

Appendix 10.1 – Climate Change Projections

The potential effect of climate change on the effects predicted in each technical assessment will be considered for future scenarios. This will be undertaken by each assessor and presented within a 'climate change' effects section in the technical chapter, and collated and summarised within the Climate Change and Greenhouse Gases Chapter. It will refer to the UKCP18 projections to conduct a high-level assessment for the 2020s (short term); the 2050s (medium term); and the 2080s (long-term). In accordance with the IEMA Guidance, the highest emissions scenario will be used for the future scenarios 'with climate change'. That is: RCP8.5, 50th percentile, as shown in the table below.

Utilising the climate change projections referenced below, each assessment chapter will qualitatively assess how potential climate change may alter the effects predicted for each receptor. The identified impacts might be exacerbated, they may diminish, or further interaction effects might be identified when considered against the future climate change conditions.

UKCP18 Projections

Over land the projected general trends of Climate Change in the 21st century shows a progressive increase in mean air temperatures during summer and winter, a reduction in the rate of precipitation during the summer months but an increase during the winter months. Please note that wind speed is not available for the probabilistic projections as they did not pass Met Office credibility checks.

UKCP data for the South East using RCP 8.5 (based on time horizon relative to 1981-2000)

Season	Variable	Period	Percentile		
			10 th	50 th	90 th
Summer	Mean air temperature °C	2020s	0.4	1.25	2.1
		2050s	1.3	2.85	4.45
		2080s	2.7	5.35	8.05
	Average precipitation rate (%)	2020s	-25	-16.5	7.5
		2050s	-47.5	-18.5	12
		2080s	-67.5	-37	3.5
Winter	Mean air temperature °C	2020s	-0.05	0.75	1.6
		2050s	0.6	1.8	3.15
		2080s	1.25	3.2	5.3
	Average precipitation rate (%)	2020s	-5.5	8	22
		2050s	-5	13	34.5
		2080s	-1.5	25	57.5

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This data represents the probabilistic climate projections component of the past (observed) and future climate scenario projections data, produced as part of the UK Climate Projections 2018 (UKCP18) project. Data has been produced by the UK Met Office Hadley Centre. The data provided above is based on the average figures provided by the MetOffice for the periods shown and downloadable here: [ukcp18-key-results.xlsx \(live.com\)](#) The actual assessment will be based on the latest data available at the time of assessment.

The data represents anomalies with respect to the baseline period.