



National Framework for Climate Services (NFCS) 2024 Workshop Report

Prepared for National Framework for Climate Services

By

Met Éireann



Rialtas na hÉireann
Government of Ireland



Location: The Hilton Hotel, Kilmainham, Dublin. 20th and 21st February 2024

Day 1 Agenda

9.30am Welcome and Opening

Introduction

9.35 NFCS Introduction

9.45 Swiss NCCS – Michiko Hama

10.00 Carousel

10.45 **Coffee Break**

Climate Services in the Irish Landscape

11.30 Irish Climate Services Presentations

- Climate Research Coordination Group – Micheál O’Dwyer
- Landslide Susceptibility – Ted McCormick (GSI)
- National Building Standards Maps – Barry Coonan (Met Éireann)
- Road Drainage for Transport – Jingyu Wang (UCC)
- Flooding – Mark Adamson (OPW)

12.40 Gap Discussion

13.00 **Lunch**

NFCS in Action

14.15 Introduction

14.20 Glenn Nolan – Marine Institute

14.30 Emmanuel Eresanya – Maynooth University

14.40 Paul Nolan – ICHEC

15.00 Activity – Table Discussion

15.50 Take Home Thoughts

16.05 Closing Remarks

Day 2 Agenda

9.30am_ Welcome and Opening

User Engagement

9.35 NFCS Introduction

9.45 Norway Centre for Climate Change – Hans Olav Hygen

10.05 User Needs Discussion

10.45 **Coffee Break**

Developing Climate Knowledge

11.20 TRANSLATE 1 & 2

11.30 Climate Ireland Demo

11.50 NCCRA (National Climate Change Risk Assessment

12.00 Climate Risk Demo – Talk and Discussion

13.00 **Lunch**

Integrating Climate Data into Decision Making

14.00 Climate services to support decision-making.

15.00 Closing Remarks

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1. Introduction

1.1 NFCS Description

The National Framework for Climate Services is the coordinating body in Ireland for climate services. Bringing together the climate services community the NFCS, through its many partners, coordinates collaboration between climate information providers and users. It aims to promote and facilitate knowledge and information exchange between the wide array of stakeholders while pulling together the most robust information and emerging science to support national goals including a climate resilient Ireland. The NFCS serves to promote existing information and services as well as signposting all relevant climate information for sectors and users. In practice, this takes the form of collaborations like Climate Ireland and Met Éireann working together to make the TRANSLATE climate projection data readily available to everyone.

The NFCS was created to coordinate the fragmentation across Irish climate services, in the form of a permanent, operational service. The vision of the NFCS is to provide standardised, Irish specific, climate information and services to support an all of government response to climate change. To achieve this, the NFCS will enable a permanent national climate service forum, that will identify sectoral climate information needs, co-develop tailored climate information products, and freely provide these latest climate products to all.

For more information, see www.met.ie/nfcs or contact us at nfcs@met.ie.

1.2 Workshop Aims

The NFCS workshop was a two-day in person workshop that provides a single day focus for each of the two main stakeholder groups of the NFCS – producers/researchers of climate services and users of climate services. Almost two years have passed since the initial NFCS workshop was held and the landscape has changed dramatically since then. The NFCS has a role to provide national coordination across the climate services landscape, and understanding the stakeholders' needs is paramount to do so.

The two-day workshop brings together the breath of the national climate services community in one place, engaging in open dialogue and conversations between the NFCS, and stakeholders themselves.

Day 1 focuses on researchers, producers, and developers of climate services, aiming to establish underpinning information to inform climate services and produce climate services for end users.

Day 2 brings together the users of climate services with the aim to guide them through how to engage with the NFCS, and how to understand the climate information they need, and where to go for it.

The aims of the workshop were.

- Give a clear understanding of the Irish NFCS and its vision.
- Engage the climate service community in one space.
- Gain an updated understanding of the Irish climate service landscape.
- Showcase the NFCS in action and how it can benefit the community.
- Explore the broad landscape of user needs and requirements.
- Provide participants with examples of Irish climate services.
- Develop the knowledge of climate data and information of participants.
- Explore the integration of climate information and data into decision making.

1.3 Key Findings

- The NFCS can bridge the gap between climate service providers, users, and policy makers.
- The NFCS can play a key role in the facilitation of national dialogue on areas of national interest within climate services.
- There is a key need for a point of contact for climate services stakeholders to contact in terms of climate services and information needs.
- There is a need for use cases or worked examples to be developed to show stakeholders the possibilities available in climate service provision.
- Due to the lack of sector expertise and resources in the climate space, there is a need for more focused engagement from the NFCS.
- There needs to be clear communications arounds what the NFCS is and its purpose.

2. Summaries

2.1 Summary from Day 1 – Producer focused

Day 1 of the NFCS workshop was focused primarily on those that are engaged in climate services research, developing underpinning information to inform climate services, or producing tailored climate services for end users. The day was attended by a wide range of actors in this space including representatives from academic institutions, research groups, government agencies, government departments and private sector consultancies, capturing the main national climate service researchers and producers.

2.1.1 Day Overview

The day was split into three themed sessions, session 1: “Introduction”, session 2: “Climate Services – National Examples” and session 3: “The NFCS in Action”. Each session combined presentations alongside activities/discussions to facilitate and promote engagement and collaboration across institutions. All presentations are available upon request.

Session 1 – Introduction

This session included an overview of the NFCS and its purpose, provided by Keith Lambkin, Head of Climate Services in Met Éireann and chair of the NFCS. Michiko Yama, Deputy Director of the National Centre for Climate Services in Switzerland showcased what has been achieved by the Swiss NFCS. Finally, there was an activity exploring the current state of climate services and climate services information nationally.

Activity 1 – Current State of Climate Services in Ireland

The first activity of the day aimed to explore the current state of climate services and climate service information nationally. **Clearer communications around what the NFCS is and its purpose.** It was evident throughout this session that clearer communication is required regarding what the NFCS is, what it aims to achieve and where it sits within the climate services landscape in Ireland. The NFCS in Ireland can draw from international best practices to communicate a clear vision, establish priority themes on which to focus, develop clear and tailored communications as well as an effective route to engagement with the research community in Ireland.

Session 2 – National Examples of Climate Services

This session focused on how climate information has underpinned and informed tailored climate services and the resulting decision-making process for end users. Insightful case studies were provided by Geological Survey Ireland (GSI) around landslides and susceptibility, Met Éireann showcased how TRANSLATE climate projections underpinned the development of the building standards data for Ireland, OPW showcased their flood risk data and future scenarios and finally UCC presented a quantitative risk assessment case studied developed with Transport Infrastructure Ireland, (TII), through the TRANSLATE programme exploring the effectiveness of certain adaptation approaches within their existing climate adaptation plan. These case studies highlighted how, working alongside users, climate information can be taken in raw form, adapted to a particular user need and combined with external information or data to effectively provide a user specific climate service to aid climate sensitive decision-making. This was followed by a discussion on barriers to climate service development, identifying opportunities and gaps as well as how the NFCS could support this space.

Activity 2 – Gap Discussion

The proceeding presentations providing a comprehensive overview a range of Irish climate service examples. It offered insight into the range of services available currently, leading into the gap discussion. A key finding from the discussion was that the NFCS can play a key role, facilitating the coordination of the climate services space – driven by the wider national/policy perspective. The **NFCS could bridge the gap between climate service providers, climate service users and policy makers.** Clear gaps across the climate services space were identified and it was evident from discussions that the NFCS could facilitate co-ordination and collaboration across the space to begin to address these. Gaps identified included information on annual to decadal timescales, extreme events, compound events, risk, climate storylines as well as guidance on quality assurance and standards.

Session 3 – The NFCS in Action

This session demonstrated how the NFCS can support and facilitate national climate service dialogue across the researcher-user interface. Two discussions were held in parallel. The first was a focused discussion on Sea Level Rise (SLR), information. This built on previous conversations with national experts and aimed to provide clear guidance on what SLR information is recommended to inform the upcoming sectoral adaptation plans. Experts from the Marine Institute, ICARUS at NUI Maynooth, the OPW and the Irish Centre for High End Computing, University of Galway, presented on the current state of SLR information for Ireland before being followed by focused SLR discussions.

The second discussion focused on uncertainty and how this is not only presented by climate service developers but also communicated. The aim was to begin the national

conversation around uncertainty and develop a route to national guidance to help reduce the confusion around the understanding of uncertainty.

Activity 3 – NFCS in Action

Following the experts from multiple organisations speaking on sea level, activity three focused on engaging participants in how the NFCS engage and facilitate national discussions on both sea level and uncertainty. There was agreement among the group that **the NFCS can play a key role, facilitating national dialogue on key topics of national interest within the climate services space**. There is a clear need for coordinated national discussions amongst institutions to provide expert guidance to both the climate services research space and users in a similar vein to the sea level rise discussion. This was echoed across both the research and user communities.

2.2 Summary from Day 2 – User focused

Day two of the workshop targeted the climate services user community. The day focused on understanding the current climate service and information needs of end users in an ever-evolving landscape, while providing a guide on navigating the complexities of climate data and information. The day was oversubscribed with many actors in the space unable to attend as a result. For those that could attend, there was a wide spread of actors, capturing the wide-ranging number of stakeholders that use climate information. This ranged from government departments and sectors to commercial semi-state companies, all the way to individual private companies.

2.1.2 Day Overview

The day was split into three sessions, all linking back to **Figure 1**, each taking on a different theme. Session 1 “User Engagement”, session 2 “Developing Climate Knowledge” and session 3 “Integrating Climate Data into Decision-making”. Each session ending in an inclusive and open activity or discussion with facilitators present as a guide, as in day one, with the aim to promote engagement. All presentations are available upon request.

Session 1: User Engagement

The first session, as on day one, was opened by Keith Lambkin, head of the NFCS. Offering an introduction to climate services and the NFCS, this presentation framed the scope of the day using the graphic from Chris Hewit et al; (2017). The graphic details the different forms of engagement for climate services and how they might look to the user. The three tiers of engagement would be the main topic of the day. They define the type of service that you need and how you may approach the design and production of this product.



Figure 1: *Three broad categories of engagement between users and providers of climate services (Hewitt et al; 2017)*

The second speaker was Hans Olav Hygen – the feature presentation of the day. Hans is the deputy director of the Norway Centre for Climate Services. The presentation focused on their experience engaging with users and the primary needs for users in Norway. Offering plenty of effective ideas that could be implemented in an Irish context. The Norway Centre for Climate Services has been operating for over a decade and, Hans' presentation serves as an example of the direction of travel for the NFCS and its potential.

Activity 1 – User Needs Discussion

This activity took the shape of an open discussion at several tables. This was a chance to explore what the users require for their adaptation plans.

There was a large agreement among participants that there is a need for the NFCS **engagement to have more focus**. Having open lines of communication between the NFCS and Sectoral Adaptation Plan leads was viewed as an essential for the sectors. Across the other stakeholder groups, it was agreed that there are differing needs among users, thus having a central point of contact would be beneficial.

As a result, a clear need to come through from this session was for the **NFCS to act as a national climate services helpdesk**. Stakeholders acknowledged a need for a place to go or someone to contact when they are unsure of what they require regarding climate services, and it was identified and agreed among the group that the NFCS would be best placed to fill this gap.

This need for a national helpdesk is in the process of being addressed. A **dedicated NFCS email (NFCS@met.ie)** has been assigned as the point of contact for the helpdesk to support NFCS stakeholders.

While there were several sector specific needs identified over the course of the day, one common theme was the need for **guidance on how to use TRANSLATE climate projections data**. The ask from participants was for a standardised approach to using climate data.

The need for guidance on using the data was identified due to the requirement for an **evidence-based approach** to adaptation and the **need for a risk assessment**.

The importance of **guidance on how to approach uncertainty** was a need clearly identified by participants. There was a requirement to communicate uncertainty in a manner that is understood by all levels of users and gives a **baseline of understanding of uncertainty**.

Session 2: Developing Climate Knowledge

Session two was an exploration of climate data and knowledge. Presentations were given by Claire Scannell on **TRANSLATE**, Ireland's set of standardised climate projections, explaining its background, objectives, and next steps in its development, as well as a demo of the **Climate Ireland** platform from Dervla McAuley from the EPA. Climate Ireland is the national adaptation platform for Ireland, hosting adaptation guidance, climate adaptation information and a climate data portal helping to disseminate NFCS outputs for a wide range of users.

The next portion of the session focused on risk. Conor Quinlan from the EPA gave a talk on the **National Climate Change Risk Assessment**. This project is currently underway and is a semi-quantitative risk assessment. This project aims to standardise the approach to risk assessment using standardised climate data (TRANSLATE).

Conor opened his talk with a graphic to help users understand the differing roles of the NFCS and Climate Ireland in adaptation planning (see below). The graphic explains the roles that each of the groups take on in the adaptation space, and how they work together and coordinate and collaborate in the space.

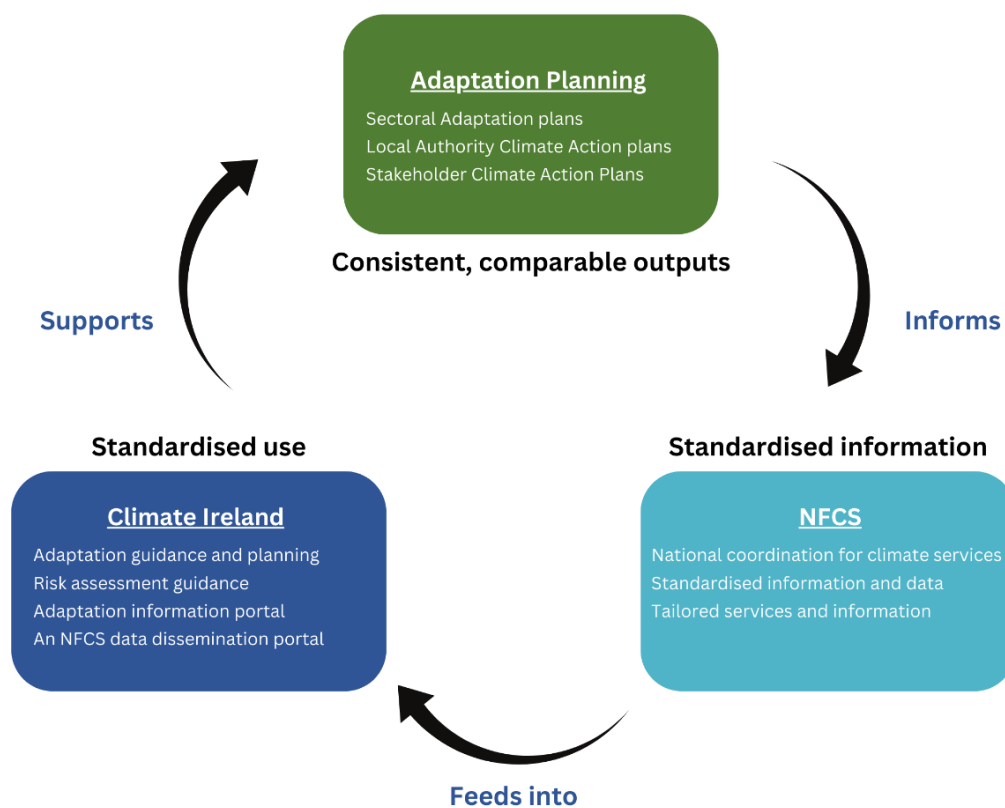


Figure 2: *NFCS and Climate Ireland - Roles in Adaptation Planning*

Activity 2 – Climate Risk Demo – Talk and Discussion

Paul Holloway presented this part of the session. Exploring the concept of climate risk and the definitions associated with it – hazard, exposure, and vulnerability, served as a discussion point for the upcoming activity. The talk then went through the **climate risk framework** built for **the TRANSLATE projects’ climate services element**. Working through potential school closures due to extreme weather as a case study, Paul showed how this framework can be used in a practical setting.

The discussion for this session required participants to discuss risks in their sectors, and the associated exposure, hazards, and vulnerabilities. The discussion ended in the question being raised – what would the practical challenges be in implementing a risk study like the example presented by Paul into adaptation plans?

There was a consensus among participants that the main challenge in implementing a risk product in their plans is the **lack of appropriate resources**. This refers largely to the ability to allocate staff and time to developing this project. Further challenges were identified in the **lack of expertise** around climate risk assessment.

Gaps in data was a common challenge shared by the group. Even with standardised climate projections available now through TRANSLATE, a product like this requires both exposure and vulnerability data also. There are gaps and limitations to exposure and vulnerability data sets across different sectors. There are also data sets that can be commercially sensitive making it difficult for cross-sectoral collaboration.

There was an identified **requirement for worked examples or case studies** to show how the framework can be used. This type of product, in most cases is a bespoke or tailored product that requires some expert advice from the NFCS to co-design a product or service.

Session 3 – Integrating Climate Data into Decision-Making

Session 3 took the form of an hour-long activity. This was the culmination of a morning where participants were encouraged to explore their own climate service needs as well as listen to other peoples’ needs. The middle session gave participants the opportunity to see where the data comes from and where they can find it, while also offering an example of how you can look more in depth at the evidence-based approach through a semi-quantitative risk framework.

This final session was a deeper dive into the type of engagement required by each participant. As in **Figure 1** the three tiers of engagement were the basis for the activity. Participants were asked to think about their specific needs in the context of:

1. **Passive engagement** – is self-learning through websites, tools, and information provision sufficient for your need?

2. **Dialogue based** – are you looking for something slightly more tailored where you require interaction with an expert to build and co-design a product in the medium term?
3. **Active Engagement** – is it a large-scale project that you require? Are you looking to do a deep dive into an issue to build a bespoke product to match your need?

Participants were given a decision tree that enabled them to work their way through whether they needed a dialogue-based product or a less dialogue heavy interaction.

There was a consensus among participants that each group and sector have different needs and there would be some form of engagement between passive engagement and dialogue-based engagement would be required for many users.

In terms of **Passive Engagement**

- There was a clear need identified across participants that there is a requirement to **baseline everyone's understanding**. This can be viewed across the space when thinking of climate scenarios, timelines and uncertainty surrounding projections.
- **Communication of resources** and availability of data is essential. Understanding where to find the data you require is difficult in an environment where there are huge amounts of data available.

Dialogue Based Engagement

- This is where most users fall into. The increase in data availability and the ask for a more evidence-based approach, brought the consensus that more engagement is required to adhere to the current needs of users.
- There was good agreement across the room that **risk assessment at asset level** was important for future planning for the private sector. This is a medium to long term service that would need ongoing and consistent engagement with a climate service provider in the NFCS to develop. Guided by **Corporate Sustainability Reporting Directive (CSRD)**, it is dependent on any updates that may occur to this directive.
- The **lack of expertise** in climate risk assessment meant that the **ask for more focused engagement** around advice and guidance in the space was key. There was a requirement for support in building semi-quantitative risk case studies as evidence base for adaptation actions.
- Among several advanced users there was a recognised need for the **provision of data**. For his group of users, the **'raw' climate data** was all they required.

Active Engagement

- Active engagement is a level of engagement that requires intensive working relationships, to gain in-dept understanding of the users' requirements to develop a bespoke service.
- There was agreement throughout that among users, this level of engagement is not something that is typically required. It was believed that timelines of requirements do not match this level of engagement, as it would require a longer process, spanning one to two years.
- However, it was identified that this level of engagement would be beneficial in the implementation stage of adaptation plans. After the semi-quantitative risk assessment defined the most at risk places, it would allow decision-makers to better understand the highest risk associated with their sector. As a result, sectors could engage on a more in-depth project through their adaptation plans.

3. Recommendations and Conclusions

3.1 Recommendations

Following an extremely insightful and engaging two days exploring the climate services landscape in Ireland, there are several recommendations that are linked to the key findings from the workshop.

1. Draw from international best practice to clearly communicate the vision of the NFCS and develop clear and tailored communications and an effective route to engagement with the research community. The NFCS should further enhance its online offering through thematic hubs and producing sector relevant resources.
2. The NFCS can bridge the gap between climate service providers, climate service users and policy makers. It should work across organisations and established networks to promote knowledge sharing across the community.
3. The NFCS can play a key role in the facilitation of national dialogue in areas of national interest within climate services. It should continue its efforts to facilitate collaborative conversations across the expert organisations and communicate outcomes to the national climate service community.
4. The NFCS should act as a national climate services helpdesk creating a dedicated contact point for national climate service engagements.
5. The NFCS should provide use cases or worked examples of existing climate service products as a guide to show stakeholders the potential in the provision of climate services.
6. The NFCS should provide more focused engagement with stakeholders. A lack of expertise and resources in the area requires more assistance from climate service providers.

3.2 Conclusions

This two-day workshop above anything else, asked participants across both days to think critically about the three tiers of climate service engagement (**Figure 1**). Examples of engaging and developing climate services through passive engagement, dialogue-based engagement and active engagement were showcased.

There is clear appetite for more information on climate services as evident by this oversubscribed workshop. The benefit of standardised climate information in Ireland was clearly communicated by participants. Also evident is the differing needs from different cohorts of users across government, local authorities, semi-state, the private sector, and academia.

For further discussions on the use or development of bespoke data requests and products, the NFCS, through its many supporting organisations, can continue to support your access and development of climate services. The NFCS is the coordinating body of national climate services, with the overarching goal to facilitate the coordination of climate services among users, providers, and researchers. i.e. the NFCS aims to make it easier for you to do your existing job.

A huge thank you to all participants, presenters and facilitators for making this a successful workshop. The NFCS secretariat will now merge these identified user and provider needs into existing development plans to further help streamline the provision and use of climate services here in Ireland.

For more information on the report or the workshop, please contact nfcs@met.ie.

References:

Hewitt, C.D., Stone, R.C. and Tait, A.B., 2017. Improving the use of climate information in decision-making. *Nature Climate Change*, 7(9), pp.614-616.