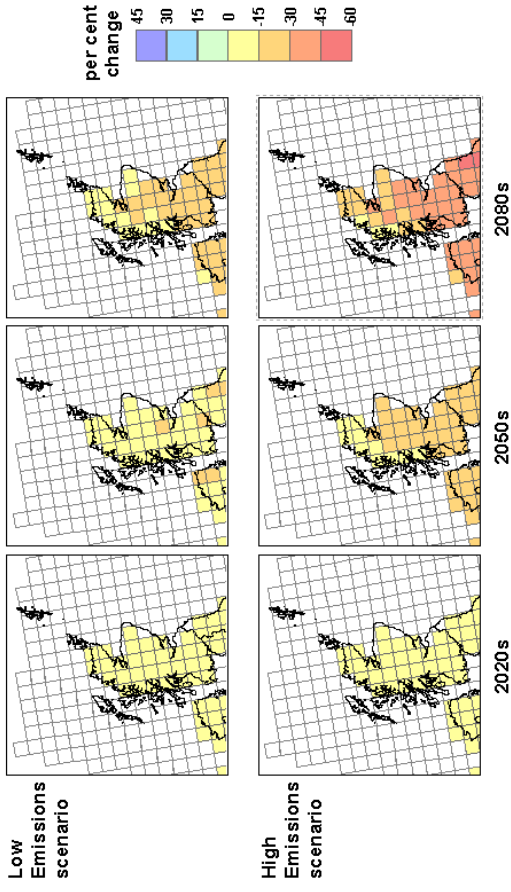


# SUMMARY: Are climate projections useful?

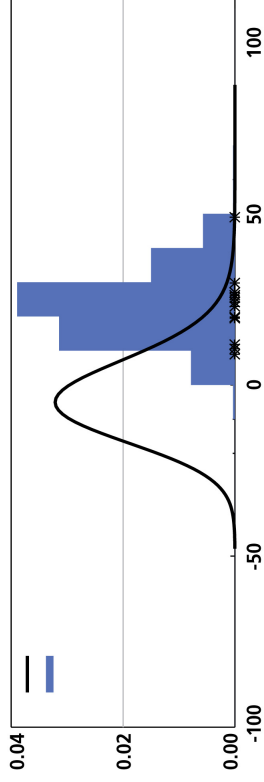
Source: UKCIP02 Climate Change Scenarios (funded by Defra, produced by Tyndall and Hadley Centres for UKCIP)

## Scotland Percentage change in summer precipitation



**Scenario-based projections**  
Good for communicating issues;  
poor for practical use: users typically  
treat one scenario as most likely...

**Probabilistic climate projections**  
NOT an objective probability...and  
does not reduce uncertainty. It aims  
to allow more robust decisions.  
BUT how are they being used in  
practice?



# Learning success

- Over to you....!
- Can we evaluate it?
- Does your organisation better understand future risk/resilience?
- Broader stakeholder engagement...you are here!
- See previous survey...



# Decision success

- Over to you....!
- Can we evaluate it?
- What would you regard as successful decisions?
- Are we building resilience in Scotland?



# Predictive success

- Assumes scenarios are a “product”
- Assumes scenarios can say something quantitative about the future
  - E.g. UKCIP98: 4 scenarios. Actual climate over past decade was within projected scenario range, so scenario family was “accurate”, but no individual scenario was necessarily “accurate”
  - 1961-90 to 1978-2007: CET warming faster than represented in UK climate scenarios. Ppt: “scenarios have correctly represented the sign of the observed change for most of the period” ...but a lot of ambiguity about summer precipitation



# Are UKCP09 successful?

- Has the future turned out as envisaged?  
*Predictive success*
- Have “good” decisions been made?  
*Decision success*
- Have scenarios enabled participation & learning?  
*Learning success*

*Hulme & Dessai (2008)*



# Scenarios as social processes

- Serve to build networks of individuals
- Generate shared understanding
- Stabilise interactions between very different communities (e.g. climate science & resource managers)
  - Spheres of co-production of knowledge
  - Boundary ordering devices
- Organisational contexts for using scenarios...
- Building robust responses to unknown futures...



# Decision-support tools

- **Forecasting scenarios**
  - Rely on quantified relationships based on past trends/data
  - Attempt to overcome limitations of purely quantitative models
  - Create “narrative+quantitative” outputs
- **Robust decision making**
  - Attempt to capture full range of possible futures, rather than identify the most likely outcome
- **Back-casting: from a preferred future to now**
  - Possible trajectories that allow us to achieve that future



# How do we use scenarios?

- Scenarios originally developed to aid strategic thinking & decision-making...not aiming to “predict the future...”
- Scenarios can be understood either as “decision support tools” or as “social processes”\*
- This distinction helps us understand how users might use the UKCP09 scenarios and whether we can determine their success

\* Pulver & van der Veer (2007): Brown University workshop



# How do we maximise the benefit of UKCP09 scenarios?

UKCP09 Scottish User Community –  
1<sup>st</sup> Meeting