

# Social Justice and Climate Change Adaptation in the UK

Governance of Adaptation  
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## Overview

1. Existing approaches used to inform adaptation priorities
2. Results from recent research on social vulnerability
3. Governance implications

## Key messages

- Current framings of adaptation underplay the social nature of vulnerability to climate change
- Normative aspects of adaptation matter
- Public perceptions of fairness are powerful

# Premise

1. *Society should care about social justice*
2. *Equity is as important to adaptation as effectiveness, efficiency and legitimacy (Adger et al, 2005)*

(Vulnerability-based framing of adaptation)

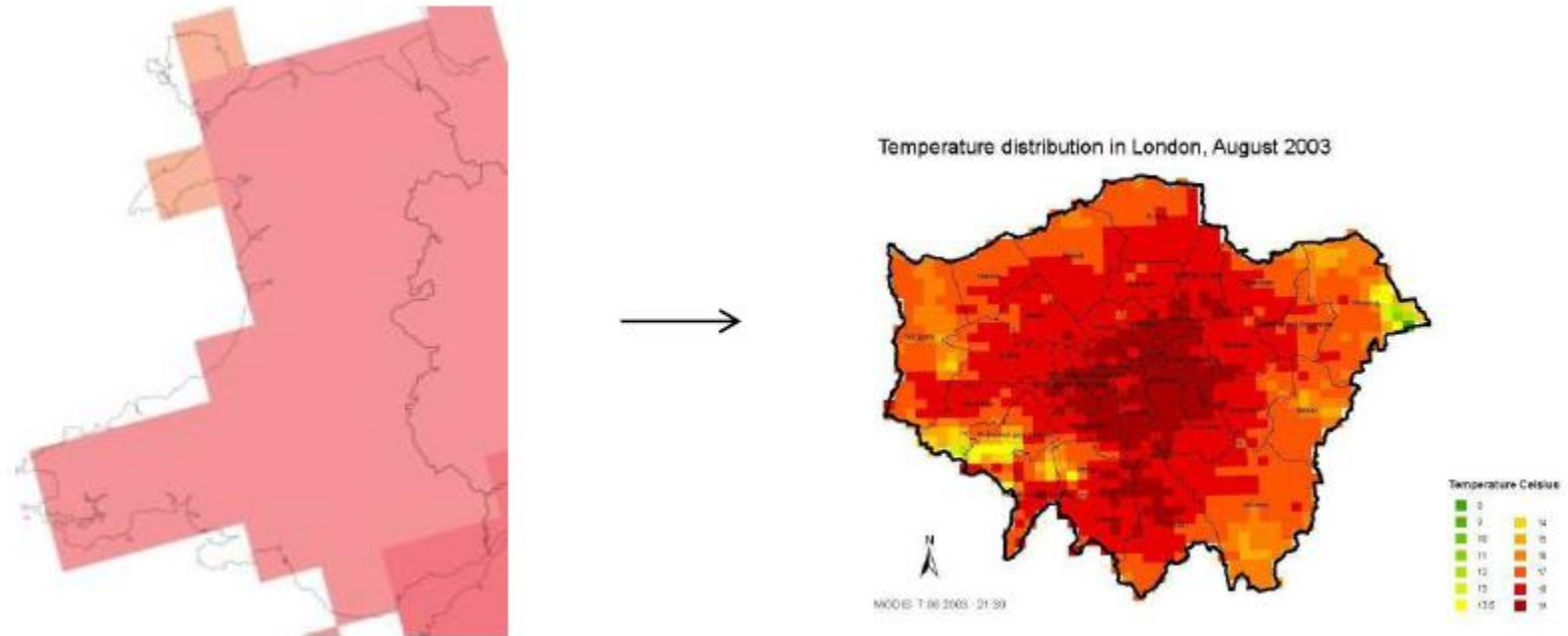
# Existing approaches used to identify adaptation priorities

## Climate science & impacts-based approaches

(Brown et al, 2011)

- Existing evidence-base dominated by physical and natural sciences (HR Wallingford, 2012)
- Modelling social systems is complex (Goldspink, 2000)

# Example: impacts-based assessment



Focus on size of risk vs. who is at risk

# Existing approaches used to identify adaptation priorities

## Risk Frameworks (e.g. Willows & Connell, 2003)

- Risk management is better when subjective preferences are clear (Bradbury, 1989), objective-based (IRM, 2002)

## Economic Analyses

- Limited evidence base (esp. Distribution) (Watkiss, 2011)

## Vulnerability assessement

- Processes/ current/ adaptive capacity (Dessai & Hulme, 2004; O'Brien et al, 2007; Spiers, 2000)

# Background

**UK  
2012** | **Climate  
Change  
Risk  
Assessment**



# Research



## RESEARCH QUESTIONS

- Who emits the most?
- Who is most vulnerable?
- Does adaptation protect the most vulnerable?

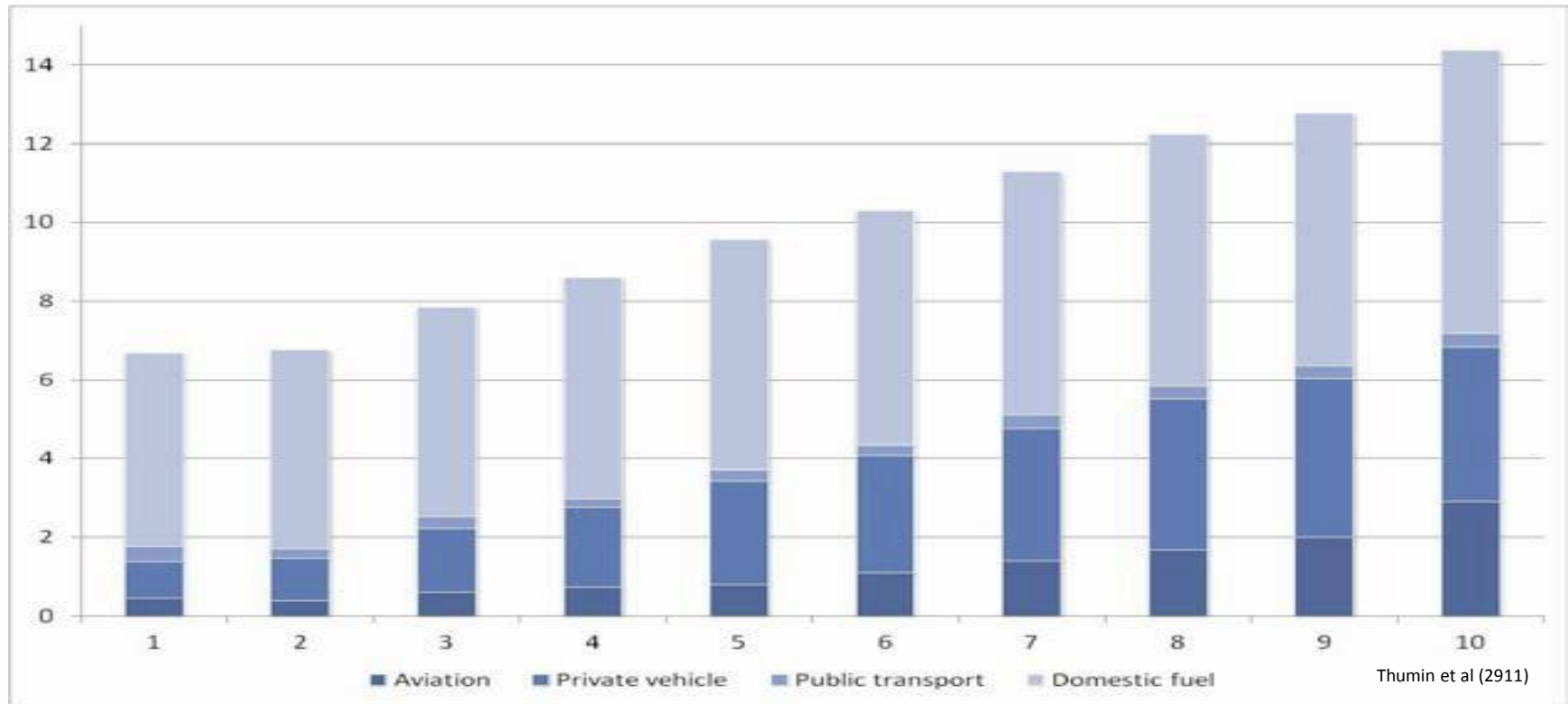
## METHODS

### Bottom-up vulnerability assessment

- Incl. interviews, focus groups, case studies, lit. review + impacts review



# Results: who emits the most?



Top income decile emit >2x CO<sub>2</sub>e vs. bottom 10% (metric tonnes CO<sub>2</sub>e)

# Results: who is most vulnerable?

## Current evidence base is generally poor

- US Env. Justice literature (esp. heat mortality)  
(e.g. Basu & Samet, 2002; Hajat et al, 2007; Mirabelli, 2005; Klinenburg, 2002; O'Neill et al, 2005; Morello-Frosch et al, 2009)
- UK focus on social impacts of flooding  
(EA, 2005; Tapsell et al, 2002; Thrush et al, 2005; Fielding et al, 2005; Walker et al, 2006)
- Emerging evidence on social nature of vulnerability to climate change  
(CAG Consultants, 2009; JRF reports analysed here)

# Results: who is most vulnerable?

<b>Vulnerability</b> =	<b>Exposure</b>	<b>Sensitivity</b>	<b>Adaptive Capacity</b>
<b>Heatwaves</b>  Benzie et al (2010)	Neighbourhood characteristics (incl. UHI), Housing quality, A/C rates, Occupation	Age, Health, Disability Lifestyle	<ul style="list-style-type: none"><li>• Income</li><li>• Tenure (rented or social)</li><li>• Access to cool spaces</li><li>• Access to information &amp; perception of risk</li><li>• Social isolation</li><li>• Distrust/ disconnected from official services</li><li>• Independence</li></ul>

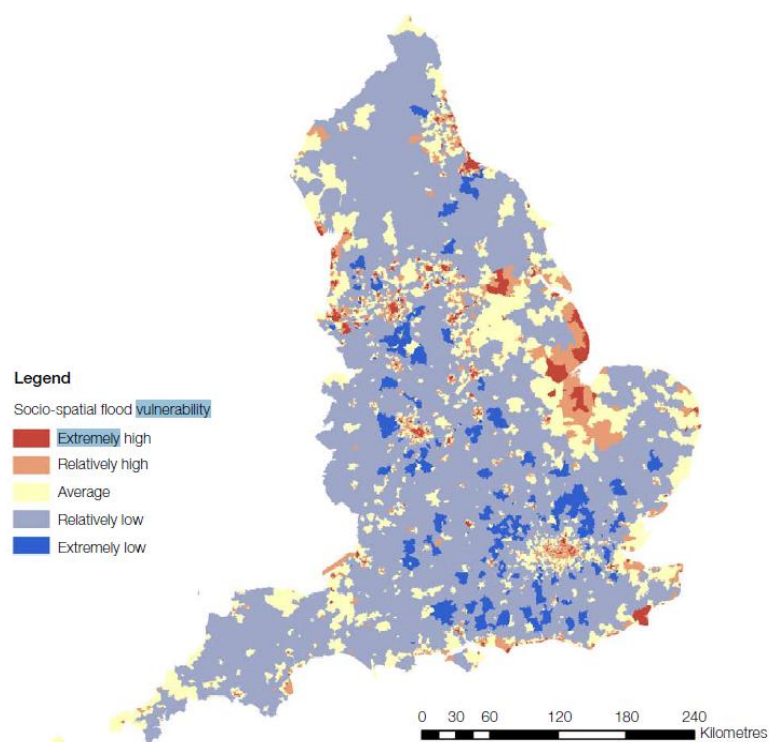
Lower income groups, older people, transient groups are more vulnerable. Future socio-economic trends are important.

# Results: who is most vulnerable?

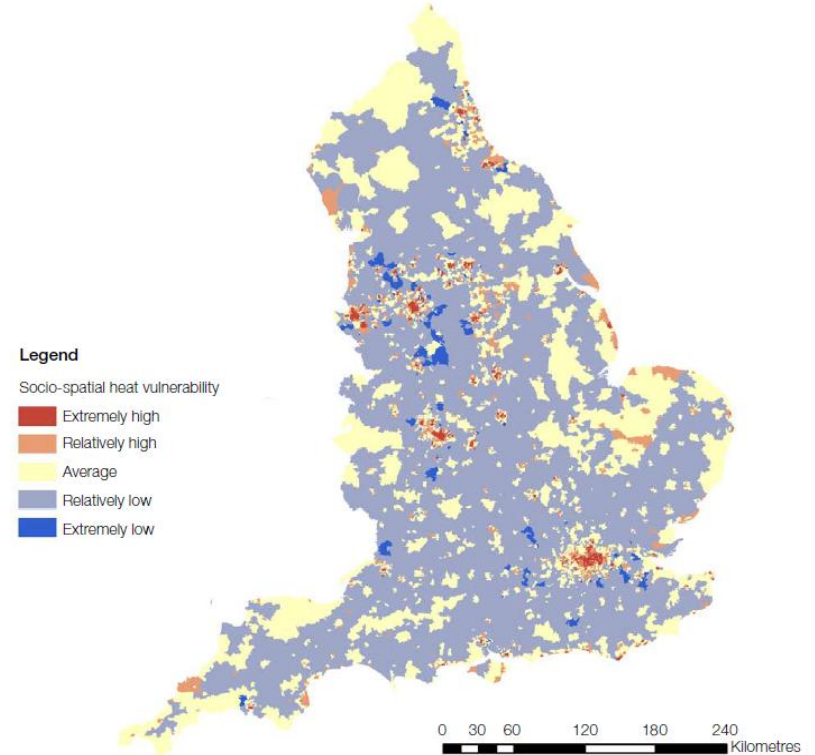
Vulnerability =	<i>Exposure</i>	<i>Sensitivity</i>	<i>Adaptive Capacity</i>
<b>Coastal flooding</b>  Zsamboky et al (2011)	Coastal homes, Occupation, Housing quality	Age Health 'Blighted' neighbourhoods	<ul style="list-style-type: none"> <li>• Livelihoods (dependency on coast and tourism)</li> <li>• Isolation and reliance on infrastructure</li> <li>• Community deprivation (incl. demography)</li> <li>• Access to affordable insurance</li> </ul>

Lower income groups, older people, deprived and isolated communities are most vulnerable

# Results: who is most vulnerable?



Source: Boundary data: EDINA UKBORDERS, Crown copyright



Source: Boundary data: EDINA UKBORDERS, Crown copyright

Socio-spatial index of vulnerability to flood (left) and heat (right)

Lindley et al (2011)

# Results: does adaptation protect the most vulnerable?

## Planned adaptation

- Consider social dimension and consult constituents

## Autonomous adaptation

- Private context; narrower considerations?

## *Mal-adaptation*

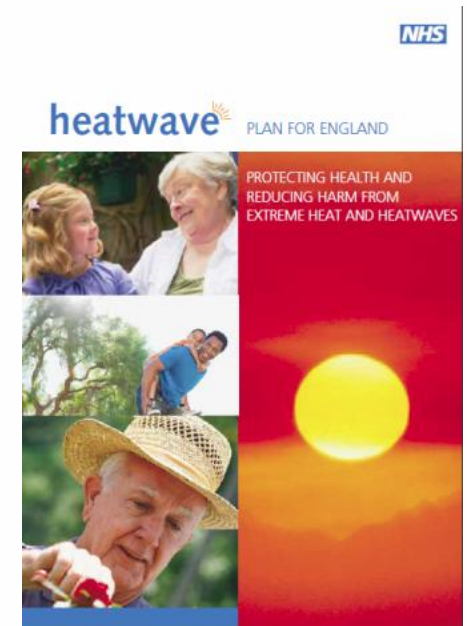
- Adverse impact on or even increase vulnerability of other systems, sectors or groups (after Barnett & O'Neill, 2009)

# Results: Planned adaptaton

## Heatwave Plan

Context: SE+CC trends in SW England

- Top-down cascade structure
- Complexity of identifying who is vulnerable at local level
- Barriers to including wider stakeholders in vulnerability identification
- Resilience building needed



Benzie et al (2011)

# Results: autonomous adaptation

## Drought risk: water pricing

Context: SE+CC + affordability crisis



- Metering not inherently regressive
- Rising Block Tariff + support schemes = affordable water efficiency?
- Pricing scarcity without support = mal-adaptation
- Strong consumer rights = procedural justice

Benzie et al (2011)



# Results: autonomous adaptation

## Future flood insurance regime in UK

### Context:

- End of 'Statement of Principles' in 2013
  - Strong social dimension to un-insured at risk of flooding
1. Market-led insurance regime would lead to severe inequalities and injustice (mal-adaptation)
  2. Solidaristic insurance regime (based on fairness) more compatible with social justice

O'Neill & O'Neill (2012)

# Conclusions

- Social nature of vulnerability
- Uneven distribution of vulnerability
- Uncertain benefits of adaptation (efficiency vs. equity)

"Quadruple injustice " of climate change (Benzie, 2012)

*Certain disadvantaged groups:*

- Emit the least
- May be negatively impacted by mitigation policies
- Are most vulnerable
- May be negatively impacted by adaptation policies

# Governance implications

- Limits of impacts-based approaches
  - UK CCRA 'Social Vulnerability Checklist'
  - Role for bottom-up vulnerability assessment
- Greater involvement of vulnerable groups in:
  - Vulnerability identification,
  - Adaptation strategy and policy making
  - Adaptation implementation
- 'Adaptive co-management' with private sector and communities

# Governance solutions

Concept of fairness is powerful in climate change policy  
(Horton & Doran, 2011)

Proposition: ***transfer resources within countries from high emitters to most vulnerable***

- Mirrors logic of global climate negotiations
- Precedents
  - US 'cap and dividend' (CLEAR Act)
  - Swiss National Adaptation Strategy

Succes if able to capture public perceptions of fairness?

# Questions

***Transfer resources from high emitters  
to the most vulnerable***

What do you think?

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