Australian flammability monitoring system website

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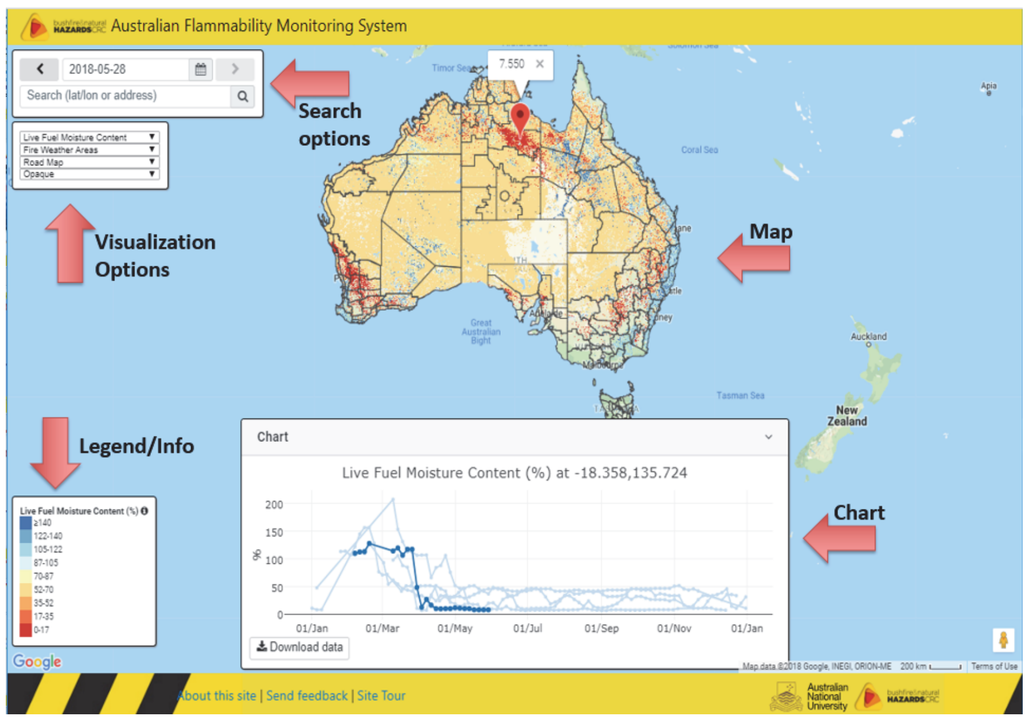
The website: html//wenfo.org/afms/



Provides **rapid and easy access** to spatial information on:

- **Live Fuel Moisture Content** (FMC) and **uncertainty** in the estimates, in kg water per kg dry matter (%)
- A **Flammability Index** (FI), a relative measure of fuel flammability between 0 and 1
- **Soil moisture content near the surface** (0-10 cm), in m^3 water/m^3 of soil volume
- **Soil moisture content in the shallow soil** (10-35 cm), in the same units

500m, 4 days

5km, daily

Uses in fire management

Planning and prevention

Assist with **scheduling prescribed burns:** drier FMC in a forest may indicate more potential to scorch the canopy

Preparedness

Amend preparedness levels in relation to Fire Danger Rating in response to lower than average landscape dryness conditions

Response

Highlight potential for **anomalies in predicted rate of spread:** for lower FMC a fire may spread faster than predicted

Future work

- Improve **timeliness, robustness, visual presentation and explanation** of the information
- Display **decile maps** of FMC, FI, soil moisture to identify areas of low or high values, relative to normal conditions at that location, at that time of year.
- Work with end users to **develop specific operational applications** and integrate the information into current decision processes and tools (e.g. the ACT Parks and Conservation Service's Prescribe Burn Decision Tool)

References

- Yebra *et al.* 2018. A fuel moisture content and flammability monitoring methodology for continental Australia based on optical remote sensing. Remote Sensing of Environment. 212, 260-272
- Dharssi, *et al.* 2017, JASMIN: A prototype high resolution soil moisture analysis system for Australia, Research Report No. 026, Bureau of Meteorology.

END USER STATEMENT

'The new technology described here has enormous potential to improve the efficiency of bushfire operations across Australia and drive an expansion of our capability. The provision of accurate, spatially explicit, near real-time estimates of FMC and flammability at a range of spatial resolutions would permit more accurate targeting of scarce bushfire fighting resources in time and space. It would no longer be necessary to estimate jurisdiction-wide readiness based on anecdotal extrapolation of conditions at a few locations.' ***Adam Leavesley, ACT Parks and Conservation Service***

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