

## A COORDINATED AGENDA FOR MARINE, ENVIRONMENT AND RURAL AFFAIRS SCIENCE (CAMERAS) (2011-2016)

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### **Introduction**

1. The Met Office is world leading in both weather forecasting and climate research and prediction because of its scientific excellence in both Numerical Weather Prediction and Climate Research, and because - uniquely - both activities are carried out within one organisation using a single modelling suite. This combination of scientific expertise and operational capability means that the Met Office can provide “seamless” prediction - on timescales from an hour to 100 years.

### **Coordinating Policy Focussed Science**

2. For a science-based approach to be effective in supporting Scotland's climate change policy on mitigation and adaptation, it requires strong coordination between the Directorates and the science community: both to communicate emerging requirements and to ensure that science is directed towards policy.

3. The Met Office welcomes the introduction by the Rural and Environmental Research and Analysis Directorate (RERAD) of its coordinated agenda for science as a solid first step towards this goal, and whilst noting that the Directorate has named its main research providers, we would urge the Scottish Government to take full advantage of the breadth of expertise available to it from the wider UK science community. In doing so Scotland will be assured that the knowledge and expertise gaps in climate science are minimised and, wherever possible, eliminated, thus supporting the Scottish Government's desired national outcome to make Scotland “... renowned for our research and innovation.”

4. Although there is a consensus on the broad features of expected climate change, there are still uncertainties, particularly when considering how the climate may change locally. Uncertainty at this scale and, in particular, about the impact of climate change on extreme events, presents a significant challenge for policy and decision makers and planners in Scotland. Science, which so well served research into both the causes of climate change and on mitigation, must also develop to serve the adaptation needs of Scotland - on both a regional impact scale and in the context of global climate change. The use of inappropriate or out dated scientific advice could lead to poor investment decisions or ineffective policy.

## **Reducing Uncertainty in Regional Climate Predictions**

5. Adaptation is an increasingly important response for the impacts that will occur over the next several decades before mitigation measures can have an effect. For Scotland, improved regional climate predictions will be critical, particularly for rainfall and storm patterns, to assist in the development of a policy framework to guide effective adaptation by Scotland in the medium and longer term.

6. Fundamental research, not undertaken by RERAD's main research providers, is still required to underpin improved regional predictions, concurrent with a directed programme that pulls together effort from across the research community towards specific regional needs of the Scottish Government. The key element here is not simply to join up existing work but to put in place a programme that focuses relevant parts of climate research towards the goal of reducing uncertainty in regional climate predictions. Further research to refine our understanding of the regional impact of climate change will improve the relevance and utility of climate research for those responding to climate change in Scotland.

## **Met Office Hadley Centre**

7. Much of the underpinning science carried out in the academic community feeds through the Met Office Hadley Centre to policy relevant science – the Met Office Hadley Centre acts as a hub for policy focussed science. An independent review<sup>1</sup> of the Hadley Centre recently concluded, amongst other things, that: *“It is beyond dispute that the Met Office Hadley Centre occupies a position at the pinnacle of world climate science and in translating that science into policy advice”*.

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<sup>1</sup> An independent review of the Met Office Hadley Centre commissioned by Defra and MoD is available on the Defra website:  
<http://www.defra.gov.uk/environment/climatechange/research/pdf/hadleycentrereview0507.pdf>