



Australian Government

Australian Bureau of Agricultural and  
Resource Economics – Bureau of Rural Sciences

## **Australian climate and agricultural monthly update**

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**October 2010**



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## Key issues

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September 2010 was Australia's wettest September on record, with rainfall across most of Australia providing favourable production conditions. Dry conditions have prevailed in south-west Western Australia, leading to a downgrade of the winter grain forecast. Inflows to the Murray-Darling Basin during September 2010 remained above the long-term average and water storage levels have continued to increase. The La Niña event continues in the Pacific Ocean, with the Seasonal Outlook for October to December 2010 favouring wetter conditions across most of the continent, particularly across northern Australia.

## Summary

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September 2010 rainfall was at least average across most of Australia, with the exception of south-west Western Australia and part of south-east Australia where there were widespread rainfall deficiencies. Day and night time temperatures were generally close to the long-term average in most southern production regions.

Inflows to the Murray-Darling Basin for September 2010 remain above the long-term average. Water storage levels continued to increase during September 2010.

The continued rainfall across the majority of Australia's eastern winter cropping region has maintained upper layer soil moisture availability, providing generally favourable production conditions. Restocker demand in the eastern states has been high, with producers retaining and finishing their stock. A lack of rainfall in south-west Western Australia has led to variable production conditions and winter crop prospects are less positive at this stage. Rain is needed to improve soil moisture in this area.

The La Niña event is still well established in the Pacific Ocean with major models indicating that the event will persist until at least early 2011. The seasonal outlook for October to December 2010 favours wetter conditions for most of the continent. Wetter conditions could benefit pasture and crop growth as well as improve surface water and groundwater resources.

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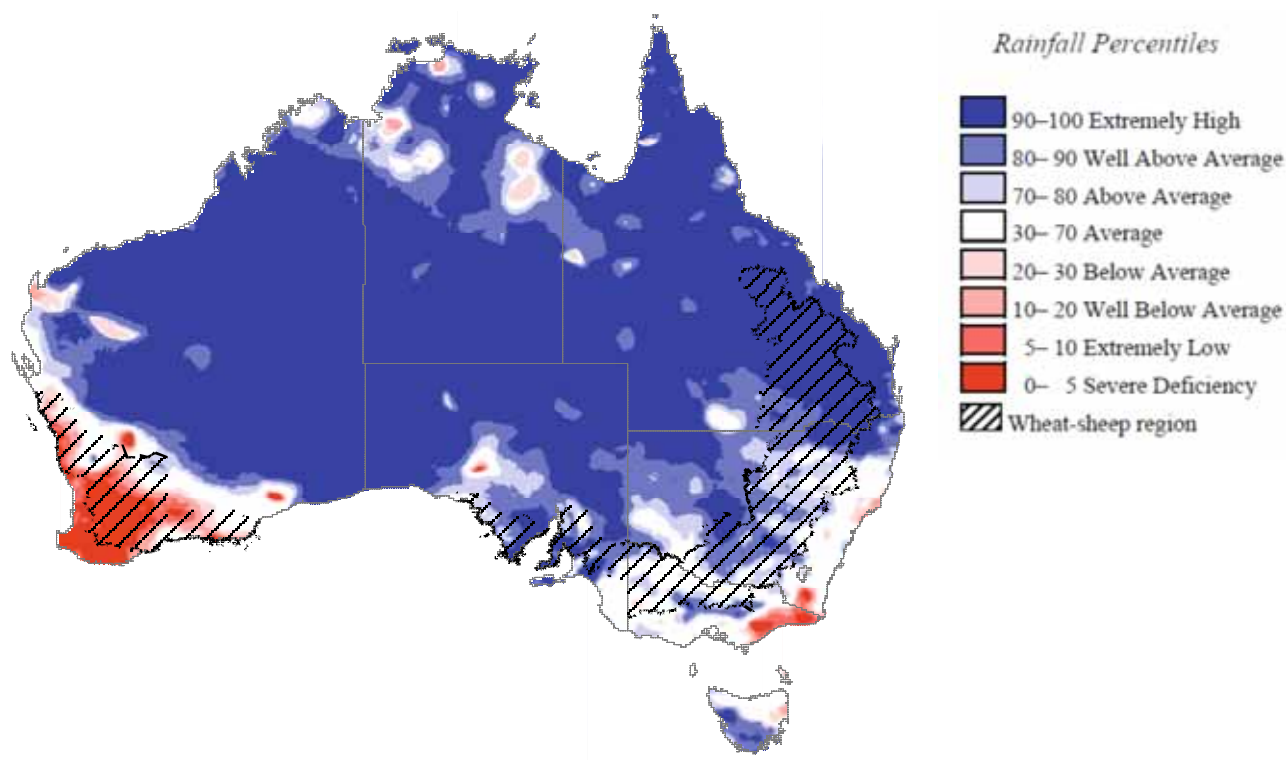
# 1. Climate

## 1.1 Rainfall

### Rainfall over the last month (September 2010)

September 2010 was Australia's wettest September on record, with rainfall averaged over the country almost three times the long-term average, beating the previous record set in 1906. The widespread rainfall during September 2010 has maintained the favourable conditions for crop and livestock production over much of the country. In south-west Western Australia, severely deficient rainfall during September 2010 has limited crop and pasture growth. There was also a lack of rainfall over parts of far south-east Australia during September 2010, where some long-term (36 months or more) rainfall deficiencies remain.

Rainfall across the Murray-Darling Basin was mostly above average during September 2010. An increase in water storage levels was recorded across the Basin during the month, although levels in some New South Wales storages remain low.

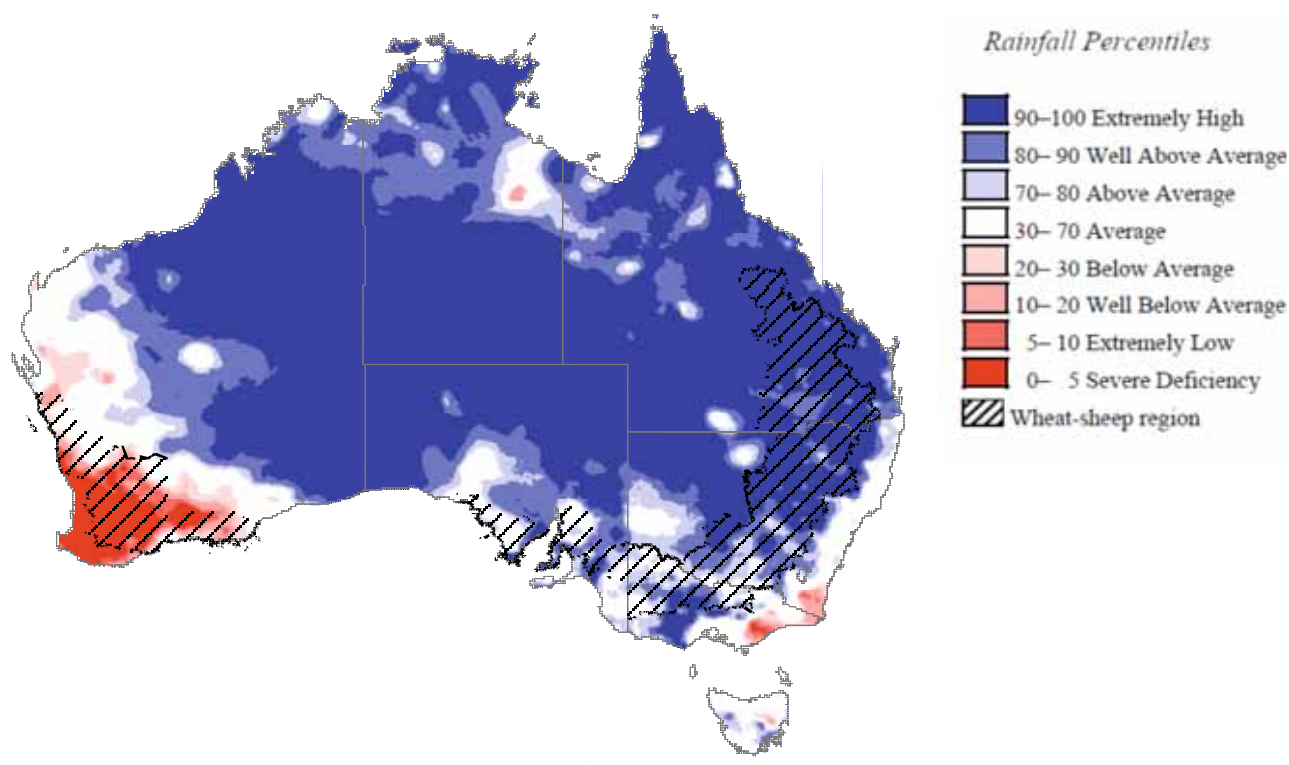


**Rainfall percentiles (September 2010)**

## Ongoing and emerging rainfall situations (July to September 2010)

At least average rainfall was recorded across most of the continent during the July to September 2010 period, with large areas receiving extremely rainfall.

In the south-west of Western Australia below average rainfall in September 2010 maintained short- and long-term rainfall deficiencies.



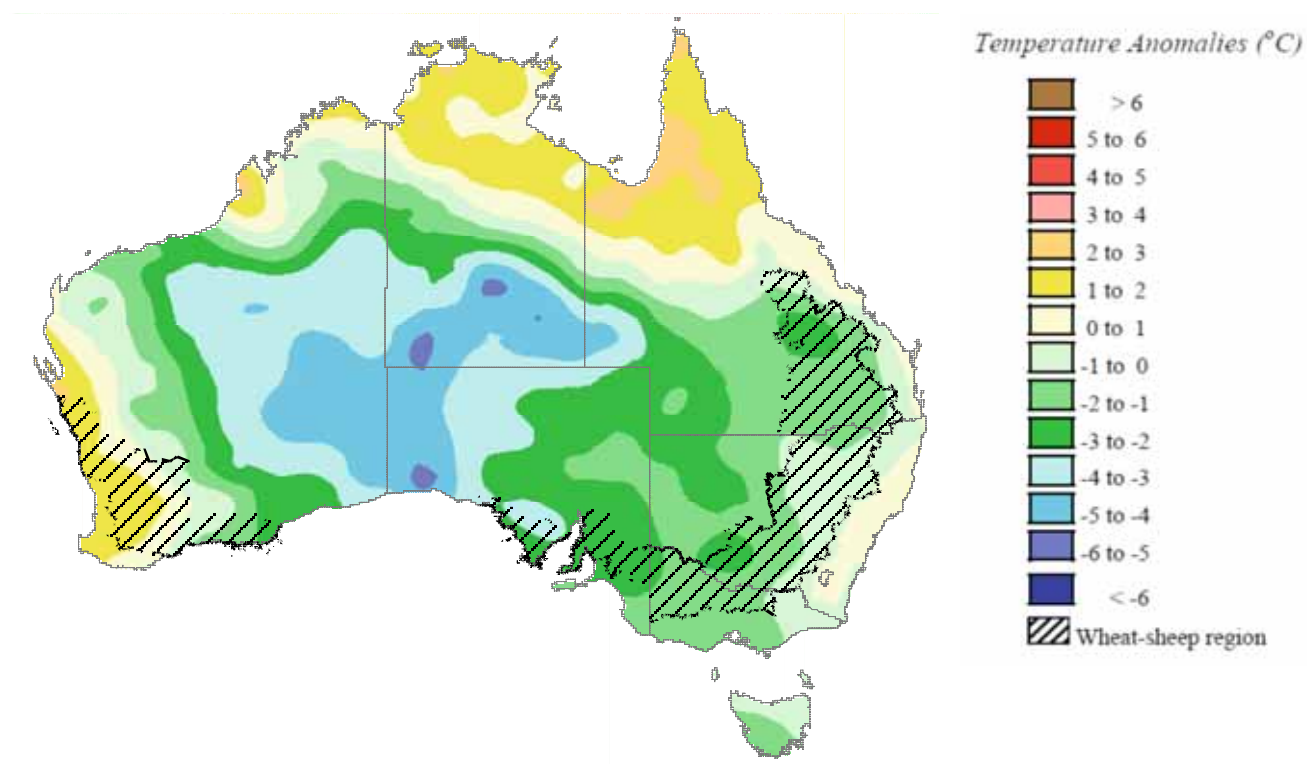
**Rainfall percentiles (July to September 2010)**

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](http://www.bom.gov.au/climate/austmaps/) go to <http://www.bom.gov.au/climate/austmaps/>.

## 1.2 Temperature

### Mean maximum temperature

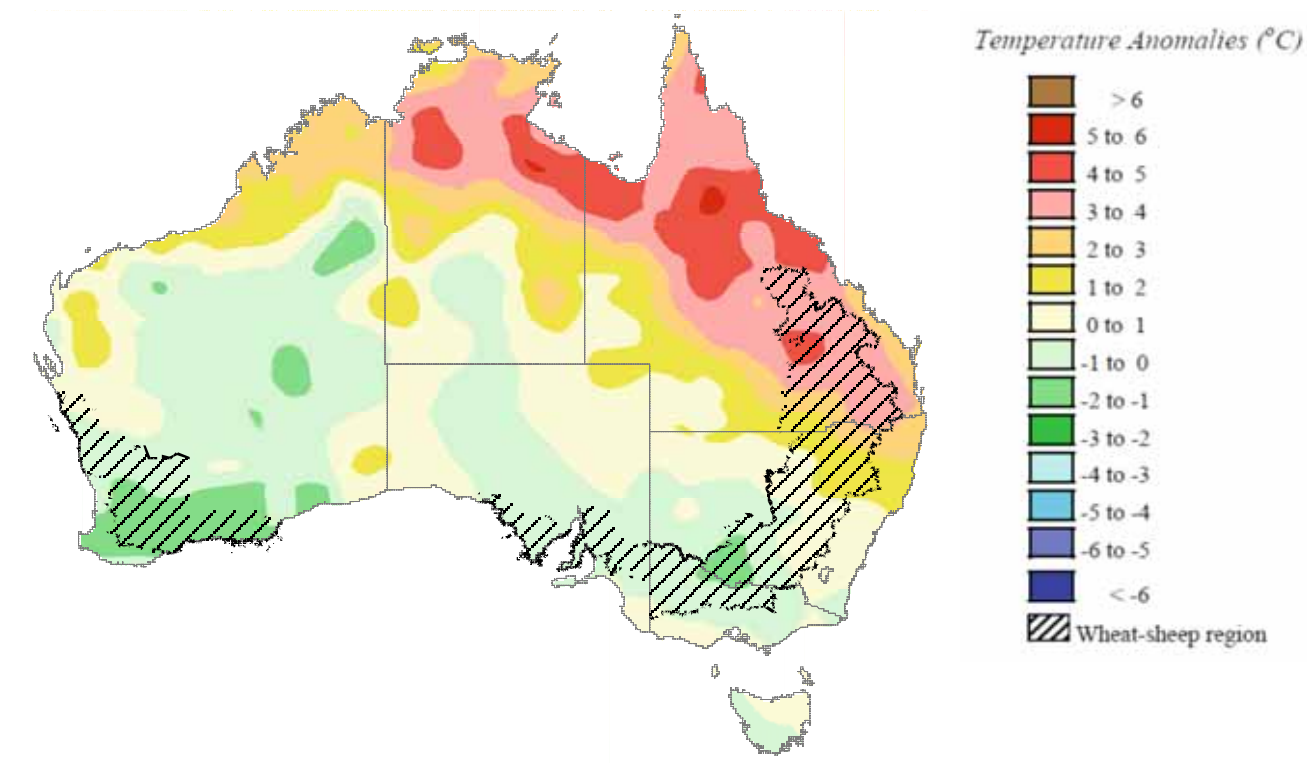
The mean maximum temperature for Australia during September 2010 was generally below the long-term September average in central and southern parts of the continent and above the long-term September average in the northern tropics and the west of Western Australia. Maxima anomalies of 3 to 4° C below average were recorded across large parts of central and southern Australia. Maxima anomalies of 2 to 3° C above average were recorded in parts of the tropics.



**Monthly mean maximum temperature anomalies  
(September 2010)**

## Mean minimum temperature

Mean minimum temperatures for Australia during August were generally close to the long-term September average except for parts of northern and eastern Australia where minimum temperatures were up to 3 to 5° C above the long-term September average.



### Monthly mean minimum temperature anomalies (September 2010)

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 with respect to the reference period 1961 to 1990. For further [information on temperature anomalies](http://www.bom.gov.au/climate/austmaps/) go to <http://www.bom.gov.au/climate/austmaps/>.

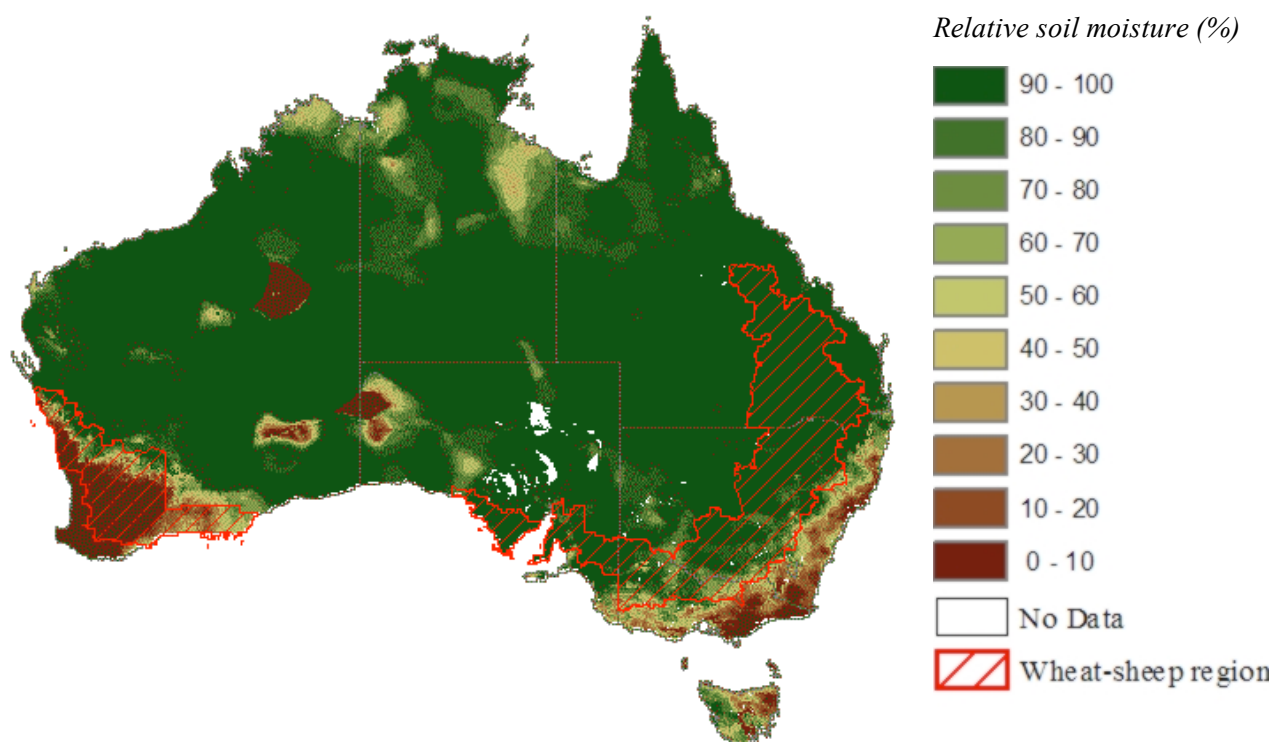


## Australian climate and 1.3 Relative soil moisture

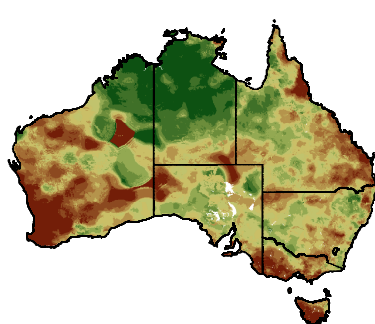
### Upper layer soil moisture

Relative soil moisture levels in the upper layer of the soil profile were above average over much of Australia due to the generally wet conditions during September 2010 in addition to the rainfall received in previous months. Relative upper layer soil moisture levels remain below average in south-west Western Australia due to the lack of rainfall in recent months. Soil moisture deficiencies have generally increased in south-east coastal areas of the mainland and in eastern Tasmania since August 2010.

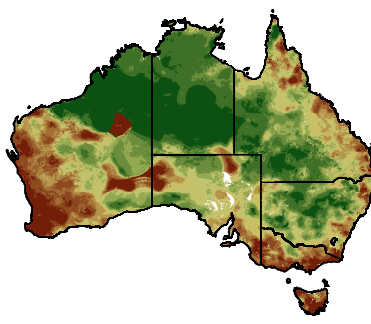
The bulk of plant roots occur in the top 30 centimetres of the soil profile and soil moisture data at the upper layer of the soil profile (0.2 metres) is the most appropriate indication of the availability of water, particularly for germinating plants.



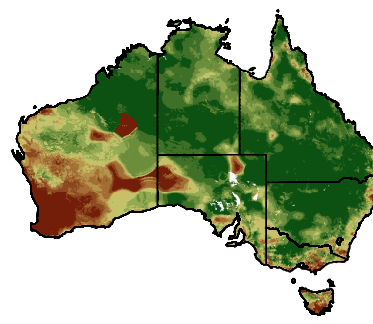
Upper layer soil moisture percentiles  
(September 2010)



June 2010



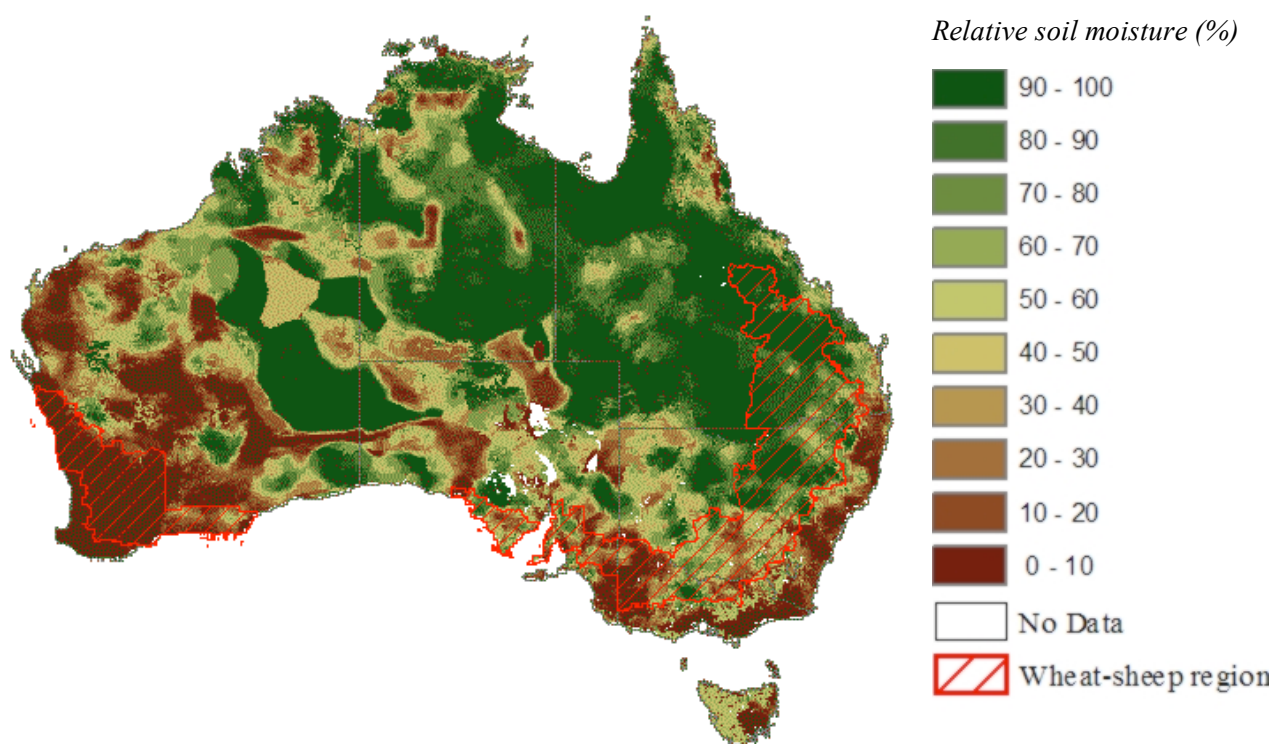
July 2010



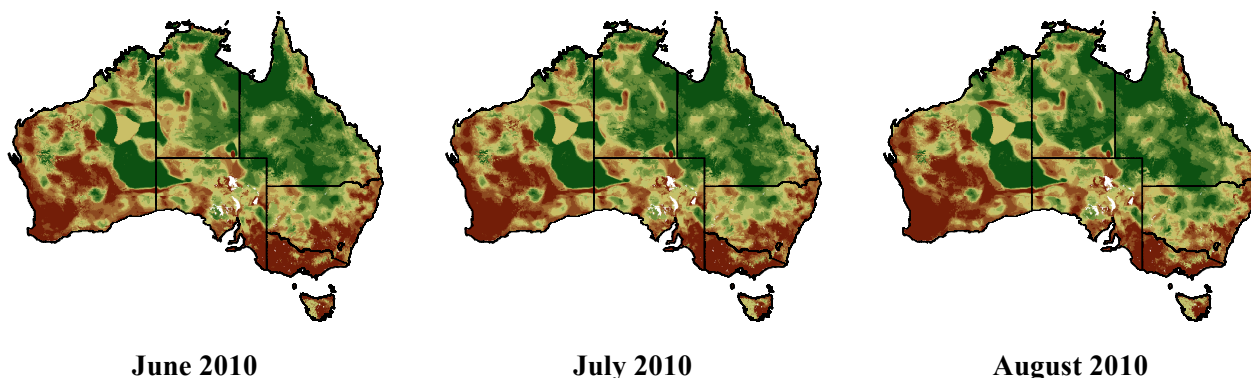
August 2010

## Lower layer soil moisture

Increases in relative soil moisture levels in the lower layer of the soil profile occurred during September 2010, notably in northern New South Wales, South Australian and Queensland. However, lower level soil moisture remains well below average across much of the west of Western Australia and parts of Victoria and the east coast. As lower layer soil moisture is a larger, deeper water store, it is slower to respond to rainfall and tends to reflect accumulated events over seasonal and longer time scales.



Lower layer soil moisture percentiles  
(September 2010)



The above maps show the relative levels of modelled upper (~0.2 metres) soil moisture and lower (~0.2 to ~1.5 metres) soil moisture at the end of June 2010. This data comes from a collaborative project between the Bureau of Meteorology, CSIRO and the Australian Bureau of Agricultural and Resource Economics – Bureau of Rural Sciences to develop estimates of soil moisture and other components of the water balance at high resolution across Australia. These maps show soil moisture estimates relative to the long-term average with respect to the reference period 1961 to 1990.

For further [information on relative soil moisture](http://www.daff.gov.au/brs/climate-impact/awap) go to <http://www.daff.gov.au/brs/climate-impact/awap>.

## 1.4 Climate outlook

### El Niño Southern Oscillation (ENSO)

A La Niña event remains well established in the Pacific Ocean. Given the current strength of the event and the outlook from long-range models, the event is expected to persist into at least early 2011.

La Niña periods are usually, but not always, associated with above normal rainfall during the second half of the year across large parts of Australia, most notably eastern and northern regions. Night time temperatures are historically warmer than average and tropical cyclones occurrence for northern Australia is typically higher than normal during the cyclone season (November-April).

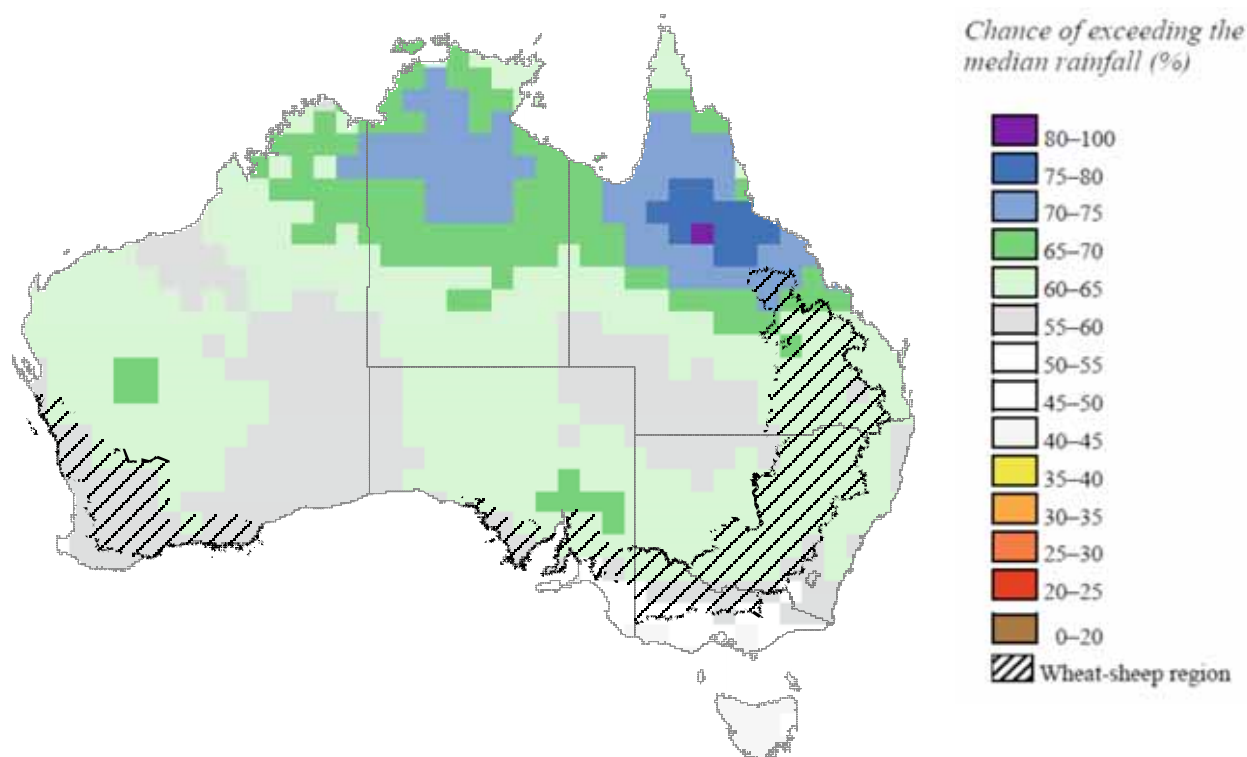
For further information on the [Bureau of Meteorology interpretation of the El Niño–Southern Oscillation](http://www.bom.gov.au/climate/enso/), go to <http://www.bom.gov.au/climate/enso/>.

The current La Niña event is associated with warm conditions in the Indian Ocean and cool conditions in the equatorial Pacific Ocean, which are influencing the October to December 2010 rainfall and temperature outlook.

### Rainfall outlook

The seasonal outlook for October to December 2010 favours wetter conditions across most of the continent, particularly for areas of northern Australia.

The chance of exceeding the median rainfall for October to December 2010 are over 60 per cent over most of Queensland, the Northern Territory, New South Wales and South Australia, as well as the Kimberley and western inland parts of Western Australia. Chances increase to over 70 per cent for northern parts of both the Northern Territory and Queensland. Wetter conditions during this period would be favourable for production in these areas.

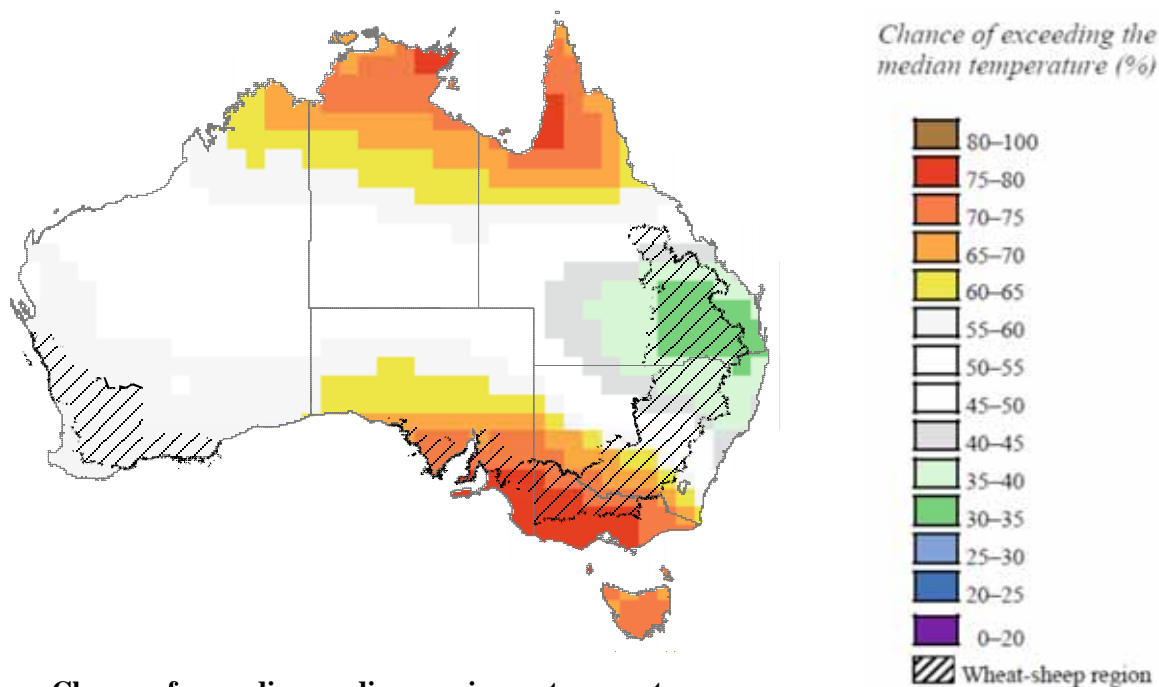


**Chance of exceeding median rainfall  
(October to December 2010)**

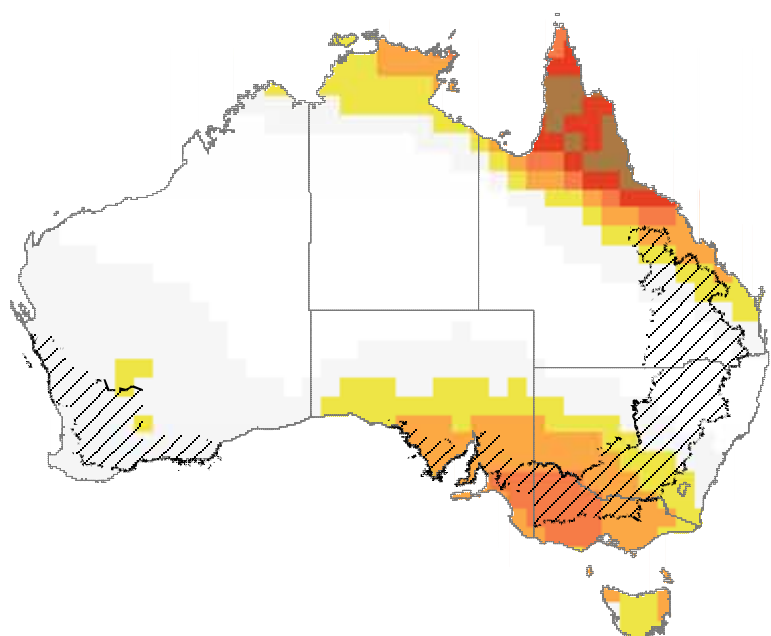
## Temperature outlook

The temperature outlook for October to December 2010 favours warmer than average daytime and night-time temperatures in the tropical north and south-east of the continent, with cooler daytime temperatures favoured over southern Queensland and north-east New South Wales.

Warmer temperatures and increased rainfall may assist pasture and crop growth rates. However, increased daytime temperatures during the flowering stage of crop growth can limit final yield.



**Chance of exceeding median maximum temperatures  
(October to December 2010)**



**Chance of exceeding median minimum temperatures  
(October to December 2010)**

These outlooks are based on the statistics of chance (the odds) and are not categorical predictions.

For further [information on these seasonal outlooks and their interpretation](http://www.bom.gov.au/climate/ahead/) go to <http://www.bom.gov.au/climate/ahead/>.

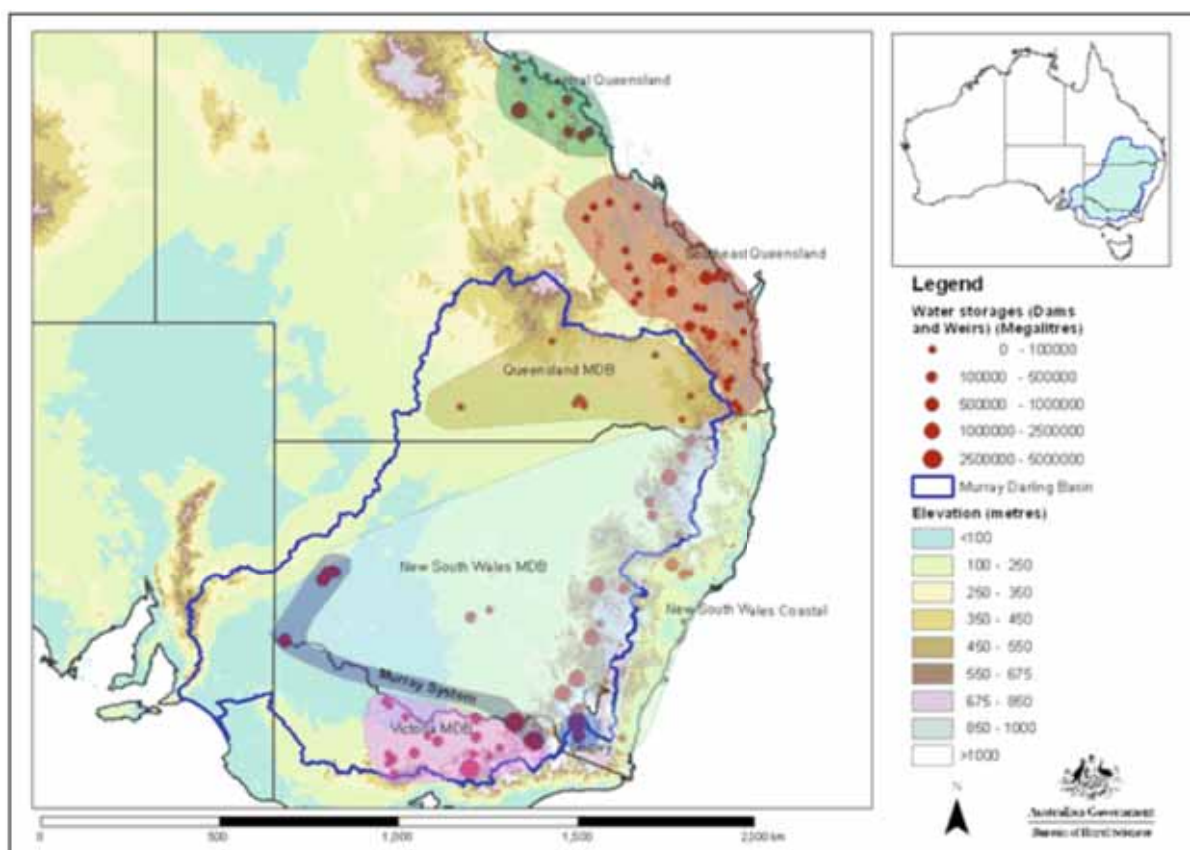


## 2. Water

### 2.1 Water storages

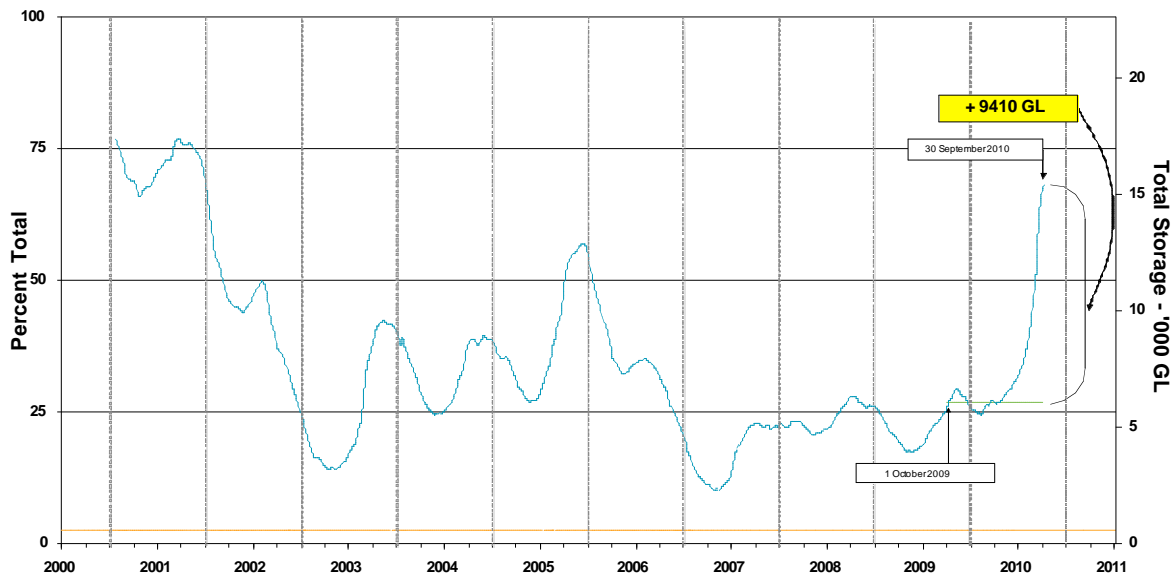
Changes in regional water storage for September 2010 and the previous 12 months are summarised in the table and graphs below (current at 30 September 2010).

Region	Total capacity (GL)	Current volume (GL)	Current volume (%)	Monthly change (GL)	Monthly change (%)	Annual change (GL)
<b>Murray-Darling Basin (MDB)</b>	22645	15454	68	+3641	+16	+9410
<b>Snowy Scheme</b>	5744	1784	31	+312	+5	-77
<b>Murray-Darling Basin Authority (MDBA)</b>	9352	6387	66	+1448	+15	+4306
<b>Queensland MDB</b>	185	185	100	+42	+23	+109
<b>Central Queensland</b>	3154	2930	93	-4	0	+173
<b>South-east Queensland</b>	3517	2903	83	+189	+5	+1081
<b>New South Wales MDB</b>	13918	10256	74	+2551	+18	+6726
<b>Coastal New South Wales</b>	1074	829	77	+14	+1	+12
<b>Victoria MDB</b>	8538	4855	57	+948	+11	+2430

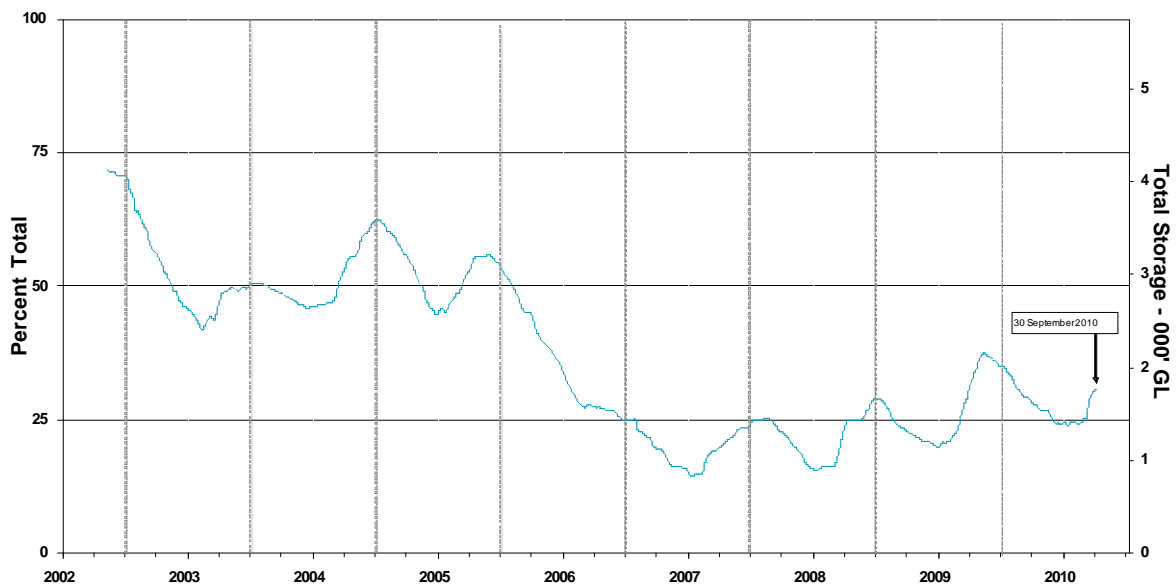


**Water storages in Queensland, New South Wales and Victoria:** The blue line indicates the extent of the Murray-Darling Basin and the shaded areas denote the coverage of the individual reporting regions.

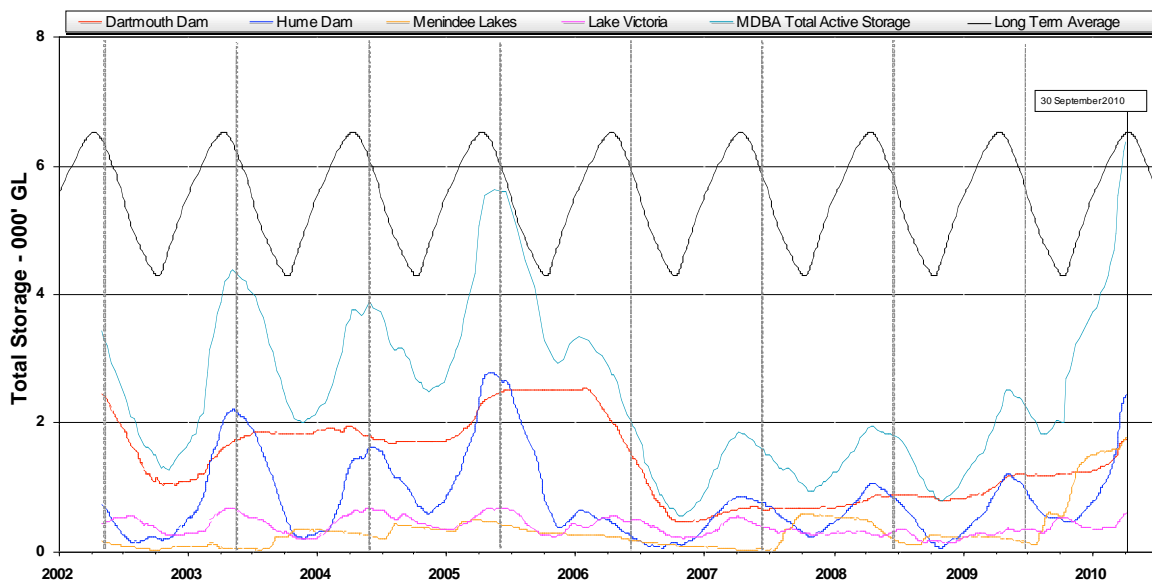
## MDB (New South Wales, Victoria and Queensland)



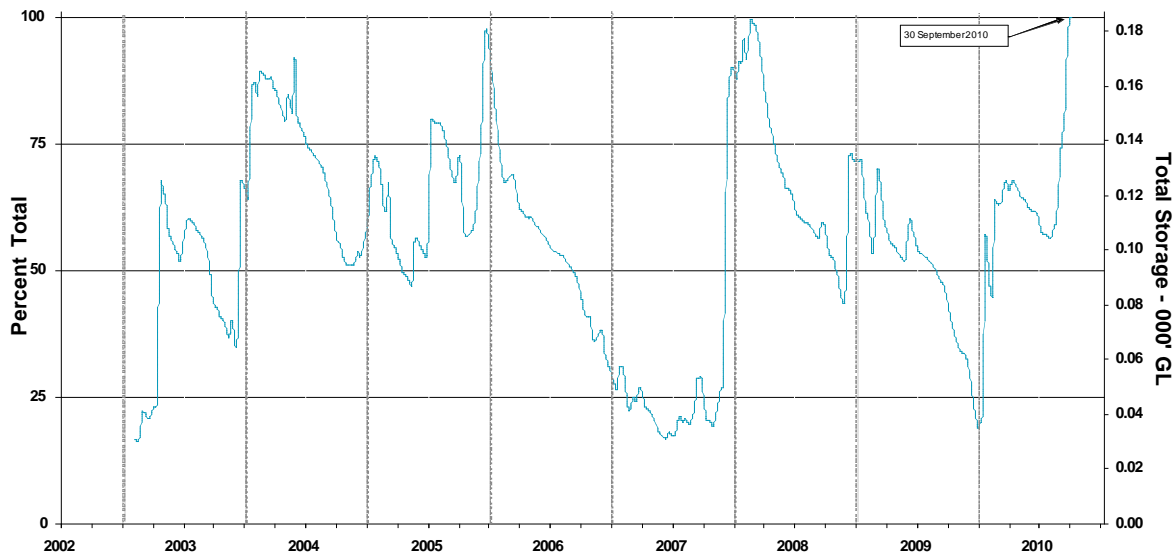
## Snowy Scheme



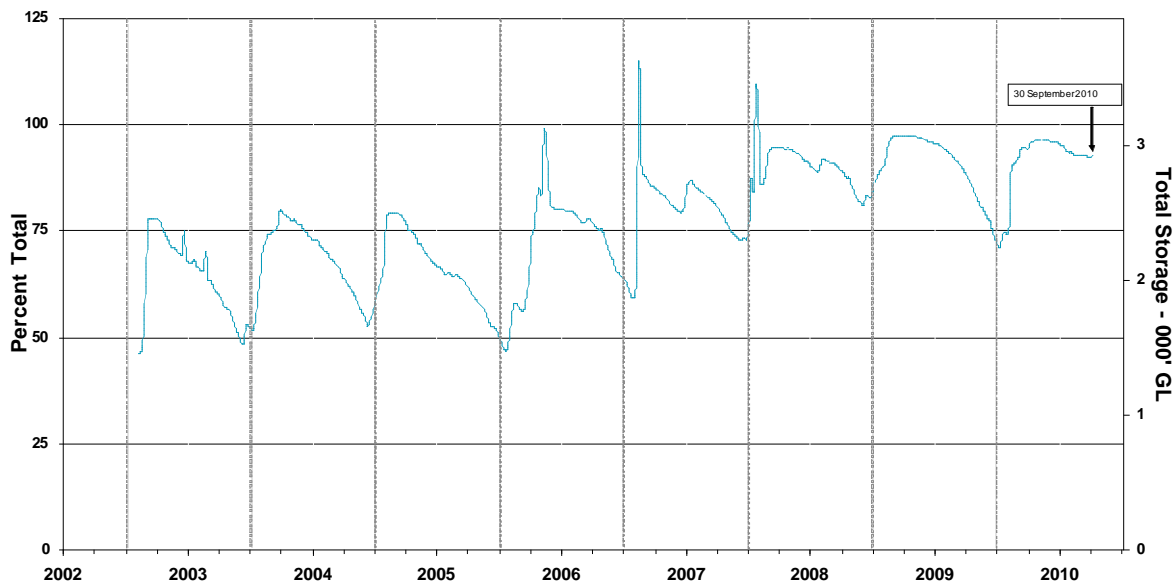
## MDBA



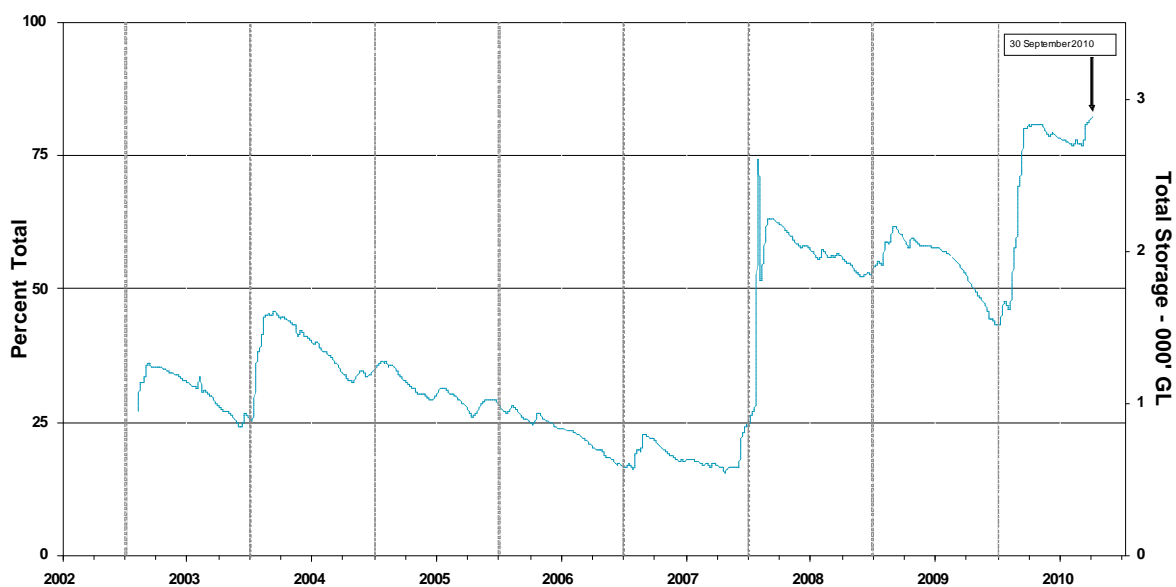
## Queensland MDB



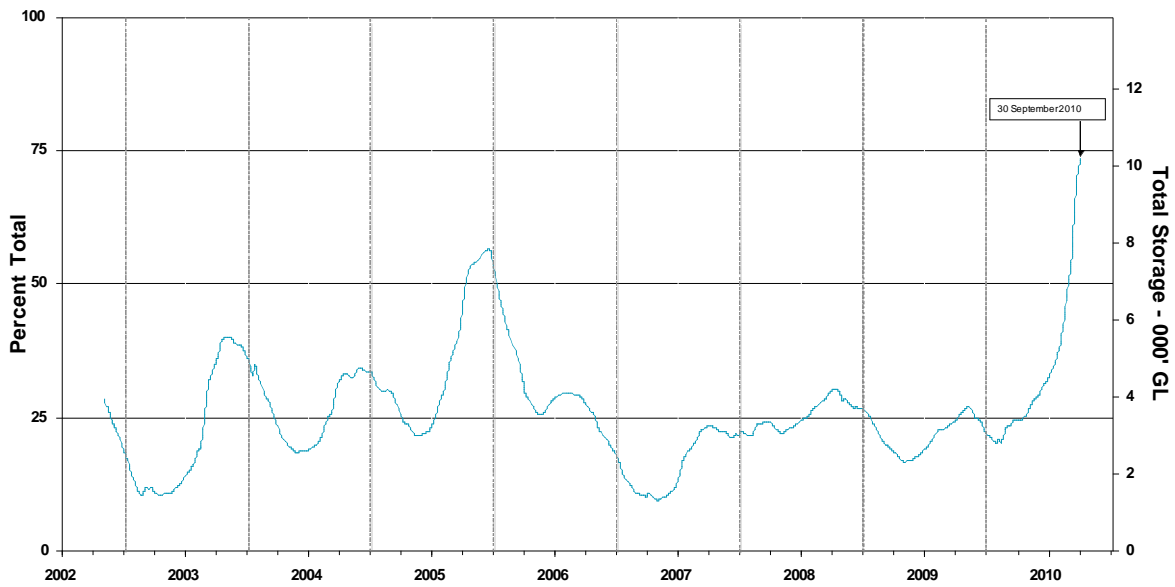
## Central Queensland



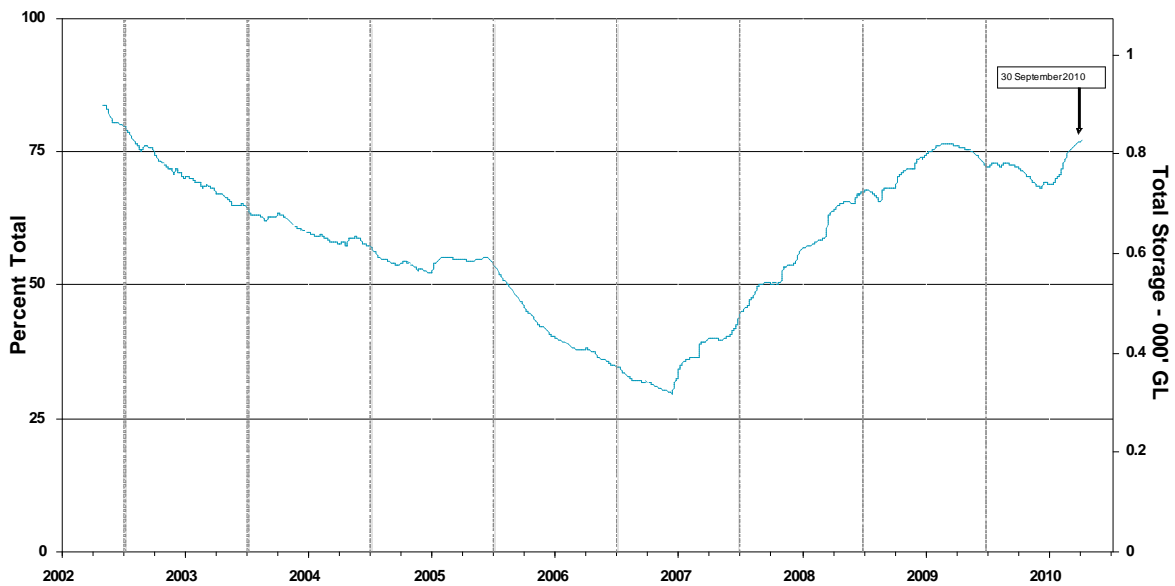
## South-east Queensland



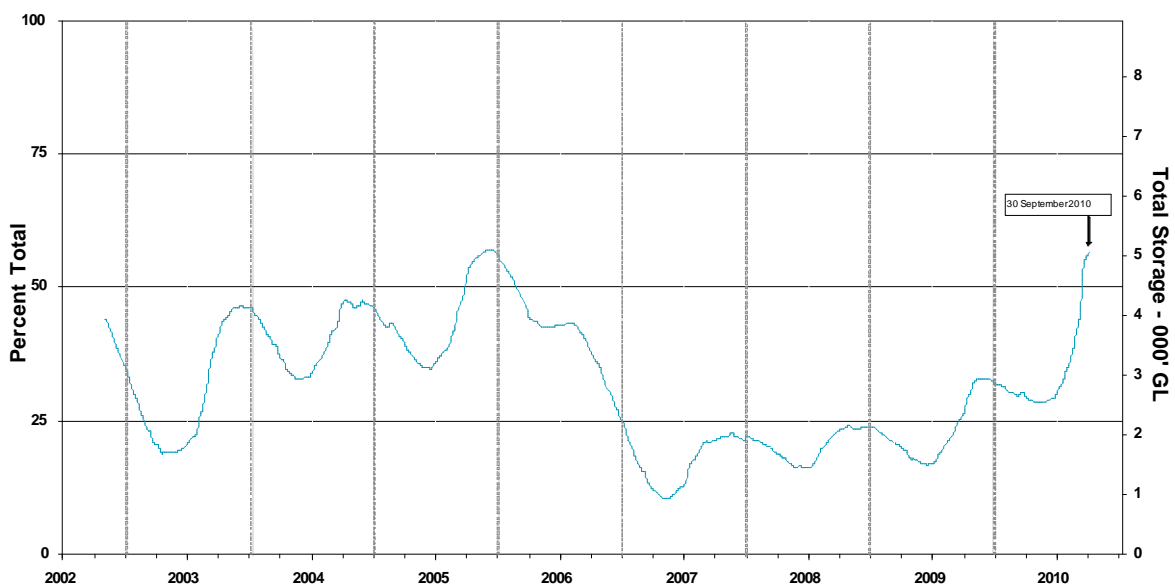
## New South Wales MDB



## Coastal New South Wales



## Victoria MDB





For further information on water storages, go to:

- Snowy Hydro Water Resources:  
<http://www.snowyhydro.com.au/lakeLevels.asp?pageID=360&parentID=6>
- Sun Water Queensland:  
<http://www.sunwater.com.au/pdf/water/CurrentStorageSummary.pdf>
- New South Wales Water Information:  
<http://www.waterinfo.nsw.gov.au/>
- Goulburn-Murray Water (Northern Victoria):  
<http://www.g-mwater.com.au/water-resources/storage-levels/>
- Murray-Darling Basin Authority:  
<http://www.mdba.gov.au/>

## 2.2 Water allocations

The water allocations and changes over the past month for all licence holders in New South Wales, Victoria and South Australia water systems are summarised in the following table.

	Closing allocations 2009–10 (%)	Increases from 1 September 2010 (%)	Allocations at 1 October 2010 (%)
<b>NSW Murray Valley</b>			
High security	97	0	97
General security	27	28	36
<b>NSW Murrumbidgee Valley</b>			
High security	95	0	95
General security	27	38	47
<b>NSW Lower Darling</b>			
High security	100	-	100
General security	100	-	100
<b>NSW Macquarie Valley</b>			
High security	100	-	100
General security	0	53	100
<b>NSW Hunter Valley</b>			
High security	100	-	100
General security	100	-	100
<b>NSW Lachlan Valley</b>			
High security	10	70	100
General security	0	-5	10
<b>NSW Border Rivers</b>			
High security	100	-	100
General security	4.4	7	44
<b>NSW Peel Valley</b>			
High security	100	-	100
General security	100	-	82
<b>Victoria Murray Valley</b>			
High reliability	100	40	97
<b>Victoria Goulburn</b>			
High reliability	71	29	70
<b>Victoria Campaspe</b>			
High reliability	0	10	100
<b>Victoria Loddon</b>			
High reliability	3	29	70
<b>Victoria Bullarook</b>			
High reliability	19	0	100
<b>Victoria Broken</b>			
High reliability	17	0	100
<b>South Australia Murray Valley</b>			
High security	62	26	67

\*Water sharing plans remain suspended in NSW for the Lachlan Regulated River at 1 October 2010.

For further information on water announcements, go to:

- New South Wales Office of Water, Department of Environment, Climate Change and Water:  
<http://www.water.nsw.gov.au/Home/default.aspx>
- Media releases:  
<http://www.water.nsw.gov.au/About-Us/Media-Releases/default.aspx>,
- Water allocations:  
<http://www.water.nsw.gov.au/Water-management/Water-availability/Water-allocations/water-allocations-summary/default.aspx>
- Available water determinations register:  
<http://www.wix.nsw.gov.au/wma/DeterminationSearch.jsp?selectedRegister=Determination>
- Goulburn-Murray Water:  
<http://www.g-mwater.com.au/>
- Media releases:  
<http://www.g-mwater.com.au/news/media-releases/default.asp>
- South Australian Department of Water:  
<http://www.waterforgood.sa.gov.au/>
- Murray-Darling Basin Authority:  
<http://www.mdba.gov.au/>

## 3. Production

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### 3.1 Winter crops

#### Australia

The September Australian Crop Report (ABARE–BRS) forecasts that 2010–11 winter crop production will increase by 16 per cent to around 40.7 million tonnes. If it eventuates, this would be the third largest winter crop on record. Wheat production is also forecast to rise by 16 per cent to 25.1 million tonnes in 2010–11. Production forecasts have increased since the June estimate largely due to favourable seasonal conditions, particularly in eastern Australia.

[www.abare-brs.gov.au/publications](http://www.abare-brs.gov.au/publications)

#### New South Wales

Winter crop production conditions during the growing season to-date have been favourable for New South Wales' winter cropping areas. The New South Wales grains report indicates high rainfall over recent months has filled soil moisture profiles across all regions.

[www.dpi.nsw.gov.au](http://www.dpi.nsw.gov.au)

#### Queensland

Production conditions during the growing season to-date have been favourable for Queensland's winter cropping regions. The September Queensland Seasonal Crop Outlook for Wheat reports generally above average yield expectations in the majority of shires. Recent wet conditions in parts of central Queensland have reportedly delayed the winter harvest, which may result in some downgrades of yields and/or quality.

[www.dpi.qld.gov.au](http://www.dpi.qld.gov.au)

#### South Australia

Winter crop production conditions during the growing season to-date have been favourable for South Australia's winter cropping regions. The September Crop and Pasture report released by Primary Industries and Resources South Australia estimates current yield potential of the statewide crop to be well above the long-term average. Waterlogging has occurred in some districts.

[www.pir.sa.gov.au](http://www.pir.sa.gov.au)

#### Victoria

Cropping conditions during the growing season to-date have generally been favourable for Victoria's main winter cropping areas following high September 2010 rainfall. However, the Victorian Department of Primary Industries September Dry Seasonal Conditions report indicates that some crops are affected by waterlogging.

<http://new.dpi.vic.gov.au>

#### Western Australia

Current yield expectations for Western Australia's winter cropping areas are variable as a result of below average rainfall during much of the growing season to-date. According to the Western Australian Department of Agriculture's September Seasonal Update, a lack of subsoil moisture is an issue for much of the wheatbelt, particularly in eastern and central areas. The lower south-west and parts of the south coast continue to have better yield potential.

## 3.2 Livestock

In the eastern states, sheep and cattle yardings have generally declined through September 2010 as rainfall restricted livestock movements and caused the cancellation of some sales. Due to favourable weather conditions throughout winter and early spring in the eastern states, restocker demand has increased, with both restocker lamb and cattle prices remaining high. In contrast, production conditions in Western Australia remained unfavourable through September 2010. Below average rainfall during winter and a lack of pasture growth in the region has forced some producers to sell stock in poor condition.

### Beef cattle

The number of cattle sent to saleyards declined by 4 per cent nationally in September 2010, largely driven by a 30 per cent month-on-month decline in Queensland as heavy rainfall restricted the movement of stock. Favourable seasonal conditions through winter and early spring 2010 are expected to result in improved cattle quality and higher carcass weights for the year.

In the eastern states, the favourable seasonal conditions throughout much of 2010 have resulted in many producers retaining stock to expand herds. This has driven increased demand for restocker cattle and younger cows and has resulted in a 43 per cent year-on-year decline in vealer steers yarded in September 2010. Western Australia, in contrast, has received well-below average rainfall over the past few months. This has driven higher rates of turnoff, with lower carcass weights and fewer finished cattle being offered for sale.

The Eastern Young Cattle Indicator price reached a four year high of 375.5 cents per kilogram (carcass weight) which is 18 per cent higher than at the same time last year. Feedlot demand for feeder cattle has been strong throughout September 2010 and the strong restocker demand has resulted in a 16 per cent year on year increase in young cattle being retained for herd expansion in September 2010. This drove an 18 per cent decline in the number of young cattle going to slaughter over the same period. Additionally, strong demand for cattle by processors and limited supplies has resulted in high prices for heavy cattle in September. However, the lower turnoff has resulted in reduced slaughter, with many processors operating below full capacity.

### Sheep and lambs

Similar to cattle, lamb yardings decreased by 18 per cent nationally in September 2010 compared with the previous year. This was primarily due to favourable production conditions experienced in the eastern states, encouraging producers to retain lambs for finishing. In contrast, the unfavourable production conditions experienced in WA has encouraged producers to sell a higher proportion of lambs.

Lamb growth rates reportedly increased through the eastern states during September 2010 due to the warmer weather providing improved pasture growth. Trade weight lambs averaged around 56 per cent of young lambs for the month of September, while the proportion of heavy weight lambs rose to 16 per cent of young lambs later in the month. Light store animals were scarce in eastern Australia, providing limited opportunities for restockers and feedlots. As such, lambs to feedlots from physical markets decreased by 5 per cent in September 2010 compared with the previous year. In contrast, lambs purchased to feed increased three fold in Western Australia, as a higher number of light store lambs were turned off.

Compared with record prices received for lambs during winter and early spring 2010, the Eastern States Trade Lamb Indicator price finished 13 per cent lower at the end of September relative to the peak in late August. However, compared to the same period last year, restocker lamb prices were 35 per cent higher over August and September 2010 (409 ¢/kg cwt compared with 550 ¢/kg cwt). Although new season lamb numbers are anticipated to rise, the favourable production conditions in the eastern states over winter and early spring 2010 should maintain restocker demand and maintain the current high lamb prices.

<http://www.mla.com.au/Prices-and-markets/Market-news/Sheep-market-alert290910>

<http://www.mla.com.au/Prices-and-markets/Market-news/Cattle-market-alert290910>

<http://www.mla.com.au/Prices-and-markets/Market-news/Heavy-steer-prices-up-as-lambs-ease>

<http://www.mla.com.au/Prices-and-markets/Market-news/Lamb-prices-historically-high-in-spring>

<http://www.mla.com.au/Prices-and-markets/Market-news/Supply-and-restockers-drive-EYCI-higher->

<http://www.mla.com.au/Prices-and-markets/Market-news/Cattle-market-wrap011010>

<http://www.mla.com.au/Prices-and-markets/Market-news/Sheep-market-wrap011010>

<http://www.mla.com.au/Prices-and-markets/Market-news/AUD-pushes-higher>

The above information is summarised from industry sources and does not represent forecasts by ABARE–BRS. Livestock and other commodity sector forecasts were released by ABARE–BRS in *Australian commodities* on 21 September 2010.

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 – Bureau of Rural Sciences:  
<http://www.daff.gov.au/abare-brs>
- 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/>
  - News and Events  
<http://www.dpi.nsw.gov.au/aboutus/news/>
  - NSW Grains Report  
<http://www.dpi.nsw.gov.au/aboutus/resources/periodicals/newsletters/grains-report-nsw>
- Primary Industries and Resources South Australia:  
<http://www.pir.sa.gov.au/grains/cpr/>
- Queensland Drought Monitor:  
<http://www.longpaddock.qld.gov.au/QueenslandDroughtMonitor/>
- The Land Farmonline:  
<http://theland.farmonline.com.au/>
- Victorian Department of Primary Industries:  
<http://www.dpi.vic.gov.au>