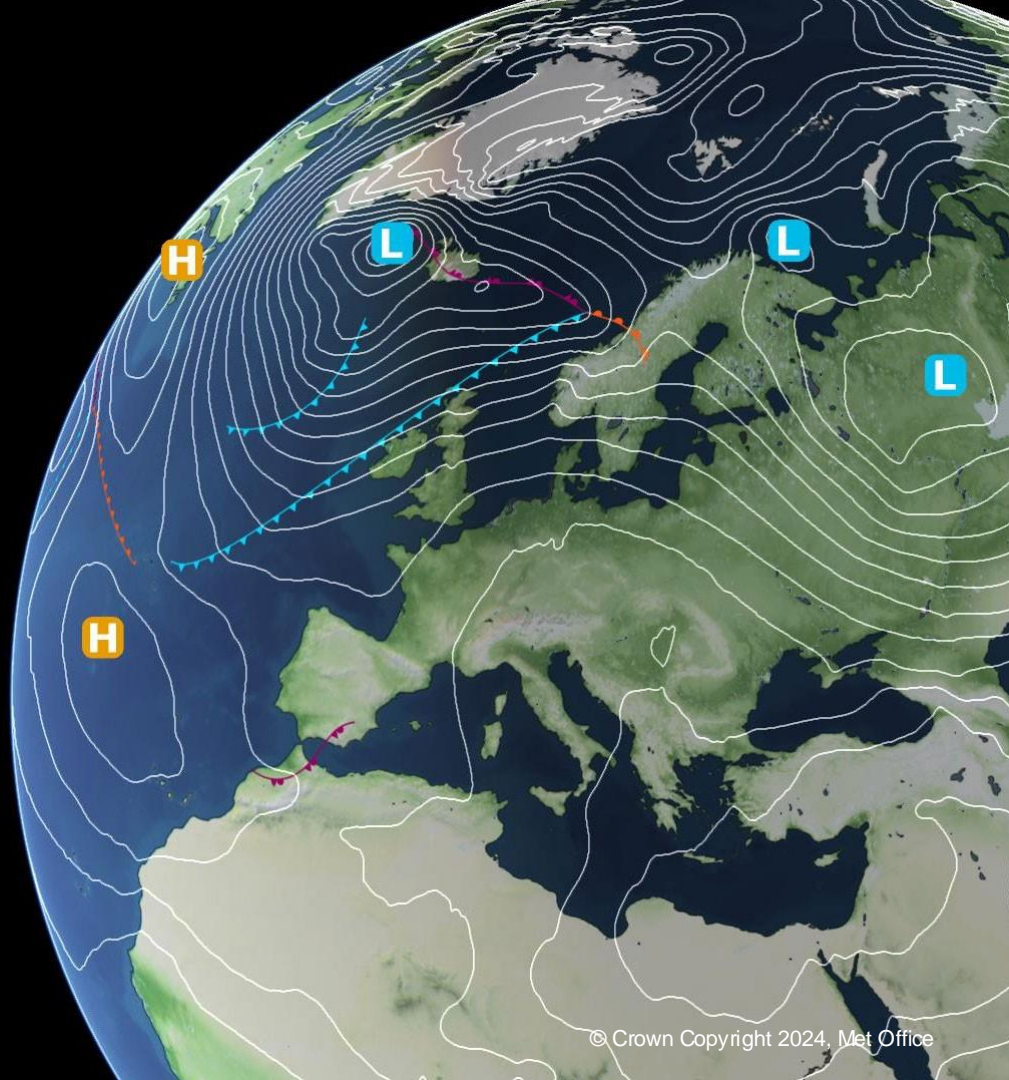


CCRA4-IA Technical Report Briefing

15.7.2024



Introduction

The wider context

Our approach

Our consortium

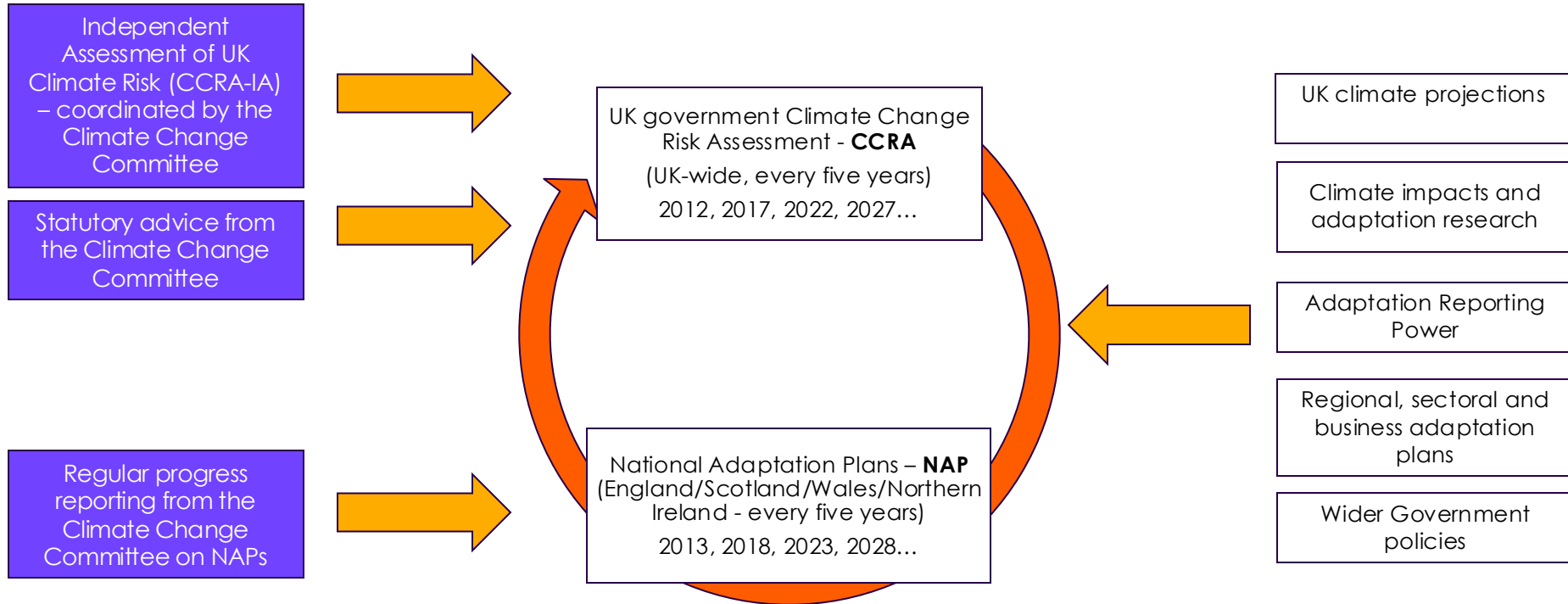
Ways to get involved

Questions



1. Introduction to the UK's Climate Change Risk Assessments

The UK's adaptation policy cycle




2. Evolving our approach to CCRA4-IA

Priorities for this cycle of the CCRA

For the CCRA4 Independent Assessment we are seeking to:

- **Build on previous assessments** to ensure continuity with earlier CCRAs
- **Provide authoritative, evidence-based and up-to-date** insight to government
- **Support adaptation action** by setting out the case for near-term adaptation action within and beyond government
- **Ensure the assessment is useful to and usable by** decision-makers

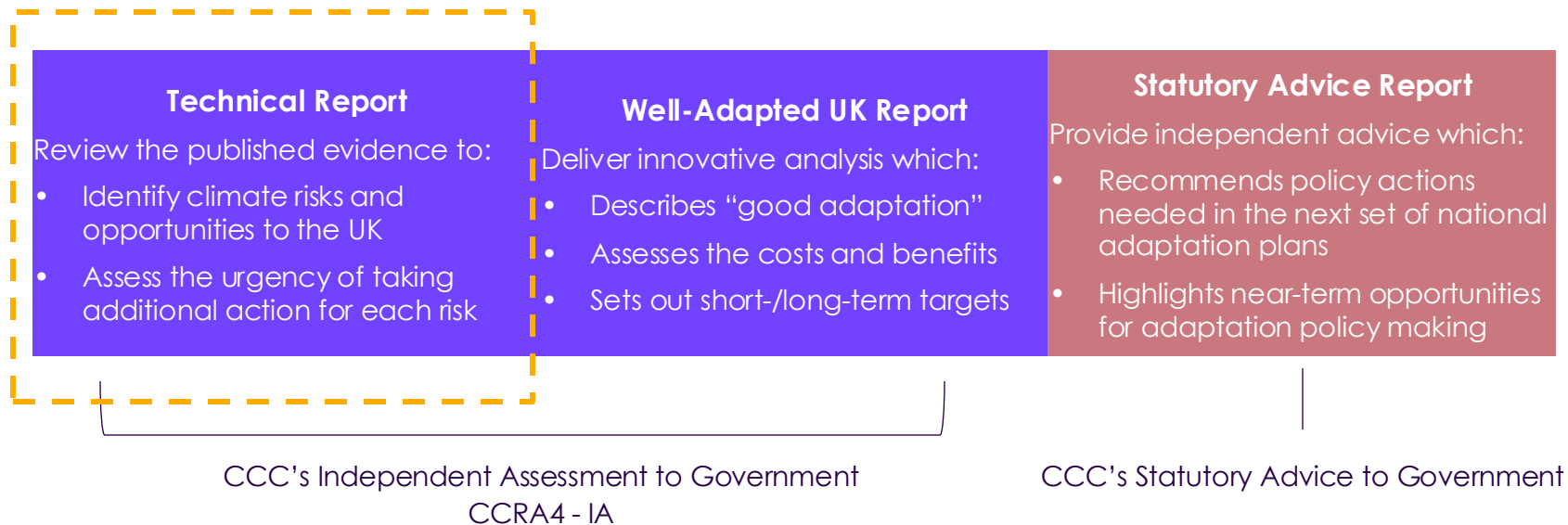


Proposed methodology for
the Fourth Climate Change
Risk Assessment -
Independent Assessment
(CCRA4-IA)

May 2024

2. Evolving our approach to CCRA4-IA

Planned main outputs from CCRA4-IA



The Technical Report underpins the Well-Adapted UK Report and Advice Report, and the description of risks is critical for mobilising responses by governments and other stakeholders

2. Evolving our approach to CCRA4-IA CCRA4-IA Technical Report

The Technical Report will provide a synthesis of the most up-to-date evidence on the range of risks and opportunities facing the UK from climate change.

Key elements of the approach will include:

- **Updating** the CCRA3 Technical Report using the most recent sources of information on UK climate risk
- **Refining** the urgency scoring framework from CCRA3 to enable clearer identification of national priorities
- **Co-developing** an accessible report that is easy to understand and use for a range of decision-makers

A consortium, led by the UK Met Office, has now begun work to deliver the CCRA4-IA Technical Report – this work will continue until late 2025.

UK CLIMATE
RISK

UK Climate Risk
Independent
Assessment (CCRA3)

Technical Report



Met Office Moving beyond CCRA3 technical report



The “Exam question” for CCRA4

“How has the evidence on the full range of risks that face the UK, and their urgency, continued to evolve over the last five years?”



We will focus on the **change** since CCRA3



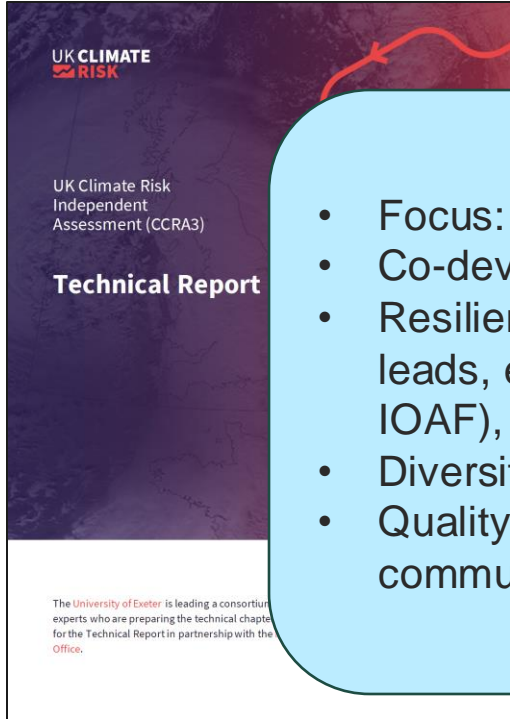
We will work with stakeholders to agree a more manageable list of risks



We will work with the adaptation committee to agree if an extra “urgency” category would be helpful



Met Office Moving beyond CCRA3 technical report



The "Exam question" for CCRA4

- Focus: what's changed? What's most urgent?
- Co-development with stakeholders
- Resilience within the consortium including joint chapter leads, existing structures (e.g. MOAP), relationships (e.g. IOAF), capabilities (potential outputs)
- Diversity of ideas
- Quality – Science Assurance, independent panel, community review

the full
UK, and
olve over

will work with
adaptation
committee to
agree if an extra
"urgency"
category would be
helpful

Met Office What we've learned about users of CCRA3



- Risks are not always sufficiently well targeted at those responsible for policy (how to address different departmental remits across different nations)
- Suggestions:
 - Do not reduce number of risks? Bucket and Thimble.
 - Increase attention to interdependencies and challenges of ownership of interdependent risks
 - Include confidence rating in level of available data/ evidence
 - Acknowledge bigger systemic changes
 - Highlight possible nature and impact of sudden shocks
 - Include logical flow map/grid of hazards -> risks -> impacts -> risk owners
 - Strengthen economic analysis of impacts

Approach to risks in CCRA4

- CCRA3 had 61 risks
- 34 of 61 risks were ranked as ‘more action needed’
- Feedback indicates the lack of granularity in the highest category is not helpful for prioritising action
- Aim to arrive at a **relevant set of risks** that can be more **clearly prioritised**.
- Includes a proposal to increase granularity in the ‘more action needed’ score to allow the identification of a smaller, more select number of ‘highest priority’ risks

Table 2.2
CCRA3 Risks and Opportunities by Urgency Score (UK-wide scores)

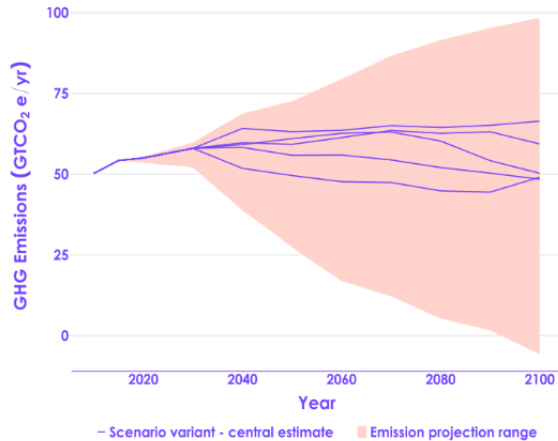
101 Risks to terrestrial species and habitats from pests, pathogens and FROD	102 Risks to terrestrial species and habitats from pests, pathogens and FROD	103 Risks to safe from changing conditions, including seasonal wetting and wetness	104 Risks to natural carbon stores and sea level rise from changing conditions	105 Risks to marine opportunities for agricultural and forestry production
106 Risks to agriculture from pests, pathogens and FROD	107 Risks to forestry from pests, pathogens and FROD	108 Risks to freshwater species and habitats	109 Risks to freshwater species and habitats from pests, pathogens and FROD	110 Risks to marine species, habitats and fisheries
111 Risks to marine species and habitats from pests, pathogens and FROD	112 Risks and opportunities to coastal species and habitats	113 Risks to infrastructure services from sea level rise	114 Risks to infrastructure services from sea level rise and surface water flooding	115 Risks to transport, roads, air, ports and embankment failure
116 Risks to public water supply from reduced water availability	117 Risks to transport from high and low temperatures, high winds, lightning	118 Risks to health and wellbeing from high temperatures	119 Risks to people, communities and buildings from flooding	120 Risks to people, communities and buildings from heat and cold
121 Risks and opportunities from summer and winter household energy demand	122 Risks to health from vector-borne diseases	123 Risks to cultural heritage	124 Risks to health and social care delivery	125 Risks to education and government services
126 Risks to business sites from flooding	127 Risks to business operations and infrastructure from coastal change	128 Risks to business from disruption to energy, water and distribution networks	129 Risks to UK food availability, safety and quality from climate change scenarios	130 Risks to international and government from climate change scenarios that will impact the UK
131 Risks to air of UK from international aviation, shipping, including transatlantic change	132 Risks to UK public health from climate change scenarios	133 Risks from climate change on international trade routes	134 Risk mitigation from UK low-carbon and cascades of global risks across systems and geographies	135 Opportunities from new species, subspecies in terrestrial habitats
136 Opportunities for agricultural and forestry production from new species	137 Risks to aquifers and agricultural land from sea level rise, subsidence intrusion	138 Opportunities for marine species, habitats and fisheries	139 Risks and opportunities from climate change to landscape character	140 Risks to infrastructure services from coastal flooding and erosion
141 Risks to bridges and pipelines from flooding and erosion	142 Risks to high-voltage generators from low or high river flows	143 Risks to subterranean and surface infrastructure from subsidence	144 Risks to energy generation from reduced water availability	145 Risks to energy from high and low temperatures, high winds, lightning
146 Risks to health from poor water quality and freshwater infrastructure disruption	147 Risks to businesses from water scarcity	148 Risks to business from reduced energy production, infrastructure disruption and higher temperatures	149 Opportunities for business changing demand for goods and services	150 Opportunities for marine species, habitats and fisheries
151 Risks to offshore infrastructure from storms and high waves	152 Risks to pension investments, insurance, access to capital	153 Risks to the UK financial sector from climate change interests	154 Opportunities for UK food availability and exports	155 Risks to the UK from climate-related international trade policy
156 Opportunities including climate (a) multi-use international trade routes				

● More Action Needed
 ● Further Investigation
 ● Sustain Current Action, Revisit Brief

Source: The Third UK Climate Change Risk Assessment Technical Report (Beff, R.A., Howard, A.S. and Pearson, K.Y. (eds.); prepared for the Climate Change Committee, London)
 Notes: A UK-wide score has been derived using the high- and agency score awarded across the four UK nations for each risk or opportunity.

Urgency scores for CCRA3 risks (CCC, 2021)

Figure 1 Projections of future ranges of global greenhouse gas emissions consistent with current policy pathways.



A range of emissions scenarios broadly consistent with current global emission pledges are considered



Table 1

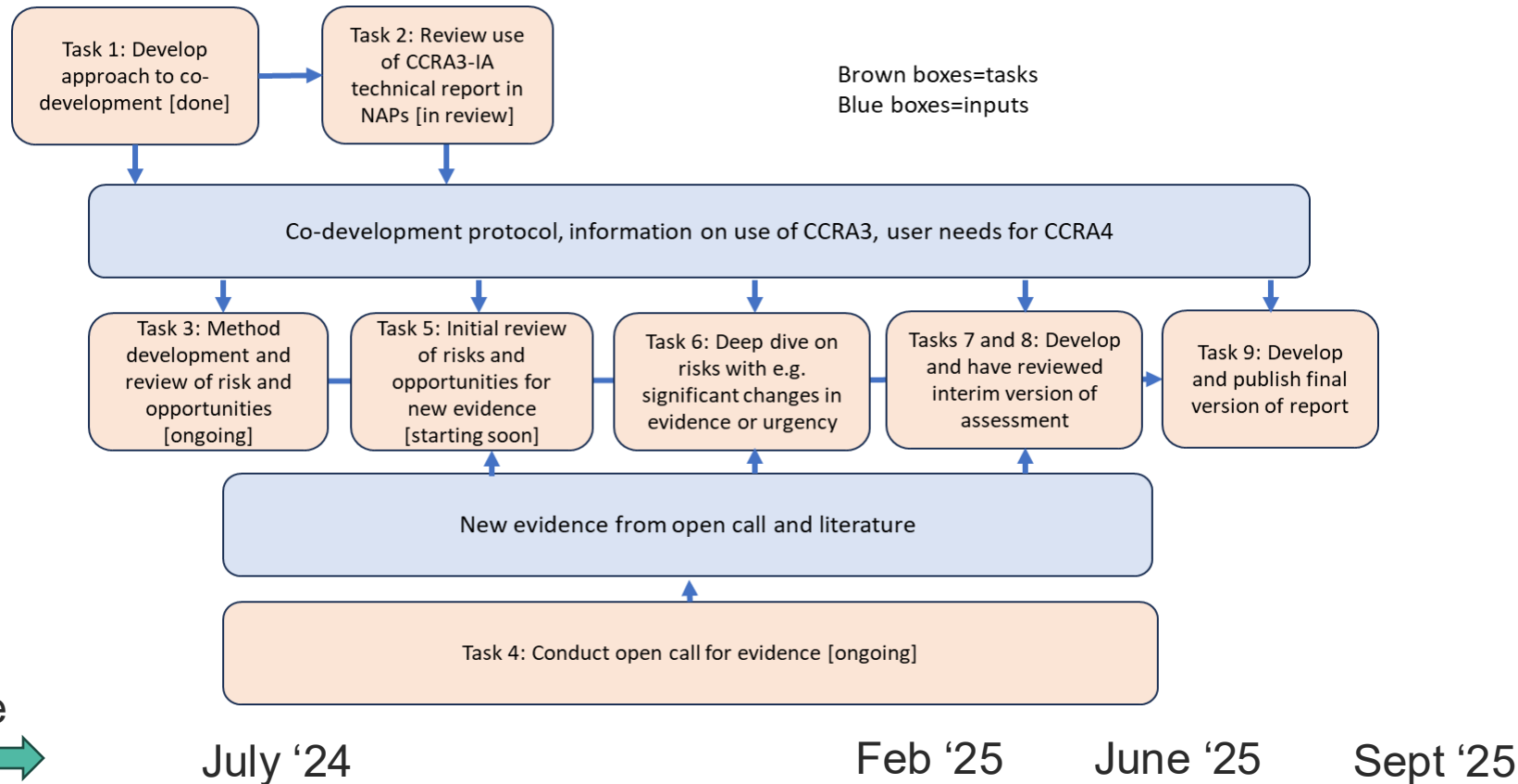
Global warming levels and sampling of UK climate hazards to be considered at each time period for the CCRA4-IA assessment

	Central scenario		High climate hazard sensitivity	
Time period	2030s	2050s	2030s	2050s
Global warming level (above preindustrial levels)	1.5°C	2°C	2°C	2.5°C
UK climate hazards	Median of UKCP18 at 1.5°C	Median of UKCP18 at 2°C	Upper-end UKCP18 at 2°C	Upper-end UKCP18 at 2.5°C

CCRA4 will use global warming levels and consider effect of their being reached at 2030s and 2050s

State of the climate chapter will also consider climate beyond 2050 and Higher Impact Lower Likelihood scenarios.

Delivery steps



Our consortium



Our consortium



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Land, nature and
food

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	via CGFI	Matt Cole & Rob Elliott	Economy
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	Eleanor Hall	Clare Heaviside & Dejan Mumovic & Ting Sun	Built environment
Additional contributors	Chris Counsell	Emma Ferranti & Andrew Quinn	Infrastructure
HR Wallingford Mott MacDonald British Red Cross	Pete Falloon	James Bullock & Sevrine Sailley & Carol Wagstaff	Land, nature and food

Science assurance team

Co-director Science (Jason Lowe)	Method (Lee Chapman)	Synthesis (Chris Dent)	Quality (Hayley Fowler)
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Fresh Eyes

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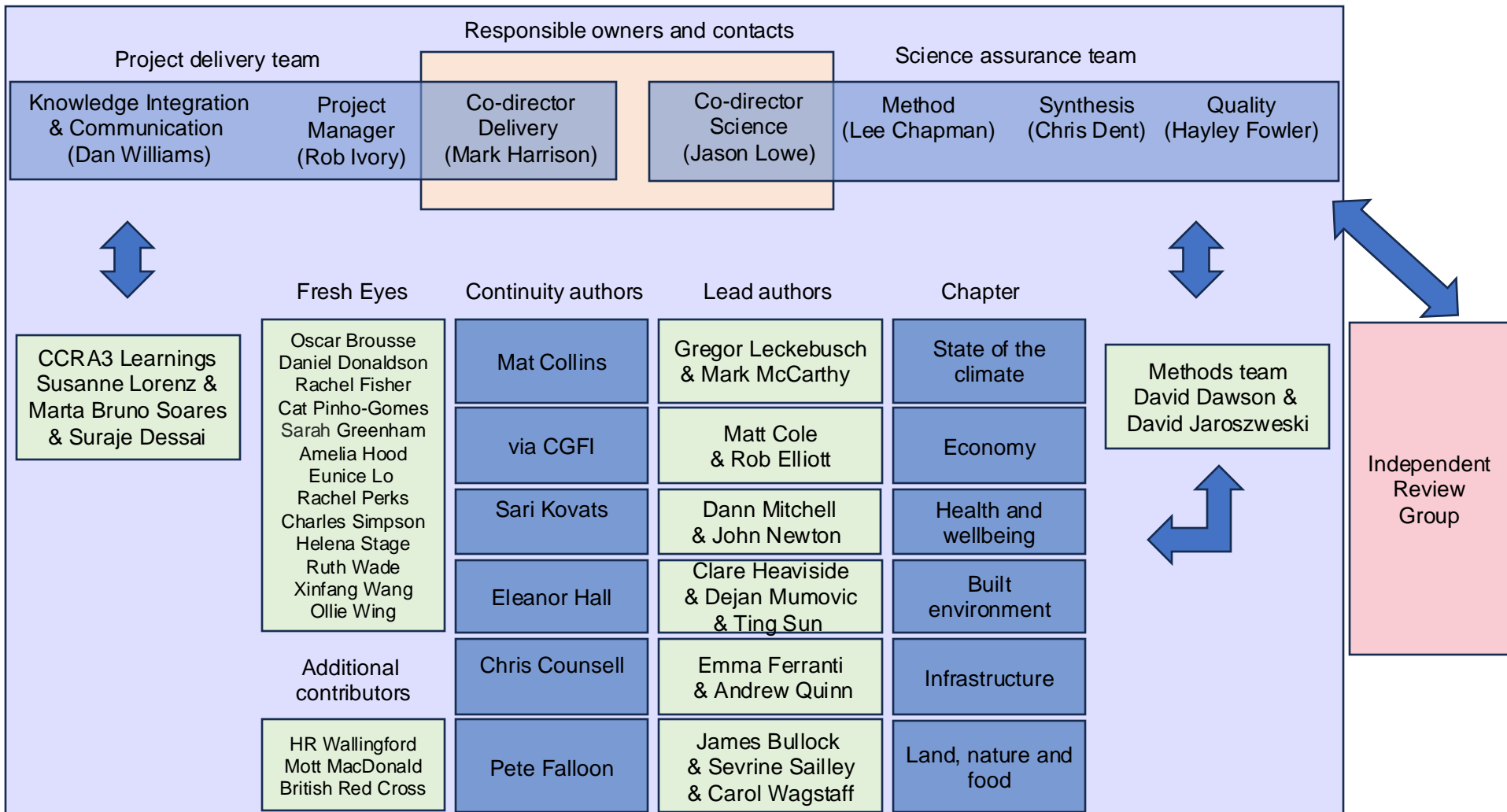
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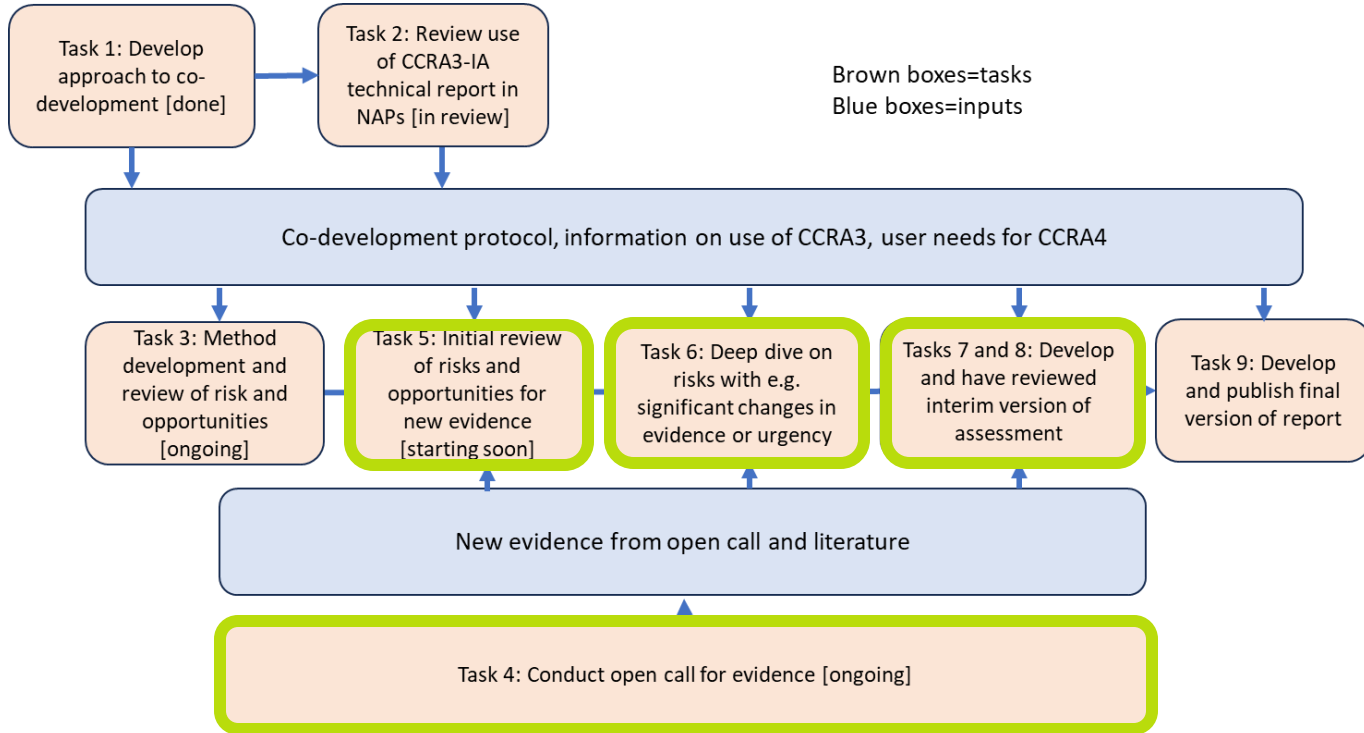
Methods team
David Dawson &
David Jaroszweski



Independent
Review
Group



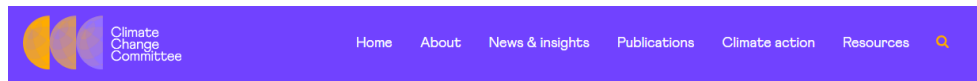
Ways to get involved



Met Office Open call for evidence

[Call for evidence - Climate Change Committee
\(theccc.org.uk\)](https://theccc.org.uk)

- Current call for evidence - September 2024
 - Academic papers
 - Project reports (supporting policy briefs)
 - Other Grey literature (conference proceedings, webinars, PhD or Masters theses, etc)
- Two further calls in due course
 - Target evidence gaps



[Home](#) / [Climate action](#) / [Calls for evidence](#)

Calls for evidence

The Climate Change Committee regularly issues calls for evidence to gather the views of a wide range of experts, businesses and organisations when developing its advice.

[Climate Change Risk Assessment Independent Assessment \(CCRA4-IA\) Technical Report](#)

- The CCC is seeking your evidence and information on UK climate risk, to inform the next Climate Change Risk Assessment Independent Assessment (CCRA4-IA) Technical Report. The call for evidence is a key part of the process and we're keen to update our understanding of climate risks. Find out more and [respond to the call for evidence on the Met Office website](#).

Engagement opportunities

A chapter example



May 2024

Chapter leads to begin engagement with tech/academic stakeholders



Aug/Sep 2024

Set of chapter-led technical surveys



Oct/Nov 2024

Set of workshops, drilling into detail of cross-cutting themes and urgency scores



April 2025

Interim report for community review

Questions

Risks – lessons learnt

Feedback on CCRA3

- Reasoning behind choice of risks was opaque
- Disparity in risk: highly specific vs huge 'Frankenstein' risk.

113 Risks to digital from high and low temperatures, high winds, lightning

13 Risks to infrastructure services from coastal flooding and erosion.

- Number of risks (mixed feedback from Government)
- Clear trade-offs between number and specificity of risks
 - Missed opportunities for cross-cutting responses (silos)
 - Devolved Administrations found number unmanageable
 - From CCC – uneven number of risks between chapters (Natural Environment)



UNIVERSITY OF
BIRMINGHAM

UK Climate Change Risk
Assessment 2022 – Defra Internal
Lessons Learnt



