NAMS
NATIONAL AGRICULTURAL MONITORING SYSTEM

# Climate and Agricultural Update

# National Report

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# Contacts

For further information visit http://www.nams.gov.au, or for enquiries/feedback relating to this report contact the NAMS helpdesk at NAMS@nams.gov.au.

## Contributors

The information contained in this report is regularly sourced from the following organisations:

### ORGANISATION

| | |
|---|---|
| Bureau of Meteorology | http://www.bom.gov.au/ |
| Bureau of Rural Sciences | http://www.brs.gov.au/ |
| Department of Primary Industries, New South Wales | http://www.dpi.nsw.gov.au/ |
| Snowy Hydro Limited | http://www.snowyhydro.com.au/ |
| Australian Bureau of Agricultural and Resource Economics (ABARE) | http://www.abare.gov.au/ |
| Department of Agriculture and Food, Western Australia | http://www.agric.wa.gov.au/ |
| Goulburn-Murray Water | http://www.g-mwater.com.au/ |
| Queensland Department of Primary Industries and Fisheries | http://www.dpi.qld.gov.au/ |
| New South Wales Department of Water and Energy | http://www.naturalresources.nsw.gov.au/ |
| Meat and Livestock Australia | http://www.mla.com.au/ |

| | |
|---|---|
| Department of Primary Industries and Resources SA<br>  | http://www.pir.sa.gov.au/ |
| Department of Primary Industries, Victoria, Australia<br>  | http://www.dpi.vic.gov.au/ |
| Murray-Darling Basin Commission<br>  | http://www.mdbc.gov.au/ |

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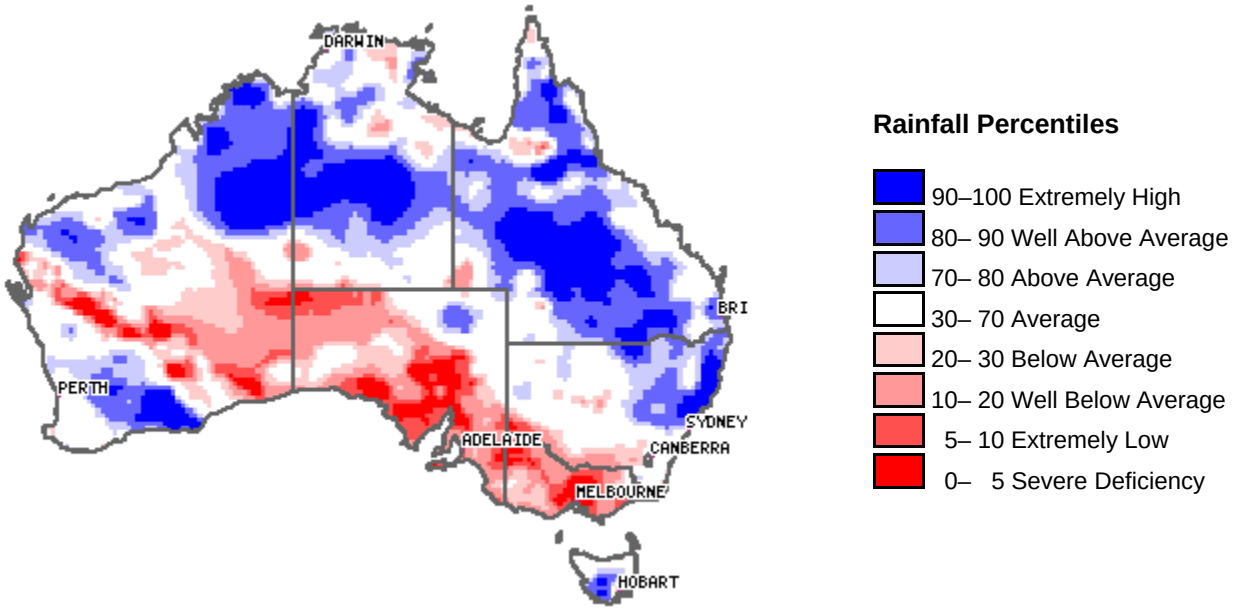
# 1.0 Rainfall and temperature

## 1.1 Rainfall

Spatial rainfall analyses are based on historical monthly rainfall data provided by the Bureau of Meteorology. For further information on rainfall data and the interpretation of percentile analyses, go to http://www.bom.gov.au/climate/austmaps/.

### *Rainfall over the last month (September 2008)*

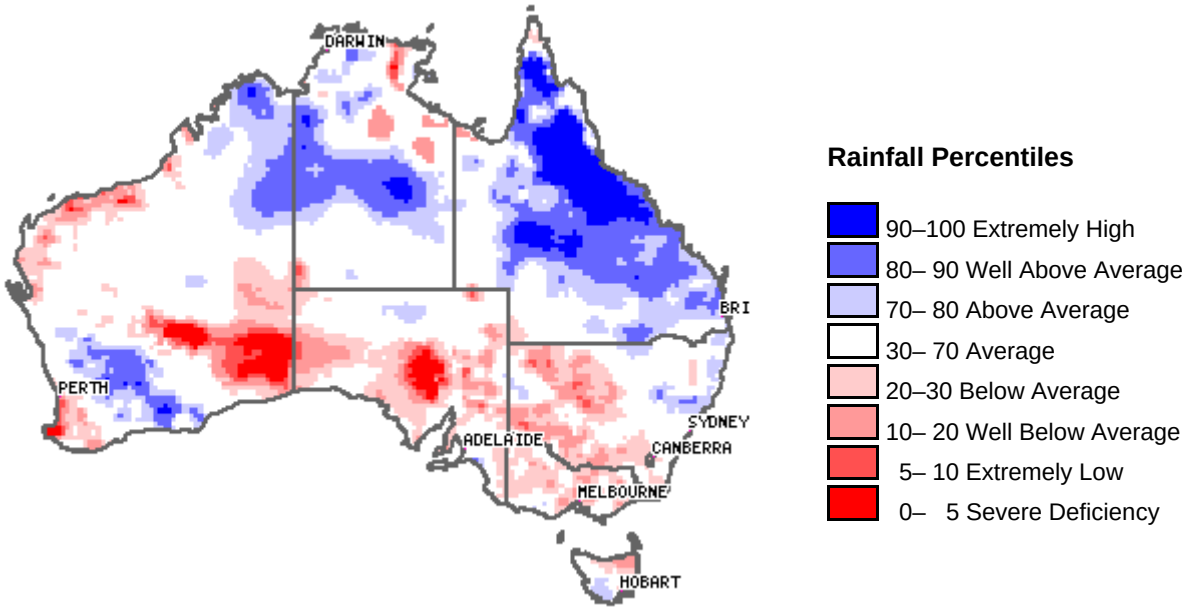



**Rainfall percentiles for September 2008.**

The total rainfall for Australia in September 2008 was 6 per cent above the long-term mean (1961–1990). Nevertheless, September 2008 was the eighth driest on record for South Australia (SA) (76 per cent below average) and Victoria (51 per cent below average). Rainfall over south-east and central Western Australia (WA) was also below average.

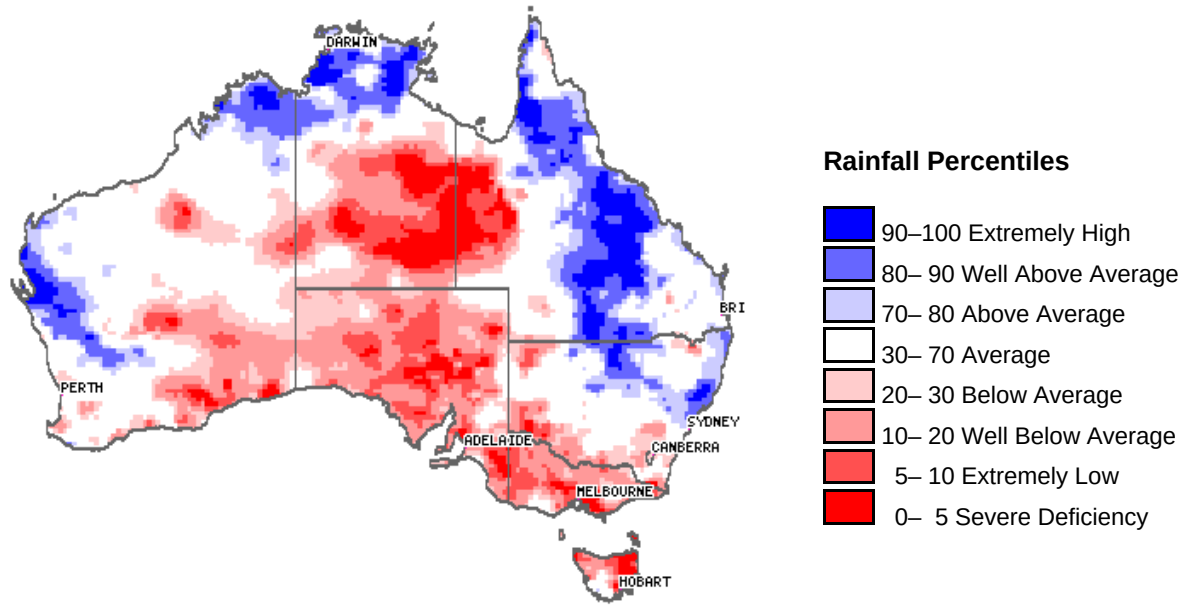
Predominantly above average rainfall was recorded in a band extending from the Kimberly in WA to the north coast of NSW.

## *Ongoing or emerging rainfall situations*




**Rainfall percentiles for the last three months July 2008–September 2008.**

The rainfall from July to September was variable across the country. In SA, NSW, Victoria and the south-eastern interior of WA rainfall was generally below average to average. Rainfall was generally average to above average in the NT and Queensland. Rainfall in Tasmania and most of WA ranged from below average to above average.



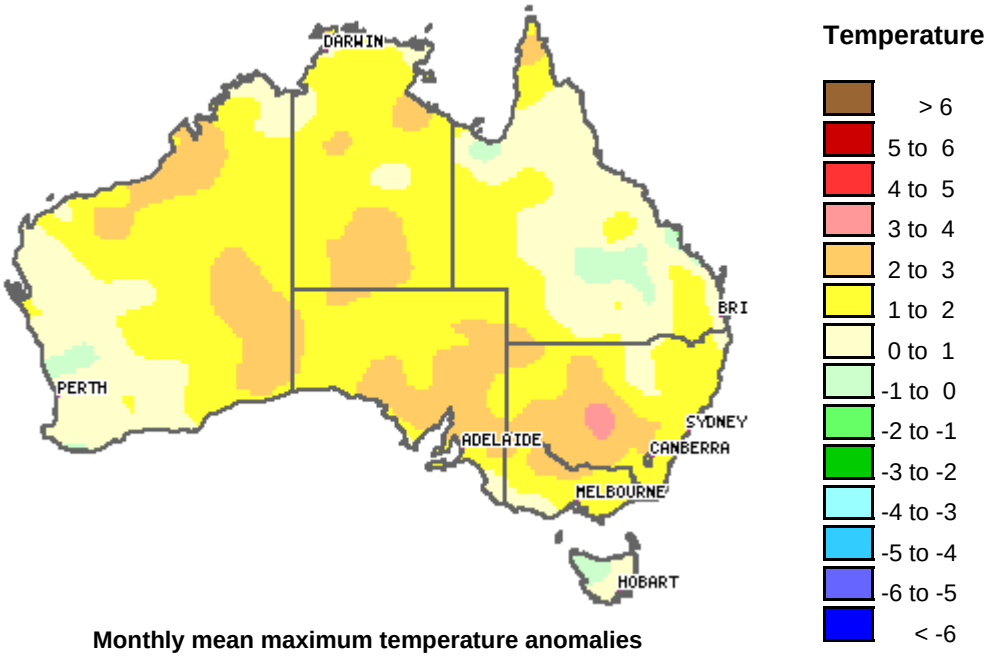

**Rainfall percentiles for the last 12 months October 2007–September 2008.**

Rainfall deficiencies were evident for the central and southern parts of the continent (including most of the agricultural districts) and in northern and eastern Tasmania during the last 12-month period.

Much of Queensland and northern NSW benefited from above average rainfall associated with the 2007–08 La Niña event.

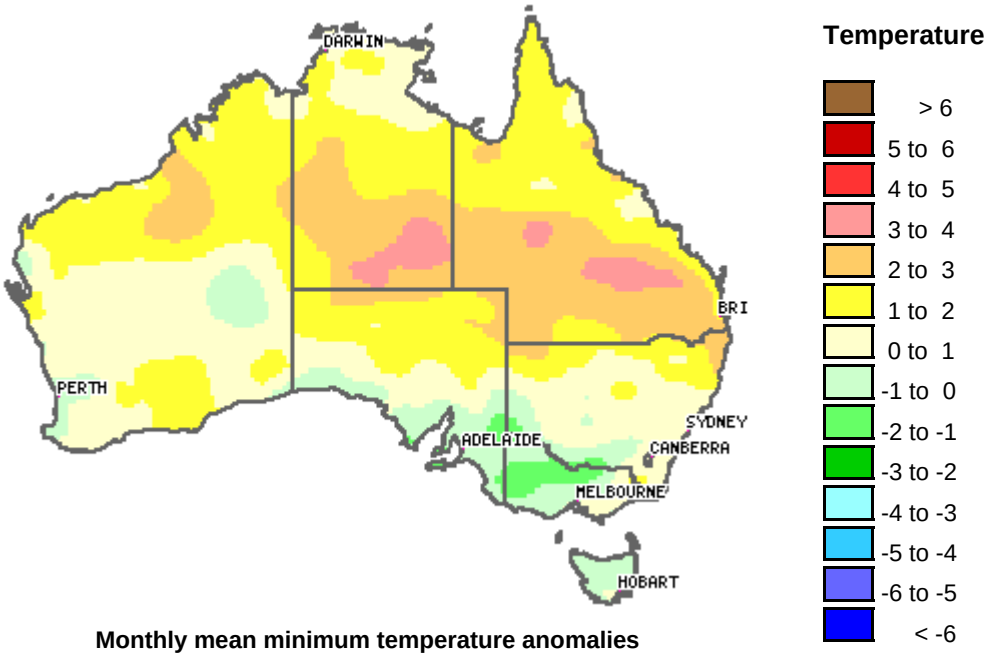
## 1.2 Maximum and minimum temperature anomalies

Spatial temperature analyses are based on historical monthly temperature data provided by the Bureau of Meteorology. These temperature anomaly maps show the departure of the maximum and the minimum temperature from the long-term average. Temperature anomalies are calculated with respect to the reference period 1961–1990. For further information on temperature anomalies, go to: http://www.bom.gov.au/climate/austmaps/.




**Monthly mean maximum temperature anomalies September 2008.**

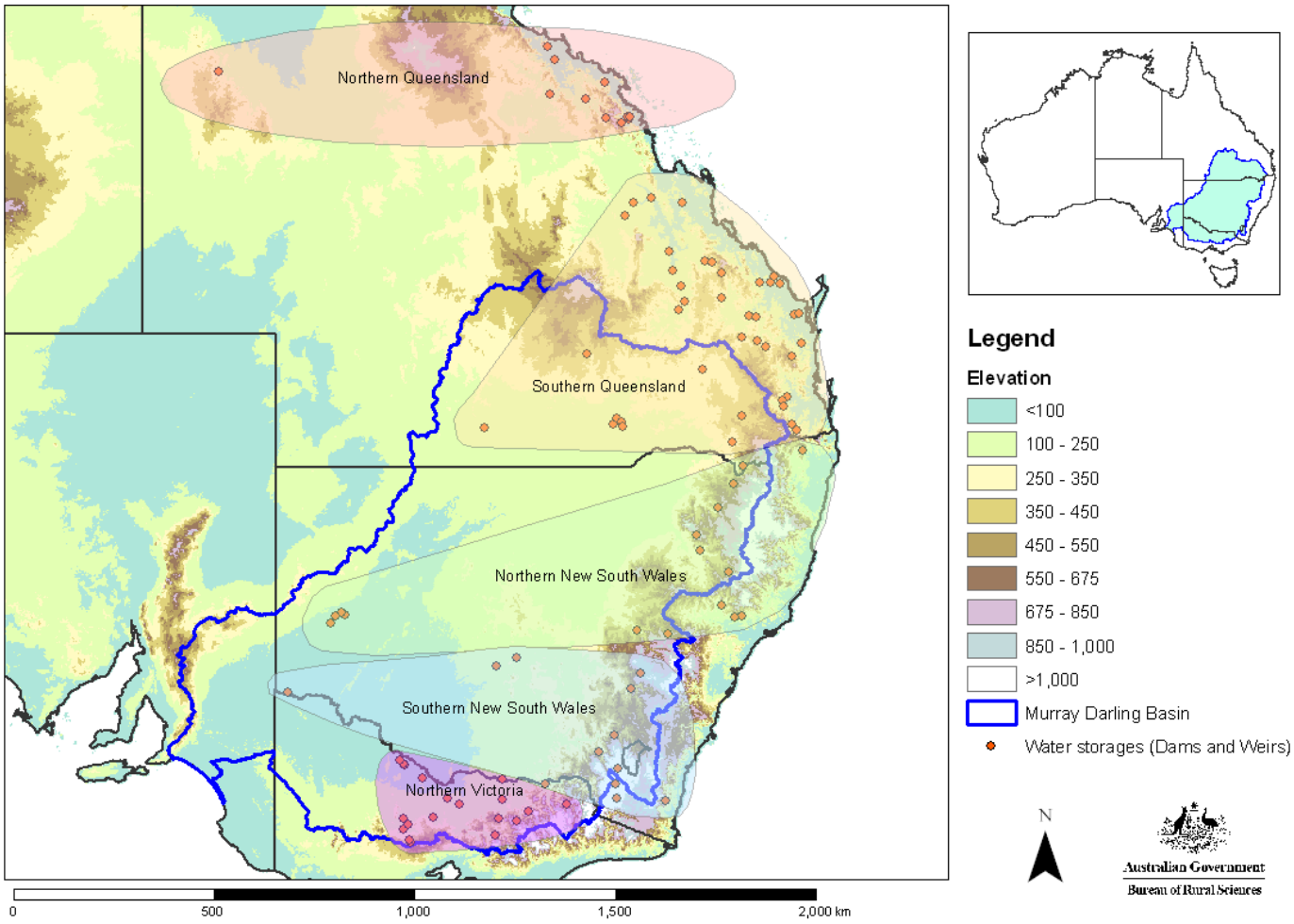
Maximum temperature averaged over the continent was 1.47°C above the long-term average for September (ninth highest of 59 years). September 2008 was the fifteenth consecutive September with above average maximum temperature. Temperature maxima in central NSW were 3–4°C above average.




**Monthly mean minimum temperature anomalies September 2008.**

Minimum temperature averaged over the continent was 1.29°C above the long-term average (eighth highest of 59 years). Minimum temperatures were generally above average for all states except Victoria and Tasmania.

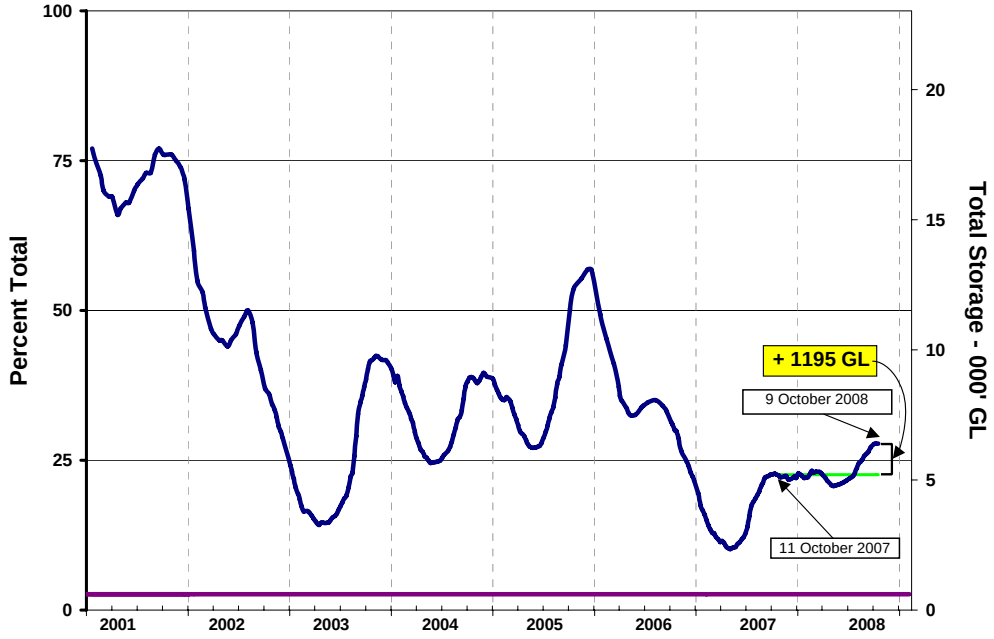
# 2.0 Water storages and announcements




**Water storages within Queensland, New South Wales and Victoria. The blue line indicates the extent of the Murray-Darling Basin. The shaded areas denote the various reporting regions.**
**Source: Bureau of Rural Sciences.**

## 2.1 Water storages (current to 9 October 2008)

### *Water storage in the MDB (New South Wales, Victoria and Queensland)*




**Water storage levels in the Murray-Darling Basin from 1 January 2001 to 9 October 2008. The green line indicates the storage level at the same time last year. Source: Bureau of Rural Sciences.**

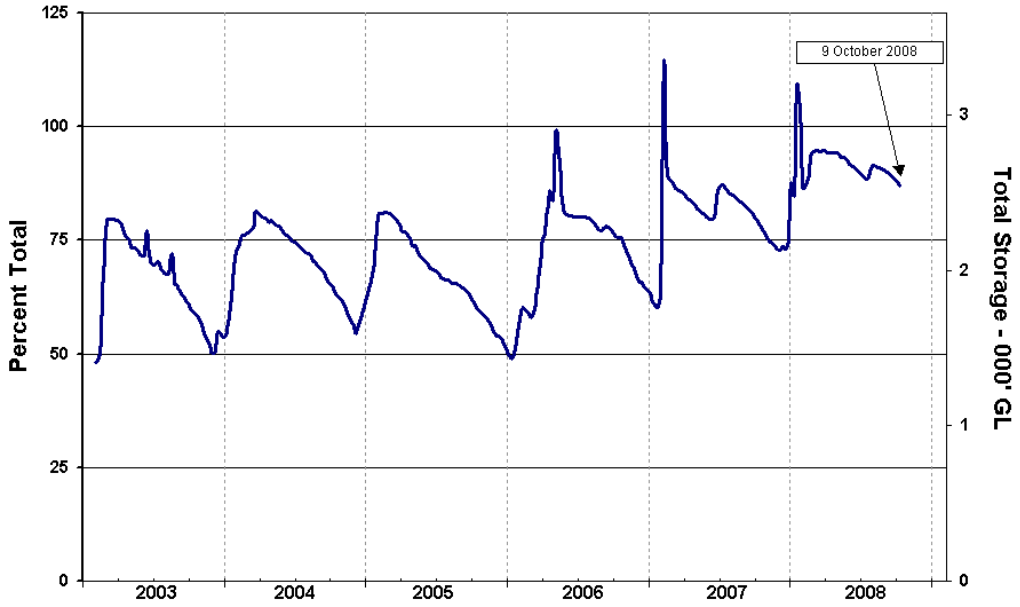
Over the past month storage levels within the Murray-Darling Basin (MDB) have increased, with inflows exceeding releases. At 9 October 2008 storage levels for irrigated agriculture were at 6402 gigalitres (GL) (27.8 per cent of a total capacity of 23 020 GL), an increase of 166 GL (0.7 per cent of total capacity) over the month. Current storage levels are approximately 1195 GL greater than at the same time last year.

### *Water storage in the Snowy Scheme*


**Water storage levels in the Snowy Scheme from 6 November 2002 to 9 October 2008. Source: Bureau of Rural Sciences.**

The figure 'Water storage in the MDB' (above top) does not include the capacities of Lake Eucumbene, Tantangara Reservoir and Lake Jindabyne (collectively the Snowy Scheme) which are reserved for hydro-electricity generation and irrigation purposes. Current levels in the Snowy Scheme storages are 1366 GL (23.8 per cent of a total capacity of 5744 GL) (see figure above).

## *Water storage in Queensland*




**Water storage levels in northern Queensland from 3 February 2003 to 9 October 2008.**
**Source: Bureau of Rural Sciences.**

Storage levels in northern Queensland decreased by 84 GL to 2868 GL (87 per cent of a total capacity of 3199 GL) over the last month (see figure above). This storage level is approximately 265 GL higher than at the same time last year.

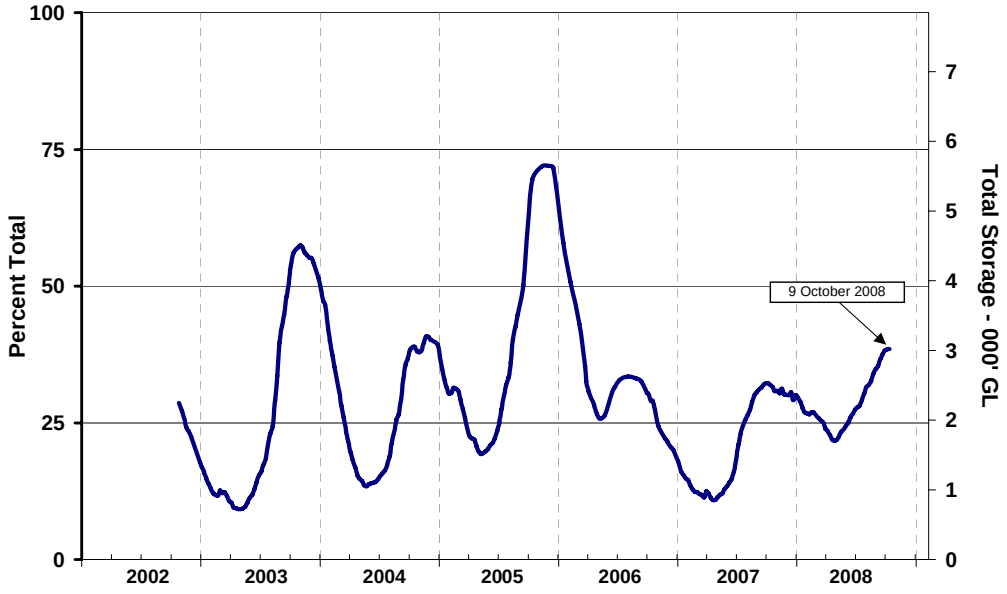

**Water storage levels in southern Queensland from 3 February 2003 to 9 October 2008.**
**Source: Bureau of Rural Sciences.**

In southern Queensland storage levels decreased by 84 GL to 2439 GL (58 per cent of a total capacity of 4203 GL) over the last month (see figure above). This storage level is approximately 1420 GL higher than at the same time last year.

## *Water storage in New South Wales*


**Water storage levels in northern New South Wales from 28 October 2002 to 9 October 2008.**
**Source: Bureau of Rural Sciences.**

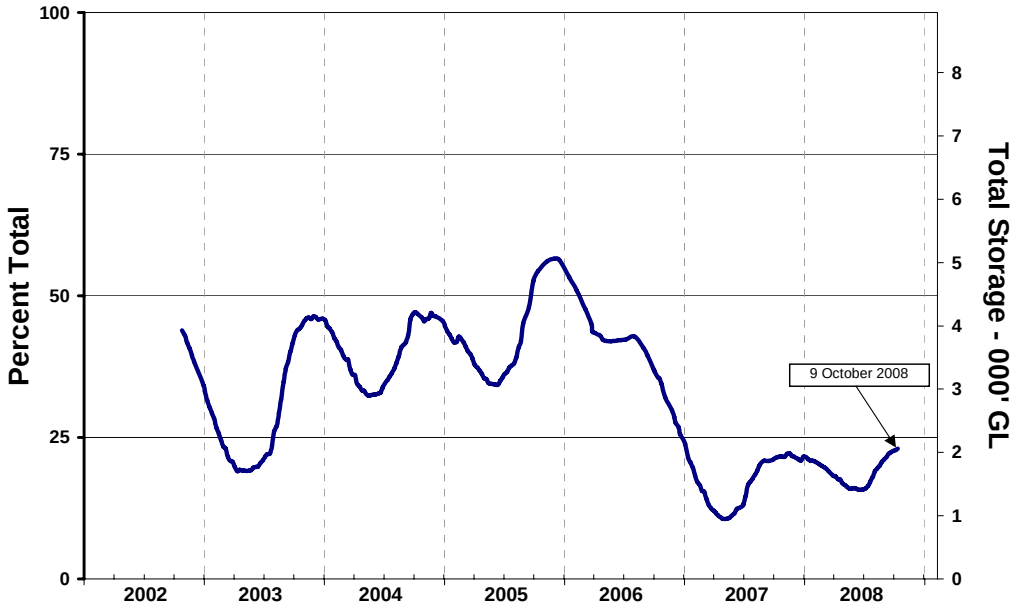
Storage levels in northern NSW decreased by 1 GL to 2119 GL (29.8 per cent of a total capacity of 7114 GL) over the last month (see figure above). This storage level is approximately 944 GL higher than at the same time last year.




**Water storage levels in southern New South Wales from 28 October 2002 to 9 October 2008.**
**Source: Bureau of Rural Sciences.**

In southern NSW storage levels increased by 142 GL to 3019 GL (38.5 per cent of a total capacity of 7844 GL) over the last month (see figure above). This storage level is approximately 518 GL higher than at the same time last year.

## *Water storage in Victoria*




**Water storage levels in northern Victoria from 28 October 2002 to 9 October 2008.**
**Source: Bureau of Rural Sciences.**

Storage levels in northern Victoria increased by 80 GL to 2057 GL (23.0 per cent of a total capacity of 8950 GL) over the last month (see figure above). This storage level is approximately 133 GL higher than at the same time last year.

For further information on water storages, go to:

Snowy Scheme
http://www.snowyhydro.com.au/lakeLevels.asp?pageID=360&parentID=6

Queensland
http://www.sunwater.com.au/pdf/water/CurrentStorageSummary.pdf

New South Wales
http://www.statewater.com.au/indexes/index.asp

Northern Victoria
http://www.g-mwater.com.au/water-resources/storage-levels/

## *Murray-Darling Basin update*

- Murray system inflows for September were about 405 GL. Although they were well below the long-term September average of 1610 GL, they were above the record low of 120 GL of September 2006. The total Murray system inflows from June to September 2008 were 1080 GL. This is above the record low of 460 GL in 2006 for the same period, but well below the long-term average of 5000 GL.
- The total Murray-Darling Basin Commission (MDBC) active storage (excluding Menindee Lakes) is 1970 GL (or 23 per cent) which is 105 GL higher than at this time last year (1865 GL) but well below the August long-term average of 6800 GL. A further 480 GL is stored in Menindee Lakes and remains under NSW control. About 220 GL is planned to be released into the Murray system between now and December 2008.
- Increased inflows raised the storage in Dartmouth Reservoir by 66 GL during September to 835 GL (21 per cent of capacity). Storage in Hume Reservoir increased by 207 GL during September to 1049 GL (35 per cent of capacity).
- The Bureau of Meteorology's rainfall outlook for October to December 2008 indicates wetter than average conditions over the northern half of the Basin and drier than average conditions in southern Victoria. According to the temperature outlook, warmer conditions are predicted over most of south-eastern Australia.

For further information on the Murray-Darling Basin, go to:

Murray-Darling Basin Commission
http://www.mdbc.gov.au/

## 2.2 Water announcements

### *Announcements for New South Wales (current at 15 October 2008)*

- On 15 October 2008 the Department of Water and Energy (DWE) announced increases in water availability in the Murray Valley (high security 95 per cent; general security 2 per cent) and the Murrumbidgee Valley (high security 95 per cent; general security 9 per cent with 7 per cent now and 2 per cent after February 2009). In the Lower Darling River a general security allocation of 20 per cent of entitlement was announced on 1 October 2008.
- Allocation announcements at 13 October 2008 for the major water systems in NSW for the 2008–09 water year are summarised in the table below. Per cent changes in allocations over the previous month are indicated in the table.

| Water system | High Security Licences (%) | Change (%) | General Security Licences (%) | Change (%) |
|---|---|---|---|---|
| NSW Murray Valley | 95 | +70 | 2 | +2 |
| Murrumbidgee Valley | 95 | +35 | 9 | +9 |
| Lower Darling | 100 | 0 | 20 | +20 |
| Macquarie Valley | 100 | 0 | 0 | 0 |
| Hunter Valley | 100 | 0 | 100 | 0 |
| Lachlan Valley | 20 | 0 | 0 | 0 |
| Border Rivers | 100 | 0 | 0 | 0 |
| Peel Valley | 100 | 0 | 55 | 0 |

- Increases in water availability are the result of good rainfall in the upper Murray, Murrumbidgee and Snowy catchments. In the Murray and Murrumbidgee Valleys inflows were sufficient to increase water availability to high security users as well as provide the first allocation of the water year for general security users. In the Murray Valley increase in high security allocation triggers the repayment of critical water from the 2007–08 water year, where this has not been repaid previously.
- Stock, domestic and town water supply allocations will also be increased to 95 per cent of entitlement in both the Murrumbidgee and Murray Valleys. Additional water has been reserved in the Murray Valley to provide stock and domestic flow in the mid Murray tributaries and improve the delivery of stock and domestic water within the Murray Irrigation Limited operation. Similarly, water has been set aside to allow the delivery of general security allocations in the Murrumbidgee and Coleambally Irrigation area. Detailed information on water assessments in both the Murrumbidgee and Murray Valleys is available in DWE's Critical Water Planning communiqués, released on the fifteenth of each month.
- In addition to the announced allocation increases there is sufficient water available to provide for the basic conveyance needs within the areas of operation of Murray Irrigation, Murrumbidgee Irrigation and Coleambally Irrigation.
- While recent inflows are better than at the same time last year, water availability remains low and all water users are urged to continue to be conservative. The starting date of water reservation to meet critical human needs in both valleys for next year has not yet been resolved. Detailed information on water assessments in both the Murrumbidgee and Murray Valleys is available in DWE's Critical Water Planning communiqués, released on the fifteenth of each month.

## *Announcements for Victoria (current at 15 October 2008)*

- Goulburn-Murray Water (G-MW) announced the updated season allocations on 1 October 2008 (see below).

| Water system | High-reliability share (%) | Change (%) |
|---|---|---|
| Murray | 17 | +11 |
| Broken | 0 | 0 |
| Goulburn | 13 | +9 |
| Campaspe | 0 | 0 |
| Loddon | 0 | 0 |
| Bullarook Creek | 0 | 0 |

- On 15 October 2008 G-MW announced increased seasonal allocations for the Murray and Goulburn systems. The Murray system now has an allocation of 17 per cent of high-reliability water shares (HRWS). The Goulburn system has an allocation of 13 per cent HRWS. The allocations for all other water systems in northern Victoria remain at zero.
- Monthly inflows across northern Victoria have been exceptionally low to 15 October 2008. Historically, rainfall during October has provided beneficial inflows to all of water systems. This year there has been very little rain and increased inflows have not eventuated. Cautious system operations and minor inflows have provided the improvements in the Murray and Goulburn systems. Delivery efficiency remains the objective for the Murray and Goulburn systems, despite the increased allocations. The availability of water resources for allocation in these systems at this time is lower than in any previous season.
- Allocations remain at zero in the Broken, Campaspe, Loddon and Bullarook systems with operations in all systems severely restricted. Increased inflows are needed to produce allocations. The priority in these systems is to maintain supply of qualified essential needs through the year. Customers in the Broken system can now have carryover water delivered until the end of November, with advice on further extensions to be provided in the next allocation update on 3 November 2008. Carryover water in the remaining systems will be delivered wherever this is possible.
- The lack of inflows during late September and early October has adversely affected the seasonal allocation outlook for the 2008–09 season. The outlooks for the Murray and Goulburn systems, which are based on current inflow conditions and monthly inflow statistics from seasons with low inflows during spring, are presented below. The terms are defined as: *wet* (inflow volumes that are higher in one year out of every ten years), *average* (inflow volumes that are higher in five years out of every ten years) and *dry* (inflow volumes that are higher in nine years out of every ten years).

**Murray System (% of High-Reliability Water Share at Date Shown)**

| Inflow Conditions | 1 Dec 2008 | 15 Feb 2009 |
|---|---|---|
| *wet* | 35 | 54 |
| *average* | 25 | 53 |
| *dry* | 20 | 24 |

**Goulburn System (% of High-Reliability Water Share at Date Shown)**

| Inflow Conditions | 1 Dec 2008 | 15 Feb 2009 |
|---|---|---|
| *wet* | 41 | 63 |
| *average* | 26 | 42 |
| *dry* | 17 | 22 |

- By 1 December 2008, average inflows are expected to produce a seasonal allocation of 25 per cent of high-reliability water shares in the Murray system and a 26 per cent allocation in the Goulburn system

- By 15 February 2009, dry inflow conditions are expected to produce a seasonal allocation of 24 per cent of high-reliability water shares in the Murray system and a 22 per cent allocation in the Goulburn system.
- A repeat of the 2007–08 inflow conditions is expected to produce a seasonal allocation of 20 per cent of high-reliability water shares in the Murray system and a 23 per cent allocation in the Goulburn system.
- Goulburn-Murray Water will announce an update of seasonal allocations for all water systems on 3 November 2008.

### *Announcements for South Australia (current at 15 October 2008)*

- Minister for the River Murray, Karlene Maywald, announced on 15 October 2008 that River Murray irrigation allocations will increase from 11 per cent to 15 per cent. These allocations will be available from 1 November 2008 as a result of a slight improvement in water availability to SA.
- In mid-September 2008 it was estimated that 270 GL of inflows would be recorded for the month, but good rainfall late in the month led to a total of 400 GL. While this inflow figure was better than expected, it is still well below the long-term September average of about 1600 GL.
- The Department of Water, Land and Biodiversity Conservation completed projections for flows to SA on 22 September 2008, based on data provided by the Murray-Darling Basin Commission. Since the assessment made at the end of July 2008, water resource improvements have been so poor that the outlook for the remainder of 2008–09 has deteriorated significantly. The current projections show that, depending on how water is allocated by the end of March 2009, there is a 75 per cent chance that allocations will be 19 per cent and a 50 per cent chance that allocations will be 42 per cent.
- The next allocation announcement will be on 15 November 2008 and information on water resource conditions will be available on 1 November 2008.

For further information on water announcements, go to:

Murray-Darling Basin Commission
http://www.mdbc.gov.au/

Goulburn-Murray Water
http://www.g-mwater.com.au/news/media-releases/

New South Wales Department of Water and Energy
http://www.naturalresources.nsw.gov.au/

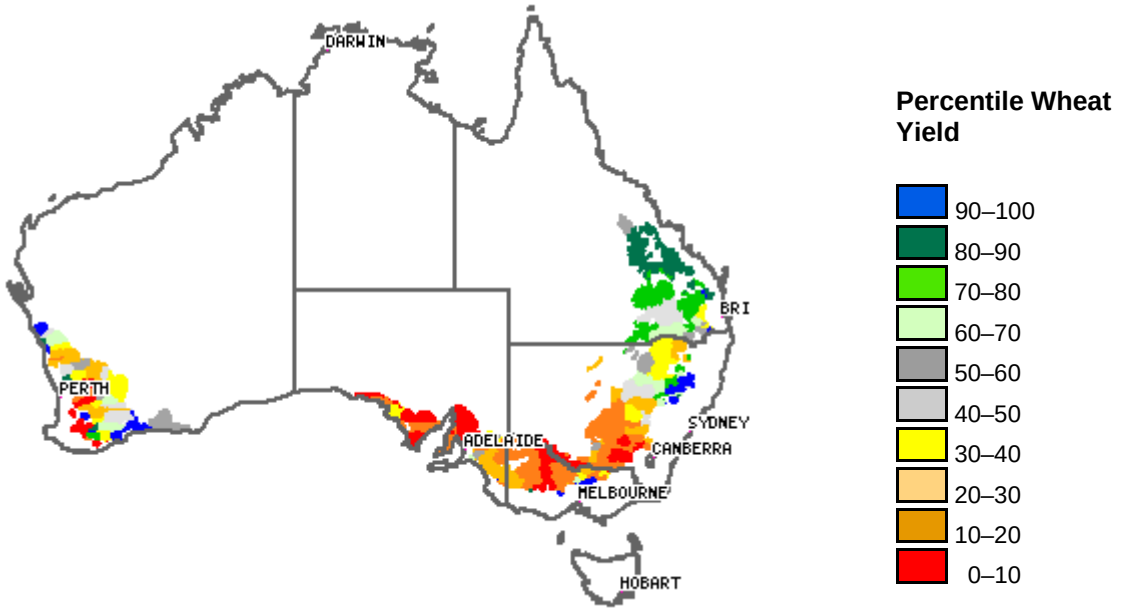
South Australian Department of Water, Land and Biodiversity Conservation
http://www.dwlbc.sa.gov.au/media.html

# 3.0 Crop and livestock production

## 3.1 Crops

### *Winter Crops*

Predicted median wheat yields are provided by the Queensland Department of Primary Industries and Fisheries. The following figure shows shire wheat yield forecasts across Australia as percentiles of a 105 year historic data set (1901 to 2005).




**Predicted shire wheat yields for the 2008 cropping season at 1 October 2008 ranked relative to all years (1901–2005).**

- Australia: The predicted median wheat yield at 1 October 2008 for Australia is 1.88 tonne/hectare (t/ha), which is below the long-term median of 2.07 t/ha. This represents a reduction of 0.06 t/ha on the September prediction. Predicted wheat yields are below average for NSW (2.00 t/ha), SA (1.46 t/ha), Victoria (1.76 t/ha) and WA (2.05 t/ha) due to rainfall deficits in August and September. Above average yields are predicted in Queensland (1.65 t/ha) following substantial rains during September when the wheat grain heads were filling.
- The 2008–09 wheat crop is predicted to be 57 per cent above the drought-affected crop of 2007–08. The area sown increased by 7 per cent over the previous year (ABARE Australian Crop Report, report no 147, September 2008: http://www.abare.gov.au/publications_html/cr/cr_08/cr08_Sept.pdf).
- Queensland: Above average yields are forecast across most of the state's cropping regions, with some regional variation. Above average rainfall during September contributed to grain head filling, particularly in the south-east. In central Queensland, most crops have reached maturity and any further rain will have little impact on final yield (Queensland Department of Primary Industries and Fisheries, Seasonal Crop Outlook, Wheat – September 2008: http://www.dpi.qld.gov.au/cps/rde/dpi/hs.xsl/26_6256_ENA_HTML.htm).
- NSW: The bi-monthly NSW Grains Report notes that while prospects for all crops have fallen following the dry July-August period, late-August and early-September rains have improved yield potential in the north of the state. Grain heads are currently filling but require rain in late-September to early-October to facilitate this process. Cold weather has delayed the flowering of pulses. Yield potential is below average in most districts, particularly in the central-west and south where crop failure is expected and grazing of crops has commenced (NSW Department of Primary Industries NSW Grains Report 22 September 2008: http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0019/249004/NSW-grains-report-september-2008.pdf).
- Victoria: Most districts received well below average rainfall for September. When combined with hot daytime temperatures and below average evening temperatures the overall yield potential across the state was reduced. Some failed crops are being harvested for hay in the Mallee and Wimmera districts. Others remain viable in the southern Wimmera and the south-west. Pasture crops are stressed due to low soil moisture and the pasture production outlook is dependent on rains during early-October. Low irrigation allocations are likely to affect production in the horticultural industries, especially stone and pome fruits which are at the

critical growth stages of flowering and fruit set (Department of Primary Industries Victoria, Dry Season Conditions Report, 2 October 2008: http://www.dpi.vic.gov.au/dpi/nrenfa.nsf/LinkView/58FE6EA952C307C5CA2574D9007F009E987715D08D0205F9CA2573E100030E40/$file/_DSC%20%2382%20Oct%202%20-%202008.pdf).

- SA: Growing season rainfall to-date (April to September 2008) is below average over the most districts. Rainfall was low in September and daytime temperatures were cool during the first half of the month and warm to hot thereafter, accompanied by strong winds in some districts. Crops in most districts were subject to moisture stress during late-September, reducing crop yield potential during the grain head filling stage. The crop estimate at 1 October 2008 was 5.45 million tonnes (Mt), comprising 2.60 Mt wheat, 0.11 Mt durum, 1.91 Mt barley, 0.21 Mt canola, 0.08 Mt lupins and 0.16 Mt field peas (Primary Industries and Resources SA, Crop and Pasture Report, September 2008: http://www.pir.sa.gov.au/__data/assets/pdf_file/0011/85862/sep08cpr.pdf).
- WA: Above average September rainfall generally increased the crop yield potential for most shires. Early sown northern crops may not benefit from September rainfall, while crop yields in the south may be affected by localised frosts in late-September. The WA crop estimate at 1 October 2008 remains near 10.9 Mt, comprising 6.90 Mt wheat, 2.41 Mt barley, 0.80 Mt canola, 0.41 Mt lupins, 0.33 Mt oats and 0.06 Mt field peas. Harvest estimates depended heavily on September rainfall, with many wheatbelt areas receiving late rainfall to prevent significant downgrading of yield potential (Department of Agriculture and Food Western Australia, Seasonal Update, October 2008: http://www.agric.wa.gov.au/content/LWE/CLI/SeasonalUpdateOct08.PDF).

## 3.2 Livestock

### *Beef cattle*

- Good pasture growth following the favourable September rainfall in many parts of the eastern seaboard has translated into improved weight and condition of cattle coming to market. Good prices have continued (Meat and Livestock Australia, Market News, 8 October 2008: http://www.mla.com.au/NR/exeres/A683E422-750C-4499-9FC2-71AD0ED1B5BD.htm).
- The trend estimate for beef production decreased from the previous month to 181 000 tonnes, up 2 per cent compared to the same period last year (ABS 7218.0.55.001 August 2008).
- The trend estimate for cattle slaughterings increased for the seventh consecutive month to 677 000 and was 2 per cent higher than the same time last year (ABS 7218.0.55.001 August 2008).
- Physical market cattle numbers were 14 per cent above the five-year September average in the eastern states. Yardings were also 5 per cent above the same time last year and 23 per cent higher than August 2008. Yardings increased significantly in both Queensland and Victoria but declined in NSW (http://www.mla.com.au/TopicHierarchy/News/MarketNews/2008/Stability+in+young+cattle+prices.htm).
- The problems with the USA economy have affected the export beef trade resulting in light trading volumes and lower price trends (http://www.mla.com.au/TopicHierarchy/News/MarketNews/2008/US+economy+slump+erodes+beef+trade.htm).

### *Sheep and lambs*

- The trend estimate for lamb production decreased for the tenth consecutive month to 32 000 tonnes, down 17 per cent on the previous year (ABS 7218.0.55.001 August 2008).
- The trend estimate for mutton production decreased for the fourth consecutive month to 22 000 tonnes, up 8 per cent compared to same time last year (ABS 7218.0.55.001 August 2008).
- Drier conditions in Victoria in September caused a steady increase in lamb and sheep numbers in the saleyards. In other eastern states the traditional spring increase in sheep numbers is apparent. Prices continue to ease (http://www.mla.com.au/TopicHierarchy/News/MarketNews/default.htm).

- Australian shorn wool production is forecast to decline to 375 million kilograms greasy in the 2008–09 season, a 6 per cent decrease on 2007–08. Production is expected to decrease by 5 per cent in NSW and 21 per cent in Tasmania, but increase by 6 per cent in Queensland. It is expected that around 14.5 per cent of Australian wool production in 2008–09 will be from non-mulesed sheep, an increase from the 11.5 per cent reported in February 2008. Indications are that that about half of the lambs born in 2008 will not be mulesed. This compares with 32 per cent reported in February 2008 (http://www.wool.com.au/Media/page__9398.aspx).
- Average wool prices are slightly lower due to financial uncertainty in the USA (http://www.wool.com.au/Market_Information/Market_updates/Market_updates/page_9411.aspx).

For further information on crops and livestock, go to:

Australian Bureau of Statistics
http://www.abs.gov.au/

Australian Bureau of Agricultural and Resource Economics
http://abareconomics.com/

Meat and Livestock Australia
http://www.mla.com.au/

Department of Agriculture and Food Western Australia
http://www.agric.wa.gov.au/

New South Wales Department of Primary Industries
http://www.dpi.nsw.gov.au/aboutus/news/

Primary Industries and Resources South Australia
http://www.pir.sa.gov.au/grains/cpr/

Queensland Department of Primary Industries and Fisheries
http://www.dpi.qld.gov.au/fieldcrops/

The Land Farmonline
http://theland.farmonline.com.au/

# 4.0 Climate Outlook

## 4.1 El Niño & Southern Oscillation Index

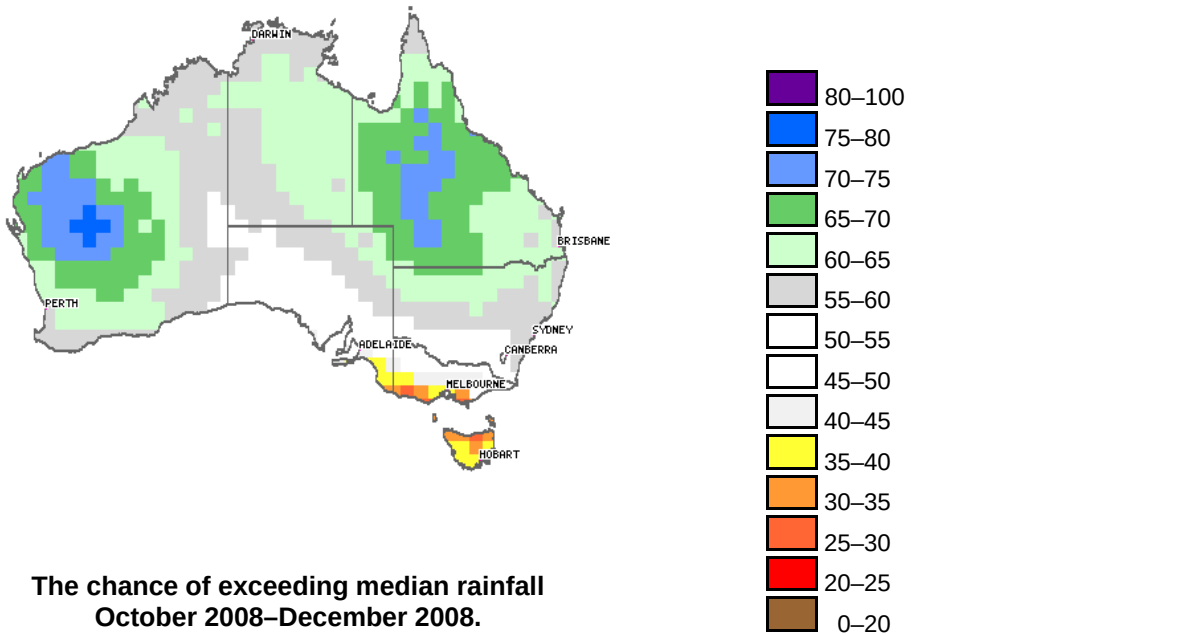
On 8 October 2008 the Bureau of Meteorology (BoM) reported that the El Niño–Southern Oscillation (ENSO) indicators remain in a neutral state. Further cooling has occurred at the surface and subsurface in the eastern tropical Pacific. This cooling in the eastern Pacific subsurface indicates the possibility of a further surface cooling in the coming weeks. The 30-day Southern Oscillation Index remains positive at +10.

The BoM advises there is little potential for an El Niño in 2008. Climate model forecasts show neutral conditions should persist until the end of the year and therefore a switch to La Niña is also unlikely. The Indian Ocean Dipole has dissipated over the past month and is close to zero.

For further information on the Bureau of Meteorology interpretation of the El Niño–Southern Oscillation go to http://www.bom.gov.au/climate/enso/

## 4.2 Rainfall Outlook

The Bureau of Meteorology provides seasonal outlooks that are statements about the probability of wetter or drier than average weather over a three-month period. The outlooks are based on the statistics of chance (the odds) taken from Australian rainfall, temperature and sea surface temperature records for the tropical Pacific and Indian Oceans. They are not categorical predictions about future rainfall and they do not indicate the expected rainfall amount for the three-month outlook period.



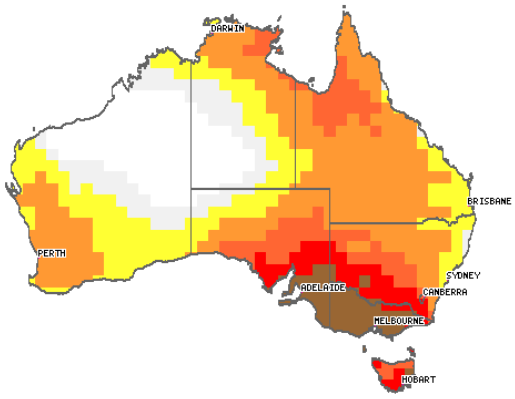

**The chance of exceeding median rainfall October 2008–December 2008.**

The outlook for rainfall over the December quarter (October to December) indicates wetter than average conditions over much of the north and west of the continent. It should be noted that the December quarter is a seasonally dry time of year in north-west WA. The chances of exceeding the median rainfall for this period are 70–80 per cent for central Queensland and central-west WA (the Gascoyne region).

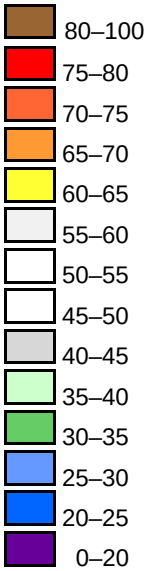
Conversely, drier conditions are likely in south-east Australia with 25–40 percent chances of exceeding the median rainfall across Tasmania, southern Victoria and south-eastern SA.

The pattern of seasonal rainfall odds across Australia is mainly a result of continued warmth in the central and south-eastern Indian Ocean, especially off the west coast of WA.

## 4.3 Temperature Outlook



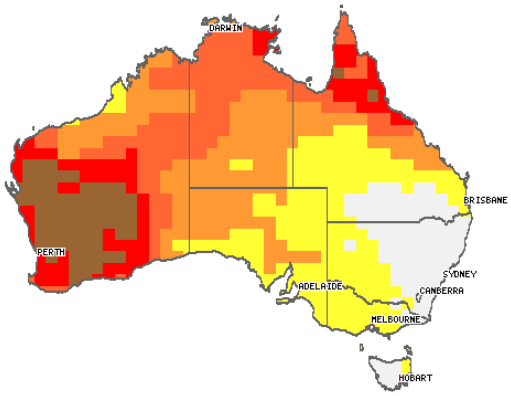

**3 Month Temp. Max Outlook (%)**

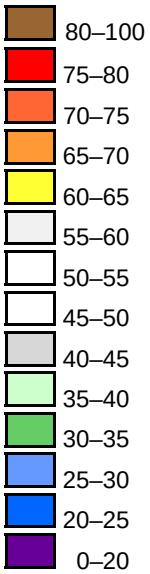



**The chance of exceeding median maximum temperatures October 2008–December 2008.**

There is a high chance (60 to 100 per cent) of exceeding the median maximum temperatures over most of Australia during the next three months. The exception is north WA and south-east NT where the chances of exceeding the median maximum temperatures are even (45 to 55 per cent).

**3 Month Temp. Min Outlook (%)**




**The chance of exceeding median minimum temperatures October–December 2008.**

There is a higher than average chance (above 55 per cent) of exceeding the median minimum temperatures over all of Australia during the next three months.

History shows the oceans' effect on minimum temperatures during October to December to be moderately consistent over most of Queensland, NSW, SA and southern WA, weakly consistent in much of Victoria and Tasmania, and only very weakly consistent across much of the NT and far northern WA.

For further information on the Bureau of Meteorology seasonal outlooks go to http//www.bom.gov.au/climate/ahead/