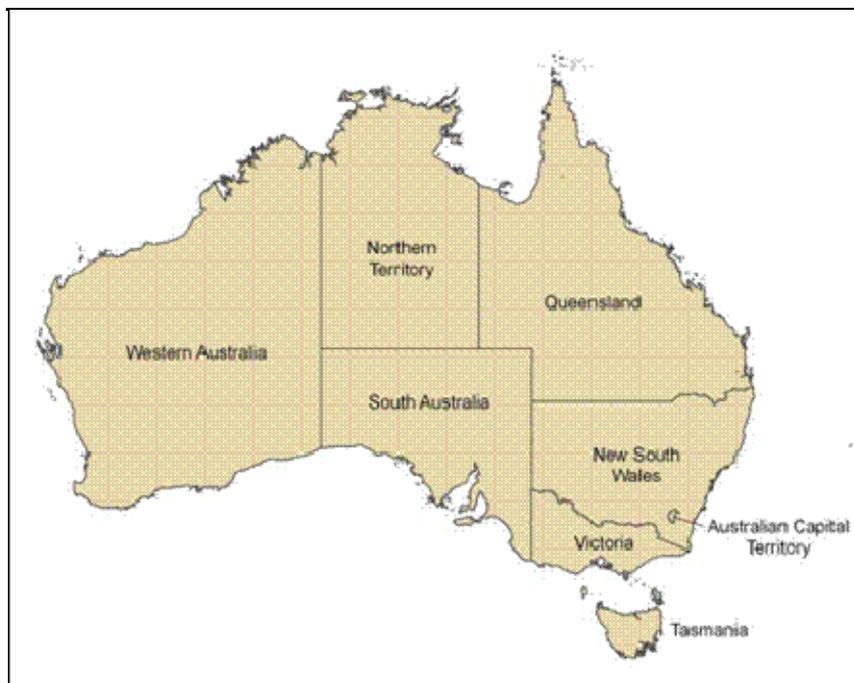




Climate and Agricultural Update

National Report

Issued July 2009



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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>

TABLE OF CONTENTS

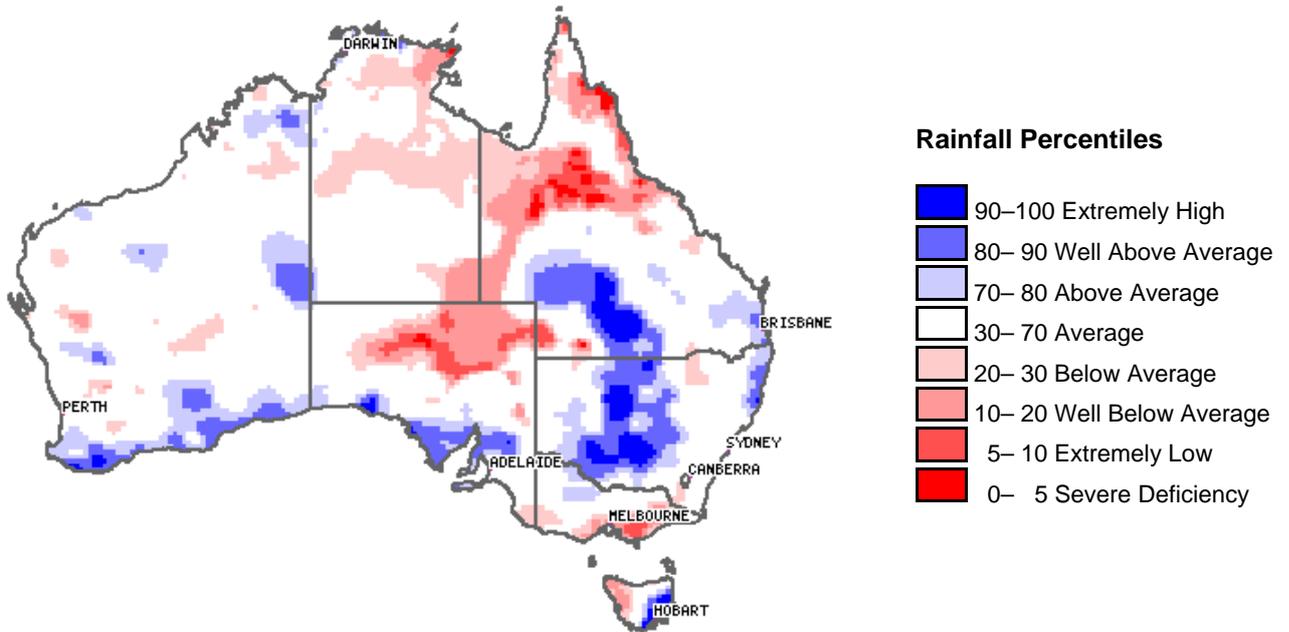
1.0 RAINFALL AND TEMPERATURE	6
1.1 RAINFALL.....	6
1.2 MAXIMUM AND MINIMUM TEMPERATURE ANOMALIES	8
2.0 WATER STORAGES AND ANNOUNCEMENTS.....	9
2.1 WATER STORAGES (CURRENT AT 2 JULY 2009)	10
2.2 WATER ANNOUNCEMENTS	16
3.0 CROP AND LIVESTOCK PRODUCTION	18
3.1 CROPS	18
3.2 LIVESTOCK	19
4.0 CLIMATE OUTLOOK.....	21
4.1 EL NIÑO SOUTHERN OSCILLATION (ENSO).....	21
4.2 RAINFALL OUTLOOK	21
4.3 TEMPERATURE OUTLOOK	22

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/>.

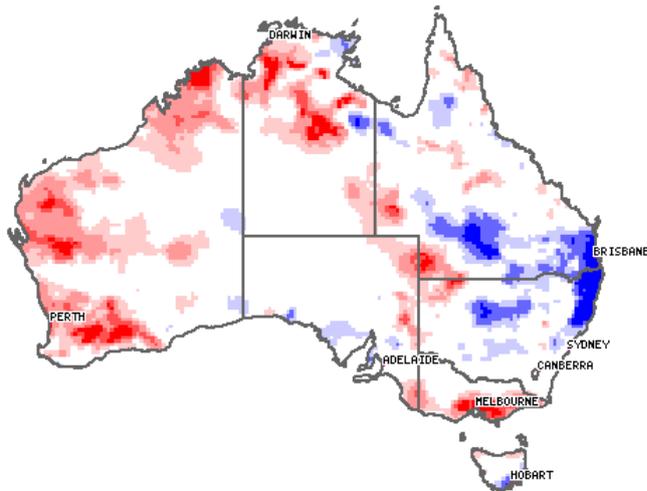
Rainfall over the last month (June 2009)



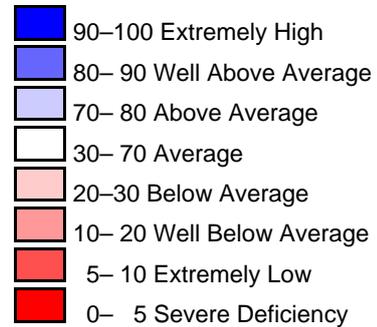
Rainfall percentiles for June 2009

June rainfall for Australia was slightly below the long-term average (by 6 per cent). Rainfall was below average in the Northern Territory (by 78 per cent), Western Australia (by 15 per cent) and Victoria (by 14 per cent). In contrast, rainfall was above average in New South Wales (by 41 per cent) and the Murray Darling Basin (by 52 per cent).

Ongoing or emerging rainfall situations

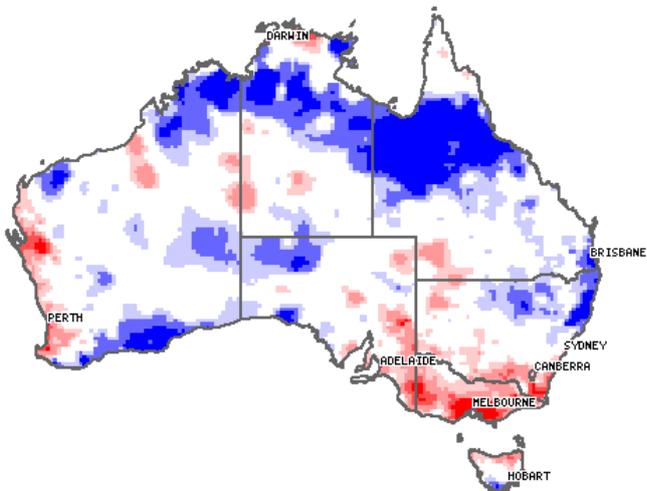


Rainfall Percentiles

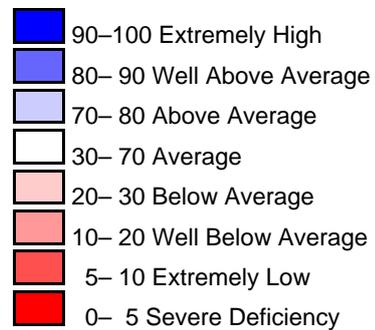


**Rainfall percentiles for the last three months
April 2009–June 2009**

During the past three months, most of Australia has experienced below average to average rainfall. Rainfall deficiencies have eased slightly in the last month across northern and western Australia, but they do still persist. Extremely high rainfall was recorded in areas of south-eastern Queensland and north-eastern New South Wales.



Rainfall Percentiles

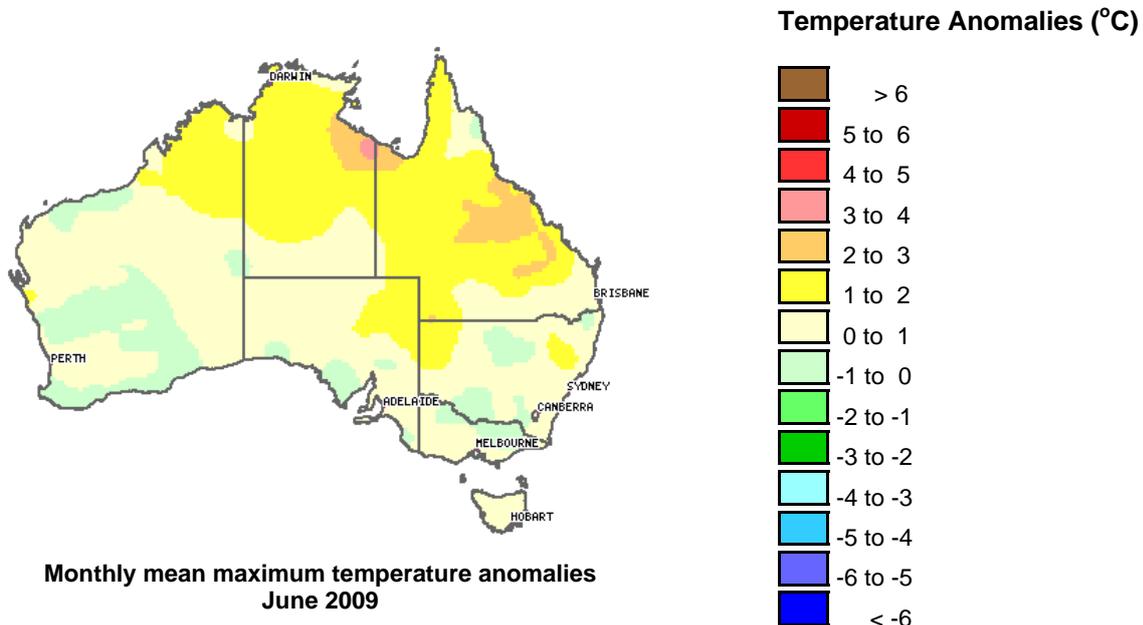


**Rainfall percentiles for the last 12 months
July 2008–June 2009**

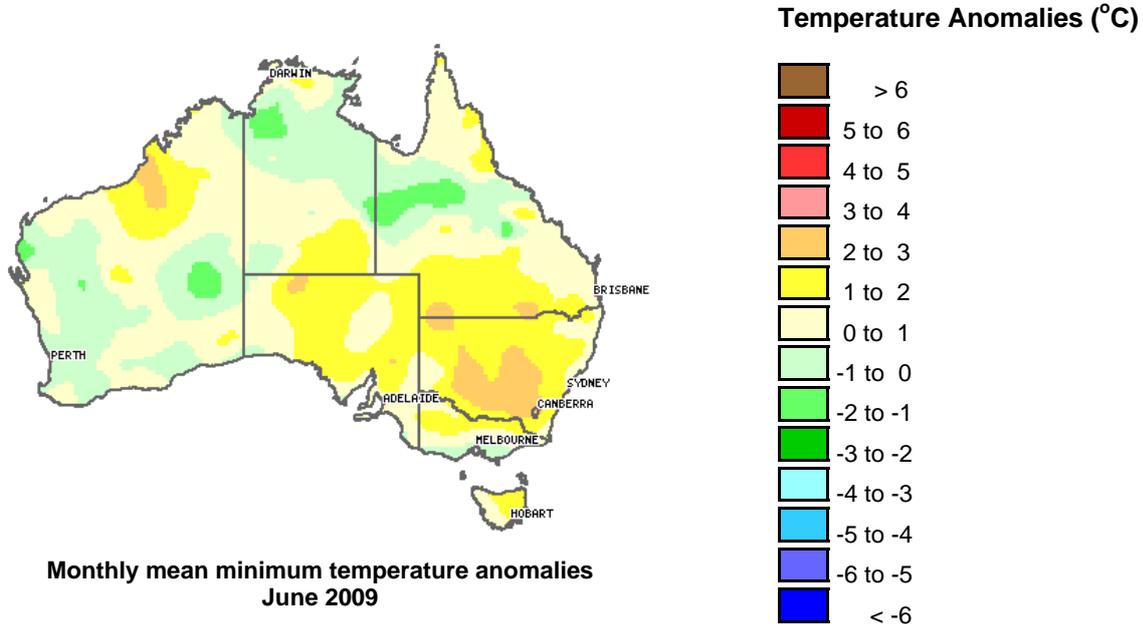
For the 12 month period from July 2008 to June 2009, above average rainfall was recorded across northern Australia, in and parts of Western Australia, north-western South Australia and northern New South Wales. The 12-month rainfall deficiencies persisted across the south-east of the continent, Victoria, south-eastern New South Wales and the west of Western Australia.

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/>.

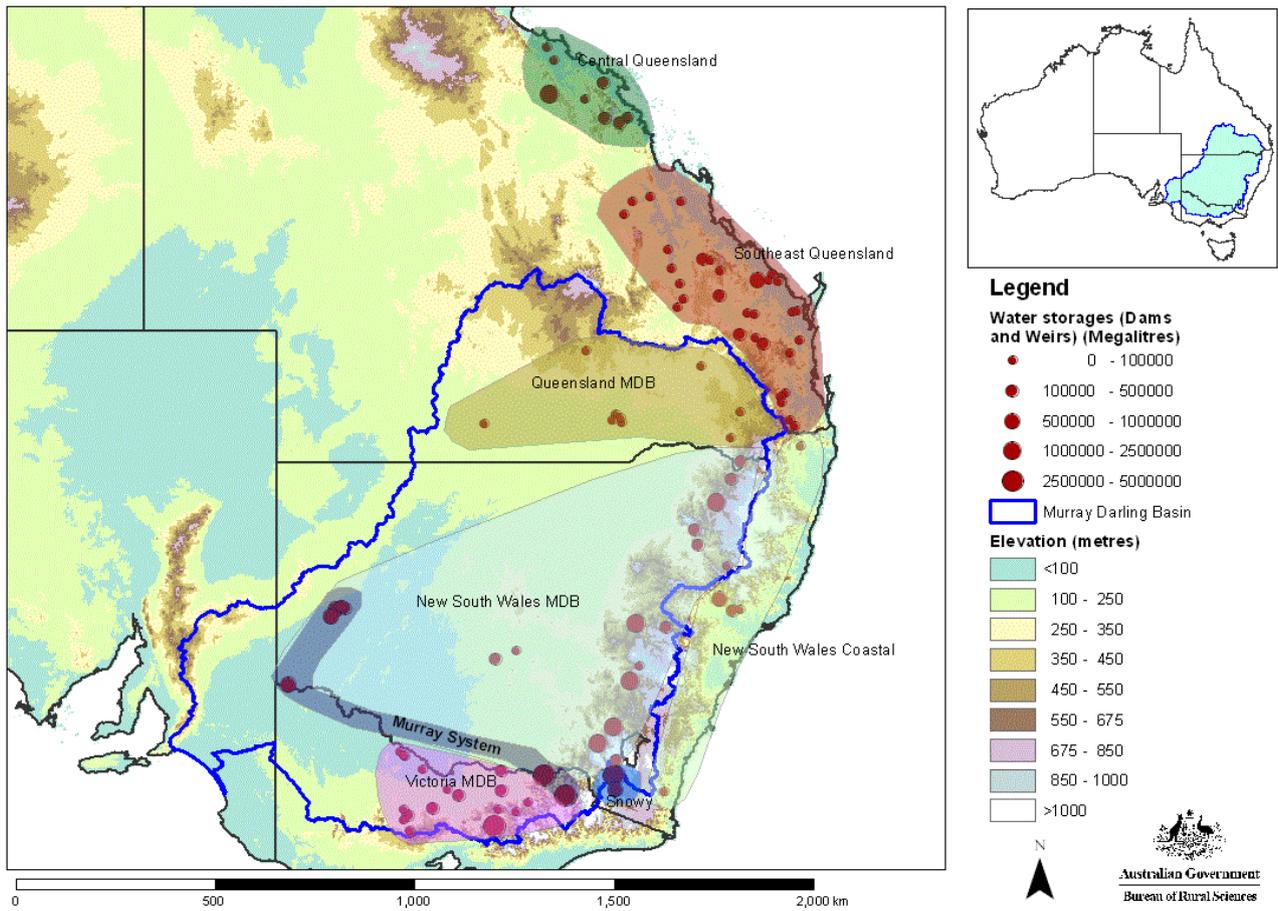


Daytime temperatures in Australia for June 2009 were 0.8 °C above average. Queensland had its fifth highest mean maximum June temperature on record, while the Northern Territory recorded its ninth highest. Mean maximum temperatures ranged from 3 to 4 °C above average in the Northern Territory to 0–1 °C below average in the other states.



Night-time temperatures in Australia for June 2009 were 0.6 °C above the long-term average. New South Wales observed its sixth highest minimum June temperature on record. Mean minimum temperatures were 1–3 °C above average across the south-east of the continent. In contrast, isolated areas of Western Australia, the Northern Territory and Queensland were 1–2 °C below average.

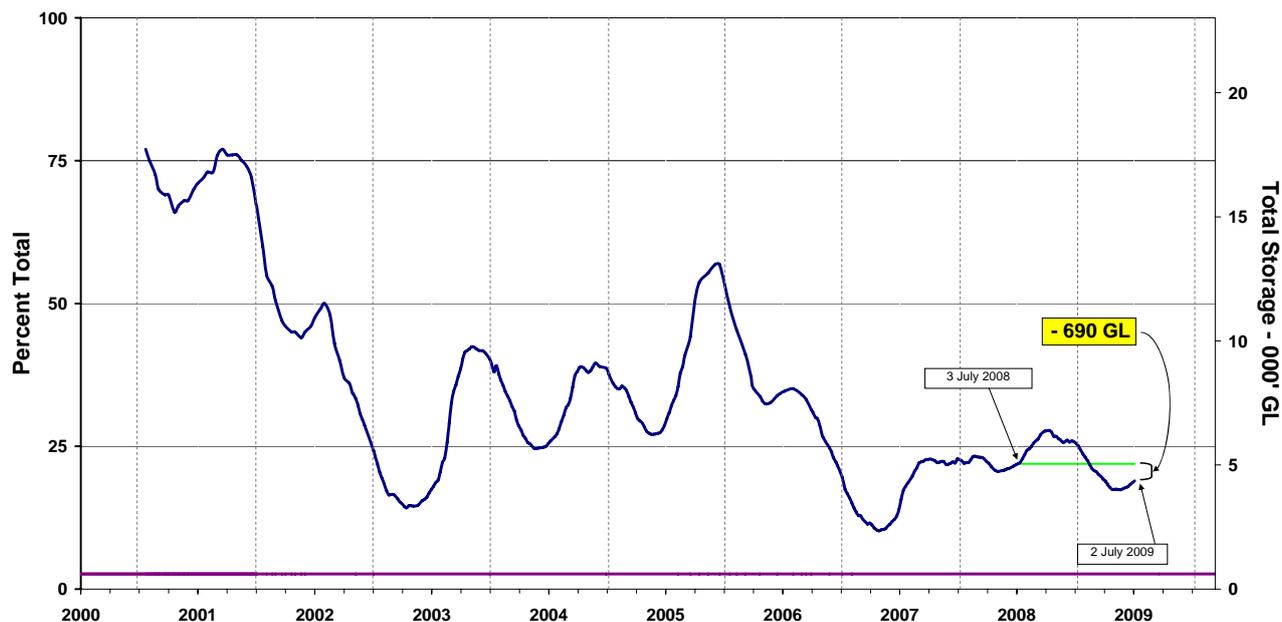
2.0 Water storages and announcements



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

2.1 Water storages (current at 2 July 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 2 July 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 slightly. Storage levels for irrigated agriculture on 2 July 2009 were at 4359 gigalitres (GL) (18.94 per cent of a total capacity of 23 020 GL), an increase of 275 GL (1.20 per cent of total capacity) over the month. Current storage levels are approximately 690 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 2 July 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. The current storage level in the Snowy Scheme is 1154 GL (20.1 per cent of a total capacity of 5744 GL) (see figure above). This is an increase of 249 GL (4.34 per cent) from the same time last year.

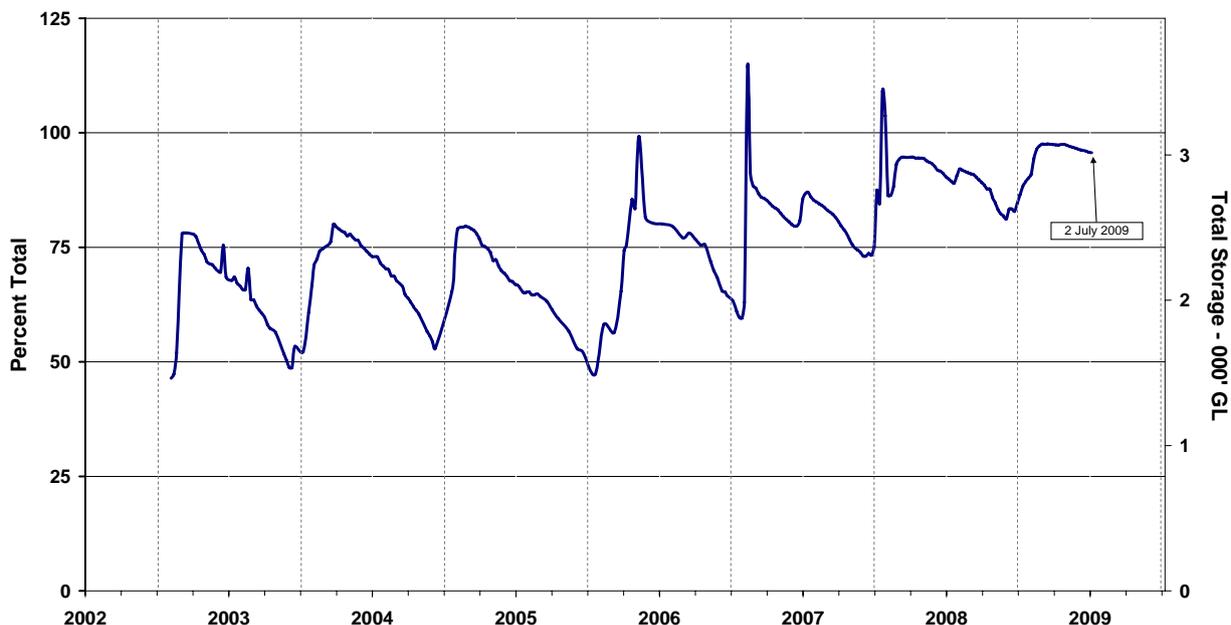
Water storage in Queensland



Water storage levels in Queensland MDB from 3 February 2003 to 2 July 2009.

Source: Bureau of Rural Sciences

Storage levels in Queensland MDB decreased by 12 GL to 100 GL (53.77 per cent of a total capacity of 185 GL) over the last month (see figure above). This storage level is approximately 13 GL lower than at the same time last year.



Water storage levels in central Queensland from 3 February 2003 to 2 July 2009.

Source: Bureau of Rural Sciences

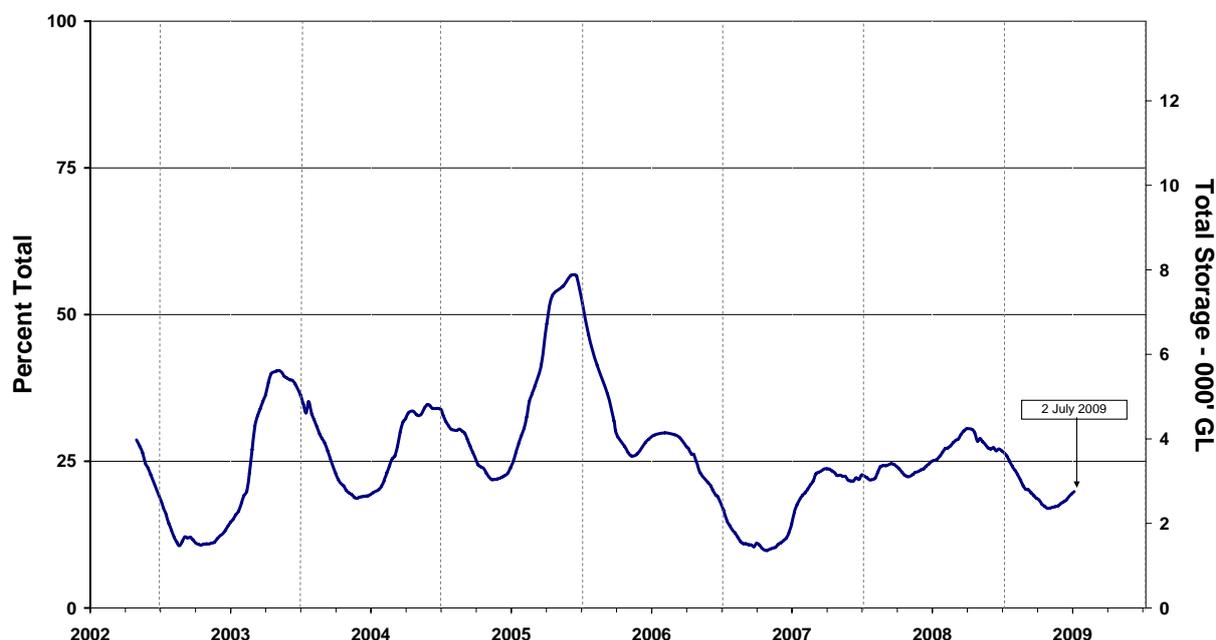
In central Queensland, storage levels decreased over the last month by 18 GL to 3018 GL, which is 95.67 per cent of a total capacity of 3155 GL (see figure above). This storage level is approximately 181 GL higher than at the same time last year.



Water storage levels in south-east Queensland from 3 February 2003 to 2 July 2009.
Source: Bureau of Rural Sciences

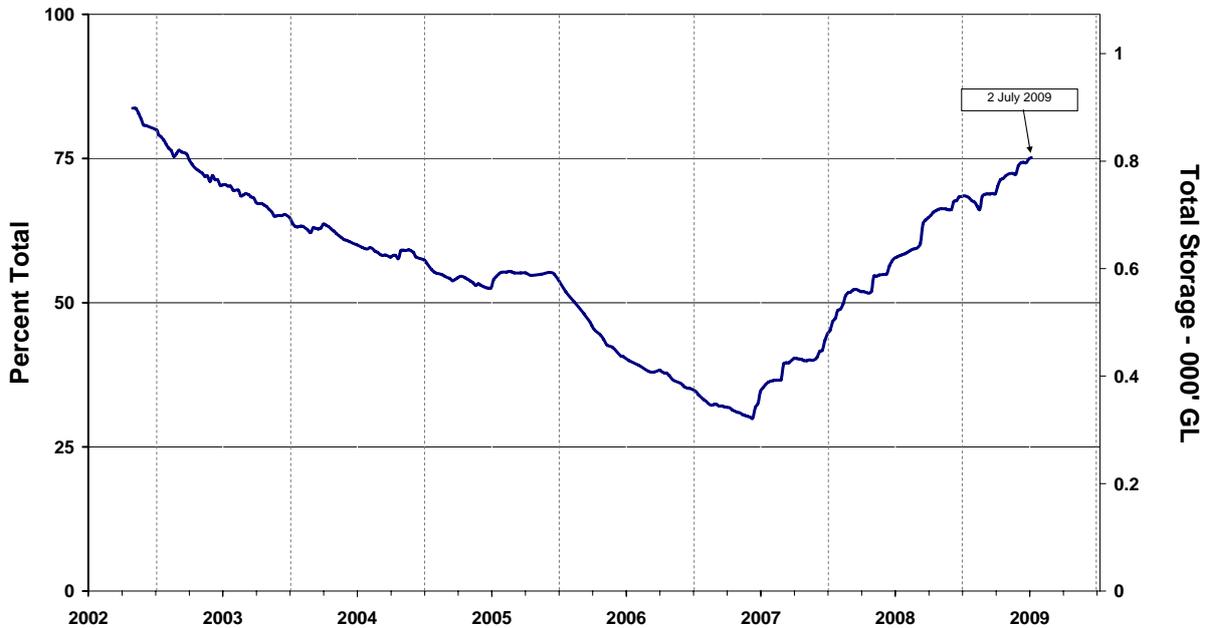
In south-east Queensland, storage levels decreased slightly over the last month by 9 GL to 2051 GL (57.89 per cent of a total capacity of 3517 GL) (see figure above). This storage level represents an increase of 4 GL (0.12 per cent) compared to the same time last year.

Water storage in New South Wales



Water storage levels in New South Wales MDB from 28 October 2002 to 2 July 2009.
Source: Bureau of Rural Sciences

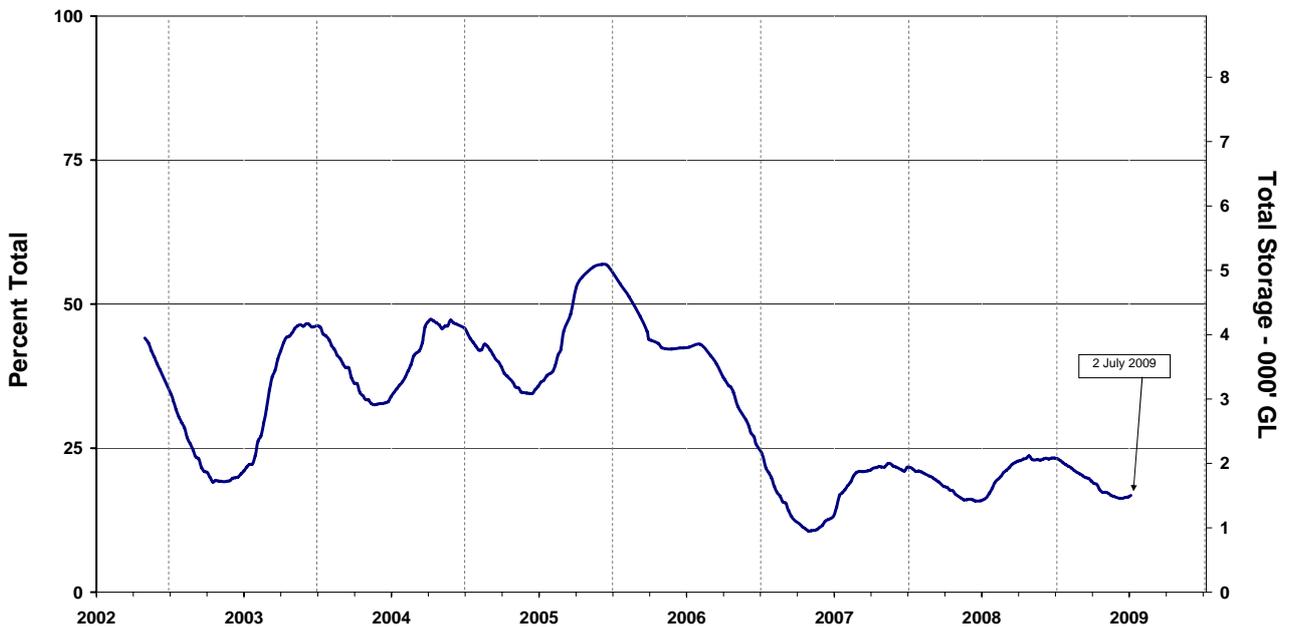
Storage levels in the New South Wales MDB increased over the last month by 245 GL to 2754 GL (19.83 per cent of a total capacity of 13 884 GL) (see figure above). This storage level is approximately 737 GL less than at the same time last year.



Water storage levels in coastal New South Wales from 28 October 2002 to 2 July 2009.
Source: Bureau of Rural Sciences

In coastal New South Wales, storage levels increased slightly over the last month by 10 GL to 807 GL (75.17 per cent of a total capacity of 1073 GL) (see figure above). This storage level is approximately 185 GL higher than at the same time last year.

Water storage in Victoria



Water storage levels in Victoria MDB from 28 October 2002 2 July 2009.
Source: Bureau of Rural Sciences

Storage levels in Victoria MDB increased over the last month by 42 GL to 1493 GL (16.77 per cent of a total capacity of 8903 GL) (see figure above). This storage level is approximately 60 GL higher than at the same time last year.

Murray-Darling Basin Authority water storages

While most regions across the basin received average or above average rainfall, the upper reaches of the high yielding catchments in the Victorian Alps and Snowy Mountains received below average rainfall. System inflows for June 2009 were 110 gigalitres (GL), slightly higher than the historic low of 95 GL in June 2008, but well below the long-term average of 690 GL. These low June inflows can be attributed to the very dry River Murray catchments as a result of low surface soil moisture content and depleted groundwater systems feeding the creeks and streams.

Murray-Darling Basin Authority (MDBA) active storages at the end of June had increased by 55 GL to 1200 GL (13 per cent capacity) over the last month. This storage level is approximately 83 GL lower than this time last year (1284 GL) and well below the long-term average of 4400 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 July 2009, Basin storages held about 4359 GL (18.94 per cent). Storage in the Snowy Mountains reservoirs (managed by Snowy Hydro) remains low, with Lake Eucumbene at only 17.1 per cent capacity. Storage in Menindee Lakes, under New South Wales control, is at 13.66 per cent capacity (about 229 GL) compared to 32.21 per cent at this time last year.

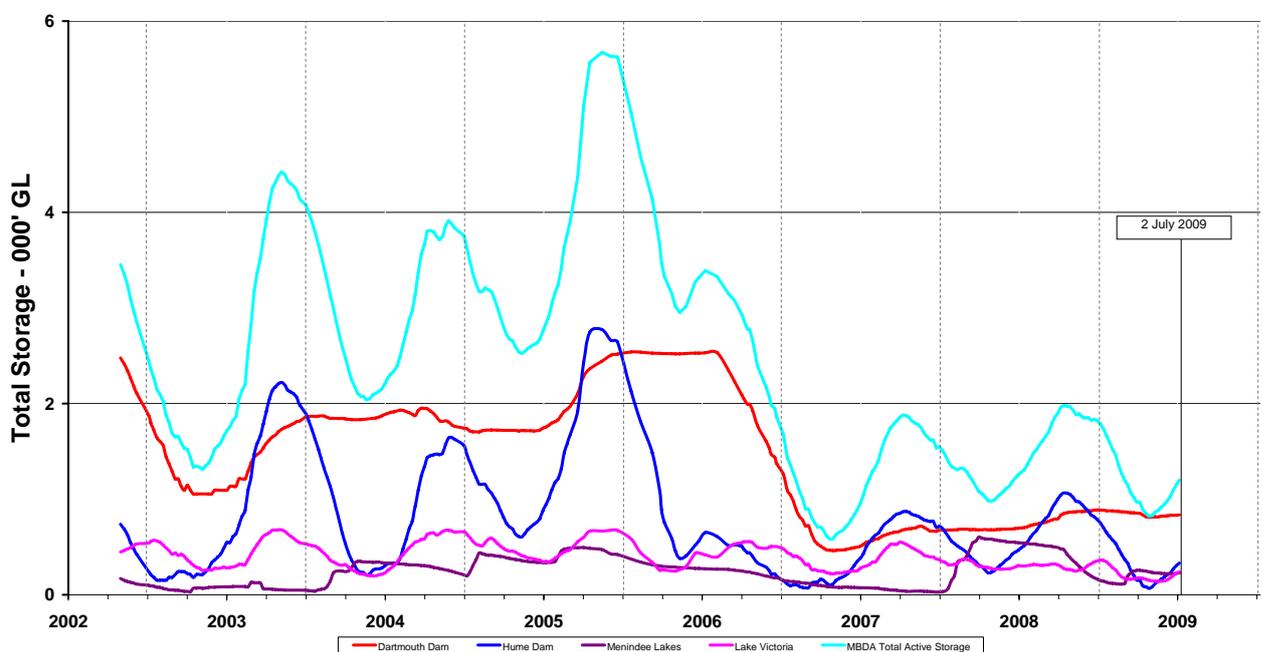
Storage in Hume Dam increased by 27.5 GL to 332 GL (or 10.89 per cent capacity) during June 2009. The recent rain has enabled the natural inflow to Hume Dam to increase from 2930 megalitres/day (ML/day) to 3200 ML/day during the last weeks in June. Releases from Hume are currently at 600 ML/day.

Storage in Dartmouth Dam increased by 6 GL during June 2009 to 836 GL (21.41 per cent of capacity). Releases from Dartmouth are currently at 200 ML/day due to declining river losses and reduced demands further downstream. The majority of the water that now remains in Dartmouth Dam will provide a reserve for critical human needs and also meet individual carryover requirements of irrigators for 2009–10.

The flow to South Australia was reduced in the last week of June from 1900 to 1800 ML/day for a total 12.8 GL for the week.

The storage in Lake Victoria has increased during June by 15 GL to around 241 GL (or 35.45 per cent capacity) and is expected to increase gradually over the coming weeks.

The trend of MDBA water storages at 2 July 2009 is shown in the figure below.



Water volumes in the Murray-Darling Basin Authority Storages from 28 October 2002 to 2 July 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

Murray-Darling Basin Authority announcements (current at 1 July 2009)

On 30 June, the Murray-Darling Basin Authority (MDBA) closed its offer to purchase up to \$50 million worth of water entitlements at market price from willing sellers in Victoria and South Australia. The offer was fully subscribed with over 350 expressions of interest for all or part of their water entitlement. The purchased water will contribute to the MDBA's The Living Murray Program water portfolio, providing water to stressed river and wetlands when water is available.

On 30 June, the MDBA extended the relaxed rules to enable water trades to occur from above to below the Barmah Choke. This is based on the expectation that low water levels would physically continue to constrain the level of trades in the 2009–10 water season.

On 11 June, the MDBA released a 'concept statement' to explain the key elements and approach being taken to develop the new strategic Basin Plan.

Announcements for New South Wales (current at 1 July 2009)

On 1 July 2009, the New South Wales Department of Water and Energy (NSW DWE) announced the water allocations in the New South Wales river systems for the 2009–10 water year. The water allocations for all licence holders remain unchanged during June 2009, as summarised in the table below. The units of water allocation changed at the start of the 2009–10 water year from per cent allocations to share units of the available water determination (AWD*).

Water system	High Security Licences (Megalitres per share unit or %)	Change (Megalitres per share unit or %)	General Security Licences (Megalitres per share unit or %)	Change (Megalitres per share unit or %)
NSW Murray Valley	not stated	0	not stated	0
Murrumbidgee Valley	not stated	0	not stated	0
Lower Darling	1	0	insufficient	0
Macquarie Valley	1	0	0	0
Hunter Valley	1	0	1	0
Lachlan Valley	0.1	0	0	0
Border Rivers	1	0	0	0
Peel Valley	100%	0	80%	0

* AWD's are expressed as a percentage of the share component where share is expressed as a volume on the licence or as a volume per unit share where the licence share is expressed in unit shares.

On 15 June, NSW DWE released the critical water planning communiqués for the water systems in the southern Murray Darling Basin.

NSW DWE reports that there was an increase of 149 GL in water volume in the Murray Valley from 12 May to 11 June 2009, due to rainfall in the Snowy catchments and cooler day temperatures. However, there is 25 per cent 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 June 2008. June 2009 water volumes in the Murrumbidgee River are similar to those at June 2008.

The initial shortfall in conveyance water will be sourced from the carryover. 80 per cent carryover water has been agreed to by participating states. Even if inflows remain low, it is expected that New South Wales Murray licence holders will have access to at least 60 per cent of carryover on 1 July 2009, and Murrumbidgee licence holders will have access to 60 per cent of carryover. This is a preliminary estimate based on expected minimum inflows.

Announcements for Victoria (current at 1 July 2009)

On 1 July 2009, Goulburn-Murray Water (G-MW) confirmed that irrigation allocations in the 2009–10 season will start at zero for all systems.

The carryover 2008–09 has been set by agreement with New South Wales, Victoria and South Australia, at 80 per cent, based on a late June assessment. It was observed that gravity channels may not have sufficient water to be operational by the 15 August start of the irrigation season.

Goulburn-Murray Water also announced that 16 June will be the last date for 2008–09 water trade applications within Victoria. They cover water for carryover into the 2009–10 irrigation season, buy water to cover overuse or sell water in their allocation bank account in excess of the 50 per cent carry over limit.

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 2 July 2009)

On 15 June 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 60 percent of eligible carryover volume. River Murray inflows from 1 June 2008 to 31 May 2009 were the third lowest in 118 years of records.

Minister Maywald stated that changes to the Natural Resources Management Act 2004, taking effect from 1 July 2009, would enable South Australian River Murray water licence holders to trade water entitlements more efficiently. This legislative change is important to achieve consistency across Australia in how water licences are used and managed, as well as ensuring there are no impediments to water trade. This new system will be extended to the other 25 prescribed water resource areas in South Australia by 2014.

http://www.dwlbc.sa.gov.au/assets/files/MR_UnbundlingWaterRights30June09.pdf

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>

New South Wales Department of Water and Energy

<http://www.dwe.nsw.gov.au/>

3.0 Crop and livestock production

3.1 Crops

Winter Crops

Australia

The total area of winter crops in Australia is forecast to increase in 2009–10 by 1 per cent to 21.9 million hectares and yield is predicted to be 34.8 million tonnes (five per cent increase from 2008–09 season).
http://www.abareconomics.com/publications_html/cr/cr_09/cr09_June.pdf

New South Wales

The total area of winter crops in New South Wales is forecast to increase in 2009–10 by 3 per cent to 6.1 million hectares and yield is predicted to be 9.8 million tonnes (marginal increase from 2008–09 season).
http://www.abareconomics.com/publications_html/cr/cr_09/cr09_June.pdf

Northern New South Wales crops are progressing well after timely rainfall provided growers with full subsoil moisture profiles for the sowing of winter crops. After a dry start to the season, conditions in the centre and the south of the state have improved due to widespread rainfall in June. Conditions for cereal crops around Condobolin have greatly improved with the majority of crops in the region dry sown in marginal conditions.
<http://www.abc.net.au/rural/news/content/200906/s2589036.htm>

Due to favourable weather conditions in the lead up to harvest, the apple crop in the Batlow district is of good quality with high yields.
<http://theland.farmonline.com.au/news/state/agribusiness-and-general/general/batlows-top-crunch/1543567.aspx>

South Australia

The total area of winter crops is forecast to be around 4 million hectares and yield predicted to be 6.2 million tonnes (1.6 million tonne increase from the 2008-09 season).
http://www.abareconomics.com/publications_html/cr/cr_09/cr09_June.pdf

The majority of winter crops had been planted by early June with emergence satisfactory in most areas.
http://www.abareconomics.com/publications_html/cr/cr_09/cr09_June.pdf

Most crops are growing rapidly due to ideal conditions and they are well advanced for this stage in the season. Canola is almost at full cover in some areas and some cereals are commencing stem elongation.
http://www.pir.sa.gov.au/data/assets/pdf_file/0011/113222/jun09cpr.pdf

Victoria

The total area of winter crops is forecast to decrease in 2009–10 by 2 per cent to 3.1 million hectares and yield is predicted to be 5.2 million tonnes (2 million tonne increase from 2008–09 season).
http://www.abareconomics.com/publications_html/cr/cr_09/cr09_June.pdf

In early June, planting in the state's cropping regions was almost complete. There was the chance of further plantings through to the end of June if favourable conditions continued. Sowing in the central northern cropping district of Victoria was behind the rest of the state due to low May rainfall.
http://www.abareconomics.com/publications_html/cr/cr_09/cr09_June.pdf

Western Australia

The total area of winter crops is forecast to decline in 2009–10 by 1 per cent to 7.3 million hectares and yield is predicted to be 11.4 million tonnes (16 per cent decrease from 2008–09 season).
http://www.abareconomics.com/publications_html/cr/cr_09/cr09_June.pdf

The Western Australian wheat belt is behind schedule in planting this year's winter crops. Significant areas are yet to receive rainfall that will allow planting. Despite light rains, growers in the southern mallee and sandplain areas continued to seed and the north mallee growers dry seeded their lower risk paddocks. Seeding was expected to continue until late June.
http://www.agric.wa.gov.au/objtwr/imported_assets/content/lwe/cli/seasonalupdatejun09.pdf

Queensland

The predicted median wheat yield for Queensland at the end of June 2009 is 1.51 t/ha. This is above the long-term median of 1.4 t/ha (*Seasonal Wheat Outlook, July 2009*, Queensland Department of Primary Industries and Fisheries).

The total area planted is 1.3 million hectares and yield is predicted to reach 2.1 million tonnes.

http://www.abareconomics.com/publications_html/cr/cr_09/cr09_June.pdf

Most areas of the state's cropping region recorded average rainfall in June and the high subsoil water levels across most of the cropping regions have encouraged further plantings. (*Seasonal Crop Outlook: Wheat – July 2009*, Queensland Department of Primary Industries and Fisheries).

Summer Crops

Summer crop production in 2008–09 is reported to have fallen by 11 per cent to around 3.5 million tonnes. The decline is due to a fall in feed grain prices and less fallowed land available at the time of planting.

http://www.abareconomics.com/publications_html/cr/cr_09/cr09_June.pdf

Improving water storage levels increased the area planted to cotton and rice. Rice is up to 9000 hectares from 2000 hectares in the previous year, but this figure is low in historical terms.

http://www.abareconomics.com/publications_html/cr/cr_09/cr09_June.pdf

Despite favourable rainfall across northern New South Wales and southern Queensland, grain sorghum yields have not reached the records achieved in 2007–08. Production was estimated at 0.8 million tonnes (Mt) in New South Wales and 1.5 Mt in Queensland.

http://www.abareconomics.com/publications_html/cr/cr_09/cr09_June.pdf

Cotton lint and cottonseed production in New South Wales was expected to increase by 88 per cent in 2008–09 to 174 000 tonnes and 247 000 tonnes, respectively. Queensland production tripled in 2008–09, with 141 000 tonnes of cotton lint and 199 000 tonnes of cottonseed. The increased production in both states was due to increased planting and increased access to irrigation storages.

http://www.abareconomics.com/publications_html/cr/cr_09/cr09_June.pdf

Queensland sunflower production was 33 per cent higher than the previous season, with 43 000 tonnes produced from 27 000 hectares.

http://www.abareconomics.com/publications_html/cr/cr_09/cr09_June.pdf

3.2 Livestock

Beef cattle

The anticipated winter shortfall has encouraged processors, re-stockers and feeders to secure supplies. Rates have been lifted by processors and feeders to ensure quality cattle on the domestic market.

<http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/Cattle+market+wrap.htm>

The Australian weighted average saleyard price for cattle for the 2009–10 is expected to be similar to 2008–09. This is due to the decrease in export demand, a stronger Australian dollar and a decline in domestic cattle supplies.

ABARE forecast a 0.8 per cent increase in the size of Australian beef cattle herd in 2009–10 to 25.1 million head.

ABARE forecast cattle slaughter to remain steady on the previous year, at 8.8 million head.

United States demand for manufacturing beef is anticipated to increase in the 2009–10. In contrast, export demand from the South Korean and Japanese markets is expected to decrease by 5 per cent and 3 per cent, respectively. <http://www.mla.com.au/TopicHierarchy/News/MarketNews/2009/Cattle+prices+in+2009-10+to+be+similar+to+this+year++ABARE.htm>

Sheep and lambs

The national sheep flock fell below 80 million head in June 2008, the lowest since 1925. Over the last 12 years, lamb slaughter has increased by 34 per cent and over 1 million ewes have been culled annually because of drought and low wool prices.

http://www.mla.com.au/NR/rdonlyres/B0242535-5808-47BF-AB59-454F9CB1142A/0/FeedbackSE_JunJul09.pdf

Wool and alternative fibre prices have been severely affected by the global economic downturn. Wool prices are forecast to be slightly up in 2009–10 at 820 cents per kilogram clean (eastern market indicator), compared with 795 cents clean over 2008–09.

http://www.abareconomics.com/publications_html/ac/ac_09/ac09_June.pdf

The annual wool clip has declined by 10 per cent over the year and in-shed stocks will be depleted within the next 12 months.

<http://www.abc.net.au/rural/news/content/200907/s2614378.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)

On 8 July 2009, the Australian Bureau of Meteorology announced that climate models and recent Pacific Ocean observations indicate an El Niño event is developing. If current conditions persist through the remainder of the southern winter and into spring, 2009 will be considered an El Niño year. Indications are that there is little chance of the event stalling or reversing.

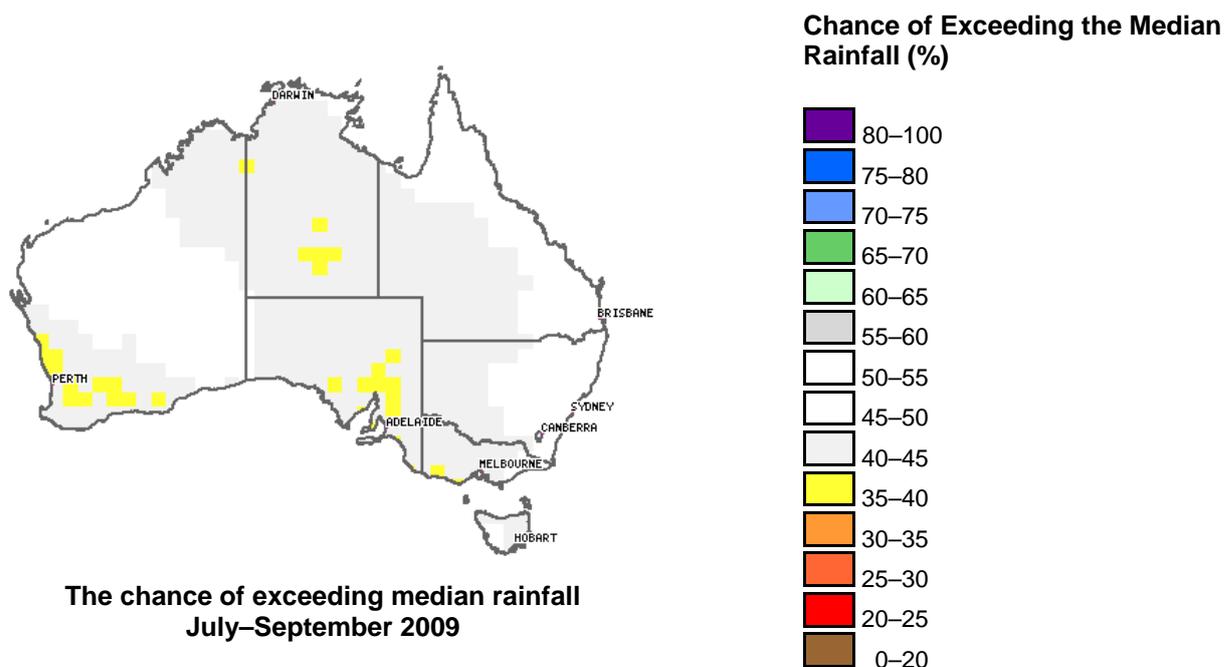
The central and eastern equatorial Pacific sea surface temperature (SST) warmed through June and is currently greater than +1.0 °C warmer than the long-term average. In addition, the sub-surface of the equatorial Pacific has also continued to steadily warm through June. A large volume of warmer than normal sub-surface water is evident across the entire tropical Pacific. Trade winds were weaker than normal across much of the equatorial Pacific during June, especially in central to eastern areas. Trade winds remain weaker than normal across the western equatorial Pacific. The Southern Oscillation Index (SOI) increased during the second half of June and became slightly positive with a current (6 July) approximate 30 day value of +1. However, this would appear to be a response to local weather conditions near Darwin and Tahiti, rather than a long-term climate signal, and hence the SOI is likely to fall again in the weeks ahead. Cloudiness near the date-line has increased significantly in the last week, a trend that is consistent with an emerging El Niño.

All international climate models predict the tropical Pacific to continue to warm and to be above El Niño thresholds throughout most of the second half of 2009. All models predict El Niño conditions to be established by the southern spring at the latest. El Niño events are usually associated with below normal rainfall in the second half of the year across southern and eastern Australia. Pacific conditions and model predictions will continue to be monitored closely.

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.

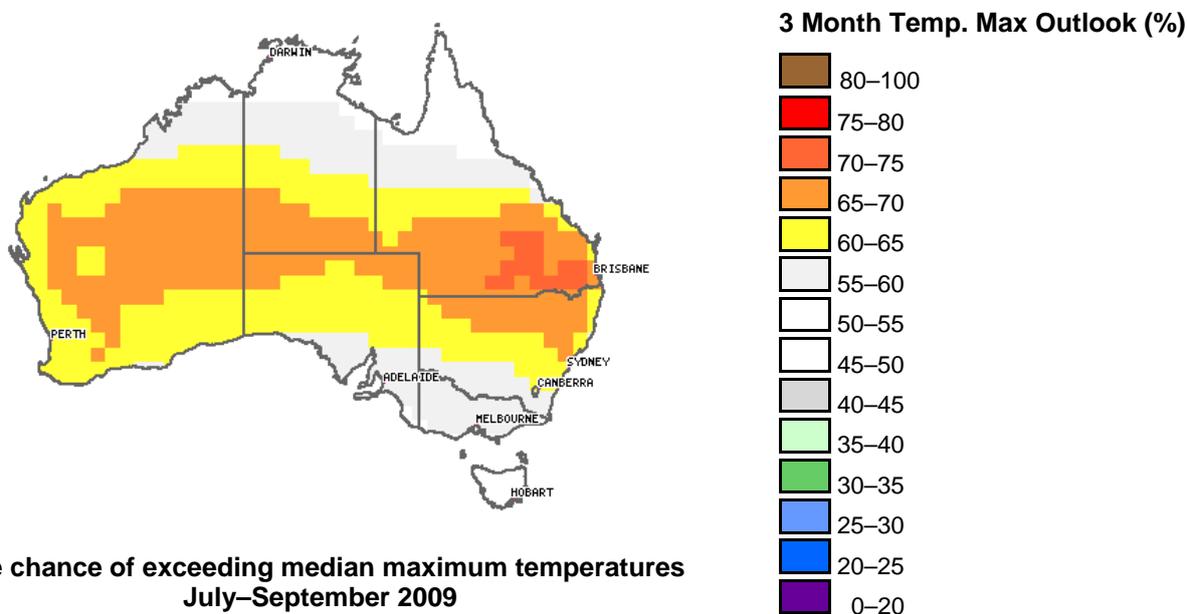


The national rainfall outlook for July to September 2009 suggests average rainfall over most of Australia, except for isolated areas in southern and central Australia where a drier than normal season is expected (35–40 per cent chance). The chance of exceeding the median rainfall across the most of the country during the coming

three months is between 40 and 50 per cent, meaning that above average rainfall is about as equally likely as below average.

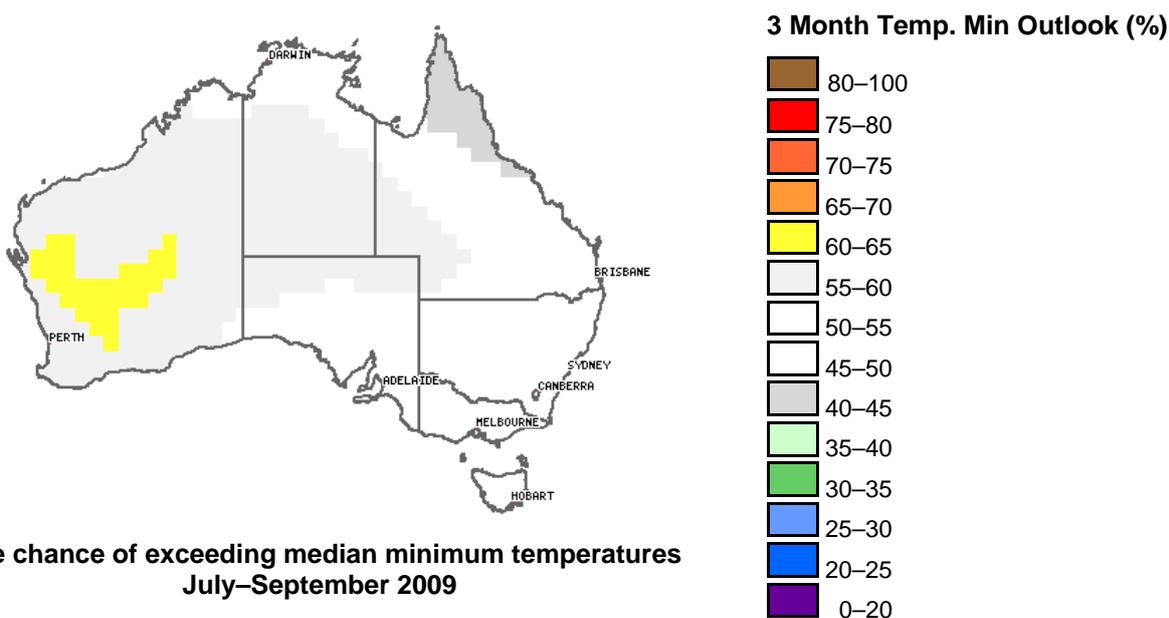
The pattern of seasonal rainfall odds across Australia is a result of recent warming conditions in the Indian Ocean and Pacific. The influences from these two oceans counteract each other in central Queensland and northern New South Wales. While the Indian Ocean promotes wetter conditions, the Pacific Ocean biases the climate towards a drier than normal season. In the south, the two patterns tend to reinforce each other.

4.3 Temperature Outlook



The chance of exceeding the median maximum temperature for July to September 2009 is from 60 to 70 per cent across most of Australia, except in the far north and far south. This means that that warmer than average days are more likely. In parts of south-eastern Queensland, the chance of exceeding the median maximum temperature approaches 75 per cent.

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 national climate outlook from July to September 2009 suggests that average minimum temperatures are likely across most of Australia (40-60 per cent chance). Central Western Australia may be slightly warmer than normal and far north Queensland may be slightly cooler.

History shows that the effect of Pacific and Indian oceans on minimum temperatures in the July to September period is moderately consistent over Queensland, the eastern Northern Territory, the southern half of Western Australia and parts of north-eastern New South Wales. The effect is weakly consistent everywhere else.

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