CLIMATE CHANGE

Cassar, M. *Climate change and the historic environment. Research report.* Centre for Sustainable Heritage, University College London, London, UK (2005). http://eprints.ucl.ac.uk/archive/00002082/

In 2002, the Centre for Sustainable Heritage was commissioned by English Heritage to carry out a scoping study on climate change and the historic environment, including buried archaeology, historic buildings, parks and gardens (Archaeology Commissions PNUM 3167). The start of the study coincided with the publication of the current UKCIP02 climate change scenarios. The final report has been prepared by Professor May Cassar, while the original research was carried out by Dr Robyn Pender. However, such a report is never the product of one or two individuals. There were numerous other collaborators in the study including Professor Bill Bordass (William Bordass Associates), Jane Corcoran (Museum of London Archaeology Service), Professor Lord Julian Hunt (UCL), Taryn Nixon (Museum of London Archaeology Service), Professor Tadj Oreszczyn (UCL) and Professor Phil Steadman (UCL). English Heritage's interests were represented by Mike Corfield and latterly by Bill Martin. UKCIP through Dr.Richenda Connell provided scientific advice during the editing of the report. The study could never have been carried out without strong regional participation from heritage managers in the East of England and the North West of England as well as scientists and policy makers. It is intended that this report will make a contribution to the debate on the impact of climate change on the historic environment. Its recommendations and the gaps in information and research that it has identified should be the focus of discussion and timely resolution. (Author's abstract)

Cassar, May; Pender, Robyn. The impact of climate change on cultural heritage: evidence and response. *14th triennial meeting, The Hague, 12-16 September 2005: preprints.* James & James, London (2005), pp. 610-616.

Presents the first broad-based research on the impact of climate change on historic buildings, buried archaeology, parks, and gardens. Research coincided with the publication of the UKCIP02 climate change scenarios and other studies assessing regional climate change and the impact on nature conservation and gardens. The methodology consisted of an assessment of climate change and adaptation literature, a questionnaire, site visits, and regional and policy workshops. It conflated evidence from climate and heritage specialists, pointing to physical changes in cultural heritage and concluding with a number of policy recommendations. (AATA)

Konnen, G. P. Climate scenarios for impact studies in the Netherlands. (2001)
http://www.knmi.nl/onderzk/klimscen/scenarios/Scenarios2001_Web.htm

The climate scenarios described here are an update from the WB2 scenarios. Originally formulated for the NRP IRMA project, this document is also meant to serve as a guideline how to translate the difference in global climate projections between the most recent IPCC Third Assessment Report TAR and the 1995 IPCC Second Assessment Report SAR into the previously formulated climate scenarios for impact studies in Europe and the Netherlands.

Visser, H. The significance of climate change in the Netherlands: an analysis of historical and future trends (1901-2020) in weather conditions, weather extremes and temperature-related impacts. (2005)
http://www.rivm.nl/bibliotheek/rapporten/550002007.pdf

A rigorous statistical analysis reveals changes in Dutch climate that are statistically significant over the last century. Annually averaged temperatures have increased by 1.5 about 0.5 degrees Centigrade; the number of summer days has roughly doubled from 14 about 5 to 27 about 9 days; annual precipitation has increased by 120 about 100 mm; and the number of extremely wet days has increased by about 40%, from 19 about 3 to 26 about 3 days. Several other changes in Dutch climate, such as Spring temperatures rising more rapidly than winter temperatures, the increase of the coldest temperature in each year by 0.9 degrees Centigrade and the annual maximum day sum of precipitation, turn out to be not (yet) statistically significant. The changes in Dutch climate have already led to several statistically significant impacts. The length of the growing season has increased by nearly a month, and the number of heating-degree days, a measure for the energy needed for the heating of houses and buildings, has decreased by 14 +/-5%. Projections of future temperature continue to increase up to the year 2020, based on statistical extrapolations and climate-model projections. It is found that temperatures increase from 10.4 +/-0.4 degrees Centigrade in 2003 to 11.1 +/-0.6 degrees Centigrade in 2010, and 10.8 +/-1.0 degrees Centigrade in 2020. Therefore energy for cooling will increase. The net climate effect in 2010 is expected to be a lowering of future Dutch greenhouse-gas emissions by 3.5 Mton CO2 equivalents, which is relevant in the context of commitments under the Kyoto Protocol. Finally, over the course of the 20th century the chance on an 'Elfstedentocht', an outdoor skating event in the Netherlands, has decreased from once every five years to once every 10 years. Even though this impact change is not yet statistically significant, it resides 'on the edge' of significance: within a few years more evidence may become available to firmly establish the diminishing likelihood of outdoor skating in the Netherlands. (Author's abstract).