

## **15 MAY 2004 : NATURE AND SEASONS IN A CHANGING CLIMATE - A JOINT MEETING OF THE ROYAL METEOROLOGICAL SOCIETY AND THE WOODLAND TRUST INCORPORATING THE MARGARY LECTURE**

**Dr Chris West**, UK Climate Impacts Programme: The future climate of the UK  
I will set the current global changes into a historical context, describe some current changes, look at the causes and scale of climate change, and discuss some of the uncertainties. After consideration of the use of scenarios, I shall present data on the anticipated changes in the UK climate, and some of the impacts associated with those changes. Finally, I shall describe how UKCIP can help the UK adapt to climate change.

**Dr Tim Sparks**, Centre for Ecology and Hydrology: The value of the phenology legacy  
In the last decade there has been enormous effort to predict the effects of climate change on the natural world. It is extremely lucky, therefore, that Britain has a rich history of phenology. This harmless “pastime”, recording the first events of spring, suddenly took on new importance as it was realised that this was probably the longest written biological record we have. Phenological data sets have slowly started to emerge from the obscurity of their closets. In this talk I discuss some of the historical data sets available to us and what they can tell us about species’ response to climate.

**Prof Alastair Fitter**, University of York: The Margary Lecture: Plant phenology and climate change: curiosity or concern?  
The climate of the UK is warming. There is now clear evidence that the natural world is responding to this warming, most notably in the advance of spring. Many species of plant are now flowering 2-3 weeks earlier than they did, even 20 years ago. This change will affect all the species that depend on or feed on those plants. However, not all species respond in the same way, which will disrupt communities, possibly leading to extinctions or the invasion of new species. These changes are happening so rapidly that there is an urgent need for close monitoring of natural communities in Britain and elsewhere.

**Ms Jill Attenborough**, Woodland Trust: Nature’s calendar: the world’s largest phenology scheme  
The UK Phenology Network has struck a chord both with the UK's public and the media. It enables 'ordinary' people to contribute to climate change science in a meaningful way and provides the excuse people seem to need to get back in touch with Nature. The network of nearly 15,000 recorders stretches from the Shetlands to the Scillies and out to the Channel Islands. As well as being extensive it is also inclusive - reaching across age groups, embracing those with physical and learning disabilities, and accepting the contribution of amateur and expert. A recent award from the Heritage Lottery Fund means that the programme can now be extended to include children. The Network's development and potential for the future will be examined.

**Prof Jean Emberlin**, National Pollen and Aerobiology Research Unit: Trends in the timing of pollen seasons and allergies

Approximately 15 to 20% of the UK population suffers from allergy to pollen (hay fever and pollen related asthma), rising to 35% in teenagers. Prevalence rates have increased notably over the last 30 years. The reasons for this are unclear but the situation is being made worse by trends in pollen seasons. During the last few decades pollen seasons for trees have tended to start earlier and those for grass and some weeds have tended to last longer. In the case of the trees the shifts are due to the occurrence of milder winters and warmer springs. For grasses and weeds the changes are mainly the result of summer weather patterns.

**Mr Richard Smithers**, Woodland Trust: Implications of a changing phenology  
The results of investigations carried out so far are impressive. Earlier spring events can be detected in plant leafing and flowering, migration and breeding of both amphibians and birds, and the flight periods of moths, butterflies and other insects. Species are responding at different rates. Potential implications for individual relationships between competing species and those that are reliant upon one another's life cycles have been identified. However, there may be far wider reaching consequences. It seems possible that the composition of plant communities may change fundamentally where the phenological response of dominant or characteristic species is markedly different with knock on impacts for other species groups, which themselves are in broad terms responding differently compounding the consequences. It would appear that over the last forty years spring events may have advanced on average in birds by a week, in plants by two weeks and in invertebrates by three weeks. There is an urgent need to better understand the implications for habitats and species and to consider how conservation can ensure that the widest biodiversity is best placed to survive and evolve.