



Science reporting to the public: does the message get twisted? A phenological example.

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Do journalists occupy a parallel universe?

The daily press has found its own place in modern democracies, that of entertaining readers and stimulating debate. Inevitably, nowadays, the reporter's reframing of original scientific information seems to put its own strong slant on the science. Is the press's apparent suggestion that the public cannot understand the language of increasingly specialized scientific enterprises really a satisfactory justification? In this case example our key concern is that the pace of climate warming is faster than the ability of plants – particularly long-lived trees – to adapt and evolve. Some species will adapt others will not, and that will seriously affect ecosystems.

However, despite a 40-minute interview with a very well-informed, very astute, journalist, the feel-good strapline "a discovery which should delight Britain's gardeners: by 2050, spring will start before Valentine's day", to the one-page spread in the Guardian newspaper (see below), replaces our more sombre warnings. The year 2050 replaces the 2080 used in our original paper "Predicting the impact of global warming on the timing of spring flowering". The International Journal of Climatology, in which our work was published, receives no mention.

Increasingly, as you talk to scientists about how their work and the journalism about it meet each other, they talk of parallel universes. What scientists do, how they do it, and what they discover all seem to exist quite separately from journalists' descriptions about what the scientists have done.

The newspaper article as published on guardian.co.uk at 00.05 BST on Thursday 10 September 2009. It first appeared on p13 of the Guardian, a 'quality' UK newspaper on Thursday 10 September 2009. It then appeared on dozens of www sites around the world.



The Science

• A general linear modelling method, based on thermal degree-day growth, allied with an assumption of a linear change in spring temperature, is developed to model first-flowering dates.

$$f_i = \sqrt{\frac{\beta c}{m_i}} + \frac{\alpha}{m_i}$$

where in year i , f_i is first flowering date, c is mean temperature, m is the rate of increase of temperature. Species come into flower after beta growth degree days above a threshold or base temperature alpha.

- We find springtime first-flowering dates in Edinburgh show a good association with air temperature.
- We demonstrate that the sensitivity of spring-flowering dates to temperature is strongly governed by the continentality of the climate.
- We predict high temperature sensitivities of flowering in oceanic climates, and in low-latitude, temperate biomes.
- We predict (see map below) that the desynchronization of spring-flowering dates, under the likely climatic conditions in the 2080s as predicted under the IPCC scenario A1FI, will reach 50 days in many regions.

The answer

Yes, journalists occupy a parallel universe, it's a heavily populated zone. But perhaps of even greater concern is that as Internet bloggers inextricably replace mainstream journalists the situation is only likely to become worse.

Our global desynchronization map, and the four maps - global warming by 2080, rate of increase of spring temperature, global (Olson) vegetation, and phase - from which it was derived using our growing degree-day equation (see box above).

