

Ozone hole to Montreal protocol

**1881** W Hartley predicts the existence of ozone

**1928-1958** UK meteorologist Gordon Dobson establishes a worldwide network of ozone-monitoring stations (which continues to operate today)

**1957** Polar scientists make measurements of the ozone layer over Antarctica for the first time

**1972** James Lovelock's electron capture detector detects the widespread presence of CFCs in the atmosphere

**1985** British Antarctic Survey (BAS) research group paper in Nature states that the depletion in ozone in Antarctica (by 40%) is now so great that it is described as a 'hole'

**1989-1997** 180 countries sign the amended Montreal Protocol, agreeing to bring greenhouse emissions, including HFCs, to levels below those of 1990

**1995** The largest recorded hole in the ozone begins to form over Antarctica

**2001** BAS scientists win the Institute of Physics Charles Chree Medal and Prize for their part in the discovery of the ozone hole over the Antarctic and for linking this to the growth of CFCs in the atmosphere

**2003** Kofi Annan describes the Montreal Protocol as "perhaps the single most successful international environmental agreement to date"

**2009** Recent measurements of ozone-destroying substances at the surface show that these chemicals have been decreasing since 1994, though the effect on the ozone layer will not be seen for probably a decade. All but two of the 196 UN member states have ratified the basic Montreal Protocol

Thames Barrier

**1930** Sea level research begins at Liverpool Tidal Institute

**1953** Disastrous flooding on the East Coast and the Thames Estuary with a loss of over 300 lives

**1966** Report by Sir Herman Bondi that the best solution is a flood barrier with movable gates, built across the river

**1972** Thames Barrier and Flood Protection Act gives the powers to build the barrier

**1978** Development of tide and storm surge models used to decide when to close the Thames Barrier

**2001** Barrier closed 11 times to protect London from tidal surges – a record to date

**2004** Foresight future flooding report published by DTI, with substantial input from RCUK researchers

**2006** 'Thames 2100' – a new study on Planning for Flood Risk Management in the Thames Estuary begins to determine flood protection for London and the Thames Estuary for the next 100 years

**2009** Flood protection from Thames Barrier valued at £30 billion

Climate change

**1972-2009** UK researchers contribute world class evidence to Stockholm, Rio, Kyoto and Copenhagen

**2000** RCUK RAPID climate change programme explores what causes rapid switches in climate, with a main focus on the Atlantic Ocean

**2003** RCUK QUEST programme established to assimilate scientists' knowledge of the Earth as an integrated system and substantially improve predictions of global environmental change

**2006** Living with Environmental Change programme created, an unprecedented partnership of 20 organisations including six government departments

**2006** Stern Review, with inputs from RCUK researchers, contributes convincingly to the view that the cost of doing nothing on climate greatly outweighs the cost of taking action to mitigate and adapt

**2007** RCUK research informs development of UK's commitment to a 60% reduction on carbon dioxide production by 2050, the first country to have legally binding carbon emissions targets

**2007** Nobel Peace Prize is awarded to the UN's Intergovernmental Panel on Climate Change (IPCC), for which UK researchers provided a significant proportion of the evidence

**2008** Climate Change Act passed, legislation introducing the world's first long-term legally binding framework to tackle the dangers of climate change



1881



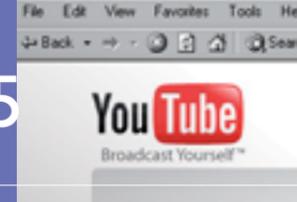
1972



1985



2001



2005



2009

Crime

**1984** First computerised automatic fingerprint recognition system installed at Scotland Yard

**1984** DNA finger printing discovered by Sir Alec Jeffries at University of Leicester

**1987** DNA fingerprinting is used by police forces around the world

**1988** First use of forensic archaeology evidence in UK Crown Court using techniques developed by archaeological researchers

**2006** New technology developed by University of Sheffield allows fingerprint images to be compressed and sent via mobile phones – approved for use by British police forces

**2008** EvoFit face recognition technology, developed by RCUK funded researchers, helps convict first criminal

**2009** UK researchers develop new spray that can quickly illuminate tiny DNA samples allowing police to extract more evidence from crime scenes

Carbon Capture & Storage

**2004** UK Energy Research Centre, the UK's pre-eminent centre of research and source of authoritative information and leadership on sustainable energy systems established by RCUK

**2005** RCUK establishes the UK Carbon Capture and Storage Consortium – a consortium of engineering, technological, natural, environmental, social and economic scientists to rapidly expand a UK research capacity in the area of carbon capture and storage (CCS)

**2006** UK Energy Research Centre publishes CCS landscape document

**2007** Government launches competition to develop UK's first full-scale demonstration of CCS

**2008** Government sets a binding target of 80% reduction in greenhouse gas emissions by 2050

**2008** RCUK establishes dedicated centre to train a new generation of CCS scientists and engineers

**2009** RCUK funds four new CCS research consortia as part of strategic partnership with E.ON

**2009** Independent report suggests clean coal technology could be worth £4 billion a year to UK economy by 2030 and support up to 60,000 jobs

**2009** UK Government announces full-scale retrofit of CCS on coal-fired power plants within five years of the technology being proven

Sustainable World

