

'The costs of the winter 2015 to 2016 floods'

A report of the high level economic damages

January 2018

Summary

The total economic damages for England from the winter 2015 to 2016 floods were estimated to be between £1.3 billion and £1.9 billion, with a best estimate of £1.6 billion.

Business (non-residential) properties suffered the greatest proportion of flood damages, with 32% of total damages occurring to this sector (best estimate of £513 million incurred by 4,944 properties).

Background

At a national scale, the winter floods of 2015 to 2016 were the most extreme on record according to the intensity of the rainfall, resulting in widespread flooding during December 2015 and January 2016 – primarily in the north of England. These events resulted in flooding of many properties, transport infrastructure and farmland.

How was the assessment made?

The approaches adopted to assess the economic damages are based on the methods developed and extensive research from 3 previous reports published by the Environment Agency: 'The costs of 2007 floods in England'; 'Assessing the economic costs of floods'; and 'The costs and impacts of the winter 2013 to 2014 floods'.

The reference data from the 2007 and 2013 to 2014 studies are reliable and based on in-depth data collection. The 2007 data are used in the Multi-Coloured Manual (MCM) for investment appraisals, within the rapid flood cost calculator and in the partnership funding calculator.

What were the findings of the assessment?

A breakdown of the damage estimates by impact category is given in Table 1.

The nature of the economic costs follow a similar pattern to the damages seen from the 2007 and the 2013 to 2014 floods, with property and transport damages dominating. However, business property damages were significantly larger than household property damages in the 2015 to 2016 floods – a pattern not normally

expected and not seen in either the 2007 or the 2013 to 2014 floods.

In terms of scale, the economic damages from the 2015 to 2016 winter floods are similar to the 2013 to 2014 winter floods. The 2007 summer floods, are by some margin the largest in terms of economic damages of these 3 flood events.

The economic damages are further analysed in the technical report. '**The costs of the winter 2015 to 2016 floods**'

How will these findings be used?

The findings will be used to update the evidence base on the economic damages of flooding and associated decision making rules for investment.

It will be possible to use the new 2015 to 2016 values alongside those from the 2013 to 2014 and 2007 reports. Drawing on data from all these events will help to improve investment decisions.

Specifically, the findings of this study will be used to update the Environment Agency's rapid cost calculator, so that it is better at estimating the economic and financial costs of a flood soon after an event.

The outcomes of this report will also be used in future updates to the MCM. Identified research needs on avoided flood damages and the social impacts of flooding will be fed back into the Defra/Environment Agency Joint R&D programme.

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Table 1: best estimate of economic damages of the winter 2015 to 2016 floods by impact category

Impact category	Best Estimate (£ million)	% of Total	Possible Range (£ million)
Residential properties	£350	21.9	£392-£308
Businesses	£513	32.0	£616-£410
Temporary accommodation	£37	2.3	£43-31
Vehicles	£36	2.2	£41-£31
Local authorities (excluding roads)	£73	4.6	£92-£55
Emergency services	£3	0.2	£3.5-£2.6
Flood risk asset repair	£65	4.4	£72-£59
Utilities (energy and water)	£104	6.5	£117-91
Transport (rail and road)	£341	21.3	£414-£268
Agriculture	£7	0.4	£8-£6
Health	£43	2.7	£54-£32
Education	£4	0.2	£5-£3
Other	£19	1.2	£25-13
Total	£1.6 billion	100	£1.9-£1.3 billion

LIT 10737 - Summary of the costs of the winter floods 2015 to 2016

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