

What makes decision-ready science?

Workshop Report - February 2026



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The Climate Systems Hub acknowledges the Tradition Custodians of the land across Australia where this work occurred. We pay our respects to Elders past, presents and recognise the important role traditional knowledge plays in understanding Australia's climate.

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What is decision-ready science?

The workshop at the [Climate Adaptation 2025](#) conference provided an opportunity for us to hear from a range of decision makers on what they think decision-ready science is. This is what we heard:

- It is actionable, having direct application in real-world decisions and in a format that requires no further analysis or translation.
- It is localised and tailored, with relevance to specific regions and/or locations and decision making contexts.
- It is co-designed, the product of an early and ongoing, iterative process of engagement between researchers and decision makers.
- It is trusted, founded on an established relationship between researchers and decision makers.
- It accommodates and integrates with existing systems – it understands constraints placed on decision makers by design standards, codes, regulations and policy and can be applied within those constraints.
- It navigates uncertainty, framing projections in ways that can form the basis of decisions and future planning.

Introduction

As part of [Climate Adaptation 2025](#), a biannual conference hosted by the National Environmental Science Program Climate Systems Hub (the Hub), the Hub's national Knowledge Brokering team delivered a workshop, titled: "What makes decision-ready science? Help us, help you."

The national Knowledge Brokering team for the Hub comprises:

- Ramona Dalla Pozza, National Knowledge Broker Coordinator, University of Tasmania;
- Helen Bloustein, Knowledge Broker for Victoria, Department of Energy, Environment and Climate Action (DEECA, Victoria);
- Heidi Evans, Knowledge Broker for New South Wales, Department of Climate Change, Energy, the Environment, and Water (DCCEEW, New South Wales);
- Susan Sweeney, Knowledge Broker for South Australia, Department for Environment and Water (DEW, South Australia); and
- Julia Oliver, Knowledge Broker for Western Australia, Department of Water and Environmental Regulation (DWER, Western Australia).

Our aim was to engage decision makers from across the country—those working on the ground on climate adaptation initiatives—around what it was they thought decision-ready science involves or requires.

We used the term, ‘decision-ready science’, to describe research or evidence-based data and information, that can be picked up and directly applied by decision makers in their adaptation decisions and plans. It could also be thought of as fit-for-purpose information or actionable knowledge. We wanted to explore the decisions our workshop participants were required to make in their day-to-day roles and what might be missing in the way climate science and research is currently presented or made available.

Participants came from across Australia, including from state and local governments, industry associations, climate change/sustainability consultancies, universities and from first nations communities. There was a broad range of work areas and subject matter expertise represented, including cultural science, conservation and restoration, agriculture, fisheries, agriculture, environmental market economics, treasury and finance, community managers, policy experts, ecologists and bushfire science.

How do you describe decision-ready science?

We asked participants: “What do you think decision-ready science is?” The word cloud below illustrates what they told us:



Figure 1: Word cloud generated at the workshop. The words were provided by participants, responding to the question: ‘What do you think decision-ready science is?’

Decisions that require climate science, research or evidence

The workshop then explored the uses and applications of decision-ready science. We asked participants to share information about the decisions they make in their day-to-day roles that require climate science (data and information), evidence, research or data.

In doing so, we pointed to the Hub’s emphasis on co-design. This process involves researchers working alongside people and organisations who need and will use the outputs of Hub research to co-design and co-develop that research, with the aim of helping to answer their specific questions or inform specific decisions they need to make. For more information see the [Hub Co-design guide](#).

There were a diverse range of decisions made day-to-day by participants: ranging from where to conduct cultural burning, to how marine heatwave data can be made more easily understood, to how to use emissions scenarios in stress testing for climate impacts.



Examples of successful decision-ready science

We wanted to know, in making those types of decisions, what has worked well? What are their success stories? We asked participants to share with one another some of these stories, specifically:

- What decision and/or change did you make and why?
- How did you do it?
- What evidence, research or data or information did you use?
- What was it about the evidence that supported your decision?

A number of stories emerged, including:

1. Climate scientists worked iteratively with their state's education department translating localised climate projections into expected frequencies of days exceeding their future 'hot' day thresholds. This collaborative process put the data into their specific context, helping them undertake future planning around which schools across the state should be prioritised for installation of air conditioning.
2. Analysing impacts and lived experiences from past heatwave events with a view to understanding what it could be like with projections of more frequent and longer lasting heatwaves in the future, was an effective way for Ambulance Victoria to better relate and understand anticipated impacts on the organisation's resourcing and work health safety. Using data from [Victoria's Future Climate Tool](#) as evidence of the future state, the analysis was used to inform strategic planning. For more information on this example, visit [Stress testing for the potential impact of heatwave on Ambulance Victoria](#). The case study was developed in collaboration with Ambulance Victoria and the Victorian Managed Insurance Authority (VMIA) to support the delivery of VMIA's climate change risk management service.
3. An example of where art and science come together: Multiple lines of evidence were used to communicate and raise awareness of climate driven environmental changes at the Abrolhos Islands in Western Australia through a photo exhibition and book. Key to the project's success was tailored, local information with fishers taking photos of the islands they loved and the changes they had observed. Giving voice to fishers through their own photographs, a large exhibition was curated which generated a strong narrative and allowed the fishers and viewers to recognise climate-driven changes in their environment over time. More information can be found at: [Photographs shine a light on the changing climate](#) and <https://wamsi.org.au/projects/art-science-collaboration/>.
4. Helping to guide decision making and planning for the future of the Great Barrier Reef. Giving monetary value to adaptation options along with collating scientific evidence on the likelihood of success of each of those options, influenced the ability of this project to effectively demonstrate to Reef Managers how ecosystem health and resilience on the Great Barrier Reef could be sustained under climate change. It highlights the need for practicality and transparency in the way climate information is used and/or applied.

More information can be found at [Modelling and Decision Support - Reef Restoration and Adaptation Program](#).

These real-life examples of decision making based on decision-ready science brought to life what we'd heard earlier in the workshop when participants told us what they thought decision-ready science entailed. These stories illustrate how the words in our word cloud (Figure 1) are put into practice to bring successful outcomes.

So, what supported or enabled these success stories?

Together, reflecting on the examples shared, we considered what was behind these success stories. What had enabled them?

Participants had a number of suggestions, some of these are below:

- Strong collaboration among stakeholders, early and meaningful engagement with users, and interdisciplinary partnerships.
- High-quality, locally relevant, tailored and accessible data. It's central to informed decision making, while effective communication, including visualisation and targeted messaging, ensures clarity and impact.
- Integration with existing systems and iterative improvements based on on-going feedback further enhance science usability.
- Relationship-building, trust and knowledge translation help to bridge the gap between science and policy, enabling implementation of frameworks to support strategic planning and on the ground change.



There are barriers too...

Participants shared some of the challenges they face in how they go about making climate adaptation decisions:

- Successful decision making is hindered by limited access to localised data and information, while the complexity of climate science—coupled with a lack of expertise among decision-makers—often makes it difficult to interpret and apply findings effectively.
- The presence of climate change sceptics can further complicate consensus-building and policy implementation.
- Scientific uncertainty and its framing, inherent in climate projections, was said to lead to hesitation or inaction.
- Land use planning and regulatory frameworks were considered unable to keep pace with evolving environmental realities, reducing their effectiveness in guiding adaptive responses.

What else supports the creation of decision-ready science?

Decision-ready science success stories shared by workshop participants revealed several other factors at play.

Access to the right people—both for communication and influence—was seen as a critical enabler, as was involving scientists throughout the decision-making journey to build trust and ensure relevance for the end users. Data/information-sharing platforms were considered necessary in facilitating the access mentioned above, while investing time in workshops and tailored engagement processes helped establish connection with end users in a meaningful way and build trust around the information being presented.

In the examples discussed, successful decisions seemed to navigate uncertainty in the science by reframing climate impacts into ‘storylines’ or plausible futures, relying on high-quality local data and insights adjusted to suit specific audiences. This helped people to see these future climates as a reality. Crucially, decision-makers with a clear understanding of how to interpret, analyse and apply data and information effectively, were best placed to ensure that it was actionable, indicating a role for capacity building among decision-makers.



What we heard and where to from here?

We heard from the workshop participants the decisions they are making in their day-to-day roles. We also heard what they considered decision-ready science should look like: it is accessible, actionable, localised, tailored, trusted, collaborative and consensus-based. These descriptors all emphasise how crucial the co-design process is in producing decision-ready science. Researchers need to be working alongside decision makers, understanding their needs and the specific questions they're being required to answer each day, and designing and developing their research to directly answer those questions, with outputs in formats decision makers can use and understand.

The context within which decision makers are operating and its influence—both barriers and enablers—on decision making processes and how effectively science can be applied in those processes was another key take-away from the session.

For researchers to ensure their outputs are decision-ready, those influencing factors must be understood and accounted for, or accommodated: whether they include outdated regulatory frameworks; inadequate resources, capacity or expertise within organisations; a need for highly localised information; or even climate scepticism among those authorised to make decisions. Improving connection and collaboration between researchers and decision makers allows for two-way sharing of information. This ensures researchers understand the specific needs, but also the operating environment of the decision maker, enabling them to better shape research outputs that are decision-ready.

From what we heard, particularly around the importance of building relationships, involving the right people, undertaking early and tailored engagement, it's important to acknowledge the need for timely and targeted effort in decision-ready science. This process of understanding context and how best to translate information specifically for the needs of a

decision maker requires an on-going and often more than short-term commitment. Researchers and decision makers can often speak different languages or have different priorities, and translation is required throughout all phases of the research, to help bridge the gap between science and policy, and to support trust and knowledge sharing.

Building the capability of researchers to engage with decision makers in this co-design process is one of the foundational building blocks of the work of the Climate Systems Hub, facilitated by our knowledge broker team. In the same way, through developing relationships with decision makers, we seek to build their capability as they engage with researchers, to influence and shape climate science and information to match their needs, but also to help grow their technical understanding. The learnings from this workshop contribute a key piece as we continue to develop these capability-building resources.

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