

UK Climate Projections 2018 (UKCP18): Northern Ireland Climate Projections Explained

Wednesday 22nd May 2019
Banqueting Hall, Belfast City Hall

On 22nd May 2019 Climate Northern Ireland (NI) and the Met Office hosted the *UKCP18: Climate Projections in Northern Ireland Explained* event, with attendance from around 120 delegates across central government, local government, the private sector, community sector and academia.

The UKCP18 event aimed to provide the opportunity for NI stakeholders to learn about the recently updated climate projections, the data and information available, and how NI researchers, organisations and industries can use these projections to plan for climate change. The structure of the UKCP18 event was as follows:

- **Overview of UKCP18**
 - The Met Office provided an overview of the latest climate projections, the data available and how to access information.
- **Use of UKCP09/18: Reflections from NI practitioners**
 - Energy Modelling of Domestic Buildings
 - Belfast Tidal Study
 - Resilient Belfast
 - Local Authority Adaptation Planning
 - Lakeland Dairies – First Steps in Adaptation
- **Discussions: How could UKCP18 be used in your sector?**
 - Workshop session designed to identify how delegates could make best use of the data, in discussion with colleagues from their own sector
- **UK Research and Innovation: Introduction to the Climate Resilience Programme**
 - Outline of the programme and funding opportunities available for NI researchers.

The event was Chaired by:

- Richard Kirk, Climate NI Chair and Regional Director, Institution of Civil Engineers) and,
- Ciarán Fox, Director, Royal Society of Ulster Architects

Speakers:

- Dr Fai Fung, Met Office
- Dr Teresa McGrath, Queen's University Belfast
- Alan Reddick, Department for Infrastructure
- Grainia Long, Belfast Commissioner for Resilience
- Cathy Burns, Derry City and Strabane District Council
- Ed Wright, Lakeland Dairies
- Professor Suraje Dessai, University of Leeds



Introduction to the UK Climate Projections 2018 (UKCP18)

UK Climate Projections 2018 (UKCP18) provides the most comprehensive and up-to-date assessment of how the UK's climate is expected to change over the next century. Building on UKCP09 and using the latest climate science from the Met Office, UKCP18 is a climate analysis tool delivering a range of detailed climate scenarios, including greater regional and sub-regional detail. The projections aim to inform and equip decision-makers with the latest science-proven information to assess their vulnerability, adapt to the risks and benefit from the opportunities of climate change.

To find out more information, and to access the publicly available data, scientific reports, maps and graphs, visit the [Met Office website](#).

Please [click here](#) to access the overview presentation of UKCP18 delivered by the Met Office at this event.

Getting familiar with UKCP18

To make it easier to learn about how to use UKCP18, Climate NI has developed a [resource summary sheet](#) which lists and outlines several of the main available UKCP18 resources found on the Met Office website.

Use of UKCP09/18: Reflections from NI practitioners

PDF copies of the presentations are available on the Climate NI website [here](#), along with a Summary Document outlining the key messages and take away points from each presentation.

Workshop Discussion: How could UKCP18 be used in your sector?

As part of the workshop discussion, each table was assigned one of the following sector themes - Agriculture, Built Environment, Health, Infrastructure, Local Council, Marine and Coastal Areas, and Natural Environment (Land).

The aim of these sector-themed table discussions was for participants to:

- Prioritise the risks and opportunities facing their sectors from climate change
- Explore how and why UKCP18 projections could be used by their sectors to prepare for the impacts of climate change
- To identify necessary next steps, by prioritising one challenge and one action which would enable the relevant sector to make best use of UKCP18 to prepare for climate change

Key Outcomes from Table Discussions:

<p>Agriculture</p>  <p>The impacts of climate change to the NI agriculture sector, as identified by participants, include flooding, drought, increase of pests, changes to livestock and crops, and increasing need for peatland and upland management. Participants noted that there are opportunities for reducing carbon emissions and implementing adaptation measures.</p> <p>Participants identified the following ways in which the use of UKCP18 could support climate resilience in the NI agriculture sector:</p> <ul style="list-style-type: none"> - Undertake modelling to identify impacts and to inform the implementation of adaptation and mitigation actions, including nature-based solutions and actions to transition land to a carbon sink - Adaptation measures can be written into NIEA prosperity agreements - Develop a cross departmental sustainable food policy 	
<p>Challenges of using UKCP18:</p>	<ul style="list-style-type: none"> • Knowledge deficit in the farming sectors and lack of skills to use UKCP18 • Political shift of focus away from agriculture • Status quo of behaviour - sector behavioural change needs to shift away from climate change threats and move towards identifying opportunities
<p>Actions that could be taken to address these challenges:</p>	<ul style="list-style-type: none"> • Embed projections into grassland models and risk maps • Development of a cross-departmental sustainable food policy • Establish measures to support exchange of information between sectoral stakeholders e.g. government (DAERA) and farmers • Undertake site-specific investigation and action • Implementation of a sustainable environment land management scheme

<p>Marine and Coastal Areas</p>  <p>Participants identified that sea level rise, increase in sea temperature, increase frequency and intensity of storms and surges, habitat loss and invasive species are the main climatic risks to the marine and coastal sector in NI. They also raised the issue that currently in NI there is no primary legislation for coastal erosion risk management. Participants noted that there is a potential investment opportunity in tidal power.</p> <p>Participants identified the following ways in which the use of UKCP18 could support climate resilience in the NI marine and coastal sector:</p> <ul style="list-style-type: none"> - Implementation of projections across sector working areas e.g. marine planning - Embed projections into models 	
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Challenges of using UKCP18:	<ul style="list-style-type: none"> • Lack of baseline data • Lack of legislation on coastal erosion risk management in NI, which hinders the development of sustainable local development plans and good sustainable planning and marine licensing decisions • Lack of government department leads, therefore no systematic gathering of data on the changing coastline • No cross-sectoral, strategic regional approach to planning
Actions that could be taken to address these challenges:	<ul style="list-style-type: none"> • Improve access to information and monitoring of the changing coastline, by establishing a data-gathering partnership in NI on the changing coastline • Marine planning to support resilience of biodiversity from the impacts of climate change e.g. planning and implementation of fisheries and marine protected area designation • Strengthen skills in marine planning adaptation • Develop adaptation options and resilience strategies for intended use by incoming ministers on coastal erosion risk management • Increase accessibility of information available and to ensure UKCP18 messages are simple • Establish a Coastal Forum (chaired by Permanent Secretary) to support a strategic regional approach

Natural Environment (Land)



Participants identified the main impacts of climate change on the natural environment (land) in NI, as afforestation, water scarcity, biodiversity loss, and wildfires. They also raised the issue of a lack of awareness for the projected impacts of climate change on this sector in NI. Participants identified the potential opportunity to pay landowners to deliver ecosystem services such as woodland planting, retrofitting peatlands and wetlands, and undertaking sustainable catchment practices.

Participants identified the following ways in which the use of UKCP18 could support climate resilience in the NI natural environment (land) sector:

- Embed projections into the decision-making process to guide implementation of nature-based solutions
- Increase understanding and awareness of UKCP18 (projections to be communicated through simple messages)
- Establish or identify an intermediary organisation in the environment sector to demonstrate the uses and products of UKCP18

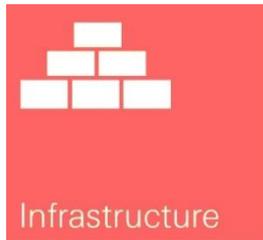
Challenges of using UKCP18:

- Lack of government to influence and political buy-in
- Limited availability of resources, capacity and time

<p>Actions that could be taken to address these challenges:</p>	<ul style="list-style-type: none"> • Engage directly with politicians and lobby for climate change regulations and statutory targets on mitigation and adaptation to drive change across sectors • Increase understanding and awareness on the importance and interdependency between society and the natural environment • Develop an integrated land use strategy for NI • Increase understanding of projections within the sector and develop targeted simple messages
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<p>Local Council</p>	
	<p>Key impacts of climate change on the effective delivery of council services and risk to local communities identified by participants include severe weather (storms, flooding, heatwaves etc.), sea level rise, economic losses, higher insurance costs, location vulnerability (people living and buildings located on floodplains) and health and safety concerns for council staff. Participants noted that there is a lack of awareness across all sectors of society on their role to support resilience such as building control, planning effectively etc.</p>
<p>Participants identified the following ways in which the use of UKCP18 could support the climate resilience of NI Councils:</p>	
<ul style="list-style-type: none"> - Undertake risk analysis - Embed projections into planning and development across all local council service areas e.g. development plans, corporate plans, risk assessments, and community engagement strategies and services - Identify impacts of climate change on the insurance industry 	
<p>Challenges of using UKCP18:</p>	<ul style="list-style-type: none"> • Limited capacity, skills, time and availability of resources • Lack of awareness and understanding • Difficulty in incorporating projections in the planning and implementation process • Lack of clear responsibility over the planning process • Lack of cross-sectoral collaboration
<p>Actions that could be taken to address these challenges:</p>	<ul style="list-style-type: none"> • Embed projections in planning and capital projects • Encourage leadership from CEO and leadership teams to embed projections in to the sector • Increase awareness and support effective communication of UKCP18 across all service areas

Infrastructure



to climate change.

Participants identified the main climate change risks to NI infrastructure include vulnerability of buildings and services (e.g. hospitals), infrastructure located on low lying areas (e.g. underpasses, buildings etc.) and infrastructure failures and collapses (e.g. melting roads), which would impact the quality of life. Participants noted that the implementation of sustainable drainage systems (SUDs) and natural flood management measures can be potential opportunities in response

Participants identified the following ways in which the use of UKCP18 could support climate resilience in the NI Infrastructure sector:

- Adapt the UKCP18 information and data to an NI context
- Embed projections to update flood maps
- Embed projections into the Local Development Plans (LDPs)
- Use projections to inform implementation of mitigation and adaptation actions e.g. nature-based adaptation actions
- Incorporation of projections into design standards and policies

Challenges of using UKCP18:

- Lack of co-ordination between development plans and flood maps
- Lack of government to influence and political buy-in
- Embed projections into planning (it needs to be acceptable for development)
- Status quo of sectoral behaviour

Actions that could be taken to address these challenges:

- Use projections to inform the implementation of actions
- Increase sectoral understanding and awareness through effective communications campaigns
- Engage with politicians to encourage immediate action using a 'climate emergency approach'
- Embed projections into planning policies to protect existing assets and guide new developments

Built Environment



approach.

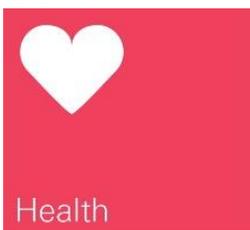
Key impacts of climate change to the NI built environment sector identified by participants include flood risk, heating and cooling, and fuel poverty. Participants noted that there is a lack of building design codes, ownership, and expertise in the NI built environment sector to manage the impacts of climate change. Potential opportunities for this sector identified by participants include economic opportunities, political buy-in, training opportunities and opportunity to encourage a proactive

Participants identified the following ways in which the use of UKCP18 could support climate resilience in the NI built environment sector:

- Embed projections into building design codes, and policies to encourage the use of projections across the sector
- Encourage designers to embed projections in the design process e.g. factoring in the impacts of climate change

Challenges of using UKCP18:	<ul style="list-style-type: none"> • Lack of skills and resources • Limited awareness and understanding on using UKCP18 and tools available • Limited sector understanding on the relationship between climate change - buildings and people • Lack of government influence and political buy-in • Lack of commercial sector buy-in • Current building standards are on a minimum basis as opposed to being aspirational
Actions that could be taken to address these challenges:	<ul style="list-style-type: none"> • Encourage collaborative working between designers, policy makers and end-users • Increase understanding and awareness of UKCP18 data and products • Encourage policy change of building design codes and regulations • Support sectoral behaviour change by identifying good practice examples

Health



Participants identified the main climate change risks to the NI health sector as increased vulnerability of isolated communities and individuals from heat, cold and fuel poverty, and increasing levels of air pollution. They also noted potential opportunities from projected milder winters, such as increased active travel, and improvement of air quality and urban design.

Participants identified the following ways in which the use of UKCP18 could support climate resilience in the NI health sector:

- Incorporation of projections in to health and social care infrastructure design
- Raise awareness and understanding of sector vulnerability to the impacts of climate change
- Identify and promote the ways in which climate preparedness supports existing health agendas e.g. fuel poverty

Challenges of using UKCP18:	<ul style="list-style-type: none"> • Limited sector understanding of climate vulnerabilities • Lack of understanding of UKCP18, as it is technical – resource is required to provide outputs that can be used by the sector • Limited budget and availability of resources and skills – current focus of health and social care services is on financial savings rather than the remuneration benefit
Actions that could be taken to address these challenges:	<ul style="list-style-type: none"> • Raise awareness and understanding of the impacts of climate change and sector vulnerability, and promote 'climate change - health' information • Establish and utilise an exchange platform to engage the sector in considering risks and solutions • Encourage leadership to embed projections e.g. permanent secretary etc. • Reflect challenges of using UKCP18 in the health and social care transformation programme

Conclusion

From the group discussions, we noted several key themes across all sectors. These are listed below:

Key actions to make best use of UKCP18 projections:

- Undertake modelling of gradual climatic changes and extreme weather events to identify impacts and vulnerability
- Embed projections into policies across all sectors
- Encourage and support use of UKCP18 projections across all sectors
- Inform decision-making for short-term and long-term planning, development and action (mitigation and adaptation) across all sectors
- Influence sectoral behaviour change

Key challenges of using UKCP18:

- Limited understanding of UKCP18 data and products
- Limited or lack of technical skills, resources, capacity, and time to use UKCP18
- Lack of government to influence and political buy-in

Priority actions that could be taken to address these challenges:

- Make UKCP18 information easily available and understood, through the development of simple and targeted messages
- Develop measures to support cross-sectoral collaborative working
- Embed UKCP18 into planning policies across all sectors to inform decision making and action

Next Steps

Climate change presents a wide range of risks and opportunities to NI's natural environment, infrastructure services, built environment, economy and other vital societal support structures. Planning for these changes will enable NI to build resilience to the potential negative impacts of climate change, whilst benefiting from any opportunities. A resilient NI requires stakeholders to plan and adapt at an organisational and strategic level, and to develop cross-sector collaborative partnerships.

Climate NI works and engages with multi-sector stakeholders on increasing understanding of climate change risks and impacts within NI, and promotes the adaptation actions necessary to address these.¹ We encourage NI stakeholders to consider their climate risks, undertake organisational adaptation planning and implement practical actions. To find out more about how to plan and prepare for climate change, please contact us at the following email address: info@climatenorthernireland.org.uk

Outputs from this workshop will be discussed with Climate NI's cross-sectoral steering group members², which includes representatives from across different industries in NI. We will use their expertise to guide and take forward the outcomes from the workshop for each sector, to address the challenges of using UKCP18.

¹ To find out more about Climate NI and our work, please see our website:

<https://www.climatenorthernireland.org/>

² Climate NI work is guided by a cross-sectoral steering group, for further information please see our website:

<https://www.climatenorthernireland.org/aboutus/steering-group.php>