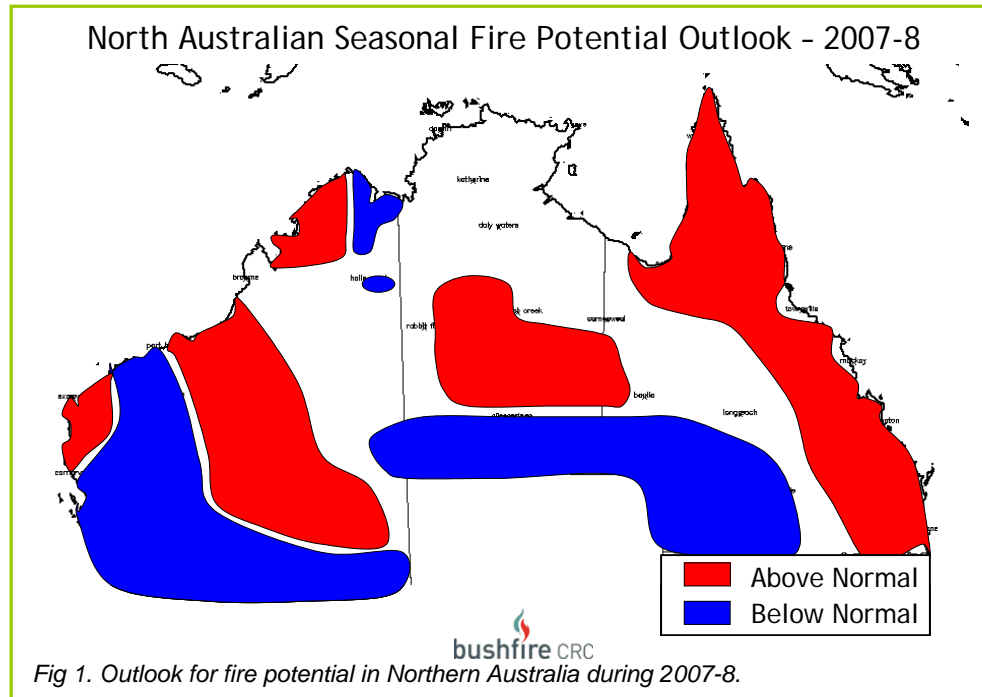


Seasonal Bushfire Outlook for Northern Australia 2007-8

Issued: May 2007

Normal to above-normal fire potential is expected for the remainder of the dry season over much of QLD and the NT, along with significant portions of WA. Below-normal fire potential is expected in the centre of the country and parts of WA. These are the main conclusions of the Northern Seasonal Bushfire Assessment Workshop, held 8 May in Darwin, NT. 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 NT, QLD and the northern portion of WA. The fire potential of the southern regions will be evaluated at a second workshop later in the year.



Fire potential depends on many factors. The stage is set by the previous wet season. 'How much rain falls where and when?' is an important consideration for estimating the fuel amounts and growth, as well as impacting 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 document presents a brief summary of the workshop; a more complete report is forthcoming.

Antecedent conditions

The last wet season began later than normal across much of the north, delayed until mid-December across much of the region. Total precipitation from October 2006 through March 2007 was normal to above normal over much of WA and NT, while much of QLD saw below normal rainfall (Fig 2). This region of below normal rainfall was particularly prevalent in the SE corner of the state. The far western corner of WA also experienced below-normal precipitation. Even in regions with above normal rain, the rainfall was somewhat atypical, with most of the rain coming in a few extreme events with long dry spells between. A tropical low in January brought heavy rain to the Tanami Desert region of Central NT and far SW QLD. The incipient stages of TC George brought heavy rain the Top End. Tropical cyclones George and Jacob brought abundant precipitation to the interior regions of the Pilbara. In April 2006, TC Monica brought heavy rain to the Gulf. Despite the impact of tropical systems on continental Australia, this past season saw lower than normal TC numbers overall.

Defining Fire Potential

The chance of a fire, or a number of fires of such size, complexity or other impact occurring that requires resources from beyond the area which it or they originate. Fire potential depends on many factors including weather and climate, fuel abundance and availability and fire-fighting resources available in an area.

Expected climate scenario

The Predictive Ocean-Atmosphere Model for Australia (POAMA) suggests that the eastern Pacific (NINO3) is moving toward cooler sea surface conditions (Fig 3). Historically, this often means La Nina-like conditions, with normal to above-average precipitation totals and an early onset of the wet season in the north. International models suggest a similar scenario. Given the uncertainty inherent in these predictions, there remains a chance of more neutral SST conditions occurring. There is believed to be little chance of a return to El Nino conditions this season. Statistical seasonal outlooks, based on current conditions, indicate that above-normal temperatures are expected over much of the region for the dry season.

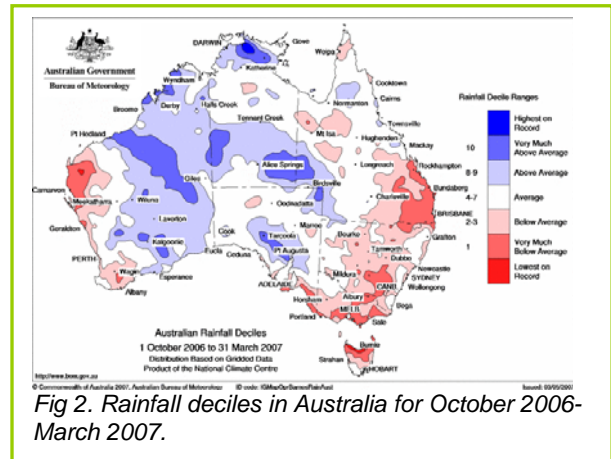


Fig 2. Rainfall deciles in Australia for October 2006-March 2007.

Regional Summary

West Kimberley: The 'split' wet season has produced abundant fuel with an unusual structure. The early rain allowed grass to germinate, while the long break allowed that vegetation to begin to cure. The late rain caused more grass to germinate. Results from the early season prescriptive burning suggests that fire activity in this region is already more active than usual for this time of year.

Pilbara and Interior WA: Heavy rainfall from TCs George and Jacob in early March (which also extended into the northern part of the WA interior) has led to abundant grass growth and a heavier than normal fuel load. While this vegetation is not currently cured, later in the season higher than normal fire activity is expected. Other portions of the broader region (northern Gascoyne and southern Interior) out of the path of the cyclone have below-average fire potential.

Central NT: The tropical low in January brought heavy rain to central portions of NT, from the Tanami Desert across the northern half of the Alice Springs district to the QLD border. Much of the Tanami also experienced heavy precipitation last year as well; hence fuel loads are very high, particularly in regions that escaped fire last season.

Cape York, NE QLD: While rainfall was below average for much of this region, much downed litter remains from TCs Monica and Larry last year. Hence fuel loads are high. Additionally, due to the split wet season and late rains in May, much of the grass that has grown this season is rapidly becoming fully cured.

SE QLD: Much of this area is experiencing a long-term drought. The cured grass and dry forests of this region are ready to burn. Fires have already begun in this region. Above-average rainfall, suggested in the current seasonal outlook, could alleviate some of this concern.

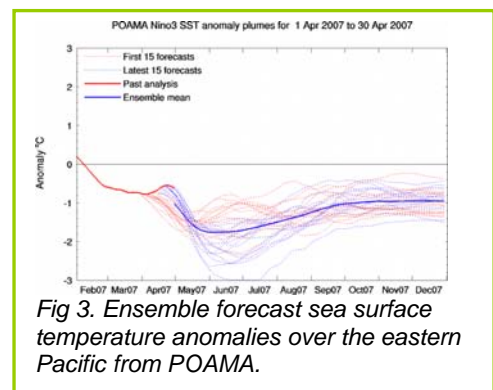


Fig 3. Ensemble forecast sea surface temperature anomalies over the eastern Pacific from POAMA.

Participating Institutions

- Bureau of Meteorology
- Bushfires NT
- Fire and Emergency Services Authority (WA)
- Department of Environment and Conservation (WA)
- Queensland Fire and Rescue Service
- Cape York Peninsula Development Association
- Geoscience Australia
- Landgate WA

Southern NT and SW QLD: For heavy fuel loads to build in this region, above-average rainfall over two consecutive seasons is required. As this has not been observed, fuel loads are below normal and exceptional fire activity is not expected in these regions.

Far West WA: Much below-average rainfall and the relative lack of fires last season has allowed the grass in those regions to cure and present an above normal fire potential for the upcoming season.

This workshop is coordinated by the Bushfire CRC as part of the Fire Weather and Fire Danger project. For further information, contact Chris Lucas (c.lucas@bom.gov.au) or Graham Mills (g.mills@bom.gov.au).