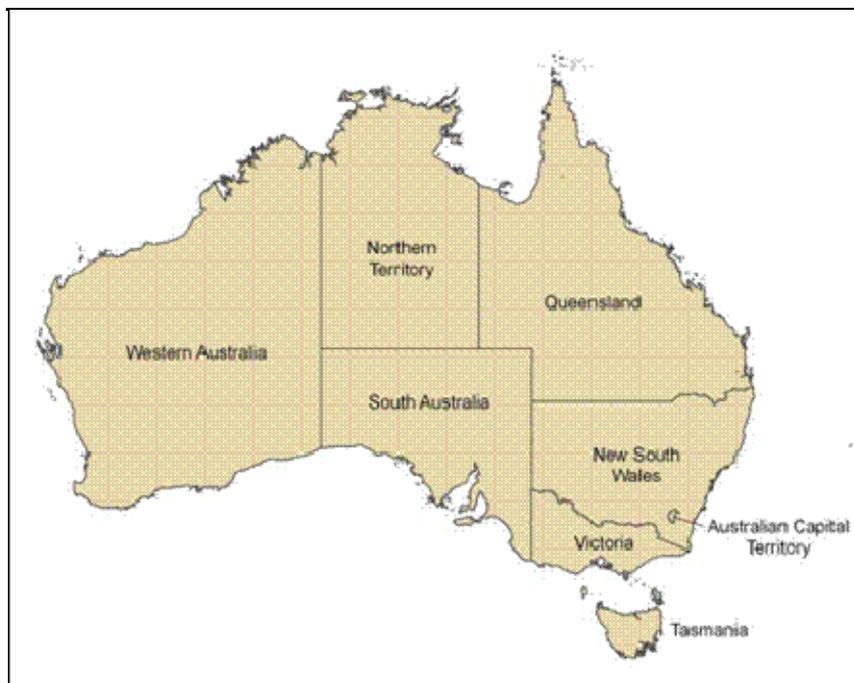




# Climate and Agricultural Update

## National Report

Issued June 2009



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<p>Department of Primary Industries, Victoria, Australia</p>  <p><b>Victoria</b> The Place To Be</p>	<p><a href="http://www.dpi.vic.gov.au/">http://www.dpi.vic.gov.au/</a></p>
<p>Murray-Darling Basin Authority</p>  <p><b>MURRAY-DARLING</b> BASIN AUTHORITY</p>	<p><a href="http://www.mdba.gov.au/">http://www.mdba.gov.au/</a></p>

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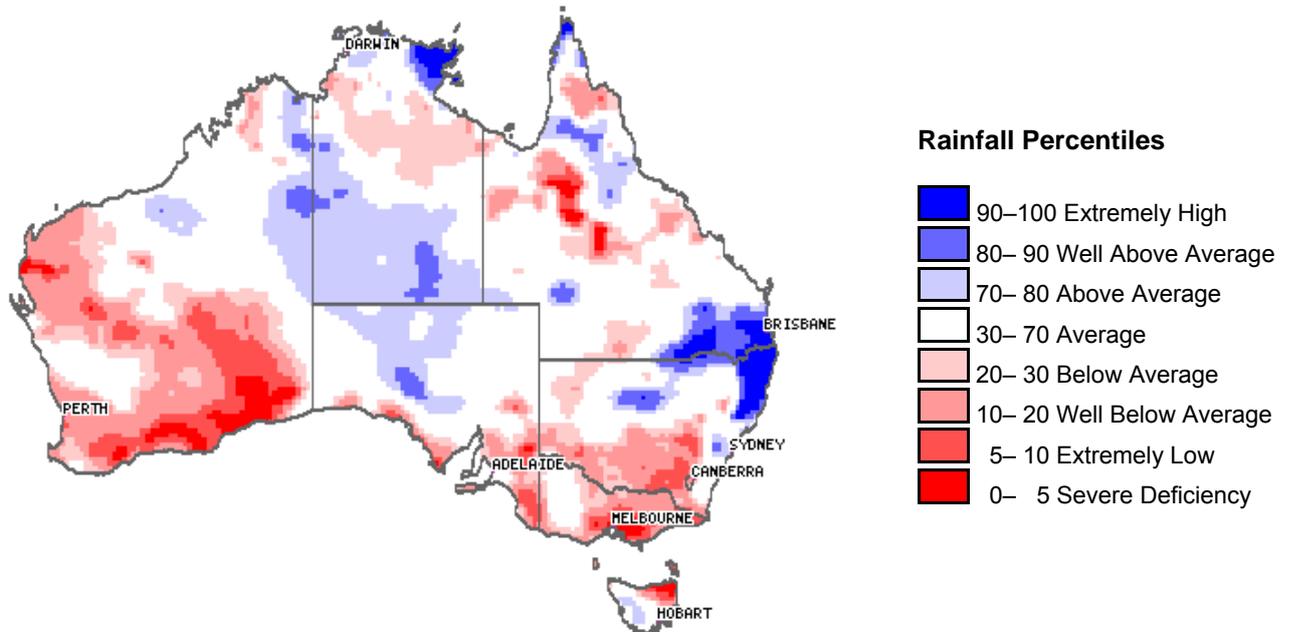
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# 1.0 Rainfall and temperature

## 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/>.

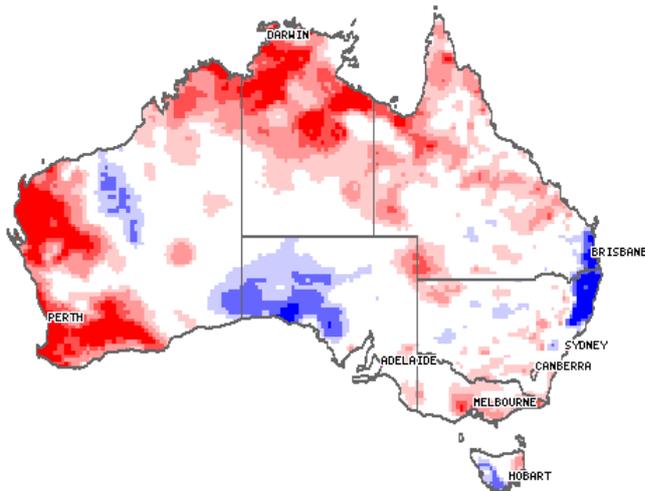
### *Rainfall over the last month (May 2009)*



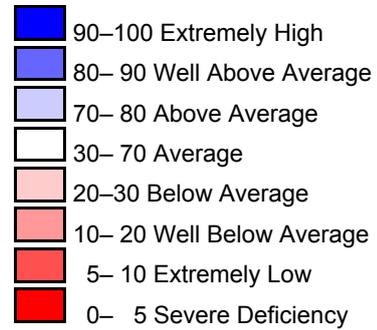
**Rainfall percentiles for May 2009**

Rainfall in May 2009 was 42 per cent below average for Australia (thirty second lowest of 110 years). All states recorded below average rainfall, with Victoria and Western Australia experiencing notably below average rainfall (60 per cent and 64 per cent below average, respectively). Rainfall across the other states and territories was between 17 and 42 per cent below average. No state ranked in the ten driest years on record.

## Ongoing or emerging rainfall situations

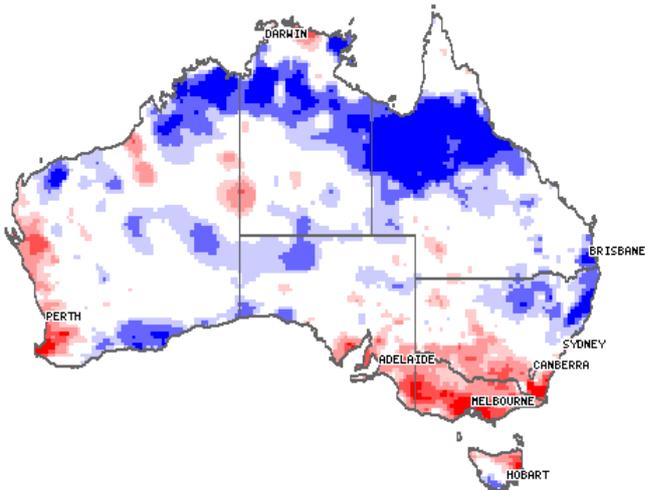


### Rainfall Percentiles

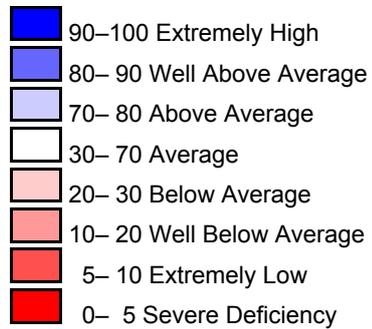


**Rainfall percentiles for the last three months  
March 2009–May 2009**

During the past three months, most of Australia has experienced below average to average rainfall. The 3 month rainfall deficiencies strengthened in the west and north of the continent, while they weakened over central Australia. Areas of above average rainfall were recorded in south-eastern Queensland, north-eastern New South Wales, western South Australia and south-eastern and north-western Western Australia.



### Rainfall Percentiles

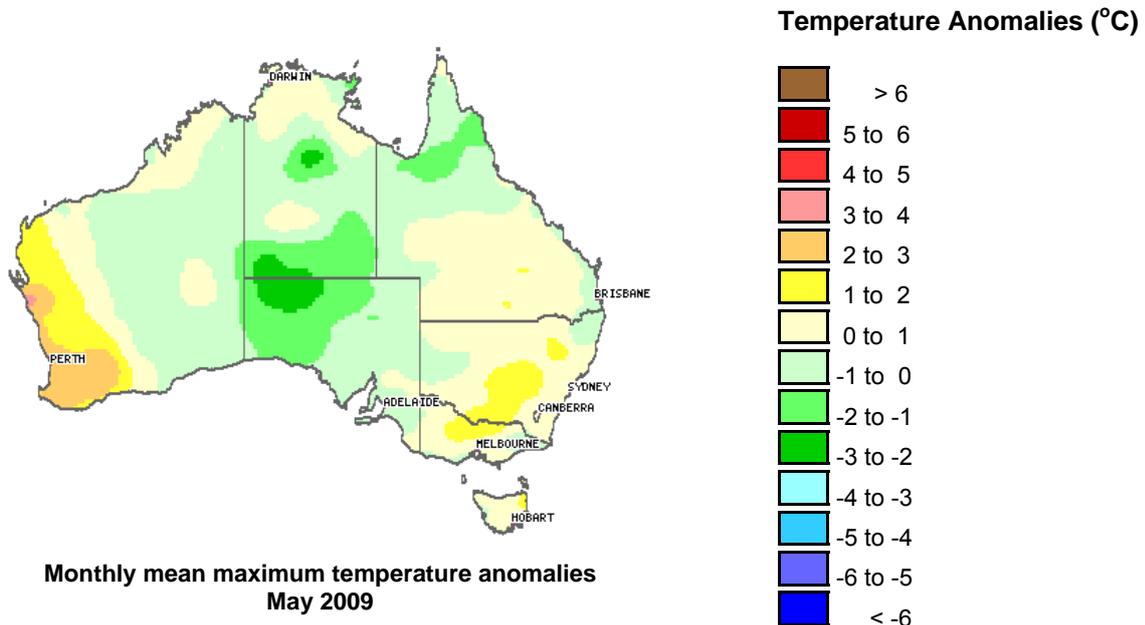


**Rainfall percentiles for the last 12 months  
June 2008–May 2009**

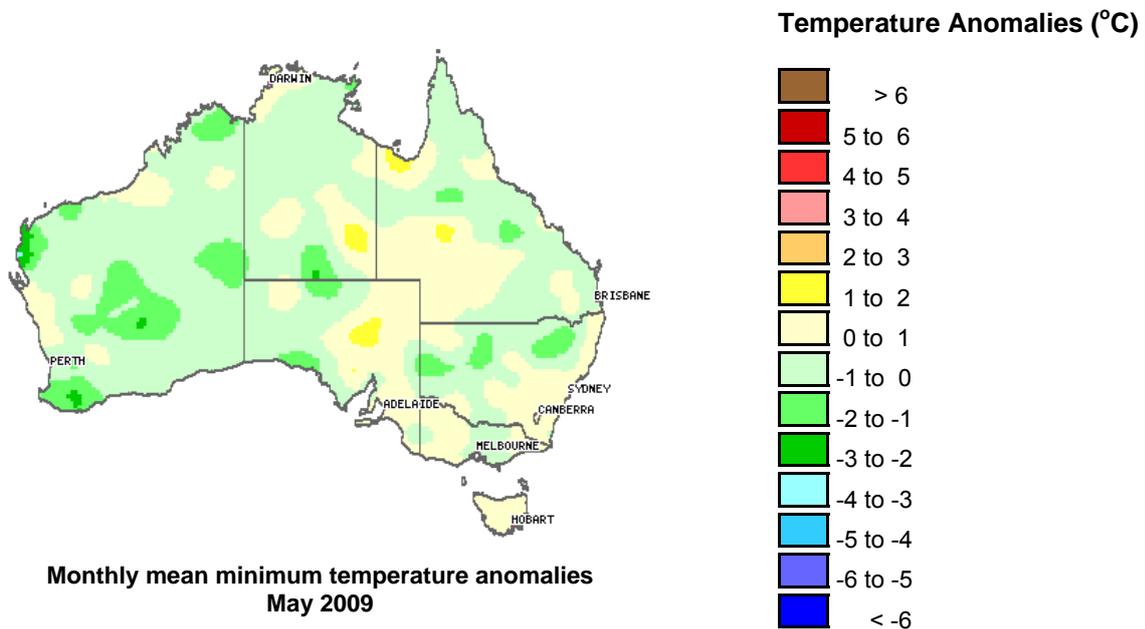
For the 12 month period from June 2008 to May 2009, above average rainfall was recorded across northern Australia and in parts of Western Australia and northern New South Wales. Rainfall was well below average across the south-east of the continent, with areas in southern Victoria, south-eastern New South Wales, the west of Western Australia and north-eastern Tasmania in the lowest tenth percentile range.

## 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/>.

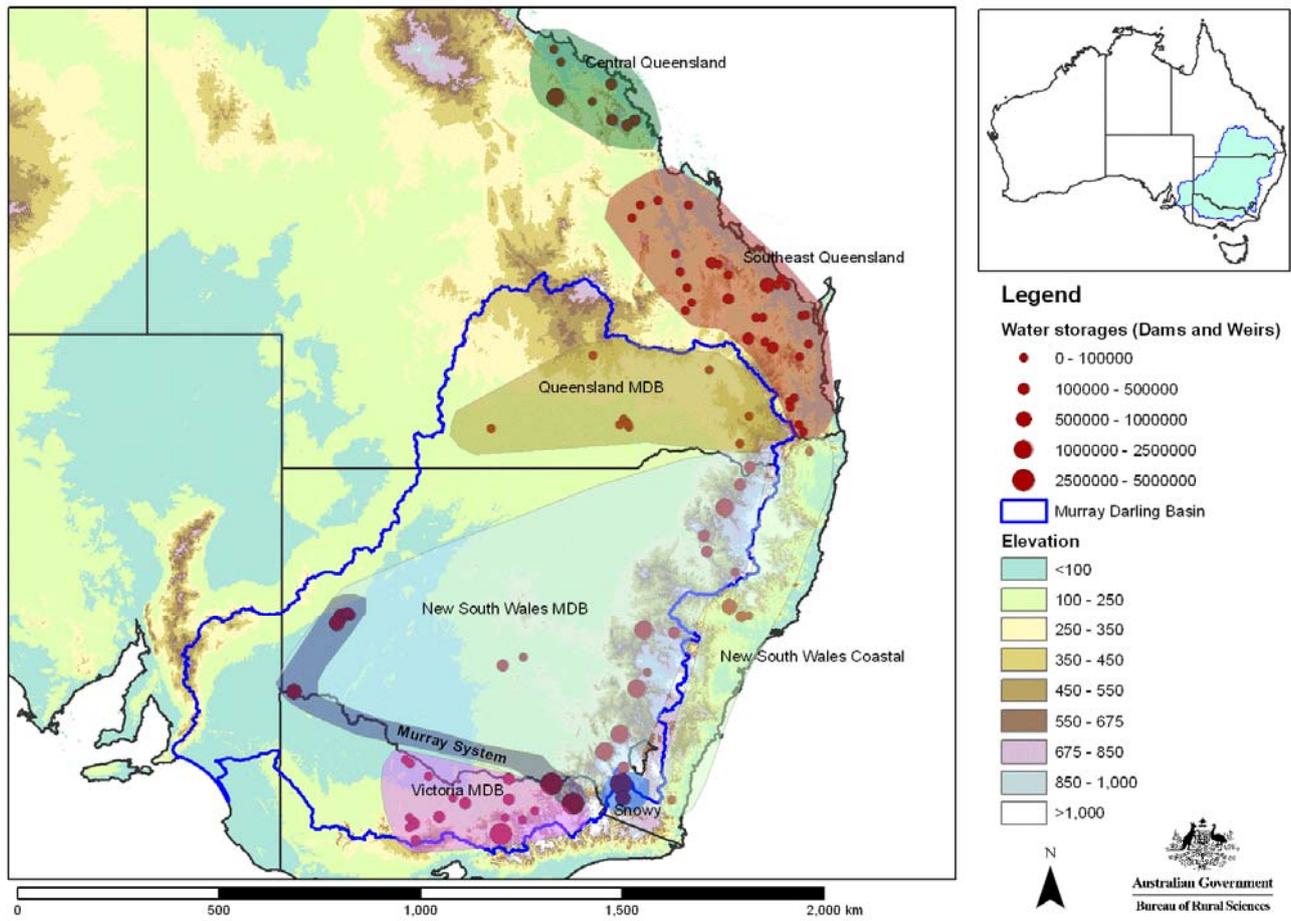


In May 2009 most of Australia experienced maximum temperatures slightly below average, with areas in South Australia and the Northern Territory recording lowest anomalies (2–3 °C below average). The highest maxima were recorded in south-western Western Australia (2–3 °C above average).



Minimum temperatures in May 2009 averaged over Australia were 0.33 °C below the long-term average (twenty-fourth lowest in 60 years). Minimum temperatures were slightly below average across most of the country, with areas of 1–3 °C below average in Western Australia and central Australia. The highest minima were recorded in parts of inland Queensland, Northern Territory and South Australia (1–2 °C above average).

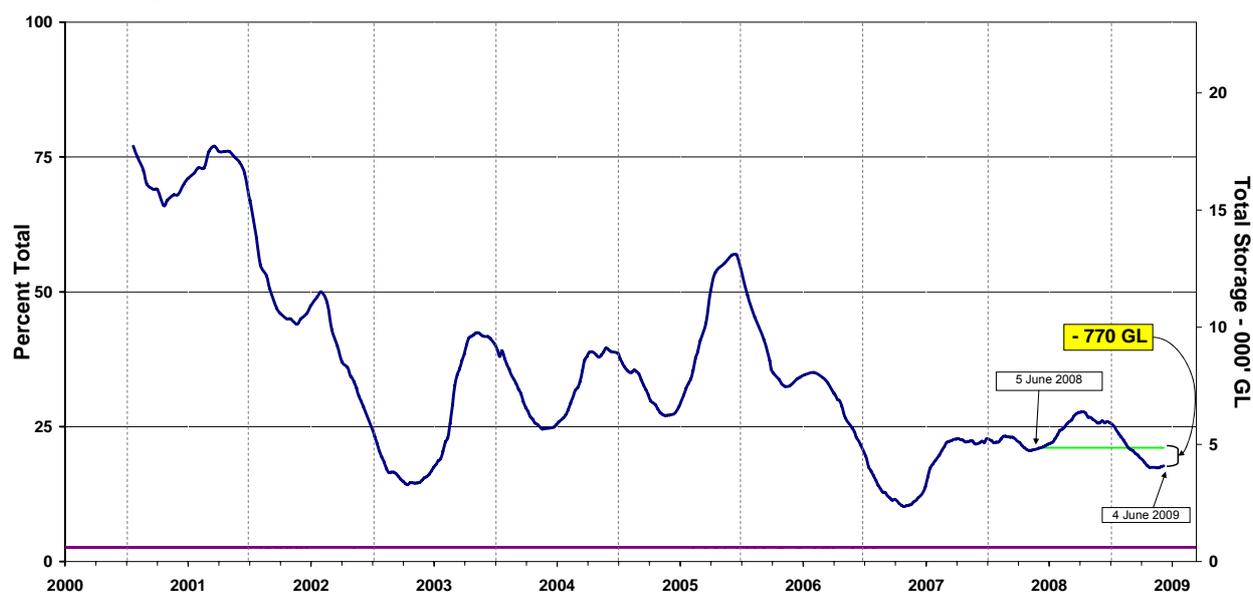
## 2.0 Water storages and announcements



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

## Water storages (current at 4 June 2009)

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



**Water storage levels in the Murray-Darling Basin from 1 January 2001 to 4 June 2009.**  
The green line shows the storage level at the same time last year and the purple line shows the dead storage (not calculated).

Source: Bureau of Rural Sciences

Over the past month storage levels within the Murray-Darling Basin (MDB) have increased. Storage levels for irrigated agriculture on 4 June 2009 were at 4084 gigalitres (GL) (17.74 per cent of a total capacity of 23 020 GL), an increase of 63 GL (0.28 per cent of total capacity) over the month. Current storage levels are approximately 770 GL less than at the same time last year.

### Water storage in the Snowy Scheme

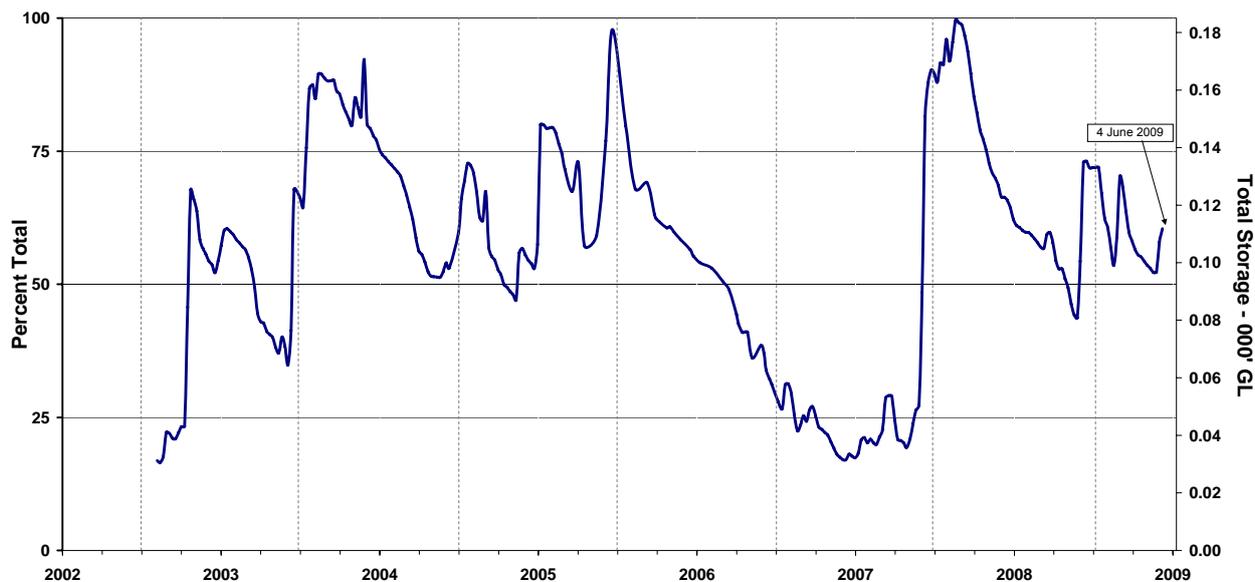


**Water storage levels in the Snowy Scheme from 6 November 2002 to 4 June 2009.**

Source: Bureau of Rural Sciences

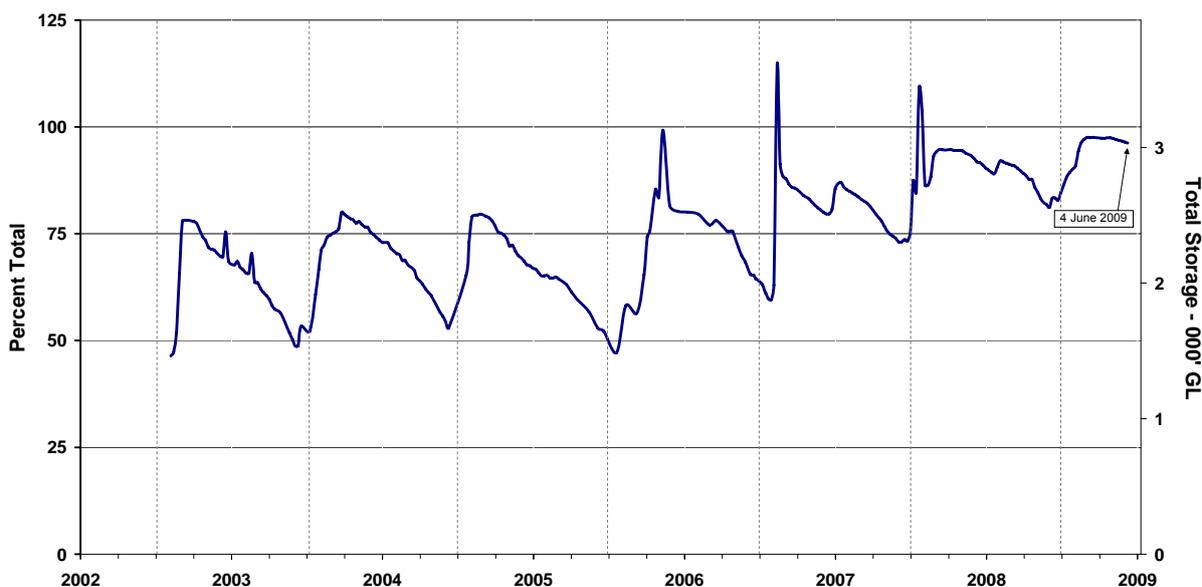
The figure 'Water storage in the MDB' (above top) does not include the capacities of Lake Eucumbene, Tantangara Reservoir and Lake Jindabyne (collectively the Snowy Scheme) which are reserved for hydro-electricity generation and irrigation purposes. Current storage levels in the Snowy Scheme are 1215 GL (21.2 per cent of a total capacity of 5744 GL) (see figure above). This is an increase of 239 GL from the same time last year.

## Water storage in Queensland



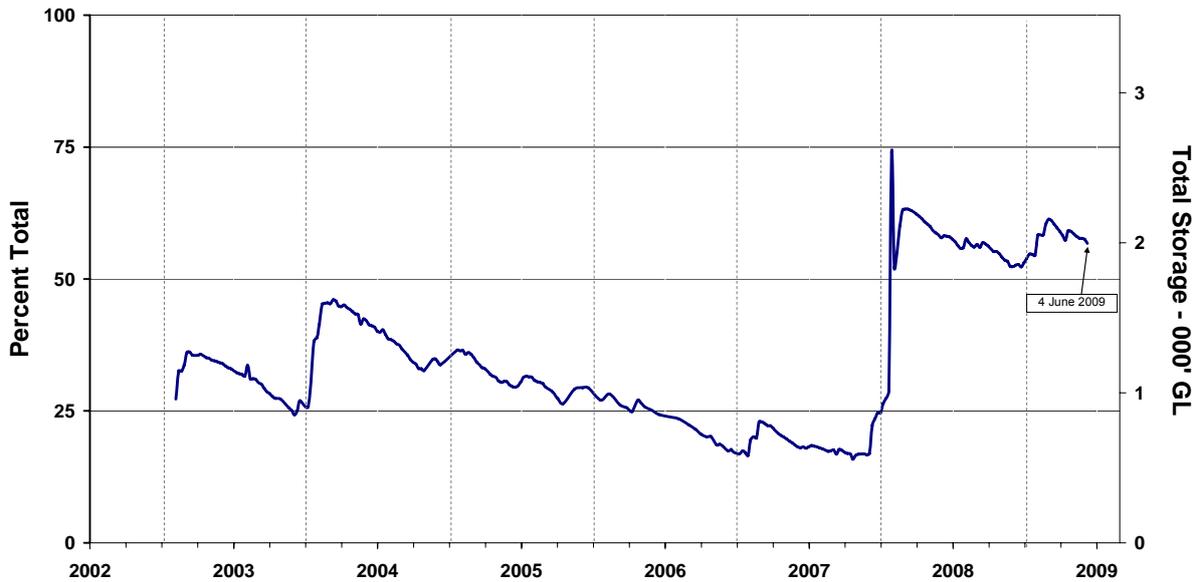
**Water storage levels in Queensland MDB from 3 February 2003 to 4 June 2009.**  
**Source: Bureau of Rural Sciences**

Storage levels in Queensland MDB increased by 14 GL to 112 GL (60.44 per cent of a total capacity of 185 GL) over the last month (see figure above). This storage level is approximately 11 GL lower than at the same time last year.



**Water storage levels in central Queensland from 3 February 2003 to 4 June 2009.**  
**Source: Bureau of Rural Sciences**

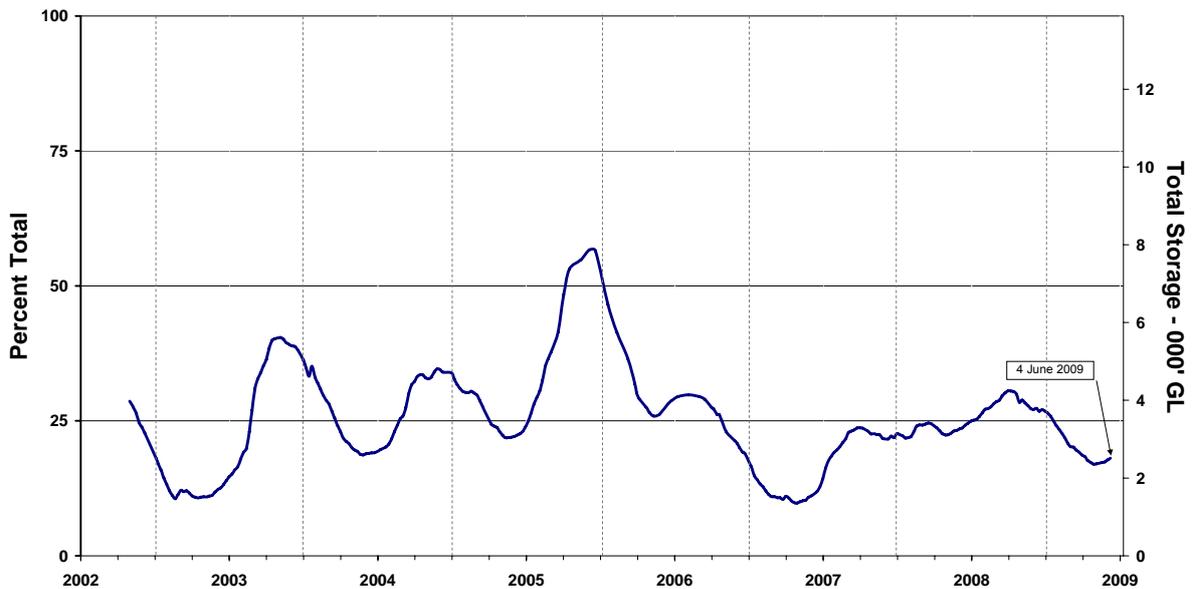
In central Queensland storage levels decreased by 24 GL to 3037 GL (91.81 per cent of a total capacity of 3155 GL) over the last month (see figure above). This storage level is approximately 140 GL higher than at the same time last year.



**Water storage levels in south-east Queensland from 3 February 2003 to 4 June 2009.**  
**Source: Bureau of Rural Sciences**

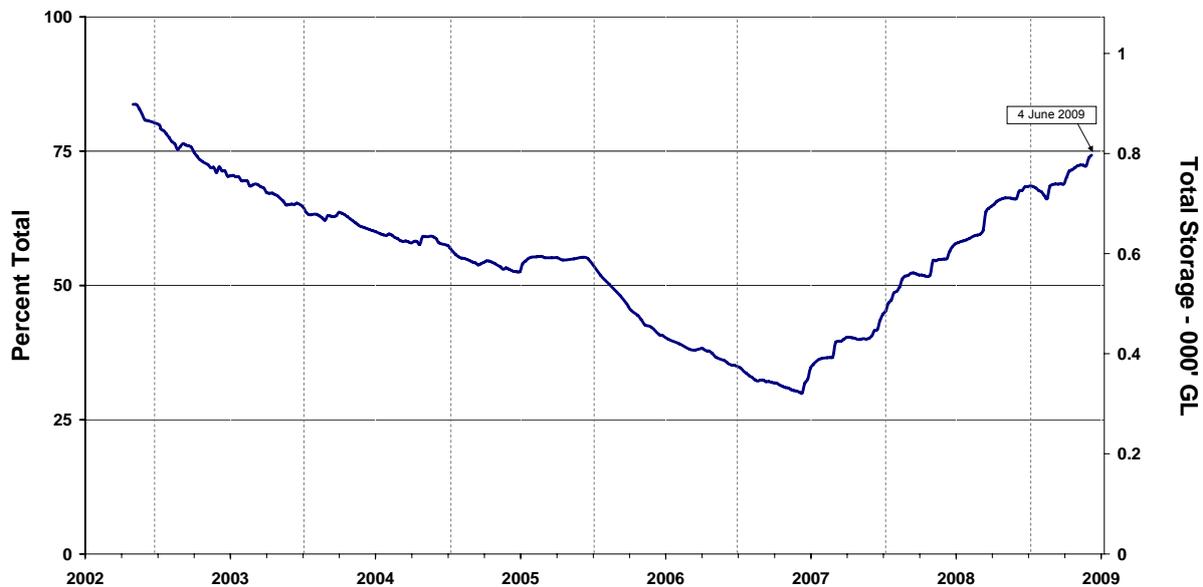
In south-east Queensland storage levels decreased by 48 GL to 1996 GL (56.76 per cent of a total capacity of 3517 GL) over the last month (see figure above). This storage level represents a decrease of 51 GL compared to the same time last year.

### ***Water storage in New South Wales***



**Water storage levels in New South Wales MDB from 28 October 2002 to 4 June 2009.**  
**Source: Bureau of Rural Sciences**

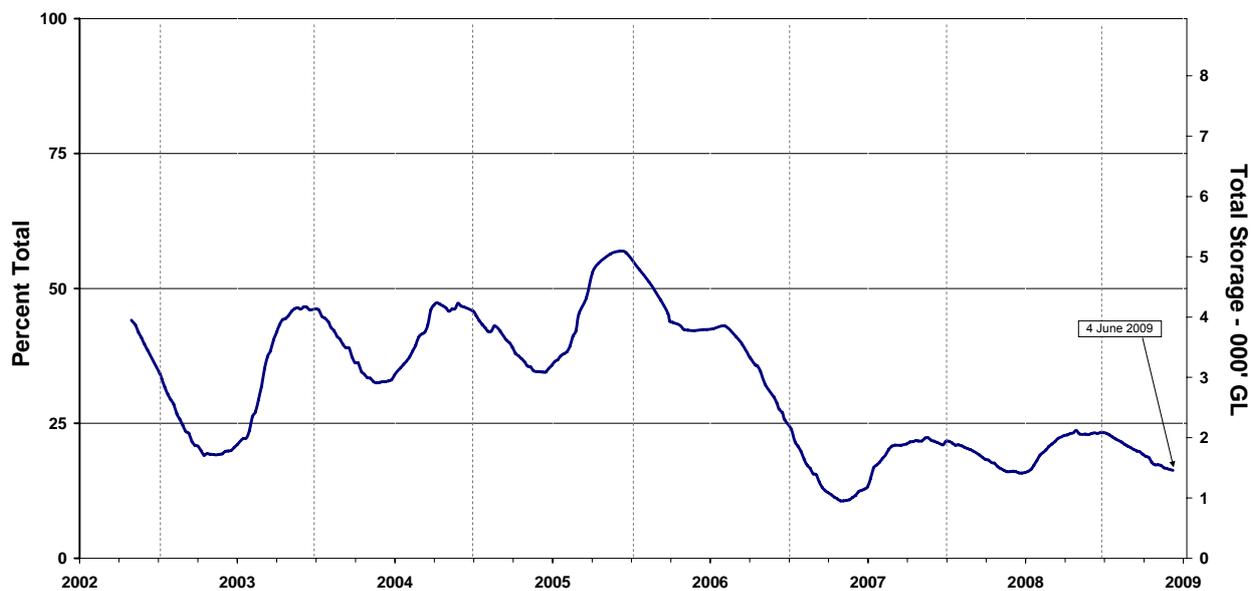
Storage levels in the New South Wales MDB increased by 128 GL to 2509 GL (18.07 per cent of a total capacity of 13 884 GL) over the last month (see figure above). This storage level is approximately 782 GL less than at the same time last year.



**Water storage levels in coastal New South Wales from 28 October 2002 to 4 June 2009.**  
**Source: Bureau of Rural Sciences**

In coastal New South Wales, storage levels increased by 20 GL to 797 GL (74.26 per cent of a total capacity of 1073 GL) over the last month (see figure above). This storage level is approximately 207 GL higher than at the same time last year.

### ***Water storage in Victoria***

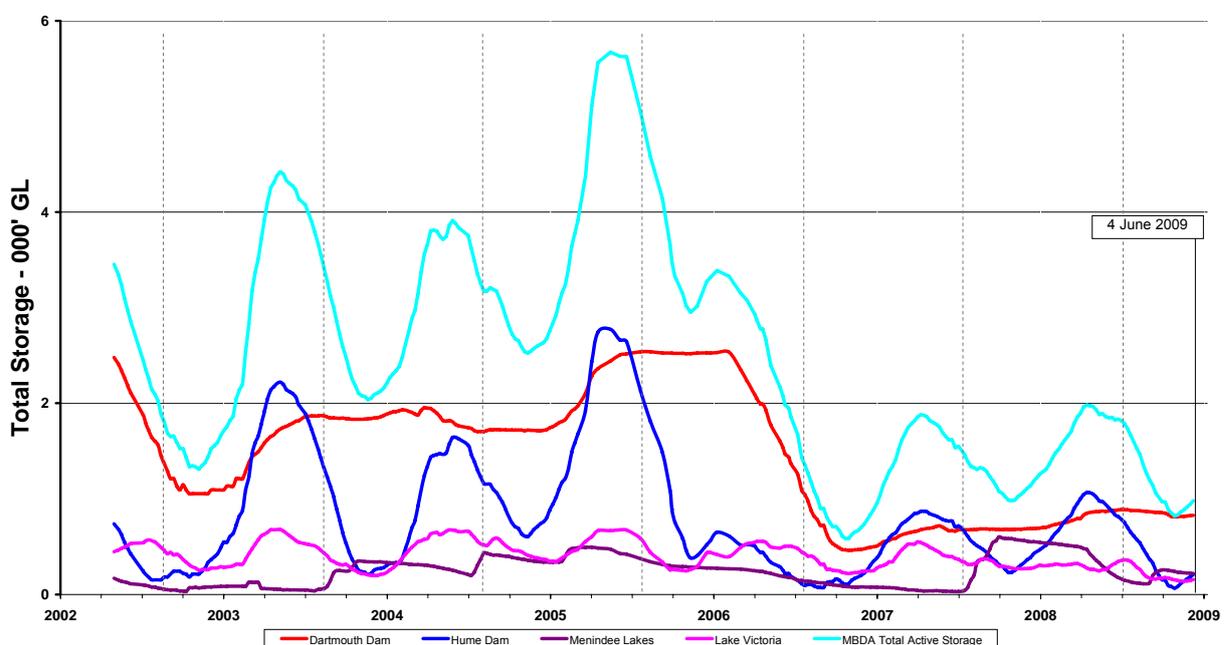


**Water storage levels in Victoria MDB from 28 October 2002 4 June 2009.**  
**Source: Bureau of Rural Sciences**

Storage levels in Victoria MDB decreased by 79 GL to 1451 GL (16.30 per cent of a total capacity of 8903 GL) over the last month (see figure above). This storage level is approximately 22 GL higher than at the same time last year.

## Murray-Darling Basin Authority water storages

- May 2009 rainfall was average to above average across the northern Murray Darling Basin. This produced small inflows to the Warrego, Moonie and Macintyre Rivers. Unless there is significant follow-up rain, much of this water is expected to dissipate as it flows along the Barwon-Darling River towards the Menindee Lakes system, which is up to 1500 km downstream. Much of the southern Basin received well below to below average rainfall, particularly across the Victorian Alps and Snowy Mountains. Consequently, Murray system inflows continue to be close to record lows.
- Murray-Darling Basin Authority (MDBA) active storages at the end of May increased to 977 GL (11 per cent capacity), which is slightly lower than this time last year (1140 GL) and well below the long-term average of 4670 GL.
- The total volume of water in all Basin storages managed by the MDBA or by state governments increased over the last month. At the start of June 2009, Basin storages held about 4084 GL (17.74 per cent). Storage in the Snowy Mountains reservoirs (managed by Snowy Hydro) remains low, with Lake Eucumbene at only 18.6 per cent capacity. Storage in Menindee Lakes, under New South Wales control, is at 13 per cent capacity (about 220 GL) compared to 32 per cent at this time last year. Despite this low level it is sufficient to assure Broken Hill's water supply for at least 21 months and allow delivery of high security allocations and carryover in 2009–10.
- Storage in Hume Dam increased by 93 GL to 205 GL (or 7 per cent capacity) during May 2009. Releases from the Snowy Scheme are currently contributing about 70 per cent of inflows to Hume Reservoir. The flow at Doctors Point (downstream of Hume Dam and the Kiewa River) is steady at about 1200 ML/day, which is the normal minimum.
- Storage in Dartmouth Dam increased by 11 GL during May 2009 to 827 GL (21 per cent of capacity). The release remains at the normal minimum release of 200 ML/day. The majority of the water that now remains in Dartmouth Dam will provide a reserve for critical human needs and to meet the individual carryover requirements of irrigators for 2009–10.
- Storage in Lake Victoria increased by 11 GL during May 2009 to 155 GL (or 23 per cent capacity) and is expected to continue rising as the additional water released from Lake Mulwala arrives over the next few weeks. For the month of June, the target flow to South Australia is 1700 ML/day,
- The trend of MDBA water storages at 4 June 2009 is shown in the figure below.



**Water volumes in the Murray-Darling Basin Authority Storages  
from 28 October 2002 to 4 June 2009.  
Source: Murray-Darling Basin Authority**

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 Authority

<http://www.mdba.gov.au/>

## 2.2 Water announcements

### ***Announcements for New South Wales (current at 5 June 2009)***

- On 1 May 2009, the New South Wales Department of Water and Energy (NSW DWE) announced that there would be no changes to water allocations in the New South Wales river systems. The water allocations for all licence holders remain unchanged until the end of the 2008–09 water year, as summarised in the table below.

<b>Water system</b>	<b>High Security Licences (%)</b>	<b>Change (%)</b>	<b>General Security Licences (%)</b>	<b>Change (%)</b>
NSW Murray Valley	95	0	9	0
Murrumbidgee Valley	95	0	21	0
Lower Darling	100	0	50	0
Macquarie Valley	100	0	10	0
Hunter Valley	100	0	100	0
Lachlan Valley	30	0	0	0
Border Rivers	100	0	0	0
Peel Valley	100	0	80	0

- On 15 May the New South Wales Department of Water and Energy released the critical water planning communiqués for the water systems in the southern Murray Darling Basin.
- There was a slight improvement of about 30 GL in water availability in the Murray Valley, due to rainfall in the Snowy catchments and cooler weather. However, there is considerably less water in the valley's storages than at this time last year, mainly because the volume stored in the Menindee Lakes system is significantly lower than in May 2008.
- Even if inflows remain low, it is expected that New South Wales Murray and Murrumbidgee irrigators will have access to a minimum of 50 per cent of carry-over on 1 July 2009. This estimate is preliminary and is based on expected minimum inflows.

### ***Announcements for Victoria (current at 5 June 2009)***

- On 15 May 2009, Goulburn-Murray Water (G-MW) confirmed that irrigation allocations in the 2009–10 season will depend completely on winter and spring inflows to storages.
- The resources available for allocation and system operations are at record low levels across much of northern Victoria. The remaining reserves are mostly carryover allocations held by irrigators and urban water corporations.

#### **Opening Allocations**

- Irrigation allocations on 1 July 2009 in all northern Victorian water systems are expected to be zero under dry inflow conditions. Continuing dry conditions will prevent any allocation being made available on 15 August 2009 in any system. The Murray and Goulburn systems may receive a small allocation if average inflows occur.

#### **Summary of System Allocation Outlooks**

- A summary of 2009–10 season allocations is provided in the tables below. The terms in these tables are defined as: *wet* (inflow volumes that are higher in 1 year out of every 10 years), *average* (inflow volumes that are higher in 5 years out of every 10 years) and *dry* (inflow volumes that are higher in 9 years out of every 10 years)

**Outlook for Murray System Seasonal Allocations (% of high-reliability water share)**

<b>Inflow Conditions</b>	<b>1 Jul 2009</b>	<b>15 Aug 2009</b>	<b>15 Oct 2009</b>	<b>15 Dec 2009</b>	<b>15 Feb 2010</b>
Wet	0	23	95	100	100
Average	0	0	39	66	81
Dry	0	0	5	11	19

**Outlook for Goulburn System Seasonal Allocations (% of high-reliability water share)**

<b>Inflow Conditions</b>	<b>1 Jul 2009</b>	<b>15 Aug 2009</b>	<b>15 Oct 2009</b>	<b>15 Dec 2009</b>	<b>15 Feb 2010</b>
Wet	0	52	100	100	100
Average	0	9	61	86	93
Dry	0	0	5	14	19

**Outlook for Broken System Seasonal Allocations (% of high-reliability water share)**

<b>Inflow Conditions</b>	<b>1 Jul 2009</b>	<b>15 Aug 2009</b>	<b>15 Oct 2009</b>	<b>15 Dec 2009</b>	<b>15 Feb 2010</b>
Wet	0	100	100	100	100
Average	0	0	77	100	100
Dry	0	0	0	0	0

**Outlook for Campaspe System Seasonal Allocations (% of high-reliability water share)**

<b>Inflow Conditions</b>	<b>1 Jul 2009</b>	<b>15 Aug 2009</b>	<b>15 Oct 2009</b>	<b>15 Dec 2009</b>	<b>15 Feb 2010</b>
Wet	0	79	100	100	100
Average	0	0	28	39	44
Dry	0	0	0	0	0

**Outlook for Loddon System Seasonal Allocations (% of high-reliability water share)**

<b>Inflow Conditions</b>	<b>1 Jul 2009</b>	<b>15 Aug 2009</b>	<b>15 Oct 2009</b>	<b>15 Dec 2009</b>	<b>15 Feb 2010</b>
Wet	0	100	100	100	100
Average	0	0	54	76	91
Dry	0	0	0	0	0

- G-MW will announce the opening seasonal allocations on Wednesday 1 July 2009. Detailed information on water availability and the outlook for allocations will be issued regularly during the 2009–10 season.

**Announcements for South Australia (current at 5 June 2009)**

- On 15 May 2009, the South Australian Minister for the River Murray, Karlene Maywald, announced that irrigators are likely to begin the new water year on 1 July with an opening allocation of at least 2 percent and access to at least 50 percent of eligible carryover.
- Despite last month's rainfall across the Murray-Darling Basin that boosted River Murray inflows, they remain well below the long-term average. There was a slight improvement of 20 GL in the amount of water available to South Australia, and this will be used to deliver water in 2009–10.

- Minister Maywald stated that water would be available to licensed users who had applied to carryover water from the current water year for use in 2009–10.
- At least 50 percent of eligible carryover will be allocated from 1 July with the remainder to be allocated depending on rainfall conditions and the delivery from interstate storages to South Australia. While the government is confident that carry-over can be supplied, an absolute guarantee cannot be given as in previous years

For further information on water announcements, go to:

Murray-Darling Basin Authority

<http://www.mdba.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

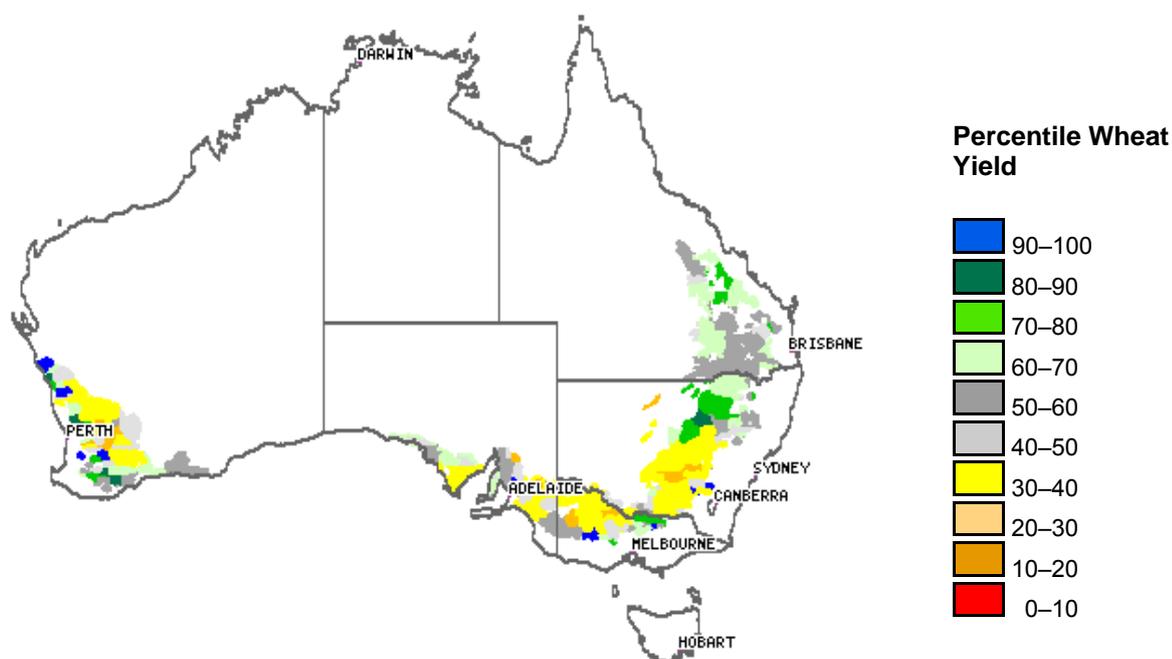
<http://www.dwlbc.sa.gov.au/media.html>

## 3.0 Crop and livestock production

### 3.1 Crops

#### Winter Crops

Predicted wheat yields for the coming season are provided by the Queensland Department of Primary Industries and Fisheries, as shown in the figure below. The forecast is based on a wheat stress index model that incorporates water availability, climate data and a soil moisture profile. The following figure shows median shire wheat yield forecasts across Australia based on climate data up to the end of the forecast month and projecting forward based on the long-term median calculated over all available years.



**Predicted shire wheat yields for the 2008 cropping season at 1 June 2009 ranked relative to all years (1901–2005).**

#### Australia

- The predicted median wheat yield for Australia at 1 June 2009 is 2.08 tonnes per hectare (t/ha). This is close to the long-term median of 2.1 t/ha (*Seasonal Wheat Outlook, June 2009*, Queensland Department of Primary Industries and Fisheries).
- Australian grain farmers experienced substantial growth in their financial performance during 2007–08 and this improvement is projected to continue into 2008–09 (*The Report Australian grains: Financial performance of grains producing farms, 2006–07 to 2008–09*).  
[http://abareconomics.com/corporate/media/2009\\_releases/22may\\_09.html](http://abareconomics.com/corporate/media/2009_releases/22may_09.html).

#### New South Wales

- The predicted median wheat yield for New South Wales at 1 June 2009 is 2.26 t/ha. This is close to the long-term median of 2.29 t/ha (*Seasonal Wheat Outlook, June 2009*, Queensland Department of Primary Industries and Fisheries).
- Widespread rainfall in the northern areas of the state during May has provided growers with full subsoil moisture profiles allowing them to continue winter crop plantings. In late May conditions in the centre and the south were reported to be continuing to deteriorate with no significant rain since early April and dry sowing becoming more common. Good rainfall was needed in these regions to enable further plantings and to consolidate the establishment of emerged and dry sown crops. Crops that had already been sown were moisture stressed. In the south-west, rainfall was needed to commence plantings. (Rainfall in early June may alleviate this situation.)  
[http://www.dpi.nsw.gov.au/data/assets/pdf\\_file/0004/283459/NSW-grains-report-may-2009.pdf](http://www.dpi.nsw.gov.au/data/assets/pdf_file/0004/283459/NSW-grains-report-may-2009.pdf)

- About 86 per cent of the estimated 242 000 ha of canola crop has been sown, with up to 30 per cent of the area sown dry or into marginal moisture.  
[http://www.dpi.nsw.gov.au/data/assets/pdf\\_file/0004/283459/NSW-grains-report-may-2009.pdf](http://www.dpi.nsw.gov.au/data/assets/pdf_file/0004/283459/NSW-grains-report-may-2009.pdf)

### South Australia

- The predicted median wheat yield for South Australia at 1 June 2009 is 1.92 t/ha. This is 0.02 t/ha lower than the long-term median (*Seasonal Wheat Outlook, June 2009*, Queensland Department of Primary Industries and Fisheries).
- After a dry start to the season, widespread rainfall between 5 mm and 20 mm fell across most of South Australia's agricultural districts in the last week of May. This allowed farmers to finish seeding operations. However, follow-up rainfall throughout the season is needed as subsoil moisture levels are at a minimum after a dry summer season.  
<http://sj.farmonline.com.au/news/state/agribusiness-and-general/general/rains-revives-sa-confidence/1524799.aspx>

### Victoria

- The predicted median wheat yield for Victoria at 1 June 2009 is 2.21 t/ha. This is 0.15 t/ha lower than the long-term median (*Seasonal Wheat Outlook, June 2009*, Queensland Department of Primary Industries and Fisheries).
- Victoria received variable rainfall during May, generally ranging from 10 mm to 50 mm across most of the state, with heavier rain of up to 100 mm in the central west. While these rains have encouraged plantings of winter crops, further rain will be needed to establish crops.  
<ftp://ftp.bom.gov.au/anon/home/ncc/www/rainfall/totals/month/colour/latest.vc.hres.gif>  
<http://www.abc.net.au/news/stories/2008/05/08/2238485.htm?site=centralvic>

### Western Australia

- The predicted median wheat yield for Western Australia at 1 June 2009 is 2.1 t/ha. This is close to the long-term median of 2.13 t/ha (*Seasonal Wheat Outlook, June 2009*, Queensland Department of Primary Industries and Fisheries).
- Most of the Western Australian wheatbelt has been running well behind schedule in planting this year's winter crops. Widespread soaking rainfall received across the state's wheatbelt in the last week of May provided a much needed seasonal break, allowing the official beginning of this year's seeding season. Rains of up to 80 mm were recorded, with averages ranging between 10 and 40 mm.  
<http://www.abc.net.au/rural/news/content/200905/s2579772.htm>  
'WA welcomes rain, farmers ask for 'Big Bucket'', Julie-Anne Sprague, *Australian Financial Review*, 20/05/2009, Page 3.

### Queensland

- The predicted median wheat yield for Queensland at 1 June 2009 is 1.56 t/ha. This is above the long-term median of 1.4 t/ha (*Seasonal Wheat Outlook, June 2009*, Queensland Department of Primary Industries and Fisheries).
- Most areas of the state's cropping region recorded average to above average rainfall in May with the exception of some areas in the northern parts of the Central Highlands. The high subsoil water levels across most of the cropping regions have encouraged widespread plantings. Those areas with low subsoil moisture will be more dependent on in-crop rainfall (*Seasonal Crop Outlook: Wheat – June 2009*, Queensland Department of Primary Industries and Fisheries).

## Summer Crops

### New South Wales

- About 95 per cent of the harvest of an estimated 277 212 hectares of summer crops is now completed. Grain sorghum production is forecast at 678 661 tonnes from an estimated 156 005 hectares. This is lower than the previous season when 841 755 tonnes was harvested from 181 465 ha.  
[http://www.dpi.nsw.gov.au/data/assets/pdf\\_file/0004/283459/NSW-grains-report-may-2009.pdf](http://www.dpi.nsw.gov.au/data/assets/pdf_file/0004/283459/NSW-grains-report-may-2009.pdf)
- The NSW Riverina rice harvest is almost complete and is expected to produce an average yield of 8.4 t/ha. This is lower than expected due to damage caused by record heatwave conditions in late January-early February. The current outlook for 2009–2010 is not favourable and dependent on good rains in the major storage catchments over winter.  
[http://www.dpi.nsw.gov.au/data/assets/pdf\\_file/0004/283459/NSW-grains-report-may-2009.pdf](http://www.dpi.nsw.gov.au/data/assets/pdf_file/0004/283459/NSW-grains-report-may-2009.pdf)

- The costs to agriculture from the North Coast floods have been extensive, with rice and soybean crops, due to be harvested this month, wiped out. Horticulture has also suffered big losses with trees uprooted and fruits that were ready for harvest badly damaged.  
<http://theland.farmonline.com.au/news/state/agribusiness-and-general/general/farms-count-cost-of-north-coast-floods/1521951.aspx>

## 3.2 Livestock

### *Beef cattle*

- The Australian cattle herd at 30 June 2008 reached 27.3 million head – a decline of 3 per cent year-on-year, as drought and dairy liquidation across the southern states overshadowed herd growth across Queensland and the Northern Territory. Despite the decline, the capacity for national herd growth remained very high, with the number of cows and heifers one year and older increasing 5 per cent, to 13.5 million head – representing 49 per cent of the national herd, a record high.  
<http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/Cattle+and+sheep+numbers+revised+lowe+r+-+ABS.htm>
- Below average seasonal conditions in Victoria and southern New South Wales coupled with the colder conditions continued to encourage producers to offload stock (Meat and Livestock Australia, Market News).  
<http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/Cattle+market+alert.htm>
- Heavy rainfall restricted throughput into saleyards towards the end of May (Meat and Livestock Australia, Market News). <http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/Cattle+market+alert.htm>
- The Eastern Young Cattle Indicator (EYCI) finished May at 322.75 ¢/kg carcass weight (cwt), a rise of 6.5 ¢/kg since the previous month. The trade steer indicator rose 6 ¢/kg to finish at 179 ¢/kg. Feeder steer and Japan rose 1 ¢/kg on the previous month to finish May at 170 ¢/kg and 164 ¢ respectively. The US cow fell 1 ¢/kg on the previous month to finish at 121 ¢/kg (Meat and Livestock Australia, Market News).  
<http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/Friday+livestock+summary.htm>
- There are reported thinning stocks of Australian beef in the Japanese trade market, with wholesale prices mostly being similar or slightly higher than a month ago, despite reduced interest from end users (Meat and Livestock Australia, Market News).  
<http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/Australian+beef+stocks+tightening+in+Japan.htm>

### *Sheep and lambs*

- Sheep and lamb supply has tapered off during May, which is a higher than usual decline in supply compared to last year. This trend resulted in increased prices for both sheep and lambs in Victoria.  
<http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/Victoria+weekly+sheep+summary.htm>
- Stock feed levels are extremely low in Western Australia due to the lack of rainfall throughout much of the state reducing germination of pastures. There are reports of ewes abandoning lambs. Strong demand for live exports continues to be evident in May and it is expected to remain strong.  
<http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/WA+weekly+sheep+summary.htm>
- New South Wales experienced record prices in May for both sheep and lamb, with lamb prices uncharacteristically high for this time of year. Processors in this state are ordering lamb stocks at higher rates to ensure supply is secured.  
<http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/NSW+weekly+sheep+summary.htm>
- The Australia sheep flock of 76.49 million head is at its lowest level since 1916, largely as a result of the 2007–08 drought, down 10 per cent or 8.78 million head from the previous year.  
<http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/Cattle+and+sheep+numbers+revised+lowe+r+-+ABS.htm>
- Australian Bureau of Statistics reports that sheep slaughtering rates have decreased by 9 per cent on the March 2008 level, while lamb levels have remained the same over the same annual period.  
<http://www.abs.gov.au/AUSSTATS/abs@.nsf/mf/7218.0.55.001>

## **Pigs**

- Despite efforts to assure consumers that the pork from United States is safe from H1N1 virus, 22 countries have banned the import of pork from this country. Early in May pig prices had declined by \$US 22 a head since the start of the outbreak, as consumers remained confused over the virus's origin.  
<http://www.abc.net.au/rural/news/content/200905/s2564434.htm>
- At the start of May it was reported that Australian pork sales were down although retailers are successfully allaying consumer fears.  
<http://www.abc.net.au/rural/news/content/200905/s2558073.htm>

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/>

Victorian Department of Primary Industries  
<http://www.dpi.vic.gov.au>

## 4.0 Climate Outlook

### 4.1 El Niño Southern Oscillation (ENSO)

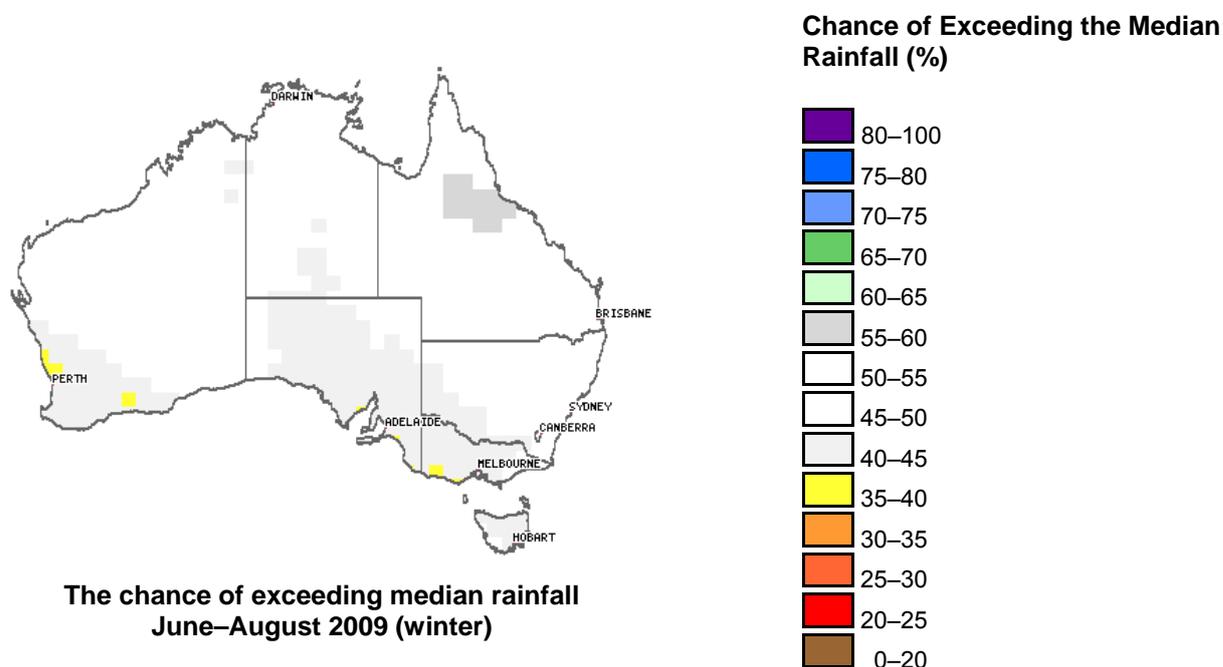
In the statement released on 3 June 2009, the Australian Bureau of Meteorology announced that the recent development of climate patterns across the equatorial Pacific is consistent with the early stages of a developing El Niño event. Since the start of April, sea surface temperatures (SSTs) across the equatorial Pacific have risen by about 0.8 °C and now stand at around 0.5 °C above average (the El Niño threshold is 0.8 °C above average). There has been a marked warming below the ocean surface and the 30-day value of the Southern Oscillation Index (SOI) has dropped to around -7. Also, the Trade Winds were weaker than average over much of the tropical Pacific from late April to late May. However, patterns of Pacific cloudiness have not as yet shown clear trends towards El Niño. This indicates that the ocean-atmosphere coupling, which amplifies and maintains El Niño, is not yet established.

The majority of international dynamic computer models predict further warming of Pacific Ocean, with SSTs remaining in the ENSO-neutral range until at least mid-winter. Five of seven models predict strong enough warming to establish El Niño conditions by the southern hemisphere spring and by mid-winter in four models. Recent forecasts from the POAMA model show a steady warming with El Niño conditions developing by mid-winter. Pacific conditions and model predictions will continue to be monitored closely for any further indications of an event.

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

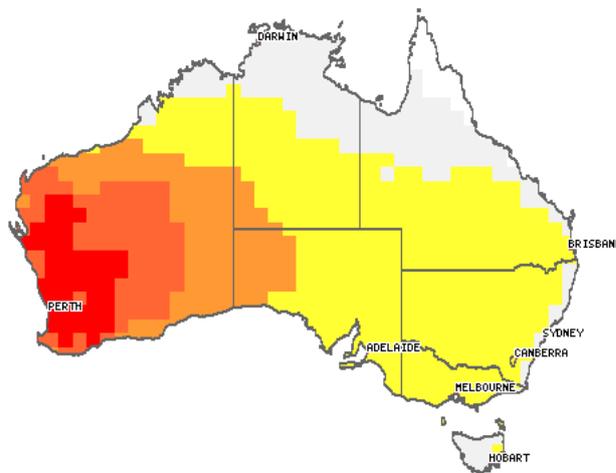
The Bureau of Meteorology provides seasonal outlooks that are statements about the probability of wetter or drier than average weather over a three-month period. The outlooks are based on the statistics of chance (the odds) taken from Australian rainfall, temperature and sea surface temperature records 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.



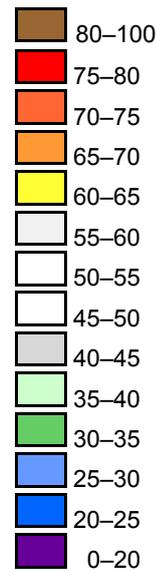
The national rainfall outlook for June to August 2009 suggests average rainfall across Australia, with a few exceptions in the south where lower than average rainfall is likely. The chance of exceeding the median rainfall during the coming three months is between 40 and 55 per cent, meaning that above average rainfall is about as equally likely as below average.

The pattern of seasonal rainfall odds across Australia is a result of recent warm conditions in the Indian Ocean and an increasing level of warmth in the Pacific. The influences from these two oceans counteract each other in eastern Queensland and northern NSW. While the Indian Ocean pattern promotes wetter conditions, the Pacific Ocean biases the climate towards a drier than normal season.

### 4.3 Temperature Outlook



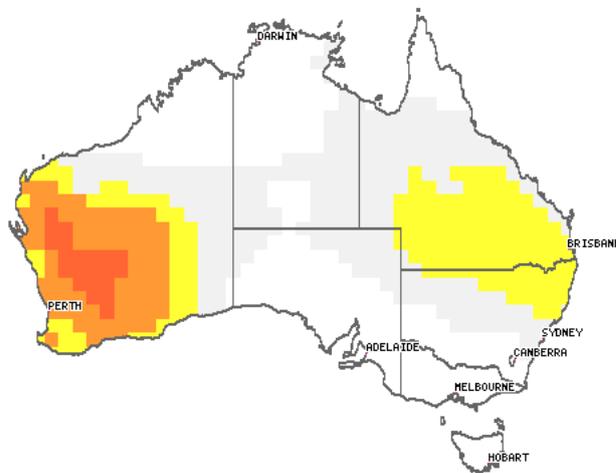
**3 Month Temp. Max Outlook (%)**



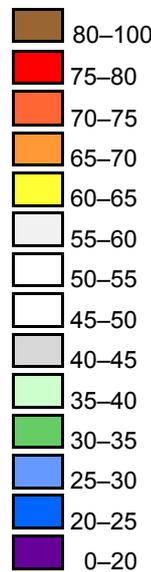
**The chance of exceeding median maximum temperatures  
June–August 2009 (winter)**

The chance of exceeding the median maximum temperature for June to August 2009 is above 60 per cent across most of Australia. This means that that warmer than average days are more likely than cooler than average. The chance for higher than average day temperatures is above 75 per cent in south-eastern Western Australia.

The pattern of seasonal temperature odds across Australia is a result of recent warm conditions in the Indian Ocean and an increasing level of warmth in the Pacific. The influence from the Indian Ocean is greater for this particular outlook.



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



**The chance of exceeding median minimum temperatures  
June–August 2009 (winter)**

The national outlook for minimum temperatures from June to August 2009 suggests that minimum temperatures are likely to be 60–75 per cent above average over most of southern Western Australia and 60–65 in southern Queensland and northern New South Wales.

History shows that the effect of Pacific and Indian oceans on minimum temperatures in the June to August period is moderately consistent over large parts of the country, with the exception of southeast South Australia, Tasmania and Victoria.

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