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**Climate scenarios and decision making under uncertainty**  
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Climate scenarios provide an essential foundation for research on the impacts of climate change on the built environment and for the identification of appropriate adaptation measures. They are, however, subject to uncertainties in the underlying greenhouse gas emissions and concentration scenarios as well as a range of scientific uncertainties associated with climate modelling and the natural variability of climate. These uncertainties provide a major motive for the current move towards probabilistic climate scenarios – a move which is also supported from the decision-making perspective. Examples of probabilistic scenarios constructed for variables and UK locations of interest for built environment research are presented here. The need to consider other uncertainties – potentially important sub-grid scale processes such as the urban heat island effect and the influence of natural variability in non-stationary series of weather extremes – is demonstrated. Consideration is also given to aspects of decision making under uncertainty – focusing on the timing of upgrade of the Thames tidal defences and the extent to which managers integrate climate change information into long-term projects in the built environment. A major recommendation from the case-study examples presented here is the need for improved communication between climate scenario developers, and scenario users and decision makers in the built environment sector.