

# **NSW Bush Fire Season Outlook 2020-21**

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## Letter To The Minister

The Hon. David Elliott MP  
Minister for Police and Emergency Services  
Parliament House  
Sydney NSW 2000

Dear Minister

I am pleased to submit this 2020-21 report to you, which provides insight as to the New South Wales (NSW) fire potential and preparations.

This report is based on the current climate outlook and it must be noted that if any area across the state experiences hot, dry and windy conditions, then fire is an ever present risk. As the season progresses, the fire risk will continue to change and evolve due to local climatic conditions and other variables such as harvesting of crops.

The 2019-20 bush fire season was the most challenging our state has ever faced, with the loss of 26 lives including four NSW RFS volunteers and three American aircrew. Throughout the season, the fire danger, activity and impact was at a scale never before experienced in NSW.

It is critical that agencies, and the community, understand and learn the lessons of the last season to ensure our state is best prepared and ready to respond to future catastrophic fire seasons.

Following the fires, the NSW Government conducted an independent inquiry chaired by former NSW Police Deputy Commissioner Dave Owens APM, and Independent Planning Commission Chair and former Chief Scientist and Engineer Professor Mary O'Kane AC.

The Inquiry made 76 recommendations, covering matters such as the assessment and treatment of risk across the landscape, the response to fires, and supporting communities in the transition to recovery. Recommendation 2 from the Inquiry highlighted that an annual statement relating to the potential risks and associated actions is required, this report has been prepared in response to that recommendation.

Work is underway on implementing a large number of the recommendations, including recommendation number 19 that calls for the implementation of a revised Bush Fire Risk Management Plan (BFRMP) process, which will further enhance future reporting of this type, including residual risk.

As a result of the unprecedented 2019-20 fire season, changes to legislation relating to hazard complaints is also being considered in parliament. If the Bill is assented to, the NSW RFS will be a central point for all hazard complaints on both public and private land. This coupled with proposed legislative changes relating to recommendation eight and the establishment of an audit role for all bush

fire management plans, will better position the NSW RFS to assess and report on the risk to the community and what has been done.

Preparing for and responding to the 2020-21 Fire Season is a multi agency activity. The fire agencies – NSW Rural Fire Service (NSW RFS), Fire and Rescue NSW (FRNSW), National Parks and Wildlife Services (NPSW) and Forestry Corporation of NSW (FCNSW) – are supported by other agencies including local government in this aspect. In addition work is ongoing with the community to ensure they are part of this preparation and through such as the Farm Fire Unit project they will also form part of the response.

It is inevitable that the type of conditions we experienced last year will reoccur, and it's critical that we all work together to reduce the risk to people, properties and the environment.

A handwritten signature in black ink, consisting of a stylized 'R' followed by a horizontal line.

**Rob Rogers AFSM**

NSW RFS Commissioner

18 November 2020

## Executive Summary

The 2019-20 fire season was extreme in scale, severity, and consequence. Over 5.5 million hectares of land was burnt, this was predominantly along the ranges stretching between the Queensland and Victorian borders. Tragically, in NSW, 26 human lives were lost, including the lives of four NSW RFS volunteers and three American aircrew, and 2,476 homes destroyed. The fires had a substantial impact on communities, infrastructure, agriculture, and the environment.

A record area of land was burnt during 2019-20 fire season. The total area burnt of over 5.5 million hectares was mapped comprising 42% of the state's Forest. However, this represented only 7% of the land mass of NSW. While it may be several years before these recently burnt areas are likely to pose a significant risk again, there are large areas of the state which have not been recently affected by fire.

The bush fire outlook for the 2020-21 period is different to the devastating 2019-20 fire season, in terms of the overall level of risk and potential intensity of fires when they occur. This is largely due to a significant change in the drought situation. However, as the climatic conditions and bush fire risk evolves across the fire season, there is the potential for dangerous fires to develop and impact on communities.

The outlook indicates there is an increased risk of grass and crop fires this season, especially west of the Great Dividing Range. According to the NSW Department of Agriculture, above average rainfall has resulted in well above average areas planted with winter crops and ideal growing conditions has resulted in a prediction of above average yields. As well, for many grassland areas, there have been reports of reduced stocking rates after the recent drought. The implications of this is that there may be less stock available to assist in reducing grass fuel loads in pastures.

The Bureau of Meteorology (BoM) have declared a La Niña event. La Niña events normally bring above median rainfall during spring and early summer. This creates ideal grass and crop growing conditions which may become susceptible to higher intensity fires mid to late summer.

Due to the increased chance of prolonged heatwaves that often accompany La Niña events, there remains the risk of fires occurring on the interface of high population centres along the coast, including Sydney, Newcastle, and the Hunter. These areas were relatively untouched by the 2019-20 fires and remain at risk for the coming season depending on the actual conditions experienced.

The Bushfire and Natural Hazards CRC produce a bush fire seasonal outlook each quarter. The current outlook is for the spring period September to November. This currently shows normal potential for the period. The difference in the outlook between the CRC and the NSW Seasonal Outlook is in the timeframes. The NSW Outlook covers the entire season and considers expected increases to grass and crop fuel loads in spring.

COVID-19 could provide more challenges, due to precautions such as physical distancing limiting crew sizes, the ease of which we can move firefighters, and a more challenging environment for the movement of interstate or international firefighters in the event they are needed or requested. Significant planning has been undertaken into response arrangements within and between fire authorities and the

National Resource Sharing Centre especially in border areas. Resilience NSW has also taken steps to ensure the safe operation of evacuation centres to help limit the spread of COVID-19 in these environments.

NSW fire agencies have made significant preparation for the 2020-21 fire season. This includes hazard reduction of over 38,000 hectares, protecting over 50,000 properties between 1 April 2020 to 31 October 2020, investing in aviation assets and projects to improve the safety and ability of firefighters.

The NSW RFS is currently developing a new way of quantifying bush fire risk and risk reduction using simulations. This will provide maps that can be updated to reassess risk ahead of each season. Prior to the implementation of this system, the NSW RFS has identified significant areas of risk for the 2020-21 fire season and is well advanced in the delivery of a targeted treatment program.

Strategic pre deployment of aircraft will occur around the state in response to weather conditions as the season progresses. This will include the trial of night-time waterbombing operations in response to Recommendation 52, and the trial of the immediate dispatch of aircraft in response to Recommendation 46 of the NSW Bushfire Inquiry.

Building on previous investment by the NSW Government in the NSW RFS Aviation Fleet, an additional two Citation fixed wing aircraft and two Bell 412 helicopters are being made operational. An additional Bell 412 will come online during the season, donated by the Goodman Foundation. There is also more than 300 contract aircraft that can be used for firefighting through the season.

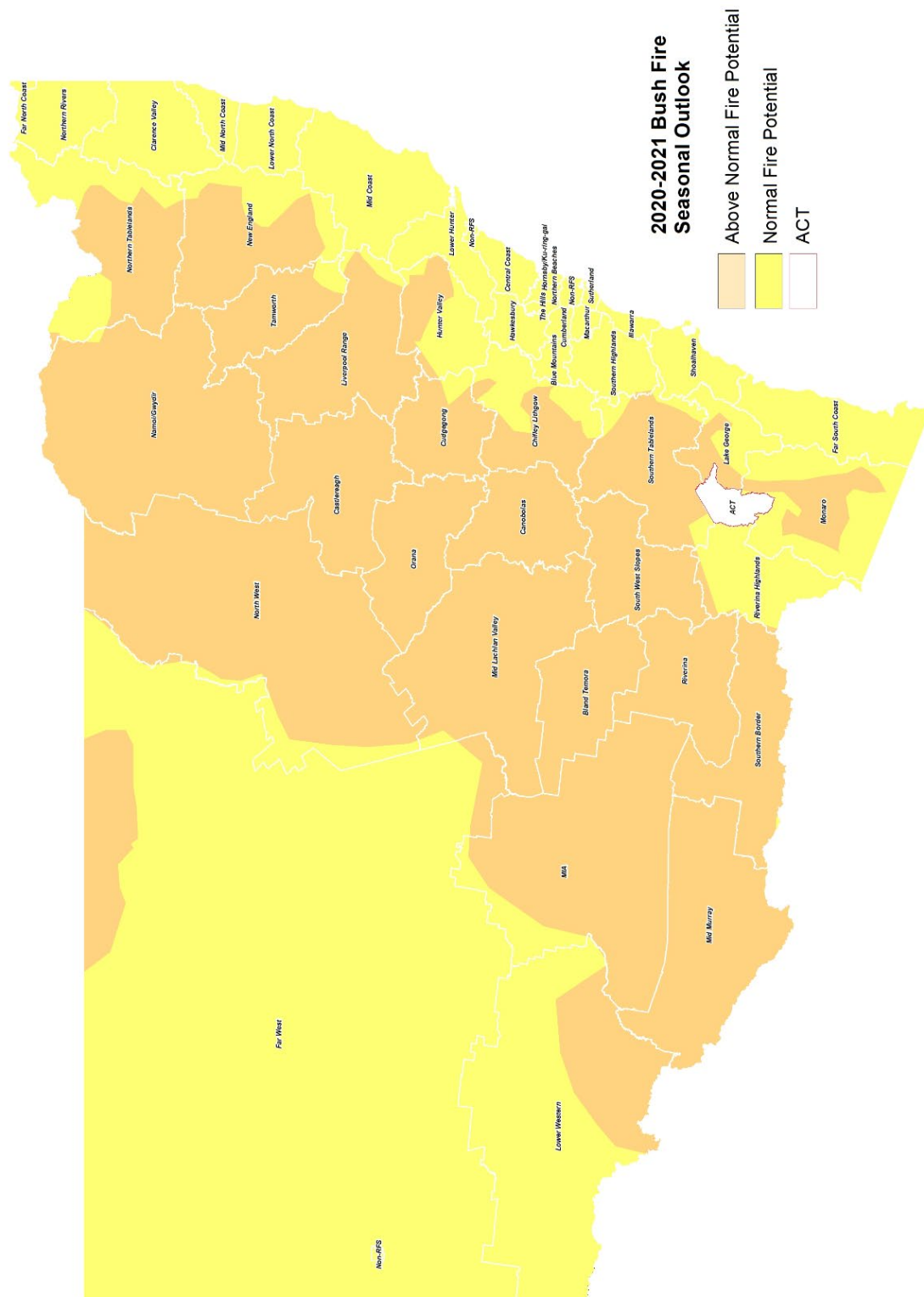
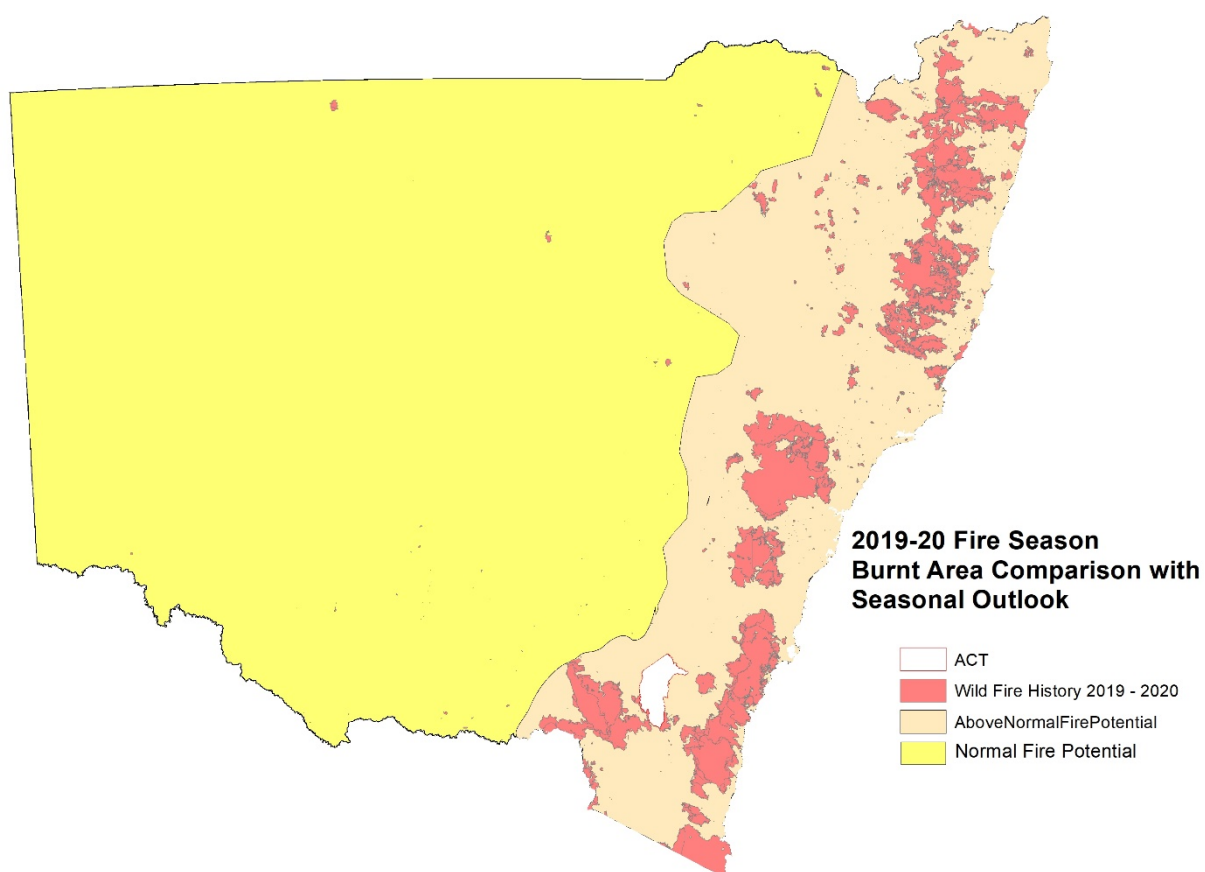


Figure 1 – 2020-21 Bush Fire Seasonal Outlook

## Information Underpinning the Statement

The NSW RFS works with the Bushfire and Natural Hazards CRC to produce fire season outlook statements. An example of last season's outlook compared to the actual area burnt is shown in Figure 2.



**Figure 2 – 2019-20 Fire Season Burnt Area compared to the Seasonal Outlook prediction.**

The accuracy of the bush 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.

Whilst over 30,000 buildings were untouched by fire, Table 1 illustrates the areas where properties were heavily impacted by fire during the 2019-20 season.



**Table 1 – Destroyed and damaged buildings during the 2019-20 fire season**

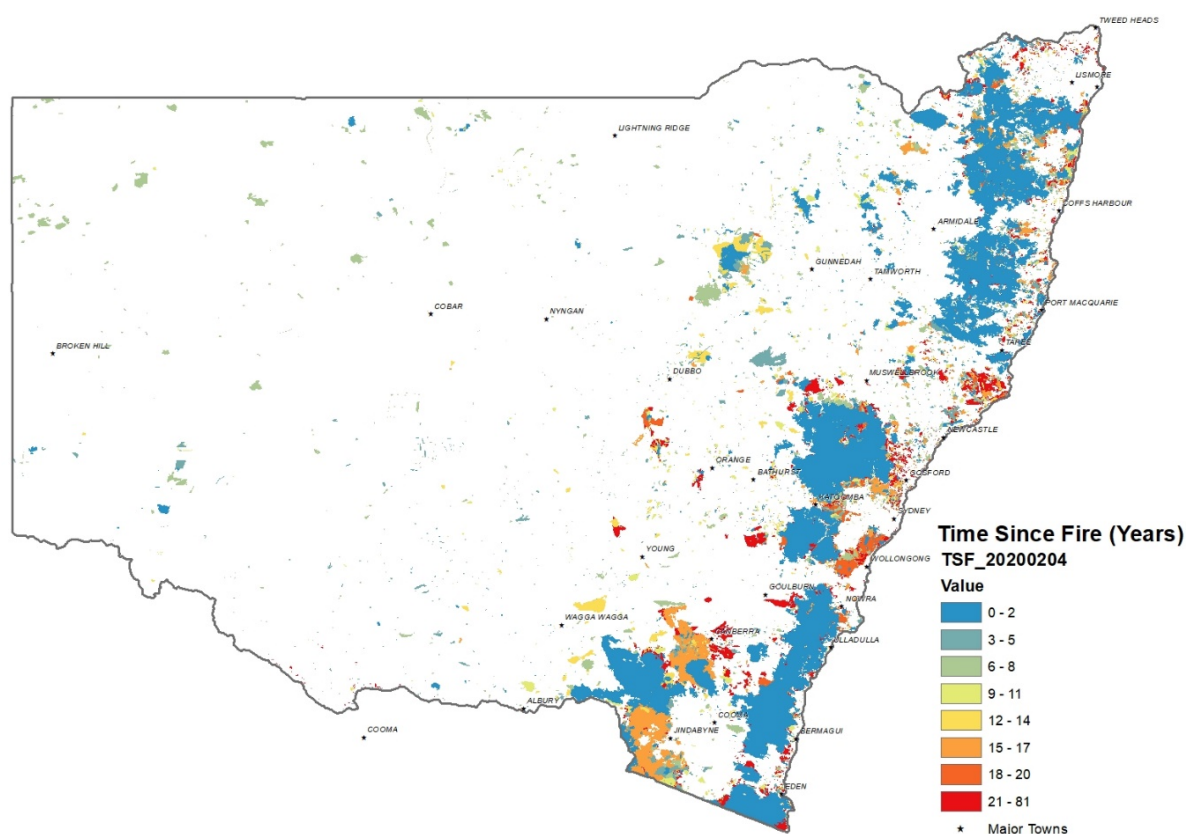
Area	House Destroyed	Facility Destroyed	Outbuilding Destroyed	House Damaged	Facility Damaged	Outbuilding Damaged	Total
Central Coast	176	14	399	98	21	185	5,055
Central Ranges	69	4	145	32	14	78	1,935
Greater Sydney	125	28	367	58	15	176	4,802
North Coast	388	22	944	135	29	362	6,847
Northern Ranges	164	14	231	44	10	84	2,074
Riverina	8	0	23	4	0	9	185
South Coast	1,261	150	2,569	576	86	860	15,418
Southern Ranges and Alpine	285	52	881	87	21	263	5,368
<b>Grand Total</b>	<b>2,476</b>	<b>284</b>	<b>5,559</b>	<b>1,034</b>	<b>196</b>	<b>2,017</b>	<b>41,684</b>

## Hazards ahead of the 2020-21 fire season

### Forest Fuel Loads

Fuel load and fuel state are particularly important factors to consider in context of the 2020-21 fire season as they have a bearing on both the flammability and intensity of a fire should it start. High fuel loads can equate to higher intensity fires that are harder to extinguish. This is also highly dependent on fuel state or fuel dryness.

The NSW Bushfire Inquiry suggested that the drought conditions were a significant factor in causing the extraordinary scale and severity of the 2019-20 fire season. The areas mapped as blue in Figure 3 show that over 5,500,000 hectares burnt during the season. This has left large swathes of the coast and ranges with low fuel loads leading into the 2020-21 season. It will be several years before these areas recover and present a significant bush fire hazard again.



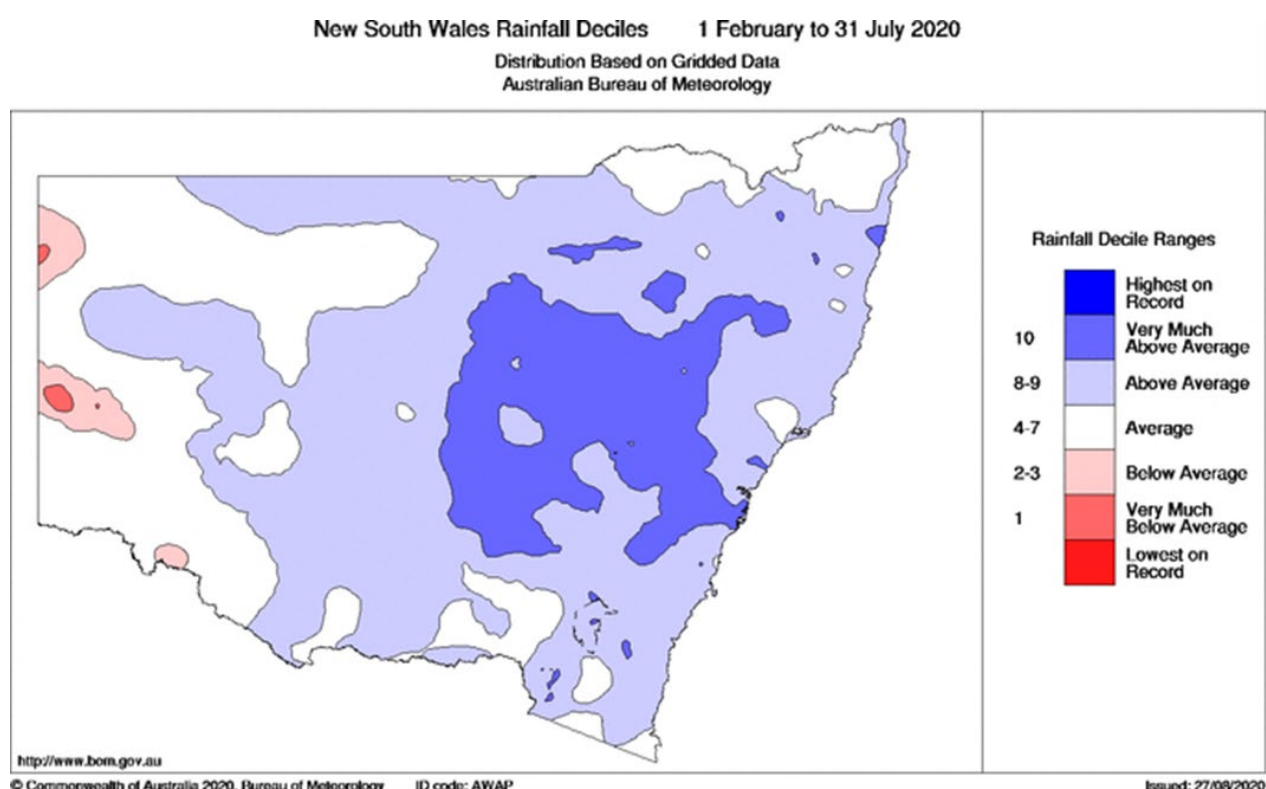
**Figure 3 – NSW Fire History showing time since the last fire after the 2019-20 fire season**

However, some areas were untouched by the 2019-20 fire season and despite important hazard reduction work, forest fuels around the large population centres of Sydney Wollongong and parts of the Hunter still have long intervals since the last fire. Figure 3 shows the areas mapped as blue as having the shortest time since fire interval and the red areas as having the longest time since fire.

## 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 status, stocking and sowing rates are key factors in determining the hazard associated with grass and crop loads across the state.

According to the NSW Department of Agriculture (Figure 4), above average rainfall has resulted in well above average areas planted with winter crops and ideal growing conditions have resulted in a prediction of above average yields. With a favourable rainfall outlook, the area planted of summer crops is expected to be close to four times the area planted in 2019-20, but less than the 10-year average.



**Figure 4 – NSW Rainfall Deciles 1 February to 31 July 2020 (source BoM)**

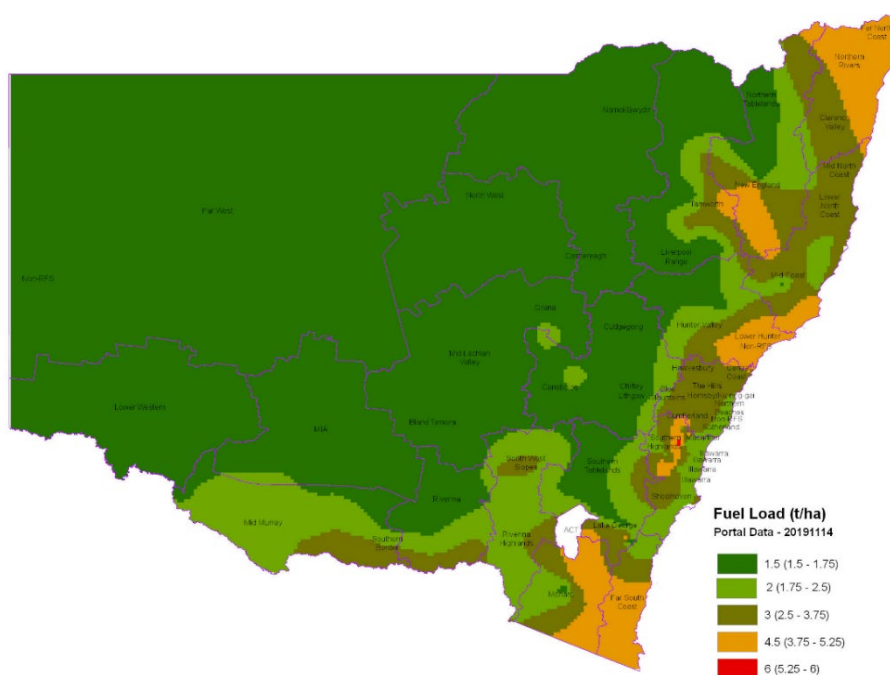
Winter rainfall and the forecast for more rainfall and above average minimum temperature (reduced number or intensity of frosts) leading into the summer will provide ideal growing conditions for grassland areas. For many areas, there have been reports of reduced stocking rates after the recent drought. The implication of this is that there may be less stock available to reduce grass fuel loads in pastures.



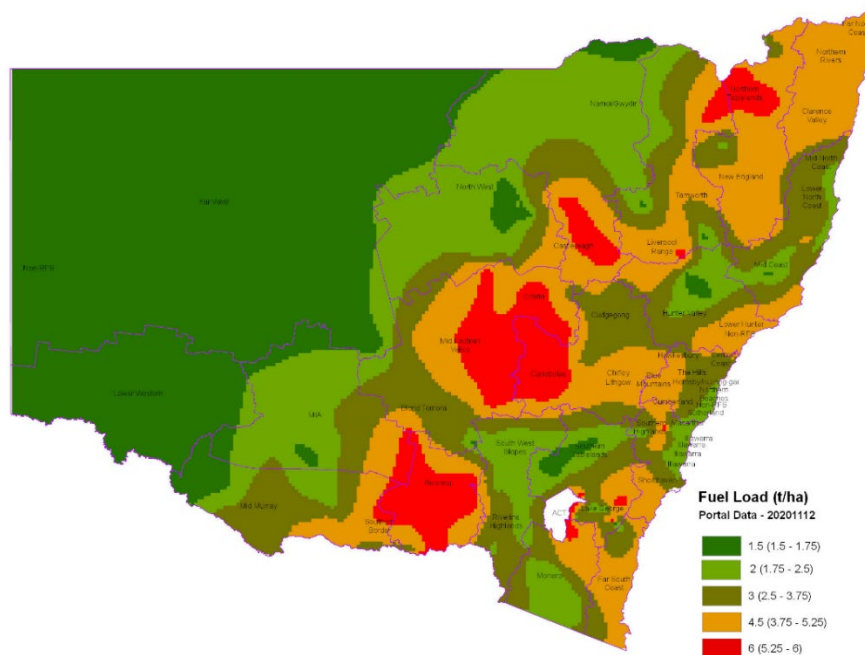
**Figure 5 – Images of prolific grass and crops in the central west of NSW**

These factors are significant in predicting grass and crop fuel loads for the season and suggests that this spring growth has the potential to increase fire danger as the grass and crop fuels dry out through summer.

Images of prolific grass and crops in the central west of NSW are shown in Figure 5 (source NSW RFS). The grass fuel load status as reported by NSW RFS Districts in November 2019 is shown at Figure 6, while the reported fuel load status at November 2020 is at Figure 7. Whilst it is still too early for some areas to accurately predict the level of crop and grass growth, maps such as this one demonstrates that grass and crop fuels leading into the 2020-21 fire season are significantly different to the previous year.



**Figure 6 – Grassland Fuel Load map as at 14 November 2019**



**Figure 7 – Grassland Fuel Load map as at 12 November 2020**

## Fuel State

Fuel state or how dry fuels are leading into a fire season is a very important indicator for the level of early fire season activity, but also how difficult fires will be to suppress. Drier fuels ignite more easily and in times of prolonged drought, very dry soil and fuel make putting fires out more difficult. This is because the dry fuels take more water and resources to effectively suppress a fire.

As recently reported in the NSW Bushfire Inquiry, the University of Wollongong believe that whilst the fuel loads leading into the 2019-20 fire season were high, they were no higher than they have been over the last 30 years. Their state, or how dry they were being a critical element in explaining the exceptional fire behaviour exhibited during the season. The fuel state leading into the 2020-21 fire season is considerably different to that leading into the 2019-20 fire season.

The Keetch-Byram Drought Index (KBDI) anomaly map is a common indicator used by the fire industry for how dry soil conditions are relative to normal. Currently, the KBDI anomaly map (Figure 8 – KBDI Anomaly map source BoM 12 November 2020) shows that majority of NSW has returned to near average conditions. The exceptions to this include slightly wetter than average conditions east of the Divide between Nowra and Kempsey and in pockets of the far west (following above average October rain), and drier than average conditions about the Far North Coast, adjacent hinterland and small pockets of the northern plains.



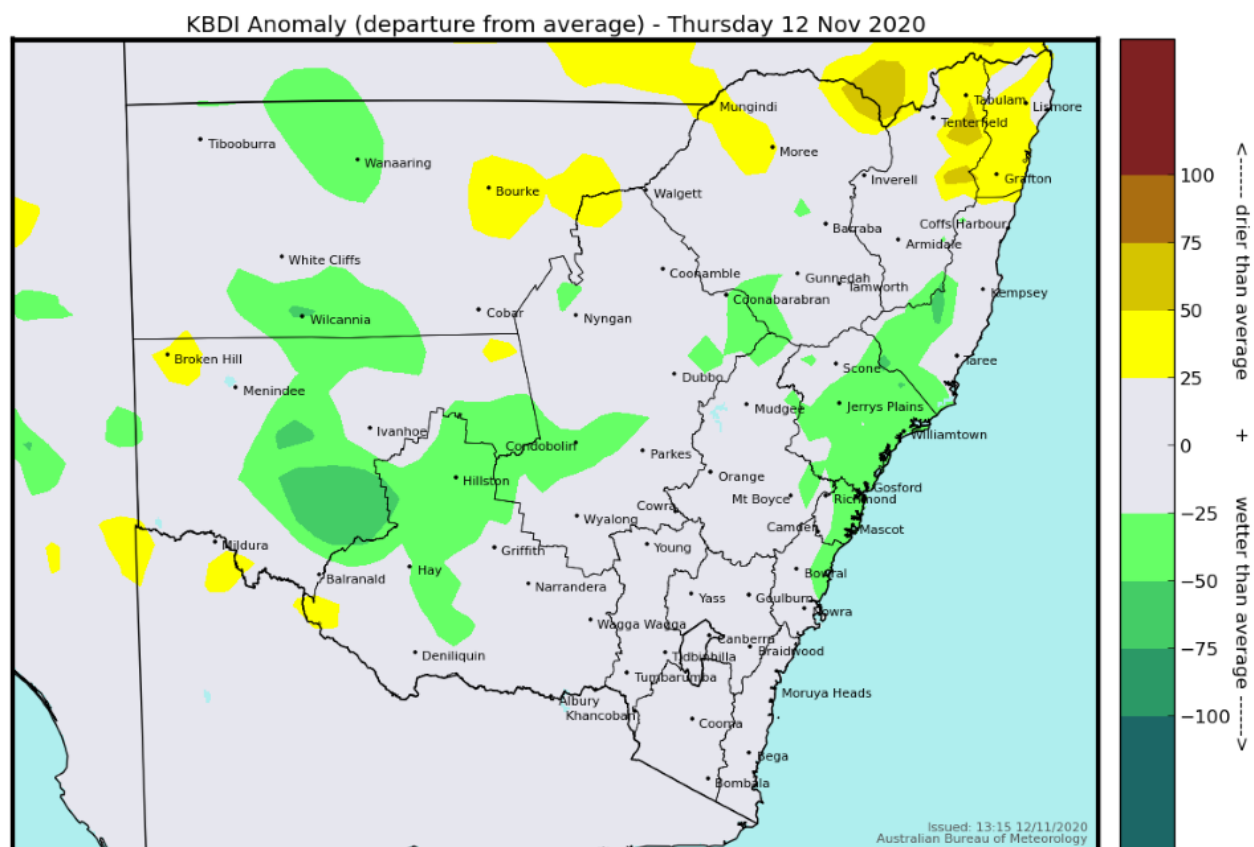


Figure 8 – KBDI Anomaly map source BoM 12 November 2020

## Forecast Weather Conditions

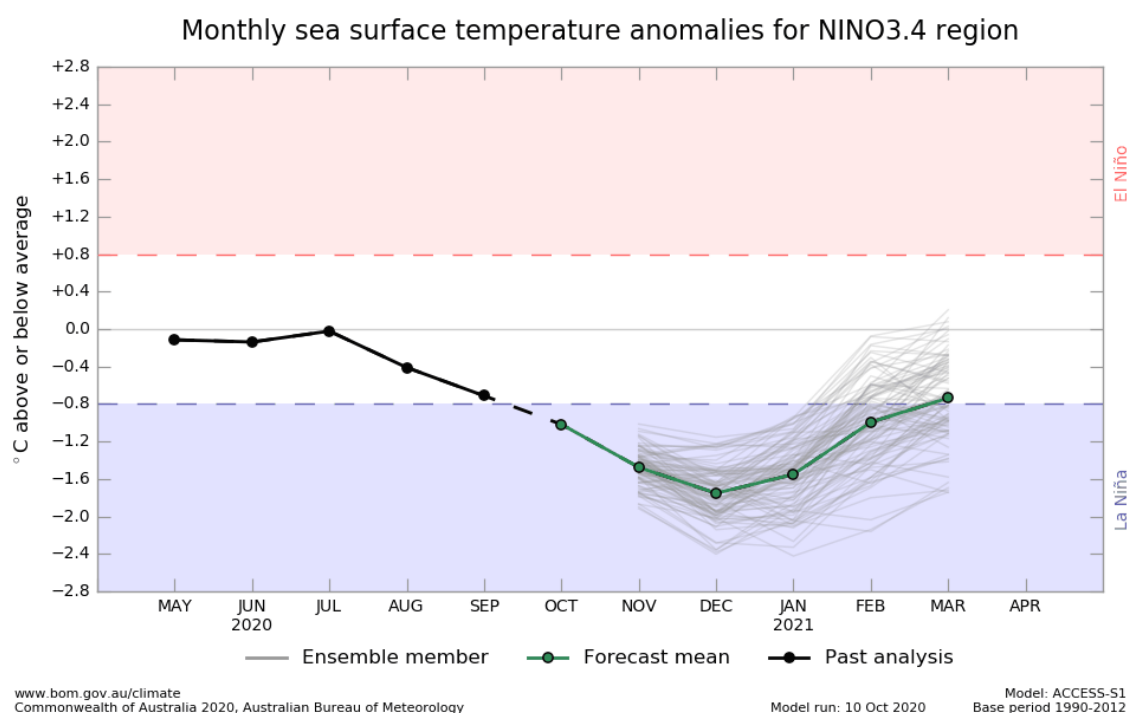
NSW Fire Authorities work very closely with the BoM to monitor weather impacts and to understand the medium- and longer-term weather forecasts for fire operations and planning.

### Climate Drivers

The BoM release fortnightly updates to Australian climate drivers. In the update released on the 10<sup>th</sup> November 2020, the BoM indicated that the current La Niña event is likely to continue through summer 2020-21, with the event most likely to peak during December 2020 or January 2021 (Figure 9).

According to the BoM, the typical impacts across NSW during La Niña events include increased rainfall leading to a higher risk of widespread flooding. Daytime temperatures also tend to be reduced on average, however, heatwaves across the southeast of Australia are often longer in duration due to retention of heat in the atmosphere, albeit less intense.

According to the BoM, the strength of a La Niña event relates to the strength of the impacts. Some models are continuing to suggest that this event could reach a similar strength to the La Niña of 2010-12 (which resulted in widespread above average rainfall).



**Figure 9 – Bureau of Meteorology climate model ENSO forecast**

Three out of six of the climate models surveyed by the BoM suggest that negative Indian Ocean Dipole (IOD) thresholds could also be met in November, however, it is unlikely that any negative values would be sustained for long enough to be considered an event.

A negative IOD event typically brings above average rainfall to NSW during winter and spring but loses influence in early summer. This contrasts with the 2019-20 fire season during which a strongly positive Indian Ocean Dipole (IOD) was in effect through spring and early summer, and contributed to the ongoing drought conditions across NSW.

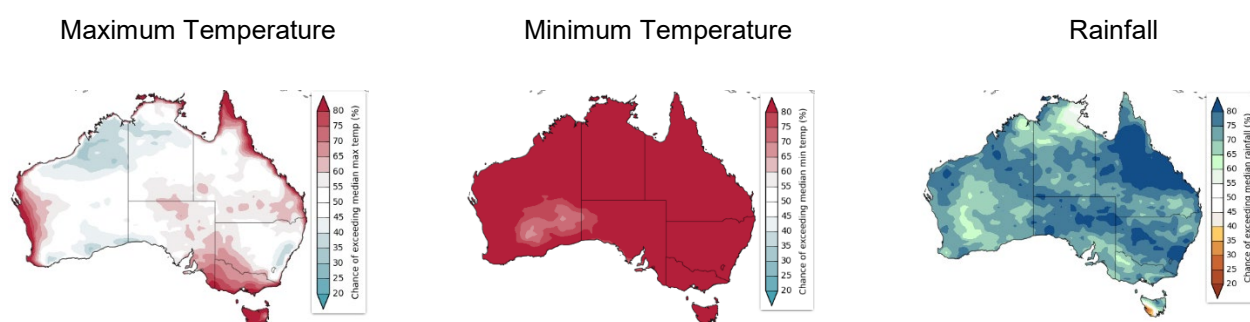
The Southern Annual Mode (SAM) is expected to remain positive over the remainder of November. A positive SAM during spring is typically associated with wetter and cooler than average conditions across parts of eastern Australia. In addition, La Niña tends to favour positive SAM during spring and summer, which typically enhances the wetter rainfall outlook.

## Temperature and Rainfall Outlooks

Current rainfall and temperature outlooks issued by the BoM (Figure 10) indicate summer 2020-21 is likely to see wetter than average conditions and warmer than average overnight temperatures across NSW. Warmer than average daytime temperatures are also slightly favoured across southwest NSW, although there are no strong shifts towards warmer or cooler than average days across the remainder of the State, noting the cooler signal in the east has weakened compared to previous outlooks.

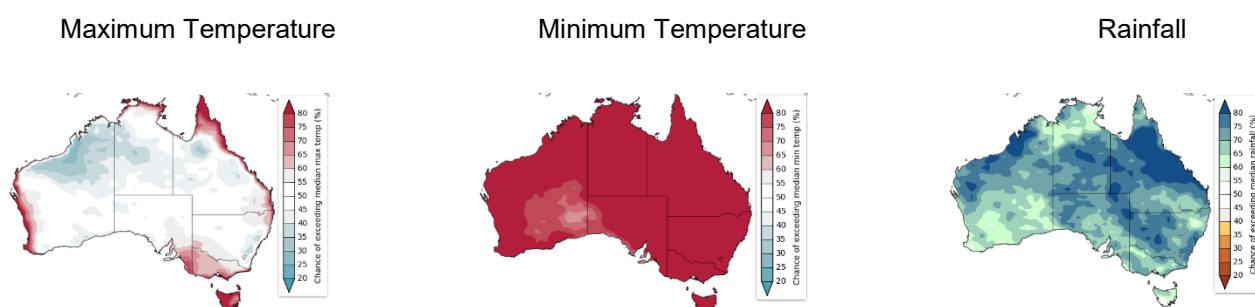
Outlooks for January to March 2021 (Figure 11) are showing similar patterns for rainfall and temperature and suggest wet conditions may linger into the start of autumn 2021, however this will heavily depend on the state of La Niña and other climate drivers at that time.

It's important to note that these outlooks are averaged across several months and do not model individual weather events. Despite the wet outlook, heatwaves and/or periods of dry weather still remain possible through the remainder of spring and summer which can elevate bush fire risk.



**Figure 10 – BoM Temperature and Rainfall Outlook (December 2020 to February 2021) issued 12 November 2020**

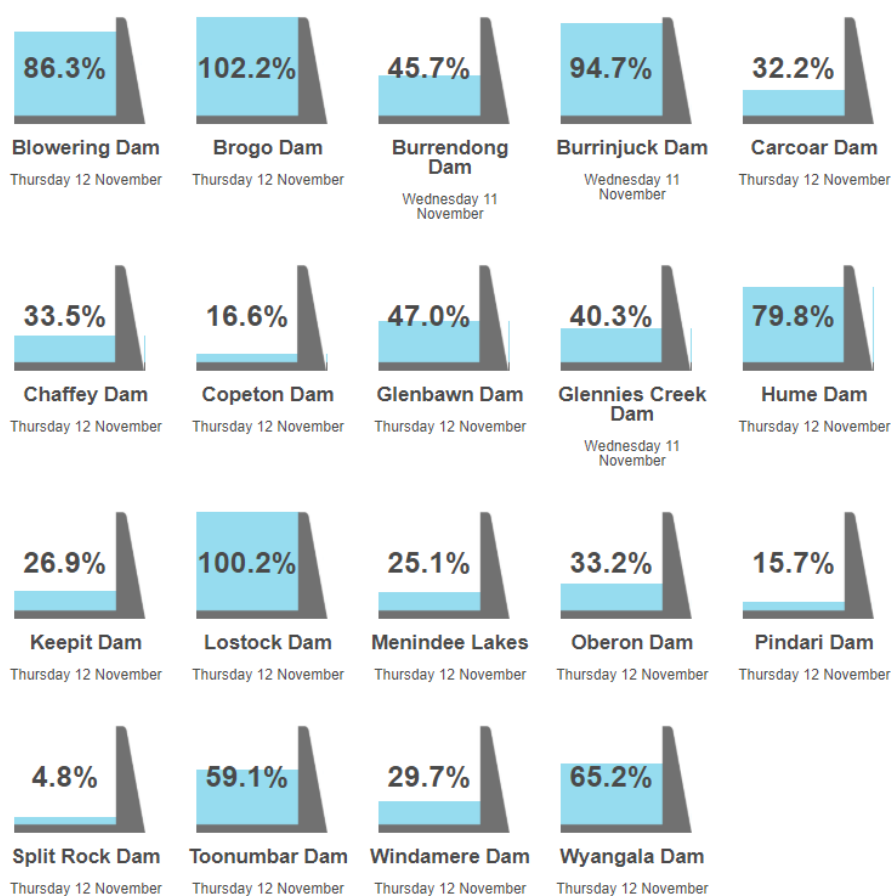




**Figure 11 – BoM Temperature and Rainfall Outlook (January to March 2021) issued 12 November 2020**

## NSW Dam and Water Storage levels

Despite above average winter rainfall for many areas, several NSW regional Dams remain in serious deficit (Figure 12). This situation remains a concern particularly for those areas that depend on dams such as Split Rock, Pindari, Copeton and Keepit Dams.



**Figure 12 – Water NSW Regional Dam levels**

## Fire Season Outlook

With a La Niña event underway in the tropical Pacific, the spring rainfall outlook appears favourable for above average rain for much of NSW.

The bush fire outlook for forested areas that were not affected by last season's fires, remains at a normal level for this season. Like most seasons, there is always a risk that if fires occur they could quickly impact on assets. There is a need to monitor for escalating fire danger associated with prolonged heat waves that can occur during La Nina years.

Recent and forecast rain, combined with warmer than average minimum temperatures, will provide ideal growing conditions for cropping and grassland areas. This spring growth has the potential to increase grass and crop fuel loads which are expected to become hazardous mid to late summer. Additionally, for many grassland areas, there have been reports of reduced stocking rates after the recent drought. This implication of this is that there may be less stock available to assist in reducing grass fuel loads in pastures.

Higher grass fuel loads can increase fire danger by increasing the intensity of grass fires. All other factors being equal, this increase of the intensity makes the fires hotter, more dangerous, and harder to put out.

This has resulted in the determination that the predominantly grassland areas on and west of the ranges are likely to see above normal fire potential and a high risk of fires impacting assets could occur this season. A map of these areas is displayed in Figure 13.

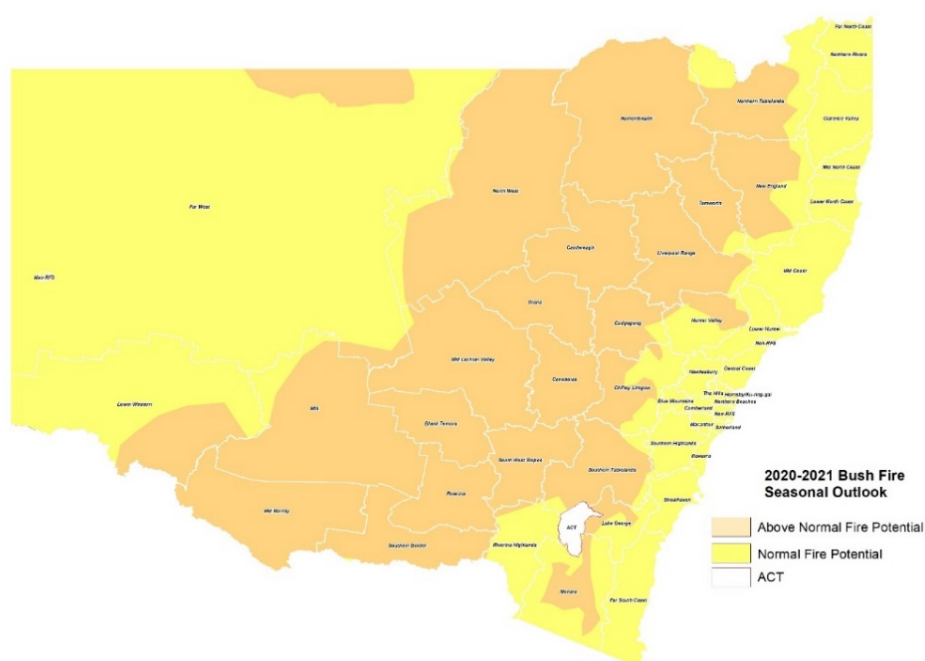


Figure 13 – NSW Seasonal Bush Fire Outlook.

# Preseason Preparedness

## Hazard Reduction

Bush Fire Management Committees are required to prepare a works plan to treat hazards identified within their Bush Fire Risk Management Plans. These works programs are reviewed and re-prioritised annually after fire season to take into account previous seasons fire history and subsequent modifications to risk.

In response to Recommendation 19, the NSW RFS is currently developing a new methodology for quantifying bush fire risk and risk reduction using computer simulators. This will provide maps that can be updated to reassess risk ahead of each season. Works programs to reduce the risk from bush fires can be reconfigured in response to changes in risk, and in the future these risk plans will be audited in accordance with Recommendation 28.

Since the end of last fire season noteworthy progress has been made in achieving hazard reduction targets, however implementation has been affected by winter rainfall. Recent weather windows of opportunity have facilitated over 38,000 hectares of hazard reduction burning, protecting over 50,000 properties, as at 31 October 2020.

NSW fire authorities will continue to undertake hazard reduction burning as conditions allow. In response to Recommendation 20 of the NSW Bushfire Inquiry, the cumulative targets for 2020-21 are based on local Bush Fire Management Committees (BFMCs) identification of risk and required work, as at 06 October 2020 is:

- To treat 266,623 hectares of vegetation; and
- Protect 168,151 properties.

With seasonal outlooks indicating a greater potential for prolific grass growth, the NSW RFS developed and rolled out the Rural and Regional Mitigation Program that saw in addition to its own fleet the engagement of additional machines to focus on APZ maintenance and creation.

To date the Rural and Regional Mitigation Program has undertaken close to 1000 hours of machine mitigation works by NSW RFS Mitigation Teams since commencement in July 2020. In line with Recommendation 21 of the NSW Bushfire Inquiry, the NSW RFS have extended the Mitigation Teams program to take full advantage of opportunities to implement hazard reduction activities.

### *Bush Fire Hazard Complaints*

During the period of 01 February 2020 to 30 September 2020, a total of 1,1175 Hazard Complaints were received. 71 percent (833) of these complaints have been finalised. The remaining 342 are considered pending as they are awaiting works to be completed or are being assessed.

Changes to legislation relating to Hazard Complaints is also being considered in parliament. If the Bill is assented to, the NSW RFS will be a central point for all hazard complaints on both public and private land. This coupled with proposed legislative changes relating to recommendation eight and the

establishment of an audit role for all bush fire management plans, will enable the NSW RFS in future years of the Statement to provide further detail about the level of risk and what is being done to manage it.

## Priority Areas

In addition to the normal BFMC process outlined above, the NSW RFS has undertaken a review to identify further priority areas in those parts of the state forecast to potentially experience above normal activity.

This process has identified over 300 areas that whilst not the only fire risks, they are areas requiring specific focus. Area Commands have commenced working with Rural Fire Districts to monitor, mitigate and reduce identified risk within these areas. Methods include ongoing inspections of grass growth in concern areas to monitor hazard levels, establishment and cyclic maintenance of Asset Protection Zones (APZ), planning, preparation and execution of hazard reduction burns, ignition prevention strategies and community education and engagement.

Treatment of these areas has progressed with around 66% of the treatment plans in progress or complete and shown in Figure 14.

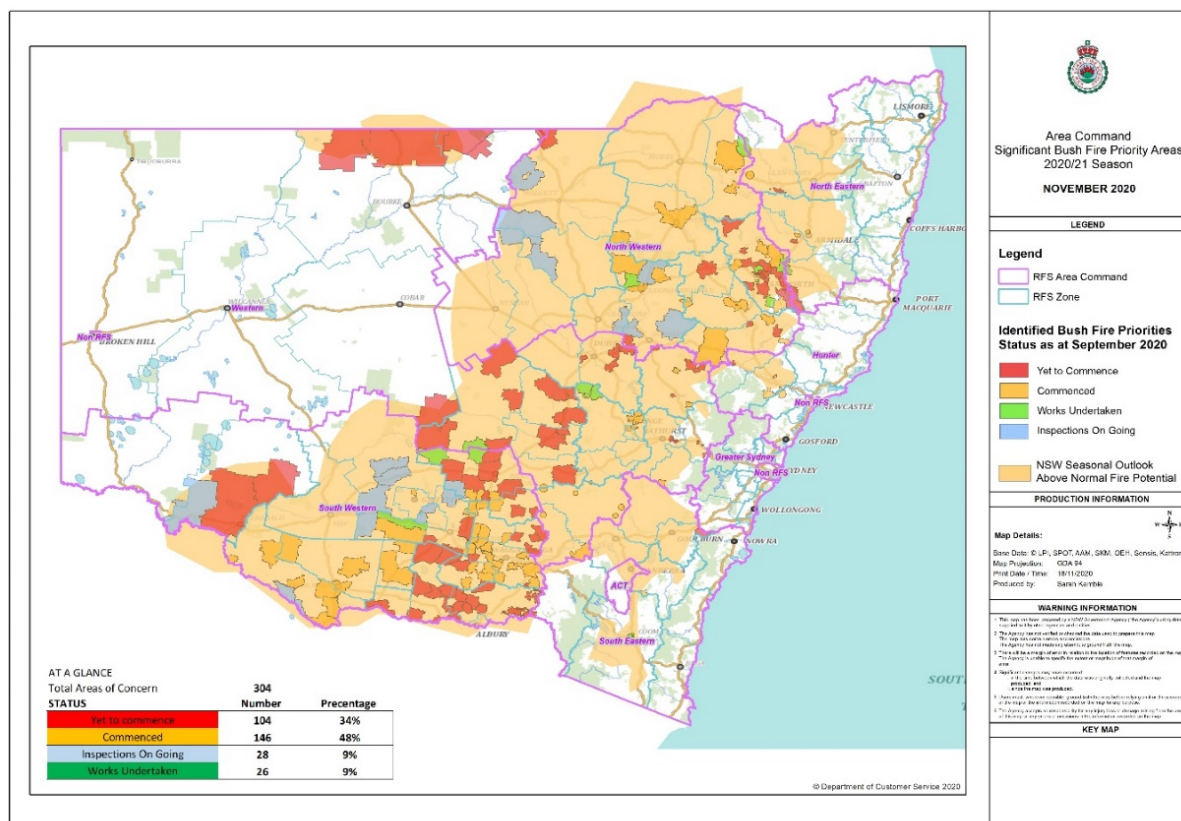


Figure 14 – Priority Areas in Areas Forecast for Above Normal Activity - Treatment Status

## Operational Preparedness

During the 2019-20 fire season, fire authorities responded to over 11,000 bush and grass fires and resourced over 200 consecutive days of Section 44 activity. Three State of Emergency declarations were made by the Premier and over 40 Section 44 declarations made by the NSW RFS Commissioner. Sadly 26 fatalities were recorded, including the lives of four NSW RFS volunteers and three American aircrew, and more than 2,400 homes destroyed.

There is concern that this level of activity may present ongoing challenges to member's mental health. As per Recommendation 41 and 42 of the NSW Bushfire Inquiry, increased support is being arranged to assist members post 2019-20 season and to prepare for the current season.

This season, as always the NSW RFS through the State Operations Centre will continue to monitor forecast conditions, changing risks and incident activity to allow coordinated planning and response to fires across the state.

### *Ignition Management*

During the Bush Fire Danger Period (BFDP), Fire Authorities manage ignitions via a system of issuing fire permits. These are free legal documents that place conditions on the use of fire on the ground and in the open.

For the majority of the State, the statutory bush fire danger period declaration commences on the 1 October 2020. However, many Local Government Areas (LGAs) particularly those in the north of the state commenced their BFDPs early to manage ignitions where conditions are conducive for fires to escape. Six LGAs commenced their BFDP on the 1 August 2020. A further 21 LGAs commenced on the 1 September 2020.

In addition, NSW fire agencies are focused on the most effective utilisation and pre-deployment of Rapid Aerial Response Teams (RART) 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.

### *COVID-19 Planning*

Responding to fires during the COVID-19 pandemic presents a unique challenge. The rapid spread of COVID-19 is indicative of the highly contagious nature of the disease. An outbreak or further spread of COVID-19 across the State could have an impact of firefighting operations.

The NSW RFS has established an Incident Management Team to co-ordinate internal COVID-19 response and activities. A COVID-19 plan is in place. As COVID-19 restrictions continue to change, the NSW RFS has updated advice to members regarding internal activities and events. Consistent with NSW Government advice and current restrictions, activities and events may be undertaken provided COVID-Safe practices continue to be in place.

### *Priority Projects*

In the interest of improving response following the 2019-20 fire season, the NSW RFS has identified 9 priority projects. These include:

- PPE Head Protection for firefighters
- PPE Respiratory Protection
- Member Availability and Response System
- Mobile Data Terminals for Firefighting Vehicles
- Integrated Dispatch System
- Design of Fire Appliances
- One NSW RFS Member Website
- Electronic Membership Application System
- Farm Fire Unit Integration

These projects are planned to be delivered over the next 12 months to bolster the NSW RFS capability.

### *Aviation Preparation*

Aircraft commencement dates have been finalised for the early parts of the season.

This season, three Large Air Tankers will be available including the NSW RFS owned 737 and two contract aircraft.

Two Citation fixed wing aircraft and two Bell 412 helicopters purchased by the NSW RFS are being made operational for the 2020-21 fire season. A third Bell 412 helicopter, gifted to the NSW RFS from the Goodman Foundation, will also become available later in season. These aircraft are in addition to the NSW RFS already owned three helicopters.

The Citation aircraft will be used for lead plane and trialled for line scanning duties whilst the Bell 412 helicopters will be used for aviation rescue and fire fighter transportation including the deployment and extraction of Remote Area Firefighters.

An airbase has been established at Dubbo to accommodate the Large Air Tankers, this is in addition to the air bases at Coffs Harbour, Richmond, and Albury.

For the 2020-21 fire season, a total of 32 NAFC contracted services are available for firefighting in NSW. Eight of these contracts have already commenced. In addition to those services, the NSW RFS has access to over 300 call when needed aircraft of which 260 can be used for firefighting purposes.

A number of trials with aviation equipment will be conducted this season, which directly relate to Recommendation 46 and 52 of the NSW Bushfire Inquiry. These involve trials of night-time aviation firefighting operations, the pre-determined dispatch of aircraft to fires at the same time as fire

appliances, equipment to automate and track loading of fire retardant as well as trials of medium RPAS (Remotely Piloted Aircraft Systems).

### *Heavy Plant Preparation*

With regards to Recommendation 49 of the NSW Bushfire Inquiry, this fire season will see the implementation of a new Heavy Plant management system known as ARENA HP. This system is based on an existing aviation deployment system used at a national level.

ARENA HP is designed to streamline the process for the identification and tasking of appropriate local heavy plant contractors. This includes streamlined financial delegation processes, enhancing Work, Health and Safety (WHS) compliance and to simplify the assessment and payment of heavy plant contractors.

The NSW RFS is currently receiving proposals from heavy plant contractors to be considered for inclusion in the new system, undertaking testing and targeted training sessions for NSW RFS staff, volunteers, and other agencies such as Forestry Corporation and NSW National Parks and Wildlife Service.

## Agency Firefighting Capability

A summary of agency firefighting capability is shown below.



**51,232**  
Firefighters

76,319 Volunteer members  
3,883 Appliances  
8 Owned Aircraft  
300 Contracted Aircraft Available  
700 Remote Area Firefighters  
34 Aviation Rescue Firefighters



**6,838**  
Firefighters

153 Bushfire Appliances  
399 Urban Appliances  
23 Drones



**1,067**  
Firefighters

406 Remote Area Firefighters  
7 Aircraft



**633**  
Firefighters

4 contracted aircraft available



## Community Preparedness

Levels of community awareness and preparedness peaked during the previous bush fire season. Research by the NSW RFS found eight out of ten people now have some form of plan for what to do during a bush fire. This has increased from around 30 percent a decade ago.

This increase is due to a consistent approach, which emphasises the importance of planning and preparation, and due to the extreme nature of the past season.

One of the challenges this season is maintaining the level of awareness and educating people that despite the extent of fire during the 2019-20 season, there is a high level of residual risk in some communities.

The NSW RFS has developed a new major public awareness to educate the community about the risk, while using some of the lessons of the recent season. This campaign continues the 'How fireproof is your plan' campaign approach and is scheduled to commence in early October at the start of the statutory bush fire season.

Communications materials have also been delivered around an increased risk of grass fires and will be implemented at the start of the statutory bush fire season.

A number of key initiatives have recently been developed or implemented including:

- Project Firestorm – a community engagement program targeting school aged children across NSW
- SPARC program – by Supporting Preparedness in at risk communities, a risk-based approach to community engagement has been established in all NSW RFS service delivery areas
- Project Fireguard – including the development and delivery of Community Field Liaison training to deliver information during incidents, based on recommendations from recent post-fire research.

The NSW RFS has also engaged the Bushfire & Natural Hazards CRC, and using the University of Wollongong, has established a major post fire research project looking at community preparedness during the recent fires.

Research conducted by the NSW RFS immediately following the recent fire season also found there was strong acceptance and support of new information and warnings products, such as fire spread prediction maps, which were used last season. The improvement of these products continues.

Significant enhancements have also been made to key warnings products including the Fires Near Me NSW smartphone application. This includes improvements to mapping systems which encountered issues across the 2019-20 bush fire season, and the development of new features such as user profiles and notifications inbox, in direct response to feedback last season. Implementation of cross border incidents, such as those within 50km of the NSW border in other jurisdictions, is being completed.



The NSW RFS has also been instrumental in the development and establishment of the new Australian Warnings System which will deliver a nationally consistent three level warning framework across multiple hazards, including bush fire.

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