



RFS

Fire Season Outlook

2023-2024



Contents

About this Statement	2
Letter to the Minister	3
Conditions leading into the 2023-24 Fire Season	5
Forest Fuel Loads	6
Grassland and Crop Fuel Loads	9
Fuel State	10
Bush Fire Risk through Spring	11
Forecast Weather Conditions	14
Climate Drivers.....	14
Temperature and Rainfall Outlooks.....	15
NSW Dam and Water Storage Levels	16
Predicted Fire Season Outlook.....	17
Managing Bush Fire Risk.....	20
Australian Fire Danger Rating System.....	20
Bush Fire Risk Management Plans and Outcomes	21
Hazard Reduction Works.....	22
Grazing Trials.....	24
Cultural Fire Management.....	26
RFS Interface Program	26
Mitigation Crew Program	28
Addressing Bush Fire Hazard Complaints	30
Bush Fire Co-ordinating Committee.....	32
Operational Preparedness.....	33
Response to the NSW Bushfire Inquiry	34
Ignition Management.....	35
Aviation.....	35
Heavy Plant.....	37
Fire Trails	38
Agency Firefighting Capability	39
Engaging and Informing our Community	40
Community Engagement Effectiveness.....	41
Hazards Near Me NSW.....	42

About this Statement

The annual NSW Fire Season Outlook Statement has been prepared by the NSW Rural Fire Service (RFS).

The statement provides a summary of available information relating to the bush fire risk across NSW including weather and climatic conditions, agency information relating to firefighting capability and resources, risk management and mitigation works, and research relating to community preparedness.

The report provides a summary of this information, which will change as the bush and grass fire season advances.

The statement is an outcome of the NSW Government's independent inquiry into the 2019-20 bush fire season, which was led by former Chief Scientist and Engineer Professor Mary O'Kane AC and former NSW Police Deputy Commissioner Dave Owens APM.

Letter to the Minister

The Hon. Jihad Dib MP
Minister for Customer Services and Digital Government
Minister for Emergency Services
Minister for Youth Justice
Parliament House
SYDNEY NSW 2000

Dear Minister

I am pleased to submit to you the NSW Fire Season Outlook Statement for 2023-24. The NSW Rural Fire Service (RFS) produces the Statement annually in response to recommendations 2, 30 and 8(e) of the NSW Bushfire Inquiry.

After the devastating bush fires of 2019-20, NSW has experienced two years of record-breaking rain, causing extensive flooding during a prolonged La Niña event and limiting bush fire activity over the past two summers.

With the shift towards drier and warmer conditions and the El Niño weather pattern declared on 19 September, however, we are now seeing a transition back to more traditional NSW bush fire risk and conditions across the coming summer months.

The risk this season is compounded by prolific vegetation growth in many areas across the state, particularly grass growth in western areas of NSW and new prolific shrub vegetation growing in areas impacted by the 2019-20 fires.

The prolonged wet weather has seriously limited the ability to complete hazard reduction activities, particularly controlled burning, further compounding the bush fire risk. In many areas it has been impossible to undertake this work and fire agencies and land managers are now focused on completing as much work as possible when conditions allow.

The RFS regularly monitors vegetation fuel loads across the state and models the regrowth of vegetation to form a scientifically based view of bush fire risk now and in the years ahead. This includes nearly 1,000 field observations.

In broad terms, there are three key risks for the 2023-24 bush fire season and in years ahead:

- Areas of western NSW – grass fuel loads have continued to accumulate over recent years in areas west of the Great Dividing Range. This includes grassland and farming country. As this fuel cures or dries out again, it will become more susceptible to fast moving grass fires. Grass fires pose a significant risk to the community, starting easily and spreading quickly, impacting people, properties and infrastructure, and have a significant impact on local economies.
- Areas that were not burnt during the 2019-20 bush fires – while 5.5 million hectares of land was burnt during Black Summer, large areas were untouched by fire, including around large population centres, such as the outskirts of Sydney. In these areas, bush fire fuels have continued to accumulate and wet weather has prevented hazard reduction activities.
- Areas that were burnt during the 2019-20 bush fires – in many areas where the tree canopy was burnt, this has allowed lower-level fuels to flourish and accumulate. These fuels are mainly shrubs and regrowing trees, which as they dry out, may burn quickly. These areas are likely to see a change to bush fire risk this season and over the next few years, as fires in these areas on very windy days could be fast and intense, like those in coastal heath. In some areas, it will be difficult to conduct hazard reduction due to fire thresholds and complex fuel arrangements.

It is important to note, however, that the fire risk is different from that in 2019-20. In the lead-up to that season, a long running and extreme drought had reduced fuel moisture across the state. The same conditions have not been experienced in the lead-up to this season.

Notwithstanding this, parts of the State have now returned to drought and drought affected conditions (Figure 1a).

For the 2023-24 fire season, therefore, there is an 'above normal' risk of grass fires throughout the majority of NSW, with many forested areas along the coastal strip also likely to see above normal activity. The image on the following page shows the outlook for the entire NSW fire season.

The RFS is continuing to work with its emergency management partners and land managers to validate and understand the change in bush fire fuels across the state and to take advantage of every possible opportunity to conduct hazard reduction burning in preparation for the fire season. Where necessary, hazard reduction other than burning can be carried out, such as through mechanical works close to properties in Asset Protection Zones.

The RFS will also continue to work with communities to educate people about the risk and the change in conditions. It is important that fire agencies, land managers and the community focus on the need to take all possible action to prepare for the return to grass and bush fire conditions this season and in the years ahead.

Rob Rogers AFSM
RFS Commissioner
Chair, NSW Bush Fire Co-ordinating Committee

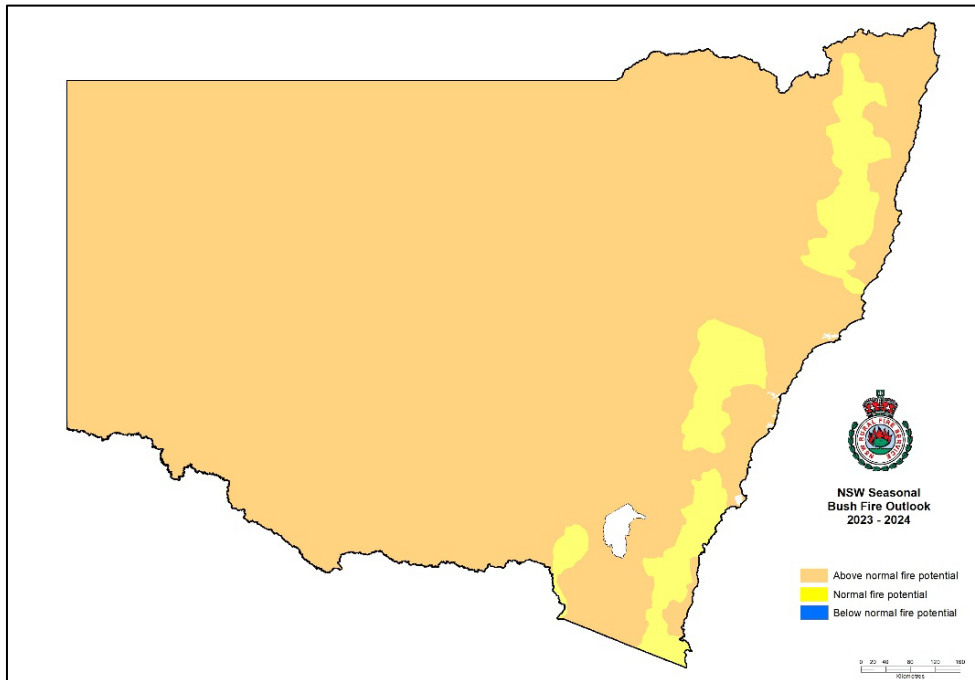


Figure 1 – NSW Seasonal Fire Season Outlook 2023-24

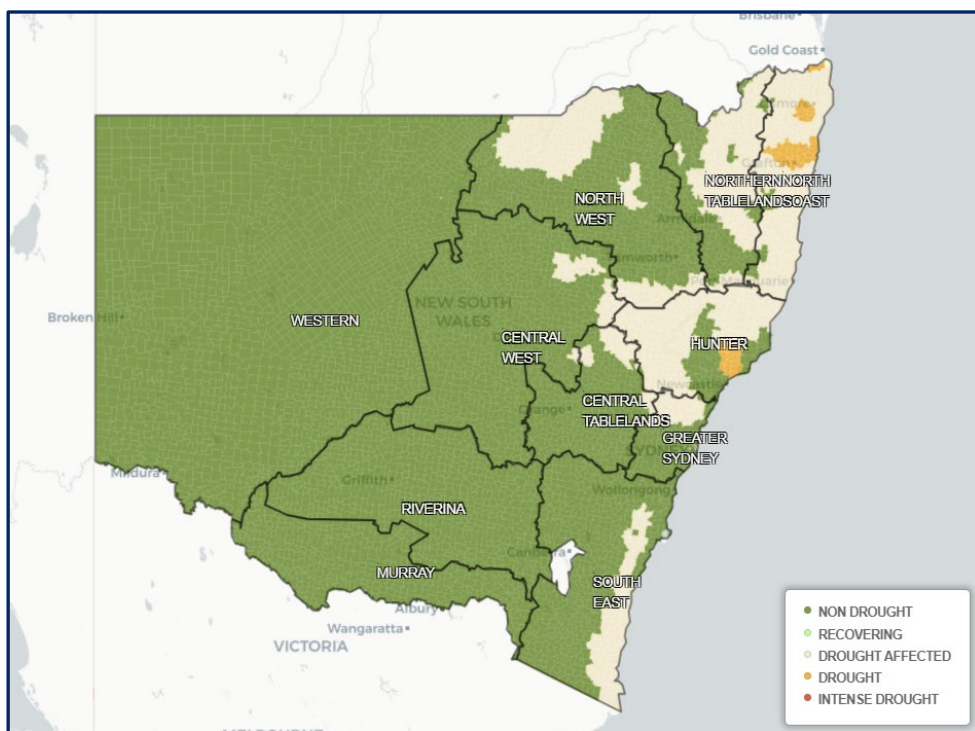


Figure 1a – NSW Drought Indicator – September 2023

Conditions leading into the 2023-24 Fire Season

Rainfall was below average across many parts of NSW from the end of the summer of 2022-23 (Figure 2), through autumn (Figure 3) and into winter (Figure 4). This has resulted in grass drying out (curing) in areas west of the ranges. Frequent and significant fire weather and operational activity occurred from October 2022 to March 2023, with 16 Total Fire Bans declared and 5,112 bush and grass fires.

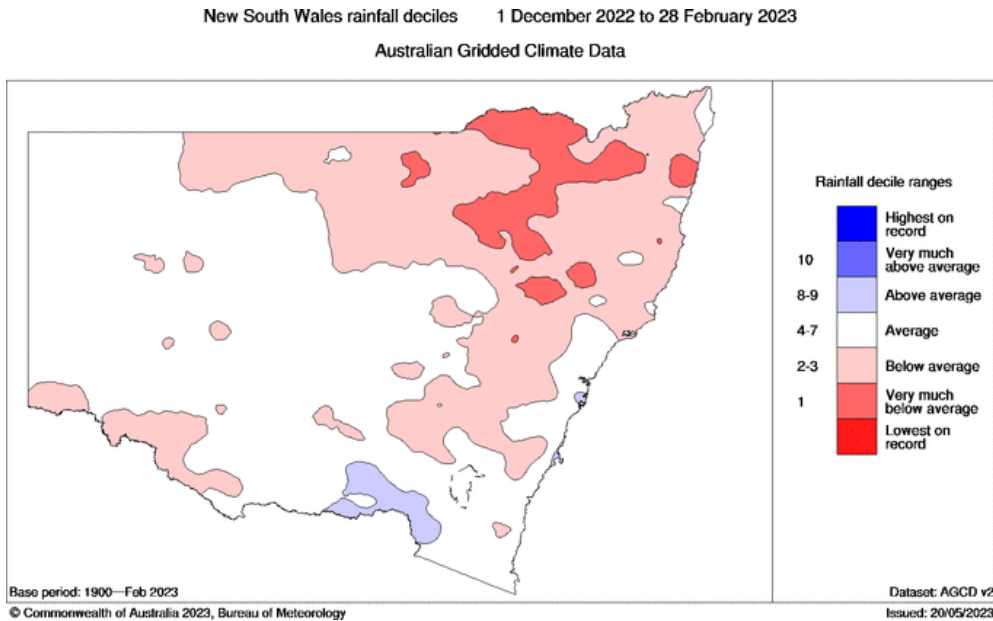


Figure 2 - Bureau of Meteorology rainfall observations 1 December 2021 - 28 February 2023

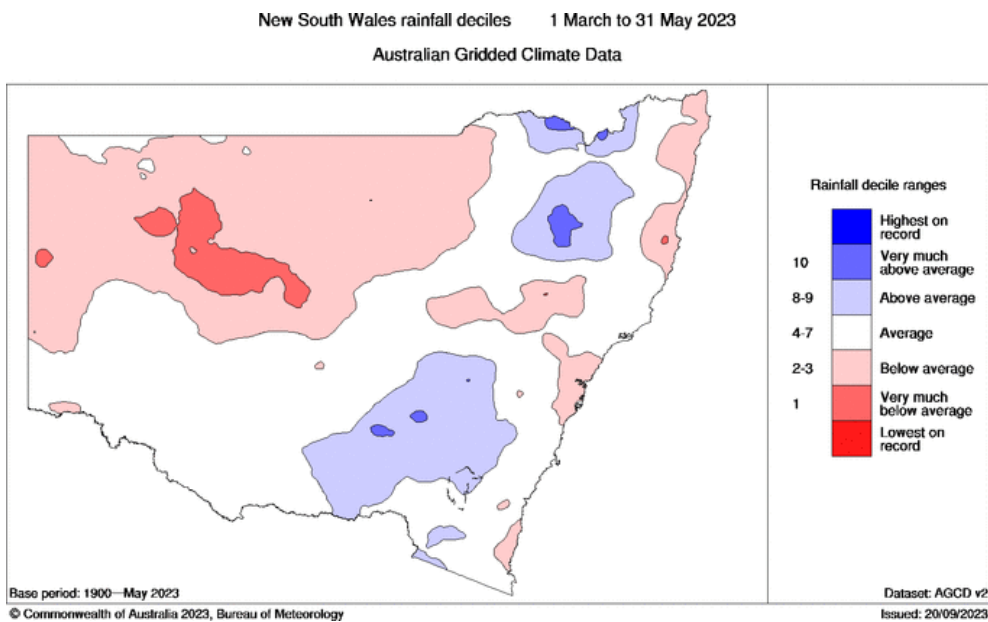


Figure 3 - NSW Rainfall Deciles 1 March - 31 May 2023 (source BoM)

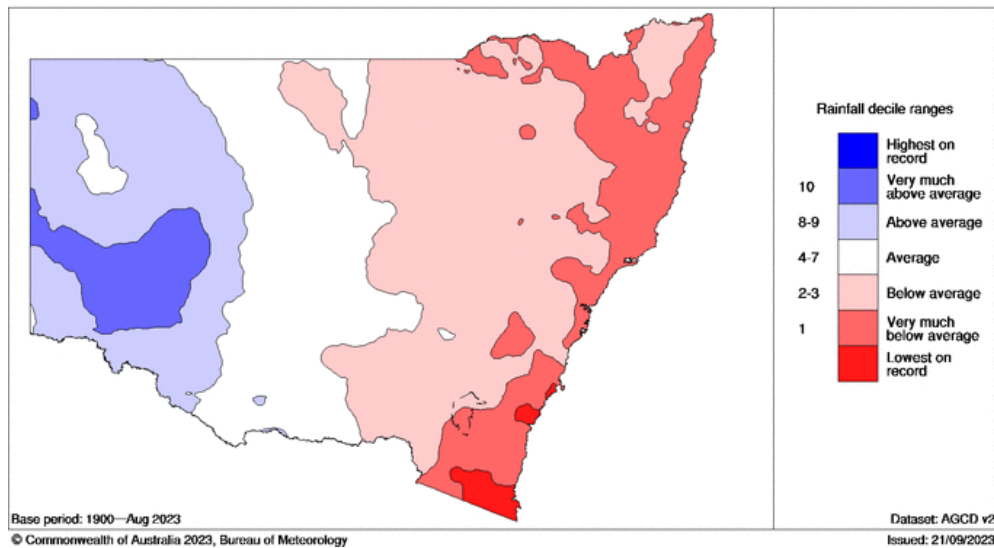


Figure 4 - NSW Rainfall Deciles 1 Jun - 31 August 2023 (source BoM)

Figures 2 to 4 show that rainfall leading into this year's fire season has been below average in large parts of the state and very much below average along the coast, ranges and north-east.

Forest Fuel Loads

Predicted forest fuel loads leading into the 2023-24 fire season are displayed in Figure 7. This fuel load mapping is derived from modelling using the time since the last fire and researched fuel re-accumulation rates. It uses the average re-accumulation rate of fuels post-fire. The map displays higher fuel loads in red and lower fuel loads in green.

While more than 5.5 million hectares were burnt in the 2019-20 fire season, large pockets of land remain unburnt. This has resulted in 'Very High' fuel loads in some parts of the coast and ranges, particularly around Sydney, Wollongong, the Hunter and the Australian Capital Territory (ACT).



Figure 5 – Typical heavy fuel accumulation around Sydney

Areas burnt during Black Summer have become difficult to discern as fuel loads burnt in that season have re-accumulated. Recent work by the RFS indicates that while the overall fuel load has not varied significantly from might be expected, the structure or arrangement of this fuel has changed, particularly in areas affected by high severity fire.



Figure 6 – Increased elevated fuel loads and delayed surface fuel loads post the Black Summer fires

In the short-term, it appears these areas of forest will temporarily present a hazard similar to shrub-land (heathland). The vegetation hazard profile in these areas is likely to be able to support short and intense fire runs but would generally provide less potential for ignitions to occur and be sustained. This vegetation profile also is less likely to support larger, protracted fires compared with areas of long-unburnt forest and with all other things being equal.

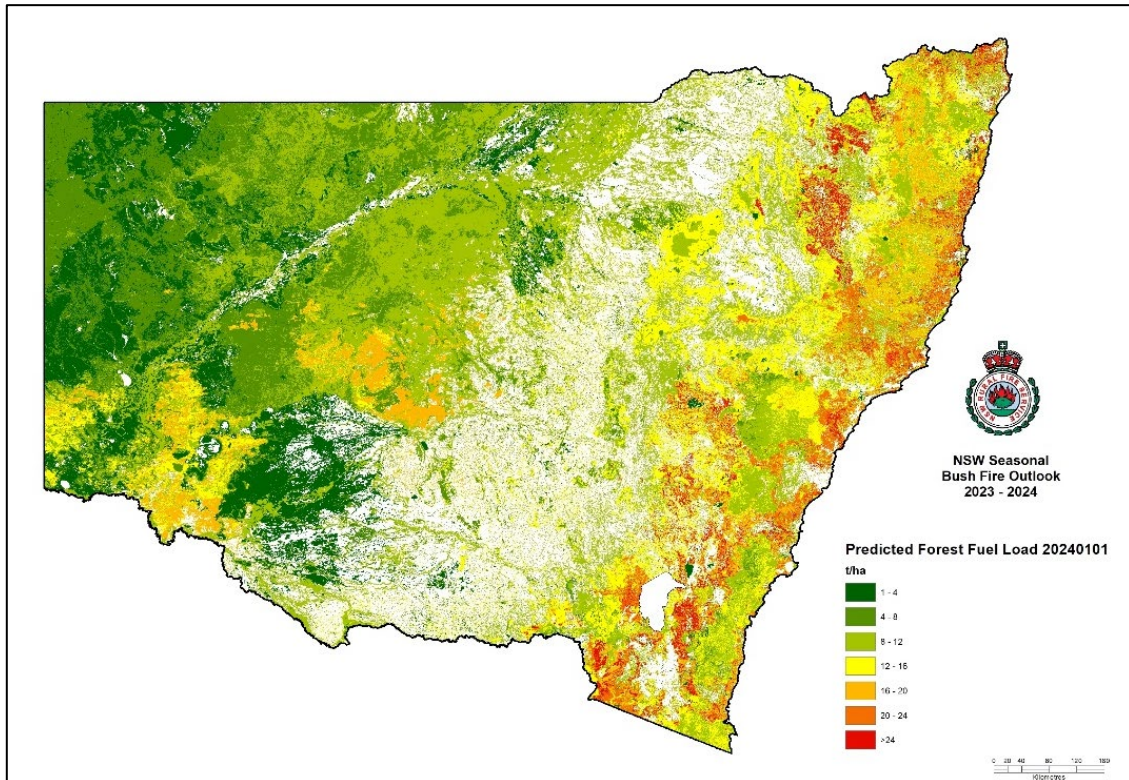


Figure 7 - Predicted Forest and Woodland Fuel loads for 1 January 2024

Fuel loads depicted in Figure 6 will be dependent on the severity of preceding fires and growing conditions. Fuels may be locally higher or lower than predicted in this statewide analysis. This is particularly true of mallee, grassland and cropland fuel loads.

These fuels are considered current at the time of map preparation, however, loads may fluctuate significantly depending on growing conditions, stocking and cropping cycles.

Grassland and Crop Fuel Loads

Grassland fuel load varies from season to season depending on growing conditions.

Winter and spring rainfall, temperature and other factors such as drought, stocking and sowing rates are key factors in determining the hazard associated with grass and crop loads across the state. Leading into the 2023-24 fire season, very high grass fuel loads are reported across some parts of NSW (Figure 8) and this is expected to continue as warmer conditions occur in spring.

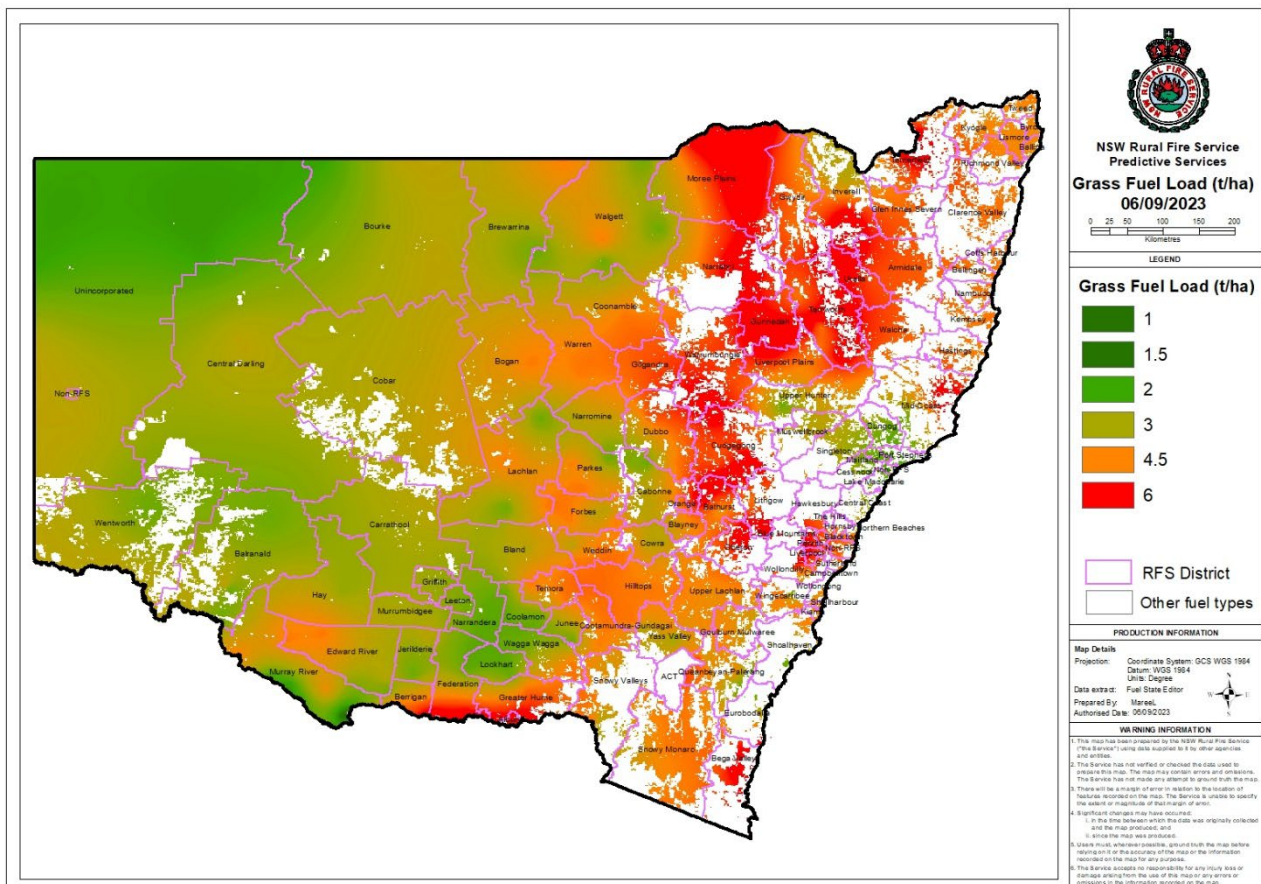


Figure 8 – Grass Fuel Load as at 6 September 2023



Figure 9 – Grass fuel loads from NSW (source RFS)

According to the Australian Crop Report for NSW, the winter crop production was six per cent below the 10 year average, however, spring crop prospects are reliant on rainfall. The dry conditions associated with an El Niño and a positive Indian Ocean Dipole present a significant possibility of lower than average spring crop yields. Prolific grass fuel loads are likely to persist, although increased grazing associated with restocking is likely to assist in reducing grass levels.

Fuel State

Fuel state - or how dry fuels are leading into a fire season - is a particularly important indicator of the level of early fire season activity and the difficulty in suppressing fires. Drier fuels ignite more easily and in times of prolonged drought, very dry soil and low fuel moisture levels make suppressing fires significantly more difficult

Fuel state leading into a season is often inferred through the Keetch-Byram Drought Index (KBDI) anomaly map. This map compares current soil moisture conditions to the (30 year) average for the same time of year to highlight areas that may be significantly wetter or drier than usual.

Figure 10 indicates that soils east of the divide and across the central north of NSW are drier than normal for this time of year. Elsewhere, conditions appear close to average, apart from slightly wetter than average conditions in the far south-west of the state. This assessment is also reflected in the root-zone (0-100cm) soil conditions (Figure 11).

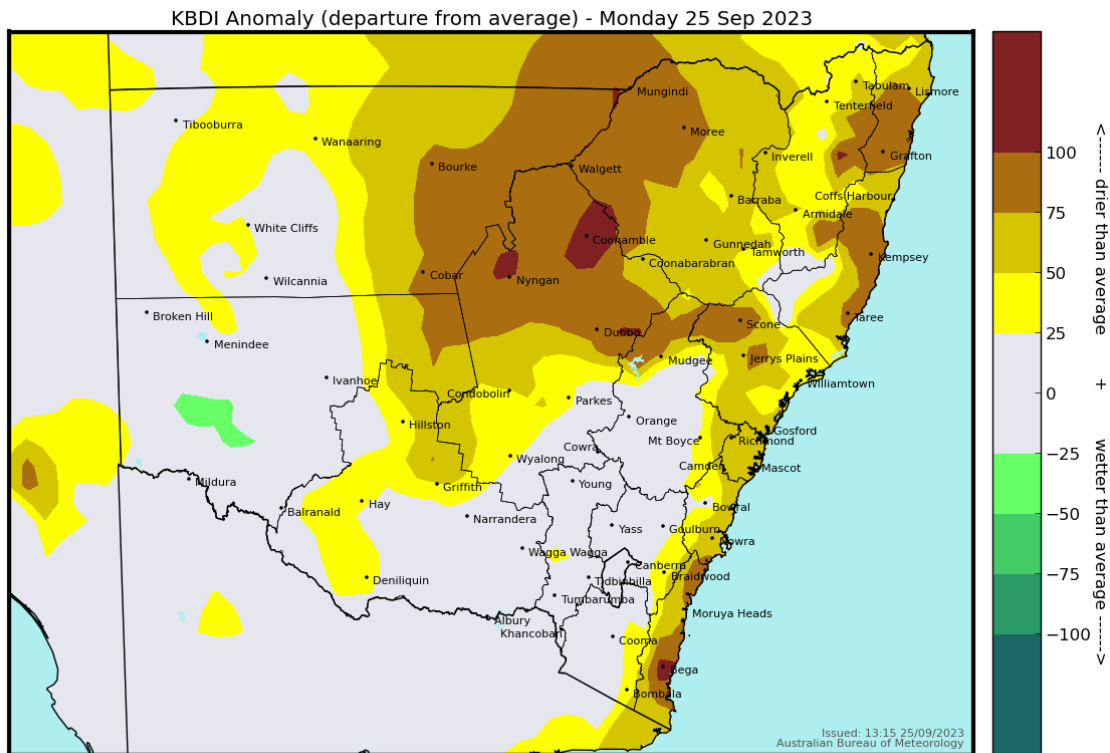


Figure 10 – KBDI Anomaly map as at 25 September 2023 (Source: BoM)

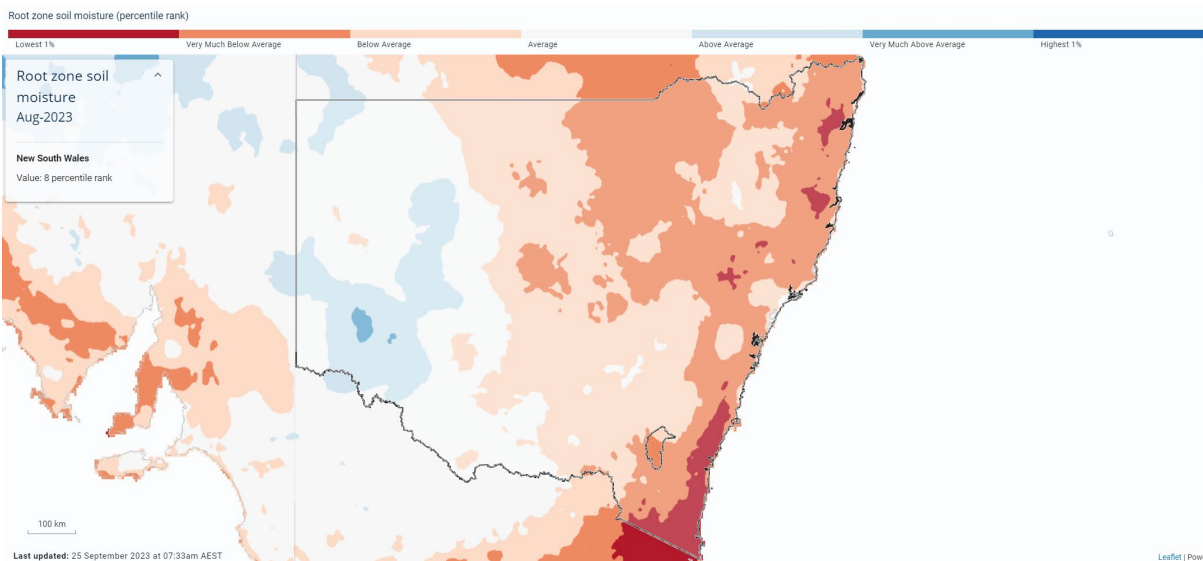


Figure 11 – Root zone soil moisture as at 25 September 2023 (Source: BoM)

Bush Fire Risk through Spring

The RFS works with members of the Australasian Fire and Emergency Services Authorities Council (AFAC) to produce quarterly fire season outlook statements. The September to November outlook is shown in Figure 12.

The above normal fire potential reflects the warmer and drier conditions and outlook, as well as high grass fuel loads through central and northern parts of the State, in addition to the potential for frost curing of these grasses to occur.

The September to November Spring Outlook for NSW assesses that elsewhere these conditions will result in relatively normal fire potential. Areas of NSW that have been depicted as normal potential include areas that were burnt during the 2019-20 fire season. Fuel loads are generally lower and still recovering in these areas. The RFS is closely monitoring the re-accumulation of fuels in these areas.

Traditionally, the northern areas of the state are the first to start their Bush Fire Danger Period (BFDP). While the statutory BFDP starts on 01 October 2023 for most Local Government Areas (LGA), due to climatic conditions and to manage ignitions in areas conducive to fire activity, six LGAs in northern NSW have a permanent variation in place to start their BFDP on 01 August.

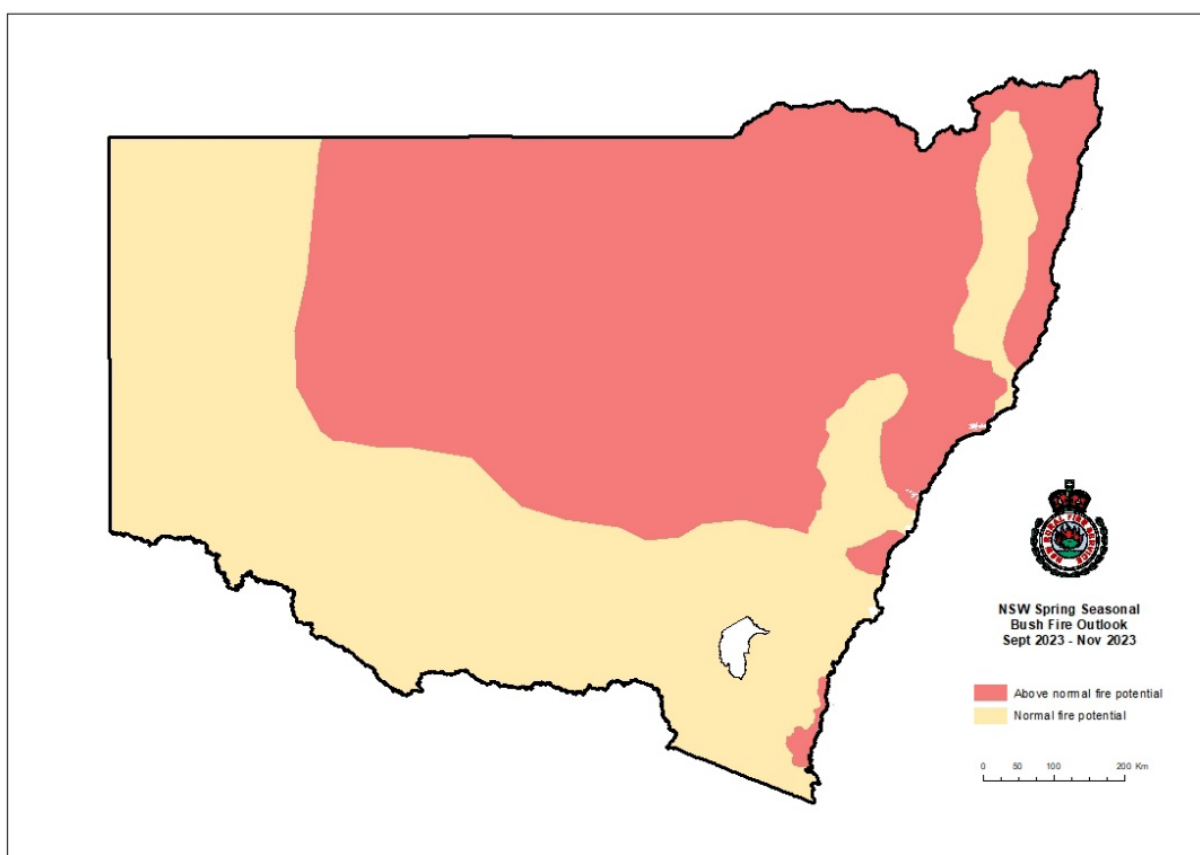
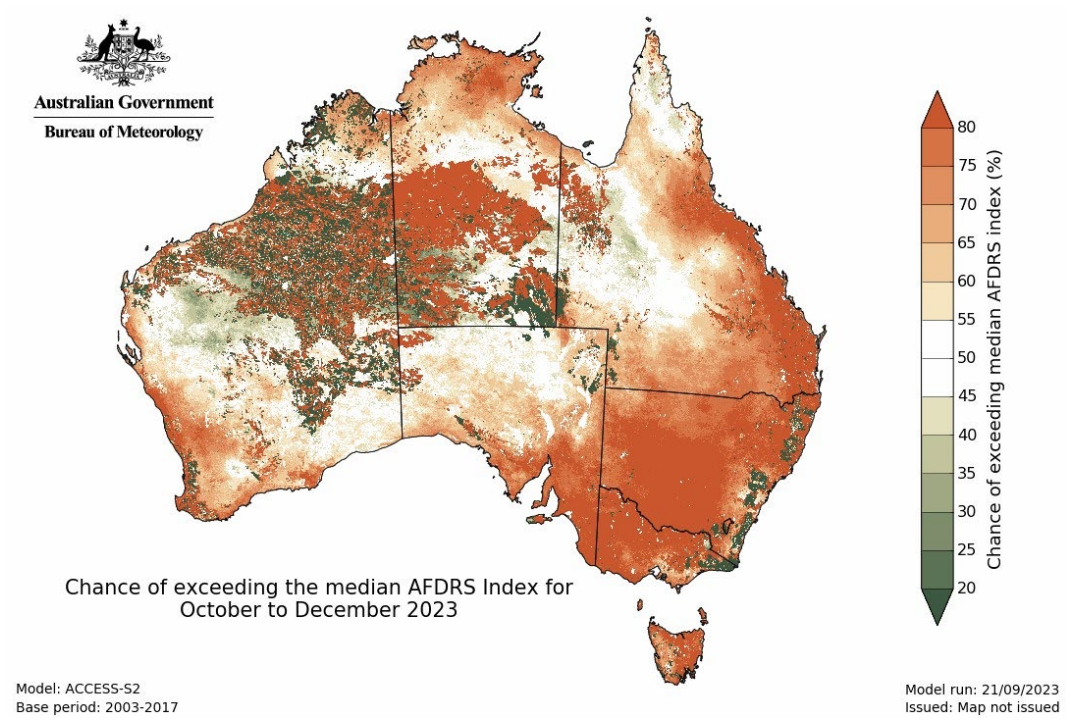


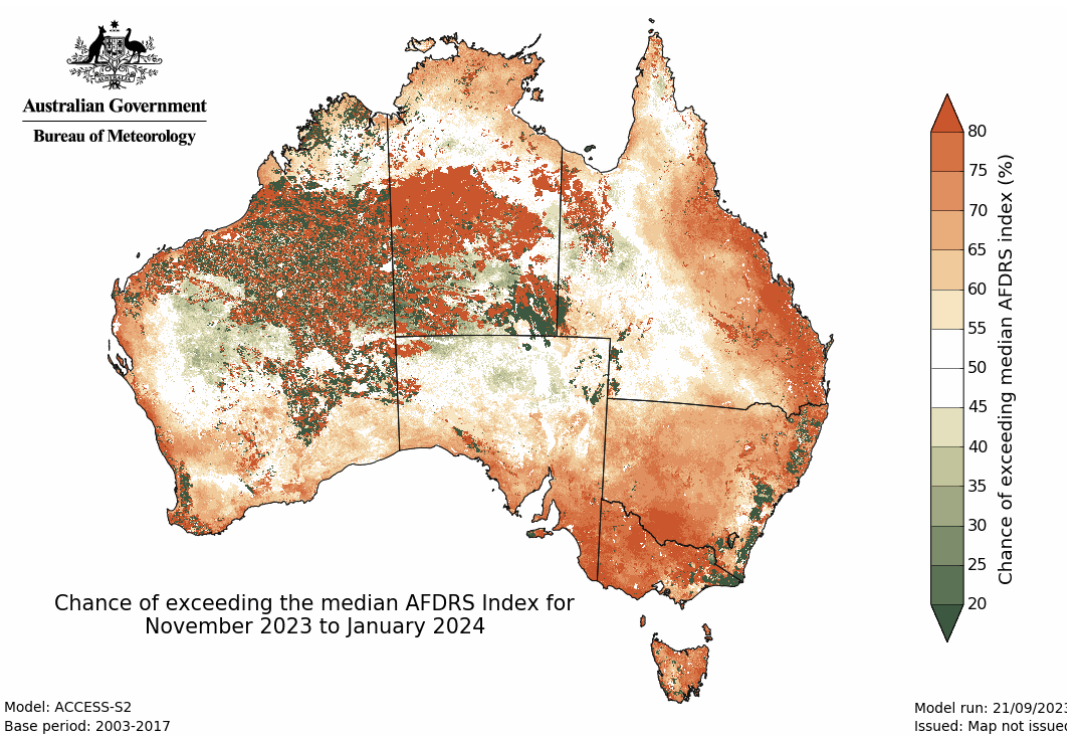
Figure 12 –Seasonal outlook (September to November 2023) as at 2 August 2023

As a result of the introduction of the Australian Fire Danger Rating System, the Bureau of Meteorology (BoM) has developed new climate outlook products for fire danger. Figures 13 and 14 show large areas of the state are likely to see higher Fire Danger (Fire Behaviour Index) in the October to December and November to January periods.

These maps take into account fire load and fire history. The areas affected by the 2019-20 fires are shown to have reduced chance of exceeding average fire danger primarily as a result of the recovering fuel loads.



**Figure 13– Australian Fire Danger Rating System Index for October to December, as at 21 September 2023
(Source: BoM)**



**Figure 14 – Australian Fire Danger Rating System Index for November to January, as at 21 September 2023
(Source: BoM)**

Forecast Weather Conditions

NSW fire agencies work closely with the Bureau of Meteorology (BoM) to monitor weather impacts and understand the medium and longer term weather forecasts for fire operations and planning.

Climate Drivers

The BoM releases fortnightly updates to Australian climate drivers. In a 19 September 2023 update, the BoM declared a positive Indian Ocean Dipole (IOD) and El Niño system were under way with the IOD likely to persist to the end of spring and the El Niño likely to be sustained through summer.

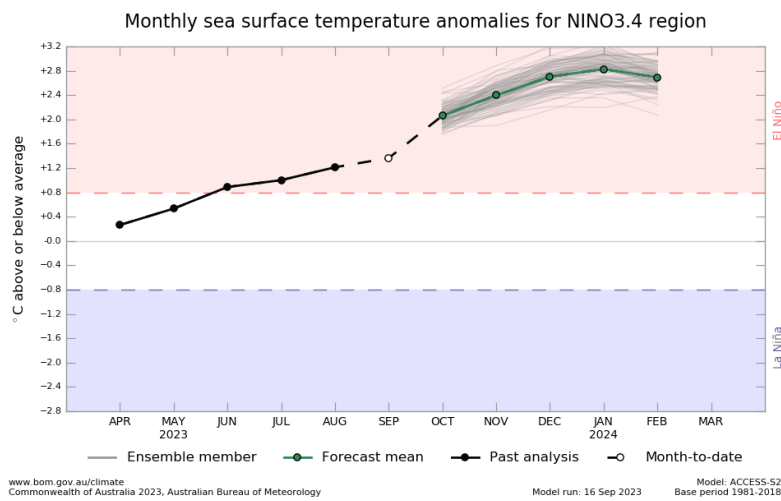


Figure 15 – Indian Ocean Dipole Forecast issued 19 September 2023

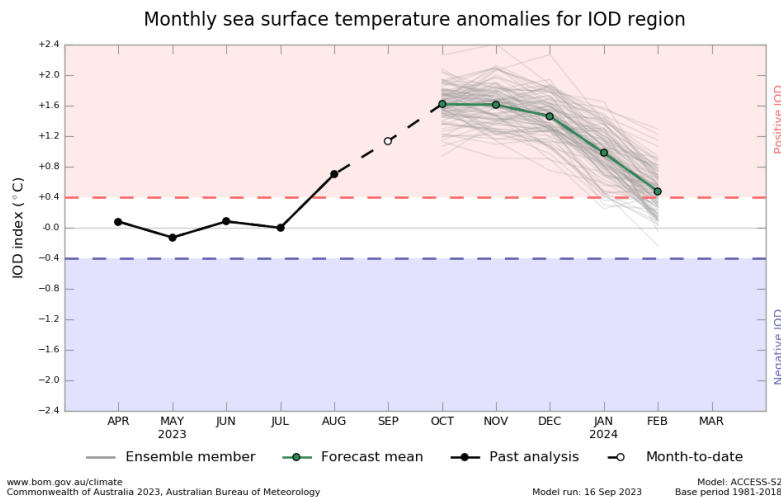


Figure 16 – ENSO outlook forecast issued 19 September 2023

El Niño typically suppresses rainfall in eastern Australia during the spring months. When a positive IOD is combined with El Niño, the drying effect is typically stronger and more widespread across Australia.

The declaration of these events, and their concurrence over spring, reinforces the Bureau's long-range rainfall and temperature forecasts, which continue to predict warmer and drier conditions for much of Australia. The confirmation of an established El Niño increases the likelihood that the event will be sustained through the summer period.

Temperature and Rainfall Outlooks

Current rainfall and temperature outlooks issued by the BoM for October 2023 (Figure 17) indicate conditions are likely to be drier than average across the majority of NSW, with daytime temperatures very likely to be above normal and warmer than average nights favoured in coastal and central-northern areas.

Outlooks for October to December 2023 (Figure 18) show a moderate to strong signal for drier than average conditions (<20-35% chance of exceeding median rainfall) across the majority of NSW west of the Dividing Range. There continues to be a strong likelihood of warmer than average days and nights (>80% chance of exceeding median maximum and minimum temperatures). Areas east of the Divide and south of Sydney have roughly equal chances of wetter or drier than usual conditions.

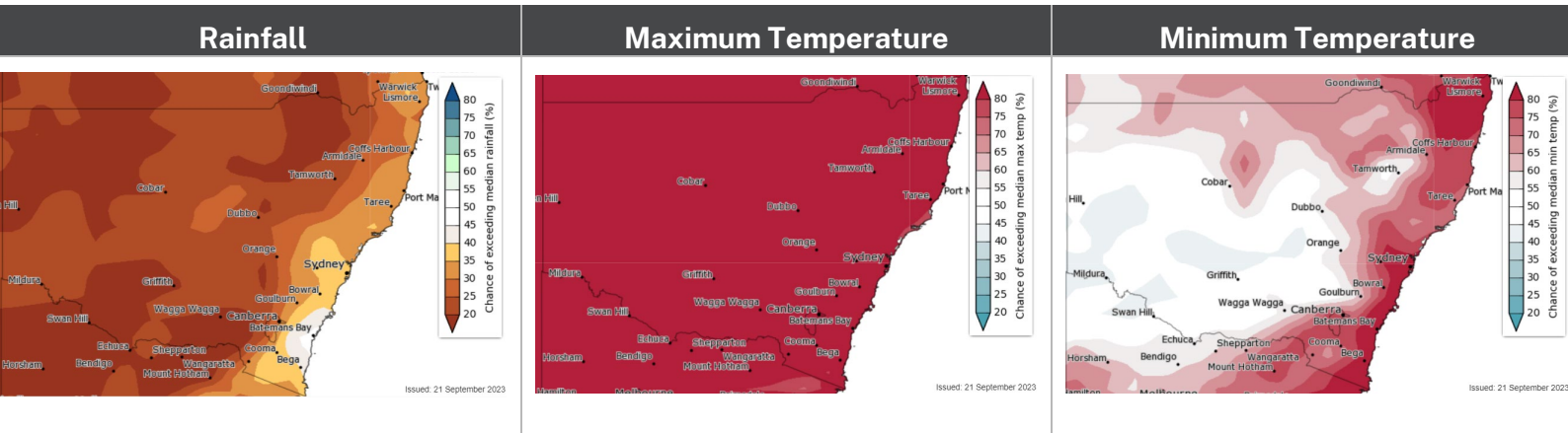


Figure 17 – BoM Temperature and Rainfall Outlook (October 2023) issued 21 September 2023

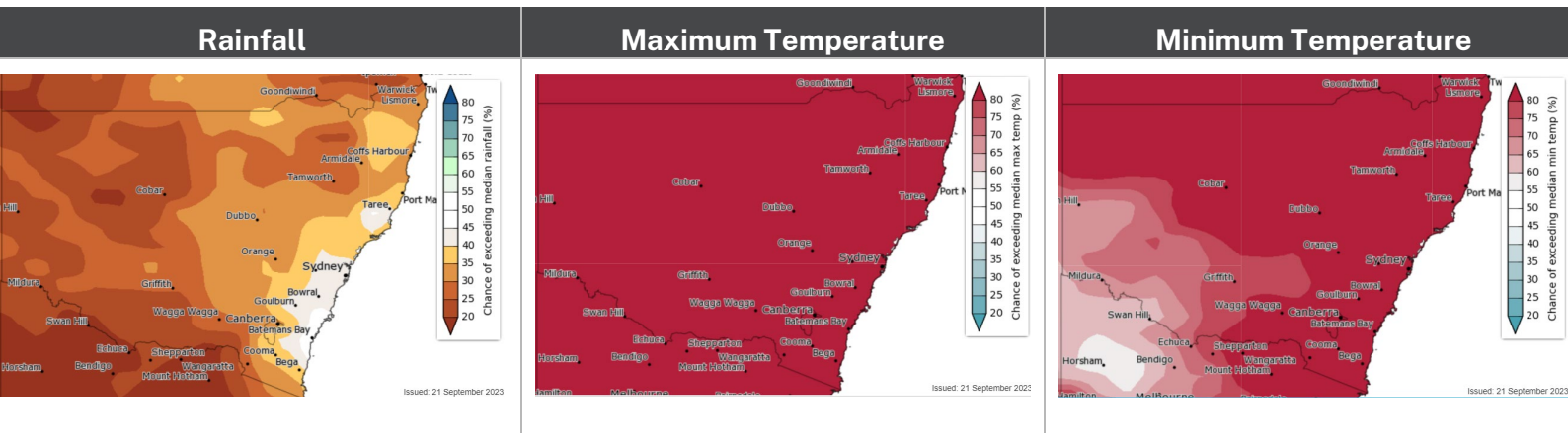


Figure 18 – BoM Temperature and Rainfall Outlook (October to December)

NSW Dam and Water Storage Levels

Leading into the 2023-24 fire season, NSW Water reports good water storage levels in regional dams (Figure 19). This is important in the context of the 2019-20 season, when special provisions for access to water for firefighting were required due to the drought.

With dam storage levels now at or near capacity for most dams around the state, no significant issues relating to water supply for firefighting operations are expected.

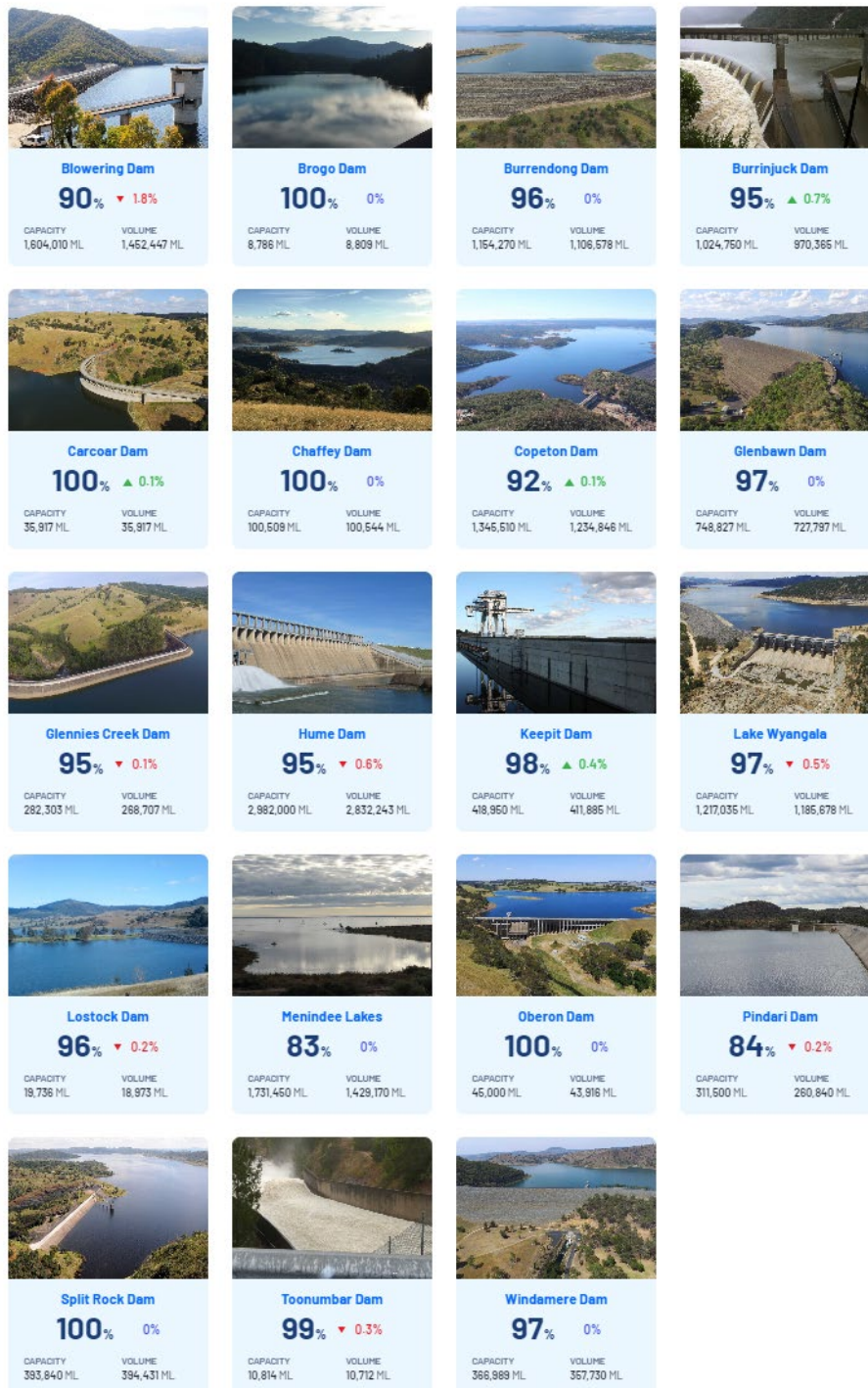


Figure 19 – Water NSW Regional Dam levels as at 01 August 2023

Predicted Fire Season Outlook

A number of factors are assessed in predicting the fire seasonal outlook. The accuracy of fire seasonal outlook maps is dependent on a range of factors. These include fuels and how susceptible these fuels are to fire, the likelihood of fire weather and ignitions occurring and how fire authorities prepare and respond to the risk.

The information is based on forecasts that are available at the time of production and it should be noted that there can be a large amount of uncertainty in climate outlook forecasts, particularly forecasts longer than three months in duration.

This year's outlook reflects a combination of areas that are reported as having high grass or forest fuel loads, drier and warmer than normal conditions and an outlook for below median rainfall. The areas identified as having above normal potential are areas of either high grass fuels or forests with heavy fuel loads that are forecast to be drier than normal. The hazard relates to an assessment that high grass fuel loads will persist through spring into summer and forests with heavy fuels are likely to enter summer unusually dry.

Higher grass fuel loads can cause higher fire danger ratings and higher intensity fires that are more difficult to put out. Continuous grass fuels in the landscape can also result in larger fires as the fires are more easily able to spread. High grass fuel loads are currently being reported in the Central Ranges, New England and parts of central NSW, with this area expected to broaden throughout spring and early summer.

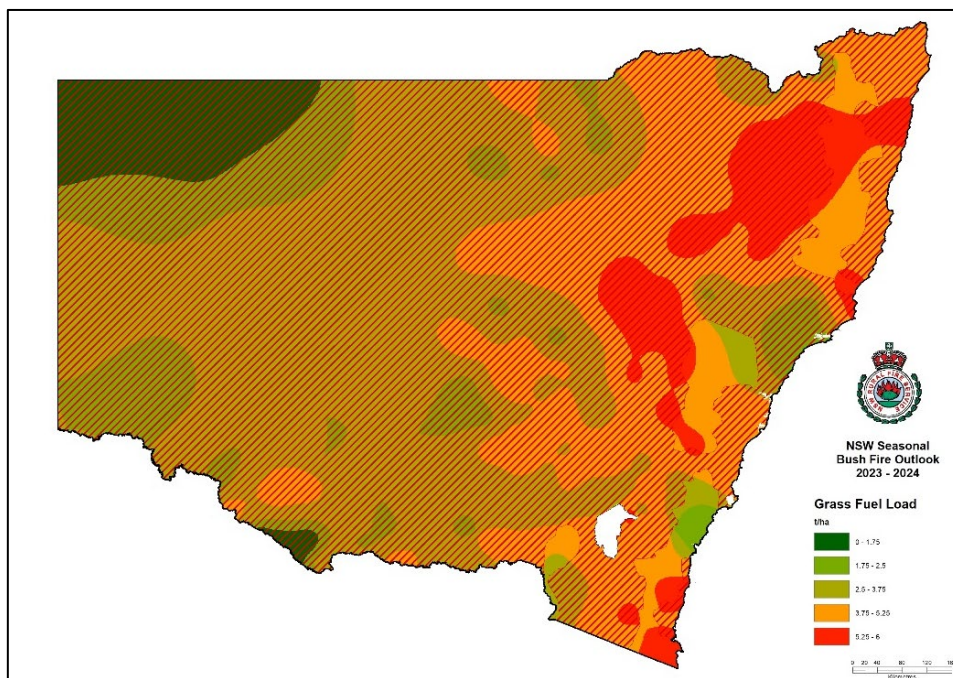


Figure 20 – Comparison of above normal fire season potential to grass fuel loads leading into the bush fire season

Figure 20 compares grass fuel loads leading into the 2023-24 fire season with the prediction for above normal fire potential. This map shows that the prediction for above normal fire

potential has been produced in response to grass fuel loads in locations that typically dry out (cure) in winter and summer.

Fires in dry forest burn more intensely and are difficult to suppress and put out. Figures 21 and 22 compare forest fuel loads and the chance of exceeding median rainfall throughout August to October 2023. These maps show the prediction for above normal fire season potential due to high forest fuel loads and forecast drier than normal conditions in these areas.

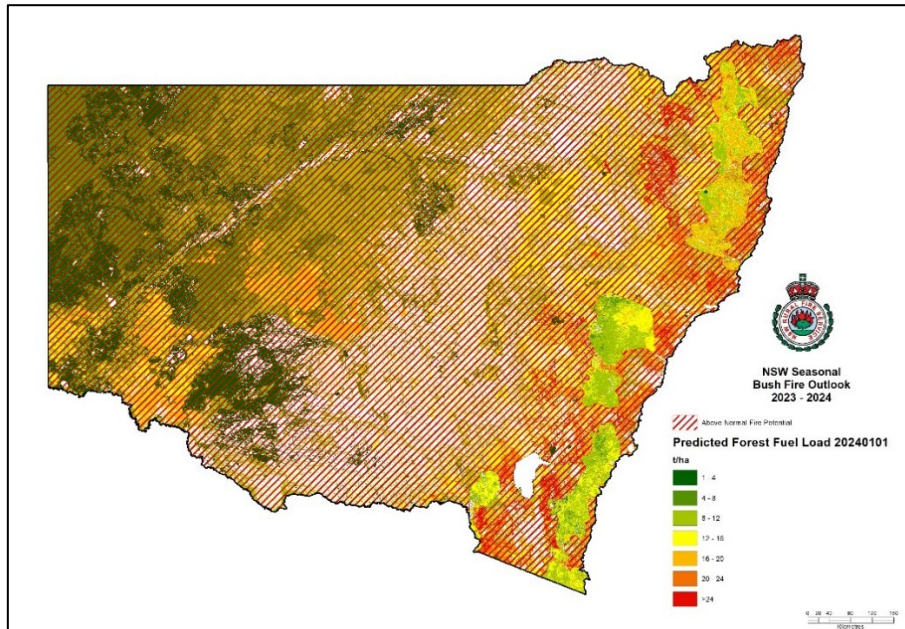


Figure 21 – Comparison of above normal fire season potential to predicted forest fuel loads

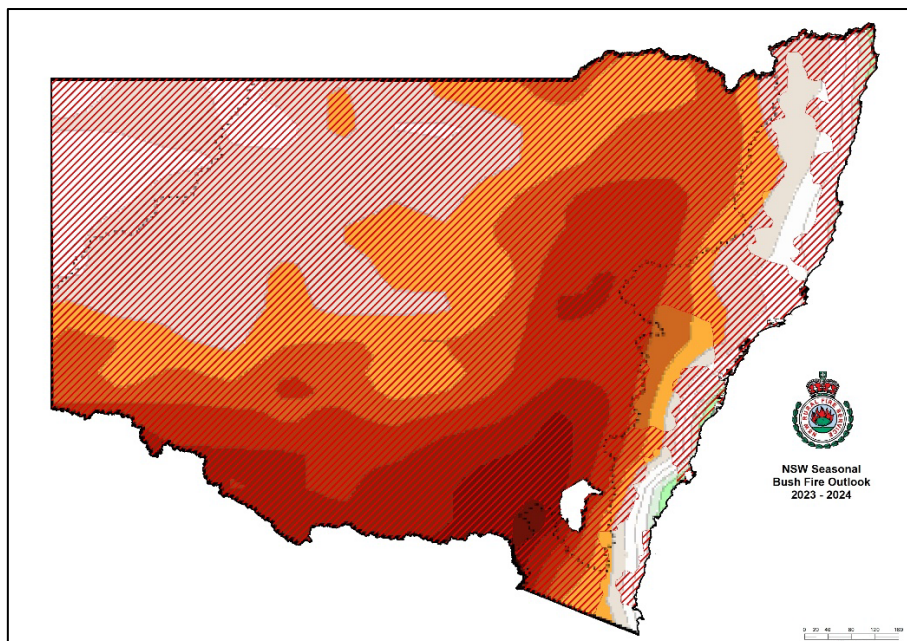


Figure 22 – Comparison of above normal fire season potential to chance of exceeding median rainfall August to October 2023

Figure 23 (chance of being unusually dry) highlights the potential for significantly dry conditions across parts of central and southern NSW.

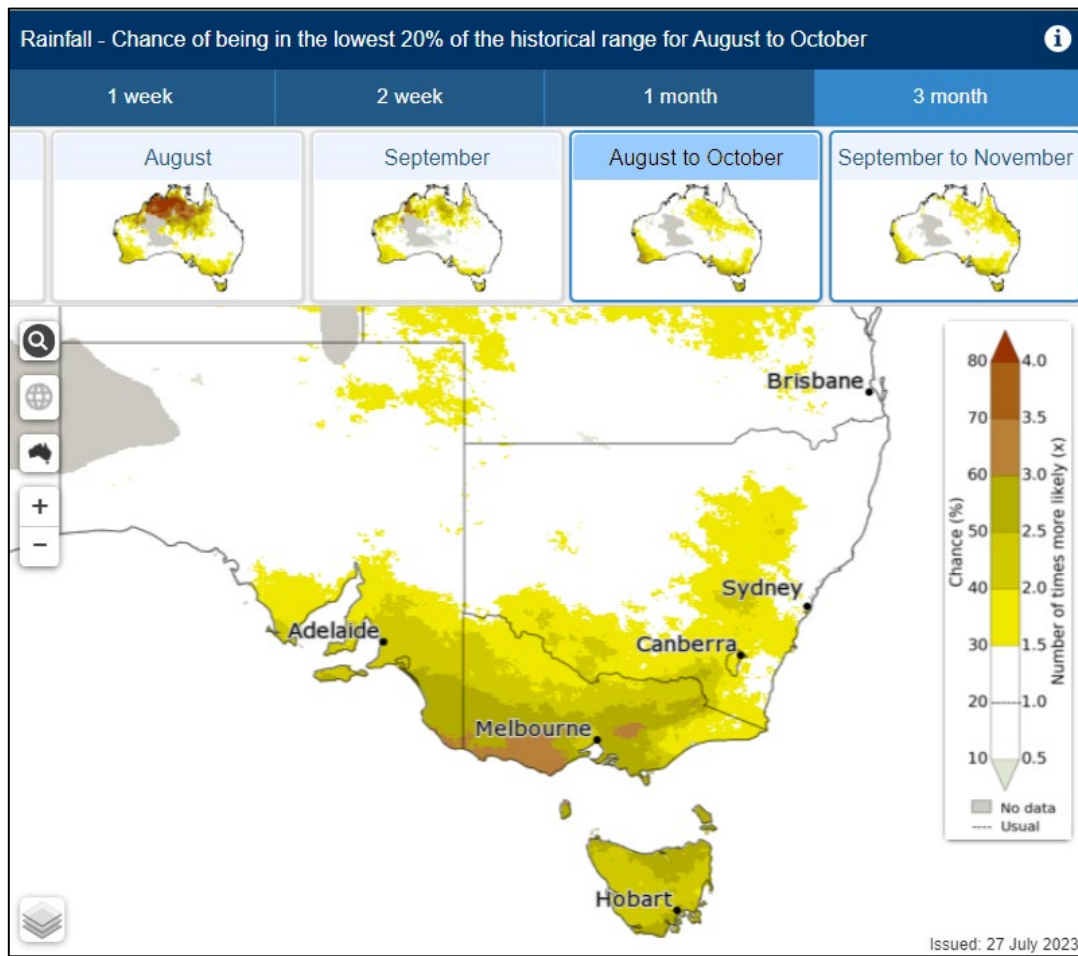


Figure 23 – Chance of rainfall being in the lowest 20% of the historical range for August to October as at 27 July 2023

Managing Bush Fire Risk

Australian Fire Danger Rating System

The new Australian Fire Danger Rating System (AFDRS) came into effect on 1 September 2022. NSW played a key leadership role in the development and implementation of the new system, alongside the Australasian Fire and Emergency Services Authorities Council (AFAC) and the Bureau of Meteorology.

The AFDRS is the most significant change to the way fire danger ratings are determined and communicated in more than 50 years, delivering a consistent national approach to fire danger ratings and messaging across the country.

To support the implementation of the new system, nearly 600 metal signs have been rolled out in communities across NSW. To coincide with the 2023-24 bush fire season 240 - or about a third - of existing signs will be replaced or retrofitted with electronic signage. These signs are controlled remotely, ensuring they display the correct and current fire danger rating and clear calls to action.

An RFS review of the AFDRS using case studies from the 2022-23 fire season found the system accurately predicted elevated fire danger conditions associated with the most dangerous fire activity that occurred during the season. In these case studies, the AFDRS was a significantly better predictor of fire danger than the previous system, especially under elevated fire weather conditions. The system supported operational planning, readiness and response at both statewide and incident-specific levels.

Training has been made available to fire agencies, land managers and key stakeholders to support the implementation of the AFDRS in NSW. Stream 1 Training has been completed by 2,640 RFS members and the more comprehensive Stream 2 training by 633 members. Comprehensive briefings were provided through tailored workshops and presentations. The RFS will continue to train and brief members on the AFDRS leading into the 2023-24 fire season.

NSW also led the development of a national public education campaign on fire danger ratings. Research conducted by the RFS following the 2022-23 campaign found:

- More than half (57 per cent) of those surveyed rated their awareness of the new fire danger rating as very good or excellent;
- 95 per cent agreed the new fire danger ratings gave clear actions to take;
- 93 per cent were confident in taking action to protect their family and home based on the new fire danger ratings; and
- 91 per cent agreed the new fire danger rating system was simpler.

While these were strong results, the new system needs to be reinforced heading into the 2023-24 fire season. The RFS will deliver the second year of the AFDRS public education campaign to build on these results.

Fire Danger	MODERATE	HIGH	EXTREME	CATASTROPHIC
Key Message	Plan and prepare.	Be ready to act.	Take action now to protect your life and property.	For your survival, leave bush fire risk areas.
Fire Behaviour	Most fires can be controlled.	Fires can be dangerous.	Fires will spread quickly and be extremely dangerous.	If a fire starts and takes hold, lives are likely to be lost.
Supporting Messages	<ul style="list-style-type: none"> › Stay up to date and be ready to act if there is a fire. 	<ul style="list-style-type: none"> › There's a heightened risk. Be alert for fires in your area. › Decide what you will do if a fire starts. › If a fire starts, your life and property may be at risk. The safest option is to avoid bush fire risk areas. 	<ul style="list-style-type: none"> › These are dangerous fire conditions. › Check your bush fire plan and that your property is fire ready. › If a fire starts, take immediate action. If you and your property are not prepared to the highest level, go to a safer location well before the fire impacts. › Reconsider travel through bush fire risk areas. 	<ul style="list-style-type: none"> › These are the most dangerous conditions for a fire. › Your life may depend on the decisions you make, even before there is a fire. › For your survival, do not be in bush fire risk areas. › Stay safe by going to a safer location early in the morning or the night before. › If a fire starts and takes hold, lives and properties are likely to be lost. › Homes cannot withstand fires in these conditions. You may not be able to leave and help may not be available.

Figure 24 – AFDRS community messaging

New or updated community engagement resources have also been developed to support the rollout in NSW.

Fire danger ratings are displayed on the RFS website and through the Hazards Near Me NSW smartphone application.

Bush Fire Risk Management Plans and Outcomes

A Bush Fire Risk Management Plan (BFRMP) is a strategic plan that identifies the risk to communities and the assets they value in the local area.

The aim of the BFRMP is to reduce the adverse impact of bush fires on life, property, the environment, infrastructure and economic, cultural, agricultural and community assets. Bush Fire Management Committees (BFMC) are required under Section 52 of the *Rural Fires Act 1997* to prepare a BFRMP.

The NSW Bushfire Inquiry recommended prioritising the implementation of a revised process for bush fire risk management planning incorporating new modelling and methods for quantifying risk.

Ahead of the 2023-24 fire season, the Bush Fire Co-ordinating Committee (BFCC) has endorsed *Policy 01/2023 Bush Fire Risk Management*. This policy provides a comprehensive framework to enable BFMCs to prepare the next generation of BFRMPs using the best available science and fire spread modelling to provide a quantitative assessment of bush fire risk to assets.

Next generation BFRMPs incorporate feedback and input from fire agencies, land managers, stakeholders and the community. The first two next generation BFRMPs have been approved by the Bush Fire Co-ordinating Committee. Another 46 of the 54 BFMCs are working on the development of their new plans.

The community is encouraged to provide input into the early development of the plans and subsequently to comment on the draft of the plan during the formal public exhibition phase. Access to information about BFMCs and the public exhibition process for BFRMPs is provided via the RFS website.

As part of the development of the next generation BFRMPs, BFMCs identify Focus Areas, which are groups of assets or areas in the landscape that the BFMC has identified as having significant or unacceptable risk and requiring targeted treatment strategies. Treatment strategies include fuel management, ignition prevention, community preparedness and response. Focus Area treatments will be the highest priority treatments for BFMCs and will guide the BFMC Annual Works Program over the five-year lifespan of the BFRMP.

Hazard Reduction Works

The ability of the RFS, its partner agencies and landholders to complete hazard reduction burning is highly weather dependent and the windows available for this work are limited.

As a result of the prolonged wet weather and severe flooding across large areas of NSW, only 28 per cent of the BFMCs' originally planned hazard reduction work for 2022/23 was able to be completed.

The abnormally wet conditions in western parts of the state also have created prolific grass growth, adding a further hazard dimension not common in many of these areas.

Despite these challenges, from 1 July 2022 to 30 June 2023, agencies still managed to treat 90,089 hectares, providing protection to 119,285 properties.

NSW fire agencies and land managers are continuing to seize every opportunity to undertake hazard reduction burning when conditions allow.

Table 1 – Hazard Reduction – Activities Summary by Activity Type for 2022-23 financial year as at 4 September 2023

Activity Type	Number of Activities	Areas Treated (ha)	Properties Protected
Burn	408	82,392.78	6,524
Mechanical	3,786	7,696.37	112,761
Total	4,194	90,089	119,285

Table 2 – Hazard reduction hectares summary by land tenure and risk management zone for 2022-23 financial year as at 28 July 2023

	Original Proposed Target 1 July 2022 – 30 June 2023					Completed Target 1 July 2022 – 30 June 2023				
	APZ	SFAZ	LMZ	Other	Total	APZ	SFAZ	LMZ	Other	Total
State Total	2,587	108,913	182,274	26,287	320,062	3,162.6	32,363.2	49,718.8	4,844.6	90,089
Commonwealth	-	-	33	-	33	0.00	39.43	61.82	0.00	101.3
DPIE (Crown Lands)	628	2,425	1,438	1,068	5,559	413.58	318.73	131.66	315.69	1,179.7
Forestry Corporation	46	8,571	6,302	5,050	19,969	58.43	3,396.04	2,551.31	9.77	6,015.5
Local Government	712	1,128	436	4,302	6,578	764.14	187.01	198.93	3,103.49	4,253.6
NPWS	51	78,873	153,863	11,778	244,566	1,273.62	25,768.38	44,722.36	3.25	71,767.6
Private	142	12,771	13,215	1,503	27,632	46.96	2,313.95	1,723.51	185.64	4,270.1
Other	1,008	5,146	6,987	2,585	15,726	605.87	339.62	329.21	1,226.74	2,501.4
* Fire & Rescue NSW	30	564	53	7	653	0.65	46.23	6.20	11.04	64.1
* Rural Fire Service	287	15,041	17,422	2,193	34,943	184.13	1,273.60	3,283.13	555.13	5,296.0

Note: FRNSW and RFS are not land tenures. The associated areas and properties in the summaries are derived from the hazard reduction activities undertaken by them alone or together with other agencies.

Table 3 – Hazard reduction property summary by lodging agency and risk management zone for financial year as at 28 July 2023

	Original Proposed Target 1 July 2022 – 30 June 2023					Completed Target 1 July 2022 – 30 June 2023				
	APZ	SFAZ	LMZ	Other	Total	APZ	SFAZ	LMZ	Other	Total
State Total	106,825	15,593	5,153	7,424	134,995	108,624	4,130	1,710	4,821	119,285
DPIE (Crown Lands)	25,263	36	-	41	25,340	22,951	0	0	13	22,964
Forestry Corporation	19,059	201	8	22	19,290	60	49	53	2	164
Local Government	-	-	-	-	-	53,990	70	3	54	54,117
NPWS	37	318	92	2	449	22,438	1,677	820	1	24,936
Other	75,586	3,787	1,060	199	80,632	42	8	24	33	107
Fire & Rescue NSW	2,527	5,686	2,902	136	11,251	61	638	315	28	1,042
NSW Rural Fire Service	5,837	5,469	1,061	7,018	19,385	9,082	1,688	495	4,690	15,955

Note: the number of properties protected by the completed hazard reduction activities exclude those from the recurrent mechanical activities completed during the reporting period

Grazing Trials

Recommendation 21c of the NSW Bushfire Inquiry aimed to improve understanding of optimal hazard reduction in the landscape, including by commissioning research into a range of other hazard reduction techniques to better understand the cost versus benefit and effectiveness of different practices, including grazing.

In response, the RFS initiated a trial using goats to undertake hazard reduction work in selected areas across NSW.

The aim of the grazing trial is to obtain data and intelligence on the practical application of grazing by goats as a bush fire hazard reduction method. This includes identifying limitations of such an approach and gauging the effectiveness of grazing in comparison to other methods across varying fuel types, topography, fuel loadings and locations in reducing potential fire ignitions / fire impact and delivering on hazard reduction requirements under relevant BFRMPs.

Grazing as a hazard reduction method is commonly used in agricultural applications to reduce fuel loads around homesteads and other key infrastructure in the lead-up to the onset of the Bush Fire Danger Period. Goat grazing for hazard reduction also is a technique implemented by land managers overseas.

Identification of goats for the grazing trial was determined by the following advantages:

- Ability to easily negotiate rough, inaccessible country.
- Willingness to eat a wide range of vegetation species (not just grasses) that other stock would normally avoid.

It is estimated that the animals eat around a quarter of a hectare of dense vegetation in two weeks and medium-density vegetation in one week.

The sites chosen for the grazing trial include Asset Protection Zones (APZs) and Strategic Fire Advantage Zones (SFAZs) with heavy fuel loads and in proximity to the community and assets such as schools or medical facilities.

Since the start of the program, more than 162 hectares have been grazed across 20 sites, with a further four sites currently being planned. Scoping work continues to identify more sites for grazing trials.

Results to date have indicated that grazing is helping to reduce invasive weeds, such as blackberries, in the native environment. Unlike hazard reduction burning, naturally occurring habitats of native animals have not been impacted by the grazing trial.

Upon completion of the trial program, the RFS will undertake further analysis in conjunction with relevant agencies and engage the newly-formed NSW Bushfire and Natural Hazards Research Centre to determine the potential for the ongoing use of grazing as a hazard reduction method to complement traditional methodologies.



Figure 25 - Before and after results at Rosewood school APZ in the Riverina Highlands grazed in 2022.

Table 4 – RFS Goat Grazing Trial Sites as at 1 August 2023

Area Command	District	Site	Hectares treated	Status	Year work completed
North Western	Liverpool Plains	Werris Creek Health Facility on township interface APZ	0.678	Completed	2021
North Western	Gwydir	Coolatai Village SFAZ	2.714	Completed	2022
North Western	Tamworth	Bendemeer Village APZ	0.5	Completed	2022
Western	Cudgong	Clandulla SFAZ	1.63	Completed	2021
Western	Cudgong	Carwell Creek Clandulla SFAZ	2.0	Completed	2021
Western	Cudgong	Cemetery Road, Mudgee APZ	5.18	Completed	2022
Western	Cudgong	Goolma Public School APZ	5.8	Completed	2022
South Western	Riverina	West of Ardlethan Village LMZ	3.54	Completed	2022
South Western	Riverina	Bygoo Rd, Ardlethan site #2 LMZ	3.00	Completed	2022
North Eastern	Inverell	Gilgai School SFAZ	0.4	Completed	2022
South Eastern	Riverina Highlands	Rosewood School APZ	1.1	Completed	2022
North Western	Tamworth	Limbri SFAZ	0.5678	Completed	2022
Western	Cudgong	Lue Mudgee SFAZ	69.76	Completed	2022
Western	Cudgong	Lue Mudgee Extension 3 SFAZ	30.61	Completed	2023
Western	Cudgong	Gulgong APZ	4.91	Completed	2022

Greater Sydney	Macarthur	Woodbine APZ	19.2	Completed	2022
Greater Sydney	Cumberland	Cranebrook APZ	4.7	Completed	2023
North Western	Gunnedah	Curlewis SFAZ	5.0	Completed	2022
South Eastern	Far South Coast	Nerrigundah Village APZ	1.50	Completed	2023
South Eastern	Lake George	Majors Creek APZ	0.6	Completed	2023

Cultural Fire Management

The RFS is currently developing a Cultural Burning Guide to assist Rural Fire Brigades and Districts with the integration of cultural burning as a component of fire management.

Cultural burning is currently undertaken by communities on private land, sometimes in partnership with the RFS, and on public land in partnership with relevant government agencies.

The RFS has been working closely with Local Aboriginal Land Councils, Traditional Owner groups and other Aboriginal corporations to implement cultural burning across the state. It also has been undertaking kindred agency training with these organisations to enable their members to gain qualifications in bush firefighting to assist in facilitating the practice of cultural burning on private and agencies lands.

In February 2023, the RFS partnered with the Cultural Fire Management Unit (CFMU) within the Department of Planning and Environment (DPE) to deliver bush firefighter training to CFMU community partners at the following locations:

- Mogo, for the Wallaga Lake and Ulladulla communities
- Wagga Wagga, for the Mawonga and Brungle communities
- Sydney, for the Darug community

The RFS also organised a workshop with Mothers Ancestral Guardians Indigenous Corporation (MAGIC) in early August 2023, which saw RFS senior leaders living on country and undertaking cultural awareness and burning training over a two day period at Mungo National Park.

While hazard reduction is the objective of prescribed burning activity undertaken under the *Rural Fires Act 1997*, Aboriginal cultural fire management has many more complex objectives, which can include the physical, mental and spiritual health of the community and the health of country, as well as hazard reduction outcomes.

RFS Interface Program

In 2021, the RFS began its proactive Interface Program to identify, map and mitigate sites of bush or grassland near urban interfaces throughout NSW. In 2022, the Interface Program was

broadened to holistically manage Asset Protection Zones around NSW communities with an interface on to bush or grass.

The RFS has identified 2,721 communities across NSW, with a number of identified interfaces to be inspected within each district.

RFS members, including Mitigation Crews and rural fire brigades, are inspecting these communities and completing mitigation works (if required). The red dots depicted in Figure 28 show the communities identified.



Figure 26 - Interface example at Sutherland NSW, before and after works.



Figure 27 - Example of interface area at inspection, then after the interface works have been completed. The vegetation has been reduced and provides a clear pathway for residents and firefighters.

From 1 July 2022 to 30 June 2023, 5,258 interface sites were identified, of which 2,184 were inspected and are now compliant. RFS staff are working closely with mitigation crews and land managers to ensure potential bush fire hazards at the interface are mitigated.

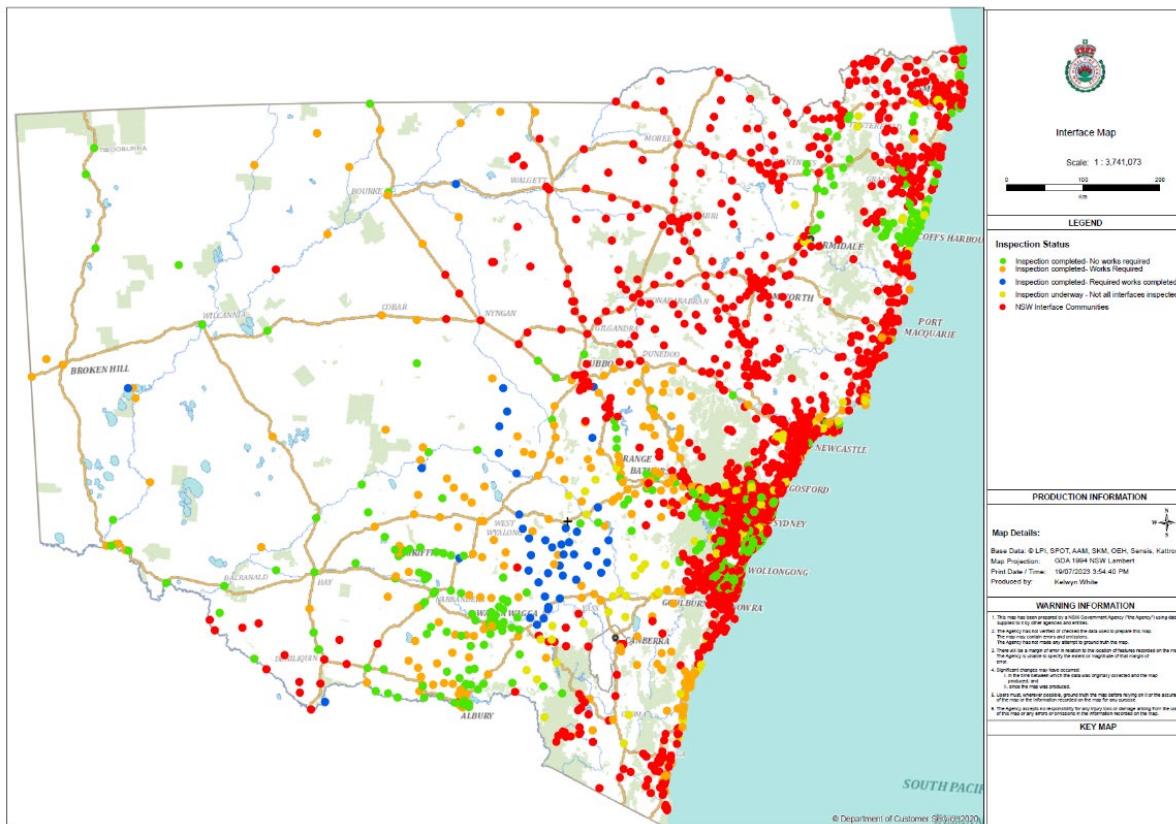


Figure 28 – Communities identified within the Interface Program as at 19 July 2023

Mitigation Crew Program

In line with Recommendation 21 of the NSW Bushfire Inquiry, the RFS has extended its Mitigation Crew program to take full advantage of opportunities to undertake hazard reduction. Table 5 provides a summary of mitigation works undertaken. These crews provide valuable support to local brigades and communities with a range of important hazard reduction and other bush fire mitigation works, including helping Assist Infirm, Disabled and Elderly Residents (AIDER) to protect their properties.

Table 5 - Summary of RFS Mitigation crew activity leading into the 2023-24 fire season as at 25 July 2023

Activity	2022/23 Financial Year
AIDER (Assist Infirm, Disabled and Elderly Residents) Program	467
Mitigation jobs completed	853
Properties protected	14,064

Hazard reduction programs undertaken by Mitigation Crews were hampered during 2022-23 due to the prolonged wet weather and severe flooding across large areas of NSW. During this

time Mitigation Crews were re-deployed to assist with flood mitigation taskings and the operational response to the flood affected areas.

One hundred regional mitigation crew members were originally employed on a temporary basis, with additional funding enabling the program to be strengthened, creating 318 roles for crew members. As part of this enhancement, mitigation roles were converted from temporary to ongoing employment, providing security of employment of mitigation staff and improved pathways towards other development and career opportunities.

Over the past year, the RFS has built capacity and enhanced capabilities across all Mitigation Crew locations. Mitigation hubs with equipment fit out have been established and the recruitment and induction of staff is ongoing to fill vacancies. Additional machinery is being secured to assist the Mitigation Crews to accelerate works, including five posi-tracks and trucks with supporting equipment. The posi-track is a tracked machine that can clear vegetation in steep and difficult terrain, truncating hundreds of hours of manual labour.

In July 2023 the NSW Government announced a \$10 million program to develop a statewide mobile workforce to accelerate this critical work ahead of the coming fire season. The funding will enable the RFS to employ additional Mitigation Crew members to carry out vital hazard reduction and mitigation works in identified high risk areas of the state. The extra mitigation crew members will be based mainly in regional areas of NSW to help prepare areas for hazard reduction, such as preparing trails and establishing control lines, and assisting with burns during the week when volunteers may not be as readily available. The roles will include a mix of casual and temporary roles, starting with existing RFS members who are trained and able to travel to any part of the state where hazard reduction is taking place.

The RFS is also increasing the number of Aboriginal and Torres Strait Islander Mitigation Crews across the state. The employment of Aboriginal and Torres Strait Islander crews within their own communities enables the RFS to build on established relationships and improve engagement with Indigenous communities. These Indigenous crews carry out mitigation works in their own and surrounding communities to protect them from bush fire, using their local knowledge to help complete safe, responsible and respectful fire mitigation works.

A map of current mitigation crew locations is depicted in Figure 29.

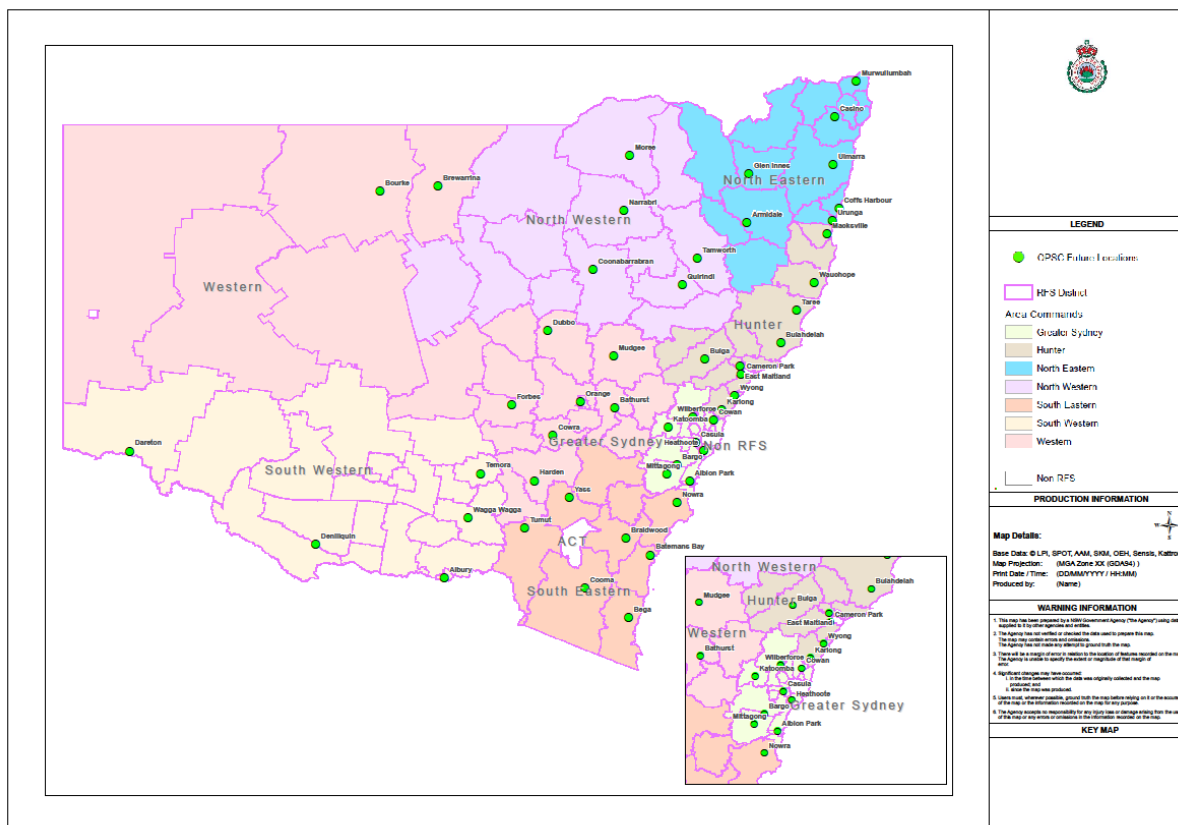


Figure 29 – Map of RFS Mitigation Crew Locations

Addressing Bush Fire Hazard Complaints

During the 2022-23 financial year, a total of 1,428 Bush Fire Hazard Complaints were registered. This is similar to the previous financial year. About 21.4 per cent of these complaints were upheld, representing an 87 per cent increase on the previous year. This is reflective of the merit of hazard complaints raised by the community.

A total of 538 of the 1,428 Bush Fire Hazard Complaints were related to public land. Of the 538 complaints, 105 (19.5 per cent) were upheld. Of the 1,428 complaints, 320 (22.4 per cent) were initiated by the RFS as a Duty of Care.

The hazard management process, including the mechanism by which the RFS engages with the community in relation to hazard complaints, has undergone significant reform.

The RFS has developed an approach which is ‘tenure blind’, ensuring that all lands, whether public or private, are dealt with consistently to ensure that identified hazards are mitigated, regardless of the land tenure, owner or manager. This change is driven by the Service’s commitment to increase community confidence in and the timeliness of the response to hazard complaints.

The RFS is working with its stakeholders to ensure it meets its responsibilities under the *Rural Fires Act 1997* for the delivery of an increased level of community safety. RFS hazard management guidelines are being updated to reflect legislative amendments and training provided to RFS hazard management officers is being reviewed to better equip staff managing hazard complaints.

Figure 30 shows the number of bush fire hazard complaints registered in 2022-23 and the previous three financial years based on land tenure, noting hazard complaints include those received from the public and hazards raised by the RFS.

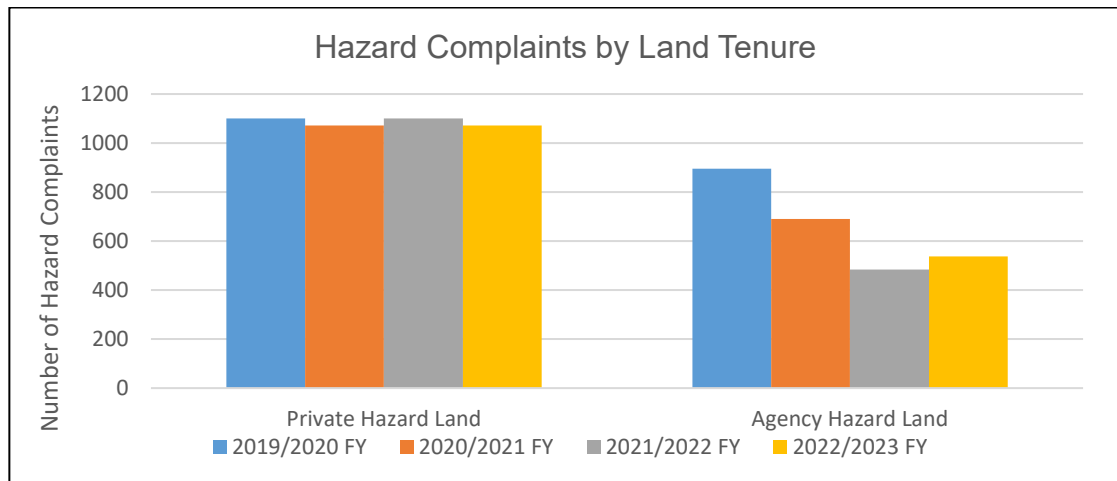


Figure 30 - Bush Fire Hazard Complaint by land tenure

Bush Fire Co-ordinating Committee

The Bush Fire Co-ordinating Committee (BFCC) is established under the *Rural Fires Act 1997* and is responsible for planning in relation to bush fire prevention and coordinated bush firefighting.

Chaired by the RFS Commissioner, the BFCC consists of 20 representatives of a range of fire services, land management agencies and stakeholders. These include representatives of Fire and Rescue NSW, the NSW Police Force, National Parks and Wildlife Service, Forestry Corporation NSW, Local Government NSW, NSW Farmers, the Rural Fire Service Association, Fire Brigade Employees Union, Nature Conservation Council, the Department of Planning and Environment, the Minister for the Environment and three representatives to promote the integrity of cultural burning and Indigenous practices.

The supporting policy and guidelines for the development and implementation of next generation Bush Fire Risk Management Plans (*BFMC Policy 01/23 Bush Fire Risk Management*) has recently been adopted by the BFCC.

The BFCC has initiated a review of the BFMC Handbook to support delivery of Recommendation 8 from the NSW Bushfire Inquiry. The BFMC Handbook is the primary supporting document to guide the operation of the BFMCs. It summarises the roles and responsibilities of Committee members, observers and office bearers and provides guidance on how the Committees should operate. The review is being undertaken by a working group of the BFCC Standing Advisory Sub-committee and will consider tools and training to better support BFMC members to effectively undertake their roles.

Extensive consultation with agencies was undertaken throughout 2023 to review the BFMC Operations Coordination Plan template to ensure it was contemporary and incorporated recent changes such as the introduction of the Australian Fire Danger Rating System and Fire Behaviour Indicators. The revised template was endorsed by the BFCC in July 2023 and enhances the ability of BFMCs to better prepare to manage bush and grass fires. The revised template includes information such as:

- Incident Management Team roles and suitably qualified individuals
- Key stakeholder contacts
- Operational maps of the BFMC area
- Radio network arrangements
- Multi-agency requirements and actions
- Fire Control Centre and Emergency Operations Centres
- Operational readiness actions

BFMCs are updating their Operations Coordination Plans for the 2023-24 fire season and are recommended to undertake at least one scenario-based exercise to practice the revised plans.

Operational Preparedness

During the 2022-23 fire season (October 2022 to March 2023), fire authorities responded to more than 5,112 bush and grass fires. While this was fewer than in previous years, the operational tempo remained constant, with the RFS continuing to provide support to major flood operations and the response to the Varroa Mite infestation in NSW and establishing and operating a base camp to accommodate community members impacted by severe flooding in the Northern Territory.

In preparation for the 2023-24 fire season, multi-agency pre-season briefings have been held across the State including at Glen Innes, Tamworth, Maitland, Dubbo, Regentville, Queanbeyan, Griffith and Sydney Olympic Park.

Eight incident management exercises have been run across NSW, providing opportunities for RFS staff to test and practice their incident management capabilities. The state-level multi-agency Exercise Alinta over two days in August was designed to test processes and systems ahead of the season. This large-scale exercise involved fire agencies and others represented on the State Emergency Management Committee (SEMC). The exercise involved several scenarios such as cross border fire activity and impacts to a major motorway and schools, as well as a biosecurity incident.

All services operate in a multi-agency response environment in NSW, with a focus on the co-ordinated dispatch of resources. All RFS Districts have now been on-boarded to the centralised dispatch arrangements facilitated through the Operational Communications Centre via Computer Aided Dispatch (CAD). This centralised dispatch has significantly enhanced situational awareness and the working relationship between the RFS and Fire and Rescue NSW.

The State Bush Fire Plan is a Sub Plan of the State Emergency Management Plan (EMPLAN). The Plan is developed under the *State Emergency & Rescue Management Act 1989* (SERM Act 1989), and the *Rural Fires Act 1997*.

Given the review cycle and the introduction of the new Australia Fire Danger Rating System (AFDRS), in December 2022, the RFS initiated a review of the State Bush Fire Plan. After extensive consultation with internal and external stakeholders, a revised plan was endorsed by the State Emergency Management Committee in July 2023.

The revised plan aims to establish bush fire management arrangements in NSW, to reduce the impact of bush and grass fires on human life, communities, essential and community infrastructure, industry, agricultural assets, the economy and the environment before, during and after an emergency. The objectives of the plan are to:

- provide clarity as to command-and-control roles and coordination of functions in emergency management for bush fire incidents,
- emphasise risk management across the full spectrum of prevention, preparation, response, and recovery,

- emphasise community engagement in the development and exercise of plans as well as in their operational employment and
- ensure that the capability and resourcing requirements of these responsibilities are understood.

The RFS, through the State Operations Centre, will continue to monitor forecast conditions, changing risk assessments and incident activity to maintain a high level of operational preparedness across all agencies.

Response to the NSW Bushfire Inquiry

Agencies have continued to make progress in implementing programs resulting from the 2019-20 bush fire season and the 148 recommendations and sub-recommendations made by the NSW Bushfire Inquiry.

As of 30 June 2023, 124 recommendations had been closed (83.8 per cent). The RFS had closed 64 recommendations, with its remaining recommendations in progress.

The RFS has made significant progress over the past 12 months against the recommendations, including:

- The Bush Fire Management Committee (BFMC) Handbook review is under way, following a survey of BFMC Executive Officers and Members that provided key feedback, including the identification of the need for online training (R08g).
- Construction work has been completed on the Bell Rural Fire Station to enable it to be used as the first in a trial using selected stations as Neighbourhood Safer Places (NSP).
- Progress continues on the development of next generation Bush Fire Risk Management Plans (BFRMPs), with two plans approved by the Bush Fire Co-ordinating Committee and work on another 46 plans under way (19b).
- \$14.2 million was expended on Fire Trails in 2022-23.
- Fifty-eight trails have been completed, with another 29 under construction, covering some 157 kilometres (R33b).
- All Fire Access and Fire Trail (FAFT) Plans were completed and submitted for approval to BFMCs, with the exception of Lord Howe Island.
- 52 Mobile Data Terminals have been rolled out as part of User Acceptance Training to enhance situation awareness (R37b).
- Monash University has completed its final report into RFS emergency vehicle safety (R40c).
- 97 heavy tankers have been refurbished and 140 medium and 97 light tankers have been built to compliance (R40a&b).

Ignition Management

Fire permits are used as a way of managing ignitions. These permits, which are freely available to landholders, place legal conditions on the use of fire on the ground and in the open. Permits are issued by the RFS during the Bush Fire Danger Period (BFDP) for ignitions in Rural Fire Districts and are issued year-round by FRNSW for those undertaking ignitions within a Fire District.

A review of the RFS Fire Permit system has been finalised ahead of the 2023-24 fire season concurrent to the implementation of online and standardised, centralised manual permits using the Guardian platform. A working group was established with relevant internal and external stakeholders including members of the Rural Fire Service Association and NSW Farmers. Updated advice and guidance has been provided to reflect the new Australian Fire Danger Rating System (AFDRS) in relation to conditions for issuing fire permits.

The statutory BFDP declaration starts on 01 October 2023 for the majority of Local Government Areas (LGAs), however, due to climatic conditions and to manage ignitions in areas conducive to fire activity, six LGAs in northern NSW have a permanent variation in place to start their BFDP on 01 August. A further 21 LGAs started their BFDPs on 01 September 2023, with the remaining 85 LGAs starting on 01 October 2023, with the exception of eight LGAs in south-western NSW, which will start on 01 November.

Following a successful trial, the RFS will implement Ignition Prevention Plans (IPP) across all BFMCs. These are customised local plans, developed in conjunction with relevant stakeholders and the community, to prevent the ignition of fires by human activities, particularly on days when severe weather conditions prevail. They include actions to be undertaken at different levels of fire weather risk using an Ignition Prevention Checklist.

NSW fire agencies also are concentrating on the most effective use and pre-deployment of Rapid Aerial Response Teams and the Pre-Determined Dispatch of aircraft to enable rapid initial attack of new remote area ignitions in the landscape, which has been driven by Recommendation 45 of the NSW Bushfire Inquiry.

Aviation

The RFS and NSW State Emergency Service are jointly responsible for managing the State Air Desk and co-ordinating whole of Government aviation support during bush fire and flood emergencies (excluding Ambulance and Police) in accordance with current agreements.

New South Wales continues to have access to the largest aerial fire-fighting fleet in Australia and is regularly requested to provide assistance to other jurisdictions both within Australia and internationally. The RFS has a fleet of 11 aircraft, including the Large Air Tanker (LAT) and a newly-delivered Chinook helicopter.

To support firefighting operations, the RFS also engages aircraft through National Aerial Firefighting Centre (NAFC) and Call When Needed (CWN) contracts. However, for the 2023-24

fire season, NSW faces significant challenges to overall aviation capacity due to international competition for resources, supply issues and rising costs.

Through NAFC contracts, NSW will have access to 23 contracted fixed-wing and rotary aircraft for firefighting in NSW.

A number of CWN operators also have indicated they cannot guarantee the same availability as in previous years due to factors such as supply chain difficulties for parts, increased costs and a preference for ongoing contract work. However, as at 25 July 2023, there are 226 aircraft approved for CWN contracts.

Three Large Air Tankers (LAT) will be available in NSW for this fire season, including the RFS-owned 737 and two contracted LATs. Given the increased grass fire risk in western NSW, the first contracted LAT is scheduled to start operations in October, based at Dubbo. LAT air bases operate at Dubbo, Coffs Harbour, Richmond and Albury to accommodate these aircraft, with automated loading facilities installed at Coffs Harbour and Dubbo, as well as Richmond.

Two RFS-owned existing Cessna Citation planes are capable of scanning, transport and lead plane operations, with a third aircraft (King Air) expected to come into service during the 2023-24 season. The aerial scanning capabilities include mapping fire activity and other applications such as impact assessments, search operations and vegetation mapping.

The RFS rotary wing fleet includes a new Boeing CH-47 Chinook heavy helicopter capable of fire-bombing and transportation, with night-time aerial firefighting capabilities that are being developed. Another five RFS-owned multi-purpose Bell 412 helicopters, which are capable of search and rescue, winch operations, aerial incendiary, FLIR/video streaming and night observations and a BK117 helicopter capable of search and rescue, winch operations and aerial incendiary also will be available throughout the season.



Figure 31 – RFS Chinook Helicopter

Three of the multi-purpose firefighting helicopters are based at Coffs Harbour, Cooma and Dubbo for rapid deployment in response to bush fires and a range of other emergencies across the state. These aircraft can provide other emergency services with real time high-definition video streams and assistance with search and rescue missions.

The RFS is continuing to enhance its aerial capability. In a first for NSW, the Service last year launched a trial of night time firebombing operations to provide around-the-clock back-up for crews on the ground. These water bombing trials continued in January and February this year before being deployed in real time during recent fire activity in Narrabri, when the RFS successfully dispatched a Chinook helicopter to conduct a night sortie, dropping 75,000 litres of water. As part of this development work, an RFS helicopter also completed a night time winching mission in November 2022. Several trials will continue during the 2023-24 season to progress the enhancement of RFS aviation capabilities, which directly relate to Recommendation 46 and 52 of the NSW Bushfire Inquiry.

The RFS conducted a trial of medium sized Remote Piloted Aircraft Systems (RPAS) capability in two locations in western NSW – Harden and Mudgee – in 2022. This study was approved by CASA. A further trial will be conducted during the coming season.

The use of small RPAS units in support of firefighting operations continues to be made available through the extensive capability maintained by Fire and Rescue NSW and Forestry Corporation NSW (FCNSW). The units and trained pilots are strategically located across the State and can support emergency operations (other than bush fire) such as flooding.

In response to Recommendation 46 of the NSW Bushfire Inquiry to improve early fire suppression through the trial of initial aerial dispatch in areas of high bush fire risk, the RFS began trialling Pre-Determined Dispatch (PDD) in strategic locations across the State during the 2020-21 bush fire season. The aim of the PDD program is to keep fires small by responding aerial firefighting assets to new reports of bush and grass fires simultaneously with fire appliances on days of heightened fire danger. The aircraft not only support ground crews but also are able to provide timely intelligence to Incident Management Teams.

Given the success of this initiative, PDD has been expanded for the 2023-24 fire season particularly within grassland areas. PDD aircraft will be available at Mudgee, Coonabarabran, Goulburn, Bourke/Cobar, Griffith, Warnervale, Moruya, Deniliquin, Wagga Wagga, Cowra, Narrabri, Armidale, Scone, Kempsey and Greater Sydney.

Heavy Plant

Recommendation 49 of the NSW Bushfire Inquiry aimed to maximise the efficiency and effectiveness of heavy plant used in dry firefighting techniques. In response, the RFS has completed Phase 1 of the Arena HP program, which facilitates the rapid identification and tasking of approved Heavy Plant Contractors based on their proximity to a fire event. It also reduces the time and workload of processing the associated invoices.

As of 4 August, 393 approved contractors with more than 2,900 items of registered plant and attachments were registered to provide services through Arena HP. During the previous fire season, 429 engagements of heavy plant were secured through the Arena HP platform.

Arena HP user training has been delivered to more than 160 users across the RFS, NPWS and FCNSW. The Heavy Plant Supervisor course, updated to align with the new national unit of competency, is delivered to 36 operators a year across NPWS, FCNSW and RFS, with steps being taken to increase the annual training to 48. On-boarding and training of contractors, users and supervisors will continue to be rolled out in conjunction with interagency collaboration.

Phase 2 of the project is focused on greater integration with RFS software and programs, GPS tracking of Heavy Plant deployed to fire grounds and better contractor performance management. This continues to be developed and explored. Program funding has enabled the establishment of an additional position to drive delivery of this project phase.

Fire Trails

The NSW Strategic Fire Trails Network spans more than 30,000km across National Parks, Crown Lands, Forestry Corporation, councils and private land. The *Rural Fires Act 1997* provides for the establishment of an enhanced fire trail network across the State to give emergency services agencies better access during firefighting operations and hazard reduction works.

Local Bush Fire Management Committees (BFMC) are responsible for identifying and prioritising the needs for the fire trail network in their local areas, taking into consideration their current condition, fire risk and predicted weather. Working with firefighters, land managers and other agencies, each BFMC develops a Fire Access and Fire Trail (FAFT) Plan to identify the location of the strategic network of access routes and fire trails in its areas. All BFMCs have an approved FAFT plan, with the exception of Lord Howe Island.

Despite the prolonged and severe wet weather hindering works and damaging trails across NSW, 58 fire trails have been completed since 1 July 2021. A further 80 fire trails are in planning and design phase with another 29 trails under construction, covering some 157 kilometres.

The RFS has an annual allocation of \$1 million for fire trail works. This funding is in addition to existing agency funding for land management agencies such as the National Parks and Wildlife Service, which has dedicated budgets for trails.

In response to Recommendation 33b of the NSW Bushfire Inquiry, the Government has committed more than \$33 million since 2021 to upgrade the fire trail network across the state, with \$11 million allocated to fire trail projects over 2023-24. New RFS Fire Trail Standards will ensure trails are built to a more robust standard, incorporating ongoing maintenance requirements. Severe flooding over the past two years, however, has resulted in significant erosion and deterioration across much of the existing network. The ongoing construction and maintenance of fire trails is required to ensure that a strategic network is developed and maintained to provide appropriate access for both mitigation and fire suppression.

Agency Firefighting Capability



NSW Rural Fire Service

71,017 members
700 Remote Area Firefighters
3,883 Appliances (bush fire tankers and pumpers)
11 Owned Aircraft (1 Large Air Tanker, 3 fixed wing, 6 medium rotary, 1 heavy rotary)
Almost 250 NAFC-contracted and Call When Needed aircraft available (including 2 Large Air Tankers)
40 Aviation Rescue firefighters
350 approved heavy plant contractors with over 2,700 registered plant



NSW National Parks &
Wildlife Service

1,267 firefighters (including more than 700 remote area firefighters)
377 appliances and 189 heavy plant
3 Owned Aircraft (rotary) and 3 leased aircraft (2 rotary / 1 fixed wing).
1 additional contracted rotary aircraft to support NPWS rapid aerial response teams (RART) during the bush fire season



Forestry Corporation of NSW

556 Firefighters
453 appliances and 35 heavy plant
4 contracted aircraft
110 Remote Aerial Piloted Systems (30 with thermal capability, 5 with high resolution cameras)



Fire & Rescue NSW

6,776 firefighters (3,564 Permanent, 3,212 retained)
574 bush fire tankers and urban pumpers
53 bush fire appliances
97 Remote Aerial Piloted Systems
512 Community Fire Units, (4,657 members)

Engaging and Informing our Community

Following the devastating 2019-20 fire season, the COVID-19 pandemic and more recent floods, there is increasing evidence of a decline in the level of community awareness and preparedness for bush fires.

The RFS regularly tracks community awareness and preparedness through its annual 'Live Bush Fire Ready' campaign. Using an online panel of more than 1,400 people a year, this research has measured changes in the level of preparation and planning since its inception in 2009.

The proportion of people with some form of plan for what to do during a bush fire was at 30 per cent in 2009. In September 2020, this reached a peak of 80 per cent before dropping as wet weather returned. In March 2023, the level was 73 per cent, its lowest point since 2019-20.

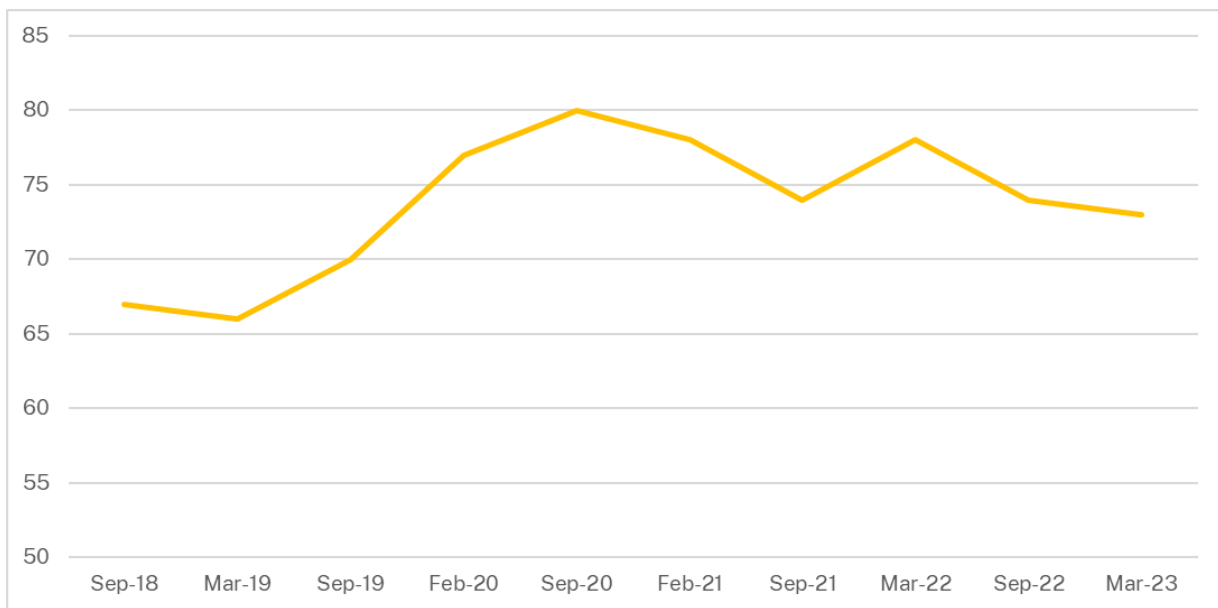


Figure 32 – Proportion of people with some form of plan (written, verbal) for what to do during a bush fire

While the level of planning has declined, there is strong evidence of community awareness of the importance of planning. Of those with a plan, 54 per cent are confident in the quality of that plan. About two-thirds (67 per cent) say they have done more to get ready for the bush fire season, while the same proportion say they have thought through and discussed their plan in greater detail than normal.

In regard to specific actions taken to prepare:

- 36 per cent have cleared or tidied their garden
- 35 per cent have cleared their gutters
- 32 per cent have moved fuel
- 6 per cent have installed gutter guards
- 5 per cent have blocked spaces under their home

- 5 per cent have installed sprinkler systems or other fire protection measures

Of note, 44 per cent of people have used the RFS Guide to Making a Bush Fire Survival Plan.

In the lead up to the 2023-24 bush fire season, the RFS will be conducting two major public awareness campaigns.

The first is the annual Prepare Act Survive campaign, focusing on bush fire planning and preparation. The campaign acknowledges that many communities live with the threat of bush fire and must prepare for that threat. The campaign encourages the community to 'Live Bush Fire Ready' while communicating simple actions that can be taken to reduce the risk.

The second is the Australian Fire Danger Rating campaign. After a successful launch in 2022, this year's campaign will focus on the specific actions required at each rating level. The campaign is expected to start in late 2023.

Community Engagement Effectiveness

NSW Bushfire Inquiry Recommendation 15 required the RFS to review existing bush fire preparedness programs to identify the most effective and efficient programs to improve community preparedness. This review was completed in 2022, with recommendations informing the development of a new Community Preparedness Master Plan as well as a Monitoring, Evaluation and Reporting Framework.

This new approach aligns the RFS arrangement of community engagement programs, activities and resources against specific preparedness objectives. These changes have also been reflected in Bush Fire Co-ordinating Committee policies for the development of Bush Fire Risk Management Plans.

In another result from this review, Activity Guidelines on the delivery of effective and efficient preparedness programs are now available. These guidelines help make it easier for Community Engagement Facilitators to plan and deliver activities that prepare their local communities for bush fire.

The Service is also updating its Community Engagement Service Standard to establish clear governance, coordination and planning processes to support members involved in community engagement from District Delivery Groups and Area Coordination Groups to a new State Community Engagement Governance Group, which will develop a new five-year Strategy to ensure the Service continues to deliver services that meet changing community needs.

Hazards Near Me NSW

Extensive work was undertaken throughout 2022-23 to enhance and strengthen the delivery of information and warnings to the community.

For more than a decade, the RFS has operated the successful Fires Near Me NSW smartphone application (app) and provided information through the RFS website.

The app has undergone a significant rebuild to improve the speed and redundancy of the product. In a partnership with the Department of Customer Service and NSW State Emergency Service, the app has been rebranded Hazards Near Me NSW and broadened to provide information on floods and tsunamis. More hazards will be added in the near future.

Further work also is under way to improve the display of warnings and public information, including additional feeds such as air quality and the location of Neighbourhood Safer Places and the improved display of incident locations.

In the future, it is planned to include crowd sourcing, with NSW residents able to provide information to the RFS.



RFS

Postal address

NSW Rural Fire Service
Locked Bag 17
GRANVILLE NSW 2142

State address

NSW Rural Fire Service
4 Murray Rose Avenue,
Sydney Olympic Park NSW 2127

T 02 8741 5555

F 02 8741 5550

rfs.nsw.gov.au

Social Media

[X @NSWRFS](https://twitter.com/NSWRFS)

facebook.com/nswrfs

[@NSWRFS](https://instagram.com/NSWRFS)