

Measuring well-being outcomes of adaptation actions

Reflections from flood risk interventions

Professor Neil Adger

NOW

Presentation of findings on well-being outcomes from adaptation interventions

AFTER 2:30

New focus on community-led adaptations and their dynamics – includes your views, perceptions and experiences

Flood impacts – traumatic and disempowering

Adaptation interventions – health and well-being consequences absent in planning

Well-being has individual, collective and relational dimensions, manifest in outcomes.

Carefully designed adaptations can enhance overall well-being, sense of security, and pride in place



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Wellbeing in the aftermath of floods



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Community

Mixed methods

Flooding

Public health

ABSTRACT

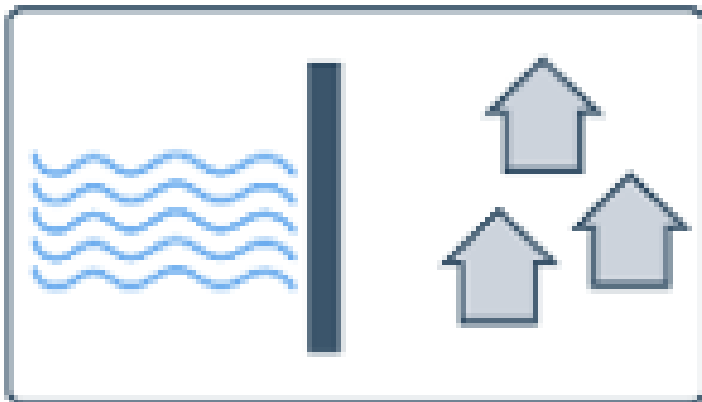
The interactions between flood events, their aftermath, and recovery leading to health and wellbeing outcomes for individuals are complex, and the pathways and mechanisms through which wellbeing is affected are often hidden and remain under-researched. This study analyses the diverse processes that explain changes in wellbeing for those experiencing flooding. It identifies key pathways to wellbeing outcomes that concern perceptions of lack of agency, dislocation from home, and disrupted futures inducing negative impacts, with offsetting positive effects through community networks and interactions. The mixed method study is based on data from repeated qualitative semi-structured interviews (n=60) and a structured survey (n=1000) with individuals that experienced flooding directly during winter 2013/14 in two UK regions. The results show for the first time the diversity and intersection of pathways to wellbeing outcomes in the aftermath of floods. The findings suggest that enhanced public health planning and interventions could focus on the precise practices and mechanisms that intersect to produce anxiety, stress, and their amelioration at individual and community levels.

Multiple impacts on well-being beyond material

Collective action by people and solidarity in communities central to outcomes



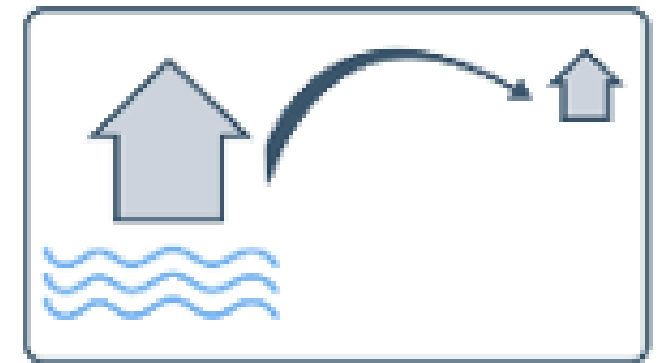
Evaluating flood adaptation interventions



Hard engineering

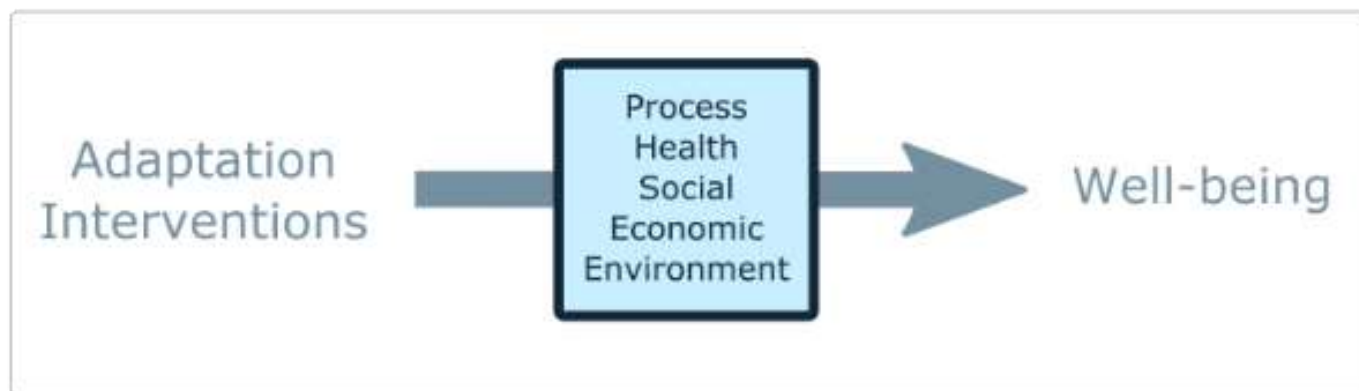


Nature-based solutions



Planned relocation

Measuring consequences of the adaptations and and their well-being outcomes



Hard engineering
Ireland
n = 439



Nature-based
solutions
England
n = 310



Managed Retreat
Ghana
n = 503

The psycho-social consequences of living with adaptation interventions

Psycho-social consequences of climate risk

- Multifaceted, difficult to measure - often neglected and ignored.
- Interplay between emotional, mental, and social dimensions: disruptions to living conditions, social structures and group-based dynamics.
- Includes feelings of solastalgia, eco-anxiety, grief, and psychological distress
- Effects may peak well after the disruption has occurred and may persist over the long term







Hard engineering



Nature-based solutions



Planned relocation

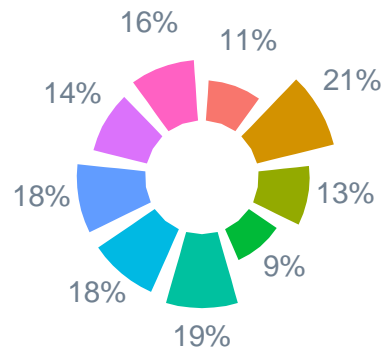
Impacts, areas of life

- **Process** (measures of trust, sense of voice, legitimacy)
- **Health** (measures of physical and mental health, esteem, efficacy)
- **Social** (social identity, community engagement)
- **Economic** (Insurance cover, livelihood)
- **Environment** (sense of place, access to green spaces, relationship with nature)

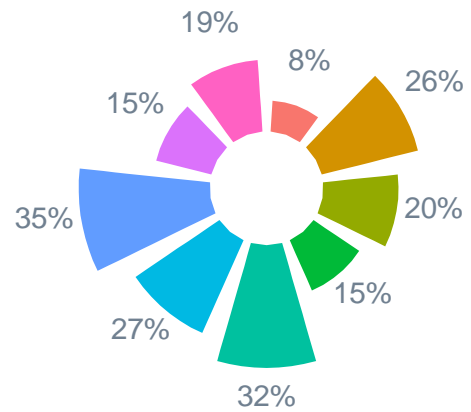
Well-being outcomes

- Positive and Negative Affect
- Quality of Life
- Anxiety

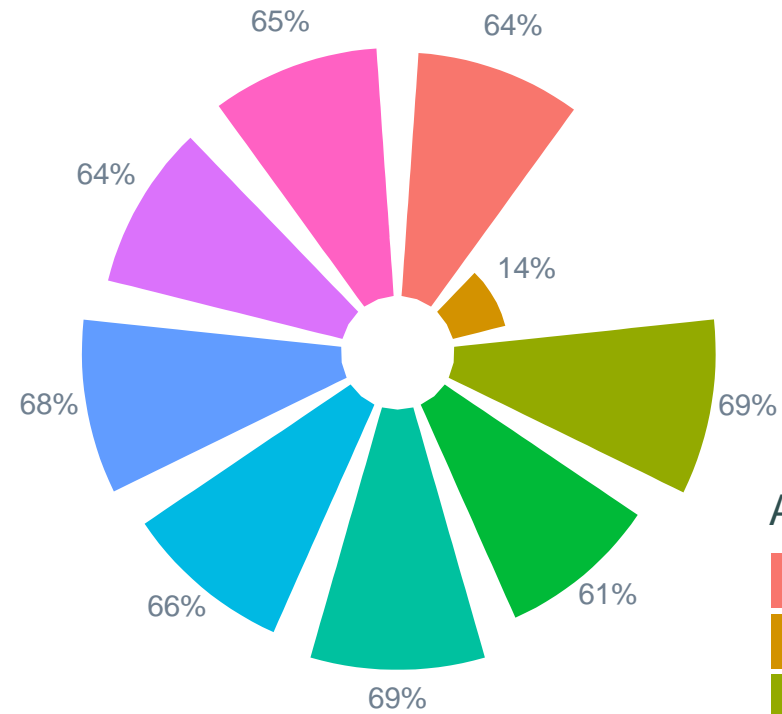
Impacts



Nature-based
solutions



Hard
engineering



Planned
relocation

Area of life



Positive affect (emotional response)

- **Nature-Based Solutions**

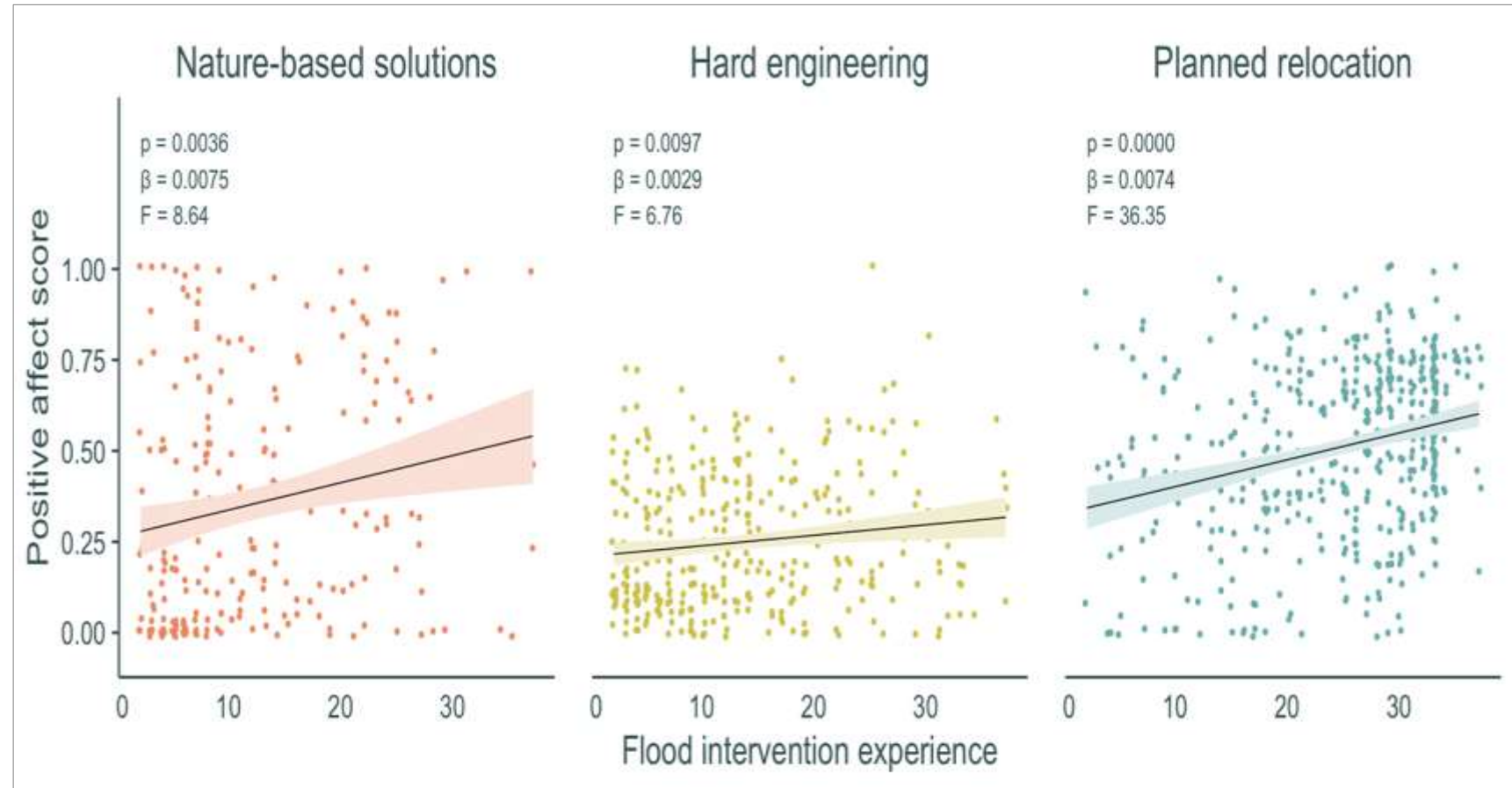
Flood intervention experience was positively related to affective response (\bar{x} 11.39, SD 8.72)

- **Hard Engineering**

Flood intervention experience was positively related to affective response (\bar{x} 12.39, SD 8.96)

- **Planned relocation**

Flood intervention experience was positively related to affective response (\bar{x} 23.55, SD 8.58)



Negative affect (emotional response)

- **Nature-Based Solutions**

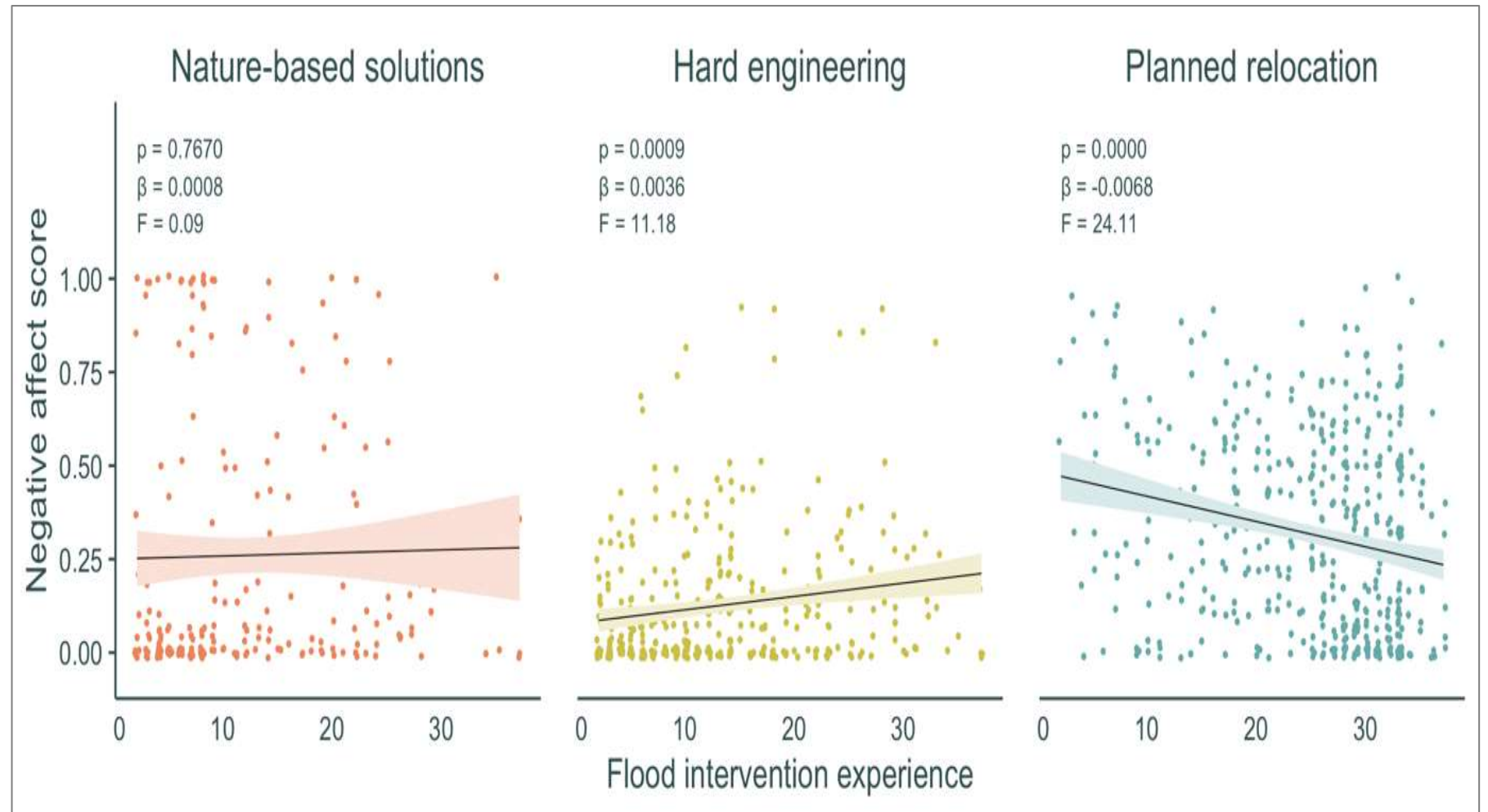
No relationship between flood intervention experience and negative affect response for nature-based solutions

- **Hard Engineering**

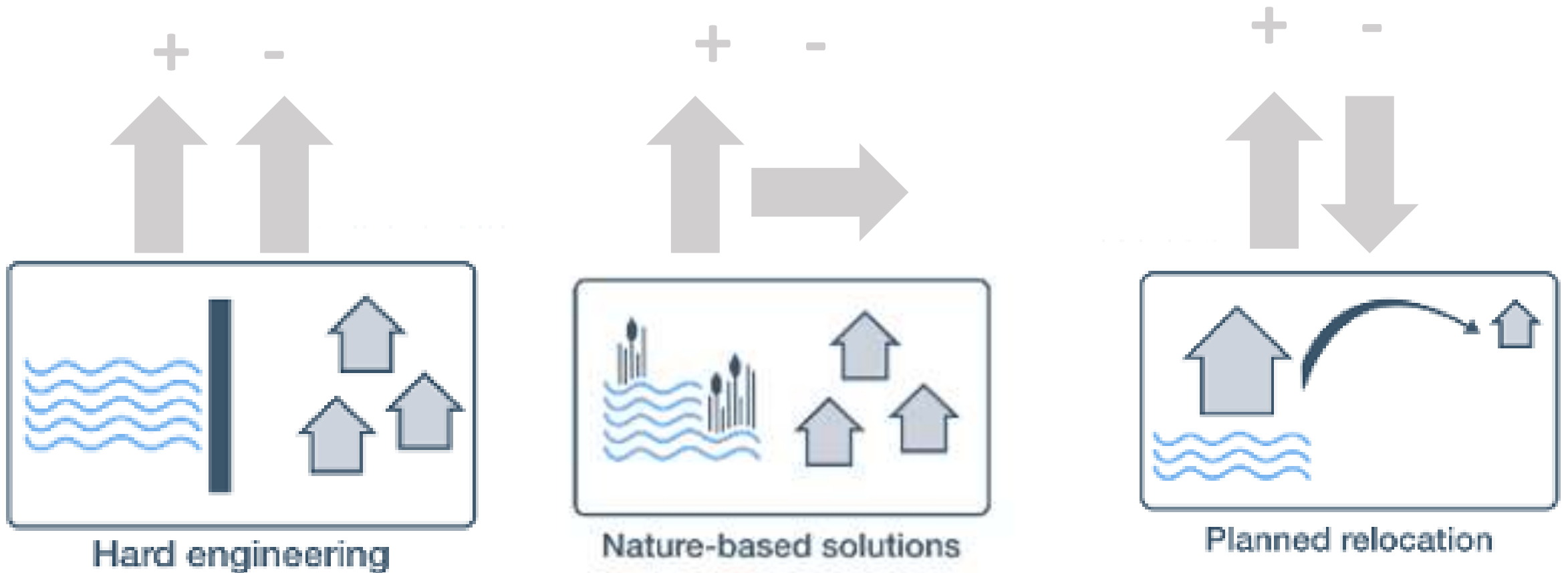
Flood intervention experience was positively related to negative affect response

- **Planned relocation**

Flood intervention experience was negatively related to negative response



Adaptation outcomes on perceived well-being



Flood impacts – traumatic and disempowering

Adaptation interventions – demand for information on health and well-being

Well-being has collective and relational dimensions, manifest in outcomes

Carefully designed adaptations can enhance overall well-being, sense of security, and pride in place



Image: Matilda Temperley

Co-investigators: [University of Exeter](#) – Catherine Butler, Rich Smith, Stacey Heath, Ruby Grantham;
[University of Ghana](#)- Sam Codjoe, Mumuni Abu: [Maynooth University](#) - Conor Murphy, Tara Quinn, Csaba Hovarth

Funding: Wellcome Trust



More information

Healthy adaptations hub website (in development)

- <https://healthyadaptations.org.uk>

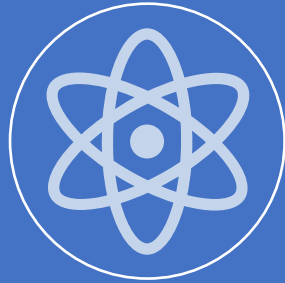
Scientific outputs

- Quinn, T., Heath, S., Adger, W.N., Abu, M., Butler, C. et al. 2023. Health and wellbeing implications of adaptation to flood risk. *Ambio*, 52(5), 952-962. <https://doi.org/10.1007/s13280-023-01834-3>
- Abu, M., Heath, S.C., Adger, W.N., Codjoe, S.N.A., Butler, C. and Quinn, T., 2024. Social consequences of planned relocation in response to sea level rise: impacts on anxiety, well-being, and perceived safety. *Scientific Reports*, 14(1), 3461. <https://doi.org/10.1038/s41598-024-53277-9>
- Walker-Springett, K., Butler, C. and Adger, W.N., 2017. Wellbeing in the aftermath of floods. *Health & Place*, 43, 66-74. <https://doi.org/10.1016/j.healthplace.2016.11.005>

Project: Evaluating community interventions to maximise health and wellbeing impacts of anticipatory climate change adaptations

Associate Professor Catherine Butler

Project overview



Phase 1 (which today is part of)

Aim to develop understanding of the scale and extent of community-led action on adaptation to flood, heat, and cold



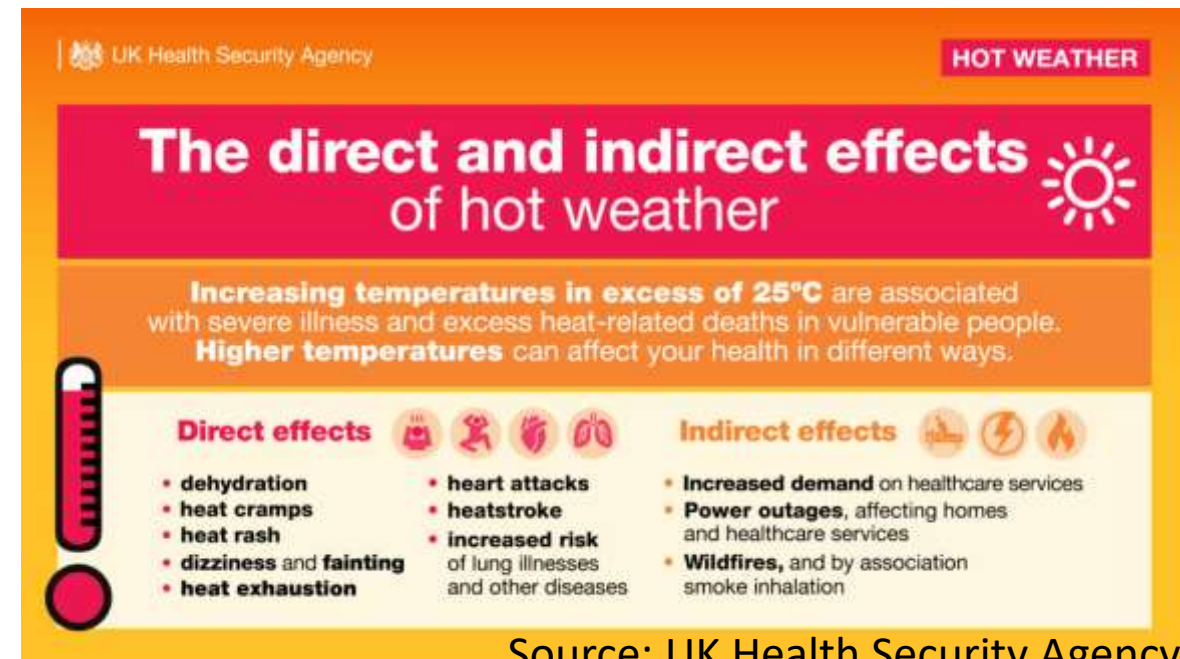
Phase 2

Aim to examine in-depth a small number of cases to develop understanding of how interventions are operating in practice to learn from them



About community-led adaptations for climate change, health and extreme events

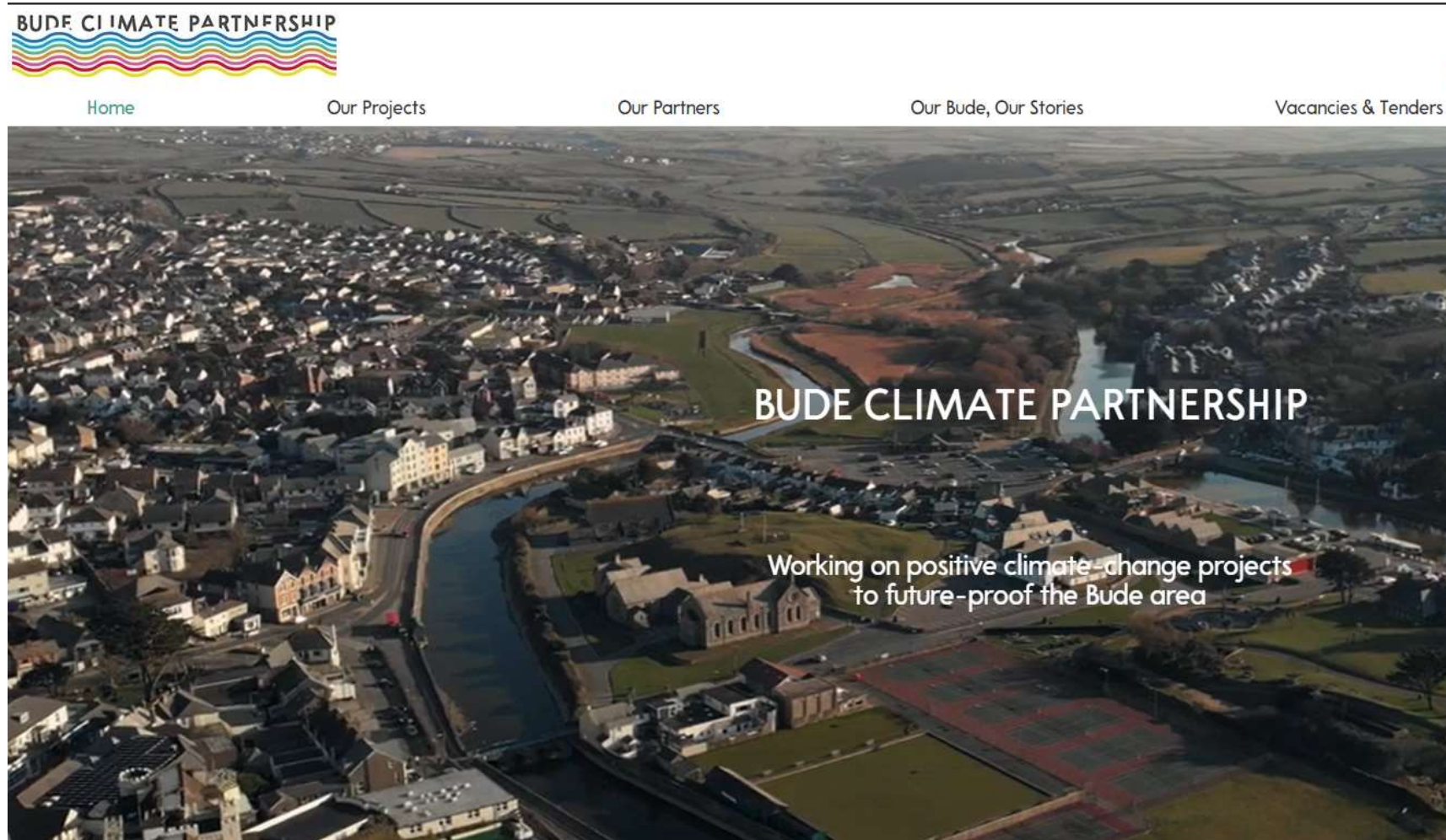
- Extreme weather events
- How do cold snaps, heatwaves and floods affect health and wellbeing, and who is most vulnerable/affected?



Source: UK Health Security Agency

About community-led adaptations for climate change, health and extreme events

Community led adaptations for climate change...





Cold:

POWER is a 'show and do' project building a solar power station across the rooftops (streets, schools, community buildings) of North-East London

POWER

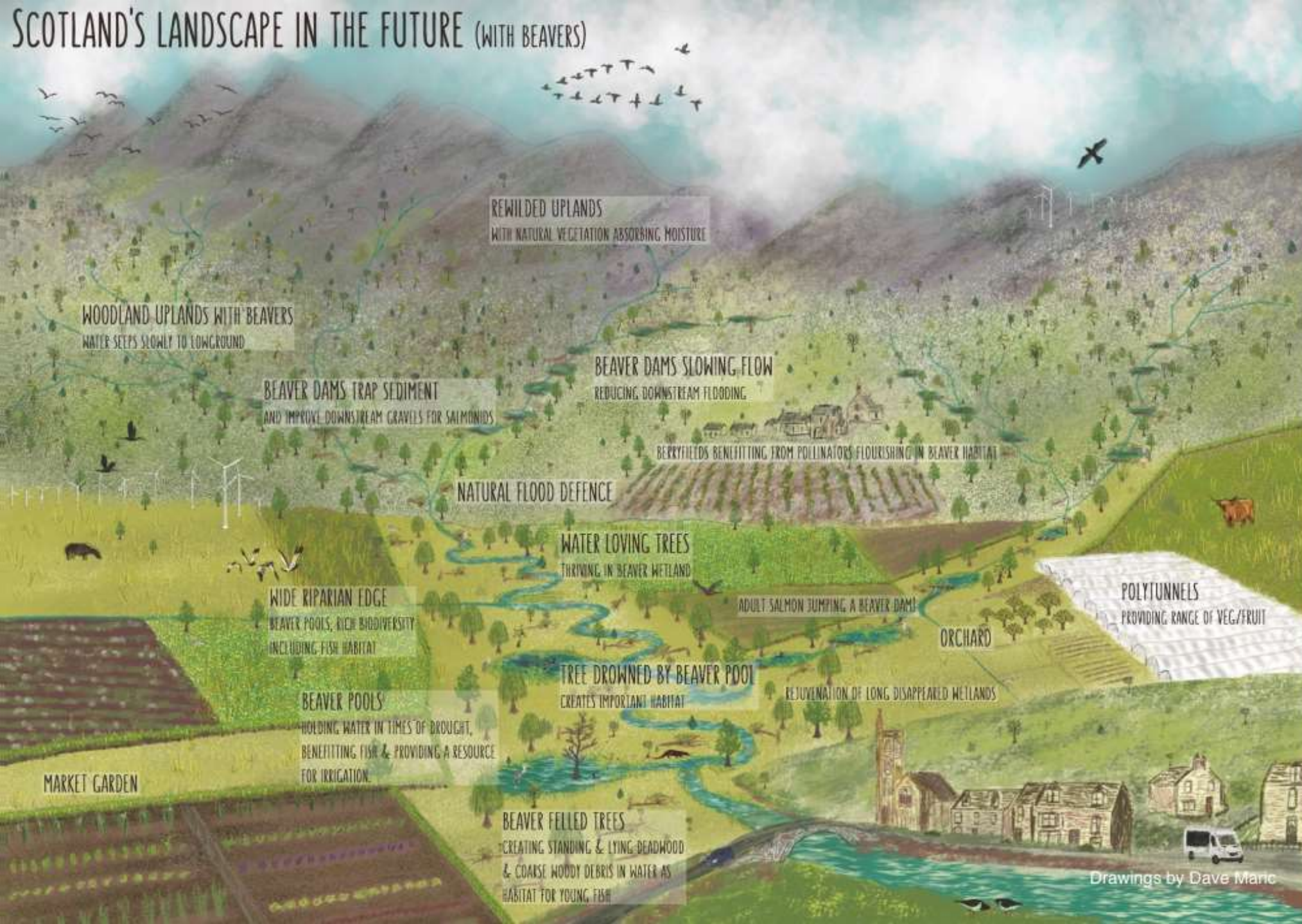


Heat:

The charity Emmaus-Hull and East Riding provided outreach support for homeless people during a heatwave



SCOTLAND'S LANDSCAPE IN THE FUTURE (WITH BEAVERS)



Floods:
The Scottish Wild Beaver Group Charity promote the study, conservation and protection of wild Eurasian beavers and aim to reduce

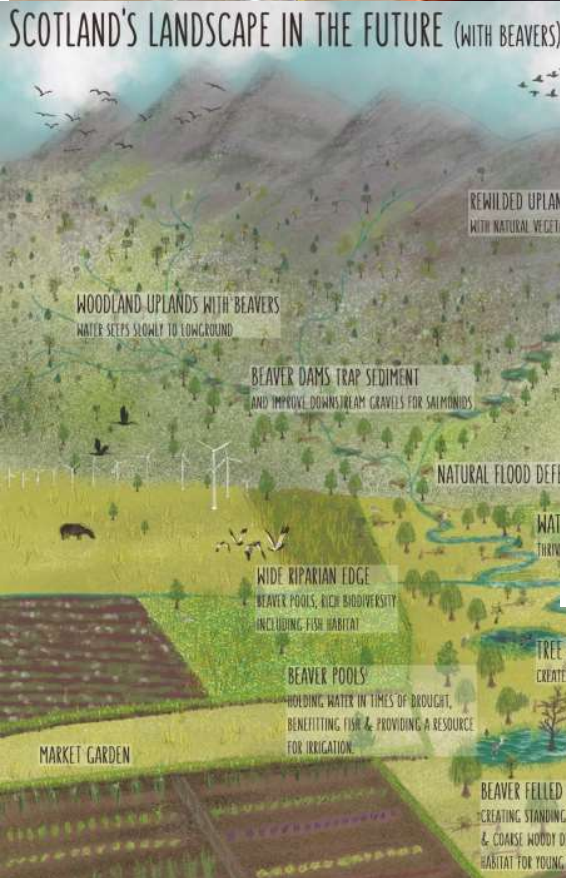


SCOTTISH
WILD
BEAVER
GROUP

Sum up



- Thinking about community principally in terms of locality and place-based action
- Community-led as centering community in some way in their development and implementation
- Interested in both preparatory, preventative, and responsive forms of action for extremes
- Keeping the focus on outcomes for health and wellbeing arising from these diverse interventions



Focus Group Discussion

- Forms part of our research – information sheets and consent forms for more detail but in brief
- Recording the discussion for transcription – anonymous data for the purposes of research stored securely, right to withdraw at any time
- Analysing the information collected today to inform our understanding of community-led action for adaptation in the UK and to develop our next phase of the research (in depth case studies)
- Interested in your experiences, knowledge, and thoughts about community-led adaptation for weather extremes in contexts of climate change

Focus Group Discussion Facilitators

Associate Professor Catherine Butler (c.butler@exeter.ac.uk)

Professor Neil Adger (n.adger@exeter.ac.uk)

Professor Emma Bland (e.bland@exeter.ac.uk)

Dr Anna Cronin de Chavez (a.chavez@exeter.ac.uk)

Other members of the project team: Professor Gordon Walker, Professor Matthew Cotton, Dr Patricia Albers, Professor Frank De Vocht

Any questions?

Topic 1

What does community-led adaptation for weather extremes mean to you?

Can you think of any examples of adaptation related to floods, heat and cold that you would characterise as in some way community led?

Topic 2

How do inequalities play out within these community-led adaptations?

Thank you!

We would like to undertake some interviews to follow up on some of the information we've collected today so may follow up with you via Peter to invite you to interview

We will feedback an update on the project and let you know about outcomes and findings as the project develops

Please get in touch with any questions you have for us!

Please get in touch with any questions

Professor Neil Adger (n.adger@exeter.ac.uk)

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