

The big picture

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Average annual flood damages in the UK will rise from a current cost of £1.2 billion to more than £20 billion by 2080 if no action is taken. © Alan Thompson

River erosion! Failing drainage systems! Coastal flooding! Failure of the Thames Flood Barrier! Snippets from a new Hollywood blockbuster? No, rather the findings of a new report written by government experts, suggesting the worsening of climate change-driven hazards are now inevitable ([The Guardian, 22 April 2004](#)).

Even if the UK adopts a radical new approach to the stewardship of the environment, much of the damage is already done. The nation will face several billions pounds' worth of additional flood damages annually in the coming decades.

Writing for the Office of Science and Technology, the government's chief scientist, Dr David King, reports that:

- Average annual flood damages in the UK will rise from a current cost of £1.2 billion to more than £20 billion by 2080 if no action is taken. However, new approaches to local governance could still slash the bill to around £2 billion per year if local people take communal responsibility and adopt stronger land use rules, amongst other measures.
- The number of people vulnerable to flooding looks set to increase by 700,000 to 2 million extra individuals, adding significantly to the already high total of 1.5 million who are currently designated as "at risk".
- The Thames Flood Barrier will need to be replaced by the Environment Agency around 2030 due to the predicted increased incidence of storm surges from the North Sea. Embankments along the Thames will also need to be raised. Plans to build 90,000 new homes in the Thames Gateway region will need to be carefully managed if flood risk is not to be increased. (see [New towns for new times](#))
- Areas of cities may need to be designated "green corridors" into which floodwaters can be channelled, raising questions about what powers local councils may need to implement such sweeping changes.
- Some tourism-dependent coastal towns face a bleak future due to sea level rise and coastal erosion. Other settlements may slowly have to abandon zones that are at risk of flooding.
- Britain's Victorian sewer systems will be unable to cope, raising the risk that floodwaters will become doubly hazardous due to waste contamination. Crumbling sewers in Manchester, Bradford and Leeds will need immediate attention. A tunnel, 22 miles long, is planned through London, underneath the riverbed of the Thames, to relieve the capital's overloaded sewage system ([The Guardian, 10 April 2004](#))

There has been no shortage of news stories related to climate change in recent months (see below), adding urgency to Dr King's claims. However, the sheer diversity of different actors engaged in floodplain management and land-use – from house-builders to nature conservationists – may hinder the prospects for effecting real change through consensus-building in the short-term. Perhaps the recently-implemented [Water Framework Directive](#) may help focus the thinking of interested parties.

Climate change round-up

How have industrialisation and urbanisation modified the physical environment? How is climate change impacting upon physical and human systems? Here is a round-up of observed changes in physical environments and environmental policy that have appeared in the newspapers recently. Some impacts are short-term, others long-term; they cover biotic, fluvial and human environments. Most are negative, but there may be winners as well as losers as changes become more evident.

April 2004 European scientists predict widespread ablation (melting) of Greenland's ice in coming decades, with the ice sheet already reportedly thinning at a rate of one metre per year ([The Guardian](#), 08 April 2004)

April 2004 A £5.5million programme is announced in the UK to bring together engineers, scientists and government agencies to improve flood relief schemes ([The Guardian](#), 08 April 2004)

February 2004 Migratory swallows have arrived back in the UK a month earlier than expected and apparently now often travel only as far south as Spain in winter, whereas they used to continue into Africa ([The Daily Telegraph](#), 09 February 2004)

December 2003 The UK has become twice as stormy in the past 50 years as climate change has modified the North Atlantic oscillation and forced deep depressions that used to hit Ireland further south, according to new Hadley Centre research ([The Guardian](#), 10 December 2003)

December 2003 Skiing and snowboarding could be killed off in UK, German, Austrian, Swiss and Italian resorts as a result of low snowfall levels that could lead to a rise in the snow-line of up to 300 metres, according to a new report from UN climate scientists ([The Guardian](#), 03 December 2003)

December 2003 Despite growing concerns over global warming and climate change, the EU is still nowhere near meeting its Kyoto target to reduce greenhouse gas emissions by 8% before 2010, according to its annual progress report, although both the UK and Sweden have performed well ([The Guardian](#), 03 December 2003)

November 2003 Australian scientists suggest that sea ice around Antarctica has shrunk by 20% over the last fifty years, adding to concerns that ocean convection currents could be modified, possibly leading to the cooling of the UK should the flow of the *Gulf Stream* be interrupted ([The Guardian](#), 15 November 2003; see also Professor Bill McGuire's report in [The Guardian](#), 13 November 2003)

October 2003 Distribution patterns of European birds are changing, with new species such as *Cetti's Warbler* and *Baillon's Crake* extending their range to include the UK as well as southern Europe ([The Daily Telegraph](#), 18 October 2003)

October 2003 Glaciers in Argentina and Chile are melting at double the rate of 1975 due to global warming, according to Californian researchers ([The Guardian, 18 October 2003](#))

Related items:

- National Trust abandons land to the sea
- climate change denials are a danger to us all, writes George Monbiot in [The Guardian \(27 April 2004\)](#)