

UK Climate Change Risk Assessment: Evidence Report

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APSE Flooding & Climate Change seminar

9th February 2017



@theCCcuk

@DanielJ88

The Adaptation Sub-Committee of the Committee on Climate Change



Statutory roles in UK Climate Change Act (2008):

- **To provide independent, expert advice** on climate risks and opportunities (advisory role)
- **To report to Parliament on progress** in preparing for climate change (scrutiny role)



Baroness Brown of Cambridge (chair)

Ece Ozdemiroglu



Prof Jim Hall

Prof Dame Anne Johnson



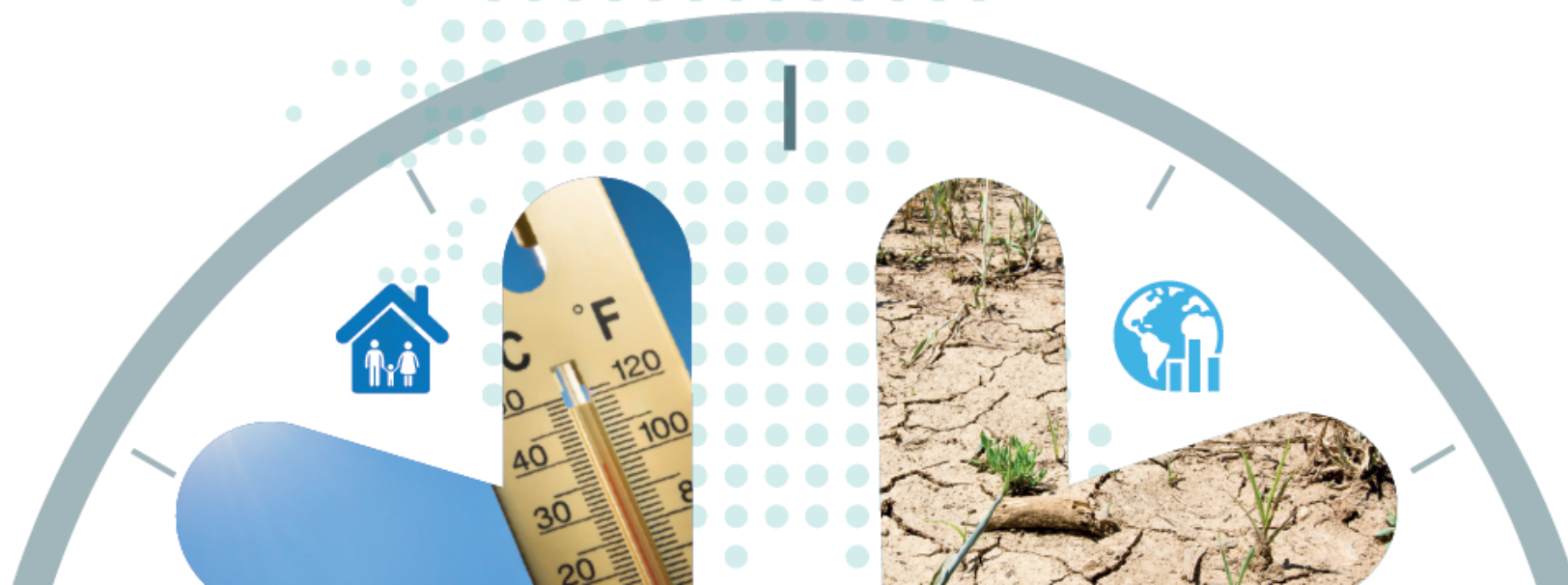
Rosalyn Schofield

Sir Graham Wynne

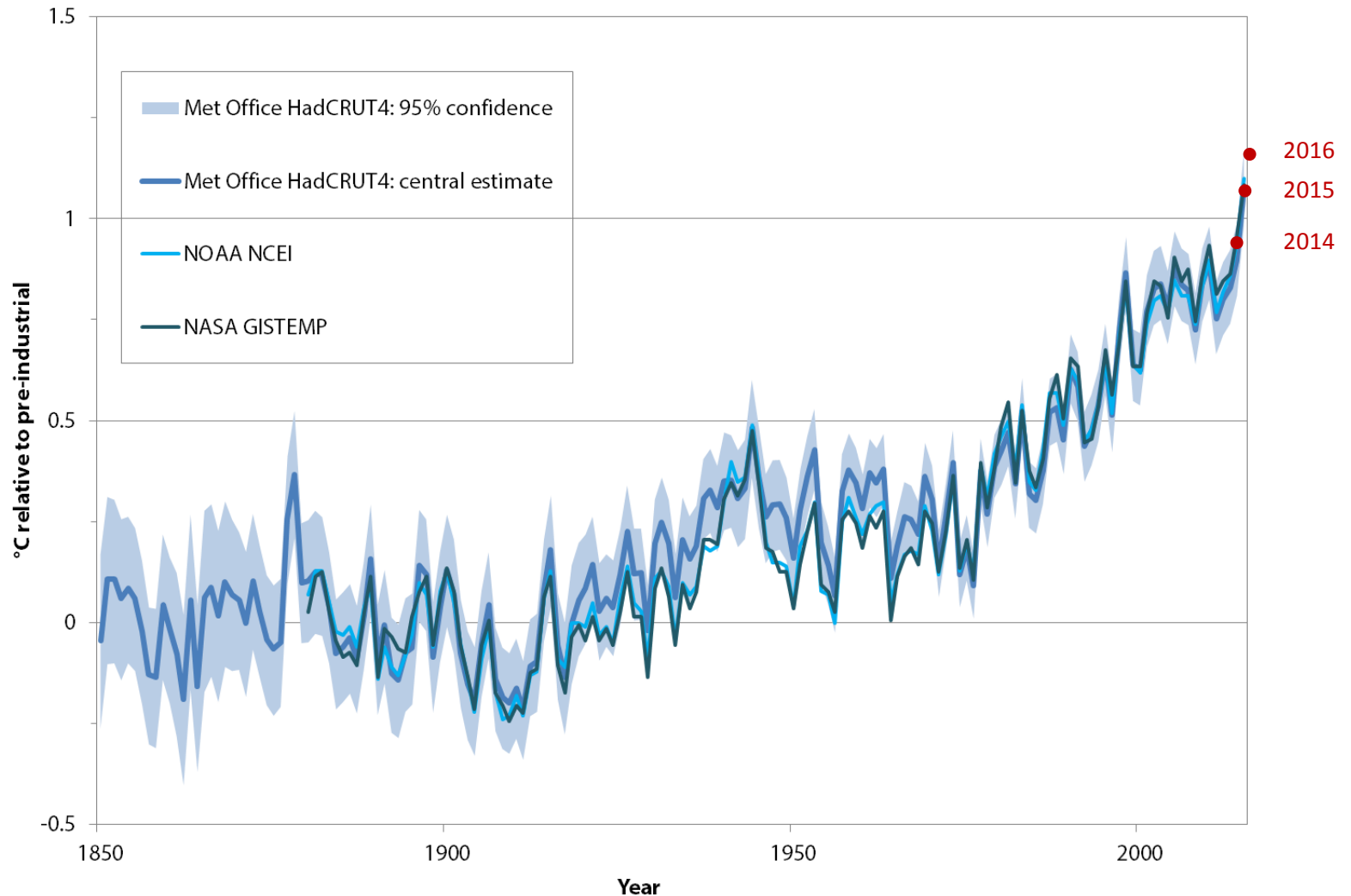


UK Climate Change Risk Assessment 2017

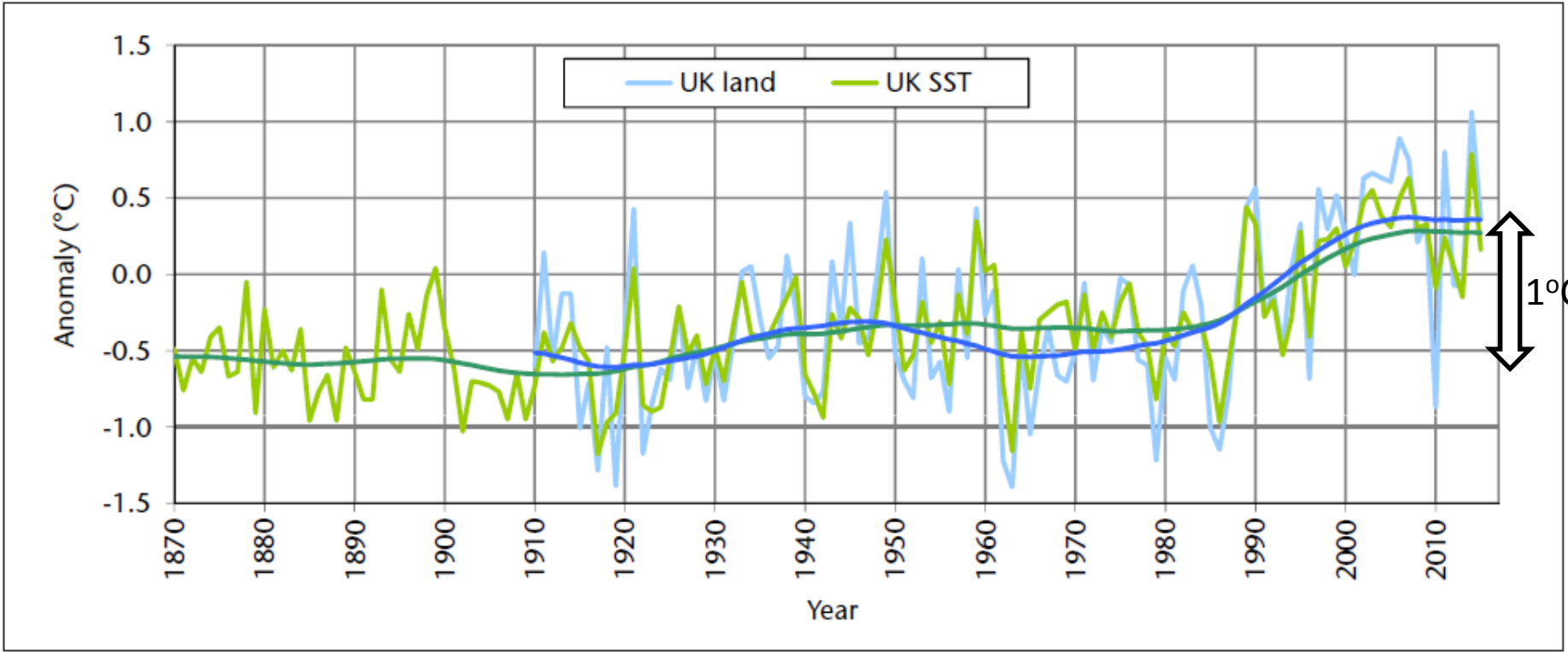
Synthesis report: priorities for the next five years



2016 confirmed as the warmest year on record, the third record warmest year in a row



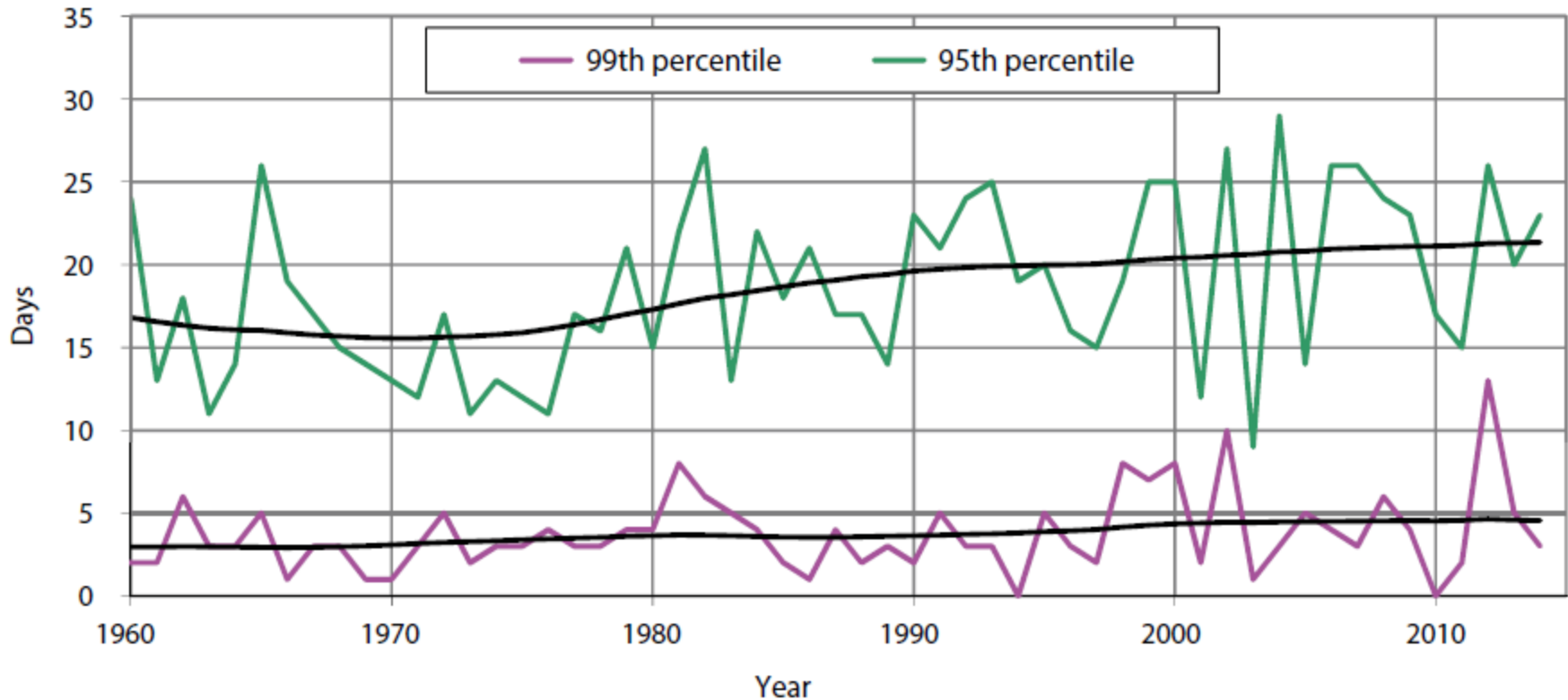
UK land and sea surface temperatures have warmed by ~1°C, record highs for both in 2014



Area	1961-1990 average	1981-2010 average	2006-2015 average	2015
UK land	8.3	8.8	9.2	9.2
UK near-coast SST	11.1	11.5	11.7	11.6

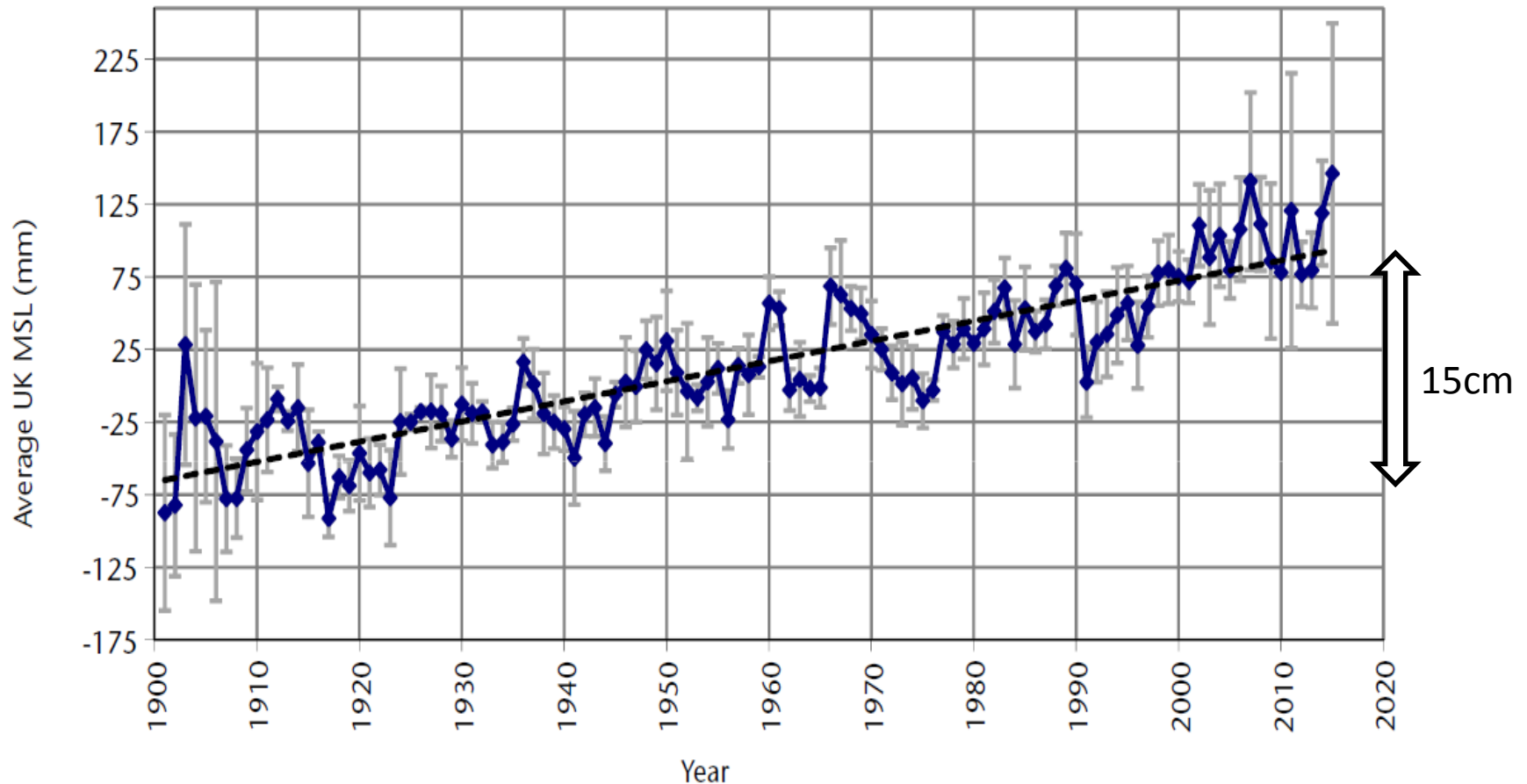
Heavy rainfall is on the increase, particularly in western and northern UK areas

Number of days per year on which UK average rainfall exceeds 9.5mm (95th percentile) and 14mm (99th percentile)



UK average sea level has risen by 15cm since 1900

UK sea-level index using sea-level data from Aberdeen, North Shields, Sheerness, Newlyn and Liverpool



UK Climate Change Risk Assessment (in a nutshell)



- Climate change is happening here and its happening now
- The $\sim 1^{\circ}\text{C}$ warming to date has already affected weather patterns, including in the UK
- The Paris Agreement means 4-6 $^{\circ}\text{C}$ of warming is less likely
- But further changes in the UK climate (and sea level rise) are inevitable
- Severe, pervasive and irreversible changes in climate cannot be ruled out



Six priority areas for the next National Adaptation Programme



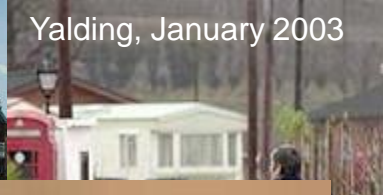
RISK MAGNITUDE: LOW MEDIUM HIGH

“Once in a lifetime” floods in England since 2000

Southern and Northern England,
Autumn 2000



Yalding, January 2003



Boscastle
August
2004



Carlisle,
January
2005



Southern, Western and Northern England,
Summer 2007



Morpeth, 2008



Cumbria,
November
2009



Across England,
2012



East coast tidal surge,
December 2013



South-West & Southern England,
Winter 2013/14



Cornwall,
November 2010

Northern England
December 2015



What should we do about it?



Actions with no/low regrets

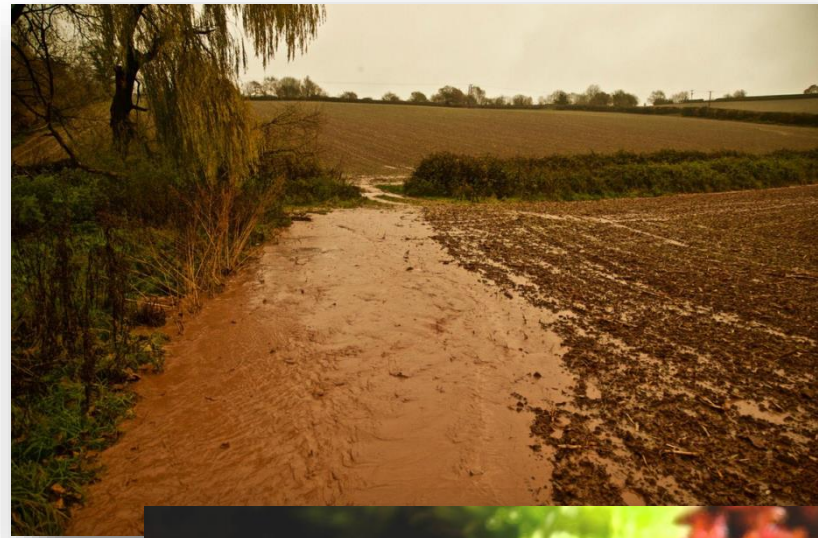


Factor climate change into decisions that create 'lock-in'



Prepare now for long-term risks and impacts

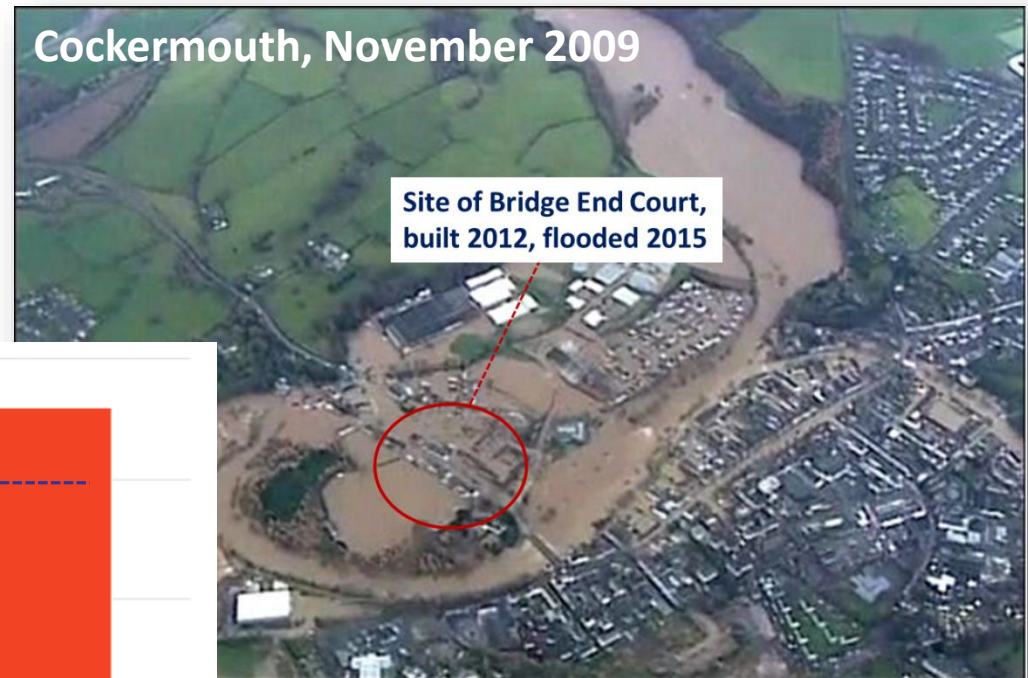
Actions with no/low regrets



Avoiding 'lock-in' – decisions that are difficult and costly to reverse

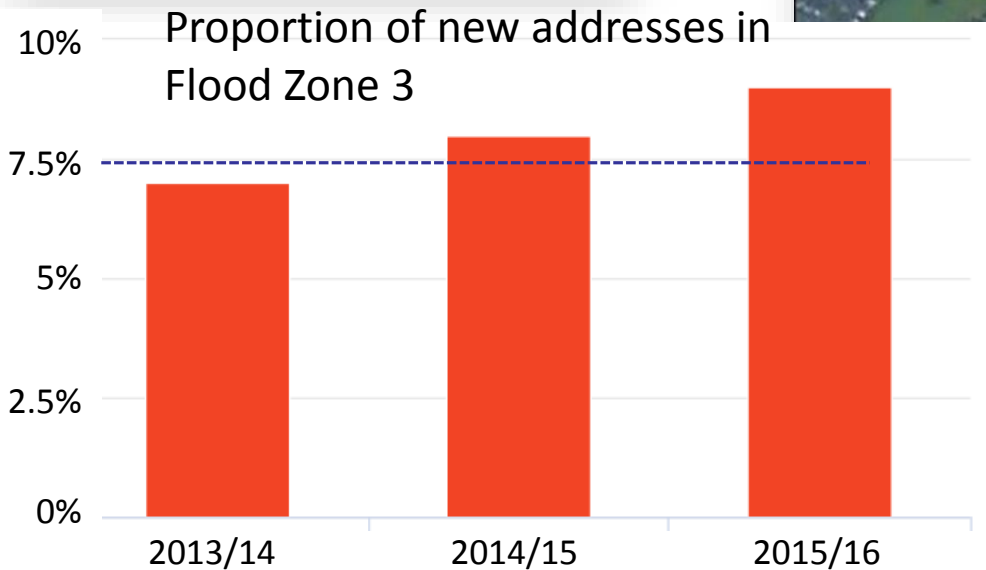


Moorland, Somerset
Levels, 2014



Cockermouth, November 2009

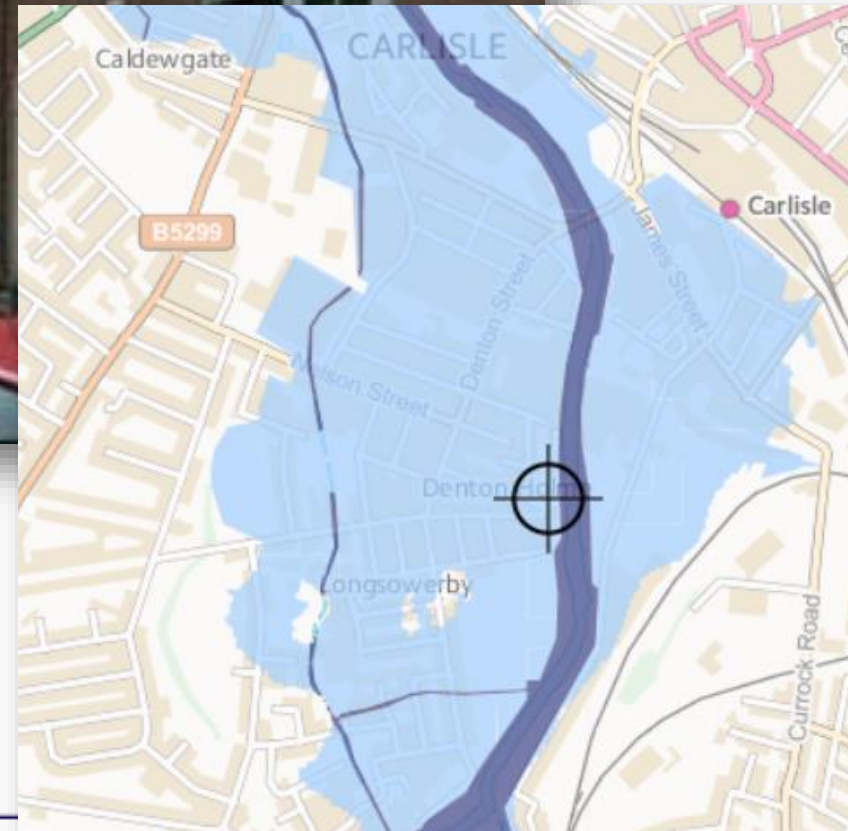
Site of Bridge End Court,
built 2012, flooded 2015



Avoiding 'lock-in' – decisions that are difficult and costly to reverse



Mcilmoyle Way, Carlisle – flood wall, raised floor levels, ground floor used for parking

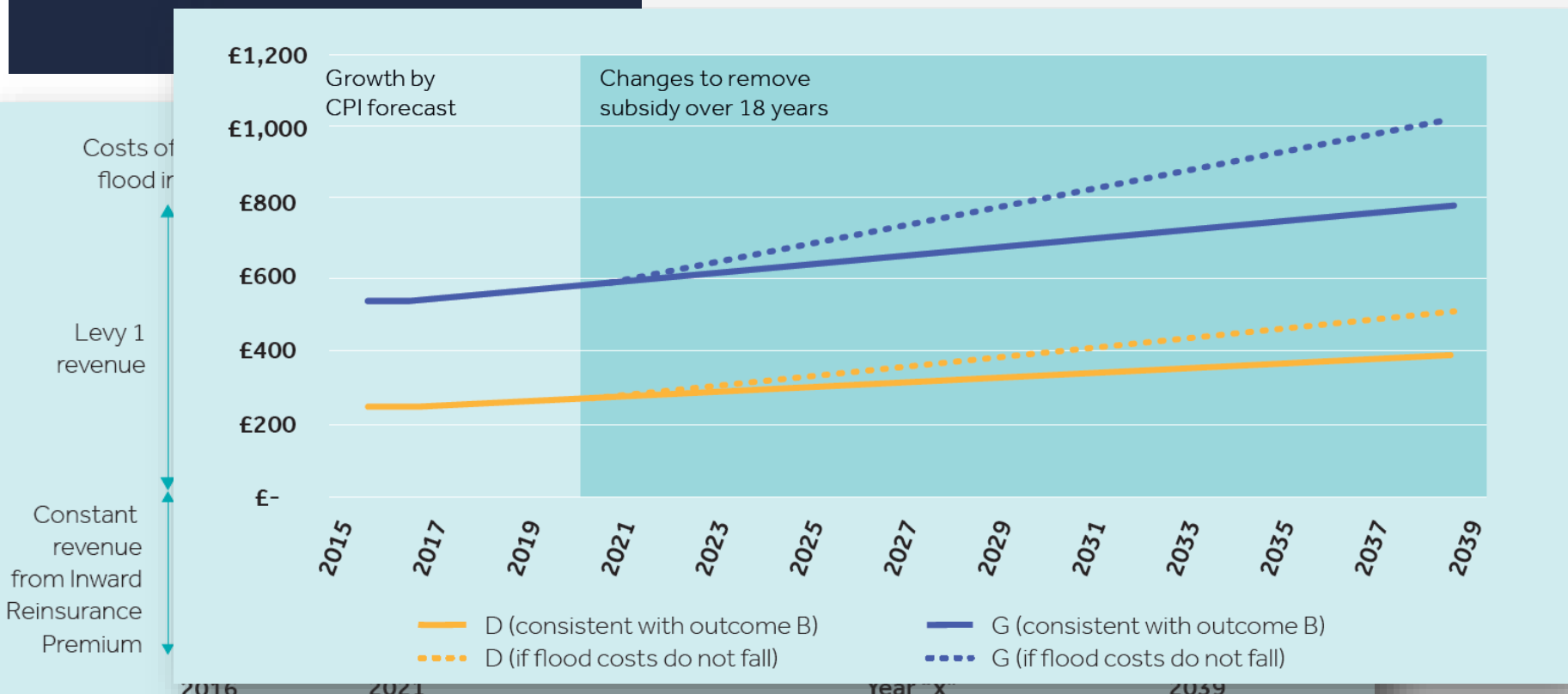


Preparing now for long-term risks and impacts



Preparing now for long-term risks and impacts

FLOODRE



- ◉ **The impacts of flooding and coastal change in the UK are already significant and expected to increase as a result of climate change**
 - Improving protection for some communities will be possible whilst others will face the prospect of significantly increased risks.
 - This will affect property values, business revenues and in extreme cases the viability of communities.
 - Risks to communities and local economies are closely linked to the resilience of local infrastructure, in particular energy, transportation and communications systems.
 - Warming of 4°C or more implies inevitable increases in flood risk across all UK regions even in the most ambitious adaptation scenarios considered.

Adaptation Sub-Committee

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