



Climate and Agricultural Update

National Report

Issued February 2009



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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

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

<p>Department of Primary Industries and Resources SA</p>  <p>Government of South Australia Primary Industries and Resources SA</p>	<p>http://www.pir.sa.gov.au/</p>
<p>Department of Primary Industries, Victoria, Australia</p>  <p>Victoria The Place To Be</p>	<p>http://www.dpi.vic.gov.au/</p>
<p>Murray-Darling Basin Authority</p>  <p>MURRAY-DARLING BASIN AUTHORITY</p>	<p>http://www.mdba.gov.au/</p>

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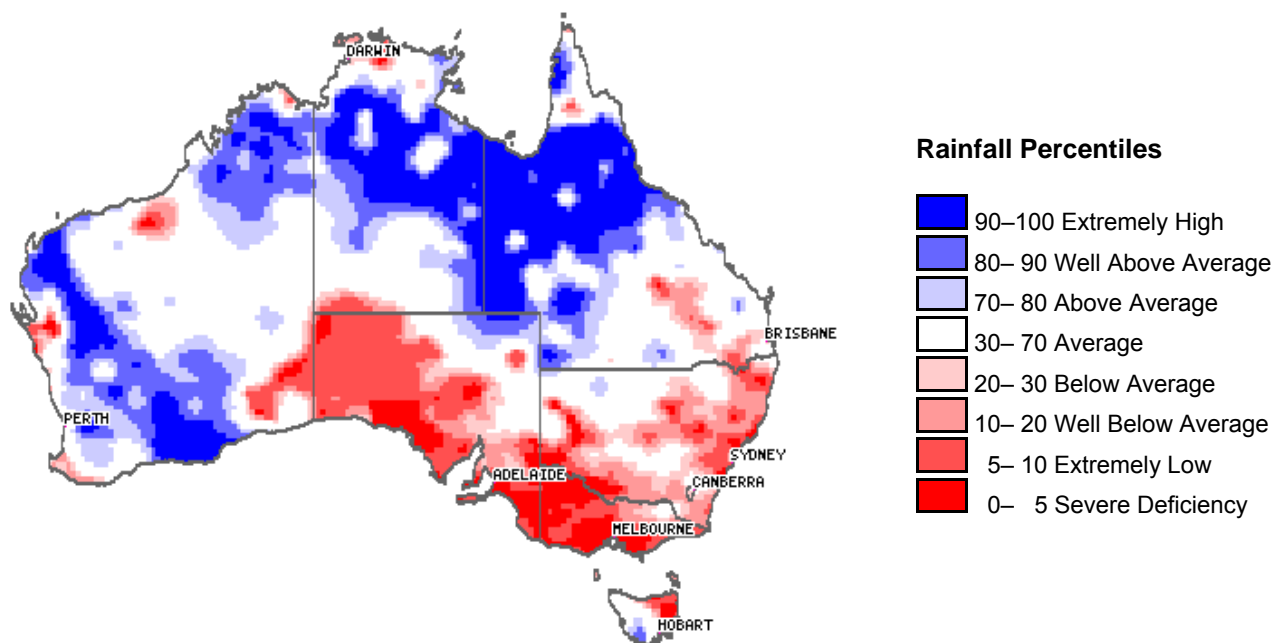
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1.0 Rainfall and temperature

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 (January 2009)

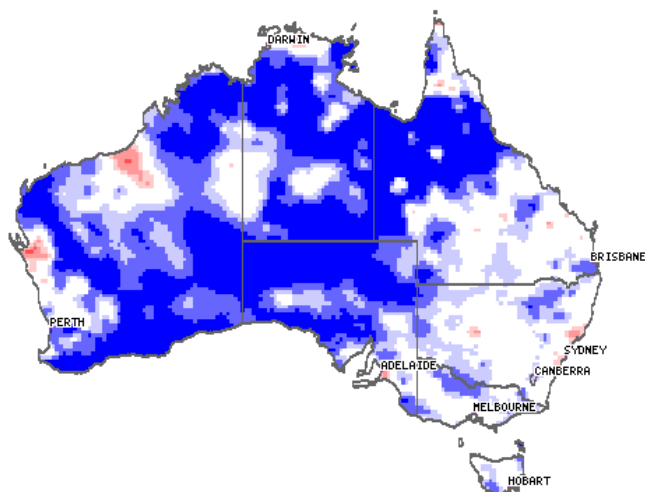


Rainfall percentiles for January 2009

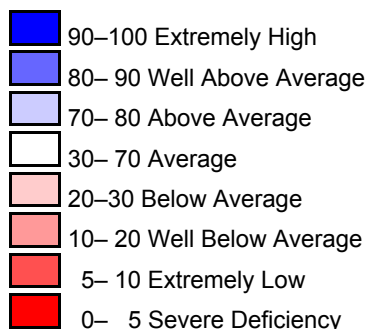
January 2009 was the twelfth wettest January in 110 years and the national rainfall was 35 per cent above the long-term mean (1961–90). There was significant regional variation across the country during the month: the tropical north was exceptionally wet, while the south was largely rainfall-deficient. Most of South Australia and Victoria received well below average rainfall. In contrast, Queensland received 80 per cent above average rainfall recording its sixth-wettest January on record.

A band of above average rainfall extended from the Kimberley region in Western Australia, through the Northern Territory and into the north and south-west corner of Queensland. A band of above average rainfall in the south and west of Western Australia generally coincided with the track of Cyclone Dominic.

Ongoing or emerging rainfall situations

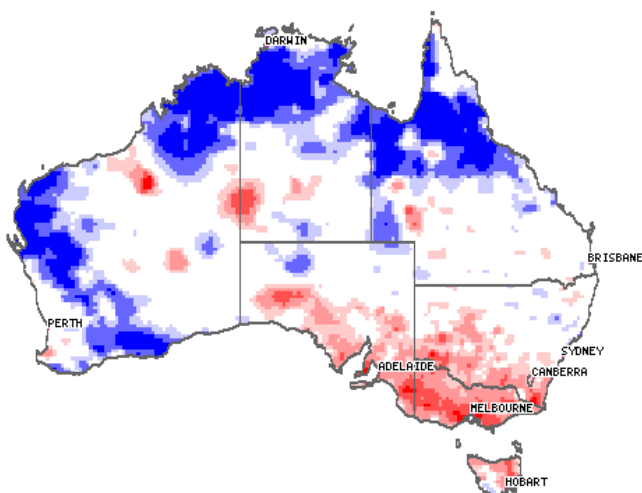


Rainfall Percentiles

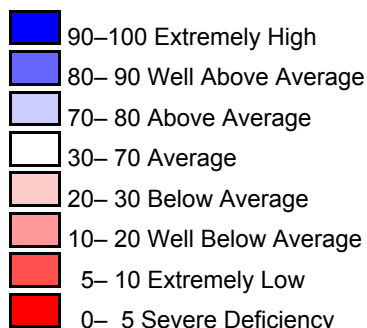


**Rainfall percentiles for the last three months
November 2008–January 2009**

Above average to extremely high rainfall in November and December 2008 resulted in a significant reduction in 3-monthly rainfall deficiencies in the south and south-east of Australia. Rainfall from November 2008 to January 2009 was average to above average in the eastern states and well above average across the rest of the country. There were isolated areas with below average rainfall across the continent, most notably in north-west of Western Australia and the central coast of New South Wales.



Rainfall Percentiles

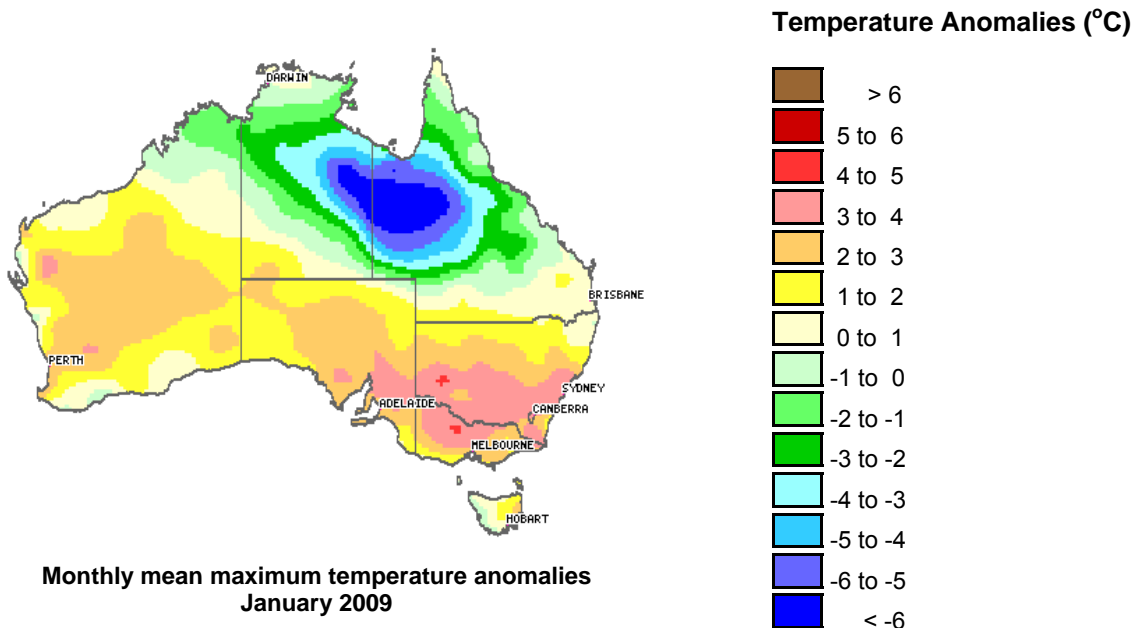


**Rainfall percentiles for the last 12 months
February 2008–January 2009**

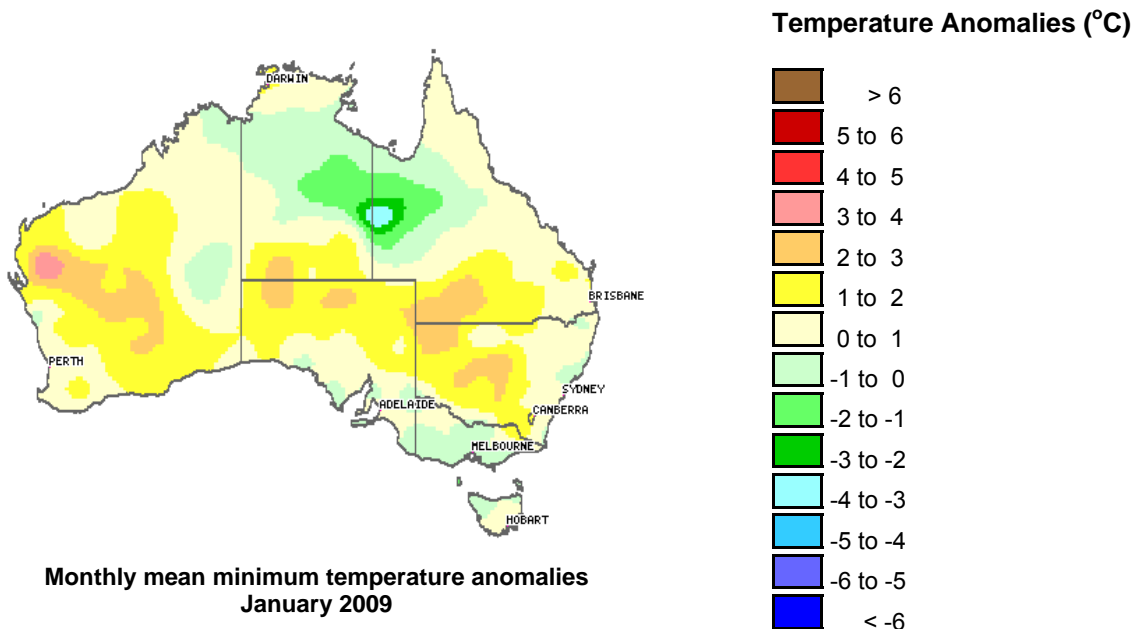
For the 12 month period from February 2008 to January 2009, well above average rainfall was recorded across northern parts of Australia and in the west and south of Western Australia. Rainfall was well below average across the south-east of the continent, with areas in southern half of Victoria in the lowest tenth percentile range. These rainfall-deficient areas include much of Australia’s agricultural land.

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/>.

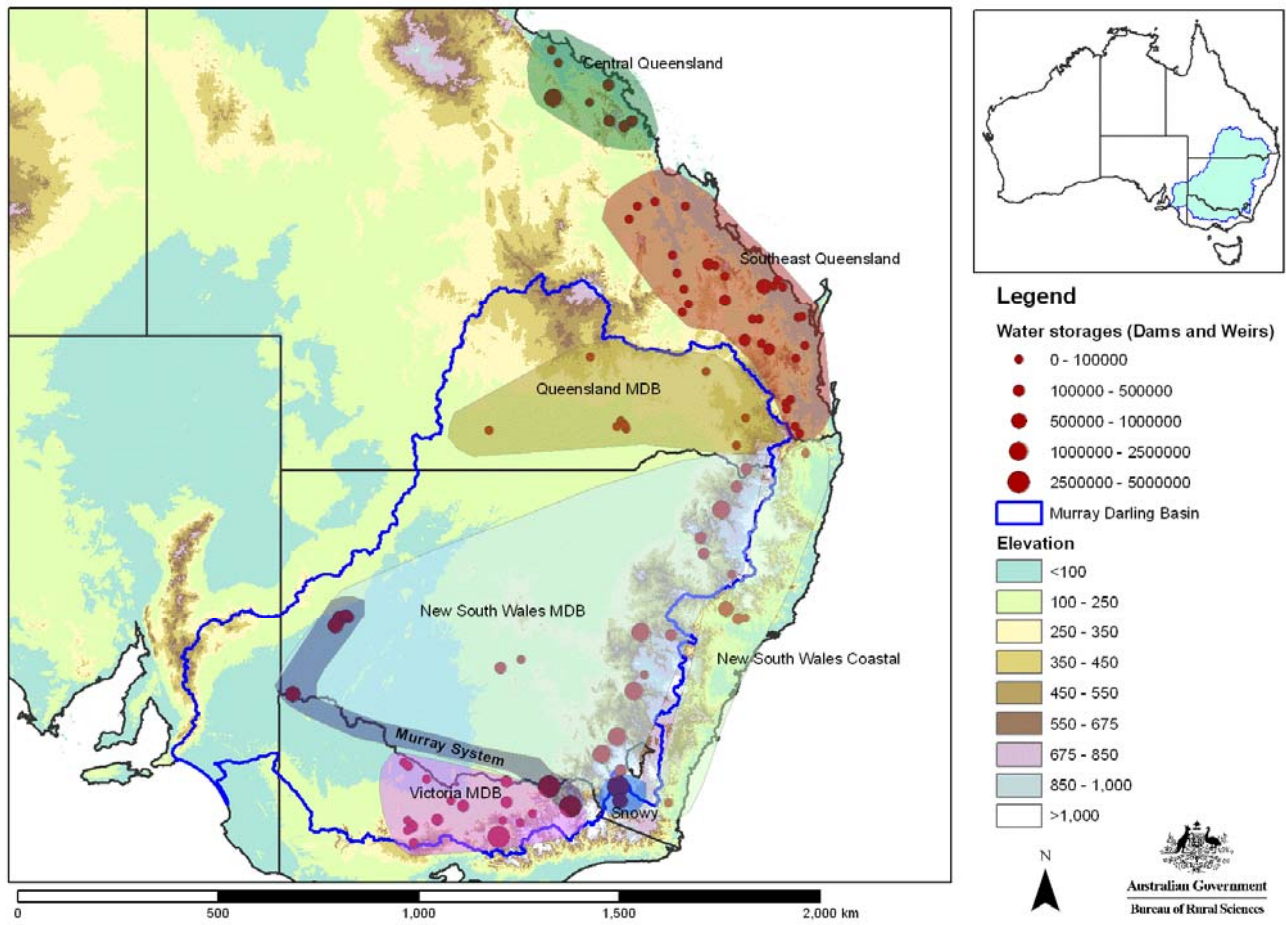


Maximum temperatures in January 2009 averaged over Australia were 0.14 °C above the long-term average for the month. However, there was high variability in temperature across the country. Maximum temperatures ranged from 1 °C to 7 °C below average across northern Australia, with the Northern Territory and Queensland experiencing their coolest January since 1984 (anomalies -1.89 °C and -2.39 °C, respectively). In contrast, a heatwave in south-eastern Australia saw maximum temperatures range from 1 to 5 °C above average and Tasmania achieved its highest temperature on record. Both Melbourne and Adelaide set records in the number of consecutive days above 43 °C (four and three days, respectively).



Minimum temperatures in January 2009 averaged over Australia were 0.58 °C above the long-term average for the month (sixteenth highest on record). Minimum temperatures were above average in a band extending from eastern states through South Australia into Western Australia. In contrast, minimum temperatures were 1 °C to 4 °C below the long-term average for January in western Queensland, the Northern Territory, north-eastern Western Australia, southern Victoria and north-western Tasmania.

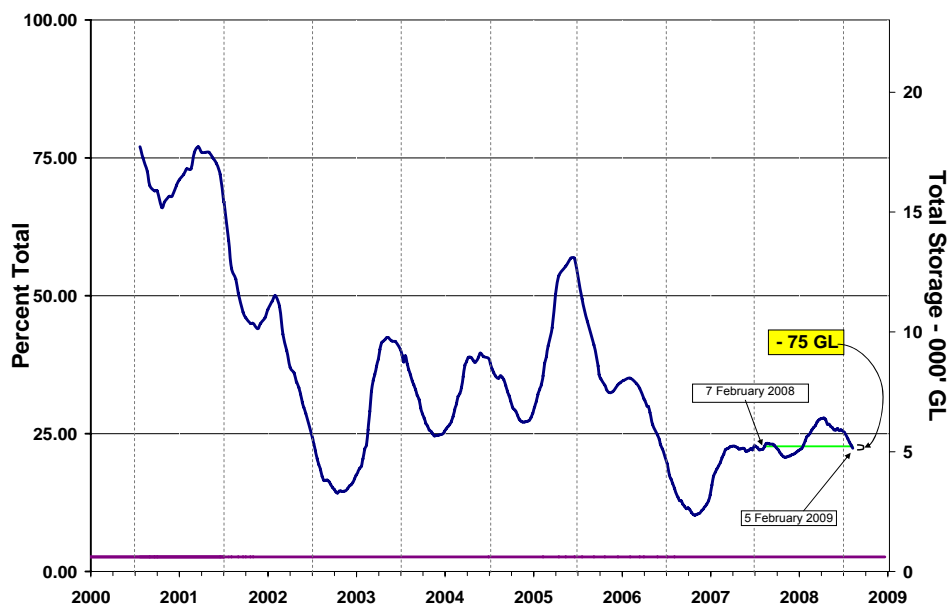
2.0 Water storages and announcements



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.

2.1 Water storages (current to 5 February 2009)

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

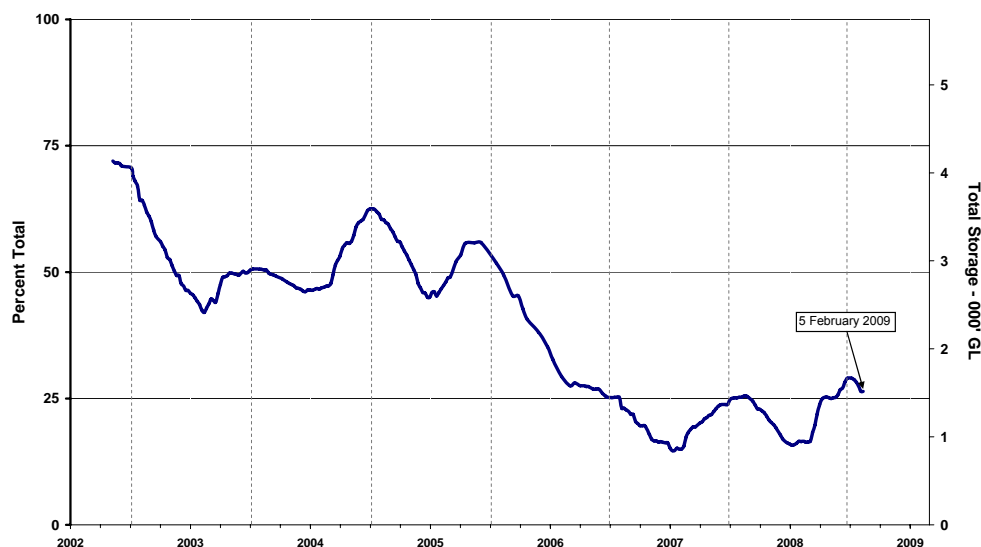


Water storage levels in the Murray-Darling Basin from 1 January 2001 to 5 February 2009. The green line shows the storage level at the same time last year and the purple line shows the dead storage (not calculated).

Source: Bureau of Rural Sciences.

Over the past month storage levels within the Murray-Darling Basin (MDB) have decreased. Storage levels generally fall at this time of the year because of the seasonal irrigation drawdown. Storage levels for irrigated agriculture on 5 February 2009 were at 5145 gigalitres (GL) (22.3 per cent of a total capacity of 23 020 GL), a decrease of 556 GL (2.4 per cent of total capacity) over the month. Current storage levels are approximately 75 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 5 February 2009.

Source: Bureau of Rural Sciences.

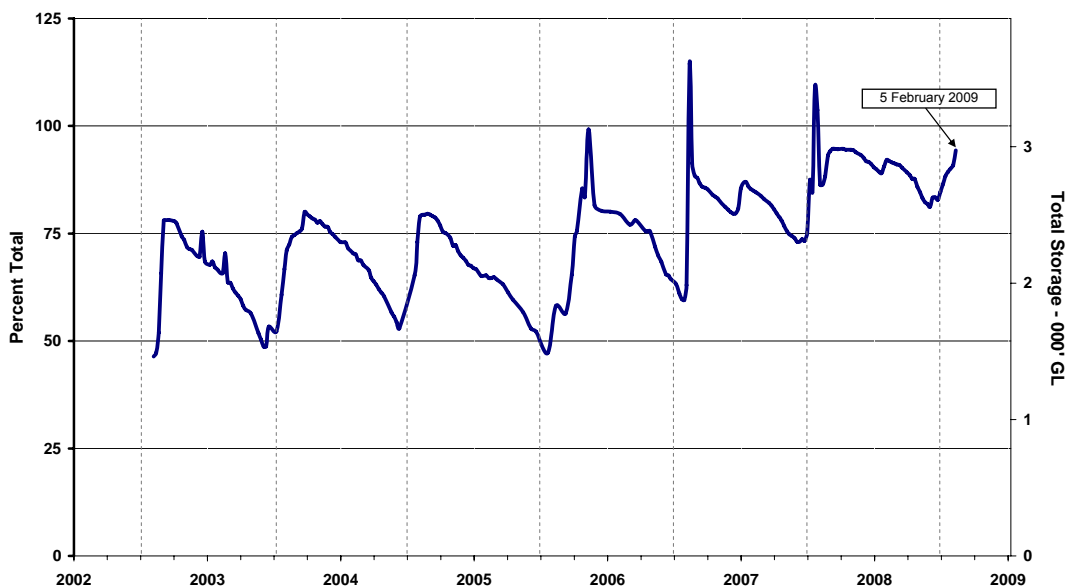
The figure 'Water storage in the MDB' (above top) does not include the capacities of Lake Eucumbene, Tantangara Reservoir and Lake Jindabyne (collectively the Snowy Scheme) which are reserved for hydro-electricity generation and irrigation purposes. Current levels in the Snowy Scheme storages are 1516 GL (26.4 per cent of a total capacity of 5744 GL) (see figure above). This is an increase of 55 GL (1.0 per cent) from the same time last year

Water storage in Queensland



Water storage levels in Queensland MDB from 3 February 2003 to 5 February 2009.
Source: Bureau of Rural Sciences.

Storage levels in Queensland MDB decreased by 28 GL to 105 GL (57 per cent of a total capacity of 185 GL) over the last month (see figure above). This storage level is approximately 71 GL lower than at the same time last year.



Water storage levels in central Queensland from 3 February 2003 to 5 February 2009.
Source: Bureau of Rural Sciences.

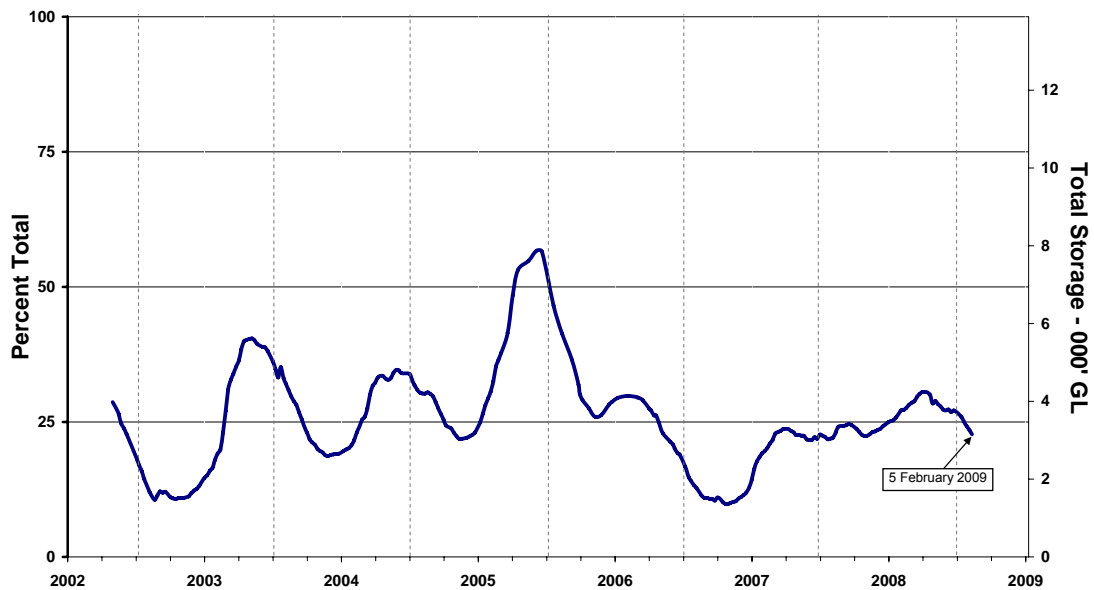
In central Queensland storage levels increased by 190.86 GL to 2977 GL (94.4 per cent of a total capacity of 3155 GL) over the last month (see figure above). This storage level is approximately 252 GL higher than at the same time last year.



Water storage levels in south-east Queensland from 3 February 2003 to 5 February 2009.
Source: Bureau of Rural Sciences.

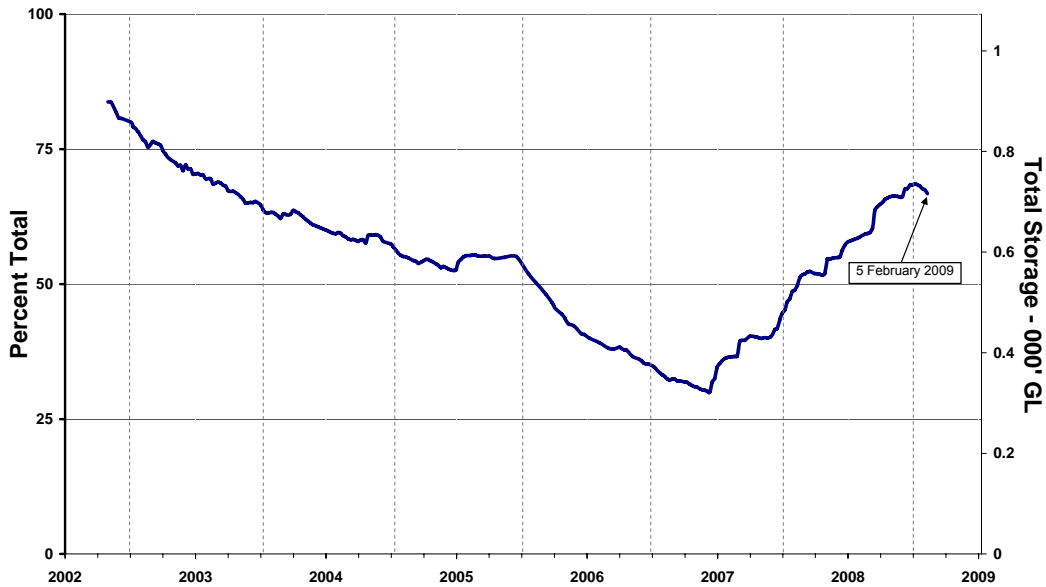
In south-east Queensland storage levels increased by 127 GL to 2052 GL (58.4 per cent of a total capacity of 3517 GL) (see figure above). This storage level represents an increase of 113 GL (3.2 per cent) compared to the same time last year.

Water storage in New South Wales



Water storage levels in New South Wales MDB from 28 October 2002 to 5 February 2009.
Source: Bureau of Rural Sciences.

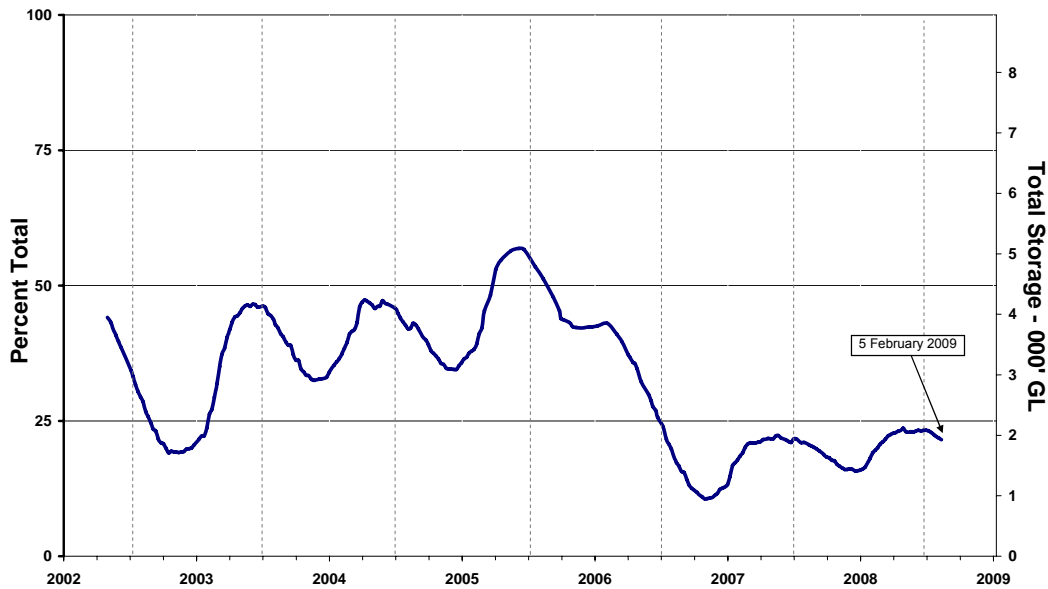
Storage levels in the New South Wales MDB decreased by 439 GL to 3153 GL (22.7 per cent of a total capacity of 13 884 GL) over the last month (see figure above). This storage level is approximately 50 GL less than at the same time last year.



Water storage levels in coastal New South Wales from 28 October 2002 to 5 February 2009.
Source: Bureau of Rural Sciences.

In coastal New South Wales storage levels decreased by 18 GL to 717 GL (66.7 per cent of a total capacity of 1073 GL) over the last month (see figure above). This storage level is approximately 183 GL higher than at the same time last year.

Water storage in Victoria

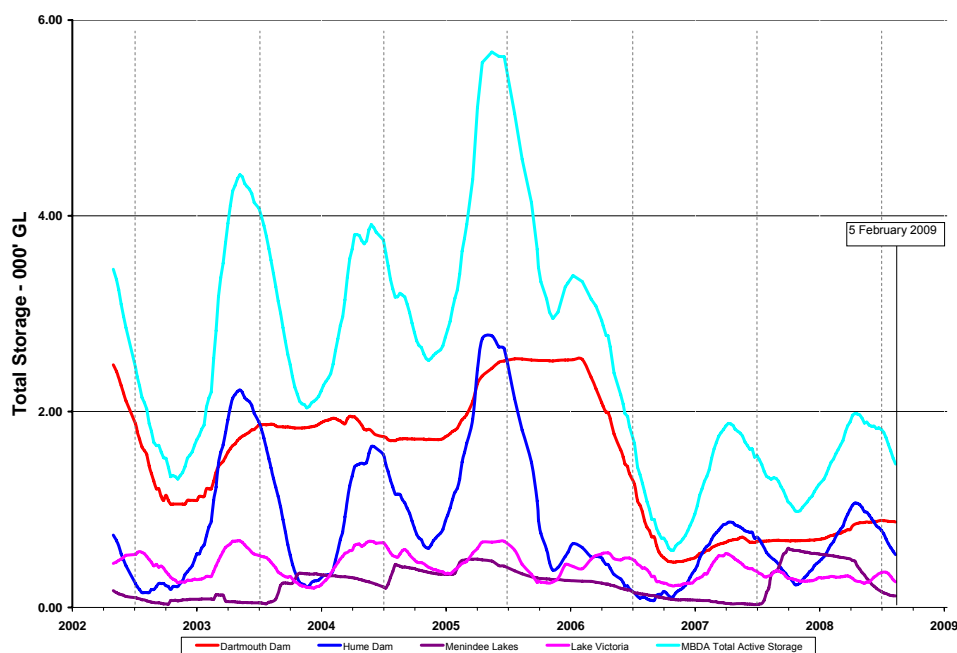


Water storage levels in Victoria MDB from 28 October 2002 to 5 February 2009.
Source: Bureau of Rural Sciences.

Storage levels in Victoria MDB decreased by 119 GL to 1916 GL (21.5 per cent of a total capacity of 8950 GL) over the last month (see figure above). This storage level is approximately 83 GL higher than at the same time last year.

Murray-Darling Basin Authority water storages

- During November and December 2008, above average rainfall and below average temperatures were recorded across the southern half of the Murray-Darling Basin. However, January saw a return to very hot and dry conditions. The longer-term rainfall deficits, particularly across the higher yielding catchments of the Victorian Alps and Snowy Mountains continue to persist.
- Murray system inflows during January remained well below the long-term average of 235 GL. Very hot and dry weather conditions experienced during this period caused system inflows to fall to 70 GL (30 per cent of the long-term average). The hot weather also caused a very significant increase in both water usage and losses along the river.
- During the 2008–09 water year there have not yet been any significant inflows to the Menindee Lakes from the Barwon-Darling system, although a small flow has now reached Wilcannia.
- At 31 January 2009, there was a small decrease in the volume of water in the Murray Darling Basin Authority storages. The total active storage is currently 1470 GL or 16 per cent of capacity, which is slightly higher than the storage level of 1325 GL at the end of January 2008, but well below the January long-term average of 5400GL.
- There is also a small volume of water (about 100 GL) in Menindee Lakes, which remains under New South Wales control and is needed to supply drinking water to Broken Hill and other nearby towns for the next 18 months.
- The total volume of water in all Basin storages managed by the Murray Darling Basin Authority (MDBA) or by State governments has remained fairly steady. Elsewhere in the Basin, storage levels remain low. As at end of January 2009 Basin storages held about 5300 GL, or 23 per cent of capacity. Storage in the Snowy Mountains reservoirs (which is managed by Snowy Hydro) also remains low, with Lake Eucumbene at only 24 per cent capacity.
- Storage in Hume Reservoir, which is currently supplying the bulk of the water for the Murray upstream of Lake Victoria, decreased by 37 GL to 581 GL (or 19 per cent capacity). If weather conditions remain dry, storage in Hume Reservoir will continue to gradually fall and by early autumn may be as low as 300 GL (10 per cent capacity).
- The Dartmouth Reservoir decreased by 7 GL during January to 879 GL (22 per cent of capacity). During the last few months small volumes of water were released from Dartmouth Reservoir to supplement the storage in Hume Reservoir and to sustain the Mitta Mitta River. The water that now remains in Dartmouth Reservoir will provide a reserve for critical human needs and also meet individual carryover requirements of irrigators for 2009–10.
- The trend of MDBA water storages updated to 5 February 2009 is shown in the figure below.



Water volumes in the Murray-Darling Basin Authority Storages from 28 October 2002 to 5 February 2009. Source: Bureau of Rural Sciences.

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 as at 16 February 2009)

- On 16 February 2009 the New South Wales Department of Water and Energy announced that there would be no change to water allocations in the Murray, Murrumbidgee and Lower Darling River Valleys. The water allocations for all New South Wales Southern Murray-Darling Basin licence holders remain unchanged for the 2008–09 water year, as summarised in the table below.

Water system	High Security Licences (%)	Change (%)	General Security Licences (%)	Change (%)
NSW Murray Valley	95	0	9	0
Murrumbidgee Valley	95	0	21	0
Lower Darling	100	0	50	0
Macquarie Valley	100	0	5	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

- While there have been some inflows in both the Murray and Murrumbidgee Valleys from the Snowy Hydro scheme, high temperatures have increased evaporation losses and combined with reduced natural flows, have off-set any improvement in water availability.
- Enough water has been placed in reserve to meet all critical human needs for New South Wales users in Southern Murray-Darling Basin River Valleys for the 2009–10 water year. However, without substantial autumn and winter rain, water availability for consumptive use will be limited.
- The Department of Water and Energy reminds licence holders that all temporary trades, including interstate trades, need to be lodged with State Water by close of business on 31 May 2009.
- The Department of Water and Energy urged all users of unregulated tributaries to the Murrumbidgee River to be mindful of the “cease-to-pump” conditions attached to their licences due to decreased flows in recent weeks.
- Water allocations for the high security licence holders remained unchanged.

Announcements for Victoria (current as at 16 February 2009)

- On 16 February 2009 Goulburn-Murray Water (G-MW) announced the updated season allocations and the date of the final allocation announcement for the 2008–09 season (see below).

Water system	High-reliability share (%)	Change (%)
Murray	35	0
Broken	0	0
Goulburn	30	+1
Campaspe	0	0
Loddon	0	0
Bullarook Creek	0	0

- On 16 February 2009 G-MW announced an increase of 1 per cent high-reliability water shares (HRWS). No other improvements were possible, with the Murray system remaining at 35 per cent HRWS. The allocations for all other water systems in Northern Victoria remain at zero.
- The Resource Manager for the G-MW, Graeme Hannan, explained that the increase in the Goulburn system is a result of the cumulative effect of several factors over the four weeks since the most recent allocation

improvement. Minor improvements and the reduction of delivery and loss of commitments have enabled this increase.

- The final seasonal allocation for all systems for this season will be announced on Wednesday 1 April 2009. According to Mr Hannan the decision to reserve water for next season from 1 April is a contingency measure that was introduced in 2008 to apply when storages are very low. All late-season resource improvements will be retained to build the reserves to secure water supplies in 2009–10.
- The next allocation announcement for all water systems will be available on 2 March 2009.

Seasonal allocations outlook for the 2009–10 season

- On 16 February 2009 G-MW released an outlook for seasonal allocations in the 2009–10 season.
- The extremely dry conditions have continued this season and inflows in all water systems remained well below average. The Murray and Goulburn systems have received allocations but these are at very low level for mid-February. The four other northern Victorian systems—the Broken, Campaspe, Loddon and Bullarook—are likely to remain without allocations for the entire 2008–09 season.
- At present, all storages are expected to fall to very low levels by the end of this season. It is likely that the remaining volumes will be entirely comprised of privately held carryover. Resource improvements after March this year will be reserved for use during 2009–10. The availability of water next season will rely on the inflows received during winter and spring.

Outlook for the start of the 2009–10 season

- All systems are expected to have zero seasonal allocation on Wednesday 1 July 2009. Average inflow conditions, based on the full inflow record available to the Resource Manager, will be insufficient to provide enough water for new irrigation allocations by this time.
- Average inflow conditions would allow allocations to be announced in all systems on Monday 17 August 2009. A continuation of the severe drought conditions, such as those experienced this season, will prevent any allocation in any system on 17 August 2009.
- A summary of 2009–10 season allocations is shown in the tables below. The terms in these tables are defined as: *wet* (inflow volumes that are likely to be higher in 1 year out of every 10 years), *average* (inflow volumes that are likely to be higher in 5 years out of every 10 years) and *dry* (inflow volumes that are likely to be higher in 9 years out of every 10 years).

Outlook for 17 August 2009 Seasonal Allocations (% of high-reliability water share)

Inflow Conditions	Murray	Broken	Goulburn	Campaspe	Loddon
<i>wet</i>	87	100	90	100	100
<i>average</i>	27	3	35	21	100
<i>dry</i>	0	0	0	0	0

Spring 2009–10

- The inflow period between July and November 2009 will be critical to supporting irrigation allocations in the 2009–10 season. Continued poor inflows during this period would prevent improvement in seasonal allocations across most of the northern Victorian water systems, as demonstrated in the table below.

Outlook for 15 October 2009 Seasonal Allocations (% of high-reliability water share)

Inflow Conditions	Murray	Broken	Goulburn	Campaspe	Loddon
<i>wet</i>	100	100	100	100	100
<i>average</i>	60	100	82	100	100
<i>dry</i>	18	0	25	0	0

Outlook for Monday 15 February 2010 Seasonal Allocations (% of high-reliability water share)

Inflow Conditions	Murray	Broken	Goulburn	Campaspe	Loddon
wet	100	100	100	100	100
average	100	100	100	100	100
dry	38	0	48	0	47

- Goulburn-Murray Water will update the allocation outlook for 2009–10 on Friday 15 May 2009.

Announcements for South Australia (current as at 16 February 2009)

- There will be no improvement in River Murray water allocations for irrigators for another month. According to the Minister for the Murray River, Karlene Maywald, allocations will stay at 18 per cent of the usual entitlement because of continuing drought.
- 70 GL flowed into the Murray system during January, but that compared with the long-term average of 234 GL.
- Allocation updates will continue to be issued on the fifteenth of each month and information on water resource conditions will be available on the first of each month or on the first business day.

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

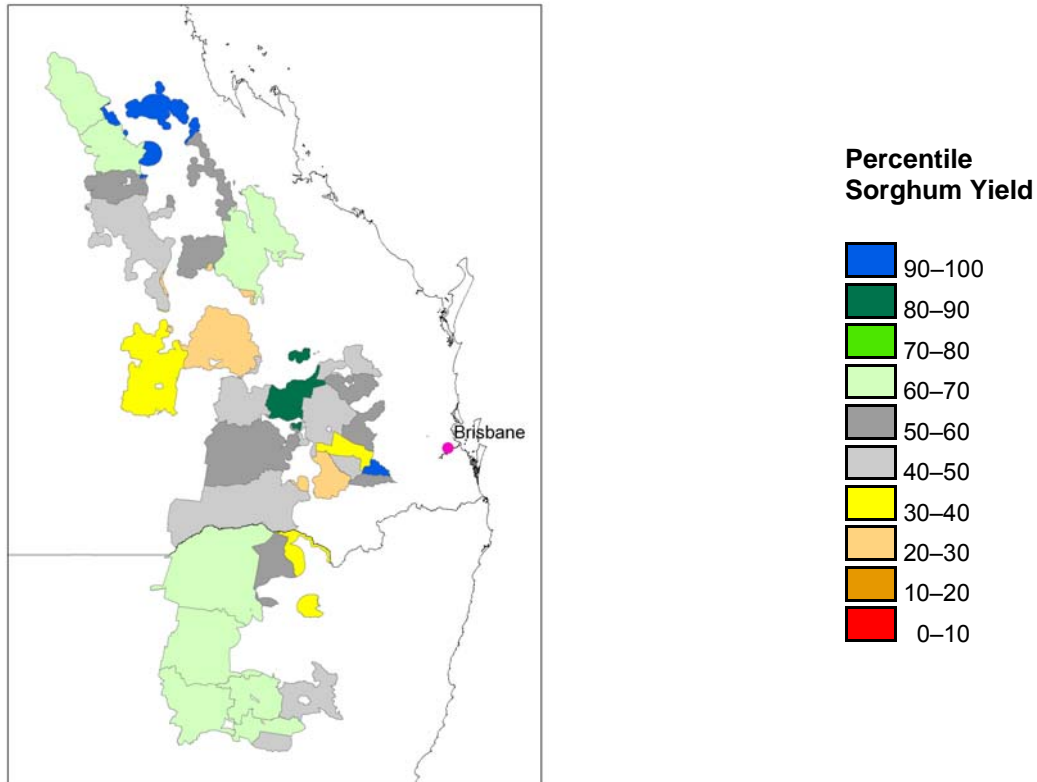
- According to the ABARE Australian Crop Report, the harvest of 2008–09 winter crops has been completed. Total production is estimated at around 33 million tonnes (Mt), which is 10 Mt higher than the previous season. Production estimates are 21.4 Mt for wheat, 6.8 Mt for barley and 1.6 Mt for canola (http://www.abareconomics.com/corporate/media/2009_releases/17feb_09.html).
- Victoria: The area planted to wheat and barley was up on last year by 5 per cent and 4 per cent, respectively. In contrast, production estimates are down on last year by 20 per cent for wheat (1.5 million tonnes) by 21 per cent for barley (870 000 tonnes). The area planted to canola is down 30 per cent with production down 40 per cent to 120 000 tonnes ([http://www.dpi.vic.gov.au/DPI/nrenfa.nsf/LinkView/5261768EBBCFD383CA2575550000524E987715D08D0205F9CA2573E100030E40/\\$file/DSC%20%2385%20Feb%205%20-%202009.pdf](http://www.dpi.vic.gov.au/DPI/nrenfa.nsf/LinkView/5261768EBBCFD383CA2575550000524E987715D08D0205F9CA2573E100030E40/$file/DSC%20%2385%20Feb%205%20-%202009.pdf)).
- South Australia: The harvest is finished with the exception of some bean crops in the Lower South East. Spraying and grazing for summer weed control continues, though it has been limited by hot, dry conditions. In some areas cultivation for weed control is exposing soils to wind and water erosion. Total crop area is estimated to be 4 million hectares with crop production estimated at 4.74 million tonnes (http://www.pir.sa.gov.au/data/assets/pdf_file/0006/93714/jan09cpr.pdf).
- Western Australia: The next Seasonal Update report is due for release in March 2009 (<http://www.agric.wa.gov.au/content/lwe/cli/seasonalupdate.htm>)

Viticulture and horticulture

- The exceptional heatwave in south-eastern Australia in late January has affected fruit-growing industries (in particular grapes, apples, citrus, stone fruits). Fruit has suffered heat damage and harvests are likely to be reduced (<http://theland.farmonline.com.au/news/state/viticulture/general/wine-grapes-fruit-burnt-by-sun/1424866.aspx>
<http://www.abc.net.au/rural/news/content/200902/s2485900.htm>).
- Banana producers and cane growers in the flood-affected areas of Queensland have reported significant damage to crops and infrastructure by the floodwaters. The floods have delayed transport of produce to markets in the south resulting in elevated prices (<http://www.theaustralian.news.com.au/business/story/0,,25025496-36418,00.html>
<http://m.theaustralian.com.au/business/BusinessBreakingNews/fi19833.htm>).

Summer Crops

Predicted sorghum 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 sorghum stress index model that incorporates water availability, climate data and a soil moisture profile. The following figure shows shire sorghum yield forecasts across Australia based on climate data up to the end of the forecast month and projecting forward based on the long-term average calculated over all available years.



Predicted sorghum yields for the 2008–09 cropping season at 1 February 2009 ranked relative to all years.

- Predicted sorghum yields for Australia at 1 February 2009 vary across the cropping regions. The predicted national yield is 2.42 tonne per hectare (t/ha), slightly above the long-term median of 2.33 t/ha, but down 0.04 t/ha on the estimate at 1 January 2009. Predicted sorghum yields are slightly above the long-term average in both northern New South Wales (2.96 t/ha compared with 2.82 t/ha) and Queensland (2.25 t/ha compared with 2.18) (Queensland Department of Primary Industries and Fisheries (http://www.dpi.qld.gov.au/documents/PlantIndustries_FieldCropsAndPasture/Sorghum-Report-January-09.pdf)).
- The ABARE Australian Crop Report for the 2008–09 season states that total summer crop production is forecast to be 3.3 Mt, which is slightly higher than ABARE's December forecast, but lower than the 3.9 Mt harvested in the previous year. Grain sorghum yields in 2008–09 are forecast to be 2.1 Mt which is lower than the record 3.1 Mt harvested last year, but higher than the average of 1.7 Mt (http://www.abareconomics.com/corporate/media/2009_releases/17feb_09.html).
- New South Wales: Area of total summer crop planted has decreased compared to last season. Hot and dry conditions in December and January have stressed some crops and increased water usage. Harvesting is about to commence for some early sown sorghum and early sunflower crops with yields expected to be average. Total sowings of grain sorghum are down on last year. The cotton crop is progressing well with 73 300 ha sown. An increase in irrigation allocations in December and January along the Murray and Murrumbidgee was too late to increase the area planted to rice from about 8000 ha. If favourable weather conditions continue rice yield will be above average (http://www.dpi.nsw.gov.au/data/assets/pdf_file/0004/265891/NSW-grains-report-January-2009.pdf).

3.2 Livestock

Beef cattle

- Cattle prices fell throughout January as a result of the heatwave in the drought areas of southern Australia, a weaker export market, lower feeder interest and reduced hide and tallow values (<http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/Producers+halt+lamb+price+slides+but+not+cattle.htm>).
- The Eastern Young Cattle Indicator (EYCI) has plummeted significantly since the beginning of 2009, falling 37.25¢ to 299.25¢/kg carcass weight (cwt), the lowest point since November 2007 (Meat and Livestock Australia, Market News <http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/Monday+livestock+summary.htm>).
- Cattle slaughter during the first five weeks of the year increased 14 per cent on year-to-year, to 490,506 head. This was due to increased turnoff coming a fortnight earlier than usual, as slaughter numbers jumped 12 per cent on the January five year average (Meat and Livestock Australia, Market News <http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/Monday+livestock+summary.htm>).
- Australia exported 21 905 tonnes shipped weight of beef to Japan in January 2009, up 30 per cent on the extremely low volume exported in January 2008. This is a result of the recovery in chilled beef exports, assisted by the weak A\$ and reduced competition from other markets such as the US and Korea. Improvement in seasonal conditions across several regions of Queensland also increased the availability of suitable cattle (Meat and Livestock Australia, Market News <http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/Lower+beef+volumes+in+Korea.htm>).
- Most of New South Wales, Victoria, South Australia and the eastern half of Tasmania experienced a very dry January with well below average rainfall. While drier conditions are not unusual throughout summer, the record heat during late-January across southern Australia has reduced supplies of feed and water (Meat and Livestock Australia, Market News: <http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/Wet+January+for+northern+Australia.htm>).
- The late January heatwave has significantly affected dairy production in northern Victoria and the Riverina. According to Dairy Australia there was a 7–10 per cent drop in daily milk intake at factories and deterioration of the milk composition.
- Livestock in Queensland have been affected by widespread floods. Tens of thousands of cattle are stranded and in need of feed (<http://www.theaustralian.news.com.au/story/0,25197,25014887-2702,00.html>).

Sheep and lambs

- Light lamb prices have stabilised at 4 per cent above January last year and 13 per cent for Merino and heavy lambs, as producers held back stock following price falls earlier in the month (Meat and Livestock Australia, Market News: <http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/Producers+halt+lamb+price+slides+but+not+cattle.htm>).
- The Australian lamb industry can look forward to a continuation of strong prices, improved profitability and a marked increase in production and export volumes in 2009, according to last week's release of Meat & Livestock Australia's 2009 Cattle and Sheep Industry Projections. There is uncertainty in the global sheep meat market because of the global financial crisis (Meat and Livestock Australia, Market News <http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/Prime+lamb+industry+forecast+to+expand.htm>).
- Lamb production is forecast to rise by 4 per cent in 2009, to 433 000 tonnes carcass weight mainly due to some improvement in seasonal conditions and feed availability (Meat and Livestock Australia, Market News: <http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/Prime+lamb+industry+forecast+to+expand.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/>

4.0 Climate Outlook

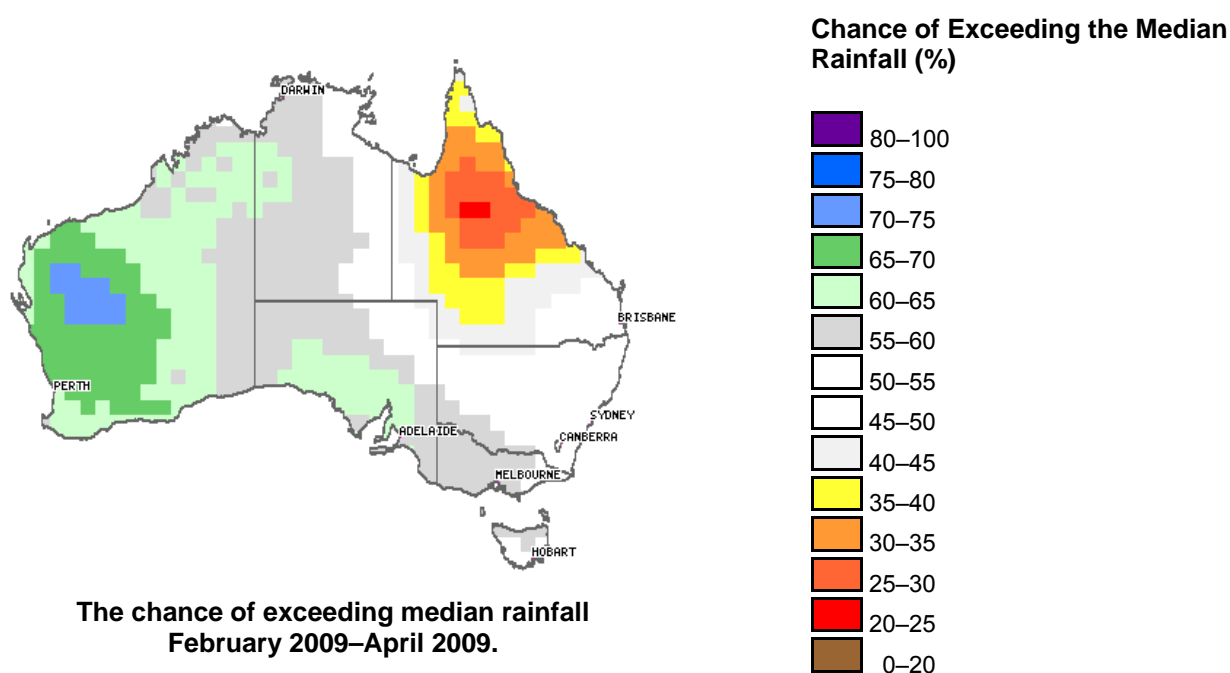
4.1 El Niño Southern Oscillation (ENSO)

In the update released on the 28 January 2009, the Bureau of Meteorology announced a shift back to neutral surface temperatures in the waters of the far eastern Pacific. Sub-surface warming has been observed in the western half of the Pacific during January. Atmospheric indicators, which were the strongest pointers towards La Niña conditions in previous months, also weakened during January. This weakening is evident in the drop in trade winds which are now close to average across the central and eastern equatorial Pacific. The SOI has also weakened but remains firmly positive at a 30-day value of +9. Most current models predict an eastward propagation of warmer sub-surface water from the western equatorial Pacific and indicate that the present cooler surface conditions in the Pacific may cease soon after the summer of 2009. Predictions suggest that the central and eastern Pacific will warm further and remain neutral into the coming months. The Indian Ocean Dipole is expected to remain in its neutral state through the rest of the southern summer.

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

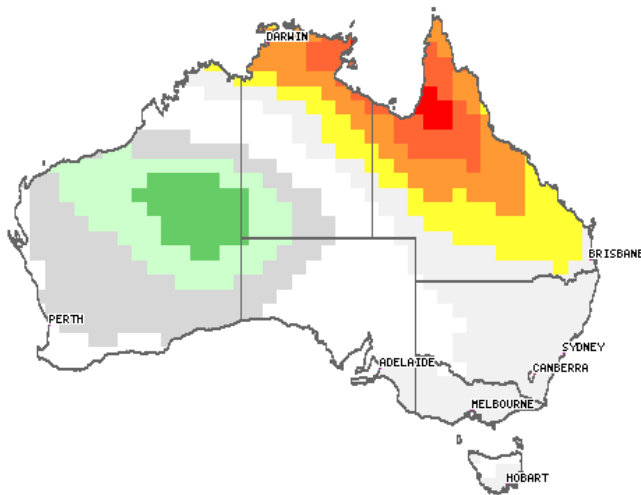
The Bureau of Meteorology provides seasonal outlooks that are statements about the probability of wetter or drier than average weather over a three-month period. The outlooks are based on the statistics of chance (the odds) taken from Australian rainfall, temperature and sea surface temperature records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



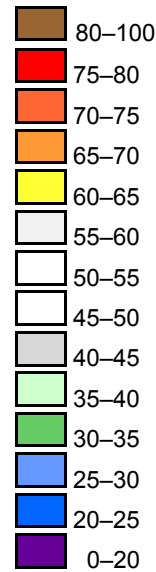
The likelihood of exceeding median rainfall for late summer to mid-autumn is highest for western Western Australia (60–75 per cent chance) and lowest in northern Queensland (20 to 40 per cent). Across the rest of the country, there is an equal likelihood of exceeding or not exceeding the median rainfall during February to April (40 to 60 per cent).

The pattern of seasonal rainfall odds across Australia is mainly a result of a cooling trend in the Indian Ocean, the Pacific Ocean had little contribution to this forecast.

4.3 Temperature Outlook

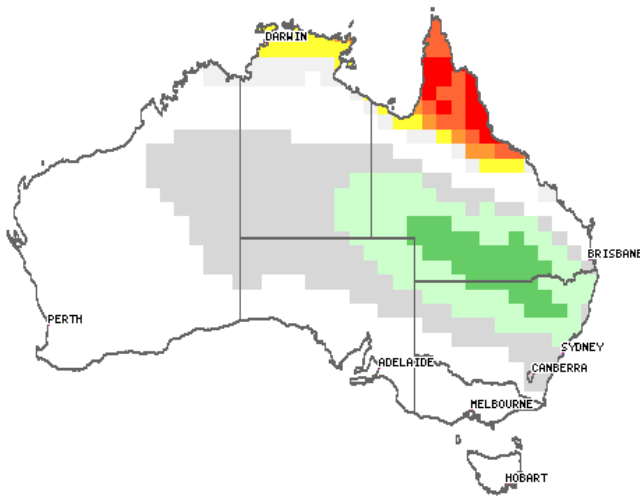


3 Month Temp. Max Outlook (%)

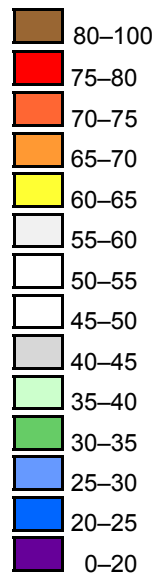


The chance of exceeding median maximum temperatures February 2009–April 2009.

Maximum temperatures for the late summer to mid-autumn are likely to be above the median in the north of the Northern Territory and across much of Queensland (60–80 per cent chance). In contrast, cooler days are more likely central Western Australia, south-western Northern Territory and north-western South Australia. Other parts of the nation exhibit an even chance of exceeding the median maximum temperatures.



3 Month Temp. Min Outlook (%)



The chance of exceeding median minimum temperatures February 2009–April 2009.

For late summer to mid-autumn there is a high likelihood that minimum temperatures will exceed the median in Northern Queensland and the north of the Northern Territory (60–80 per cent). In contrast, cooler nights are more likely northern New South Wales, southern Queensland and the south-eastern Northern Territory. The rest of the nation is likely to experience minimum temperatures typical of the median.

History shows the oceans' effect on minimum temperatures during the February to April period to be moderately consistent over large parts of the country.

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