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Research
Australia

T4-A1 Identifying and defining landscape dryness thresholds for fires

EOI Project Briefing

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What we'll cover today

- Introductions
- About NHRA and AFAC PSG
- Project background and objectives
- Project components
- Governance and reporting
- EOI process



Introductions



Thomas Duff
Senior Research Scientist,
CFA



Blythe McLennan
Node Research Manager,
NHRA

Please introduce yourself in chat



Natural Hazards Research Australia

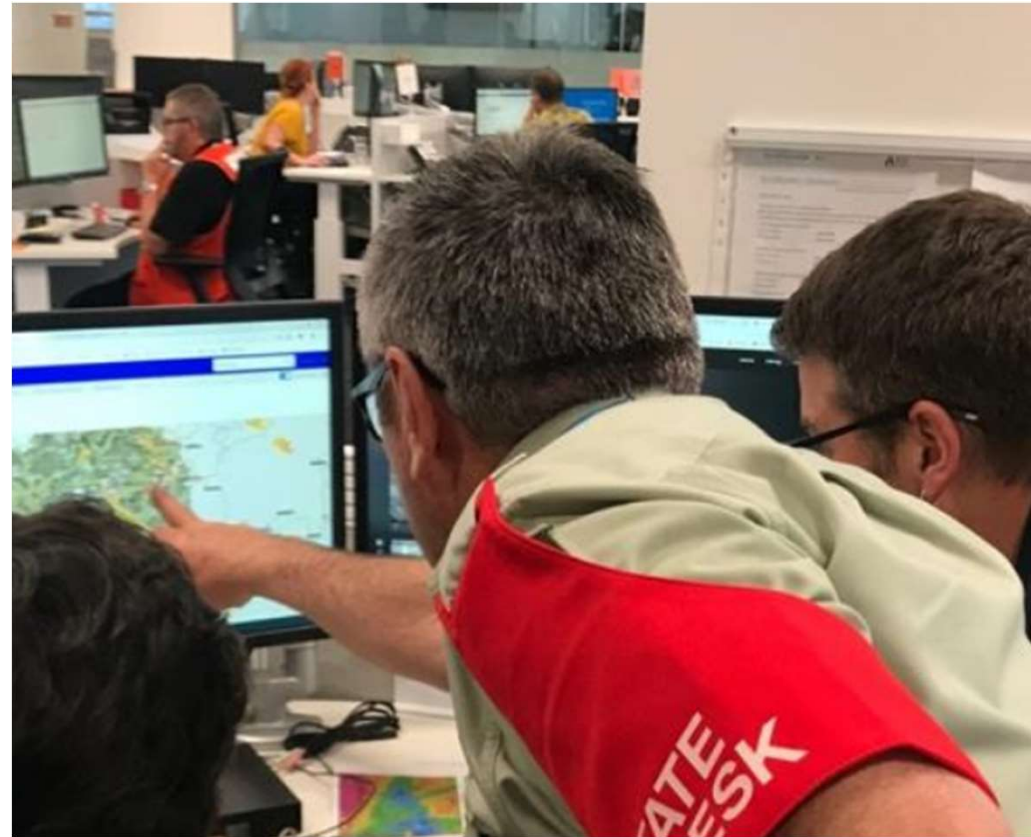
- The Centre commenced operating on 1 July 2021:
 - \$85 million over 10 years from the Commonwealth
 - Plus partner contributions

- The core objectives of the Centre are to:
 - Protect human life and minimise harm and suffering
 - Contribute to developing and supporting well-prepared and resilient communities
 - Invest in research that translates into action



AFAC Predictive Services Group

- Strategic advisory group to the AFAC Council on predictive services
- The Group's strategic drivers are:
 - improving interoperability and sharing resources
 - leading innovation in science and technology
 - shared responsibility – empowering communities to make decisions and make best use of the information available
 - develop national best practice and standards
 - harnessing projects and funding at a national level.





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About the project



Indicators of fire

- There is a huge range of metrics available representing fire potential
 - Modelled values
 - Proxies
 - Remotely sensed values
- Most of these have an undeniable physical link to fire behaviour
- Most of these have some kind of demonstrated correlation with fire
- How useful are they?



Fit for Purpose??

- Depends on what the purpose is....
- Many approaches are being applied outside their development range
- There is often more than one purpose

E.g. For McArthur's Forest Fire Danger:

- Suppressibility
- Forward Rates of Spread
- Intensity
- Probability of any fires
- Probability of uncontrollable fires
- Severity (Drought Factor)

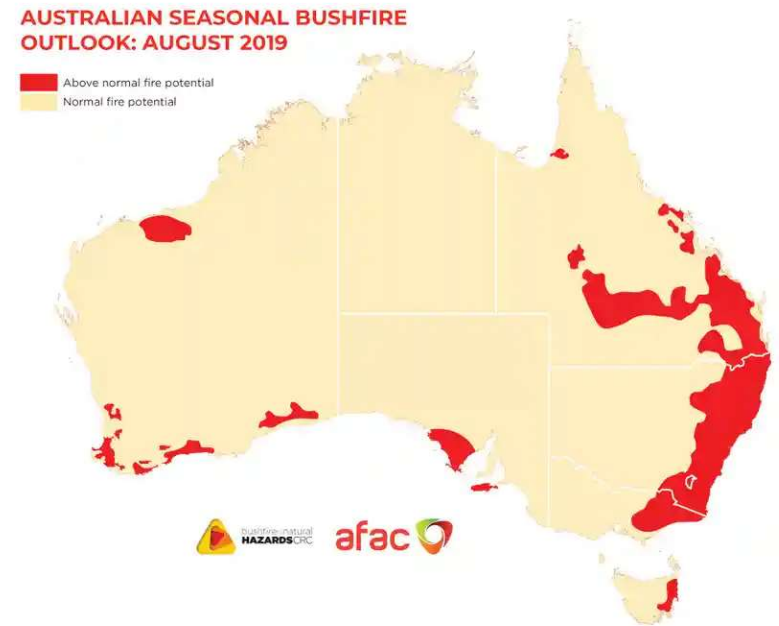
KBDI

- Is used as a dryness indicator in multiple Australian Models
- Developed in California for dryness of Duff fuels
- Account keeping using 200mm water 'bucket'
- Used in the calculation of Drought Factor
- Fuel Availability?



Fit for Purpose??

- Scientific evidence is not necessarily fit for decisions
- For decision making:
 - Tolerance to error may vary
 - Overall model performance may be less important than ability to discriminate at key times
 - Generally need to predict the future
 - Consequences can be high
- For robust decision making – we need to know what our models are telling us



What this project is seeking to do

- Review and describe landscape dryness metrics
- Determine the uses and decisions we're making using dryness metrics
- For each decision, look at what our knowledge needs are (sensitivity to detecting an event etc.) and how well they are being filled by existing metrics
- Make recommendations on how pathways for improvement



Expected outputs

Core outputs

- Report on scoping study - range of landscape dryness products available in Australia and overseas
- An evaluation framework and plan that has been peer-reviewed
- Report on evaluation of landscape dryness products, including recommendations for operational use, limitations and any warranted changes in application
- Documented code, including data sources and detailed calculation methods, that can be used for replicating dryness products
- Final project report, including identification of future research opportunities
- Regular engagement with project technical working group and the AFAC PSG
- Minimum of one academic manuscript prepared for high-ranking international journal

Please detail other innovative outputs that your team can deliver to address the outcomes below.

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



Budget and timeframe

- The total maximum budget is \$300,000
 - NB: EOIs are assessed on value for money and justification for funds requested
- All work must be completed within 1.5 – 2 years



Governance and reporting

Governance

- One lead provider for contracting purposes
- Contract is with NHRA
- Project Management Committee
- Technical Working Group
- Regular meetings

Reporting

- Project plan
- Milestone delivery
- Quarterly progress reports
- Project evaluation report
- Stakeholder presentations



EOI process

Project and EOI information (including FAQs) is available on Centre website:

<https://www.naturalhazards.com.au/research/research-projects/identifying-and-defining-landscape-dryness-thresholds-fires>

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 5pm (AEST) on **Wednesday 6 September 2023**



Making a submission

- 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 800 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 research organisation/s
- 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 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.



EOI assessment

Evaluation criterion	% 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	25
Project outcomes and outputs: demonstrate a high-level understanding of the intentions of the project and how outputs/outcomes translate to practice	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	20
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	15





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Thank you

<https://www.naturalhazards.com.au/research/research-projects/identifying-and-defining-landscape-dryness-thresholds-fires>

