

UKCP18

National Climate Projections

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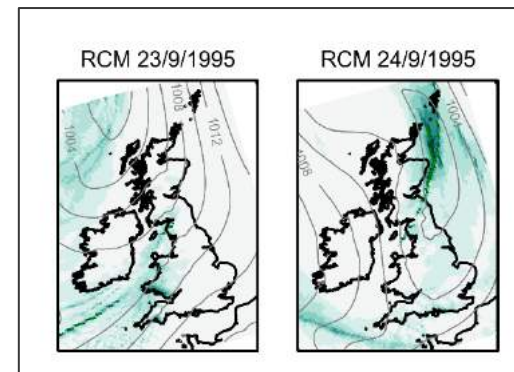
Philosophy of UKCP18



The best new science



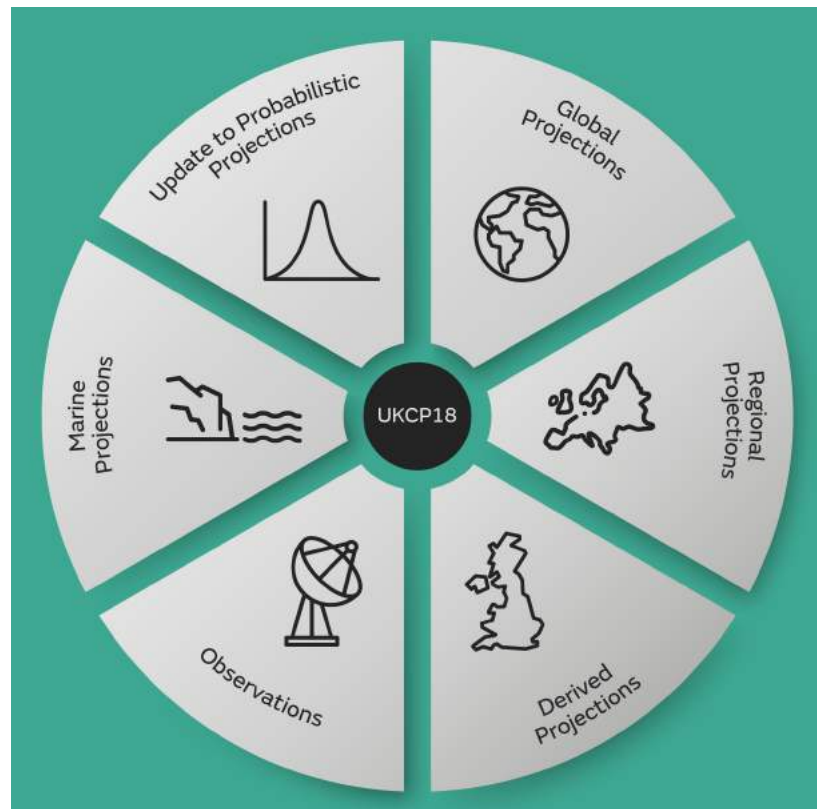
Developed with users



From climate trends to
future weather

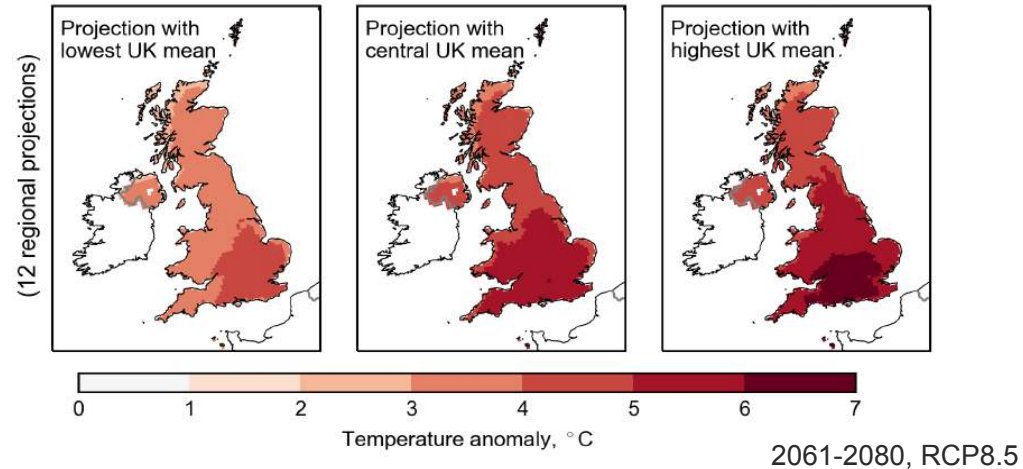
Headline result:

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

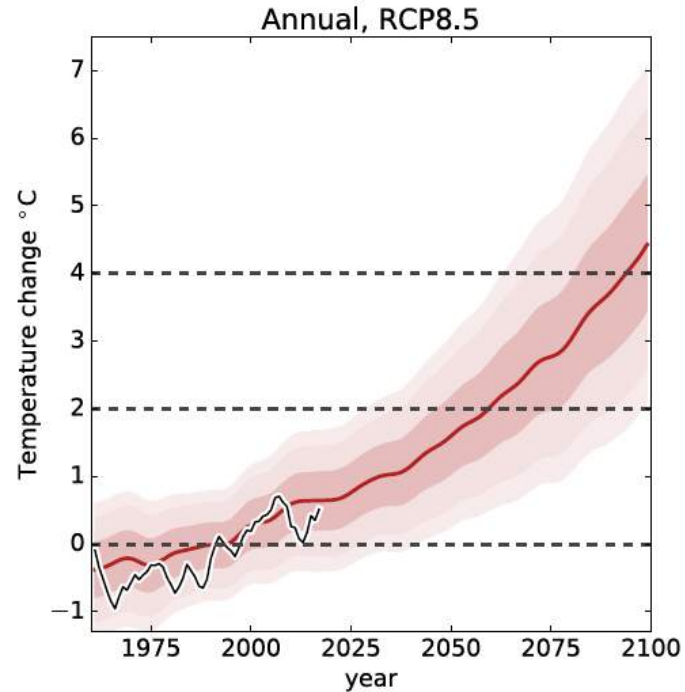
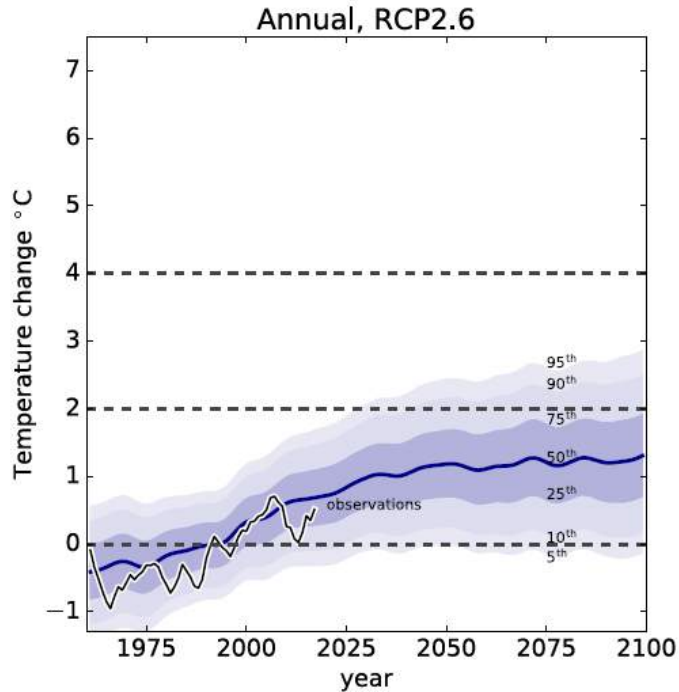


Future UK temperatures

- 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



Future UK temperatures



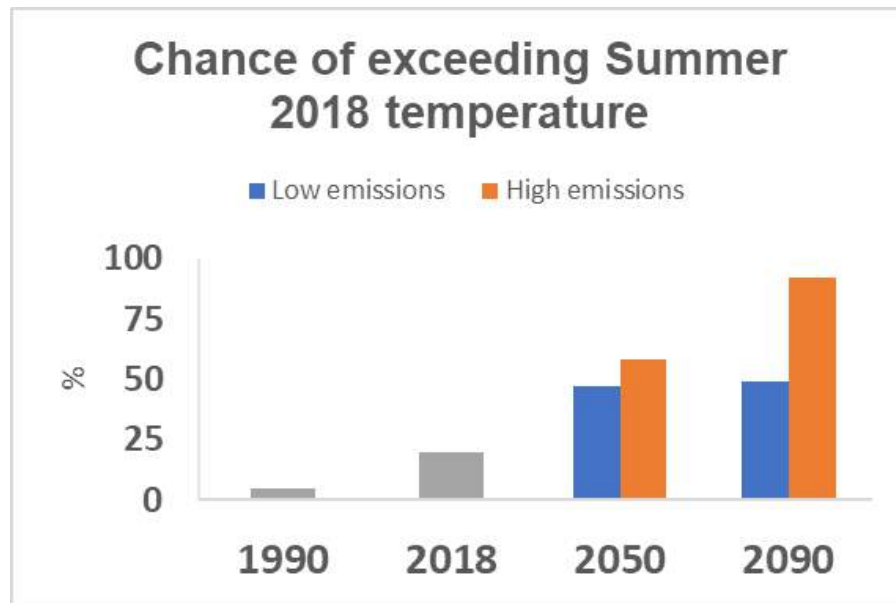
In RCP2.6 fastest rate of change in near future

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

Similarity between scenarios over next couple of decades

Summer 2018 heatwave

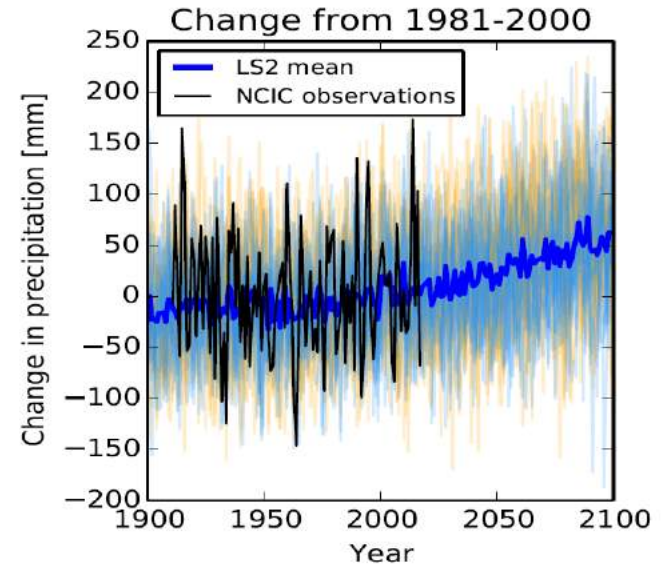
- Chance of such hot summers low in the baseline period (<10%)
- By mid-century the chance of hot summers will be of the order of 50%
- Beyond 2050 the chance of a warmer summer more strongly depends on emission scenario



Future UK precipitation

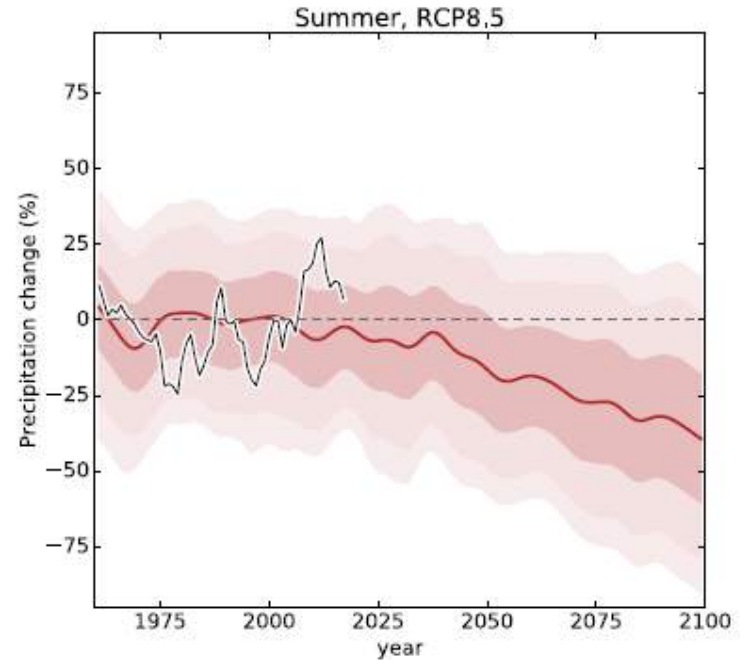
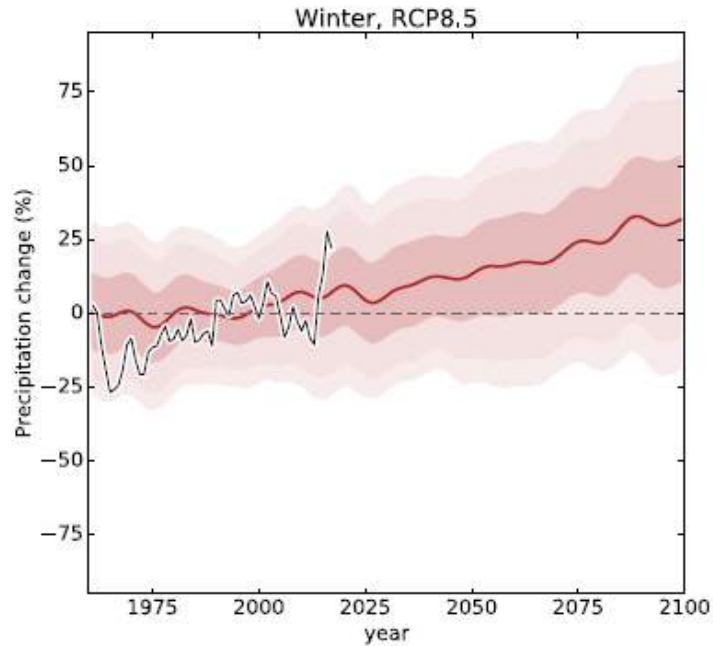
- Winter precipitation is expected to increase significantly
- Summer rainfall is expected to decrease significantly
 - But when it rains in summer there may be more intense storms

England mean winter precipitation

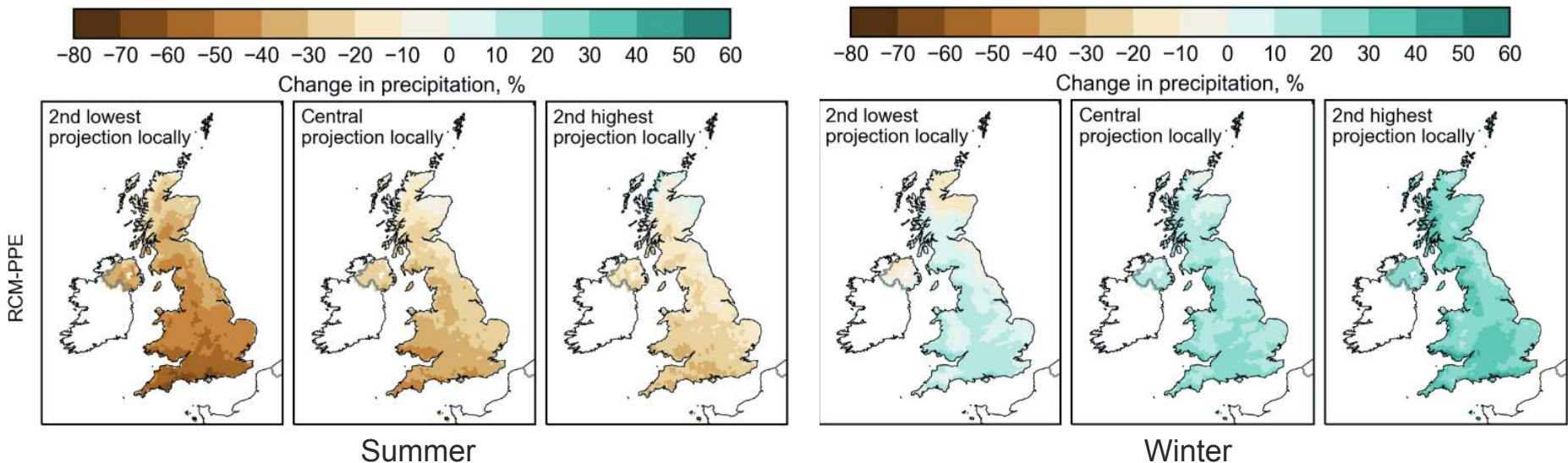


We will still get some dry winters, but wet winters will become wetter

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



The screenshot shows a BBC News article from February 2014. The headline is "UK storms destroy railway line and leave thousands without power". The sub-headline reads "Parts of Britain have been hit by a storm which destroyed a stretch of railway, forced people from their homes and left thousands without power." The article includes a video player showing a railway line in Dawlish being hit by waves, with a caption: "The railway line in Dawlish is hanging in mid-air, as Jon Kay reports". Below the video are two related article links: "UK winter floods" and "River dredging 'to start in March'".

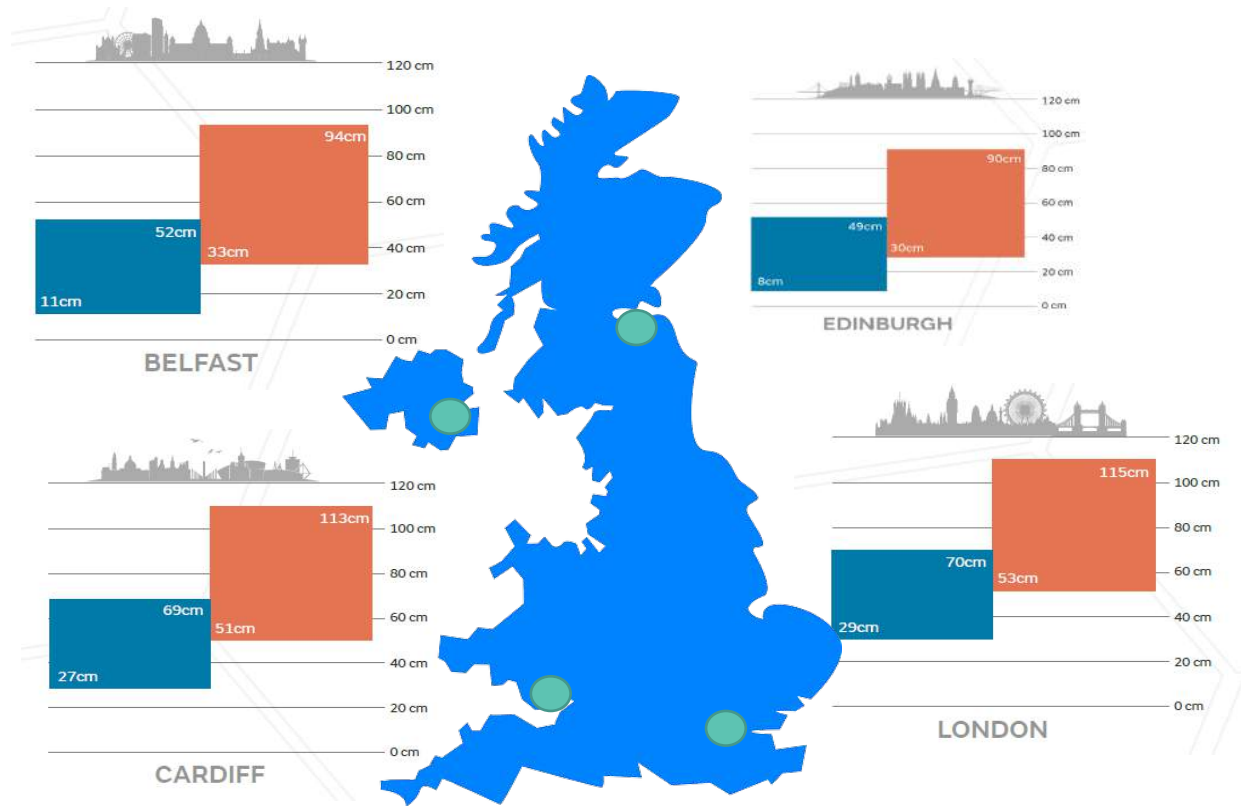
- Sea-level rise will occur for all emission scenarios and at all locations around the UK
- Changes in extreme water levels are mostly driven by changes in mean sea level
 - Best estimate is that surge component won't change, but can't rule out changes
- Sea level will continue to rise beyond year 2100.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

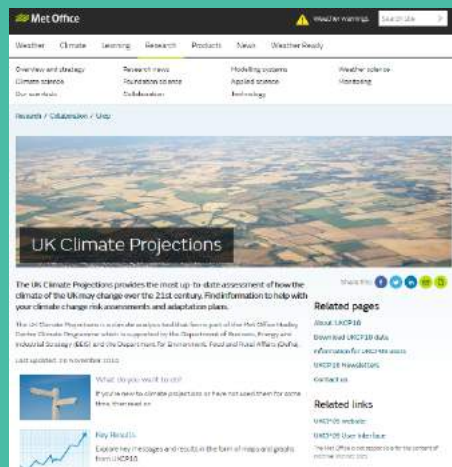
(by 2100 relative to 1981-2000)

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

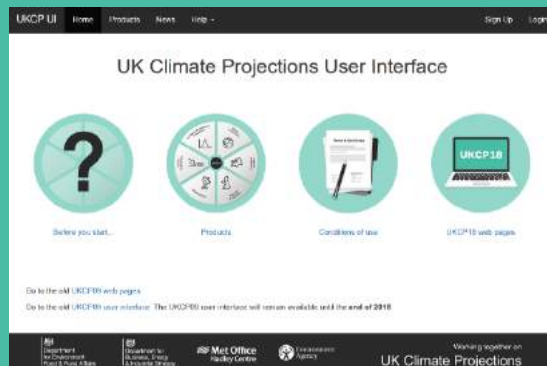


Where do I find the new information?

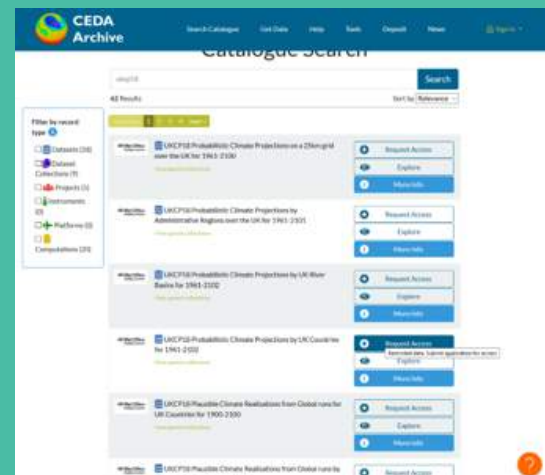
Access the knowledge and data from UKCP18 via 3 main entry points:



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>