

Australian Fire Danger Rating System

What is the Australian Fire Danger Rating System?

The Australian Fire Danger Rating System (AFDRS) is a new, simplified and nationally consistent Fire Danger Rating System. It launched across Australia on 1 September 2022 and forecasts fire danger using the latest science, bushfire knowledge and a better reflection of Australian fuel types than ever before. This enhances the accuracy behind fire danger predictions and improves how fire danger is communicated.

What are Fire Danger Ratings?

Fire Danger Ratings (FDR) describe the potential level of danger should a bushfire start. They provide important information so you can take action to protect yourself and others from the potentially dangerous impacts of a bushfire. Ratings are calculated using a combination of weather forecasting and vegetation information. They do **not** indicate the chance of a fire occurring.

Why did we change to the AFDRS?

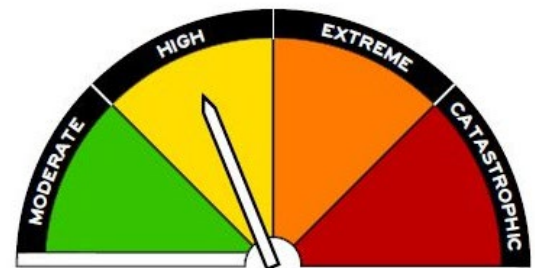
The science underpinning the old Fire Danger Rating System was more than 60 years old. It applied only two fire behaviour models, despite these fuels only applying to one-third of WA. Additionally, it did not account for other fuel values such as fuel load distribution, condition and continuity, which can significantly influence fire behaviour. The change to the AFDRS was informed by one of Australia's largest social research projects which found that most Australians did not understand the old system and would prefer a simpler, action-oriented set of FDR.

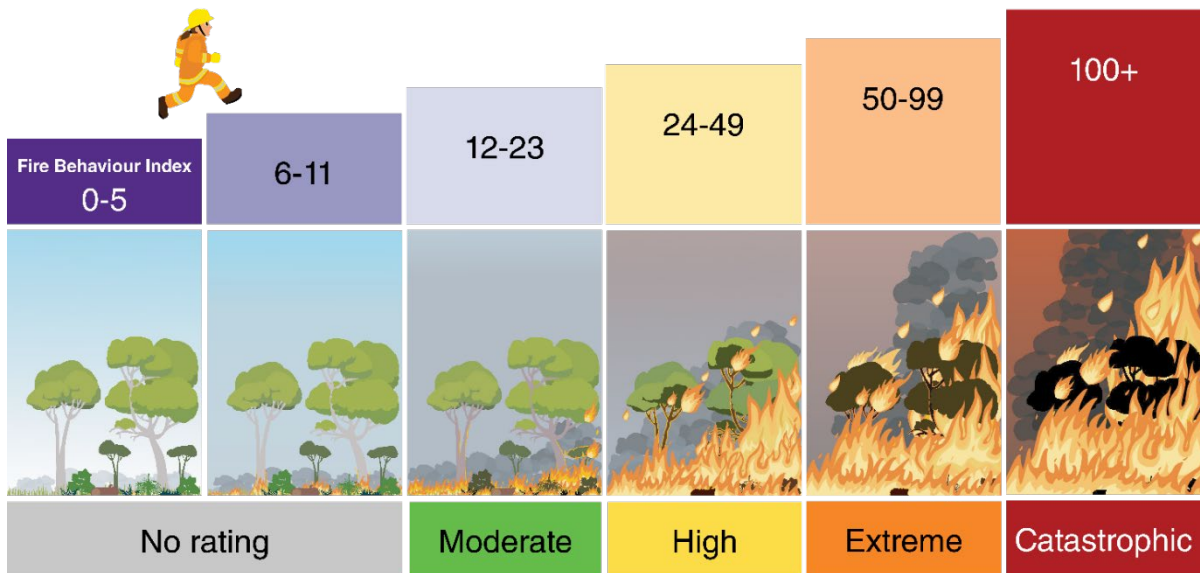
What are the benefits of the AFDRS?

Previously, there were inconsistencies in how jurisdictions determined and communicated FDR. By implementing a national system, wherever people are in Australia they will see and access consistent fire danger advice, maximising their ability to appropriately respond to conditions. The AFDRS considers 22 different fuel types and applies eight of the most contemporary fire behaviour models across the country. This sees us move to a Fire Behaviour Index (FBI) that provides a much more accurate scale of potential fire behaviour based on weather conditions and the applicable model. This enables emergency services to be better prepared, make improved decisions and provide better advice to the community.

Its design is simpler, with four levels and clear messages to encourage people to take action. It also introduces 'No Rating' (white bar under Moderate) for days when conditions present minimal fire risk. This does not mean that fires cannot start, but that they are not expected to act in a dangerous or life-threatening way. The new rating names and key messages are:

- **Moderate:** Plan and prepare.
- **High:** Be ready to act.
- **Extreme:** Take action now to protect your life and property.
- **Catastrophic:** For your survival, leave bushfire risk areas.





Infographic 1: The Fire Behaviour Index (FBI) and how it aligns with the new Fire Danger Ratings. The higher the FBI, the more dangerous the fire conditions.

Total Fire Bans

A Total Fire Ban (TFB) is imposed as a risk-based prevention measure to restrict activities, reduce the likelihood of ignition in vegetation and increase awareness in the wider community on the day the ban is declared. The primary justification for recommending the declaration of a TFB was previously based on the forecast Fire Danger Index (FDI) and resultant FDR. The State of WA was also divided into three TFB FDI indicator zones (Zone 1: FDI 50+, Zone 2: FDI 60+ and Zone 3: FDI 75+).

As the AFDRS provides an FBI, there will not be a requirement for TFBs to be declared at a different rating across separate zones state-wide. Under the new system, the transition between the “High” and “Extreme” rating (50 FBI) is associated with erratic fire behaviour and an increased likelihood of community loss and significant consequences. It has therefore been nationally recognised that the “Extreme” FDR is the most appropriate threshold for a TFB declaration.

50 FBI across >10% Fire Weather District – Total Fire Ban

School Closures

The trigger for school closures in Western Australia under the old system was a ‘Catastrophic’ FDR. Under the AFDRS, the proposed trigger sees WA move away from a rating name to a number on the new FBI. An FBI of 75 has been recommended as the most appropriate threshold to trigger pre-emptive school closures.

The current pre-emptive school closure process only applies to active Department of Education (DoE) school sites on the DoE Bushfire Zone Register with a bushfire risk rating of ‘Very High or above’. During a bushfire emergency, the pre-emptive closure process is conducted in close consultation with DFES or the Incident Controller (IC) and Incident Management Team (IMT) controlling the incident at the time. The decision however is ultimately made by the DoE.

Public, private and independent schools, worksites and community kindergartens that do not fall under the DoE Register should enact their bushfire plan in line with their relevant policy.

Communication with other jurisdictions has indicated that New South Wales, Victoria, the Australian Capital Territory (ACT) and Tasmania have adopted, or are in the process of adopting, the revised national bushfire threshold trigger of FBI 75. The Bureau of Meteorology has indicated that they will establish a procedure for notifying the relevant area when an FBI of 75 or greater is forecast within a Fire Weather District.



Fire Weather Districts

In addition to new FDR, WA also has new Fire Weather Districts. Fire Weather Districts are used to communicate FDR and fire weather warnings to communities. Following extensive consultation across the State and detailed analysis work, WA has moved from 37 to 47 Fire Weather Districts. To see if you are located in a revised Fire Weather District, visit the [Emergency WA website](#). You can also access this information from the [Bureau of Meteorology website](#).

Roadside Signage

Roadside FDR signs, which have been a long-standing public-facing tool to communicate daily FDR, will be replaced. DFES has secured funding from the Commonwealth Government to coordinate the procurement of replacement signage for local governments. DFES is aiming for signage to be allocated by late 2022. In the interim, DFES has asked local governments to commence covering or removing analogue signs, covering digital signs and utilising other methods of communicating fire danger.

Emergency WA

Western Australia's official source of emergency information, [Emergency WA](#), has been updated to reflect the new AFDRS rating levels. When you visit Emergency WA you'll now see the new AFDRS icon with four ratings rather than six. Upon clicking on this icon, you will see a map of all Western Australian Fire Weather Districts, their associated FDR and information about what action to take to stay safe. When Extreme or Catastrophic FDR are forecast, a notice will appear within the Warnings section on the home page to raise awareness of heightened fire danger. Please note if you are not able to view the changes, you may need to clear your browser cache.

Community education campaign

Over the next few months, you'll see and hear messages about the changes to the FDR on TV, online, in newspapers and on the radio. Visit the [campaign landing page](#) on the My Bushfire Plan website to find out more about the new FDR, including an interactive slider explaining the ratings and their supporting actions.

You can also find a suite of campaign resources on the [DFES website](#) which have been developed to help promote awareness and educate the community on the changes to the FDR System. They include video and digital assets as well as fact sheets and flyers which you can download, print and share with others. Translated materials are also available and will soon include videos. Bookmark the site to revisit the page as we continue to upload more resources.

Classroom resources

DFES has classroom bushfire resources for teachers that can be accessed through the [DFES website](#) for children from Pre-Primary to Year 3, and for Years 4 and up. These resources aim to raise students' awareness of bushfire risk and develop a range of skills to help them prevent, prepare for and respond to bushfires. Disaster risk reduction and resilience education experts recommend that children and young people should be involved in school and family bushfire planning¹. Preparedness activities should be aimed at children's stage of development.

¹ Clinical psychologist Michelle Roberts (Head, ANU Australian Child & Adolescent Trauma, Loss & Grief Network) and researcher Dr Briony Towers (Co-Director of Learning Ecologies for Action on DRR and Resilience) provide information on why we should include children in bushfire planning: bushfireresilience.org.au/resource-hub/



Bushfire Patrol includes DFES' bushfire resources for teachers and students who live in the South West Land Division of Western Australia (from Geraldton, down to the Lower South West and across to Esperance). North West Bushfire Patrol includes DFES' bushfire resources for teachers and students who live in the Kimberley and Pilbara.

Want to know more or stay in touch?

To learn more about the new FDR, visit dfes.wa.gov.au/prepare. For a more detailed look into the AFDRS, you can complete the 'Introduction to the AFDRS' training package accessible from the [AFAC Learning Management System](#).

For information about the AFDRS WA implementation project, email AFDRS@dfes.wa.gov.au or [subscribe to our AFDRS Newsletter](#).

