# Interacting with the climate

GALLERY

Bathed in blue light and splashed with the illuminations of a dozen screens and projections, the *Atmosphere: Exploring Climate Science* gallery at the Science Museum in London is an instantly immersive experience that plunges the visitor into a multi-media world of flashy distractions. Brush a hand across a vast screen and a moving sequence is induced, vividly explaining the force of the Sun on the Earth's atmosphere, the Hadley-cell tropical circulation patterns and different climate zones. Beyond, a bunch of seven-year-olds enthusiastically compete at a press-button game involving sunlight intercepted by clouds, beside a historical section on the conception of the greenhouse effect and the role of pioneers such as Joseph Fourier, Svante Arrhenius and John Tyndall.

The museum's ambitious mission to explain climate science to young visitors is perched high in the 'sky' of the shiny new Wellcome wing, and has been open to the public since December 2010. The challenge of communicating the science of climate change to children has never been more important — especially given the controversial indication this June from Tim Oates, chair of the UK government panel reviewing the core curriculum for 5- to 16-year-olds, that he would omit climate change from the compulsory core subjects (http://go.nature.com/ImYQ9v) — and the gallery approaches it with spectacular interactive material.

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Consoles and touch screens tackle the greenhouse effect and carbon cycle, with games engaging young visitors in the job of climate modelling, and film clips of researchers talking about their work to find evidence for rising temperatures. The section on mitigation responses sets out the UK ambition of an 80% reduction in carbon dioxide emissions by 2050, supported by a video and illustrations of some technologies for reduction, and material on geo-engineering techniques. Again there are games to play, for example reducing emissions of carbon dioxide as much as possible in a city through a list of options without exceeding a cost limit. An assembly of touch consoles that probes opinions about personal responsibility and the urgency and type of action required is designed to stimulate further debate.

But the focus throughout is very much on carbon dioxide, with the occasional mention of methane. It would be very easy for someone to come to the *Atmosphere* gallery and go away with the understanding that carbon dioxide was the only anthropogenic factor causing climate change. Here is a missed opportunity to explain the changing composition of the atmosphere and its chemistry, including the shorter-lived pollutants and ozone, as well as other greenhouse gases, and to give a more overall picture of radiative forcing, what governs pollutant lifetimes and secondary products, and the need for an integrated approach to air pollution and climate change. The Intergovernmental Panel on Climate Change reports have so much excellent material that could have been used — there didn't seem to be any direct reference to this work or to, say, the Stern review — although it may have been buried somewhere. In fact, the gallery seems to fight shy of quantitative information to make comparisons and back up qualitative statements.

Among the digital dazzle are a few traditional exhibits, including the only Antarctic ice core on display in a museum — a real, physical piece of evidence for our changing climate, held in a freezer cabinet. It's a shame that the physical and technical difficulties involved in obtaining such cores, dating them and analysing minute bubbles didn't really come across.

Overall the Science Museum has done an impressive job in bringing together a great deal of climate change information in a clear and interactive format that should inspire schoolchildren and Oates alike. ❐


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REVIEWED BY HELEN APSIMON

*Helen ApSimon is Professor of Air Pollution Studies at Imperial College, London.*
*e-mail: h.apsimon@imperial.ac.uk*

*Atmosphere: Exploring Climate Science* is a new interactive gallery at the Science Museum in London.