

# FIRE NOTE

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## SOUTHERN SEASONAL BUSHFIRE ASSESSMENT 2009-10: SUMMARY

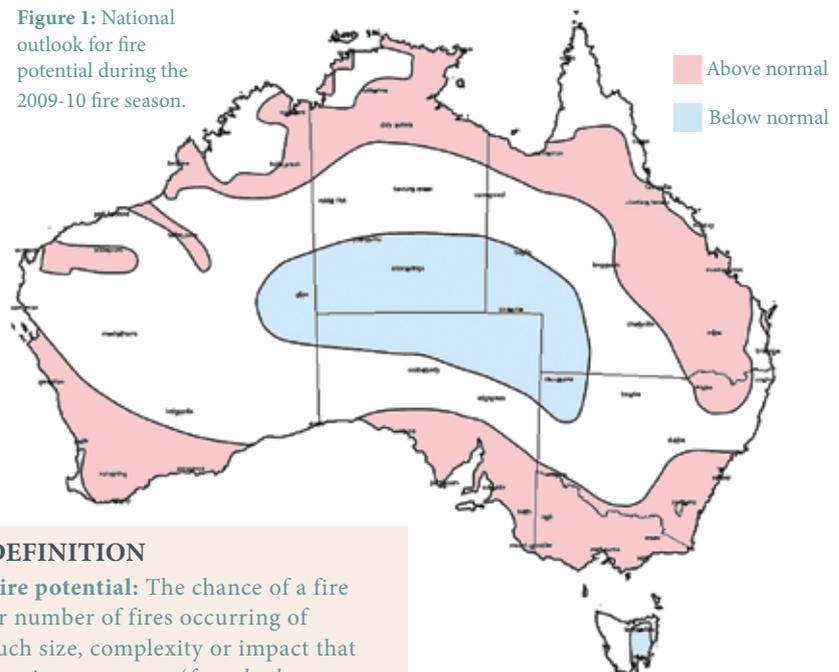
### INTRODUCTION

Across southern Australia, above-normal fire potential is expected over much of the southeast, including all of Victoria, southeastern New South Wales including the Australian Capital Territory, and the settled areas of South Australia. An area of northern New South Wales, extending into Queensland, and much of the southwest Land Division of Western Australia also expect above average fire potential. Conditions in Tasmania indicate normal to below normal fire potential, and below-normal levels of fire activity are expected in Central Australia (Figure 1).

These are the main conclusions of the Southern Seasonal Bushfire Assessment Workshop, held between 25-26 August 2009 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 portions of Australia. The fire potential of northern Australia was evaluated at a similar workshop held in June 2009. [See Bushfire CRC *Fire Note 34*]

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 participants of the workshop discuss these factors to obtain the consensus outlook presented here. This *Fire Note* presents a brief summary of the workshop; a more complete report will shortly be available to Bushfire CRC members.

► **Figure 1:** National outlook for fire potential during the 2009-10 fire season.



### 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.

### ANTECEDENT CONDITIONS

The 2009 winter season in Australia brought below normal precipitation across much of the country (Figure 2, next page). This region is most extensive in Queensland, eastern New South Wales, northern South Australia and the Northern Territory and also extends southwards into south-eastern and central Victoria. Much of the rest of the country has received normal to above normal winter precipitation, with Tasmania receiving above average precipitation.

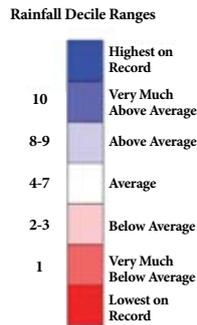
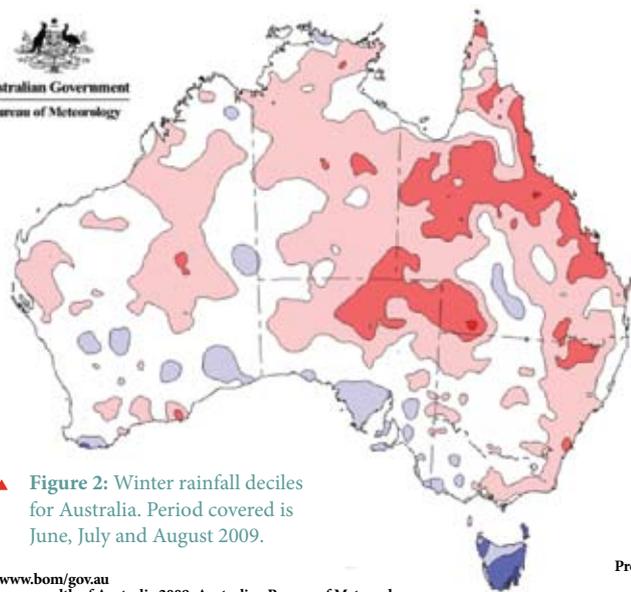
Over the longer term, autumn rainfall totals were very low in western Western Australia, while heavy rain and flooding were observed in northern New South Wales and south-east

Queensland. The south-eastern corner of the continent has seen long-term rainfall deficits extending back at least three years. This is particularly pronounced in Victoria, but also applies to southern portions of New South Wales and South Australia.

### EXPECTED CLIMATE SCENARIO

Warmer-than-normal sea surface temperatures are currently observed across much of the Pacific Ocean, consistent with a developing El Niño. In recent weeks, the evolution of this event has stalled to some degree, but the dynamical seasonal forecast models suggest that the warming trend is likely to continue until the end of the year. The Indian Ocean Dipole is likely to remain neutral for the next few months.

Consistent with a developing El Niño, the rainfall outlook for the upcoming spring (Figure 3 next page) suggests below-normal rainfall across most of eastern Australia, especially in Queensland, Victoria and South Australia. Above normal rainfall is anticipated in south-western Western Australia. Seasonal temperature outlooks for Spring (not shown)



Distribution based on gridded data.  
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▲ **Figure 2:** Winter rainfall deciles for Australia. Period covered is June, July and August 2009.

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suggest that both maximum and minimum temperatures will be above normal across most of the continent.

## REGIONAL SUMMARIES

### Western Australia

Above normal fire potential is indicated through most parts of the south-west Land Division due to increased grassland fuels following recent winter rains across the southwest forests and grasslands combined with anticipated El Nino conditions. A normal fire potential is expected through the Gascoyne, Goldfields, Eucla and parts of the interior after near average rainfall.

### South Australia

Above average fire potential is indicated in the southern and eastern parts of the state. In the eastern part of the west coast, eastern and Lower Eyre Peninsula, the mid-north and the lower southeast the rainfall received to date along with favourable growing conditions should produce abundant grass fuel. In the Murraylands and the Riverland, the potential

is due to both an ongoing rainfall deficit and land use changes. Normal levels of activity are expected in the southern parts of the pastoral areas due to average rainfall, and on Kangaroo Island due to above average rainfall.

### Victoria

Above normal fire potential is expected for all of Victoria; a result of a persistent long-term rainfall deficit over the state. Forested areas in the Dandenong Ranges, Otway Ranges, the Grampians, the Macedon-Bendigo corridor, East Gippsland, and the water catchments of Melbourne are areas of particular concern. In all regions an early start to the fire season is likely. While recent rainfall totals in many areas of the state have been about average, it is not expected to mitigate the longer-term drying in the state.

### New South Wales and ACT

In northern New South Wales, the region of above normal potential results from heavy rains earlier in the year being followed by recent rainfall deficits allowing the abundant fuel to dry. Predicted above average spring temperatures are expected to continue this drying trend.

In southern New South Wales and the ACT generally below average winter rains compound

## PARTICIPATING AGENCIES

ACT Parks, Conservation, and Lands, ACT Emergency Services Authority, ACT Fire Brigade, ACT Rural Fire Service, Bureau of Meteorology, Bushfire Cooperative Research Centre, Country Fire Authority (Vic), Department of Sustainability and Environment (Vic), Melbourne Water (Vic), Tasmania Fire Service, Department of Environment and Conservation (WA), Fire and Emergency Services Authority (WA), Country Fire Service (SA), Queensland Fire and Emergency Services, NSW Fire Brigades, NSW Rural Fire Service.

the long term rainfall deficiencies experienced across the region. This combined with predicted above average spring temperatures will lead to dry fuels over the southeast, and potentially early curing over the southern inland. Winter rains were especially sparse over southeast New South Wales to the east of the ranges where unseasonable fire activity has already occurred.

### Queensland

Above normal fire potential is expected from the Toowoomba escarpment south to the New South Wales border and extending north-west towards Charleville. This area extends to the North Coast Region as late autumn rainfall in coastal areas and wet soil and fuel conditions delayed prescribed burning in the region.

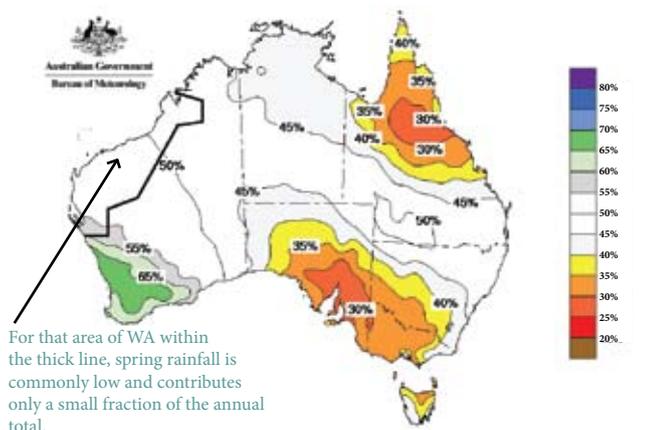
A normal bushfire potential is expected in the Brisbane and Southeast Region, and west of a line from Charleville to Blackall due to lower fuel loads.

### Tasmania

Above average winter rainfall in Tasmania has left much of the eastern half of the state with lower than normal fire potential, while the coastal strip from the east and across the north coast, plus all of the southwest, has normal fire potential.

### Central Australia

A large area of below-average fire potential exists in Central Australia, as several years of below-average rains have left little fuel in this area.



For that area of WA within the thick line, spring rainfall is commonly low and contributes only a small fraction of the annual total.

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▲ **Figure 3:** National Climate Centre precipitation outlook for Spring 2009. Fields depict chance of exceeding 3-month median rainfall during September, October and November.

Fire Note is published jointly by the Bushfire Cooperative Research Centre (Bushfire CRC) and the Australasian Fire and Emergency Service Authorities Council (AFAC).

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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. Bushfire CRC Limited ABN: 71 103 943 755

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