



The UK Climate Projections 2009

The UK Climate Projections 2009 (UKCP09) provide climate information designed to help those needing to plan how they will adapt to a changing climate into the future.

UKCP09 offers projections of the future climate that is based on the current understanding of the climate system and how these might be affected by a range of possible future greenhouse gas emission scenarios. UKCP09 should be seen as providing possible projections rather than absolute predictions or forecasts of future climate.

Each of the emission scenarios used in UKCP09 suggests a different pathway of economic and social change over the course of the 21st Century. Changes in populations, economic growth, technologies, energy intensity, and land use are considered in the emission scenarios.”

Within each emission scenario UKCP09 provides probabilities which measure how strongly different outcomes for climate change are supported by current evidence (i.e. models, observations, understanding). The 50% probability level (also known as the ‘Central Estimate’) is not indicating the most likely projection but the value that has an equal probability of being exceeded and not being exceeded.

The future climate will always be uncertain, no matter how good climate models are.

Projections diagrams

The data in these diagrams are derived from UKCP09 projections, based on the medium emission scenario and the 50% probability level.

UKCP09 projected climate change impacts on temperature and precipitation (including rainfall, snow, hail and sleet) have been quantified for a representative 25km grid square covering the Somerset WAVE area.

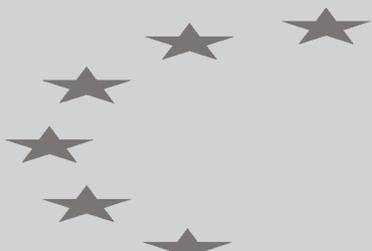
Projected climate change impacts are quantified in relation to the baseline period (1961-1990) for the following future periods:

- 2020s (covering the years 2010 – 2039)
- 2060s (covering the years 2050 – 2079)
- 2080s (covering the years 2070 – 2099)

The specific temperature and precipitation elements for which the UKCP09 projections are provided:

- Average annual temperature – over the complete 12 months
- Average summer temperature – for the months of June, July, August
- Average winter temperature – for the months of December, January, February
- Average annual precipitation – over the complete 12 months
- Average summer precipitation – for the months of June July, August
- Average winter precipitation – for the months of December, January, February

The effect of projected future sea level rise has also been quantified for a representative 10km stretch of the coastline within the Somerset WAVE area around Burnham-on-Sea. Relative sea level rise (adjusted for natural land movement) when compared to the baseline year (1991) has been calculated for the years 2020, 2060 and 2100.





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Climate Change Effects in the South West

In 2003, Climate SouthWest (then known as the South West Climate Change Impacts Partnership) commissioned a scoping study, Warming to the Idea: Meeting the challenges of climate change in the South West. This study investigated the likely impacts of climate change on the South West and set out what needs to be done to adapt. In 2010 the original 'Warming to the idea' summary report was updated to reflect recent developments in climate science, as well as an improved understanding of the key issues, priorities and adaptation opportunities for the South West. A copy of the 2010 publication can be found at:

<http://www.oursouthwest.com/climate/registry/warming-to-the-idea-2010.pdf>

In 2008 Somerset County Council published Responding to Climate Change in Somerset which set out a programme for development of a Climate Change Action Plan involving all Service Areas within the remit of Somerset County Council. Implementation of the Action Plan will enable the Authority to provide effective leadership, advice and encouragement to stakeholders and communities in both tackling and adapting to the causes and effects of climate change across the County. A copy of the publication can be found at:

<http://www.somerset.gov.uk/irj/go/km/docs/CouncilDocuments/SCC/Documents/Environment/Sustainable%20Development/SCC%20Climate%20Change%20Strategy.pdf>

Table 1.1: Recent impacts from extreme flooding in the UK

Potential impacts of climate change

Climate change will bring a number of adverse and beneficial impacts to a wide range of sectors.

Potential Adverse Impacts expected most widely include:

- an increase in the risk of flooding and erosion
- drainage systems unable to cope
- possible winter storm damage
- habitat and wildlife losses
- summer water shortages and low stream flows
- increased subsidence risk in subsidence prone areas
- increased demand for summer cooling
- increasing thermal discomfort in buildings
- increases in health problems – heat-related illness and incidence of respiratory problems
- reduced quality and yields of some crops due to heat stress, drought, disease and pests

Commonly perceived Potential Benefits include:

- less winter transport disruption
- reduced demand for winter heating
- less cold-related illness
- increase yields of some crops

Opportunities are anticipated:

- agricultural and horticultural diversification
- increased tourism and leisure
- a shift to more outdoor-oriented lifestyles
- developing renewable energy sources

The impacts are explored further in Chapter 5. If you would like to know more about the impacts on agriculture and biodiversity click here.

