



# 2025 Disaster Challenge Guide for Applicants

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## The 2025 Disaster Challenge

The Disaster Challenge is about taking your knowledge, your ideas, your thinking and your experience and make a difference to disaster management, addressing a ‘wicked problem’. A wicked problem is one that is urgent and challenging to solve because of the many considerations and complexities involved. With the incentive of adventure and prizes, what innovation can you – or perhaps your team – put forward?

**This year the Disaster Challenge is about:**

**Infrastructure** (*/ˈɪnfɹəˌstrʌktʃə/*), *noun* the basic physical and organizational structures and facilities needed for the operation of a society.” Oxford Dictionary

We recently witnessed the impacts of disasters at-scale in Australia and overseas. From cities to remote communities, it is imperative to plan ahead – to be ahead of ready. As communities confront repeated and increasingly severe multi-hazard and multi-consequence natural hazards, a key but challenging priority is to ensure reliable infrastructure of all kinds – physical, social, green, and other types of infrastructure.

Conventionally, infrastructure has meant **physical infrastructure** focused largely on physical assets, including roads, rail, energy transmission, while more recently, **social and community infrastructure** has emerged to encompass ways communities can be supported to support themselves during disasters, which includes places, services, programs and initiatives that improve liveability, physical and mental health. **Green infrastructure** is a new way of speaking about using nature to protect and mitigate the effects of natural hazards.

The time, money and resources needed to conceptualise, design, construct and implement infrastructure is significant. While the time and cost of physical infrastructure such as a road, bridge or powerline is well understood, other types of infrastructure, including green and social infrastructure options may be unprecedented or not well understood. This challenge is at all scales, for local communities, local government authorities, state government and national.

AND SO ... this year’s Disaster Challenge Question is:

**How can we innovate infrastructure — whether physical, social, green, community-focused, place-based, or other types — to enhance disaster resilience in a way that is both effective and affordable?**

**Help is available** to prepare your entry and answer questions you might have:

- **Read more on the next page** about the Disaster Challenge
- **Use the attachment** on ‘Putting your entry together’ to step through the process
- **Dial in to the online briefing** about this year’s Disaster Challenge
- **Talk with** classmates, workmates and mentors (lecturers, tutors, supervisors)
- **Be inspired by** family and friends who may have relevant experience.
- **Email us** at [research@naturalhazards.com.au](mailto:research@naturalhazards.com.au)

## More about the Disaster Challenge

The Disaster Challenge is a national challenge to encourage new ideas, new thinking and new research. It aims to engage and inspire early career researchers, postgraduate and undergraduate students in relevant research and to encourage them to explore careers in natural hazards science, disaster management or community resilience. Hosted by Natural Hazards Research Australia with support from universities and emergency management organisations, the Disaster Challenge is an opportunity to put your creative talents into helping us deal with reducing the risks of natural hazards including floods, bushfires, cyclones, earthquakes, tsunami, and storm surge. Read and review the [Terms and Conditions](#) of the Disaster Challenge for more information.

## Why should I enter this year?

Here are some great reasons to be a part of DC25 – again or for the first time! In summary:

- **Prize money:** There is a \$5,000 cash prize for the winning team, and the two runner-up teams will receive \$2,000 each.
- **Move ahead in your career:** The opportunity to work with Natural Hazards Research Australia and with industry mentors, developing your concept and
- **Make a difference:** Your ideas will help us to work with communities to improve preparedness, resilience, save lives, protect property, keep people safe and recover better after disasters. You can let us know if you want to be personally part of next steps, or leave it with us!
- **Make networks:** Finalists will be supported and encouraged by professionals within the emergency management sector and by senior academics, with opportunities to showcase your idea at forums over the next 12 months.
- **Career advancement:** Work on real problems with industry mentors to help you develop your concept.

## How does the Disaster Challenge run?

The Disaster Challenge 2025 is hosted with support from universities and emergency management organisations. It will take place in three phases – please note these dates and make sure your diary is free for mid-October in case you are invited to Tasmania for the final!

**Phase 1 – Enter by 16 June.** The first phase is to enter your concept – we want to hear your idea for addressing the wicked problem. The judges will then review and select the best entries for the Disaster Challenge Final using the judging criteria. Up to three finalists will be selected.

**Phase 2 – Pitch development for finalists, from July.** To bring your ideas to life, finalists will be supported with academic and industry mentors to assist them to take their idea to the next level. If required, finalists will have access to equal financial, academic and creative support to get the best out of their ideas, as well as support for up to three members of each finalist team to attend the Disaster Challenge Final.

**Phase 3 – Disaster Challenge Final, 13-14 October.** Finalists will come together in Tasmania at a special public event to pitch their brilliant ideas to a judging panel of disaster management experts.

## Who can enter?

Participation is open to entrants based in Australia. This includes:

- **Early career researchers** – up to five years post PhD or Masters (excluding periods of parental leave, other family caring duties or ill health). The postgraduate qualification must have been completed in Australia.
- **Postgraduate students** – enrolled with an academic institution such as a university or a TAFE in Australia. Students can be either full-time or part-time. Universities and schools within may field multiple teams or collaborate between universities.
- **Undergraduate students** – enrolled with an academic institution such as a university or a TAFE in Australia. Students can be either full-time or part-time.

If you've applied before, you are welcome to apply again! Organisations may field multiple teams or collaborate between organisations. Your team might be from outside the emergency management and disaster sector. Entries are encouraged from a range of disciplines such as humanities, education, health and medicine, information technology, engineering, visual arts, marketing, business, law, urban studies, and architecture.

**We encourage collaboration, diversity and inclusion:** The Disaster Challenge aims to encourage as much diversity in solution designs as possible. Just as there are no single right answers to complex problems, the nature of the issued challenge demands teams look for highly innovative solutions. We particularly encourage applications from teams that include and represent Aboriginal and Torres Strait Islander people, women, culturally and linguistically diverse people, people with disability, LGBTIQ+ people, and people with family and caring responsibilities.

By entering the Disaster Challenge, you agree to undertake your research in compliance with the [National Statement on Ethical Conduct in Human Research](#) (2007, updated 2018), and [The Australian Code for the Responsible Conduct of Research](#).

## Assessment criteria

The assessment criteria for the Disaster Challenge includes 10 points of consideration (equally weighted):

*(20%) Quality of the **problem statement***, including the extent to which it is:

- **Impactful**– captures an opportunity to address the Disaster Challenge in a meaningful way, towards safer, more resilient and sustainable communities
- **Informed**– demonstrates why this problem needs new and innovative solutions.

*(80%) Quality of the **proposed solution***, including the extent to which it is:

- **Innovative**– no-one else has tried this, or it combines ideas in a new way in Australia.
- **Credible**– based on sound evidence and academic principles.
- **Adaptable**– it could work in different places in Australia.
- **Effective and Affordable**– it can be realistically achieved.

## Questions in the Online Entry Form

Address the criteria by completing the following, either in the entry form itself, or within your video (150-300 words per question):

### The Problem Statement:

1. Describe the specific problem that your idea will solve.
2. Tell us why solving this problem requires new and innovative solutions.

### The Proposed Solution:

3. Describe your proposed solution that addresses the challenge question.
4. How do you know your idea will work? What evidence do you have to support this?
5. Tell us how your idea is adaptable?
6. Explain how your idea is effective and affordable?

## ATTACHMENT: Putting your entry together

This attachment helps you to put your entry together, with support regarding the following steps:

1. Decide on whether it will be you, or you and a team (if it's a team, gather the members).
2. Seek to understand the problem (before jumping to solutions) - Spend some time pondering over this year's Disaster Challenge problem and how it could be addressed.
3. Brainstorm ideas for your entry, making sure that you can explain how it will be used and what benefits you would expect to see if it was used.
4. When you have your idea in good shape, develop the solution addressing the assessment criteria.
5. Decide how you will submit your approach – this will be either a written **or** video entry.

### 1. Decide on who will enter

Team participation can comprise a mix of postgraduate and undergraduate students, and early career researchers, from any combination of science disciplines. Ways you can find people to team up with:

- Team up with a classmate, workmate, or friend.
- To find people with different disciplinary background to you, consider asking the office of another School or College to share a message with its staff and students.
- Come to a Disaster Challenge online briefing. You will have a chance to share your contact details with other attendees who are also looking for teammates.

### 2. Seek first to understand the problem

Make sure you have a good idea about what the concepts, key words and issues mean to you, to disaster impacted communities and to those working in disaster management.

- What is a disaster?
- How are natural hazards and disasters related (or not)?
- What is disaster response and who is involved?
- What does it mean to improve disaster response? More efficient? Effective? Equitable and inclusive? Sustainable? Is preparing for disasters ahead of time part of responding to them?
- What kinds of resources are needed for responding to disasters? Where are they and where are they missing? Who has them and who doesn't?
- Why is accessing and linking resources from across society to improve disaster response and help those that are most in need a wicked problem?
- How are these resources already accessed and linked? Where do gaps and challenges persist?

### 3. Brainstorm ideas for your entry

Deciding what specific aspect you wish to focus on is an important step in preparing your entry. Perhaps the following thought-starters might help you focus on a specific, real-world example to get going:

- **Choose a specific type of disaster** – what kinds of disasters are Australians at risk of? How does society respond to heatwaves? How can we improve our response to pandemics? What about tsunamis? Thunderstorm asthma?
- **Choose a specific disaster event** – what problems were encountered in linking those with resources and support to those who most needed them during the 2019-2020 Black Summer bushfires, or the 2022 Australian floods?
- **Choose a specific place** – if a disaster were to occur in your community or region, what needs would people have, and how might they struggle to access the resources they need to meet them? How might disaster response be challenged in remote locations or urban centres?

- **Choose a specific type of need** – what resource needs would aged care facilities have during a disaster, and how might they struggle to access them? What about pet owners? Farmers? Families? Renters? Small businesses and schools?
- **Choose a specific type of infrastructure** – How can a community respond to a disaster if its communications infrastructure is disrupted, or its roads are flooded? How can human resources be mobilised to support disaster response in a small rural community? How can more women or culturally and linguistically diverse people be supported to get involved in disaster response? How can we use nature-based solutions to support more effective disaster response?
- **Choose a specific type of responder/s** – What resources might local fire brigades, councils, or the Red Cross need but struggle to access? What resources might the people impacted by a disaster need to use themselves in order to respond?
- **Choose a specific type of outcome or benefit** – What resources do we need to link together to prevent some people in society being more severely impacted when a disaster strikes than others? How can we bring together diverse sources of knowledge and situational awareness to support faster response to people's immediate needs during a disaster?

#### 4. Develop your solution

Before you gather your evidence for your submission, make sure you have read the Code of Conduct and Ethics provisions in the Disaster Challenge [Terms and Conditions](#). Once you have worked out the specific, real-world example of the wicked problem that you are going to tackle, you can find ideas and inspiration for potential solutions in a range of different places:

- **Develop your own** – especially if you have a multidisciplinary team, pool your knowledge together to come up with something truly new and innovative.
- **Overseas** – what approaches are used in other countries that are not yet in use in Australia?
- **Other sectors** – what type of solutions are used in other sectors that might be adapted to disaster management, e.g., public health, mining
- **Other organisations** – what solutions do other sectors use that could be adapted for this solution?
- **Research** – you can find inspiration in your own research, or consult research done by others.
- **Previous Disaster Challenge Finals** – watch the pitches made at the 2022, 2023 and 2024 Disaster Challenge Final by the three finalist teams, available on [YouTube](#).

#### 5. Prepare your entry

- If you are submitting a written entry – ensure you have stayed within the word limits.
- If you are submitting a video entry – make sure your video is no longer than 10 minutes, answering each question in your video. Production quality will not be assessed, so feel free to use Microsoft Teams, Zoom or an embedded PPT file.
- Top tip: These are aligned with the assessment criteria!

#### 6. Resources that could assist you

- Australian Disaster Resilience Knowledge Hub, <https://knowledge.aidr.org.au/>
- Australian Disaster Resilience Glossary, <https://knowledge.aidr.org.au/glossary/>
- United Nations Office for Disaster Risk Reduction Terminology, <https://www.undrr.org/terminology>
- Australian Disasters, <https://knowledge.aidr.org.au/collections/australian-disasters/>
- Bushfire and Natural Hazards CRC, <https://www.bnhcrc.com.au>
- Inquiries and reviews database, <https://tools.bnhcrc.com.au/ddr/home>
- Australian Disaster Resilience Handbook Collection, <https://knowledge.aidr.org.au/collections/handbook-collection/>