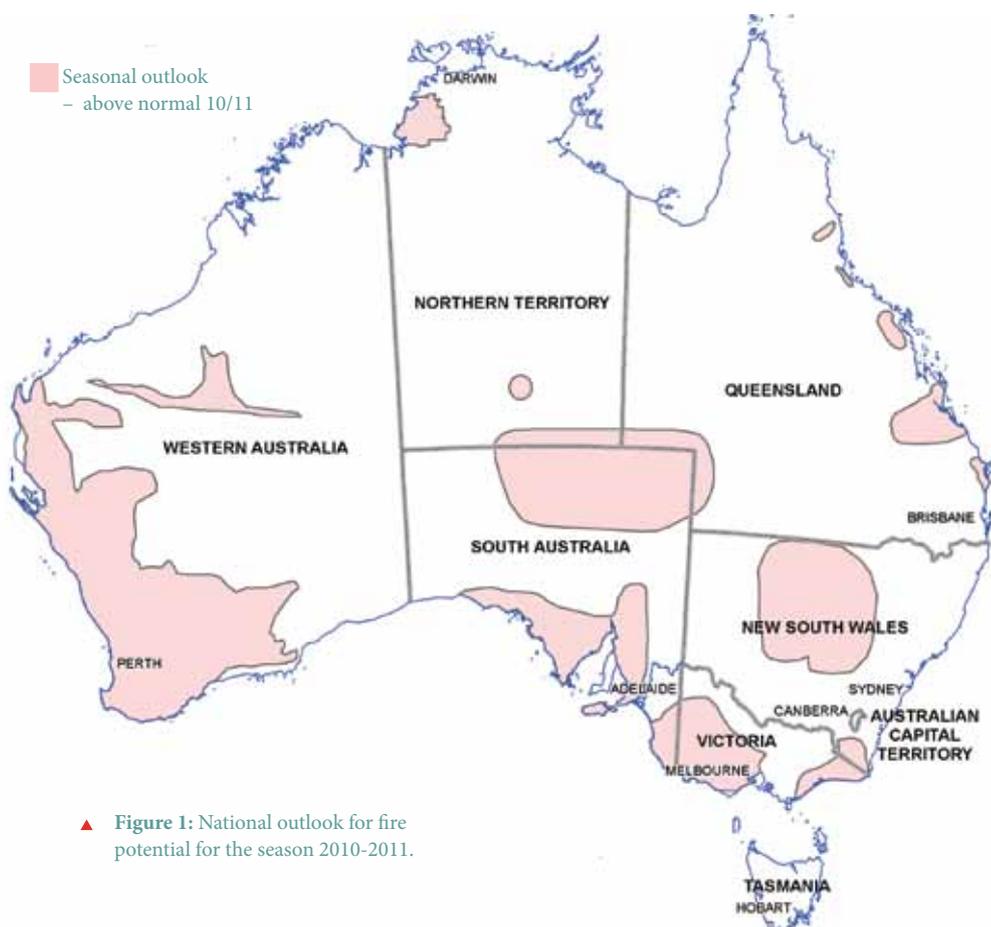


FIRE NOTE

ISSUE 67 OCTOBER 2010

AUSTRALIAN SEASONAL BUSHFIRE ASSESSMENT 2010-11: SUMMARY



DEFINITION

Fire potential: The chance of a fire or number of fires occurring of such size, complexity or impact that requires resources (from both a pre-emptive management and suppression capability) beyond the area of fire origin. Fire potential depends on many factors including weather and climate, fuel abundance and availability, recent fire history and fire-management resources available in an area.

INTRODUCTION

Across southern Australia, above-normal fire potential is expected over the remaining drought affected parts of the southeast, including much of Victoria, and west coast areas of South Australia. Much of the Southwest Land Division of Western Australia still has above normal potential as does an area of central Australia and smaller areas in Queensland. Conditions in Tasmania and New South Wales indicate normal fire potential (Figure 1).

These expectations summarise the views of the attendees at the Southern Seasonal Bushfire Assessment Workshop, held on 23 and 24 August 2010 in Melbourne. This workshop,

supported by the Bushfire CRC, brought fire managers, severe weather meteorologists and climatologists together to evaluate the fire potential for the upcoming season for the southern part of Australia.

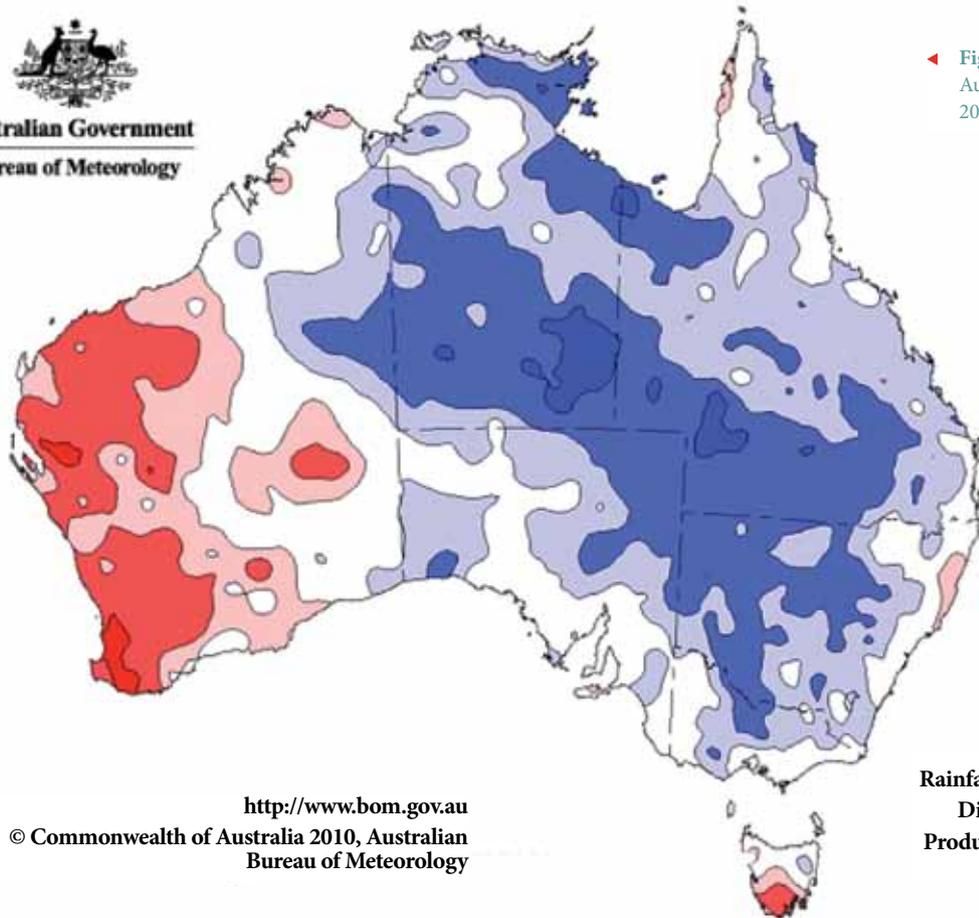
Fire potential depends on multiple factors. The stage is set by the antecedent rainfall. This is important for estimating the fuel amounts and growth, as well as determining the timing of the drying or curing of the fuel. The climate outlook for the next few months is a crucial factor. Of particular interest are the future tendencies of Pacific sea surface temperature associated with the El Niño-Southern Oscillation, a major climate driver over Australia. Other, less quantifiable factors,

such as the distribution and readiness of fire-fighting resources, are also considered.

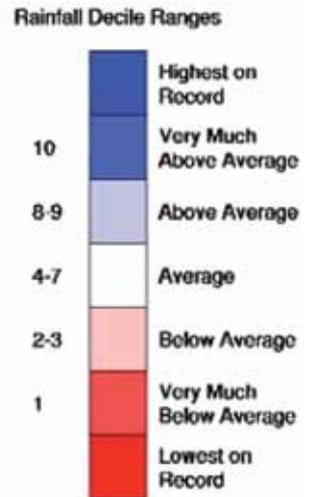
The fire potential of northern Australia was evaluated at a similar workshop held in July 2010 in Darwin as in previous years. This *Fire Note* presents a brief summary of the workshops with a consensus outlook reached by the participants.

ANTECEDENT CONDITIONS

Largely as a result of a strengthening La Niña event, rainfall over eastern Australia was above average for the period from January through to August. The months of February and March were wetter than average in the south east, priming this area for the onset of the southern



◀ Figure 2: Rainfall pattern over Australia from January to August 2010.



<http://www.bom.gov.au>
 © Commonwealth of Australia 2010, Australian Bureau of Meteorology

Rainfall Deciles (AWA grids 1900-pres.)
 Distribution based on gridded data.
 Product of the National Climate Centre
 Issued 21/10/2010

wet season, which saw above average falls during August and September. For northern and inland Australia, April, May, July, August and September also brought above average falls. In contrast, June was dry over virtually the entire continent.

For Victoria, the winter provided clear relief from the longer term big dry, however went only a small way towards truly catching up on the longer term deficits. The winter was also very wet in the Northern Territory.

Overall, for southeast Australia it was the wettest first eight months of the year since 1995, and ranks 30th wettest since 1900. Conversely, southwest Western Australia recorded its second driest January to August, driest April to August, and driest winter, on record, while Hobart only avoided having its driest January to August on record by 4mm.

Overall, winter 2010 was one of generally warmer than average conditions in the north and for Tasmania, and cooler than average in the south and central regions.

By early September, virtually the entire continent was showing very much above average to record high upper soil moisture profiles, the exceptions being seaward of the divide in eastern Victoria and New South Wales, and much of southern Tasmania, where values remained average to below

PARTICIPATING AGENCIES

- ACT Fire Brigades
- ACT Parks Service
- ACT Rural Fire Service
- Country Fire Authority (Vic)
- Country Fire Service (SA)
- Bureau of Meteorology
- Bushfire Cooperative Research Centre
- Bushfires NT
- Department of Environment and Conservation (WA)
- Department of Sustainability and Environment (Vic)
- Fire and Emergency Services Authority (WA)
- NSW Fire Brigades
- NSW Rural Fire Service
- Queensland Fire and Rescue Service
- Tasmania Fire Service

average. In southwest Western Australia, the persistent and record dry meant not only were streamflows at record low levels, but so was the upper soil moisture.

At the lower layer, record low soil moisture remains in parts of central and east Gippsland, southeast Tasmania, in isolated pockets east of the Divide in New South Wales, and for a vast swathe of southwest Western Australia.

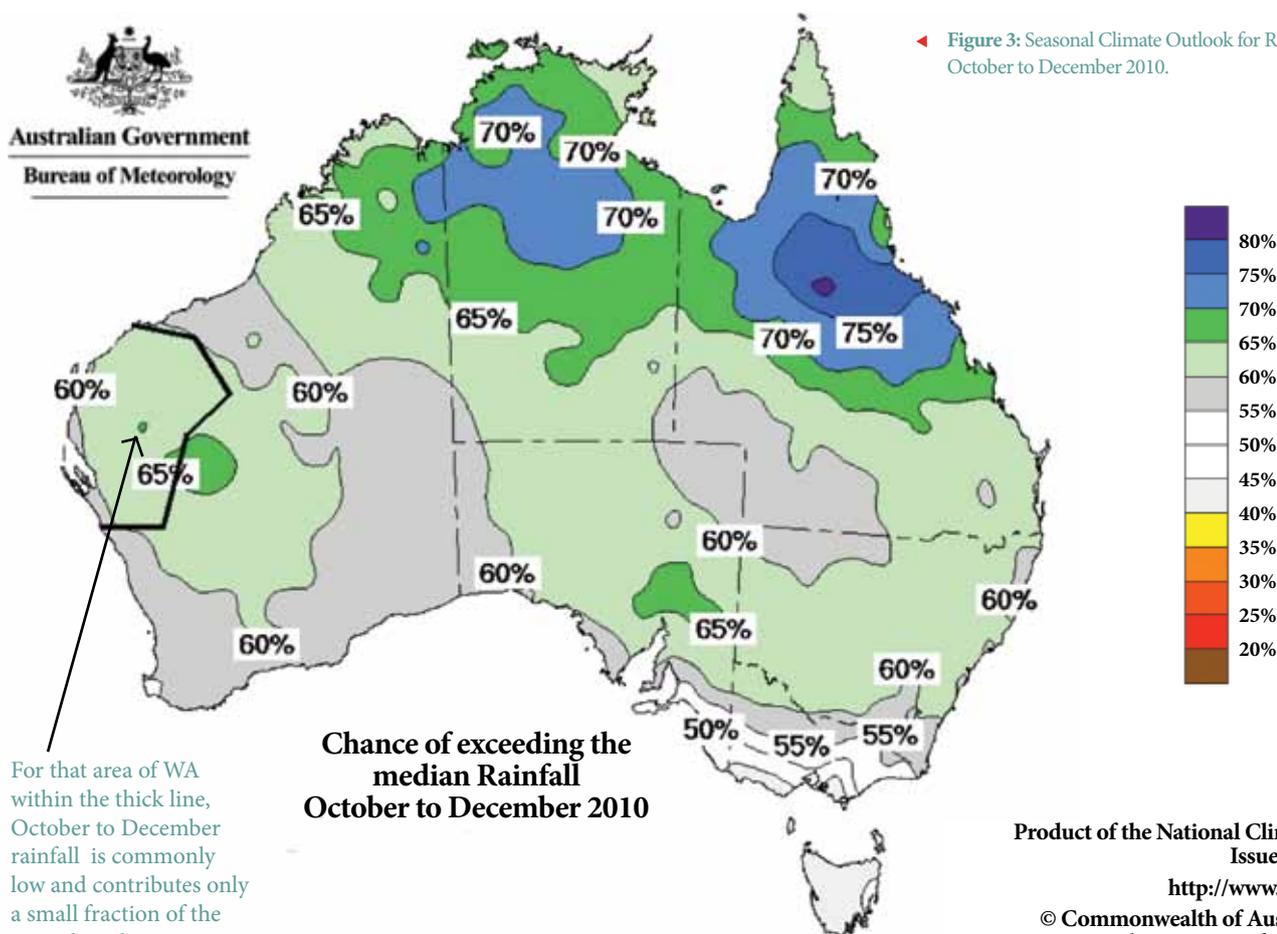
EXPECTED CLIMATE OUTLOOK

For the period October to December, the Seasonal Climate Outlook favours warmer than average daytime and night-time temperatures in the tropical north and southeast of the continent, with cooler daytime temperatures favoured over southern Queensland and northern NSW.

The Australian rainfall outlook from October to December favours wetter than average conditions over large parts of Australia, with more neutral odds for above median rainfall over Victoria and Tasmania. The strongest probabilities are across the north of the country, while for southern states the odds are generally between 55 per cent and 65 per cent for greater than average rainfall. This outlook is the result of warm conditions in the Indian Ocean and cool conditions in the equatorial Pacific Ocean, both of which are associated with the current La Niña event.

The Bureau of Meteorology's Predictive Ocean Atmosphere Model for Australia (POAMA) outlook suggests above average rainfall totals across virtually all of eastern Australia, with the exception of Tasmania. Likewise, cooler than average daytime conditions are forecast for inland Australia, with the exception of regions near the coast, Tasmania and the western half of Western Australia. There are several other models showing similar

◀ Figure 3: Seasonal Climate Outlook for Rainfall, October to December 2010.



expectations. The models also suggest that the current La Niña condition will persist into at least early 2011.

REGIONAL SUMMARIES

Western Australia

Above normal fire potential is anticipated through most parts of the Southwest Land Division due to the increased scrub and perennial grasses associated with the forest, woodland and mulga vegetation overstorey types. The remainder of the state is likely to be normal bushfire potential, as are the areas where there is a predominant grass or pasture fuel load. The Kimberley and Pilbara are fire-prone landscapes and it is normal for bushfires to occur each year.

Kimberley, WA: After an initial early cessation to the wet, significant rainfall occurred in mid-April, mid-May and July across the entire Kimberley with the highest falls in the northwest. The far eastern Kimberley received average but consistent falls through to July. Areas subjected to early prescribed burning now have significant regrowth. Overall there is an average bushfire potential.

Pilbara, WA: Below-average rainfall totals were observed in the western and south western portions, a result of very little tropical activity. The absence of rains led to



▲ Participants in the Southern Seasonal Bushfire Assessment Workshop, held in Melbourne in August.

the immediate availability of fuel associated with perennial vegetation, while there was a corresponding reduction in annual grasses. The exception was late season rainfall around Exmouth. Rainfall was mainly average in the eastern parts of the region. Bushfire potential is rated at mostly normal with several areas rated above-normal.

South Australia

Above average fire potential is indicated in the southern and northeast parts of the state. In the eastern part of the west coast, eastern Eyre Peninsula, northeast pastoral, Flinders, mid north and Kangaroo Island the rainfall received to date and along with favourable growing conditions should produce abundant fuel. In



◀ Dr Karl Braganza, from the Bureau of Meteorology, gives a briefing at the southern seasonal workshop.

the lower Eyre Peninsula, Mt Lofty Ranges and lower southeast, the potential is due to the ongoing long-term rainfall deficit to date. Normal levels of activity are expected elsewhere.

Tasmania

Long term antecedent rainfall deficits continue in western and particularly southeast Tasmania. However, recent rain has reduced the immediate threat and the La Niña conditions are likely to maintain a reduced threat level. Tasmania is therefore expected to experience an average fire potential until the end of November.

Victoria

Despite recent heavy rain, an above-normal fire season is still expected across much of Victoria as many forests are still very dry underneath from long-term record rainfall deficiency and could rapidly return to a very flammable condition with the onset of warmer, drier weather. There is some possibility that good rainfall associated with La Niña may delay or shorten this. An active

grass fire season is expected due to grass-promoting rains occurring at the start of the growing season.

New South Wales and the Australian Capital Territory

Above average rainfall over the last 12 months resulted in above average soil moisture, mainly in the west of NSW. Near the Victorian border in the southeast of NSW, shorter term near average to below average rainfalls have not negated the underlying long term dryness.

Above-average spring rains expected as a result of the developing La Niña mean unusually abundant grass fuels in the west of the state are expected to cure slowly and delay the onset of the fire season.

Queensland

Above to well above record rainfall has fallen over the state during August and September, reducing the fire season potential to normal throughout most of Queensland. Only isolated areas are now expected to have above normal activity this year as a result of the La Niña

conditions. These are broadly near Hervey Bay, Rockhampton, from Mackay to Bowen, Charters Towers and Mareeba. These areas are being closely monitored.

Northern Territory and Central Australia

Significant pasture growth has occurred throughout central Australia due to widespread above-average rainfalls. The scheduled programs of active fire management were restricted by low curing rates which were maintained by irregular rainfall during the May to September period. There is a high expectation of many fire ignitions when the curing rate increases. An area of above-average fire potential in the vicinity of Alice Springs is associated with a high density of buffel grass and fire ignition potential. The potential for extensive fires will be dependent on a second season of above-average rainfall. In the northwest Top End, an area of high fire potential is associated with areas of increased fuel loads associated with gamba grass and restricted programs of active fire management in the early dry season.

Fire Note is published jointly by the Bushfire Cooperative Research Centre (Bushfire CRC) and the Australasian Fire and Emergency Service Authorities Council (AFAC). This Fire Note is prepared from available research at the time of publication to encourage discussion and debate. The contents of the Fire Note do not necessarily represent the views, policies, practices or positions of any of the individual agencies or organisations who are stakeholders of the Bushfire CRC.

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Bushfire CRC is a national research centre in the Cooperative Research Centre (CRC) program, formed in partnership with fire and land management agencies in 2003 to undertake end-user focused research.
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AFAC is the peak representative body for fire, emergency services and land management agencies in the Australasia region. It was established in 1993 and has 26 full and 10 affiliate members.