

Conference Report

The Society's Winter Conference, 2008

Weather, climate change, and British farming in historical perspective

by Jean Morrin

Whilst attendance at the Winter Conference is never small, this meeting on weather, climate change and agriculture perhaps caught the mood of the moment, and made this the best-attended winter conference of recent years. Those present heard the broad issues approached from a number of perspectives, from an account of a single notably hard winter through to the implications of medieval climate change on a world scale for medieval British agriculture. Even so none of the papers removed from consideration the people who experienced these changes, be they episodes of bad weather or climate shifts: it was all too easy to imagine them cold, damp and frequently hungry.

Steve Rippon, University of Exeter, opened the conference with a fascinating paper which demonstrated the value of interdisciplinary studies for the interpretation of past landscapes. As an archaeologist, he advanced the theory that it was landlords' investment policies in response to demand, rather than climate change and the market, that shaped settlement decisions in English wetlands. His study focused mainly on the North Somerset levels adjacent to the Severn estuary which has the third highest tidal range in the world (Clevedon, 14m). Fieldwork involved cutting sections through the North Somerset levels to collect specimens of plant and animal remains which had been well preserved in the waterlogged conditions. Subsequent analysis of pollen grain revealed that this wealthy, marshy area had been settled and farmed in the Roman and early medieval periods, both moments of favourable dry and warm climate. After the late Roman period the site was abandoned and reverted to salt marsh. Rippon acknowledged that the development followed

by abandonment might be attributable to lower sea levels in the Roman period and then flooding caused by worsening weather, but advanced the alternative theory that the decision to settle the wetlands was managerial and the result of population pressure under the Roman Empire which made the investment in protective sea walls worthwhile. By contrast, once the Roman Empire collapsed, there was no longer the financial incentive to invest. In support of his thesis, he cited the Essex coastal marshes where very different management decisions had been taken in the Roman period despite similar climatic conditions.

Bruce Campbell, Queen's University, Belfast, had no doubt that weather was the most important factor in agricultural success or failure. Campbell reported the results of a project on the growth patterns of oak trees, climatic statistics and data from manorial accounts of 1270–1470. Campbell stated that the dendrochronological techniques used in the study to detect when oaks had flourished in the past had previously been under-utilized in Britain and he showed how their study contributed to our understanding of grain yields. Oaks grow best when a mild summer follows a wet winter: the reverse is true for grain. Campbell's temperature graphs beginning with cooling events after 1270, certainly fuelled fears of global warming as 25-year moving averages were flat until the last few decades of the twentieth century when a marked upward trend was apparent. The research indicated a very strong link between cold weather, poor harvest yields and disease. Demographic crises occurred when both the wheat and oat crops failed to deliver: both crops had poor yields from 1270–1350. During 1349–50 yields were very poor, 1351 was the coldest year in the

last 1000 years at the same time as the Black Death was killing millions. The loss of a third of the workforce as a result of the Black Death restricted marling, manuring and weeding the arable land. Marginal land cultivation was abandoned as poor harvests hit in particular small producers who had no seed and faced high prices for it. Campbell stressed that big environmental dislocations were associated with disease, and not just in the case of the plague. The influenza epidemic of the 1550s (identified by Jack Fisher) also followed two dreadful harvests.

Mary Young and Karen Cullen, Dundee University, engaged with a much shorter period of time, analyzing the impact of exceptionally cold weather in Scotland from 1670–1700. Two periods, 1673–5 and the 1690s, in particular were discussed. Storms and a flood surge drowned so many sheep on the shores of Solway Firth in 1673 that rebuilding flocks took years. A real subsistence crisis dominated much of Scotland in 1674–5. The paper then argued that Scottish conditions in the 1690s were worse than had previously been acknowledged, citing evidence of mothers too hungry to suckle infants and people collapsing in the streets. Supporting evidence was drawn from the normally sheltered and settled area of the Carse of Gowrie where corn from seed yields in the 1690s fell from 3:1 to 1.75:1 leaving small farmers with no seed and little to eat after paying the rent. Storms in 1697 also prevented the gathering of the crops. Entries in Scots parish registers reveal that the demographic impact in the 1690s hit strangers or travellers especially hard. The crisis impacted on the wider British Isles when Scots were paid to move to Ulster. Young and Cullen argued that the impact of the disasters of the 1690s was not solely demographic but also social and psychological, as the Church of Scotland preached that the dearth was God's judgment on a sinful nation. There was a revival of superstition and of the belief that witchcraft had brought about the dreadful weather and the great increase in mortality of that decade.

In the concluding paper, John Martin, De Montfort University, considered the impact of one year, 1947, when snow and very low temperatures followed by flood brought the British economy to a standstill. Snow fell from January to mid-March while, in the month of February, there was unbroken cloud cover and the mean temperature was a very low -1.9°C . Martin suggested that the lack of sun was partly due to the bombing of Japan as dust in upper atmosphere stopped sunlight reaching earth. To compound the problem, the eventual thaw led to flooding in the Thames Valley, the Fens and the Severn valley. Spring sowing was delayed and curtailed so the impact continued. In Martin's opinion, the economic and political consequences of the winter of 1947 have not been fully considered by historians. The economic impact was greater as world food production had not recovered from its lower wartime levels. In Britain the weather of early 1947 led to the loss of 4 million sheep, 50,000 cattle and 40,000 tons of potatoes. Martin acknowledged that animal losses were mainly due to the severe weather, but suggested that government restrictions on transporting feed had a significant impact. Martin argued that the reputation of the Labour government also suffered as it was expected to achieve rising living standards whereas the new chancellor, Stafford Cripps, advocated a reduction in civilian consumption to promote exports and stabilize sterling. Thus the consequences of this environmental disaster contributed to the Labour Government's failure to be re-elected in 1951.

The day ended with thanks to Jane Whittle for organizing such a stimulating and topical conference on the impact of extreme weather on Britain. As we left the Institute of Historical Research and made our way home on a pleasant mild Saturday afternoon, a few doubtless gave silent thanks for being born in an age of generally consistent and benign weather, and wondered how long it might last.