



Foresight Future Flooding

Key Messages for Financial Services

The project

Sir David King, the Government's Chief Scientific Adviser and Head of the Office of Science and Technology, commissioned the Foresight Flood and Coastal Defence project to consider:

- How might the risks of flooding and coastal erosion change in the UK over the next 100 years?
- What are the best options for Government and the private sector for responding to the future challenges?

The work has been performed by a team of 60 leading experts, and constitutes the most wide-ranging analysis of the problem of increasing flood risk that has ever been made in the UK and possibly internationally.

The team developed four scenarios of the future, based on a scientific review of the key factors which will affect the risks of flooding. These scenarios embody different amounts of climate change and different socioeconomic futures for the UK.

There are two key messages. Firstly, continuing with existing policies is not an option – in virtually every scenario considered, the risks grow to unacceptable levels. Secondly, the risks need to be tackled across a broad front. Reductions in global greenhouse-gas emissions would reduce the risks substantially, however, this is unlikely to be sufficient in itself. Hard decisions need to be taken – we must either invest more in sustainable approaches to flood and coastal management or learn to live with increased flooding.

This summary draws out some of the key messages for the financial services sector.

Some key findings

The current situation

Nearly 2 million properties in floodplains along rivers, estuaries and coasts in the UK are potentially at risk of flooding. 80,000 properties are at risk in towns and cities from flooding caused by heavy downpours that overwhelm urban drains – so-called 'intra-urban' flooding. In England and Wales alone, over 4 million people and properties valued at over £200 billion are at risk.

How flood risks might change

If flood-management policies and expenditure levels remain as at present, annual losses would increase under every scenario by the 2080s. River and coastal flooding damages could increase by between £1 billion to as much as £20 billion. Localised urban drainage flooding will also increase but much more work needs to be done to quantify this problem. Coastal erosion rates also increase in every scenario, with annual costs rising nine-fold to £126 million in the worst case. Whilst a relatively small value, coastal erosion will often compound flood risks in affected areas.

The distribution of average annual damage from flooding across England and Wales in the 2080s. The maps represent changes in risk by the 2080s for the four future scenarios. Darker shades of red signify progressively greater increases in damage. Green signifies a reduction.

Figures in brackets are atmospheric carbon-dioxide concentrations

0 100 200 km

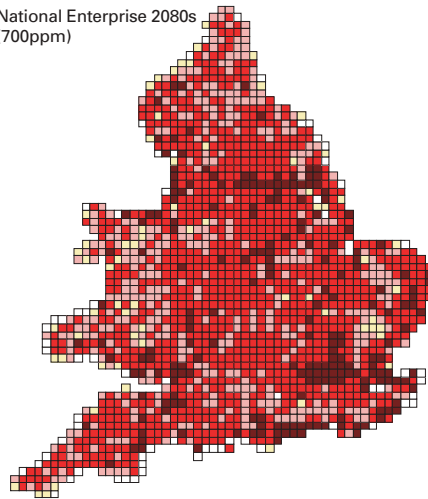


2080s Foresight scenarios

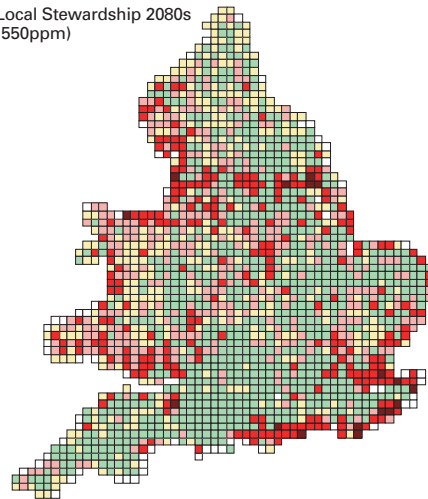
Change from present day (2002)

- Decrease (<-£1k)
- Negligible (-£1k to £1k)
- Low increase (£1k to £100k)
- Medium increase (£100k to £10,000k)
- High increase (>£10,000k)
- Outside IFP

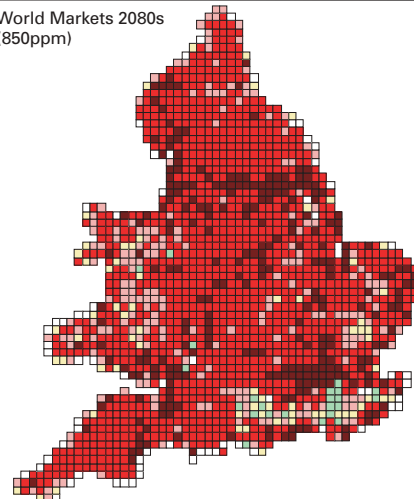
National Enterprise 2080s
(700ppm)



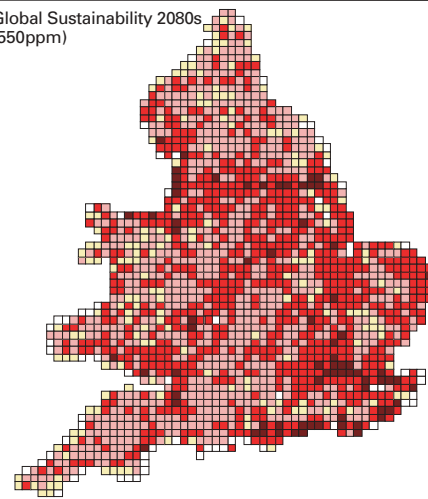
Local Stewardship 2080s
(550ppm)



World Markets 2080s
(850ppm)



Global Sustainability 2080s
(550ppm)



The rate of increase in flood risk depends on the scenario. In the World Markets/High emissions scenario in the 2050s and 2080s economic damages increase approximately linearly. However, the number of people at high risk rises very rapidly – 90% of the increases occur by the 2050s.

The distribution of areas at risk varies according to scenario, but the worst increases consistently affect the Lancashire/Humber corridor, the south-east coast and major estuaries.

Possible responses

An integrated portfolio of responses, drawn from increased flood-defence investment, land-use planning, resilient construction techniques and rural water storage, could reduce the risks of river and coastal flooding from the worst scenario of £20 billion damages per year down to around £2 billion in the 2080s. This would still double present-day damage. GDP growth is between 2 and 14 times in the scenarios considered, and will at the same time drive rising asset values at risk, and provide opportunities to fund defence investment and other policy responses. A portfolio of responses would be both less costly and more sustainable than engineering solutions alone.

Key choices

The strategic issues facing Government and UK society include:

- What standards of physical and financial protection should we aim for in the future.
- Who should pay for those protections.
- How should we use land, balancing the wider economic and social needs against creating a legacy of flood risk?

The implications for the financial services sector include:

- How global capital markets will react to climate-change impacts here and worldwide.
- How might changing risk environments affect individual underwriting and lending decisions.
- What would be the basis of investment and development funding decisions.
- Which public/private partnership solutions could ensure the sustainability of financial products and operation of financial and property markets?

Where to find more information

Some key sections of interest in the project reports:

Executive Summary Questions 1, 2, 3, 5, 7, 10, 12, 13, 14, 17 and 18

Volume 1 Chapters 4, 5 and 9

Volume 2 Chapters 5 and 9

Copies of the full reports can be downloaded or ordered from www.foresight.gov.uk

Next steps

The Association of British Insurers will consider the implications of this work at its member committee meetings and will have a wider debate on the implications at a summer event on climate change in June 2004 (Contact: Sebastian Catovsky, ABI).

The Council of Mortgage Lenders is holding a climate change seminar in July for its members to discuss the implications of this work. (Contact: Jackie Bennett, CML)

A copy of the action plan, which sets out the activities of a wide range of stakeholders in responding to the findings of the report, can be downloaded from www.foresight.gov.uk

The Foresight Programme

Foresight runs a rolling programme of up to four projects at a time. Each produces challenging visions of the future to ensure effective strategies now. The findings of the projects do not constitute Government policy. So far, four other projects have been started. Further information can be found on the Foresight website at www.foresight.gov.uk

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