# Australian Fire Danger Rating System

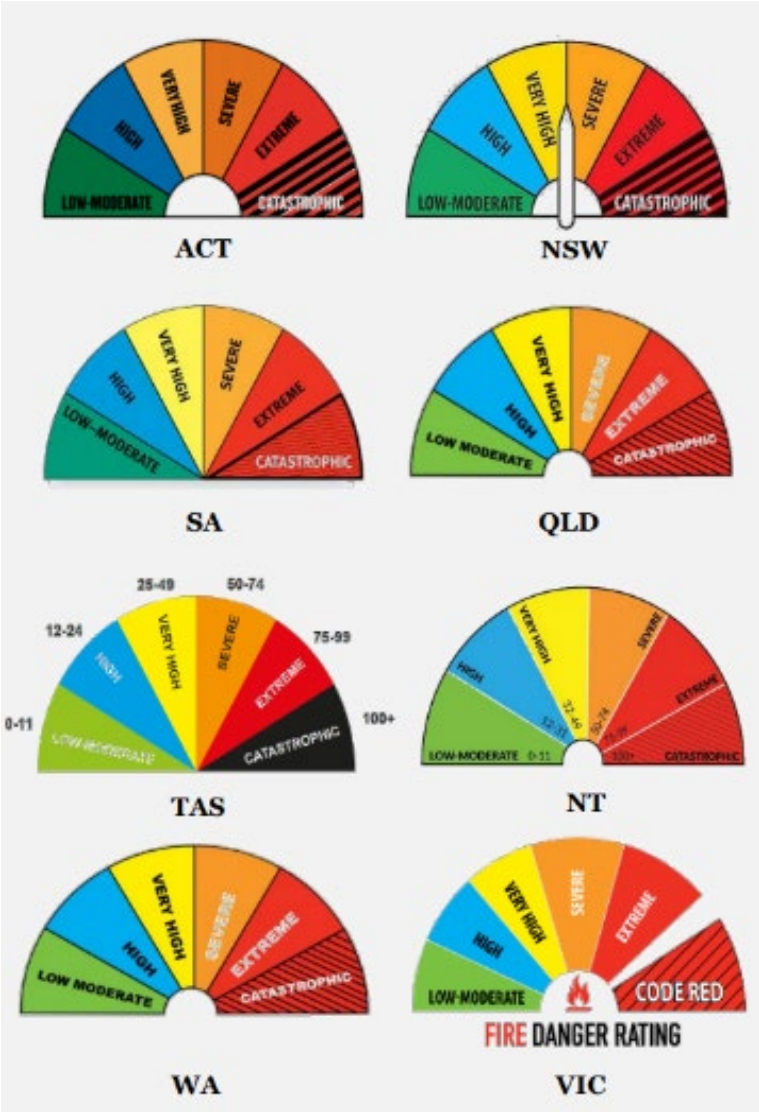
## Lessons, Challenges and Opportunities

**NT Emergency Management Symposium 2026**

Dr Meaghan Jenkins
Manager AFDRS



# Australia Needed a Better Way to Understand Fire Risk






# Lesson: National Collaboration is Hard but Essential

## AFDRS is led by

RFS

Australian Government
Bureau of Meteorology

afac

## Commonwealth Agencies

Australian Government
Department of Home Affairs

Australian Government
National Emergency Management Agency

## Partner Agencies

BUSHFIRES NT

NORTHERN TERRITORY GOVERNMENT

CFA

EMV EMERGENCY MANAGEMENT VICTORIA

CFS

A.C.T. RURAL FIRE SERVICE

GOVERNMENT OF WESTERN AUSTRALIA

DFES Department of Fire & Emergency Services

Tasmania Fire Service

Queensland Fire Department

## Supporting Agencies

Forestry Corporation

NATIONAL PARKS & WILDLIFE SERVICE NSW

VICTORIA State Government
Energy, Environment and Climate Action

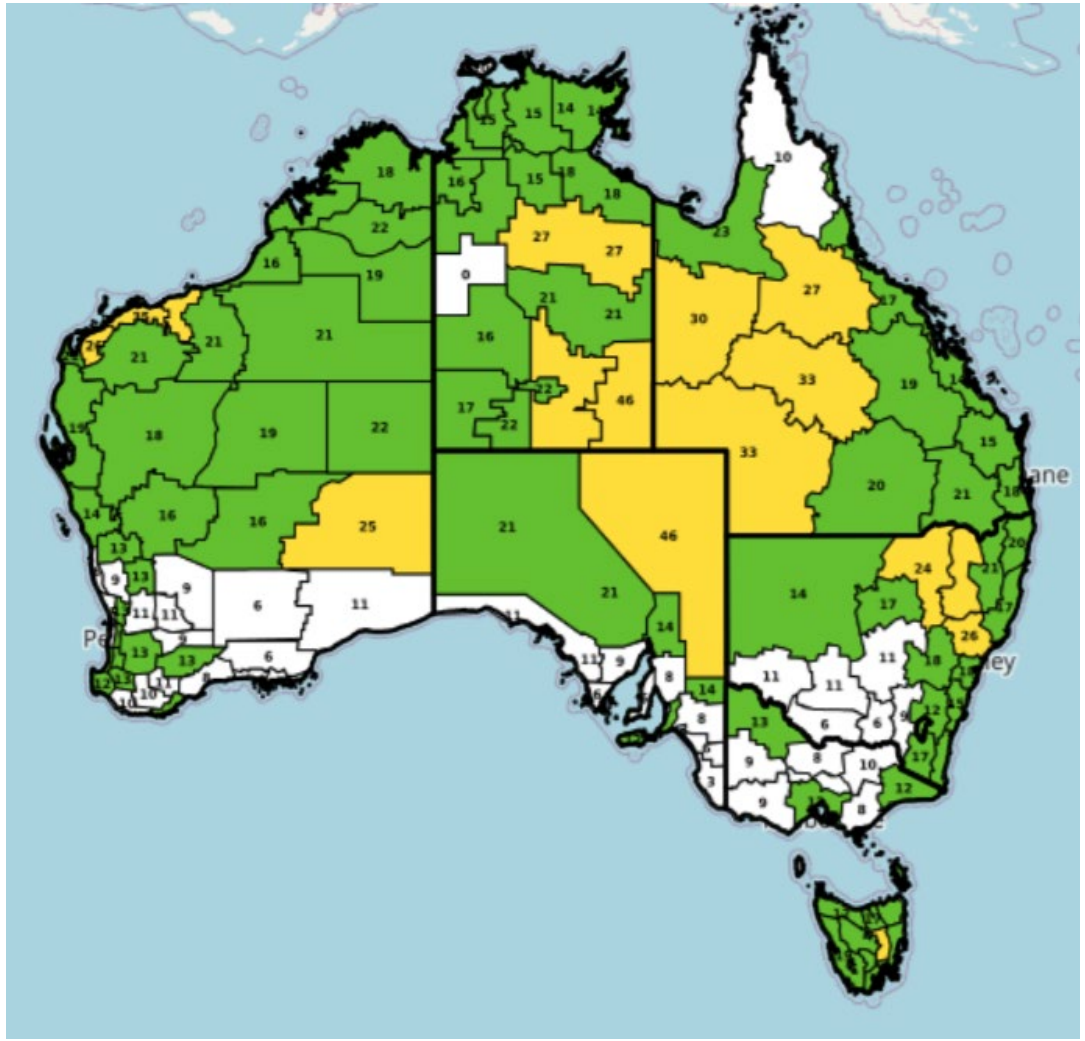
ACT PARKS AND CONSERVATION SERVICE

GOVERNMENT OF WESTERN AUSTRALIA
Department of **Biodiversity, Conservation and Attractions**

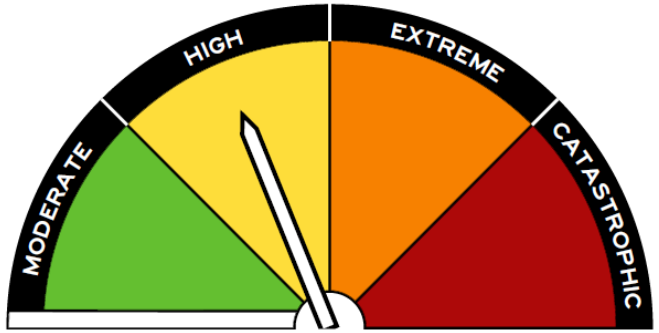
TASMANIA PARKS & WILDLIFE SERVICE

National Parks and Wildlife Service South Australia

# Lesson: Consistency Builds Trust



**The Australian Fire Danger Ratings (AFDRS) levels are:**

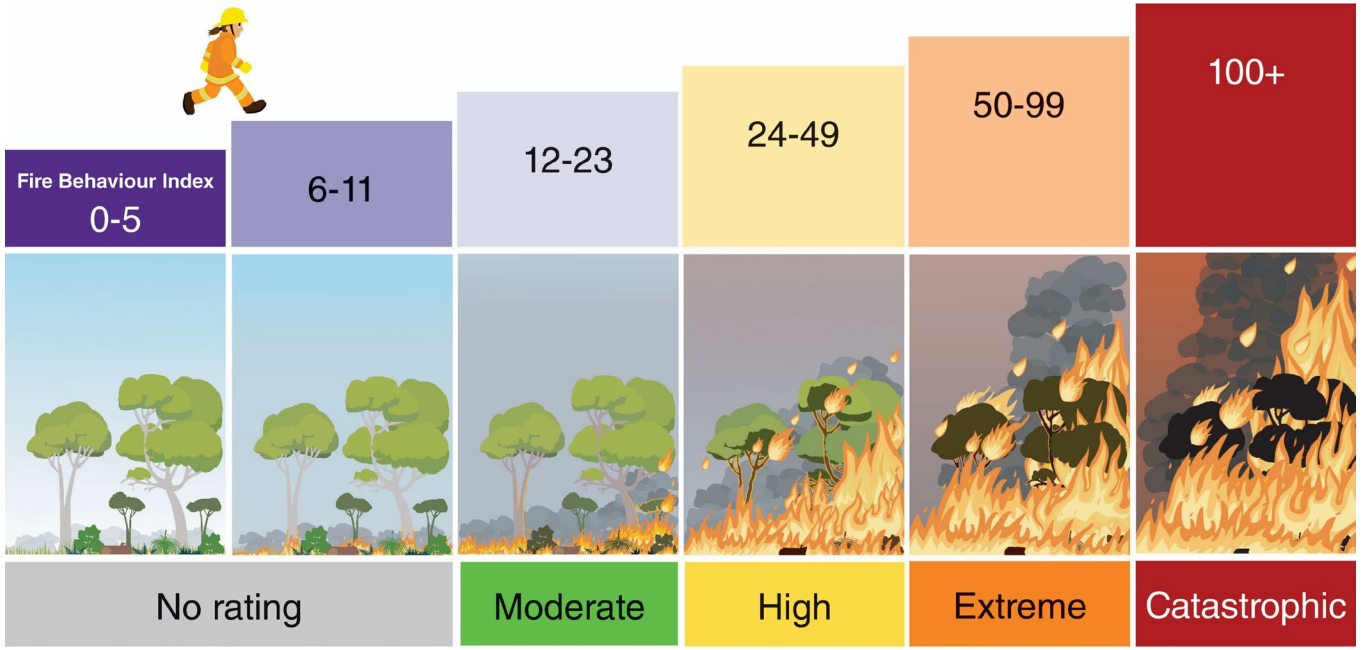



**MODERATE**
Plan and prepare

**HIGH**
Be ready to act

**EXTREME**
**Take action now** to protect life and property

**CATASTROPHIC**
For your survival, **leave bushfire risk areas**



# Lesson: Local Knowledge Matters

Ongoing, evolving system not set and forget

450+ sub-fuel types

Grass fuel state matters

Regular updates to data and systems are essential

Model gaps for some fuel types






# Challenges We Continue to Face

## Data and Systems

Data and product availability

Integration into common systems

Mapping of infrastructure, schools and community assets

## Risk and Readiness

Quantitative risk inputs

Updated risk registers and trigger values

Ignition products for resource planning

## Response and Impact

Knowing when to stand up suppression resources

Community impacts of business and infrastructure loss

## Messaging and People

Communication, engagement and collaboration

Education and training of users

# Opportunities: Better Data Through Greater Participation

## Fuel State Editor (FSE) Observer App

Accurate grass fuel data is essential for fire danger ratings and preparedness

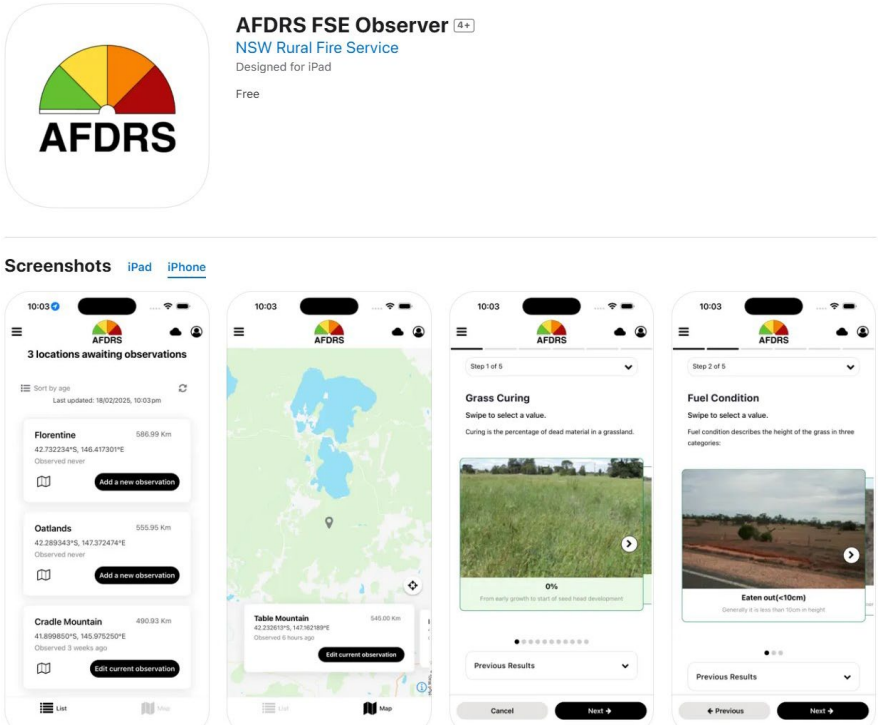
Across Australia:

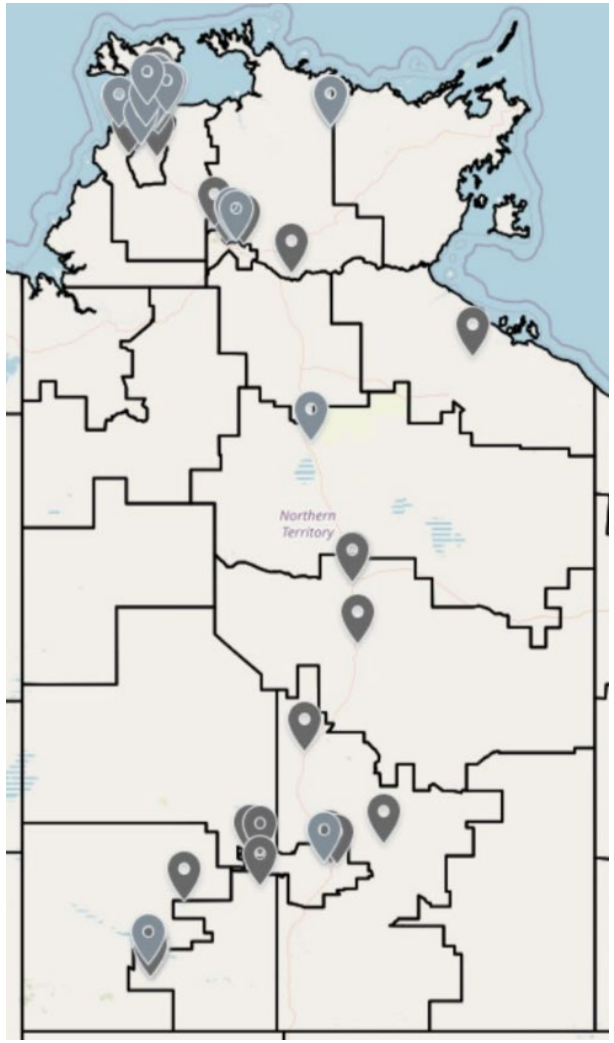
- >1,600 observation sites
- >1,300 observers
- > 28,000 validated observations of grass curing, load and condition

Allows users to submit observations in the field, even if there is no internet connection.

Want to be an Observer?

Contact: bushfiresnt.planning@nt.gov.au



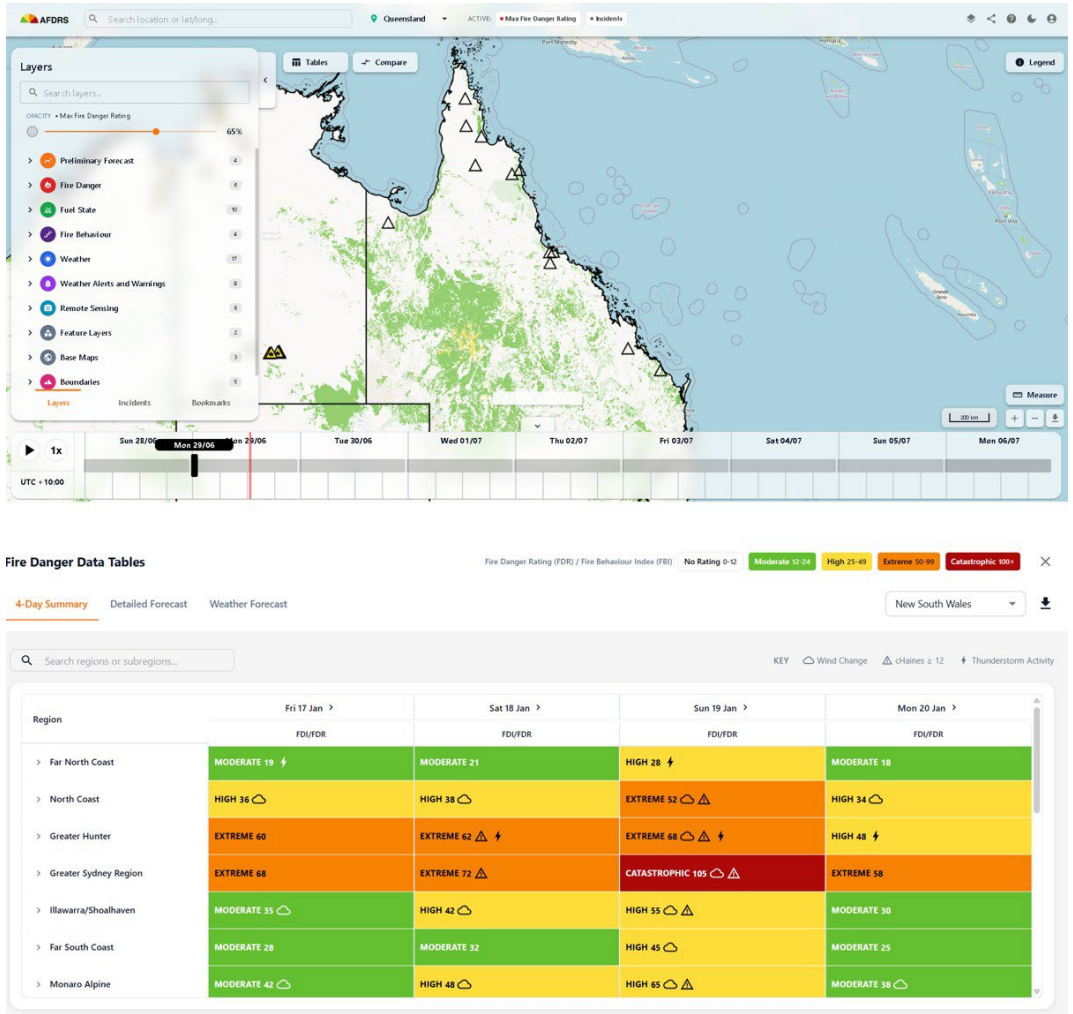




NT Observation Sites

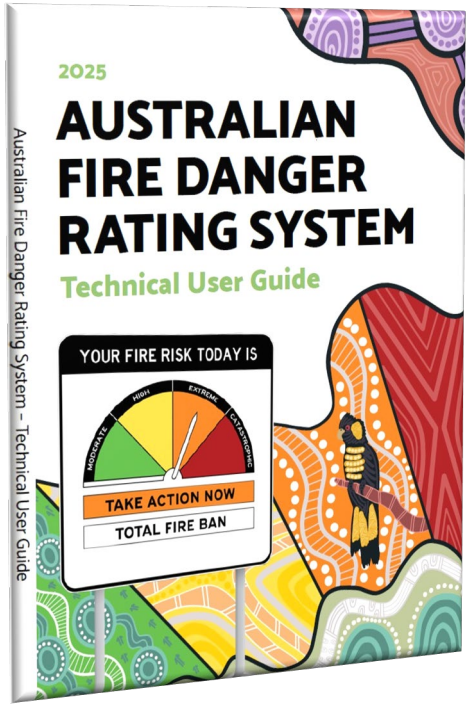
# Opportunities: Decision Support

| Date | Time (UTC +11:... | Temp (°C) | RH (%) | Wind (km/h) | FBI Grassland 8801 | FBI Spinifex 8401 |
|---|---|---|---|---|---|---|
| 06/10/2026 | 08:00 | 20.0 | 42.6 | 17.0 | 18 | 10 |
| 06/10/2026 | 09:00 | 19.8 | 42.5 | 19.0 | 20 | 12 |
| 06/10/2026 | 10:00 | 21.7 | 38.6 | 21.0 | 23 | 13 |
| 06/10/2026 | 11:00 | 24.8 | 32.9 | 27.0 | 35 | 17 |
| 06/10/2026 | 12:00 | 27.8 | 26.7 | 26.0 | 40 | 16 |
| 06/10/2026 | 13:00 | 30.6 | 21.3 | 24.0 | 43 | 15 |
| 06/10/2026 | 14:00 | 32.7 | 17.8 | 23.0 | 46 | 15 |
| 06/10/2026 | 15:00 | 34.6 | 15.0 | 25.0 | 54 | 16 |

Fire Behaviour Calculator




Fire Danger Viewer Uplift




Technical User Guide



Collaboration is the key



Consistency builds trust



Local knowledge keeps it accurate

Help us get it right for the NT. Tell us where AFDRS matches what you see on the ground, and where it doesn't: afdrs@afac.com.au

# Thank you!




RFS

Australian Government
Bureau of Meteorology

afac

https://www.afac.com.au/AFDRS