

**NATIONAL MEDIA BRIEFING - 6 September 2007 in Melbourne**

**Is Australia still in drought? – Post winter update**

**TRANSCRIPT**

**Dr Mike Coughlan**  
**National Climate Centre, Bureau of Meteorology**

When Susannah asked me what had happened in winter I had a look at it, at the various maps and the story was, as she indicated, quite mixed. In fact a lot of the areas of south eastern Australia, the rainfall had been about average and some areas of course we've had very much above average and other areas had been very much below average but the story there wasn't exceptionally strong in terms of the climate and the emphasis did seem to be in what was happening in the water area. So I think the real story of the winter will follow in the following 3 talks but I will at least set the scene in this presentation.

The 2 maps that we have up here, winter rainfall on the left there, red means below average rainfall, blue means above average rainfall, so on the left here we have the winter rainfall, 3 months, June, July and August and you can see through this area here the situation is exceptionally bad. In fact I had an email from my colleague in South Australia, the Bureau of Meteorology in South Australia saying the situation there is exceptionally dire. The crops are failing, water restrictions are the strongest that they've ever experienced and so the situation in South Australia particularly dire and also through the western parts of New South Wales and also north western Victoria. This came on the back of some reasonably good rainfall in autumn which proved to be a bit of a teaser and you'll probably hear from that a fair amount of crops on but unfortunately the rainfall, the backup winter rainfall didn't come through as we were hoping certainly in autumn. This is a little bit of an odd one, this is normally a dry area across Australia during winter and the fact that there's a lot of blue there doesn't mean to say that there's a lot of rain. It just means that the rainfall is above average and above average meant that there was about 25 to maybe 50mm of rain in a very unusual rainfall event which occurred across there, I think it was in June. But the real story of the rain, and I'll come to it later on, was these very heavy falls in the Hunter region, round Sydney and east Gippsland and more recently in south east Queensland. So all the rain in essence was just too far east and of course we lost an enormous amount of rain out there over the ocean where all it did was reduce the salinity of the oceans. So as you can see a very mixed bag of rainfall over Australia in winter. The situation in Western Australia was also another one we'd have to say almost a failed rainfall event, they were failed winter rainfall in the south west of Western Australia. And of course this comes on top of prolonged hydrological drought. This goes back to January 2002 so we're looking at roughly a bit over 5 years here. You can see here this long period of below average rainfall for most of eastern Australia and most of, and large areas of south west of Western Australia. So again the story here, no replenishment of these major shortfalls in rainfall that have been building up for a 5 year period. The temperature is interesting as well. This is the graph of temperature for southern Australia roughly aligned south of here I think it is. That's correct isn't it I think? South of here, indicates as you can see temperatures just inexorably rising across southern Australia. These events here, this is the '82 event here, '82 drought period here and now even without it, and that was an El Nino, even without an El Nino we're exceeding those sorts of temperatures that we were experiencing in the middle of El Nino's back in these periods here. So is this part of global warming? Well one has to say yes, it's certainly contributing to the global warming pattern. So Australia is up there with much of the rest of the world and perhaps even ahead of the rest of the world in terms of the rate at which the temperature is rising. The outlook, not a particularly encouraging outlook, what we show here is the percentage chance of rainfall being above average, in other words is it going to be 60% above average, 80% above average? Unfortunately there's nothing much in those sorts of figures. We're getting figures here only about a 40% chance, 45% chance of rainfall here being above average, only about again about 40-45% rainfall being above average. A little better over eastern parts of New South Wales and south east Queensland but no real strong signals there of rainfall being

above average over eastern Australia. The situation for the south west of Western Australia, if this does come off, and this will certainly help to relieve some of the rainfall deficits over the south west and Western Australia but I do have to add here that we're having so many, we're seeing such trends occurring in our existing climate that these forecasts which are based on historical climate are starting to get very uncertain. The levels of uncertainty in these statistically based forecasts because of the strong trends that we're getting, the statistically based forecasts are not as good as we would like them to be.

Why is this occurring? We go and look for our friend La Nina. This was the hope that everybody was looking for and certainly we do have a La Nina. During an El Nino temperatures across here generally tend to be well above average or above average through here and you can see the reverse is the case. Temperatures across here are below average. Temperatures over here are warmer than average but the real, the high anomalously warm temperatures are again further to the east and this could possibly explain why we're seeing, instead of the warmer than average temperatures being most strong in this region they seem to be most strong further out to the east and this may explain why we're seeing rainfall developments instead of starting to occur here and producing good rainfall over south eastern Australia, they're occurring further east. That's just one possible explanation. In other words La Nina is there but it's just too far east and all the rainfall, instead of occurring over south eastern Australia, is occurring here out in the Tasman Sea.

This is the typical September to November rainfall that one would expect to see in the spring of a La Nina period. In other words we would still expect to see above average rainfall in this region, in fact right through here but the fact that this La Nina has stalled, the fact that it doesn't appear to be developing as rapidly as we would have expected, has to cast this prognosis into doubt as you saw on the previous slide, we're not so optimistic now that we will get this sort of rainfall.

So just running quickly to summarise. A dry winter over much of southern Australia has occurred on top of those long term dry conditions. Unfortunately the promise of autumn didn't come through. We didn't get the follow through and the winter rains and as I said indicated the situation in South Australia is particularly dire. Record warm temperatures of course exacerbate the dry conditions so that that early rainfall that did occur in autumn, the evaporation from that is going to be much higher. The seasonal outlook, as best we can do it doesn't show any strong relief coming through in the next 3 months over the spring period. Notwithstanding, the chance of La Nina developing, continuing to develop does remain higher than the long term average but with each passing week, with each passing month then the prospect of that starts to fade and probably the best assessment now is that we will stay more or less in neutral conditions, or close to neutral conditions over the next 3 months which of course will not produce the above average rainfall that we so need. At that point I'll finish and hand over to the more interesting aspects. Thank you.

---

Contact: Australian Science Media Centre  
PO Box 237  
RUNDLE MALL SA 5000  
Ph: 08 8207 7415 | Fax: 08 8207 7413 | Email: [info@aussmc.org](mailto:info@aussmc.org) | Web: [www.aussmc.org](http://www.aussmc.org)

The Australian Science Media Centre (AusSMC) is an independent national venture working to make evidence-based science available to everyone through the media. The not-for-profit centre is advised by a Science Advisory Panel and governed by a Board of Management. It is supported by a wide variety of sectors with each contribution capped at 10% of total running costs. Foundation sponsors are the ABC, APN News & Media, Cochlear Foundation Ltd, CSIRO, Fairfax Media, the Govt of SA, Innovative Research Universities Australia, Macquarie Bank, Media Monitors, News Ltd, Orica Ltd, PBL, Prime TV, ResMed Inc, Shell Australia Ltd and the State Govt of Victoria. Gold Sponsors are Johnson Winter & Slattery, BHP Billiton and the University of Adelaide.