

Engaging with UK Climate Services providers and purveyors – Wales 27 November 2014, Cardiff

Report of workshop

Purpose

To consider:

- What does the Welsh ‘climate services’ community look like? Do we need to develop partnerships or networks to better deliver and engage in climate service initiatives in the UK and Europe?
- How can we inform the UK and European delivery of climate services, including the European Commission’s current *‘Research and Innovation Roadmap for the development of climate services’*?
- Identification of research needs, knowledge gaps and potential innovations in climate services? How can these be linked to UK and Horizon 2020?

Participants

James	Byrne	Wales Environment Link
Lucy	Corfield	Welsh Government
Chris	Craufurd	ICE Cymru
Tracey	Dunford	Natural Resources Wales
Fai	Fung	Environment Agency
Ian	Hall	Cardiff University
Alison	Hanson	Natural Resources Wales
Eleri	Harris	CCCW
Chris	Hewitt	Met Office
Rachel	James	Environmental Change Institute, University of Oxford
Kristian	James	Public Health Wales
Paul	Jones	Welsh Government
James	Pearson	Welsh Government
Nicholas	Pidgeon	Cardiff University
Eurgain	Powell	CCCW
Matt	Sayer	Welsh Government
Roger	Street	UKCIP
David	Thomas	Bangor University
Clive	Walmsley	Natural Resources Wales (Climate)

Agenda

- 10:15 Welcome and setting the scene
Lucy Corfield (Welsh Government) and Clive Walmsley (NRW)
- 10:25 Horizon 2020 Climate services roadmap
Roger Street (UKCIP)
- 10:45 Q&A
- 10:50 Where do you stand? Provider – purveyor – end user of climate services
- 11:20 NRW Climate Services Case study
- 11.40 BREAK
- 12:00 Roundtable activity to scope extent of activity and the climate services community in Wales
- 12:45 LUNCH
- 13:30 Discussion - How should the climate services community operate in Wales?
- 14:00 Climate Change Consortium for Wales – developing a climate change community
Nick Pidgeon (Cardiff University)
- 14.15 Aligning research and innovation needs with Horizon 2020 and the UK
Roger Street (UKCIP)
- 14:20 Discussion - Research and innovation gaps/needs to support climate-related services
- 15:00 Feedback and plenary discussion
- 15:20 Next Steps
- 15:30 Close

1. Introduction (Clive Walmsley, NRW)

Natural Resources Wales (NRW) and the Welsh Government (WG) hosted the workshop to explore the provision and use of climate services in Wales. This was the final event in a series of four workshops (also in Northern Ireland, England and Scotland) funded by the Natural Environment Research Council and facilitated by UKCIP.

The workshop was held now as there is a growing need to respond to the consequences of climate change, including the increase in extreme weather events. Climate services can provide end users with the integrated evidence and knowledge required to inform decisions and to move towards more resilient and sustainable development.

Setting the scene (Lucy Corfield, WG)

The Welsh Government has published the Climate Change Strategy for Wales, which includes an Adaptation Framework and delivery plan setting out how Wales is preparing for the risks and opportunities arising from a changing climate. Annual Reports summarise current progress against targets, and the latest report for 2013 recognises the need for greater action and a review of policies to ensure mitigation targets and adaptation plans are met.

The Strategy reflects the specific Welsh context with respect to climate change which includes a significant number of coastal communities, transport and other infrastructure routed along the coast, frequent extreme weather events, and a high proportion of SMEs often with limited capacity to engage with the impacts of climate change. Key sectors include energy, tourism, transport and agriculture.

Horizon2020 climate services roadmap (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/UNEP and the EU level. In particular, the EU Horizon2020 (H2020) research and innovation programme will be making up to €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 from these workshops to help ensure that UK priorities are reflected in the roadmap and that national funding agencies are better informed when supporting UK research. The roadmap will be completed by end 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 Wales at this workshop to help ensure Welsh priorities are included and to provide feedback on relevant opportunities.

Innovate UK may have funds to support the writing of H2020 proposals, as may the Welsh European Funding Office.

2. Where do you stand? Provider-purveyor-end user?

There are many different roles to play in providing user-driven climate services with researchers, providers, purveyors and end users all having a part to play. Participants were asked to consider where along this continuum of roles they would place themselves in terms of delivering climate

services. In trying to identify where participants might stand, it was clear that many organisations (and individuals) are involved in, or can offer skills and expertise in, more than one step of the process and that overall responsibilities often spanned a range of roles (synthesis, translation, mobilisation, advice, guidance).

Key points arising from discussion:

- Traditionally-perceived end-users such as policymakers also play a role in disseminating information more widely, acting to integrate information from various sources to inform policies and linking across government departments.
- Informed end users can act as an important conduit to support the flow of information and/or advice to their sector. Similarly, knowledge exchange networks can act as a vital interface between different players and across sectors, but (long-term) funding needs to be secured.
- All players have a role to play in interfacing in both directions, both strengthening their understanding of user requirements and by engaging with academia to ensure research is fit for purpose. Rather than the one-directional continuum suggested, the provision of climate services draws on a network of researchers, providers and purveyors and the challenge is to close this loop by facilitating full engagement between end users and researchers.
- For many organisations, responding to climate change is not perceived as an immediate priority and there is a danger that economic and other drivers will reduce the incentive to provide and use climate services, which will hinder the development of the market.
- Wales could be a leading hub for action in specific sectors where climate sciences can inform decisions e.g. renewable energy

3. Climate services case study (Clive Walmsley, see presentation)

This presentation highlighted work by the UK Environmental Change Network (ECN) on the production and use of climate-related information from sites in Wales, including integration with other national sources of information, and demonstrated the importance of links to both providers and users of climate services.

4. Climate services community in Wales

This was a plenary discussion looking to capture information on the current scope and extent of activity on climate services in Wales. The focus was on identifying key players within Wales but including those providers and purveyors from the UK and beyond who are supplying relevant information.

4.1 Major users, providers and purveyors

Users:

- General public, local action groups, local councillors

- Policy-related: UK and Welsh government, NRW, Local authorities, Town and Community Councils
- Health sector: Public Health Wales, Health Boards and wider health community, emergency services
- Business community: private investors, developers, SMEs,
- Academia, R&D
- Infrastructure owners and operators, utilities, e.g. Network Rail, Arriva Trains, Seven Trent and other water companies
- NGOs, charities e.g. RSPB, National Trust, Wildfowl and Wetlands Trust
- Agricultural sector, food producers, farmers

Providers and purveyors:

- Met. Office, UKCIP, Environment Agency, Centre for Ecology and Hydrology (Bangor)
- Academia including Tyndall Centre (Cardiff), NRN, C3W, UK and EU research organisations
- Crowd-sourced research
- Welsh Government, NRW, Climate Change Commission Wales
- UK Government departments (DECC, Defra), UK Climate Change Committee
- Public Service accounting boards, Local resilience forums, Local service boards
- Consultancies
- Tourism groups
- Media/press
- SMEs and other businesses
- National surveys, census, national and local statistics (e.g. RSPB garden watch)

4.2 Opportunities to use climate services to support decision-making in Wales, and the likely demand

The demand for climate services in Wales is currently low in many sectors, but this initiative offers the opportunity to grow the market drawing on experiences in those sectors where users already have significant capacity to integrate climate data with other information to inform decisions e.g. health, water.

There is a need to develop a greater Welsh focus with, for example, information and case studies specific to local situations. Recent extreme weather events could provide a useful basis for engaging with a broad range of users, illustrating immediate impact and demonstrating the need for longer-term planning and action. Such events are also helping to coalesce previously nebulous communities which can provide a strong voice to drive action.

On timescales, many users e.g. farmers, are used to working with short-term weather-related services and moving away from this language and approach could act as a barrier. At the other end

of the spectrum, infrastructure operators often require projections on much longer timescales to manage risks to installations and networks. There is also a reliance at present on using UK statistics – there is a significant opportunity for climate services which provide data tailored for Wales.

There is a demand for research to better understand human behaviour and social practices in relation to climate impacts and adaptation (e.g. responding to floods), and how climate services can be better integrated into decision-making processes to both encourage public engagement and to use local knowledge e.g. decisions on flood defence or abandonment, measures for local resilience to floods.

There is also a need to understand what is available in Wales (and elsewhere), which resources best meet a particular user's needs and how to access and use the information. Knowledge exchange and awareness-raising are key to building capacity. Encouraging collaborations and partnership working will help enhance opportunities to use climate services particularly given the limitations imposed by current financial constraints.

Particular areas identified where climate services could support decision-making:

- New legislation, e.g. Well-being of Future Generations bill, Environment bill, Planning bill
- Natural resource management planning
- Public/community ownership of power sources (renewables)
- Protection of heritage sites by building resilience - buildings, natural features, coastlines
- River basin management for Water Framework Directive - climate change impacts on ecosystems
- Local authority resilience planning
- Further development of the low-carbon and renewable energy agenda
- Incorporating natural capital into policy decisions
- Decisions based on likelihood that the coming season will be unusual/impactful e.g. heatwaves, cold waves, drought, high winds, for various sectors.
- Bespoke action plans for 'worse case' scenarios e.g. storm events
- Heavily synthesised climate services – often required by local community groups

4.3 Barriers and enablers to growing the climate services market in Wales

Barriers

Perception:

- Lack of awareness of short-term need – seen as an issue for the future
- Public fatigue and inertia, negative press
- Lack of trust in science, conflict between messages from scientists and the local perception of change
- Lack of understanding of projections, including how to handle uncertainty
- Traditional thinking – always done it that way
- Other countries not doing enough so no motivation to do anything

Governance

- Statutory constraints

- Complex devolved/reserved governance structure
- Can encourage silo working
- Lack of long-term vision in decision-making

Market forces

- Demand limited by public sector funding cuts
- Financial constraints (including short-term financial accounting)
- Competing priorities for time and resources
- Funding for climate services (paying for advice?)

Use of climate services

- Lack of understanding of which of many resources provides the 'best' information to use and how to apply data
- Lack of relevant information at the local level
- Lack of capacity in many sectors , both skills and expertise

Enablers

- New policies and directives
- Greater level of (long-term) funding, including for knowledge transfer e.g. via Wales Rural Development Programme for agriculture sector
- Philanthropists/private investors
- Crowd-source funding
- Use of extreme events to increase perception of risk and where negative impact becomes a positive driver of demand
- Closer collaboration facilitated by e.g. CCCW, NRW
- Better coordination of activities between and across sectors, including making the most of information we already have

5. Should we develop a climate services community in Wales? Why? And if so how? How should the community operate – in Wales and/or the UK?

Overall, participants agreed that there should be a climate services community (or network or group) in Wales which could build on existing constituent parts. Greater coordination would help provide a coherent picture of the overall landscape, informing both providers/purveyors and users of climate services, and ensuring opportunities to develop and use climate services are not missed.

But Wales does need to draw from and contribute to UK and European initiatives. If different communities are established for Wales, England, UK and Europe it might confuse users – there will be a need to coordinate activities, especially for issues with a cross-border component.

There is a need to decide whether such a community should be coordinated specifically in Wales or whether strong representation within a UK or EU body would be more appropriate. A smaller community in Wales may be able to get things done which are too complicated at the UK level, and

be able to take account of specific Welsh context, e.g. different requirements in north and south Wales, provision of specific local case studies, adaptation in devolved sectors etc. Conversely, working at the UK level may provide a greater pool of expertise and resources to share.

Building on an existing mechanism with expertise in this area to coordinate a network would be preferable to establishing a new structure. In general, Wales is well-placed to build on existing constituent parts; the aim would be to enhance existing relationships between researchers, providers, purveyors, and users, and to help overcome more siloed working in other areas. A central knowledge hub for Wales would provide both a 'one-stop shop' for users of climate services and also a focussed group to help identify gaps/opportunities and facilitate efficient and coordinated working.

It is recognised that additional long-term funding and resources would be required to support this role. Possible options to lead this work are the Welsh Government, NRW and/or CCCW.

In setting up any community:

- Identify current activities and map stakeholders
- Identify what information needs to be shared and to whom
- Determine what information can usefully build on UK/EU activities
- Identify and promote Welsh strengths and specialist knowledge
- Avoid duplication

Note: the name 'climate services' is confusing.

6. Climate Change Consortium for Wales (C3W) – developing a climate change community (Nick Pigeon, Cardiff University, <http://c3wales.org/>)

The Climate Change Consortium of Wales (C3W) brings together researchers from four Welsh universities (Aberystwyth, Bangor, Cardiff and Swansea) and seeks to improve understanding of the causes, nature, timing and consequences of climate change. Established in 2009, C3W was awarded £4m for a 10 year programme of work. To date the programme has been very successful in raising the profile of Welsh research and in facilitating links with policy, practice and education to ensure relevance and usefulness of research outputs.

In planning Phase 2 of the work programme, it may be possible to establish a similar mechanism to ClimateXchange in Scotland which has direct links to policy, and also to build on lessons learnt by Tyndall Centre which took time to get established but is now self-sustaining as a well-known and respected centre of research expertise. Such a model could also provide a Welsh basis for coordinating user-driven research on climate services.

7. Research, knowledge and innovation gaps/needs to support climate-related services

The aim of this round-table session was to consider, from the Welsh perspective, what research, knowledge and innovation is needed to support climate-related services. This information, together

with input from the other 3 UK workshops and other information, will be incorporated into the H2020 roadmap to inform future European funding opportunities.

Research gaps/needs

- How to build the capacity to adapt – bridge building
- Knowledge and information to support transformational adaptation
- Include Welsh-specific issues in climate scenarios e.g. high-value farming, upland habitats, precipitation extremes (flooding/droughts)
- Agriculture, a key sector for Wales – how does a farmer manage his soils in a rapidly changing and more variable local climate
- Focus on Welsh research strengths – do not attempt to cover everything
- What are the barriers in Wales to taking responsibility for key or difficult decisions
- Identifying opportunities from adaptation
- Costing action v. inaction after risk assessment
- Need a better understanding of what services are required?

Knowledge gaps/needs

- What knowledge do we already have that we need to get out?
 - What is climate change? How can we mitigate? How can we adapt?
- Various levels of information needed – public/local communities need very different knowledge to technical specialists
- Prioritise most important messages to disseminate: trends, uncertainty – and that it won't decrease, how to make decisions under uncertainty?
- Consider spatial scales, need a combination of global messages and local information
- Knowledge we need to get out is different for different end users
- Do we know enough already –the bigger challenge is disseminating salient information

Innovation gaps/needs

- Need novel decision-making tools and training to enable analysis of key issues – integrating engineering, scientific and social aspects
- Gap in understanding 'softer' adaptation and mitigation options
- Identifying ways of removing barriers and disincentives to long-term adaptive decision making
- Tools to enable better financial decision-making in the long term
- Innovation in messaging, clever ways to tell people, working with the media
- Innovative working practices to make new connections
- More demand-led co-production
- Working with the education sector to get messages out
- New approaches to advising people on what they need to know.

8. International and UK climate services initiatives

Chris Hewitt, Met. Office, briefly summarised the various international and UK platforms for climate services:

- Global Framework for Climate Services - <http://gfcs-climate.org/>
- Climate Services Partnership - <http://www.climate-services.org/>
- European Climate Services Partnership - an informal grouping open to all in Europe to share ideas and best practice
- Climate Service UK - <http://www.metoffice.gov.uk/climate-service-uk>

9. Next steps

For Wales:

- There is no clear picture yet on *how* to develop a climate services community in Wales. A conversation between NRW, WG, CCCW, NRN and C3W is needed to consider how best to progress this (including who is going to manage it/take ownership).
- Clive will brief the CCCW on conclusions from the workshop.
- Anyone interested in participating in the H2020 roadmap workshop to be held in Brussels on 16 or 17 March 2015 should contact Roger Street (roger.street@ukciop.org.uk).
- Consider the possibility of coordinating consortia to respond to H2020 research and innovation calls.

For UKCIP:

- Reports from this and the other three UK workshops, and links to relevant climate services initiatives, will be prepared and shared with all participants. (by mid 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. (by end Dec 2014)
- The roadmap will be circulated to all participants once it has been finalised by the Commission in early 2015.
- Information on relevant calls from the Horizon2020 programme will be made available as they arise.