Building climate scenarios – the challenges for the developers and users

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In comparison to sectors such as water and agriculture, the use of climate scenario information in impacts and adaptation studies for the built environment is relatively recent. Thus the UK Building Knowledge for a Changing Climate (BKCC) research programme, and the follow-up Sustaining Knowledge for a Changing Climate (SKCC) programme, can be considered as pioneering initiatives. At the same time that this sector is embarking on detailed impacts and adaptation work, the complexity of climate scenario information is increasing. In particular, users are faced with the move towards probabilistic information (such as being produced in the EU ENSEMBLES project and for the next UK national climate scenarios, UKCIP08). Whilst this move is consistent with the broader move towards risk-based decision making, it raises many challenges for developers and users of climate information. Tailored climate scenarios were developed for the BKCC and SKCC projects, including some first examples of probabilistic information at the station scale. However, a number of identified user needs still need to be addressed. These include the need for joint probability information , particularly with respect to extreme events such as driving rain (important for building integrity) and sequences of wet winters and hot dry summers (important for subsidence). There is also a growing demand for information about potential future changes in the urban heat island effect. The latter is considered to be important both for assessing the risk of summer overheating in individual buildings and for broader urban spatial planning aspects, such as the use of green space. A number of new research and policy initiatives in the UK aimed at addressing such issues will be outlined.