Committee on Climate Change
7 Holbein Place
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Dear Ian

Adaptation Sub-Committee advice on the next set of UK climate projections

Thank you for attending our recent committee meeting to discuss the next set of UK climate projections, UKCP18. You have asked the Adaptation Sub-Committee to provide you with advice on whether UKCP18 will meet end user needs, including for it to inform the next UK Climate Change Risk Assessment that is due in 2022. We agreed that I would write to you with a suggestion for how this advice could be delivered and what our precise remit could be, to ensure we do not overlap with the work of the peer review panel or user panels.

The ASC provided advice on the overall plan for UKCP18 in March 2015. I would suggest that for the remainder of the project, the ASC focusses its advice specifically on the *extent to which we believe the outputs of UKCP18 will enable users to make timely and well-informed adaptation decisions*. One important aspect of this is the extent to which the UKCP18 projections will provide the necessary climate science basis for the 2022 Climate Change Risk Assessment. In order to provide this advice, we would want to comment on the following aspects of the outputs attached at **Annex A**. Some of these points relate to the underlying method for the projections, and some relate to how the outputs are delivered. There may also be additional aspects of the project that we would like to comment on that we are not yet aware of. These could be discussed through the UKCP18 governance board as they emerge.

We need to agree with the UKCP18 project team the timescales on which the ASC will receive information about the planned method and outputs, how long we would have to consider each issue, and when our advice is needed by. I would then put some time aside in ASC committee meetings accordingly. We would also like to understand which decisions have already been made and are no longer worth discussing. I understand that the ASC secretariat is already in discussions with the project team on this point.

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Depending on when our advice is needed, I could either write to you at specific points in the process with our advice on the decisions that are needed at that time; or, if advice is needed on a more ongoing basis I would suggest a committee member attends the governance board meetings to provide this input. Professor Jim Hall would be well placed to undertake this role. Kathryn Humphrey, who already sits on the governance board, could then focus on representing the Government Users Panel but also substitute for Jim when he is unable to attend meetings.

I look forward to hearing your thoughts on this suggested approach.

Yours ever,

PROFESSOR LORD KREBS Kt FRS
Chair, Adaptation Sub-Committee

Annex A – Proposed areas of ASC advice on aspects of UKCP18

Strand 1 – Updated probability distribution functions

- Choice of climate variables.
- Presentation style of the probability distributions, e.g. as probability density functions, cumulative distribution functions, line graphs or other styles.
- Temporal resolution (it is unclear to us what is currently planned).
- Guidance on the potential use of the probability distributions.

Strand 2 – Spatially coherent scenarios

- Number and choice of emissions scenarios.
- Spatial resolution (25km or larger?).
- Temporal resolution (it is unclear to us what is currently planned).
- Choice of climate variables.
- Bias correction.
- Number of model runs undertaken.
- Presentation of data globally and/or regionally.
- Initialisation period/s for the multi-decadal projections.
- Decisions on choice of other models to supplement HadGEM3 (and how important it is to do this).

Strand 3 – Downscaled simulations

- Spatial resolution (1.5 km or something else?).
- Temporal resolution.
- Choice of climate variables.
- Bias correction.

Sea level/marine observations and projections

- Spatial resolution of sea level and storm surge data.
- Temporal resolution.
- Plans for temperature, salinity and data on ocean currents.
- Investigation of the need for further marine data beyond sea level rise and storm surge, and funding options.

Derived products and data release

- Timing of data release to users for testing, e.g. to ensure that those who need the data earliest are given access, such as water companies to input into the next set of water resource management plans.
- Timing of the release of different products, e.g. what is needed at the time of launch and what could come later.
- Choice of derived products and when they would best be produced, e.g. information on runs of dry or wet winters, or likelihood of heavy summer rainfall.
- Design and functionality of user interface (how complicated it is, what the front

pages show, description of UKCP18, how the user is guided through the information).

- Guidance – amount and details, e.g. should guidance be provided separately for each strand or all together, how much technical detail is needed.

General points

- Availability and cost of data for users.
- Communication of confidence in results.