

Early spring in Europe matches recent climate warming

Conclusive proof that spring is arriving earlier across Europe than it did 30 years ago is published today in the journal *Global Change Biology*.

Scientists from 17 countries have collaborated in the world's largest phenology study (the recording of changes in natural annual events such as the flowering of plants) and now have real evidence that climate change is affecting the seasons.

Led by Dr Annette Menzel from the Technical University Munich in Germany, and Dr Tim Sparks of the Centre for Ecology & Hydrology in the UK, the research team has discovered that spring arrives an average of 6-8 days earlier than it did in the past. And in countries where rapid increases in temperature have occurred, that figure is almost doubled.

The scientists examined more than 125,000 datasets to find out what changes were occurring across Europe, and when. Their research also reveals a definite contrast with spring arriving later in countries such as Slovakia, that have had recent decreases in temperature. The pattern was most evident as an advance in spring but the warmer temperatures have also tended to delay autumn, by an average of about 3 days over the last 30 years.

Dr Menzel said "Unlike some studies that record individual species, this is the first comprehensive examination of all available data at the continental scale, using around 550 plant species, and the timing change is clear, very clear".

Dr Sparks commented "Not only do we clearly demonstrate change in the timing of seasons, but that change is much stronger in countries that have experienced more warming." He added "Many plant species grow throughout Europe, so, for example, a direct comparison of the flowering date of wild cherry which is two weeks earlier in the UK with that in Austria which is only 3 days earlier is possible with this huge dataset."

Source: Natural Environment Research

This document is subject to copyright. Apart from any fair dealing for the purpose of private study, research, no part may be reproduced without the written permission. The content is provided for information purposes only.