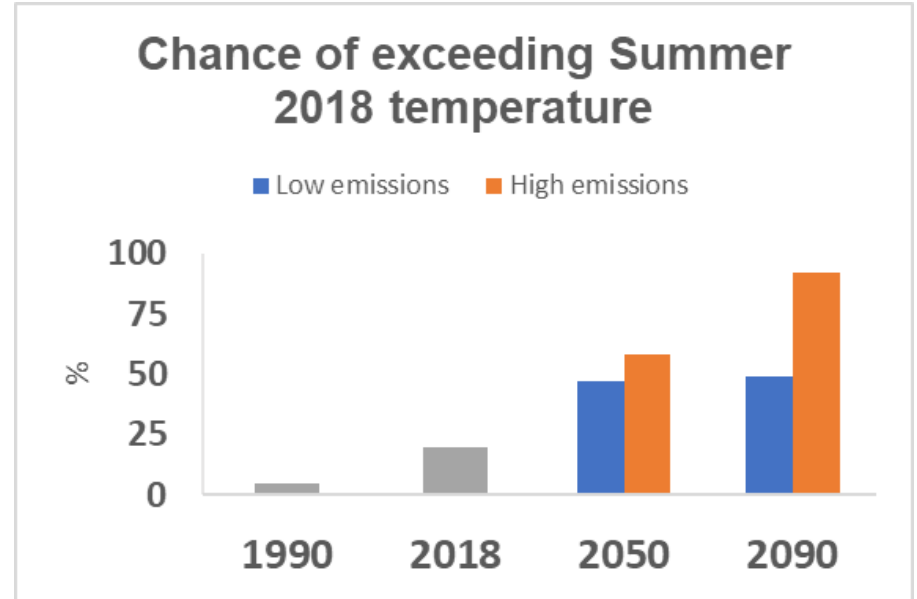
In RCP2.6 fastest rate of change in near future

In RCP8.5 fastest rate of change at end of century

Similarity between scenarios over next couple of decades

# Summer 2018 heatwave

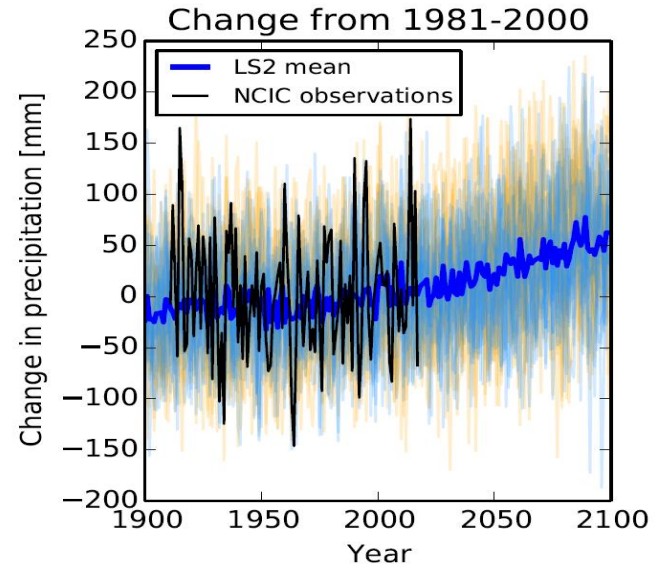
- Chance of such hot summers low in the baseline period (<10%)
- By mid-century the chance of hot summers will be of the order of 50%
- Beyond 2050 the chance of a warmer summer more strongly depends on emission scenario



# Future UK precipitation

- Winter precipitation is expected to increase significantly
- Summer rainfall is expected to decrease significantly
  - But when it rains in summer there may be more intense storms

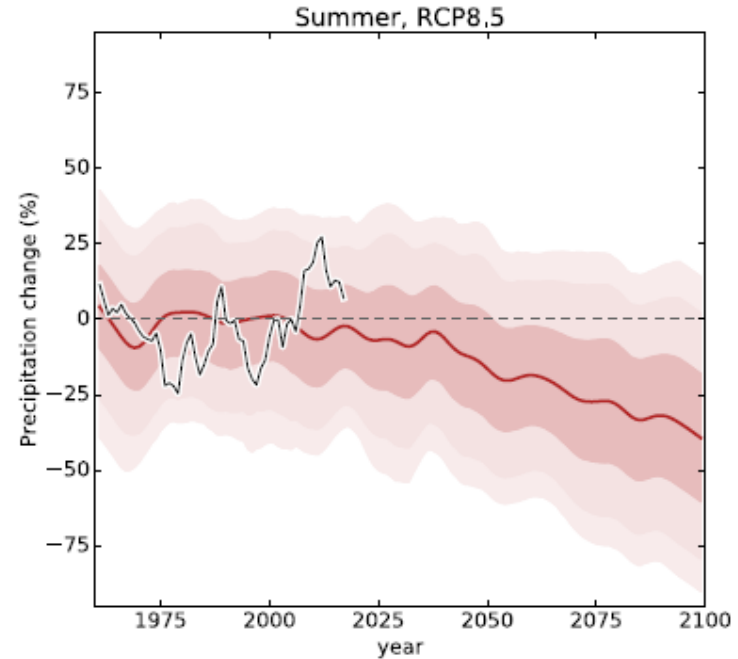
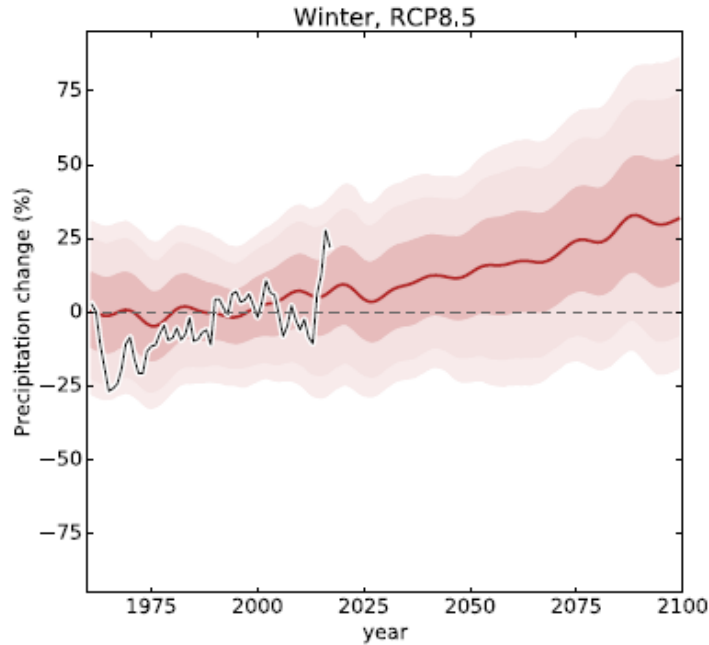
## England mean winter precipitation



We will still get some dry winters, but wet winters will become wetter

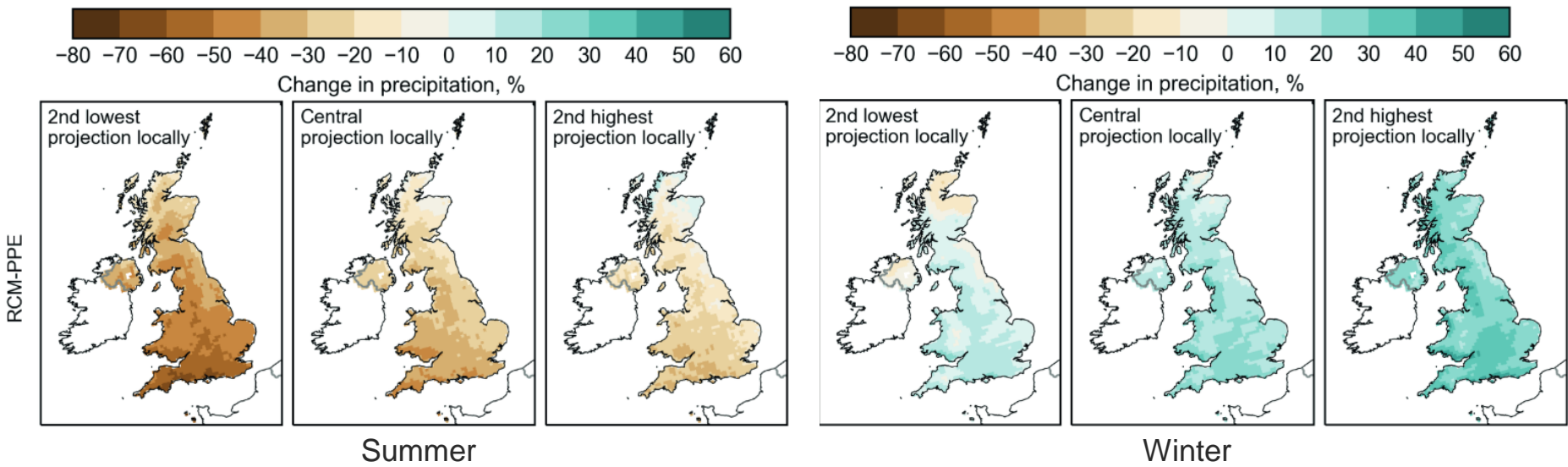


# Future UK precipitation





# Pattern of precipitation change



The spatial pattern of change to 2061-2080 shows detailed structure over the UK (RCP8.5). Compare SE England and N Scotland.

# UKCP18: sea-level rise

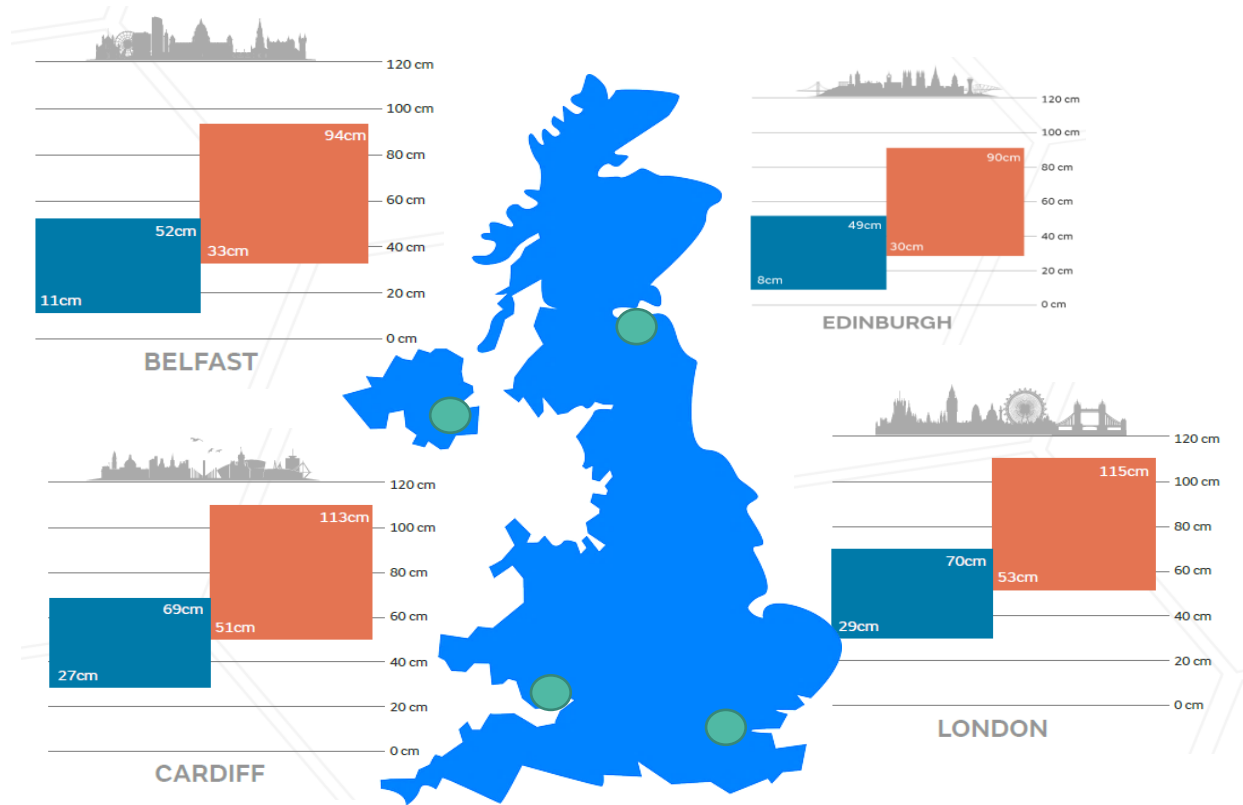
- Sea-level rise will occur for all emission scenarios and at all locations around the UK
- Changes in extreme water levels are mostly driven by changes in mean sea level
  - Best estimate is that surge component won't change, but can't rule out changes
- Sea level will continue to rise beyond year 2100. But the amount is very uncertain
- There may be changes in tidal characteristics and waves

# Sea-level rise

Increase will generally be greater in the south than in the north

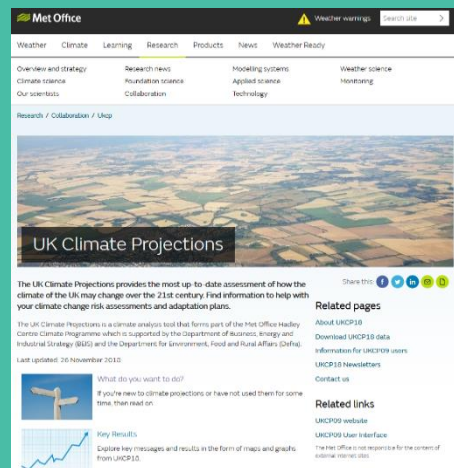
(by 2100 relative to 1981-2000)

■ Range in low emission scenario ■ Range in high emission scenario

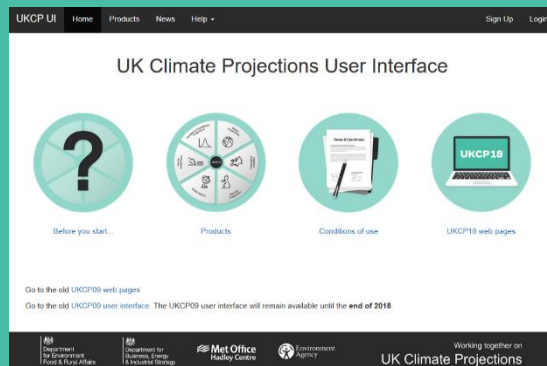


# Where do I find the new information?

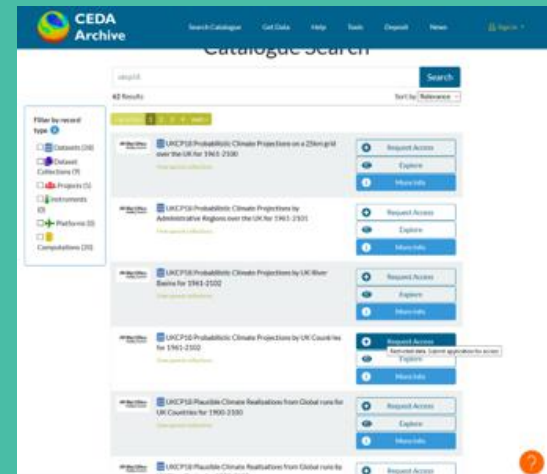
Access the knowledge and data from UKCP18 via 3 main entry points:



Website

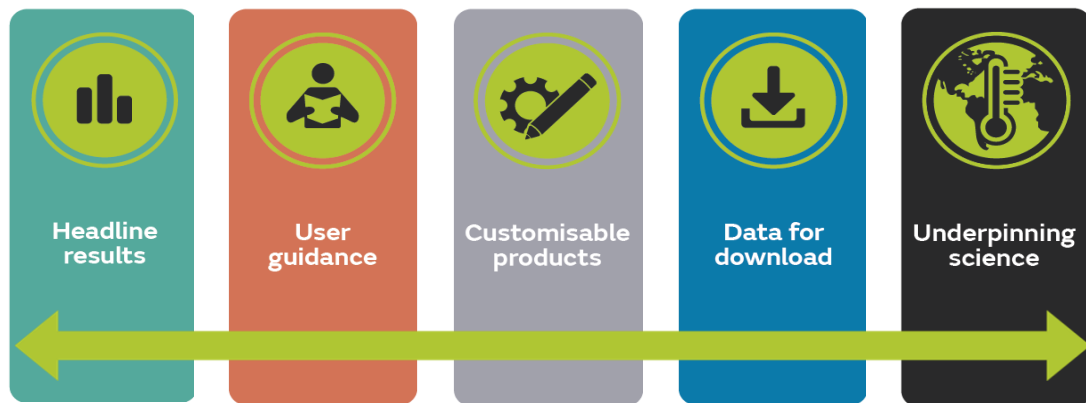


User Interface



CEDA Data catalogue

# Information resources and ongoing support



- 24/7 online support through Weatherdesk
- 2.2km dataset in 2019
- Additional functionality based on user feedback
- Additional supporting analysis

# UKCP18 National Climate Projections

<https://ukclimateprojections.metoffice.gov.uk>