Natural Hazards Research Australia

Call for Expressions of Interest

T10-A4: Understanding conflagration fires

Expressions of Interest due **5pm AEDT, 27 MARCH 2026**
to research@naturalhazards.com.au

Australian Government

naturalhazards.com.au
Australia's leading research centre for natural hazard resilience and disaster risk reduction

Overview

Natural Hazards Research Australia (hereafter the Centre) is seeking Expressions of Interest from project teams for the following project:

T10-A4: Understanding conflagration fires

Project description	While significant work has already been undertaken in the aftermath of fires in the United States, this work has not been contextualised to planning and operational response within the Australian environment. Australian governments and emergency management agencies need to be able to provide robust and defensible messaging to communities about whether similar events could happen in Australia. This project will analyse the potential for large-scale urban conflagrations to occur in Australia so that decision makers can speak with confidence to the public about that risk. At present, this risk remains poorly understood despite historical events such as in Canberra in 2003. While large-scale suburban fires, such as those in Maui and Los Angeles, have not occurred in Australia, this may be due to chance, the absence of contributing factors and enabling conditions, or the possibility that fire agencies and communities are already doing a lot of things right to protect against such fires occurring. This research project will identify what is known globally in relation to weather, topography, urban density and design, and the fuels that support conflagrations, as well as describe common features in relation to impacts and outcomes so that the risk is well understood. It will develop a roadmap for further research into strategies, methods and tools for preparedness, response, and recovery to fill any gaps identified in the Australian context. Understanding risk and dynamics is critical to improving planning, community safety, and to providing the utmost confidence in fire management decision-making and practices in the face of escalating risk of conflagration fires. This project is expected to deliver a roadmap that will support the development of a future program of research.
Estimated duration	6 months
Budget	The budget envelope for this project is up to $125,000 (ex GST) The research team should note that this is a competitive process. Expression of Interest submissions will be assessed on value for money and justification for any funds requested.
Related national research priorities[1]	→ Evidence-informed policy, strategy and foresight
Related Centre research priorities for 2024–26[2]	→ Understanding and mitigating risk → Community-led, place-based resilience

1 Natural Hazards Research Australia (2022) National research priorities for disaster risk reduction and community resilience to the impacts of natural hazards, accessible at www.naturalhazards.com.au/sites/default/files/2022-05/NatHazResAus ResearchPriorities FA02.pdf

2 Natural Hazards Research Australia (2024) *Biennial Research Plan 2024–26*, accessible at https://www.naturalhazards.com.au/sites/default/files/2024-07/NHRA%20ResearchPlan24%E2%80%9326%2004.pdf

Supporting organisations	→ ACT Rural Fire Service → Country Fire Authority → Fire and Emergency New Zealand → Fire Rescue Victoria → Northern Territory Fire and Rescue Service → NSW Rural Fire Service → Queensland Fire Department → South Australia Metropolitan Fire Service → Tasmanian Fire Service → WA Department of Fire and Emergency Services
Centre contact	For any questions regarding this Call for EOIs, please email research@naturalhazards.com.au.
Submission of EOI	EOIs must be prepared using the Centre's EOI submission form and Budget Template. EOIs are to be submitted to research@naturalhazards.com.au by **5:00pm AEDT on 27 March 2026**

Statement of requirements

Background and context

This project concept was developed following consideration by Australian fire agencies of the implications of the Los Angeles (LA) fires of 2025 for Australia.

In Australia, little is known about the potential for urban conflagrations during bushfires; it is unclear where they may happen, what conditions are necessary for them to occur, and how we should prepare and respond to them. Given the likelihood of increasingly severe fire weather in the future, an improved understanding of the potential for urban fire catastrophes is essential.

While there have been few such events to date, and nothing approaching the scale of the Maui and LA fires in the suburban context, we are unsure if this may be due to good fortune or some form of intervention rather than being due to a lack of the contributing factors and environmental conditions that allow conflagrations to occur. This is supported by evidence of losses due to house-to-house fire transmission rather than exposure to wildland vegetation that occurred in Canberra in 2003.

The 2025 LA fires were an extreme wildfire event in which over 18,000 structures were destroyed. The nature of these impacts differs from many wildland fires as most of the losses were in densely populated urbanised environments that burned over a very short period of time. While rare, such losses in urbanised areas through 'conflagration' style fire behaviour is not unprecedented, with similar events occurring in Maui, USA in 2023 and on a lesser scale in Australia in Canberra in 2003. These fires are particularly notable for their highly concentrated losses in the urban environment and relatively high proportion of human fatalities.

Without an understanding of these fires, Australia remains unsure how to best prepare for such events. Given the gravity of the potential outcomes of an urban conflagration, establishing a program of work to describe the potential risk is a high priority. Addressing the following questions is key to understanding conflagration fires in Australia.

1. What are the conditions under which urban conflagrations can occur? Specifically, what are the common features relating to weather, topography, urban density and design, preceding fire behaviour and the nature of fuels that support conflagrations? What is the degree of risk for Australia?
2. What are the features that make urban conflagrations different from other wildland fires that impact structures? Specifically, what is known about fire behaviour, infrastructure, community behaviour, fire suppression, communications, impacts and recovery ?
3. What should fire agencies and the community focus on to be better prepared for these kinds of events?
4. What principles should be applied to create better emergency management plans, and prepare communities for, conflagration fire events?

Project description

While significant work has already been undertaken in the aftermath of fires in the United States, this work has not been contextualised to planning and operational response within the Australian environment. Australian governments and emergency management agencies need to be able to provide robust and defensible messaging to communities about whether similar events could happen in Australia. This project will analyse the potential for large-scale urban conflagrations to occur in Australia so that decision makers can speak with confidence to the public about that risk.

At present, this risk remains poorly understood despite historical events such as in Canberra in 2003. While large-scale suburban fires, such as those in Maui and Los Angeles, have not occurred in Australia, this may be due to chance ,the absence of contributing factors and enabling conditions, or the possibility that fire agencies and communities are already doing a lot of things right to protect against such fires occurring. This research project will identify what is known globally in relation to weather, topography, urban density and design, and the fuels that support conflagrations, as well as describing common features in relation to impacts and outcomes so that the risk is well understood.

It will develop a roadmap for further research into strategies, methods and tools for preparedness, response, and recovery to fill any gaps identified in the Australian context. Understanding risk and dynamics is critical to improving planning, community safety, and to providing the utmost confidence in fire management decision-making and practices in the face of escalating risk of conflagration fires.

This project will address the questions asked above and is expected to deliver a roadmap to support the development of a future program of research.

Expected outputs

The project is expected to deliver:

1. **A comprehensive literature review** which is global in scope and identifies what is known about the drivers behind conflagration fires, their typical features and outcomes, and where the preparedness and operational response knowledge gaps are, especially in relation to the Australian environment.

a. This report should be framed to enable decision makers to speak with confidence to the public about the risk of conflagration fires.
b. It should include synthesis that summarises features (eg climate, fuel, building design) that may indicate the potential for such fires in Australia.

2. **A report** on what further research or work is required to address gaps in knowledge in the Australian environment in relation to preparation, mitigation, response and recovery relating to conflagration fire events in the built environment.
3. **A roadmap** for progress towards the following:

    - Development of indicative project descriptors that will fill the identified knowledge gaps. This should include consideration of causes, likely conditions, exacerbating factors, likely locations, common issues during fires (suppression, evacuation, communication etc), and needs relating to recovery. This should also include consideration of preparedness needs.
    - Quantitative methods that can be used to objectively identify areas of landscape and urban form that may be vulnerable to conflagration-style fire
    - Quantitative methods that can be used to identify the weather and fuel conditions under which conflagration fires may occur
    - Risk assessment tools, including mapping applicable, across Australia that identify areas vulnerable to urban conflagration

Core outputs

- → Literature review
- → Final report – including identification of future research opportunities
- → Presentation materials for decision makers to brief communities with confidence on the risk for Australia.
- → Stakeholder presentation/s
- → An academic manuscript suitable for publication in an international journals

Additional outputs

- Project plan and plain language statement
- Quarterly progress reports
- Project evaluation report
- Relevant communications outputs including but not limited to a presentation and a poster

Collaborative approach

Researchers are expected to undertake the research using a collaborative approach to assist in the translation and transfer of knowledge to end-users and to ensure the project meets their needs. Researchers are encouraged to outline their approach to ensuring effective collaboration which could include embedding researchers within end-user organisations for a period of time.

Anticipated outcomes

The outcomes of this project are fundamentally grounded in issues of providing confidence in decision making, public safety, and addressing threats to life, property and the built environment.

The project directly supports creating safer, more resilient, and sustainable communities in the face of natural hazards by synthesising existing knowledge and identifying knowledge gaps and to fully assess the risk of conflagration fire behaviour in the Australian built environment. The project builds and strengthens the knowledge base to identify and mitigate risk through operational and strategic planning.

The project will set conditions for Australian fire agencies and emergency planners to develop new risk mitigation strategies with confidence, including community engagement, to reduce the likelihood of conflagration fire events and mitigate their consequences if they do occur.

Through these outcomes, the project will make a lasting contribution to reducing the impact of fire on Australian communities while enhancing the capacity of the sector to manage fire risks effectively.

Quality control and reporting

The project will be overseen and supported by a Project Management Committee (PMC) comprising the Principal Researcher, a Centre representative, and at least one stakeholder representative. Composition of the PMC will be determined in consultation with the Principal Researcher.

Reports

The Centre expects that the outputs delivered by this project will meet the highest scientific standards and will be suitable for publication on the Centre website and in industry newsletters, as well as in high-quality scientific journals.

The successful research organisation/s must co-develop with end-users a project plan and project summary using the Centre's templates. The project summary should explain in plain language what the project is about, what questions it intends to answer and describe the expected practical outputs that will make use of the research findings. The project plan must be approved by the PMC and will become an attachment to the contract.

Reports (and any supporting material) must be submitted to the PMC's satisfaction and will be subject to review by PMC members. The project team will be required to ensure an internal peer review process is undertaken prior to the final report being submitted.

Milestone reporting

The project team must report all milestone deliverables and engagement activities into the Centre's Project Management System. This will include sufficient justification for the completion of milestones to the satisfaction of the PMC and the Centre.

Communication

To further assist with quality assurance, it is expected that:

- regular PMC meetings will be held
- the project team will use a consultative approach, documented in quarterly reports
- the Principal Researcher will give periodic presentations to key stakeholder groups to gain critical feedback on project milestones.

Additional quality control processes may be agreed as part of the project planning process.

Contractual arrangements

A copy of the Research Services Agreement, the proposed form of contract for the purposes of this project, can be found here.

The Centre reserves its rights to make amendments to the form of contract.

This agreement should be reviewed by applicants as part of the EOI submission.

If you would like to request amendments to any of the terms and conditions set out in the proposed form of contract, details of the proposed changes and the reason the changes are requested must be included in the EOI submission form. Requests for any changes will be at the sole discretion of the Centre.

Selection as a shortlisted or preferred provider does not give rise to a contract (express or implied) between the shortlisted or preferred provider and the Centre for the supply of goods or services. No legal relationship will exist between the Centre and the shortlisted or preferred provider until such time as a binding contract in writing is executed by both parties.

In the case of consortiums, the Centre requests that one consortium member be nominated as Lead Research Provider and take responsibility for subcontracting other parties.

Submitting an Expression of Interest

Application and review process

The Centre will conduct an independent assessment process for the selection of a research provider to deliver the Research Project. An Assessment Panel will conduct evaluation of the EOIs that are received. Where required, the Panel may conduct interviews, request presentation or referee checks as part of the assessment process.

Following the assessment process the Centre may appoint one or more successful Applicants on NHRA contract terms. Under the NHRA contract, the preferred provider will co-develop a detailed Research Plan with input from key stakeholders.

Key dates

25 February 2026	Call for EOIs opens
27 March 2026	Due date for EOIs

Submission requirements for this EOI

Project teams responding to this EOI are required to submit their response using the Centre's EOI submission form and Budget Template. Submissions must include:

- a statement of capability (max 600 words), including the proposed contributions of each research team member to the project
- a statement (max 400 words) about the diversity of the project team
- a statement (max 400 words) about the project's inclusion and respect of First Nations peoples, philosophies, cultures, rights and/or knowledges
- an outline (max 1000 words) describing how the project team intends to approach the project, strategies for effective collaboration and an indicative methodology
- an indicative schedule of work and interim milestones/project outputs as described in this document
- a proposed project budget in line with the budget envelope provided, including details of any in kind contribution from research organisation/s – a detailed budget to be provided using the downloadable Budget Template provided on the Centre's website
- a clear statement (max 400 words) describing the outcomes that will be delivered for this project and how they will be used by stakeholders
- a clear statement (max 400 words) describing the outputs that the proposed approach to this project will deliver and how the findings could translate into practice
- a statement (max 500 words) demonstrating the project team's relevant industry and stakeholder engagement
- a risk management statement (max 500 words)
- any requested changes to the Centre's proposed form of contract
- up to two-page CVs for each proposed project team member.

Additional information

Frequently asked questions

Additional information provided to individual respondents will also be published on the Centre's website to ensure access to all interested parties. Respondents are encouraged to check the website for any additional information via these published FAQs, prior to the closing date.

Evaluation criteria

After the closing date, the Centre will review submitted EOIs against the evaluation criteria below. The evaluation criteria provide an indication of those matters that should be included in the EOI and supporting material – details are provided in the table below.

The Centre reserves the right not to offer the work, or only allocate a proportion of the available funding, if a proposal does not meet the Centre's needs. The Centre reserves the right to invite any other specific researchers as it sees fit to submit proposals before or after the closing date.

Mandatory evaluation criteria

- Registered Australian Business: The Respondent holds a valid Australian Business Number (ABN) or Australian Company Number (ACN)
- Public Liability Insurance: The respondent has or will obtain appropriate insurance

Evaluation criteria	% weighting
Research capability: the capacity and capability to deliver an excellent research project in an Australian environment	20
Project approach: a demonstrated understanding of the project requirements and a proposed project approach and methodology that is appropriate, feasible and robust Relevant outline of a collaborative approach to assist in the translation and transfer of knowledge to end-users and to ensure the project meets their needs.	20
Project outcomes and outputs: demonstrate a high-level understanding of the intentions of the project and how outputs/outcomes translate to practice	25
Industry engagement: strong track record of industry engagement with the ability to support and influence Australian disaster management at a national or state/territory level through interaction with key stakeholders	15
Value for money: value with money refers to an application representing an efficient, effective, economical and ethical use of Centre resources. Consideration of the relevant financial and non-financial costs and benefits of each application including, but not limited to: - the quality of the application and activities represented by the technical assessment - fitness for purpose of the application in contributing to Centre objectives - the potential Research Provider's relevant experience and performance history - whole of life costs (in-kind , other costs, risks, legal risks)	20