Flood risk and climate change – protecting our homes, communities and livelihoods

Introduction

Britain has just experienced the wettest winter since records began 250 years ago - with devastating flooding affecting huge swathes of the country. Climate scientists – as well as the Government’s own advisers – have warned that climate change is set to greatly worsen the threat of flooding in the future: up to a million more more people could be at significant risk of flooding by the 2020s. Yet the Government has cut spending on flood defences in real terms, and there's a £500m gap between current investment and what's needed to keep pace with climate change.

The floods must be a wake-up call for politicians - they need to take urgent action to protect households from future flooding, and tackle the cause of climate change.

Friends of the Earth is calling on the Government to:

- Invest properly in flood defences, in order to keep pace with climate change and protect thousands of homes from future flooding;
- Take the risks of climate change seriously and factor it into all its policies - from the flood insurance scheme ('Flood Re') currently going through Parliament, to its guidance for planners.
- Redouble efforts to tackle the causes of climate change by stopping burning fossil fuels, carrying out a massive energy efficiency programme and powering up with clean energy.

What's the link between flooding and climate change?

The Met Office has confirmed that this has been the wettest winter for the UK since records began 250 years ago. Extreme weather is on the increase - 4 out of the 5 wettest years on record in Britain have taken place since the year 2000.

In a recent report, the Met Office stated that "There is no evidence to counter the basic premise that a warmer world will lead to more intense daily and hourly heavy rain events." It's basic physics that a warmer atmosphere can hold more moisture, thus contributing to heavier downpours. Global warming is also causing sea levels to rise, through melting polar ice and thermal expansion of the oceans. Sea levels have already risen around southern England by 12cm since 1900; between 1990 and 2030 the Met Office expect them to rise by 11-16cm.
It's hard to say individual extreme weather events are directly 'caused' by climate change, but some so-called 'attribution' studies now exist. For example, a 2011 study by Oxford University found that manmade global warming doubled the likelihood of the devastating floods in 2000. This sort of attribution study could be done much more often if the Government invested more in climate change research. Researchers at Oxford have recently set up a citizen science project enabling anyone with a computer to take part in working out how much climate change contributed to the 2014 floods.

In sum, manmade climate change is loading the dice in favour of more flooding; the question for decision-makers is how much they are prepared to gamble, and put ever-greater numbers of households at risk of flooding.

What's the impact of flooding?

Anyone who has been flooded will know the personal and emotional impact of flooding can be huge - forcing communities to be displaced from their homes and taking weeks to clean up and repair the mess afterwards.

The economic cost of flooding to Britain's economy, too, is already considerable. On average, floods cost the UK economy £1 billion annually. The economic losses from the July 2007 floods were estimated to be £3.2bn. Figures published by the Association of British Insurers show that the cost of flood damage since 2000 has leapt by 200% on the previous decade. This cost is set to rise with climate change.

How many homes are at flood risk?

There are 5 million homes in the UK at risk of flooding. 2.4 million are at risk of flooding from the seas and rivers, 3 million are at risk of surface water ('flash') flooding (some properties are at risk from both). 'At risk' is a level of probability defined by the Environment Agency as being between a 1 in 100 and 1 in 1000 chance of flooding.

There are 370,000 homes in the UK at significant risk of flooding from rivers and the sea. The Environment Agency have not yet stated how many homes are at significant risk of flooding from surface water. 'At significant risk' is a level of probability defined by the Environment Agency as being greater than a 1 in 75 chance of flooding.

Friends of the Earth have produced flood maps showing how these nationwide figures break down by Parliamentary constituency. The data originates from the Environment Agency, and the analysis was conducted by the Association of British Insurers.

Friends of the Earth don't hold location data for flood-risk homes, but you can get a general impression of areas at flood risk by looking at the Environment Agency's own flood maps.

What will climate change do to future flood risk?

Defra's Climate Change Risk Assessment (CCRA) states, “floods and coastal erosion are already serious risks in the UK, and they are projected to increase as a result of climate
change.” The CCRA projects that climate change and population growth could cause the number of homes at significant flood risk to rise from 370,000 currently to almost 1 million by the 2020s. This is projected to rise still higher later in the century - to 1.5 million homes by 2050, and to 2 million by 2080.

What's currently being spent on flood defences?

Friends of the Earth have led criticisms of the Government for making misleading claims about flood defence spending levels. In late 2013 we made the case that flood defence spending under the Coalition had been cut, despite repeated claims by Owen Paterson and David Cameron that 'this government is spending more in this four-year period than any previous government'.

Our examination of the data showed that in fact, the Coalition had spent slightly less on flood defences than the last Labour government, even in cash terms. When inflation is factored in, there has been a significant real-terms cut.

This assertion was vindicated in January 2014 when Defra was forced to publish an 'updated' briefing containing 'corrected' spending figures, showing the drop in spending from £2.37bn to £2.34bn. Our criticisms have also been supported by the House of Commons Library, the Office of National Statistics, Channel 4's Fact Check and the Opposition.

In February 2014, following sustained criticism of its cuts and handling of the recent floods, the Government announced £130m of new money for flood defences. The vast majority of this money is for repairs, made unavoidable by two terrible winters in succession - and potentially because of self-inflicted damage through cuts to flood defence maintenance. The new money is welcome but is essentially an admission that earlier cuts were a mistake; indeed, the past four years have seen a series of efforts to make amends for the first swingeing cuts imposed by George Osborne on flood defence spending in 2011 - a huge £100m annual cut which would have continued but for unexpected additional funds being clawed back in subsequent years in the wake of sustained flooding.

With the new £130m added in, the Coalition has now committed slightly more to flood defences in cash terms than the previous government; however, in real terms, it is still slightly less - going by the Bank of England's inflation calculator.

What flood defence spending is required due to climate change?

Of course, the far bigger issue is not whether one administration has spent more than the last one - but rather, whether enough is being spent to provide the necessary protection. With climate change set to dramatically increase flood risk in future, much higher levels of ongoing investment are required.

In 2004, the Foresight Programme warned that additional investment in flood defences of £10m-£30m plus inflation would be required out to 2035 to keep pace with climate change. In 2009, the Environment Agency published a long-term investment strategy recommending
that, starting from the 2010-11 baseline, an extra £20m plus inflation be spent annually, every year out to 2035. The Coalition has ignored both sets of recommendations.

This year, the Committee on Climate Change looked afresh at the numbers and concluded that a **£500 million gap has emerged** between what the Coalition has spent 2011-2015, and what is required to keep pace with climate change. As a result of this underinvestment, the CCC warn that 250,000 more homes will be put at flood risk over the next twenty years and we risk an extra £3bn of avoidable flood damages in future.

As of March 2014, the Conservatives and Liberal Democrats have declined to commit to investing enough to keep pace with climate change. Labour has not committed either, but Ed Miliband has highlighted the £500m gap repeatedly, and Ed Balls has given strong signs that he will prioritise flood defence capital spending in line with climate risk in Labour's zero-based review.

**What's wrong with the government's flood insurance scheme?**

The Government-Industry flood insurance scheme, Flood Re, is currently going through Parliament, with the House of Lords set to debate it next at Report Stage on 25th March.

The essence of Flood Re is to establish a cross-subsidy scheme to ensure affordable flood insurance for all households - with insurers being able to place a levy on all households in return for keeping premiums for those most at flood risk within affordable bounds. This is welcome, but the scheme is predicated on an assumption, made explicit in Defra's own Impact Assessment, that flood risk remains the same in future - effectively pretending climate change isn't happening.

The hole at the heart of this flawed assumption is Defra's assurance that they are investing enough in flood defences to offset the impact of climate change. As outlined above, there is in fact a huge gap between current investment and what is required. This fact means that there is still a big risk of future increases in insurance premiums in future (and / or to the levy on all households), as climate change bites.

**Conclusion: what needs to be done**

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