Natural Hazards Research Australia

Call for Expressions of Interest

Project T1-E1: bushfire information database – scoping study

Expressions of Interest due Tuesday 8 March 2022 to research@naturalhazards.com.au

Australian Government

Overview

Natural Hazards Research Australia (the Centre) is seeking expressions of interest from project teams for the following project:

Bushfire Information Database – Scoping Study

Project description	This project will develop a consolidated understanding of the quality, purpose and availability of bushfire datasets in Australia and will identify important gaps in that data based on local and international experience.
Estimated duration	9 months
Maximum available budget	$150,000 (exc. GST)
Centre research themes	Primary: Operational response and innovation Related: Learning from disasters
Linkages to Centre outcomes	Outcome 1 – Protecting community wellbeing Outcome 2 – Supporting well prepared and resilient communities
Linkages to Inquiry outcomes	Royal Commission into National Natural Disaster Arrangements 2020 – Recommendations 4.1 and 4.7 NSW Bushfire Inquiry 2020 – Recommendation 3
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. EOIs are to be submitted to research@naturalhazards.com.au by **11:59pm (AEDT) on Tuesday 8 March 2022**.
Project briefing	An online webinar scheduled for **2pm (AEDT), Monday 28 February 2022** will provide a more detailed briefing on the project.

Statement of Requirements

Background and context

Good decision-making for natural hazard strategic policy development and operational coordination is dependent on shared access to quality and credible information and evidence. Information and data relevant to the nature, risk and impact of natural hazards is collected by multiple agencies across all levels of government, academia, and the private and not-for-profit sectors. However, there is no single database that brings all of this information together. There are also inconsistencies in what information and data is collected, the accessibility of that data, the information systems, tools and technologies that have been used to collect and store the data, and the metadata that describes the datasets.

These inconsistencies can impact:

- effective risk mitigation policy development, implementation and evaluation
- collaborative strategic risk management decision-making
- interoperability required across all phases of disaster management
- effective research of past disaster events required to build our understanding and inform future approaches
- the development of testing and validation of new systems and technologies.

The outcomes from this research project will be used to inform the development of a National Bushfire Information Database – to understand what elements currently exist, what is currently being developed and what data sets and systems are missing.

The project responds to findings, from the Royal Commission into National Natural Disaster Arrangements 2020 and the NSW Independent Bushfire Inquiry 2020, that Australia does not have a national centralised bushfire information database that can be used to understand trends, including in bushfire intensity and extent, and the extent and efficacy of mitigation activities. This means that policy and decision-makers currently do not have access to all of the credible information required for evidence-informed practice.

Recommendation 3 of the NSW Bushfire Inquiry 2020 stated:

That the NSW Government, along with other Australian governments, ask The Australasian Fire and Emergency Service Authorities Council (AFAC) to establish a national bush fire database. This database would enable:

- *monitoring of trends in bush fire activity and impacts, including timing, cause, extent and intensity across all land tenures and vegetation types*
- *tracking trends and identifying patterns in associated weather and climate signals that contribute to severe bush fires*
- *evaluation of the cost and effectiveness of risk mitigation efforts, including hazard reduction and fire suppression activities so we have a better understanding of what works.*

The project is also linked to the following recommendations from the Royal Commission into the National Natural Disaster Arrangements 2020:

Recommendation 4.1 National disaster risk information

Australian, state and territory governments should prioritise the implementation of harmonised data governance and national data standards.

Good decision-making needs to be based on good information. Decision-making for national coordination of disaster management requires knowledge, data and information to be shared, consistent and up to date. Decision-making extends well beyond the immediate crisis or operational phases of a disaster.

Recommendation 4.7 Collection and sharing of impact data

Australian, state and territory governments should continue to develop a greater capacity to collect and share standardised and comprehensive natural disaster impact data.

Australian, state and territory governments should also work together to develop consistent data standards to measure disaster impact and should continue to develop a greater capacity to collect and share standardised and comprehensive natural disaster impact data.

There are a number of national bushfire data projects currently underway, including:

- The Bushfire Data Challenge by the Australian Research Data Commons (ARDC)[1]
- The National Bushfire Information Capability[2]
- Australian Climate Service[3]

Project description

This scoping project is aimed at identifying and determining current data and systems, current knowledge gaps, data needs and availability – to provide recommendations on what an ideal National Bushfire Information Database could contain. For example, this might include elements such as bushfire history, intensity, the extent and tenure of monitored bushfire sites, case studies and post bushfire research.

It is expected the project will include an audit of current datasets, a sector needs analysis to inform a comprehensive gap analysis, a comparison of current datasets and systems with international practice, and the development of recommendations to inform the development of a national plan for the collection, use and accessibility of bushfire data – to address the range of industry and research needs.

The project will:

- examine existing systems and datasets held by the various states and territories, the Commonwealth, research organisations, as well as other entities, to determine what currently exists and where gaps exist. (For example: examine current initiatives underway in the various jurisdictions including through the recently announced Australian Climate Services; the National Bushfire Information Capability;

1 https://ardc.edu.au/collaborations/strategic-activities/translational-research-data-challenges/bushfire-data-challenges/
2 https://blog.csiro.au/disaster-resilience-optus/
3 https://www.acs.gov.au/

Geoscience Australia; the Australian Fire Danger Ratings System and Landgate WA Firewatch, and current discussions led by the Australian Research Data Commons on bushfire data.)

- examine any experimental or technological solutions currently in operation, such as the North Australian Fire Information system
- examine current international approaches to cataloguing multiple datasets and systems linking with the European Commission's European Forest Fire Information System and the Global Wildfire Information System.

This project will include:

- mapping of current datasets and systems, including identified gaps and examples of where other agencies/countries may have filled those gaps
- provision of commentary on the purpose of current datasets and systems, as well as a high-level assessment of the quality of existing datasets and systems
- a needs analysis highlighting data and knowledge gaps and proposing methods that could be used to establish protocols for the collection and sharing of future datasets
- highlighting areas where new methodologies are being developed, particularly using new satellite and aerial-based sensing systems
- contributing to the development of a plan that will guide the way forward to the establishment of a National Bushfire Information Database.

Expected outputs

The outputs listed below are the products that are expected to be delivered by this project.

Core outputs

- Catalogue of available Australian bushfire datasets and systems, including description and assessment of data quality and intended purpose
- Comprehensive gap analysis based on:
  - a cross-sector based needs analysis (industry and research)
  - a comparison between available Australian bushfire datasets and systems with international bushfire datasets and systems
  - identification of non-traditional data that would make a valuable contribution to bushfire disaster risk reduction and bushfire management
- Final report – clearly identifying the current state of Australian bushfire data, including current locations, accessibility and data quality, the range of current uses of the datasets, identified gaps (in data, purpose and needs), recommendations and future opportunities
- Stakeholder presentation/s

Additional outputs

- Project plan and plain language statement
- Quarterly progress reports
- Project evaluation report
- Relevant communications outputs

Anticipated outcomes

The anticipated outcomes listed below are the potential benefits and impacts that are expected to be informed from the project outputs.

This scoping study will provide an evidence base and recommendations that can be used to support the development of a National Bushfire Information Database, as well as contributing to developing a plan to achieve it.

The outcomes of this research will:

1. build an informed understanding of the bushfire data landscape in Australia
2. provide guidance to assist in the development of a national plan to improve national bushfire data collection.

Alignment with overarching objectives of the Centre

The development of a national plan to improve bushfire data will ensure agencies around the country can work together towards developing information on the current and future state of bushfire risk and its trends, to better target mitigation and response policy and resources. This will lead to a reduction the loss of life from bushfire and lead to a more resilient community.

Possible strategic relationships:

- AFAC
- Forest Fire Management Group
- Fire management agencies
- Bushfire researchers (e.g. CSIRO and universities)
- Interested stakeholder organisations with a strong interest in bushfire data
- International fire research groups
- International fire management agencies

Quality control and reporting

The project will be overseen and supported by a Project Management Committee (PMC) comprised of 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

It is the expectation of the Centre that the outputs delivered by this project will meet the highest scientific standards and will be suitable for publication on the Centre website.

The successful research organisation must prepare a project plan and plain language statement using the Centre templates. 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 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.

Submitting an expression of interest

Application and review process

Project selection and approval will be a two-stage process. The first stage is evaluation of the EOIs that are received. The second stage is development of a project proposal, where a preferred provider will be selected and offered an opportunity to co-develop a detailed project proposal with input from key stakeholders.

A detailed project briefing will be provided to interested respondents via an online webinar on Monday 28 February 2022, and the recording will be made available **on the Centre's website** soon after.

Key dates

Wednesday 16 February 2022	Call for EOIs opens
Monday 28 February 2022	Project briefing webinar
Tuesday 8 March 2022	Due date for EOIs
Early April	Applicants notified of EOI outcome
Late April	Final date for submitting co-developed project proposal

Submission requirements for this EOI

Project teams responding to this EOI are required to submit their response using the Centre's EOI submission form.

The submission form can be downloaded here.

Submissions must include:

- an outline (max 400 words), describing how the project team intends to approach the project, including an indicative methodology
- an indicative schedule of work and interim milestones/project outputs as described in this document
- a proposed project budget including details of any in kind contribution from the research organisation/s
- a clear statement (max 400 words) describing the outcomes and outputs that will be delivered for this project
- a statement of capability (max 600 words), including the proposed contributions of each research team member to the project
- a statement demonstrating the project team's relevant research experience and stakeholder engagement (max 500 words)
- CVs (up to two-pages each) for each proposed project team member.

Additional information

In responding to this Call for Expressions of Interest, advice should be provided on any known or anticipated impacts of COVID-19 pandemic restrictions or human resource risks on the timely delivery of the project. Where appropriate, risk management for the impacts of COVID-19 pandemic restrictions should be incorporated into the EOI.

Frequently asked questions

Additional information provided to individual respondents will also be published on the Centre 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.

Online project briefing

An online webinar scheduled for **2pm (AEDT) Monday 28 February 2022** will provide a more detailed briefing of the project and the opportunity for interested parties to pose specific questions.

Registration for the webinar is required prior to **5pm (AEDT) Thursday 24 February**. Once completed, a recording of this webinar will be posted to the website to ensure all interested respondents have access to this information.

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.

Evaluation criterion	% weighting
Research capability: the capacity and capability to deliver an excellent research project in an Australian environment.	25
Project approach: a demonstrated understanding of the project requirements, and a proposed project approach and methodology that is appropriate, feasible and robust.	20
Project outcomes and outputs: demonstrate a high-level understanding of the intentions of the project.	20
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: delivery of required outcome within available budget along with the ability to leverage the funds provided with in-kind contributions or supplementary opportunities.	20