

## Engaging with UK Climate Services providers – Northern Ireland

6 November 2014, Belfast

### Report from meeting

*Climate Services are the dissemination of climate and other supportive information to the public or specific users to support their decision-making and activities.*

### Objectives

- To understand the possible role of a climate services community with regard to current capacity and scope of services.
- To explore interest and potential opportunities for a NI/UK climate services community (both providers and users).
- To provide information on climate services developments and opportunities in the UK/Europe, including nature of research and innovation opportunities within Horizon 2020.
- To explore links/partnership/funding opportunities.
- To identify and clarify knowledge and research gaps towards identifying priorities for future research and innovation.

### Participants

Paddy	Brow	NI Water
Gareth	Burns	Agri Food and Biosciences Institute
Alison	Cameron	Queen's University Belfast
Alan	Crilly	NI Water
Stephen	Jones	Climate NI
Jim	Kitchen	Sustainable Northern Ireland
Stephen	McCabe	NI Environment Link
Anthony	McCloy	McCloy Consulting Limited
Jane	McCullough	Climate NI
Nigel	McMahon	Dept Health, Social Services and Public Safety
Grainne	Millar	Department of Environment, NI
Donal	Mullan	Queen's University Belfast
Sree	Nanukuttan	Queen's University Belfast
Vicky	Pope	Met Office
Roger	Street	UKCIP
Patricia	Warke	Queen's University Belfast
Ed	Wright	BITC (Business in the Community)

## Agenda

- 9.30 Welcome and introduction (Climate NI). Objectives of the workshop (UKCIP)
- Presentations: Outline of European initiatives – Roger Street, UKCIP  
Climate services: what’s happening in UK/NI – Vicky Pope, UK Met Office
- 10.00 Understanding the climate services community in Northern Ireland.  
2 minute summaries from participants to understand their scope, capacity and interest:
- What is the nature of your role in climate services?
  - What do you see as the scope of ‘climate services’ that are needed to support adaptation, mitigation and disaster risk management in Northern Ireland?
  - To what extent do you see ‘climate services’ being used to support decision making within Northern Ireland? What is the interest/demand for these services?
- 11.00 Refreshments
- 11.15 Discussion: Defining the current and expected future climate services market from the participants’ perspectives:
- Who are the users and providers?
  - What is the current maturity and breadth/depth of the market?
  - What are the likely needs and how can these be met?
- 12.00 Presentation: European climate services partnership – Roger Street, UKCIP  
Discussion: interest with respect to developing a UK climate services community
- 12.30 Lunch
- 13.15 Discussion: Identifying knowledge, research and innovation gaps, challenges and priorities. Highlighting any specific regional and sectoral issues. Identifying barriers to climate services provision.
- 15.15 Reporting, on-going involvement, follow-up activities
- 15.30 Close

## 1. Introduction

The Natural Environment Research Council (NERC) is funding a series of four workshops across the UK (Northern Ireland (NI), England, Scotland and Wales) to engage with providers and purveyors of climate services. The aim is to inform on-going discussions within the UK and Europe related to the delivery of climate services, to identify associated research requirements and to explore interest in continuing this engagement within a UK climate services community.

By facilitating dialogue between providers and purveyors within NI and the wider UK community, it is hoped to be able to influence and participate effectively in European research and innovation programmes. This will help ensure funds are directed to address issues specific to NI and that the NI climate services community is in a position to access funding and collaborative opportunities as they arise.

Two presentations summarised the current position:

### **1.1 Outline of European initiatives (Roger Street, UKCIP, see presentation)**

Currently, there is considerable discussion of climate services to support mitigation, adaptation and disaster risk management at both the WMO and the EU level. In particular, the EU Horizon2020 (H2020) research and innovation programme will make €800m available for climate services to support policy and decision-making. A roadmap to guide this investment is currently under development by an Expert Group and the aim is to synthesise the results of these workshops to help ensure that UK priorities are reflected in the roadmap and that national funding agencies are better informed when supporting UK involvement in H2020 and wider EU research and innovation programmes. The roadmap should be completed by the end of 2014, and a workshop engaging with the European climate services community is planned for 16 or 17 Mar 2015. It is hoped there will be representation from NI at this workshop.

### **1.2 Climate services: what's happening in the UK/NI (Vicky Pope, Met Office, see presentation)**

The Met Office leads UK involvement in several international climate services activities. The UN lead the Global Framework for Climate Services to help ensure climate information is used in decision-making effectively at the global, regional and national levels. At the European level, the Met Office has been instrumental in creating the European Climate Services Partnership which promotes collaboration and the sharing of European knowledge and resources. In addition, the Met Office has established Climate Service UK which aims to provide information and tools to address climate-related risks and opportunities both in the UK and beyond by offering expert advice, customer-driven climate information, value-added services and solutions to help build capacity in developing countries.

## 2. Understanding the climate services community in NI

To understand the scope, capacity and interest in climate services in NI, participants were invited to introduce themselves and give brief verbal summary covering:

- the nature of their role in climate services;

- the scope of ‘climate services’ that are needed to support adaptation, mitigation and disaster risk management in NI;
- The extent to which they see ‘climate services’ being used to support decision making within NI?

### 3. Defining the current and expected future climate services market in NI from the participants’ perspectives

Discussions in two breakout groups aimed to capture the scope of current and likely future activities with respect to climate services in NI.

#### 3.1 Who are the users and providers?

Users	
Water	<ul style="list-style-type: none"> <li>• Department for Regional Development (DRD, water policy and shareholder unit) - developing policy and guidance for the NI water industry</li> <li>• NIEA - when developing discharge consents and abstraction licences</li> <li>• Department of Agriculture and Rural Development (DARD) - developing flood management maps and plans</li> <li>• NI Water - water resource management plans, analysis of dams, catchment management plans, designing sewerage networks, o inform policy and strategy, emergency planning</li> <li>• NI AUR (Authority for Utility Regulation) - assessing water investment plans and performance issues</li> </ul>
Built environment	<ul style="list-style-type: none"> <li>• Energy managers and assessors</li> <li>• Social housing associations</li> <li>• Large scale developers – planning data/information for risk management</li> <li>• Building designers and architects</li> <li>• Planners – with a role to play in ensuring new development doesn’t hinder ability to mitigate or adapt</li> <li>• Conservation specialists particularly working with heritage buildings</li> <li>• Local government: energy managers, building control directors, development directorates</li> </ul>
Health and social care	<ul style="list-style-type: none"> <li>• Health services</li> <li>• Emergency responders</li> </ul>
Infrastructure and utilities	<ul style="list-style-type: none"> <li>• Consulting engineers e.g. employed by water companies (often following nationally-agreed guidance)</li> <li>• Infrastructure asset owners and operators - targeting information as no cost-effective to make everything resilient</li> <li>• Flood authorities</li> <li>• Larger business - protecting supply chains, risks to infrastructure</li> <li>• Local government: service resilience</li> </ul>
Agriculture	<ul style="list-style-type: none"> <li>• Agricultural sector – plant breeders, development and use of drought resistant crops</li> </ul>

Cross-cutting users	<ul style="list-style-type: none"> <li>• Professional bodies – e.g. ICE, CIWEM, UKWIR, WATER UK, starting to promote relevant information to their members</li> <li>• Agencies e.g. Met Office, NPL, BRE providing value-added information</li> <li>• Boundary organisations e.g. UKCIP, Climate NI who can act to facilitate the flow of information e.g. as a knowledge hub, facilitating links, translating information</li> <li>• Academic community which can drive need for climate/impact model outputs</li> <li>• Insurance companies (risk management)</li> <li>• Regulatory bodies</li> </ul>
Providers	
	<ul style="list-style-type: none"> <li>• Climate modelling and research groups – by making their information available and by making it locally relevant. But do need access to data at no/low cost</li> <li>• Consultants (responding to private and public requests for integrated information)</li> <li>• Funding bodies and agencies – Historic Scotland, NIEA, English Heritage, by supporting research and making outputs widely available</li> <li>• Knowledge exchange portals e.g. Climate NI, UKCIP</li> <li>• A few key government departments and specialist small consultancies</li> </ul>

Looking across the sectors represented at the workshop, there is potential for a wide range of private and public organisations to use climate services within NI. In many cases, the requirements for data and information draw on evidence and knowledge from across a variety of sectors.

There is often not a clear boundary between users and providers/purveyors of climate services. Many organisations are both users of climate data and information, but also providers/purveyors in that they play a role in adding value to the information and making this available via a range of mechanisms e.g. issuing reports, formal publications and networks, informal contacts.

### **3.2 Current maturity and breadth/depth of market**

Overall, the current market for climate services in NI is immature, with a lack of demand in many sectors and a lack of awareness of those services and providers already available. Of the sectors mentioned in discussion, the maturity of the market in the water sector is probably highest, other sectors e.g. transport, are now taking a greater interest often because of operational resilience issues (recent freezing, flooding events) whilst engagement in many sectors (e.g. housing, health) is very low at present.

However, it appears that the overall market for climate services in NI is growing slowly as a result of both EU/UK/NI regulations and policies driving demand, and a greater awareness by organisations of the potential implications of climate change and extreme events. The latter, in turn, builds on recent extreme weather events in NI which have highlighted local impacts and consequences.

In the private sector, it was suggested that climate services are mostly being used by a few large companies, but for NI, with a high proportion of SMEs, it is important to make the information relevant and accessible to all. Many SMEs are coping with the business demands of today and do not

have the resources and/or capability to consider climate change, which in any case is often seen as a long-term issue and not an immediate priority.

At present, climate services in NI tend to be focussed primarily on data and information from climate change science (e.g. UKCP09 model outputs) and products derived from this science (e.g. UKCIP tools). There appears to be a lack of provision of (or demand for) outputs currently available which integrate this information with data from other relevant topics e.g. hydrology, land use change. There is also an issue in that much of the data is generic for the UK, with a lack of local/regional data and information specific to NI.

### ***3.3 What are the likely needs and how can these be met?***

The demand for climate services in NI is growing albeit from a very low base in some sectors. There is a need both to provide data and information specific to NI needs, but also for awareness-raising across many sectors to highlight the potential benefits that can be achieved through the use of climate services. The idea of sector champions was raised, and the credibility of the messenger was identified as a key issue in promoting engagement and understanding.

The current situation provides an opportunity for NI to learn from experiences in other countries, and for providers and purveyors in NI to grow the local (and possibly beyond) climate services market by providing appropriate information and knowledge. Whilst generally thought to be behind other countries in the area of climate services, there may be pockets of expertise within NI which can be harnessed to leverage action, possibly via case studies etc. All case studies must be local to address the unique characteristics within NI and include sufficient information to be transferable to other sectors/areas.

Academia has an important role to play in driving the change both in providing new data and information to meet existing and anticipated demands from users and in strengthening understanding e.g. learning via the tertiary education system.

For SMEs, there is a need to identify specific drivers that might stimulate change e.g. via changes to a supply chain with economic impacts. Meaningful and local case studies can help inform decisions as can information derived from respected peers. Guidance which works within existing systems of standards etc. is more likely to be adopted than any new system given the lack of capacity in many SMEs to engage with climate change issues.

Using appropriate language for the particular user group and/or sector is crucial.

## **4. Interest with respect to developing a UK/NI climate services community**

### ***4.1 A European and UK climate services community (Roger Street, UKCIP, see presentation)***

The H2020 roadmap recognises the need for a viable and sustained climate services community that engages users, providers/purveyors and researchers in supporting and growing climate services in Europe. This builds on the Climate Services Partnership which was established following the First International Conference on Climate Services in 2011 and operates globally and the European

Climate Services Partnership which was launched in May 2014 and helps ensure coordinated climate services across Europe. This raises the question of whether there is a need for an initiative at the UK and/or NI level for a climate services community.

#### **4.2 Plenary discussion**

Discussions focussed on whether there is a need and/or interest in a climate services initiative at the UK or NI level and, if so, what should be its purpose and scope? Given other platforms are already established in this area (ECSP, Climate Services UK) how should any relationships with these initiatives be managed?

In general, there was significant support for a climate services community, possibly at the UK level but with a NI element to focus on the specific context and issues relevant to this region. Points raised included:

- It would be an opportunity to share perspectives.
- The UK needs to be involved in scoping and supporting (funding) European programmes to ensure participation in the resulting research and innovation calls. Investment at a certain level will allow key national/regional issues to be addressed.
- An active community would help foster links and collaborations at both the research project level and beyond. Research could lead the way in partnering with UK and Republic of Ireland academic groups and users.
- There is a need to include links with the Republic of Ireland, particularly where businesses operate cross-border.
- It would provide a key driver to influence the political process – bringing together a range of communities would help strengthen the message. Could build on those sectors with the strongest voice, e.g. agriculture.
- Creating a cohesive climate services market could help drive growth
- A focussed community would help avoid NI being side-lined within UK/EU initiatives

Possible formal or informal mechanisms for developing the community were discussed. As NI has a small climate services at present with a relatively low level of commitment, a mechanism building on existing structures would be preferable to inventing a new organisation. There is also a need to avoid duplication of effort and to work with others e.g. Climate Services UK.

Climate NI has existing expertise in this area and the special interest groups currently being established may provide more focussed knowledge exchange opportunities. Climate NI could provide a secretariat role (knowledge directory, outreach, identifying and pulling together sector ‘champions’) but there is a resource issue which needs to be addressed.

#### **5. Identifying knowledge, research and innovation gaps, challenges and priorities.**

Information from all participants was captured on post-it notes and complemented during a plenary discussion. Participants were also asked to identify one key priority within each group (votes in brackets)

## 5.1 Research gaps

- Soil carbon stocks and restoration including C sequestration potential of grassland soils (2)
- Climate change and peat – predicting how rising temperature and CO<sub>2</sub> will impact on peat deposits (1)
- Determining/quantifying the role of biodiversity in climate regulation (carbon sequestration, microclimate effects) and effects of climate change on this service
- Sustainability of the NI ‘material supply’ industry. How to adapt building materials for a changing climate
- Potential effects of climate change on biofuel production (sector sustainability in financial terms but also climate mitigation terms)
- Adapting to increased moisture loading in buildings and infrastructure
- How to modernise housing stock with future climates in mind
- Implications for future of NI agriculture specialities (red meat/dairy) in a changing climate
- Hot spots and interdependencies within infrastructure systems. Current research focusses on GB and does not include NI. How can this research best be transferred?
- Future storm intensity predictions (rainfall) – for use in sewerage models
- Understanding interdependencies between sectors, but also between climate, socio-economic issues etc. Understanding interactions between climate and other drivers. (6)
- Lack of baseline data in many sectors e.g. health (no data on insect vectors of human disease), for monitoring and which might help define when approaches need to change. But this lack of evidence should not detract from taking action. (1)
- Gaps in evidence from last UK CCRA and NI CCRA are identified in Chapter 6 of the NI CCRA – the majority relate to flooding  
[http://www.doeni.gov.uk/climate\\_change\\_risk\\_assessment\\_ni\\_2012.pdf](http://www.doeni.gov.uk/climate_change_risk_assessment_ni_2012.pdf)

## 5.2 Knowledge gaps

- Integrated information from across sectors e.g. life cycle analysis ‘farm-to-fork’ (2)
- Influence of policy incentives in practice – understanding how people respond to incentives/policy?
- Management restoration and retention of areas of peat and bog as a carbon sink
- Impact of climate change – our nutrient rich rivers and waters e.g. Lough Neagh (fresh) and Belfast Lough (sea)
- Educational materials/tools required to facilitate knowledge exchange in schools, universities and sectors such as industry, agriculture (1)
- Knowledge broker structure to provide a dissemination facility (1)
- How to address the gap between knowledge of the climate change problem and action to address it. Repeated surveys demonstrate concern but no intention to do much about it. (4)
- How extreme is extreme weather. What should we gear up for? (2)
- How best to tap into and inform the farming community (1)
- Aggregation of business innovation into easily accessible case studies (2)
- Difficult health areas where health data is not accessible or where other confounders are hard to disentangle (e.g. mental health)



- Gaining a wide appreciation of all implications of a changing climate not just sea-level rise and flooding (2)
- Extracting value from past techniques/approaches which may have been shelved/forgotten

### **5.3 Innovation gaps**

- New ways/tools to visualise and present data, uncertainty and impacts in a way that people find engaging and appeal to a wider range of stakeholders, e.g. the Carbon Visuals website. [http://www.doeni.gov.uk/climate\\_change\\_risk\\_assessment\\_ni\\_2012.pdf](http://www.doeni.gov.uk/climate_change_risk_assessment_ni_2012.pdf) . Engage with visual analytics experts. (8)
- Understanding how the risk-based approach works in practice
- Need for more user-friendly interactive platforms to extract climate change (4)
- Need for clear ‘headline statements’ on regional and local climate scenarios specific to NI.
- Placing a value on climate services (C market, ecosystem services)
- 21<sup>st</sup> century moisture management systems for masonry structures
- Fuel poverty – infrastructure needs modernising and adapting for future scenarios.
- How to improve the process of innovation and collaboration (1)
- Knowledge brokers with policy influence
- Synthesis between mitigation and adaptation strategies. Are we undertaking adaptable mitigation?
- Need to look at the relationship between legislation, what needs to be achieved and how this can be communicated

### **5.4 Challenges, enablers and specific regional/sectoral issues for NI**

NI is a small region that may not have the ‘critical mass’ at present to really drive the understanding, uptake and use of climate services. However there is an opportunity as the region has some large sectors that could be targeted. With a large public sector, a major agricultural sector and one main public transport operator, Northern Ireland is arguably less silo’ed than other countries, which could be an opportunity to enhance the use of climate services if the right collaborations can be forged.

NI has a high proportion of small farms. Promoting action in this sector has specific challenges given the general reluctance to change and a reliance on grants (lack of incentive for adaptation/mitigation). The agricultural sector has high emissions and is working towards a GHG reduction plan, but this process is causing delays in action. There is an opportunity within this large sector to identify one or two key actions which could have significant overall impact.

An SME-based economy brings its own challenges, but the idea of a circular economy is gaining traction and could be used to promote adaptation action. SMEs are not a coherent group so how can climate services best recognise and meet the differing requirements? Are there existing overarching bodies which could help translate information and reach the large proportion of SMEs that are not yet engaged?

NI has a large rural population and a different housing and services distribution to other parts of the UK. There is a need to ensure investment can meet the needs of rural communities, and that rural infrastructure is resilient to deal with climate change.

The departmental structure of central government has been seen as a barrier to climate change action. Despite an inter-governmental group on climate change existing, some departments have taken virtually no initiatives leading to an inequality in addressing the adaptation issue. There are also gaps in responsibilities between government departments and a lack of stable, long-term funding to address climate change issues.

More broadly, there is a feeling that the administration is pursuing a 'growth at all costs' strategy and that the dependence on public sector policies can possibly hamper innovation. The culture is generally conservative and there is extensive political inertia on climate change partly fuelled by scepticism of anthropogenic causes. In public perception, NI has had a very equitable climate; people tend to notice the cold events, and don't believe long-term changes in mean temperature (also 'wetter' can make 'hotter' feel colder than it really is).

NI tends to be on the periphery. In terms of funding, accessing national and European funding can be a challenge given the level of resources required to bid. Working with GB groups and across border with the Republic of Ireland can help. The NI context is not always considered within policies (and practices) adopted from the UK, and ensuring representation on UK, Republic of Ireland and EU initiatives again stretches resources.

Given the relatively low engagement with climate services in NI, strong communication on the concept of climate services and the value such services can add is needed. Such awareness-raising could draw on experiences from within the water sector which seems to be more mature than other sectors and could be used to promote learning. The UK and NI are now entering a period where win-win, no-regrets actions are no longer possible and there is a need to build capacity to promote resilience through large-scale changes. Understanding how the type of change (and timing) that is acceptable in different sectors can be influenced (incremental or transformational change) would help drive this process.

## **6. Reporting and follow-up activities**

Reports from this and the three other UK workshops, including links to relevant initiatives, will be prepared and shared with all participants. (UKICP, by end Dec 2014)

A summary note from the workshops highlighting common areas of interests and regional/sectorally specific interests and challenges will be prepared to inform the UK involvement in climate services and the on-going Horizon2020 mapping exercise. (UKICP, by end Dec 2014)

Any further thoughts on establishing a NI climate services community should be forwarded to Climate NI. (All)

Roger will talk to Climate NI about possible participation in the H2020 roadmap workshop to be held in Brussels on 16 or 17 March 2015.

Information on relevant calls from the Horizon2020 programme will be passed on to all participants as they arise. (UKICP, 2015 onwards)