



Australian Government
Australian Bureau of Agricultural and
Resource Economics and Sciences

Australian climate and agricultural monthly update

December 2010



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Key issues

Favourable production conditions prevail across the majority of the country following Australia's eighth wettest November on record. Despite some harvest delays and downgrades to grain quality due to the wet conditions, record crop yields are forecast for the eastern states. Average rainfall over south-west Western Australia in November 2010 was largely too late to assist crops, but should provide some pasture growth. Water storage levels in the Murray–Darling Basin increased during November 2010. The current La Niña event remains well established. The seasonal outlook for December 2010 to February 2011 favours wetter conditions for eastern and western Australia and drier conditions for parts of southern Australia.

Summary

November 2010 was Australia's eighth wettest November on record, contributing to Australia's wettest spring on record. Upper and lower layer soil moisture increased in most areas. Day time temperatures were generally below average except in the western half of Western Australia where they were above average. Night time temperatures were warmer in south-east and western Australia and cooler in the centre and north.

Inflows to the Murray–Darling Basin for November 2010 remained above the long-term average. Water storage levels across the Basin increased further during November 2010.

Winter crop production in the eastern states is expected to achieve record yields due to generally favourable seasonal conditions. However, wet conditions during November 2010 and heavy rainfall in early December 2010 in the eastern states has delayed the harvest of winter crops and reduced the quality of grain crops yet to be harvested in many areas.

Average rainfall over south-west Western Australia in November 2010 was largely too late to assist crops, but should provide some pasture growth. Yield estimates have been revised down for many shires from those reported in the previous month.

Current soil moisture availability and rainfall outlook indicate a high chance of above median sorghum yields for the majority of summer cropping shires in the 2010–11 season.

In the eastern states, livestock prices have increased due to an increase in restocker activity. Adequate soil moisture and forecasts of wetter than average conditions for summer 2010–11 are likely to maintain pasture quality in grazing regions in the eastern states. Large numbers of Western Australian stock continue to be transported east from Western Australia, reflecting the poor seasonal conditions in the west.

Despite some recent weakening, the current La Niña event remains well established in the Pacific Ocean with models indicating it will persist until at least early 2011. The seasonal outlook for December 2010 to February 2011 (summer) favours wetter conditions for most of the continent, particularly for areas of northern, eastern and western Australia.

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1. Climate

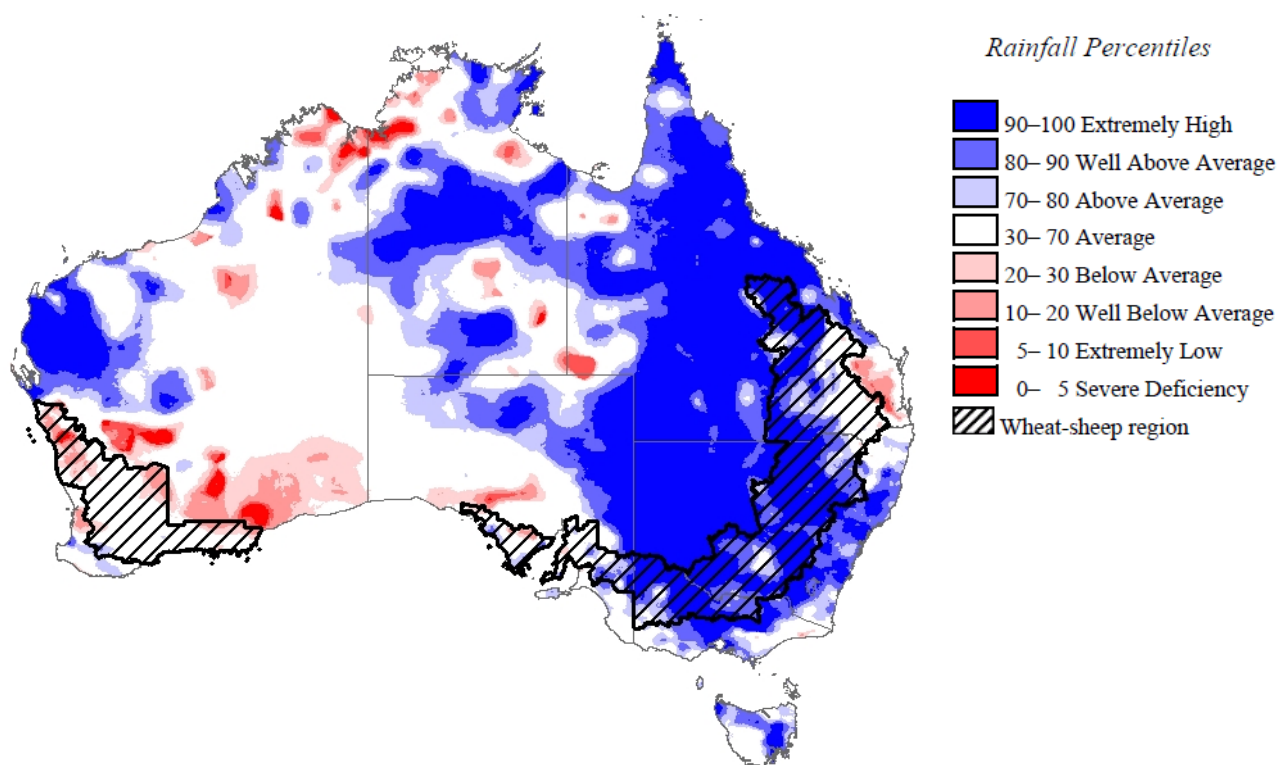
1.1 Rainfall

Rainfall over the last month (November 2010)

November 2010 was very wet across eastern Australia, with New South Wales recording its fifth wettest November on record and Queensland recording its sixth wettest November on record. Australia as a whole recorded its eighth wettest November on record. Western Australia was the only state to record below average rainfall.

Widespread rainfall over eastern Australia during November 2010 maintained generally favourable conditions for pasture production, but excess moisture in eastern cropping regions may impact on crop yields and/or quality. In south-west Western Australia, generally average rainfall during November 2010 was largely too late to assist moisture-stressed crops.

Rainfall across the Murray–Darling Basin was mostly extremely high during November 2010, which was the Basin's fifth wettest November on record. An increase in water storage levels was recorded across the Basin during the month.

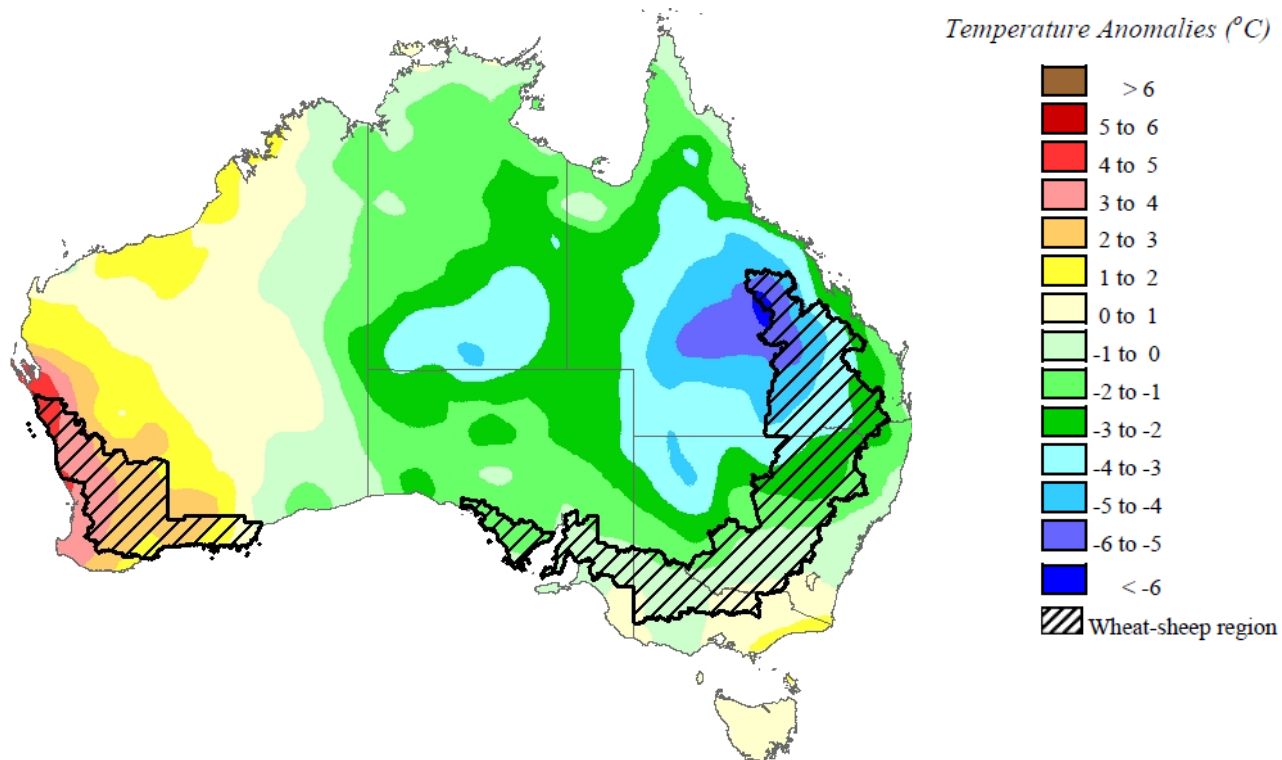


Rainfall percentiles (November 2010)

1.2 Temperature

Mean maximum temperature

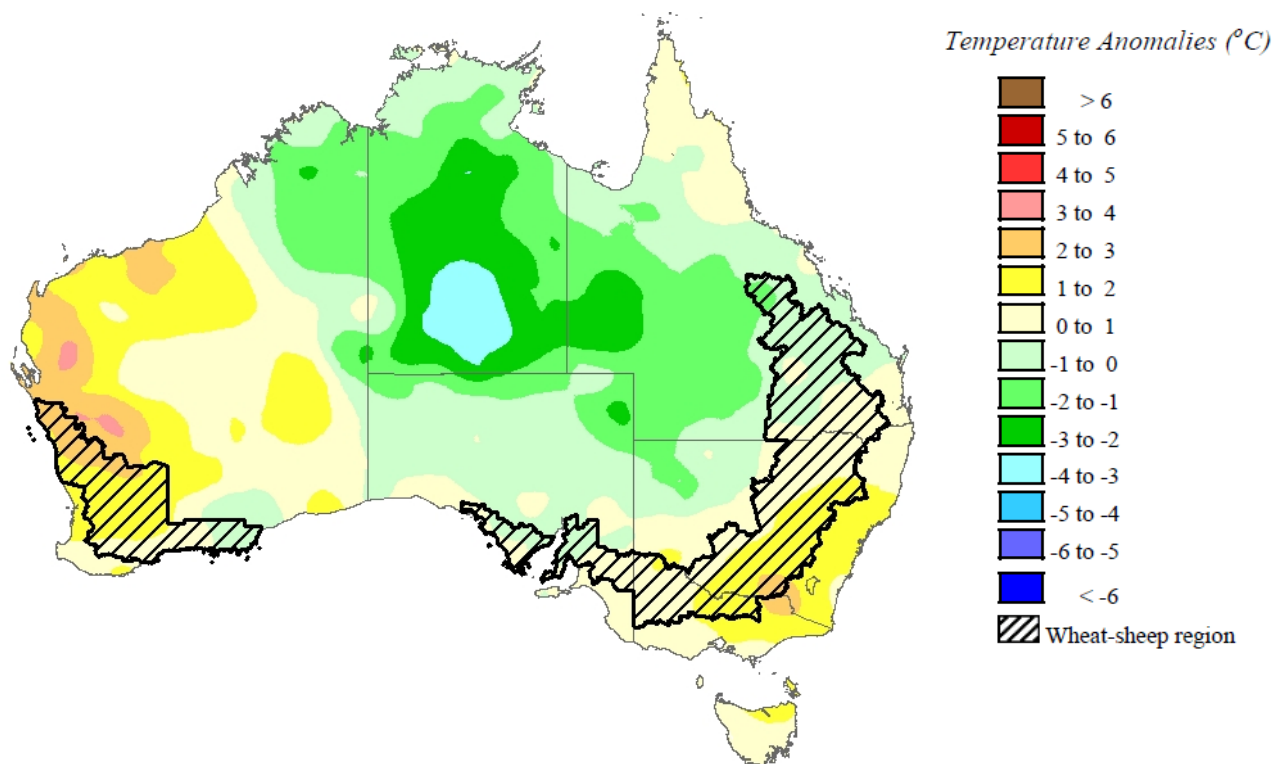
The mean maximum temperature for Australia during November 2010 was well below the long-term November average across most of the continent. Maxima anomalies of 3 to 6° C below average were recorded across large parts of eastern and central Australia. In contrast, the mean maximum temperature was above the long-term November average across parts of Western Australia where maxima anomalies of up to 5° C above average were recorded.



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

Mean minimum temperature

Mean minimum temperatures for much of Australia during November 2010 were close to the long-term November average. Parts of south-east Australia and Western Australia recorded minimum temperatures up to 3° to 4° C above the long-term November average, while parts of central Australia recorded minimum temperatures of 2 to 4° C below the long-term November average.



**Monthly mean minimum temperature anomalies
(November 2010)**

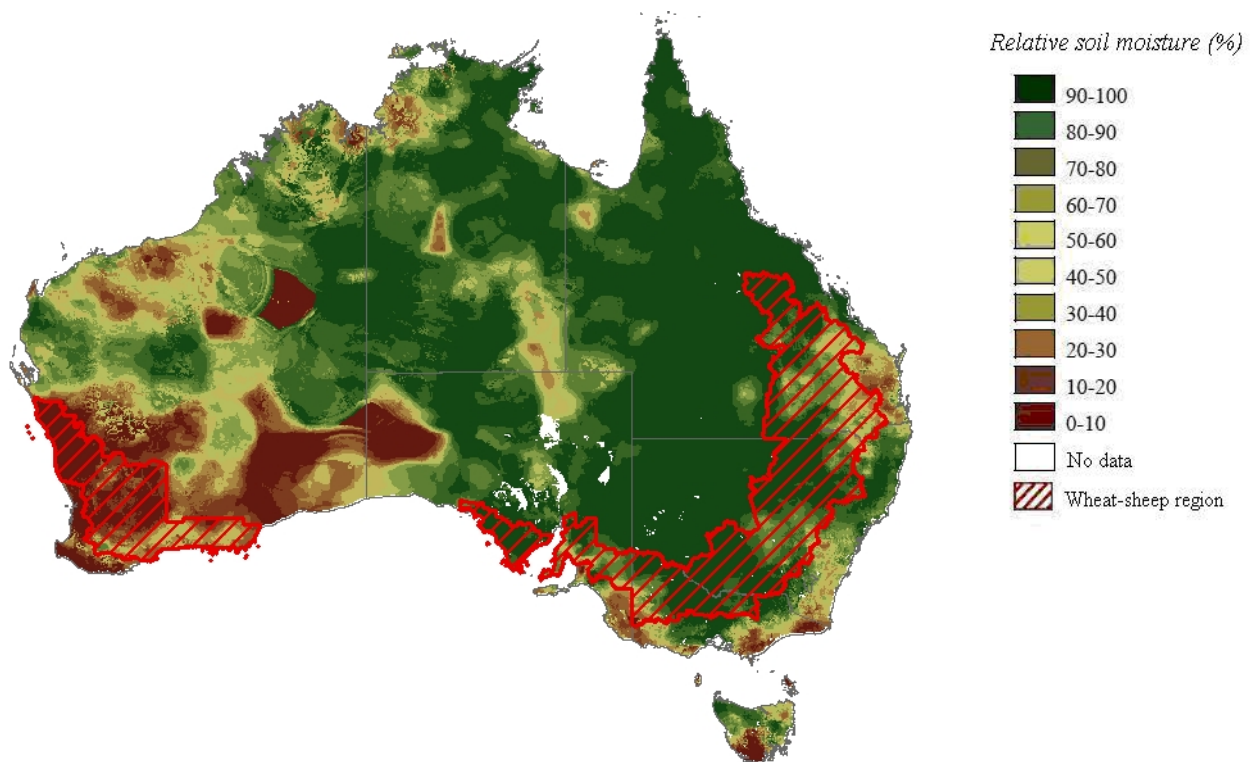
Spatial temperature analyses are based on historical monthly temperature data provided by the Bureau of Meteorology. These temperature anomaly maps show the departure of the maximum and the minimum temperature from the long-term average with respect to the reference period 1961 to 1990. For further [information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

1.3 Relative soil moisture

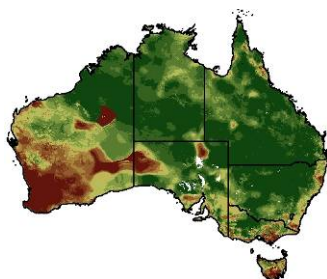
Upper layer soil moisture

Relative soil moisture in the upper layer of the soil profile was above average across most of Australia reflecting the generally wet conditions during November 2010. In south-west Western Australia, relative upper layer soil moisture remained below average. Deficiencies in relative soil moisture decreased across coastal New South Wales, Victoria and Tasmania, but increased in south-east Queensland and parts of north-western Australia.

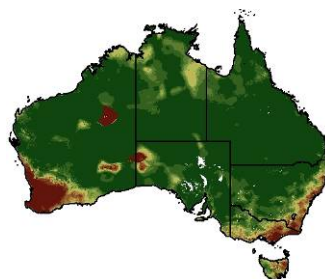
The bulk of plant roots occur in the top 0.3 metres of the soil profile and soil moisture in the upper layer of the soil profile (0.2 metres) is the most appropriate indication of the availability of water, particularly for germinating plants. In some areas, soil moisture deficiencies are partly attributable to the use of water by growing plants.



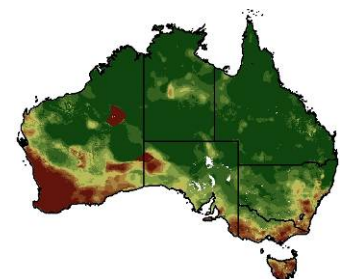
Upper layer soil moisture percentiles
(November 2010)



August 2010



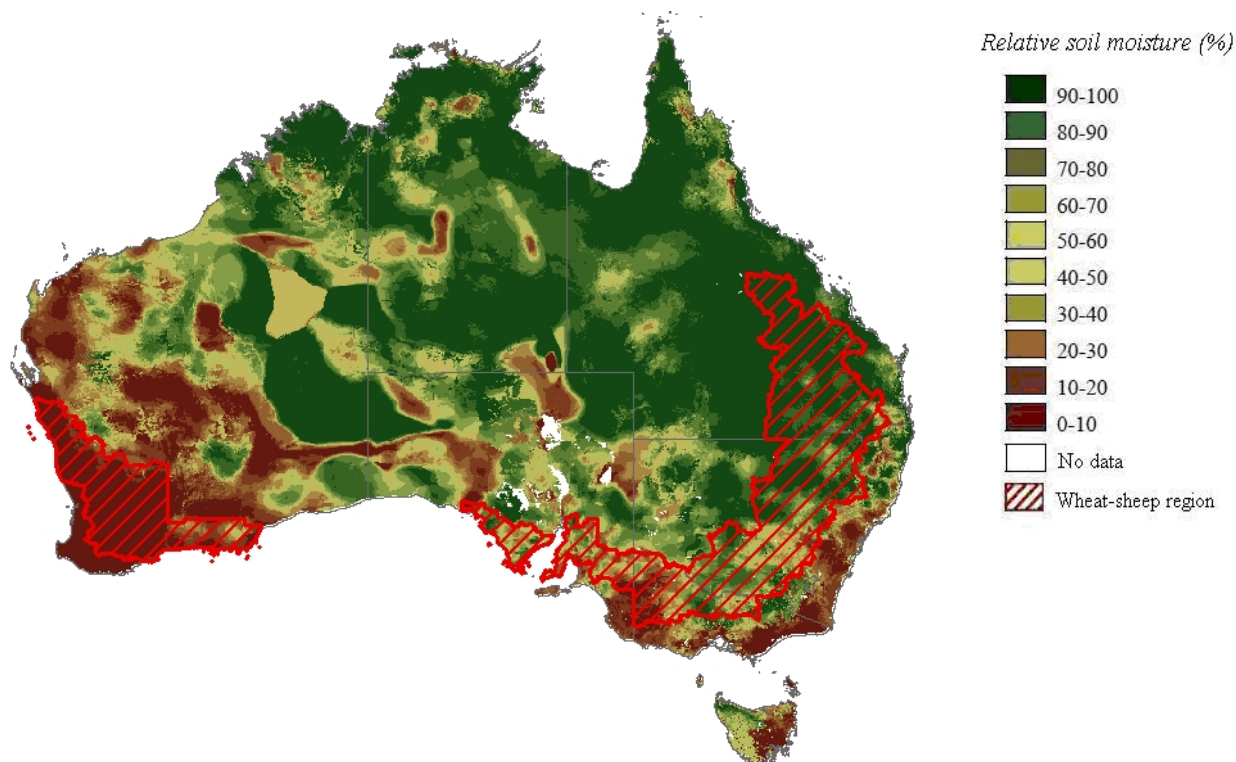
September 2010



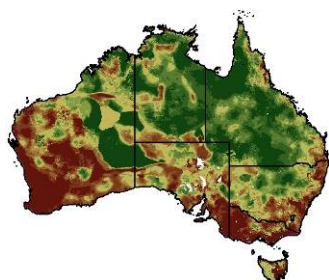
October 2010

Lower layer soil moisture

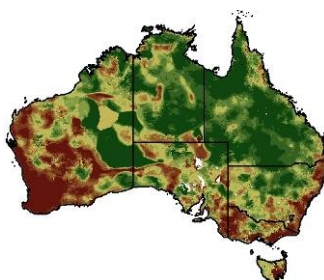
Relative soil moisture levels in the lower layer of the soil profile increased slightly during November 2010 over parts of eastern Australia but decreased in parts of western Australia. However, lower layer soil moisture levels remained below average in cropping areas of Western Australia and parts of western Victoria. Crops in these areas may be more reliant on in-season rainfall. Lower layer soil moisture is a larger, deeper store that is slower to respond to rainfall and tends to reflect accumulated events over seasonal and longer time scales.



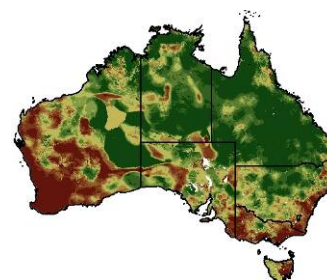
Lower layer soil moisture percentiles (November 2010)



August 2010



September 2010



October 2010

The above maps show the relative levels of modelled upper (0 to ~0.2 metres) soil moisture and lower (~0.2 to ~1.5 metres) soil moisture at the end of November 2010 and the three preceding months. This data comes from a collaborative project between the Bureau of Meteorology, CSIRO and the former 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, despite some recent weakening in conditions. The current strength of the event and the outlook from long-range models indicate that the event will 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).

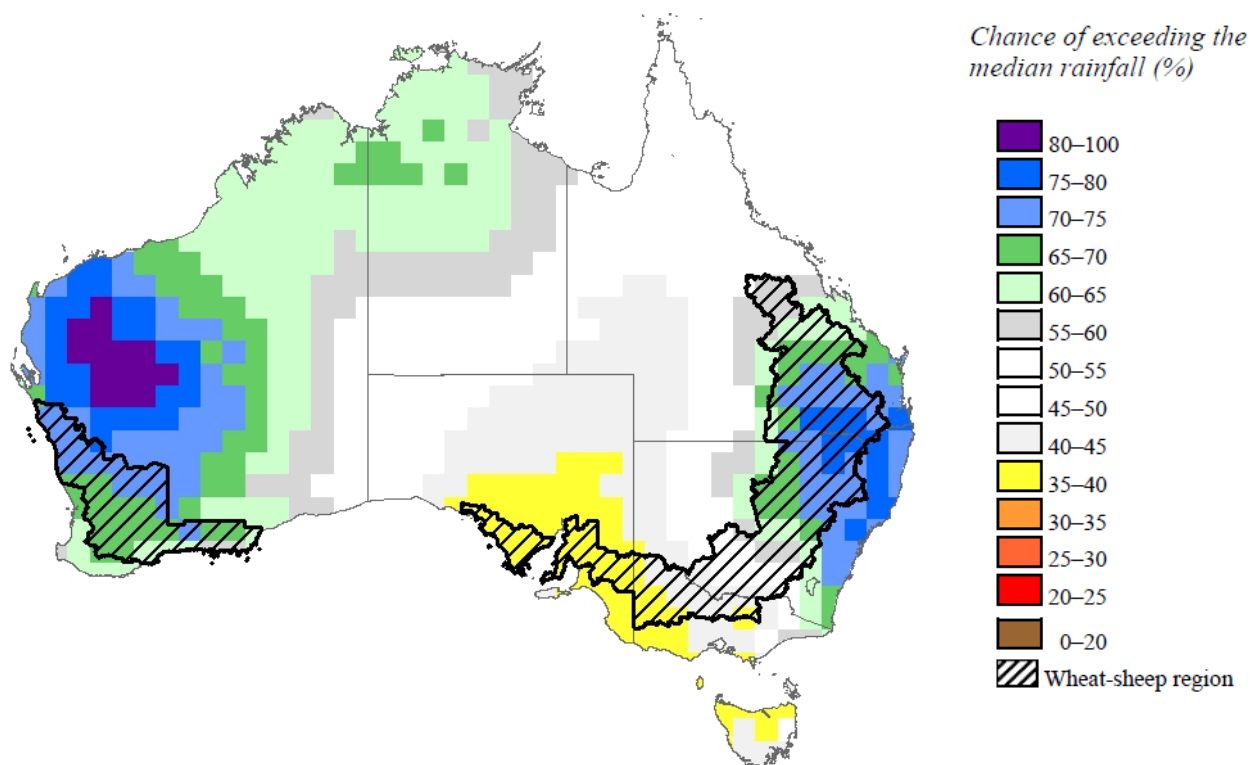
For further information on the [Bureau of Meteorology interpretation of the El Niño–Southern Oscillation](http://www.bom.gov.au/climate/enso/), go to <http://www.bom.gov.au/climate/enso/>.

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 December 2010 to February 2011 rainfall and temperature outlook.

Rainfall outlook

The seasonal outlook for December 2010 to February 2011 favours wetter conditions across most of the continent, particularly for areas of northern, eastern and western Australia. Drier conditions are favoured for parts of South Australia, Victoria and Tasmania.

The chance of exceeding median rainfall for December 2010 to February 2011 is over 60 per cent for most of south-eastern Queensland, eastern New South Wales, northern parts of the Northern Territory and most of Western Australia. Chances increase to over 80 per cent for parts of north-western Western Australia. Wetter conditions during this period would be favourable for pasture and summer crop production in these areas.

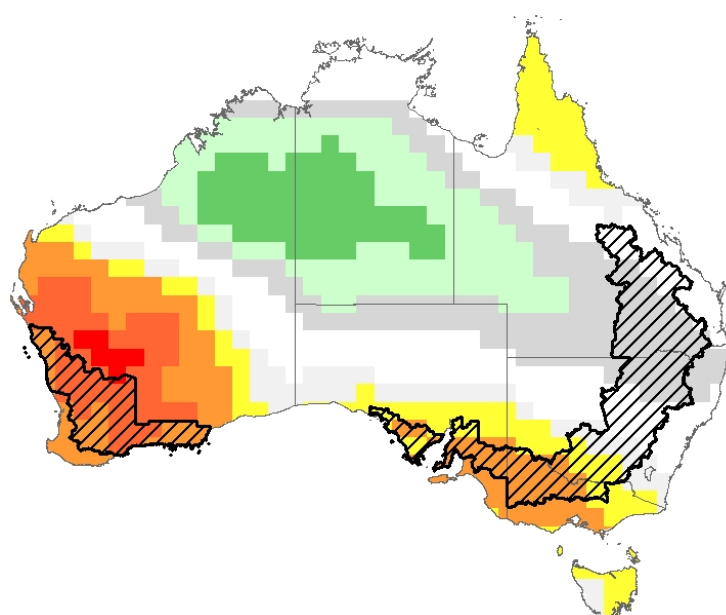
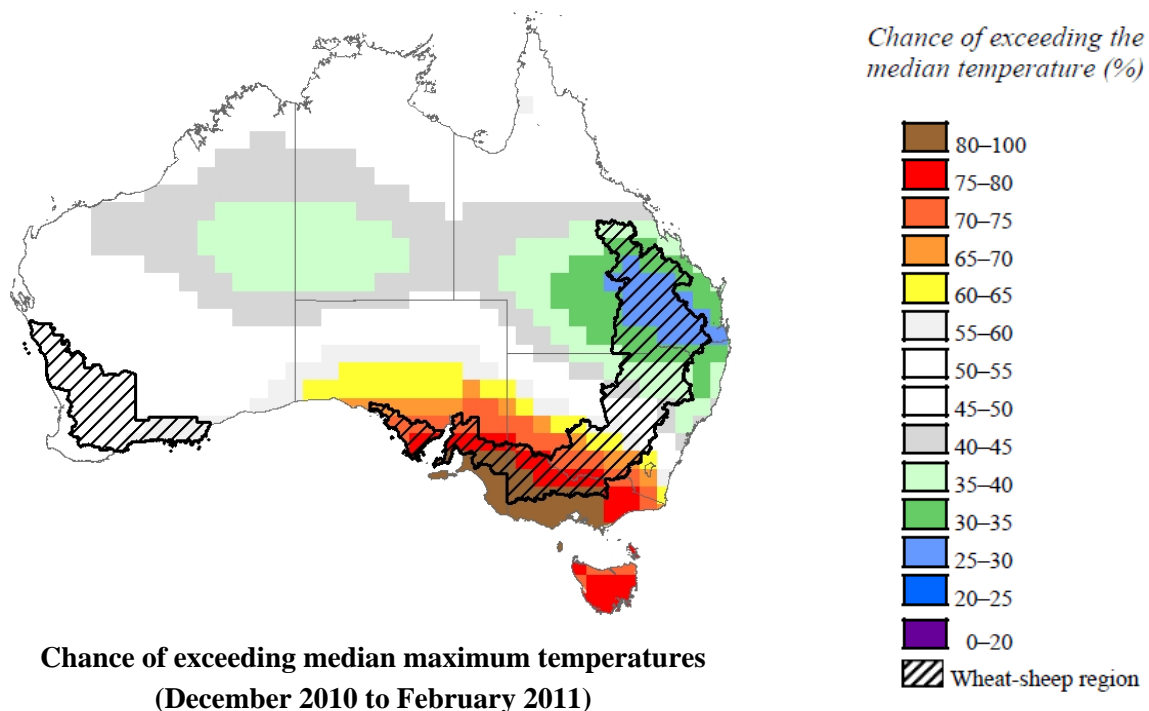


**Chance of exceeding median rainfall
(December 2010 to February 2011)**

Temperature outlook

The temperature outlook for December 2010 to February 2011 favours warmer than average daytime and night time temperatures over parts of southern and south-east Australia. Warmer night time temperatures are favoured over south-western Western Australia, while cooler than normal daytime and night time temperatures are favoured over parts of Queensland and central Australia.

Cooler daytime temperatures and increased rainfall may assist to maintain high soil moisture levels and benefit pasture and crop growth.



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/>.

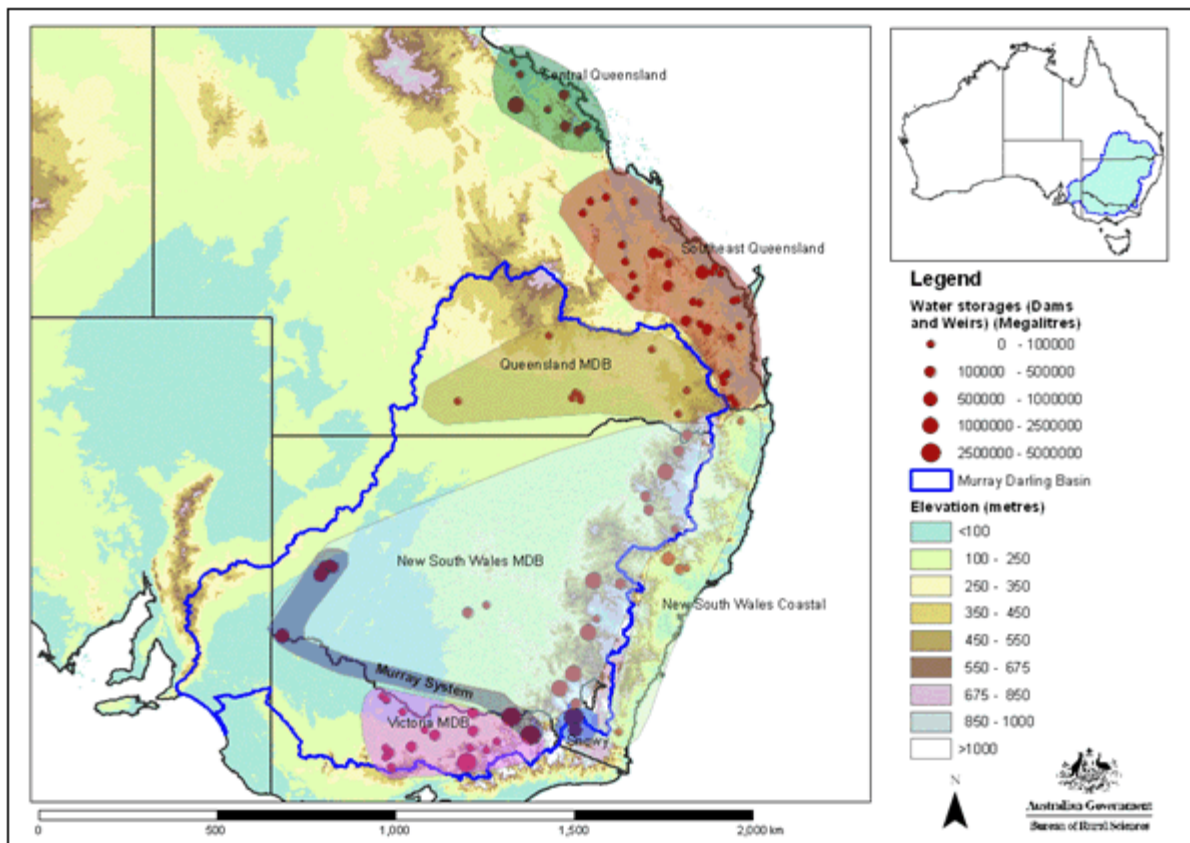
2. Water

2.1 Water storages

Changes in regional water storage for November 2010 and the previous 12 months are summarised in the table and graphs below (current at 2 December 2010).

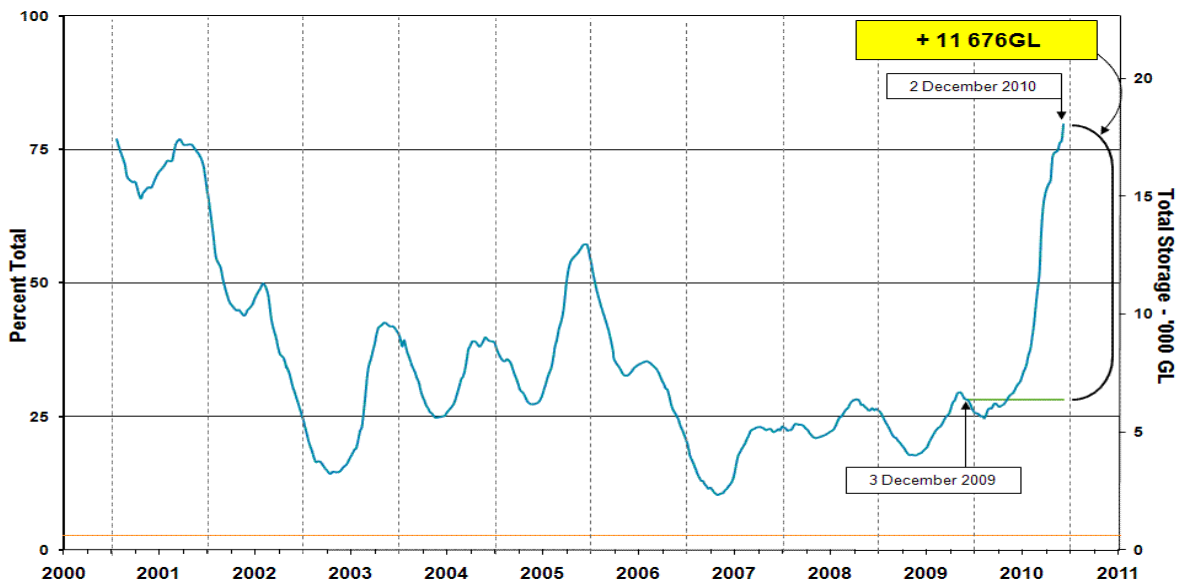
Region	Total capacity (GL)	Current volume (GL)	Current volume (%)	Monthly change (GL)	Monthly change (%)	Annual change (GL)
Murray–Darling Basin (MDB)	22560	18002	80	+1168	+5	+11676
Snowy Scheme*	5744	1983	35	-1	0	-105
Murray–Darling Basin Authority (MDBA)	9352	7217	75	+126	+1	+4821
Queensland MDB	185	184	99	-1	-0	+134
Central Queensland	3154	3030	96	48	+2	+585
South-east Queensland	3517	2998	85	+23	+1	+1432
New South Wales MDB	13918	12187	88	+795	+6	+8735
Coastal New South Wales	1074	869	81	+21	+2	+77
Victoria MDB	8488	5627	66	+370	+4	+2802

*Snowy Scheme current at 25 November 2010

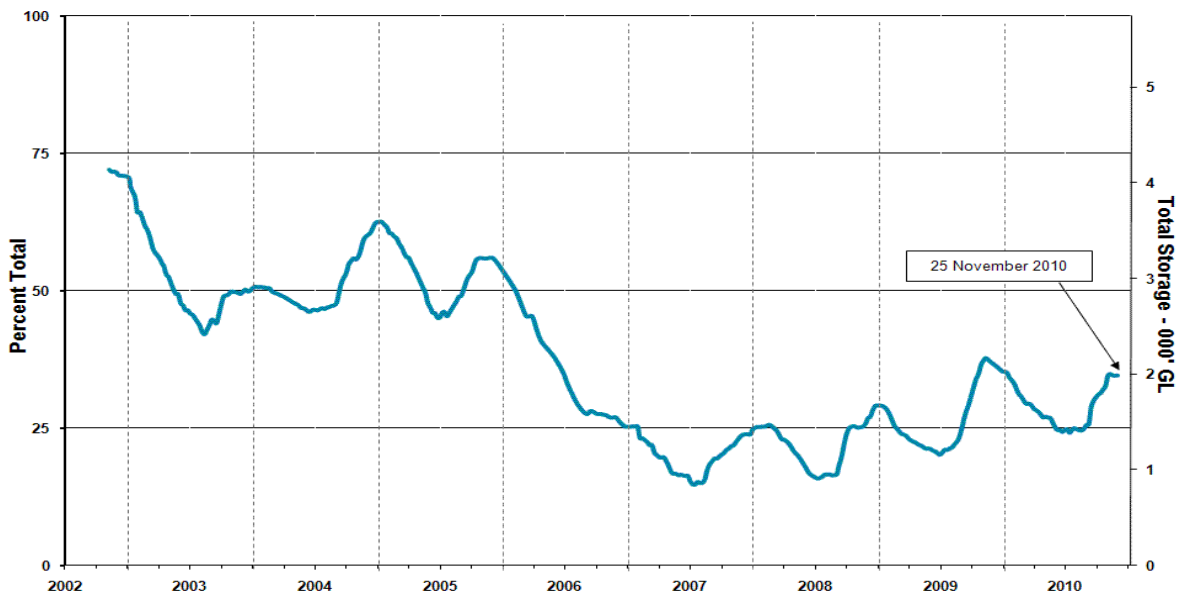


Water storages in Queensland, New South Wales and Victoria: The blue line indicates the extent of the Murray–Darling Basin and the shaded areas denote the coverage of the individual reporting regions.

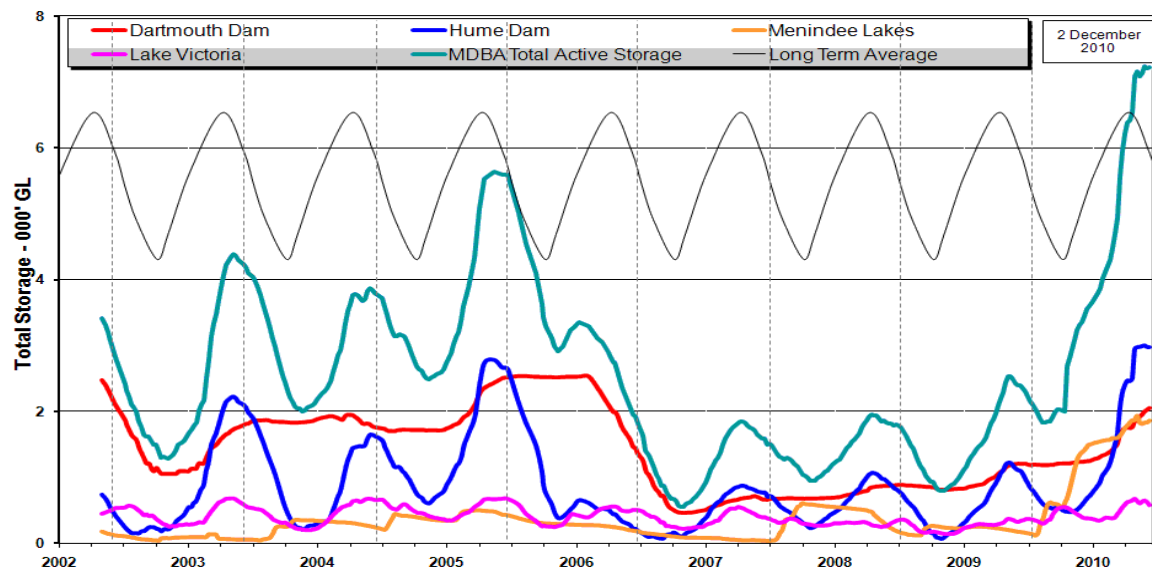
MDB (New South Wales, Victoria and Queensland)



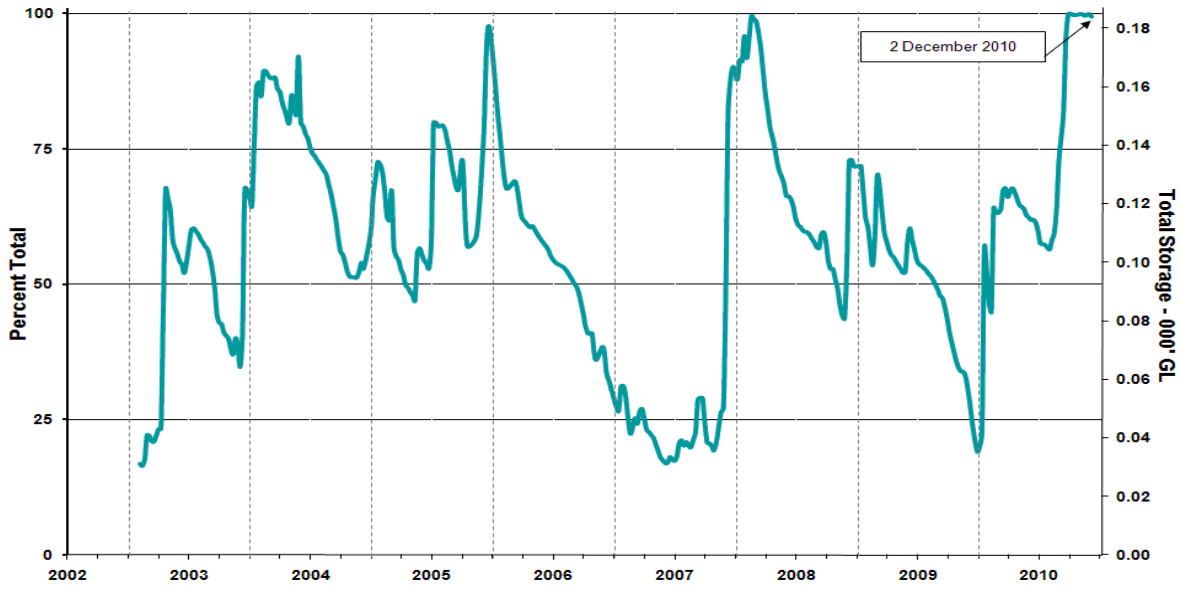
Snowy Scheme



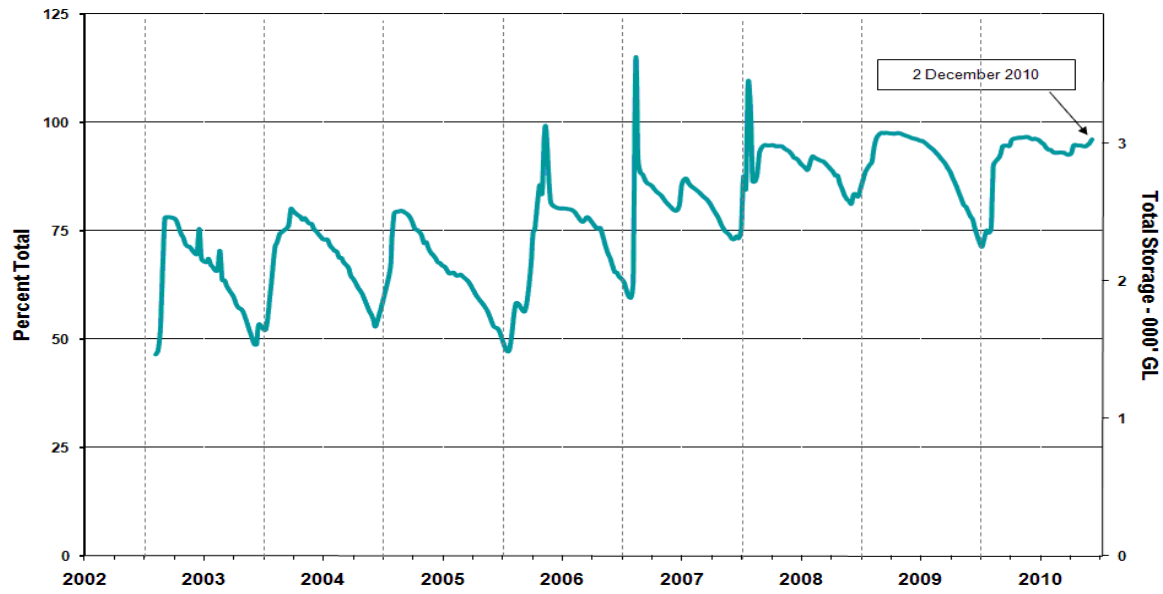
MDBA – Active storage under the control of the Murray-Darling Basin Authority



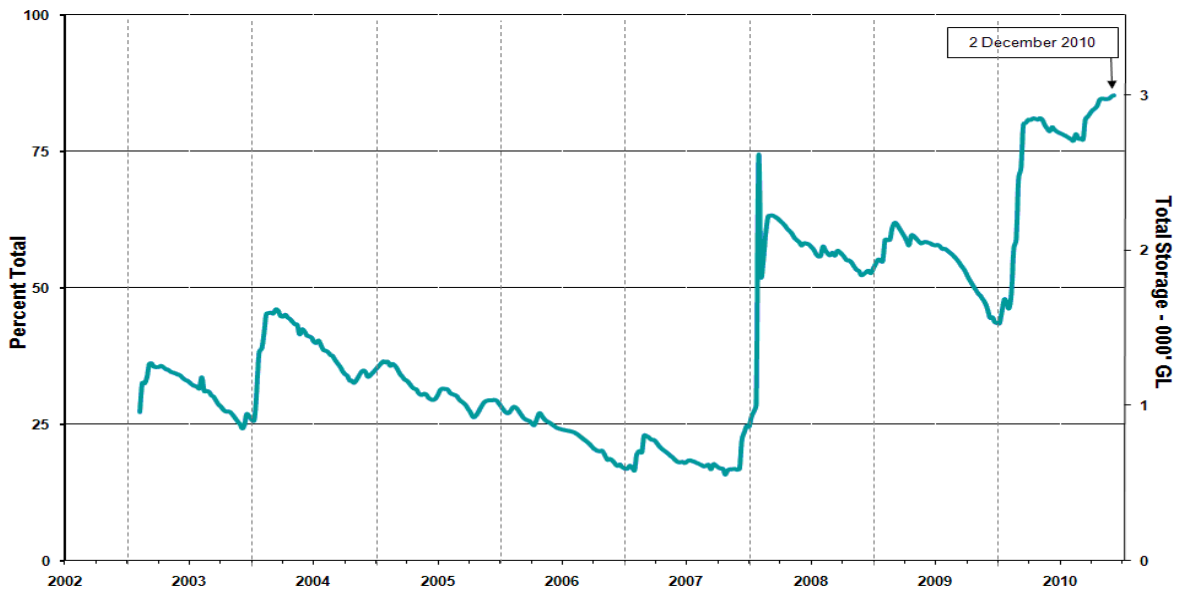
Queensland MDB



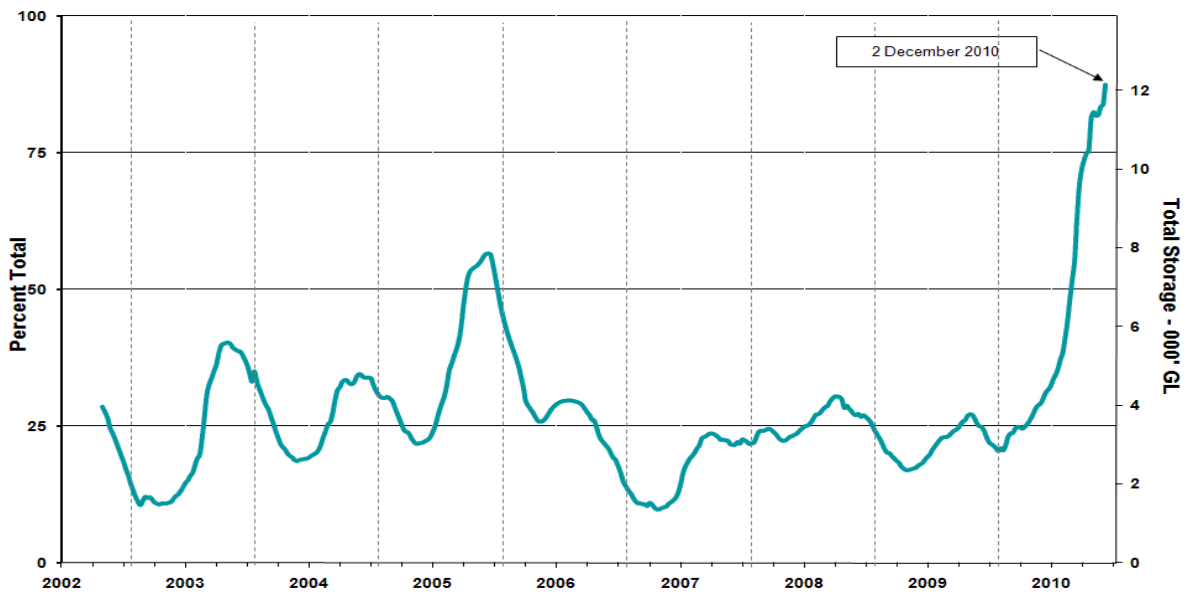
Central Queensland



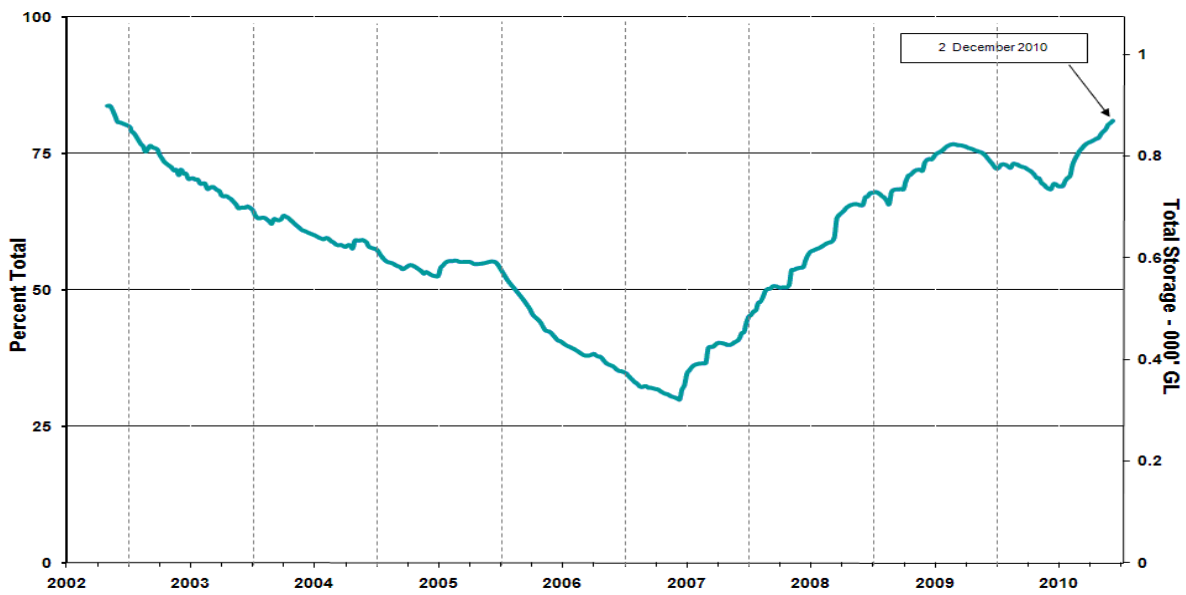
South-east Queensland



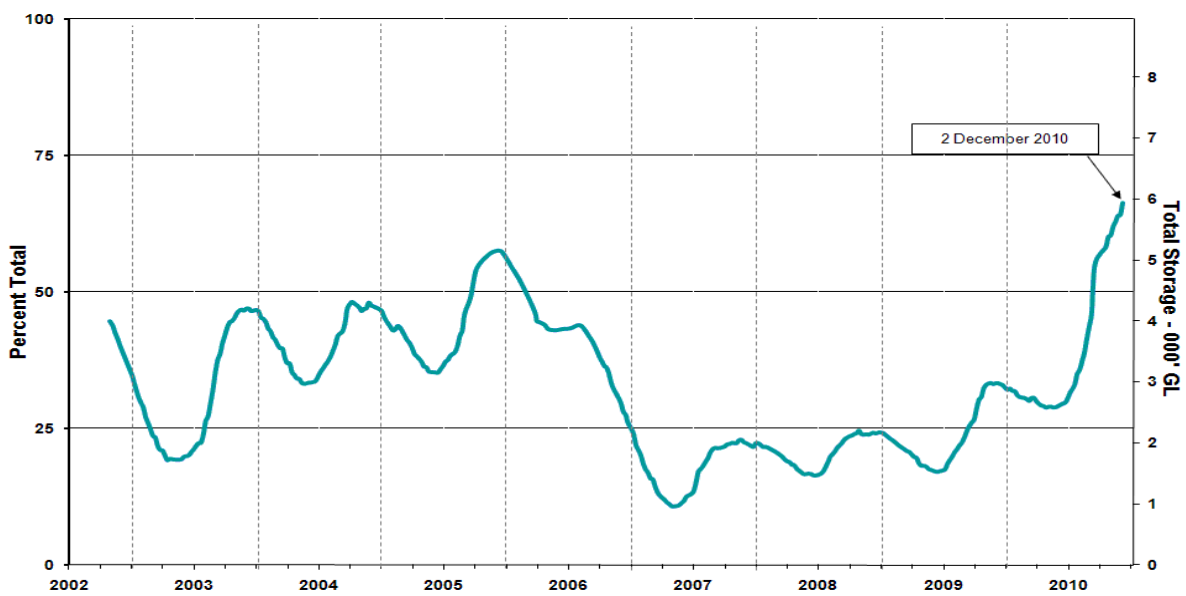
New South Wales MDB



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 October 2010 (%)	Allocations at 1 November 2010 (%)
NSW Murray Valley			
High security	97	-	97
General security	27	4	64
NSW Murrumbidgee Valley			
High security	95	-	95
General security	27	3	59
NSW Lower Darling			
High security	100	-	100
General security	100	-	100
NSW Macquarie Valley			
High security	100	-	100
General security	0		100
NSW Hunter Valley			
High security	100	-	100
General security	100	-	100
NSW Lachlan Valley			
High security	10	-	100
General security	0	10	20
NSW Border Rivers			
High security	100		100
General security	4.4	56	100
NSW Peel Valley			
High security	100	-	100
General security	100	-	82
Victoria Murray Valley			
High reliability	100	-	100
Victoria Goulburn			
High reliability	71	15	100
Victoria Campaspe			
High reliability	0	-	100
Victoria Loddon			
High reliability	3	15	100
Victoria Bullarook			
High reliability	19	-	100
Victoria Broken			
High reliability	17	-	100
South Australia Murray Valley			
High security	62	-	67

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/Available-water-determinations/default.aspx> and <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

3.1 Winter crops

Australia

Winter crop production in the eastern states is expected to achieve record yields due to generally favourable seasonal conditions. However, wet conditions during November 2010 and heavy rainfall in early December 2010 in eastern states has delayed the harvest of winter crops and reduced the quality of grain crops that are yet to be harvested in many areas.

In Western Australia, winter crop production is expected to be below average as a result of continued dry conditions and yield estimates have been revised down for many shires from those reported in the previous month.

Although winter crop production in Western Australia is forecast to be well down on last season and the quality of the crop in the eastern states has been adversely affected by late rainfall, overall Australian winter crop production is forecast to rise by 22 per cent compared with last season to 43.2 million tonnes. This forecast is based on the assumption that the weather conditions will allow crops to be harvested.

Recent rainfall has caused a significant problem for pulse crops (such as chick peas) in the eastern states throughout the 2010–11 season. The recent rainfall has meant that large areas of pulse crops in Queensland and northern New South Wales will not be harvested as the wet conditions have caused fungal diseases. Pulse crops account for approximately 4 per cent of the national winter crop production.

Queensland

Wet conditions during November 2010 and heavy rainfall in early December 2010 has caused a delay to harvesting operations, and reduced the quality of grain crops yet to be harvested. In central Queensland the majority of crops have been harvested, while harvesting in southern Queensland has been delayed considerably with approximately 50 per cent of the area yet to be harvested.

Queensland winter crop production is estimated to be 1.7 million tonnes in 2010–11, which is a 7 per cent increase on last year's crop. Wheat production is forecast to be around 1.4 million tonnes in 2010–11, which is an increase of 5 per cent from 2009–10.

New South Wales

Wet conditions during November 2010 and early December 2010 has caused flooding in central and southern parts of the state. This rainfall has delayed the harvest of winter crops, increased the incidence of fungal diseases, and reduced the quality of grain crops yet to be harvested in many areas.

Total winter crop production in New South Wales in 2010–11 is estimated at a record 17.1 million tonnes. The area planted to wheat in New South Wales in 2010–11 is estimated to have decreased compared to the previous year to 3.9 million hectares. Total wheat production is estimated at a record 11.9 million tonnes, reflecting the generally favourable seasonal conditions. The yield estimate for New South Wales wheat is a record 3 tonnes per hectare, compared with the 10-year average of 1.55 tonnes per hectare.

Victoria

Wet conditions during November 2010 and heavy rainfall in early December 2010 has delayed harvesting operations, and may reduce the quality of grain crops yet to be harvested. Winter crop production in Victoria is estimated to have increased by 46 per cent from last season to 8.6 million tonnes. Wheat production in 2010–11 is estimated to be 44 per cent higher at 4.4 million tonnes. An estimated 18 per cent decline in area planted is expected to be more than offset by a record yield of 3 tonnes per hectare.

South Australia

Rainfall received during November 2010 will have benefited later sown winter crops. Total winter crop production for the state is estimated to be 9.7 million tonnes, which is almost double the five-year average. Total area planted to winter crops in South Australia is estimated to have decreased slightly on last year, to around 4 million hectares in 2010–11. Due to cool damp conditions and spraying activities during the season, there have been few reports of locust damage.

Western Australia

Dry conditions have continued during November 2010. Yield predictions have further declined across many shires since the Western Australian Department of Agriculture's November Seasonal Update for October 2010, with yield expectations ranging from below average to average. The highest yield potentials are in some of the coastal shires.

www.agric.wa.gov.au

Compared to last season, winter crop production is estimated to fall by 54 per cent to 6 million tonnes in 2010–11, as a result of both a lower area planted to crops and poor seasonal conditions. Wheat production is estimated to be around 3.6 million tonnes in 2010–11, with a statewide average yield (planted area basis) of 0.74 tonnes per hectare. This would be the lowest yield since 1969–70.

3.2 Summer crops

Recent rainfall has provided a strong outlook for the 2010–11 summer crop. The total area planted to summer crops in 2010–11 is forecast to rise by 67 per cent from last season to 1.5 million hectares.

Grain sorghum plantings are forecast to rise by 35 per cent to 697 000 hectares in 2010–11. The area of grain sorghum plantings has been tempered by the area planted to this season's winter crop and the significant increase in cotton plantings.

Current soil moisture availability and rainfall outlook indicate a high chance of above median sorghum yields for the majority of summer cropping shires in the 2010–11 season, according to the Queensland Department of Employment, Economic Development and Innovation's December report.

ABARES Australian Crop Report 7 December 2010 No. 156. www.abares.gov.au

Seasonal Crop Outlook sorghum – December 2010. Queensland Department of Employment, Economic Development and Innovation. Document not yet published on website.

3.3 Livestock

Continuing dry conditions in areas of Western Australia have forced producers to sell stock. Large numbers of Western Australian stock continue to be transported east from Western Australia, reflecting the poor seasonal conditions in the west.

In contrast, most of the eastern states have experienced above average rainfall in 2010. Livestock prices have increased throughout 2010 due to an increase in restocker activity at markets, and wet weather disruptions to supply, particularly in Queensland. The currently favourable soil moisture levels and forecast rain throughout summer 2010–11 are likely to maintain pasture quality in grazing regions of the eastern states, maintaining strong restocker demand in this region.

Beef cattle

Favourable seasonal conditions in the eastern states in 2010 continue to drive strong restocker demand and higher prices for young cattle, while recent wet conditions have restricted cattle numbers at some saleyards. In contrast, the continuing dry conditions in Western Australia are resulting in higher turn-off rates.

Due to strong demand from graziers, feedlotter and processors, the Eastern Young Cattle Indicator reached a new high for the year at 376.25 cents per kilogram carcass weight (¢/kg cwt) at the end of November 2010. This is counter to the expected seasonal trend of falling prices at this time of year. Restocker demand continues to drive prices, with yearling steers going back to the paddock averaging three cents higher, at 220 cents per kilogram live weight (¢/kg lwt) at the end of November 2010.

Very good pasture conditions in the eastern states have boosted the weight and condition of cattle offered for sale. This has resulted in a larger proportion of grown steers entering the markets as heavy weights (500-600 kg) or bullocks (600-750 kg). Throughout November 2010, 42 per cent of grown steers yarded have been heavy weights and 34 per cent have been bullocks. This compares to the same period a year earlier, where 39 per cent of grown steers were heavy weights and 26 per cent were bullocks. Grown steer prices remained firm throughout November, with heavy weights and bullocks averaging 177 cents and 178 ¢/kg lwt, respectively.

Australian beef exports for November 2010 were up by 26 per cent, year-on-year, with increased volumes to Japan, Korea, Indonesia and Russia on the back of higher export returns in those markets. Exports to the United States were down 29 per cent year-on-year, largely as a result of a low US dollar against the Australian dollar driving reduced export returns.

Sheep and lambs

As a result of the favourable production conditions experienced throughout the eastern states, sheep markets continued to resist the traditional late spring price declines, with restocker demand particularly remaining firm. The national sheep and lamb indicators both reached record highs in 2010, with mutton reaching 427 ¢/kg in July and the Eastern States Trade Lamb Indicator (ESTLI) reaching 560 ¢/kg in August 2010.

As a result of the mild temperatures and ample pasture bulk, lamb quality in the eastern states has remained consistently good. Prime lambs are in good condition, with most lambs being either heavy or trade weights. Prices across the light lamb market have been firm, while prime lambs were generally more expensive later in the month. Limited lamb numbers due to the favourable production conditions in the eastern states and wet weather limiting transportation opportunities has increased processor competition, resulting in the maintenance of historically high spring prices. The ESTLI remained firm through November 2010, at 496 ¢/kg cwt, or around 35 per cent higher year-on-year. Heavy weight lamb prices increased to 476 ¢/kg later in November, and are 30 per cent above the same week last year. Due to producers being able to finish lambs to a higher weight, a premium has opened up between trade and heavy weight lambs in cents per kilogram terms, with a difference of 12 ¢/kg cwt later in the month. This price difference has delivered a greater proportion of light weight trade lambs onto the market.

The combination of favourable production conditions, a firm lamb price outlook and limited numbers of sheep on the market across the eastern states (year-to-date sheep numbers are 30 per cent below last year), has caused the national mutton indicator to rise to 412 cents in late November 2010. This price for mutton is unprecedented for late November and is 124 cents above the same period last year. Restockers in the eastern states continue to underpin the market, particularly for breeding ewes, following further rain and increased opportunities for crop and stubble grazing. As such, ewe prices have moved from 316 cents to 380 cents in the space of a month, while wether prices have gone from 348 to 372 ¢/kg cwt.

The warm, wet conditions predicted for areas in south-eastern Australia during summer 2010-11 are expected to increase the incidence of both breech strike and body strike in sheep. Control of flystrike is currently underway in areas of western New South Wales and parts of South Australia.

Meat & Livestock Australia – Market News

www.mla.com.au/Prices-and-markets/Market-news/November-beef-exports-up-26-percent

www.mla.com.au/Prices-and-markets/Market-news/Cattle-market-alert011210

www.mla.com.au/Prices-and-markets/Market-news/Sheep-market-alert011210

www.mla.com.au/Prices-and-markets/Market-news/Three-month-outlook-for-more-rain

www.mla.com.au/Prices-and-markets/Market-news/Korea-increases-demand-for-Australian-beef

www.mla.com.au/Prices-and-markets/Market-news/Trade-lambs-strong

www.mla.com.au/Prices-and-markets/Market-news/Mutton-price-spike

www.mla.com.au/Prices-and-markets/Market-news/Season-helps-weight-and-condition

www.mla.com.au/Prices-and-markets/Market-news/Solid-demand-for-yearlings

www.mla.com.au/Prices-and-markets/Market-news/Sheep-prices-soar-as-EYCI-reaches-2010-high

Bureau of Meteorology, December 2010 to February 2011 Seasonal Rainfall Outlook

www.bom.gov.au/climate/ahead/rain_ahead.shtml

Bureau of Meteorology, December 2010 to February 2011 Seasonal Temperature Outlook

www.bom.gov.au/climate/ahead/temps_ahead.shtml

ABC Rural

www.abc.net.au/rural/news/content/201011/s3060256.htm