

Climate services standards and value

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UK Research
and Innovation



Premise for the project



Climate services are a critical component of adaptation*. Decision makers are often dependent upon the insight of specialist climate service providers to understand their hazards, vulnerabilities and exposure, then to turn that understanding into effective action.

A well-functioning climate service can help society to be more resilient to current and future climate threats.

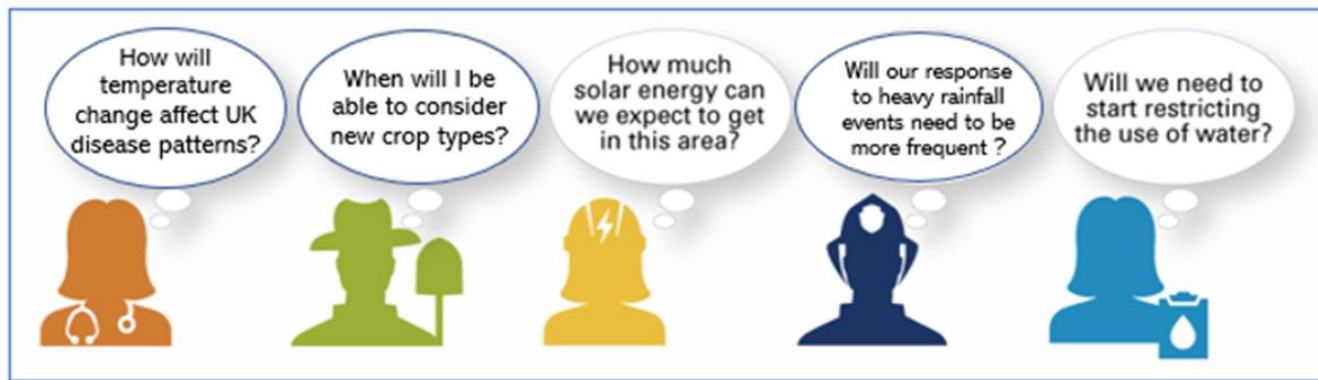
Central to project approach is a focus on the user as well as provider of the climate service. Climate services standards need to facilitate and support user needs; effectively engaging the user within their current capacity whether they be a novice or deeply experienced.

*Hansen, J., J. Furlow, L. Goddard et al. 2019. "Scaling Climate Services to Enable Effective Adaptation Action." Rotterdam and Washington, DC.

What are climate services?



Climate services involve the production, translation, transfer, and use of climate knowledge and information in climate-informed decision making



Climate services examples and decision-making (adapted from example provided by WMO <https://gfcs.wmo.int/what-are-climate-services>)

Climate services



- Services to aid decisions for planning, real-time operation or long term adaptation
- Services related to greenhouse gas mitigation



Source: <https://climate.nasa.gov/effects/>



Consultation – direct inputs



Transport for London

London Climate Change Partnership

Climate Change Committee Climate NI

Ministry of Defence Yorkshire Water Jacobs Atlantic Canada

Network Rail University of Oxford BSI Climate Services Hub

**Royal Met Soc The National Trust
Met Office Adaptation Scotland**

ECMWF University of Leeds IEMA Arup

Yorkshire Ambulance Service

City of London Corporation Atkins Forestry Commission

**Natural Resources Canada Kent County Council
SNIFFER**



Consultation – groups notified through project



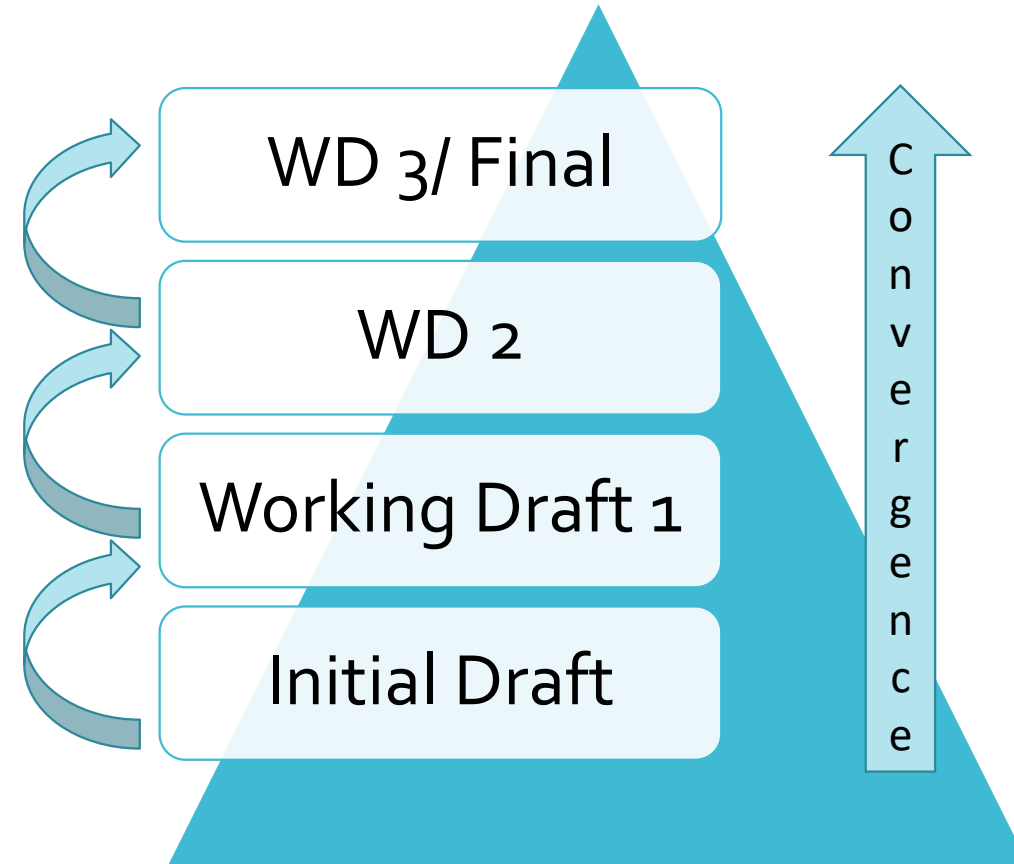
Royal Meteorological Society University of Birmingham
Environment Agency University of Liverpool Scottish Government National Grid
Welsh Government Newcastle University Highways England European Space Agency
Exeter University WSP Infrastructure Projects Authority NI Government DG CLIMA
EDF Energy Euro-Mediterranean Center on Climate Change Thames Water Bristol University Defra
RMS Northumbrian Water Institution of Mechanical Engineers Tyndall Centre Mott MacDonald
Finnish Meteorological Institute NHS Farming and Wildlife Advisory Group Basque Center for Climate Change
Scottish Forestry World Resources Institute Centre for Disaster Protection RTPi Food and Agriculture Organization
Public Health England World Bank Canadian Centre for Climate Services Energy UK Wales and West Utilities
Glasgow CC ECMWF WTW CEH Wallingford Columbia University Krztek Limited NASA
Reading University RSPB Institution of Civil Engineers Herriot-Watt University Cardiff University
Imperial College London European Committee for Standardization Energy Networks Association
Stantec Tecnia ICNet Airport Operators Association Met Eireann ETH Zurich TechUK
Ofwat HR Wallingford University of Cape Town London Heathrow Airport LSHTM
Consumer Council for Water British Geological Survey SEPA UKCR
British Ports Association  **Met Office**  **UK Research and Innovation**

Evolution of the standard



- Four draft documents
- First was mainly 'requirements' for users and providers
- BSI suggested it's better as 'Guidance'
 - Focus on 'what good looks like'
- BSI offered a contents' list
 - We built on this...

- Stakeholder feedback for each draft
- Over 600 Comments!



Standard / guide benefits



1. A standard builds **CONFIDENCE** and **TRUST** in the services that are being provided and can be used
2. A standard will encourage climate service providers to improve the **QUALITY** of their services, by striving for demonstrable good practice
3. A standard will improve the **TRANSPARENCY** of climate service products and procedures
4. A standard will increase the **ACCOUNTABILITY** of climate service providers
5. A standard provides a **BENCHMARK** for climate services, aiming to reduce the prevalence or use of services which do not meet this standard
6. A standard can help **CONNECT** decisions and their implementation with the most appropriate climate services and/or products
7. A standard can **SUPPORT PROVIDERS** who are not comfortable offering a user-requested climate service, though could offer alternatives that better align with the standard principles
8. A standard can support **ETHICAL** considerations such as equitable access and integrity of climate services



Location of standard / guidance

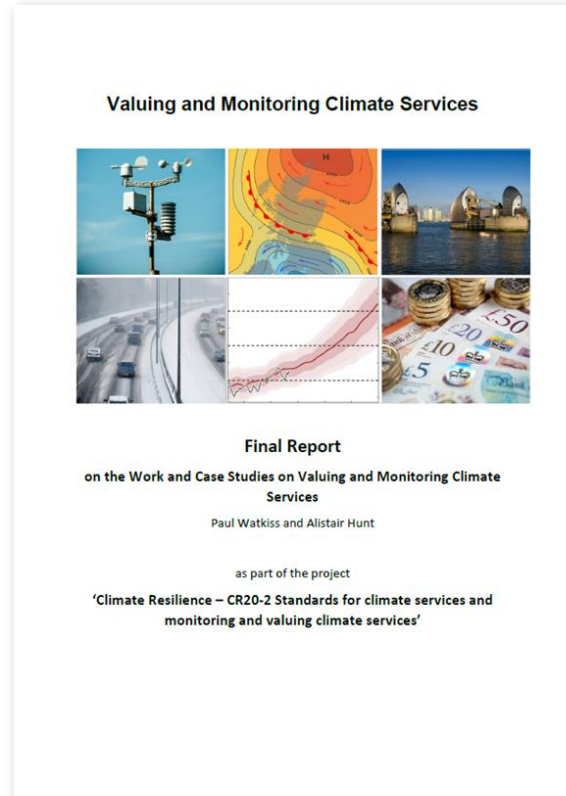


A screenshot of the UK Climate Resilience Programme website. The page features a navigation menu with links for HOME, ABOUT, THEMES, PROJECTS, NEWS & EVENTS, BLOG, RESOURCES, and CONTACT US. The main heading is 'CLIMATE SERVICES STANDARDS AND VALUE'. Below this, there is a section titled 'Outputs' with the text 'Climate Services Standard – principles, requirements and guidelines, published 1st November 2022.' The UK Climate Resilience Programme logo is visible in the top left corner.

A screenshot of the cover page for the 'Climate Services: Principles, requirements, and guidelines' document. The page features the 'CLIMATE SENSE' logo in the top left and the 'JBA consulting' logo in the top right. The main title is 'Climate Services: Principles, requirements, and guidelines'. At the bottom, there is a copyright notice: '© CLIMATE SENSE 2022 – All rights reserved'.

- The standard / guide is available on the UKCR webpage as a downloadable PDF file:
<https://www.ukclimateresilience.org/projects/climate-services-standards-and-value/>
- A pledge has been created to allow organisations and businesses to formally acknowledge their support for the new Climate Services Standard.
https://forms.office.com/Pages/ResponsePage.aspx?id=YYHxFgcgRkeH_VD-PjtmGXWhBSdJL6dKhAIObTzzNOFUNow4UEk4VEdCVkRVUEcxTENVWFizMTNLSi4u

- Valuation of climate services research has gone on in parallel to standards work



Why value climate services?

Investing in climate services leads to improved information. In turn, this provides economic benefits to users, as it leads to positive outcomes from the actions and decisions that they subsequently take. These economic benefits include the financial or private returns from improved decisions, for example, from yield improvements for farmers, but they also include societal or public benefits, such as reduced health risks or environmental improvements.

Existing research on the value of climate services finds that these generally have high net economic benefits, i.e. benefits are high when compared to costs. However, for these economic benefits to be fully realised, information needs to flow effectively and efficiently along the service value chain. This includes the generation of accurate information, the communication of this information to end-users, and the uptake and effective use of the information in decisions. For example, if a climate service reaches a low number of end-users, then the *actual* overall economic benefits will be lower than the *potential* benefits. Similarly, if people receive the information, but they do not use it effectively, the total benefits of action will be low. The method for valuing climate services therefore takes these value chain effects into account, including the efficiency losses at each step.

As well as developing methods, the project is undertaking a series of case studies as examples. The first of these is completed for a UK seasonal forecast climate service. Two further case studies are being carried out on the benefits of historic data or observations, and the potential valuation of adaptation climate services.

<https://www.ukclimateresilience.org/blog/climate-services-standards-and-value/>

Acknowledgements



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Paul Watkiss Associates



Met Office



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