Australian Government
Bureau of Rural Sciences

Monthly Australian Climate and Agricultural Update

January 2010

SCIENCE *for* DECISION MAKERS

DEPARTMENT OF AGRICULTURE, FISHERIES AND FORESTRY

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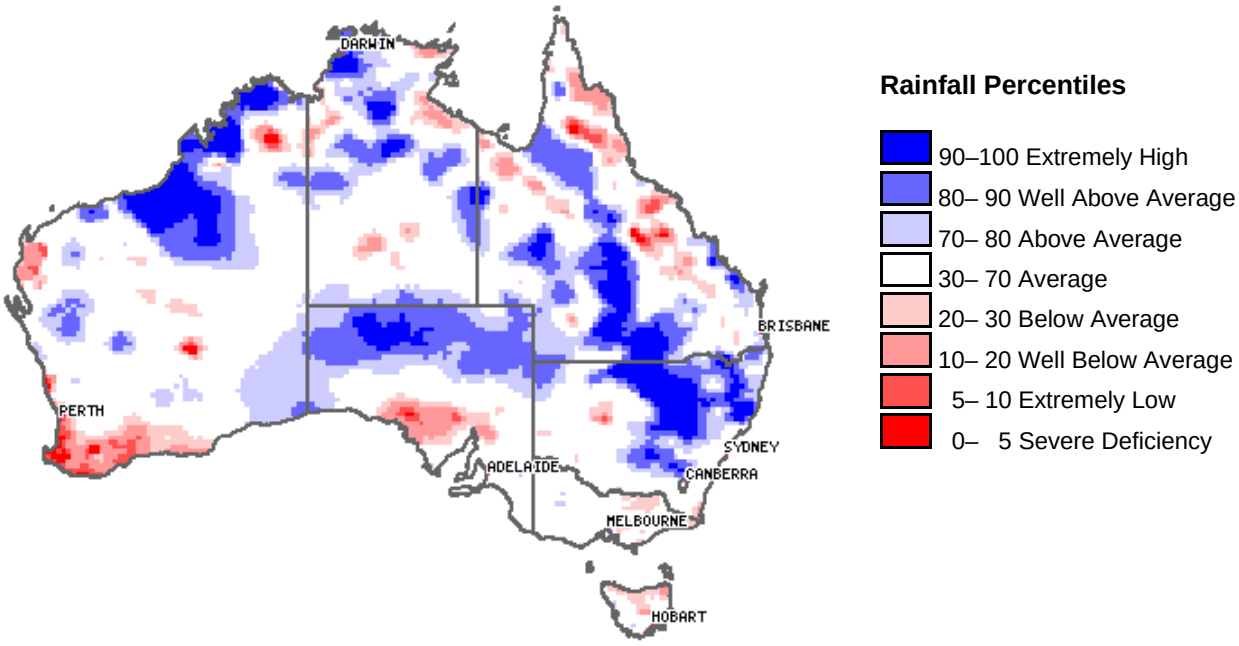
1.0 Climate

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 (December 2009)

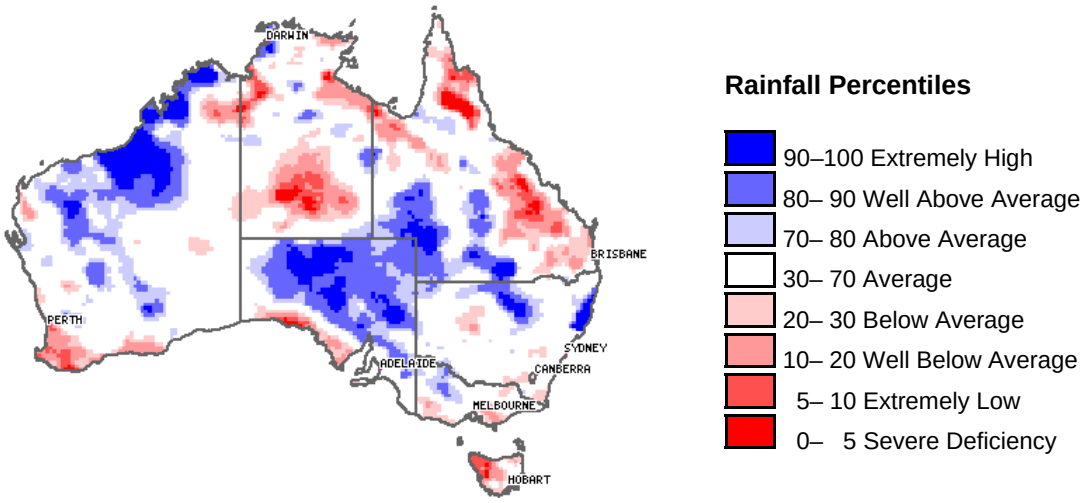


Rainfall percentiles for December 2009

Rainfall for Australia during December 2009 was 22 per cent above the long-term average (thirty-fifth highest of 110 years). Much of this rainfall was received late in December due to Tropical Cyclone *Laurence* as it crossed northern Western Australia with the remnant system moving across South Australia before converging with a trough, causing widespread rain over inland New South Wales and Queensland. Above average to extremely high rainfall was recorded across north-west Western Australia, the north of the Northern Territory, northern South Australia and an inland belt extending from north-eastern and central New South Wales to the Queensland Gulf. This extremely high rainfall resulted in widespread flooding in inland New South Wales, but is expected to boost summer crop yields in the north of the state and in southern Queensland and could benefit graziers across eastern and northern Australia.

Below average rainfall was received in areas of Victoria and Tasmania (34 per cent and 27 per cent below average, respectively), central southern South Australia, south-west Western Australia and north-east Queensland.

Ongoing or emerging rainfall situations

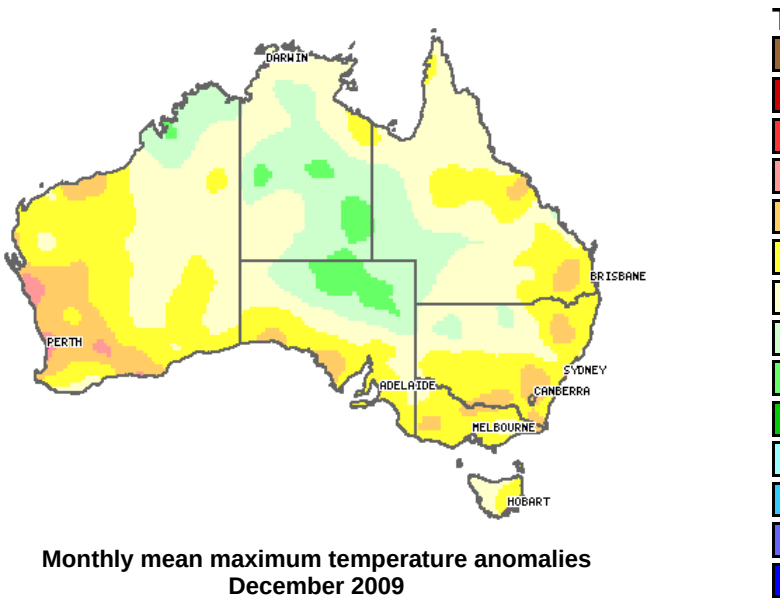


Rainfall percentiles for the last three months
October 2009—December 2009

During the past three months, large areas of northern and eastern Australia have experienced below average rainfall, in particular eastern Queensland and inland Northern Territory. Rainfall deficiencies increased in south-western areas of Western Australia, the Eyre Peninsula in South Australia, southern and eastern Victoria and Tasmania. However, due to intense rainfall in late December, rainfall deficiencies have eased across the north of Western Australia, the west of the Northern Territory, south-western Queensland, northern New South Wales and much of South Australia.

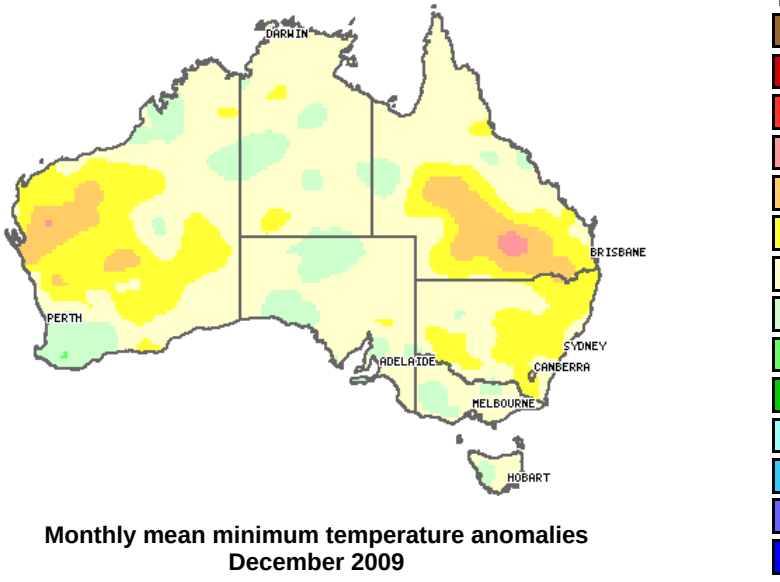
1.2 Temperature

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 to 1990. For further information on temperature anomalies go to: http://www.bom.gov.au/climate/austmaps/.



Monthly mean maximum temperature anomalies December 2009

Mean maximum temperature averaged over Australia in December 2009 was 0.77°C above average (tenth highest December maximum on record). Maxima were above average over most of the country, especially across eastern, southern and western Australia. The mean maximum temperature anomaly of +1.14°C for Western Australia was the third highest on record with some areas recording mean maximum temperatures 3 to 4°C above average. The exception was a large part of central Australia with areas in the Northern Territory, northern South Australia and the north-west of Western Australia recording mean maximum temperatures 1 to 2°C below average.



Monthly mean minimum temperature anomalies December 2009

Mean minimum temperature during December 2009 averaged over Australia was 0.67°C above average (eighth warmest December minimum on record). Western and central parts of Western Australia and southern and central Queensland recorded mean minimum temperatures 1 to 4°C above average. Minimum temperatures were up to 1°C below average in a few areas of Western Australia, the Northern Territory, South Australia, Victoria and Tasmania.

1.3 Climate Outlook

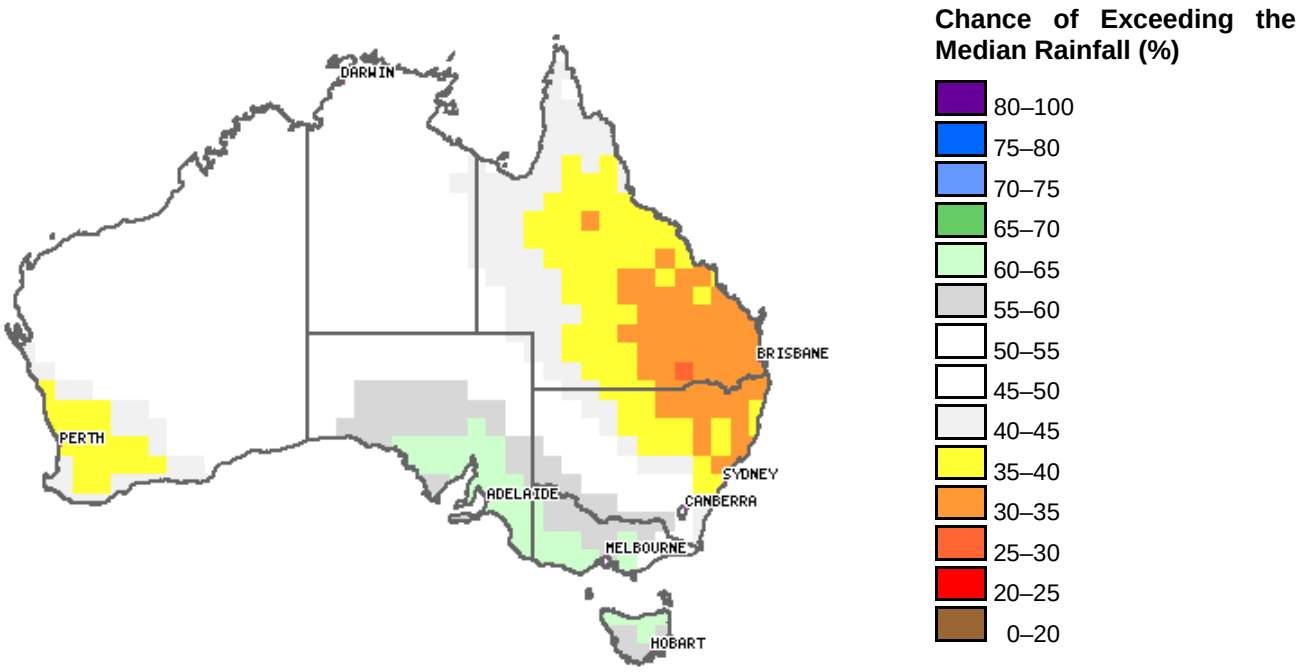
El Niño Southern Oscillation (ENSO)

On 6 January 2010, the Bureau of Meteorology announced that central Pacific Ocean temperatures had remained well above El Niño thresholds over the previous fortnight. Over the same period, the Southern Oscillation Index remained steady at levels typical of an El Niño event, currently - 5.

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

Rainfall outlook

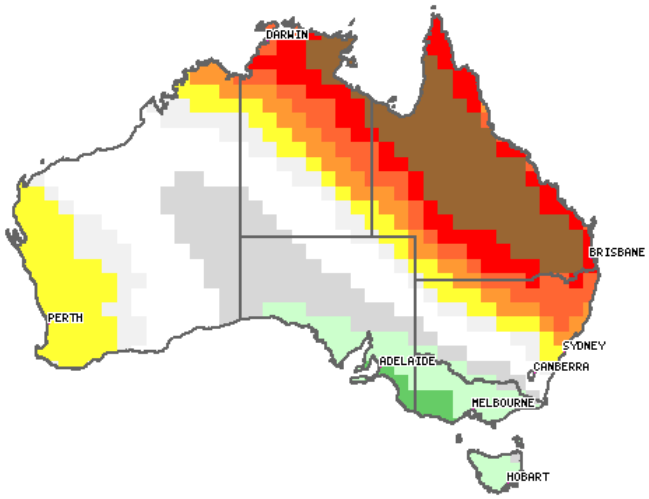
The Bureau of Meteorology provides seasonal outlooks that are statements about the probability of wetter or drier than average weather over a three month period. The outlooks are based on the statistics of chance (the odds) taken from Australian rainfall, temperature and sea surface temperature records 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 chance of exceeding median rainfall
January to March 2010

There is a 60 to 70 per cent chance of drier than average rainfall conditions over the March quarter (January to March 2010) across south-eastern Queensland, north-eastern New South Wales and the south-west of Western Australia. These conditions could adversely affect yield expectations for summer crops in these agricultural areas. There is a 60 to 65 per cent chance of above average rainfall across south-eastern Australia from the Eyre Peninsula in South Australia to central Victoria and northern Tasmania. Increased rainfall would ease short-term rainfall deficiencies across these regions and provide more favourable conditions for agriculture.

Temperature Outlook

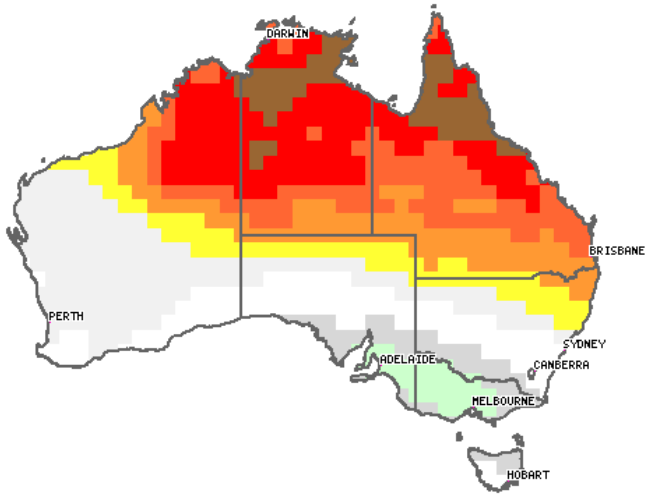


The chance of exceeding median maximum temperatures January to March 2010

Chance of Exceeding the Median Temperature (%)

- 80–100
- 75–80
- 70–75
- 65–70
- 60–65
- 55–60
- 50–55
- 45–50
- 40–45
- 35–40
- 30–35
- 25–30
- 20–25
- 0–20

There is a high chance (60 to 90 per cent) of exceeding the median maximum temperature between January and March 2010 for the northern and north-eastern Australia, while cooler than average days are likely in the south-east of the country. This temperature outlook pattern across the continent is broadly consistent with the rainfall outlook pattern for this period, indicating the likely positive effect on agriculture in the south-east and less favourable conditions for agriculture in the north-east.



The chance of exceeding median minimum temperatures January to March 2010

Chance of Exceeding the Median Temperature (%)

- 80–100
- 75–80
- 70–75
- 65–70
- 60–65
- 55–60
- 50–55
- 45–50
- 40–45
- 35–40
- 30–35
- 25–30
- 20–25
- 0–20

The average minimum temperatures during January to March 2010 are likely to be above average (60 to 90 per cent chance) across northern Australia. The likelihood of increased overnight warmth is lower in the south-east of the continent.

For further information on Bureau of Meteorology seasonal outlooks, go to:

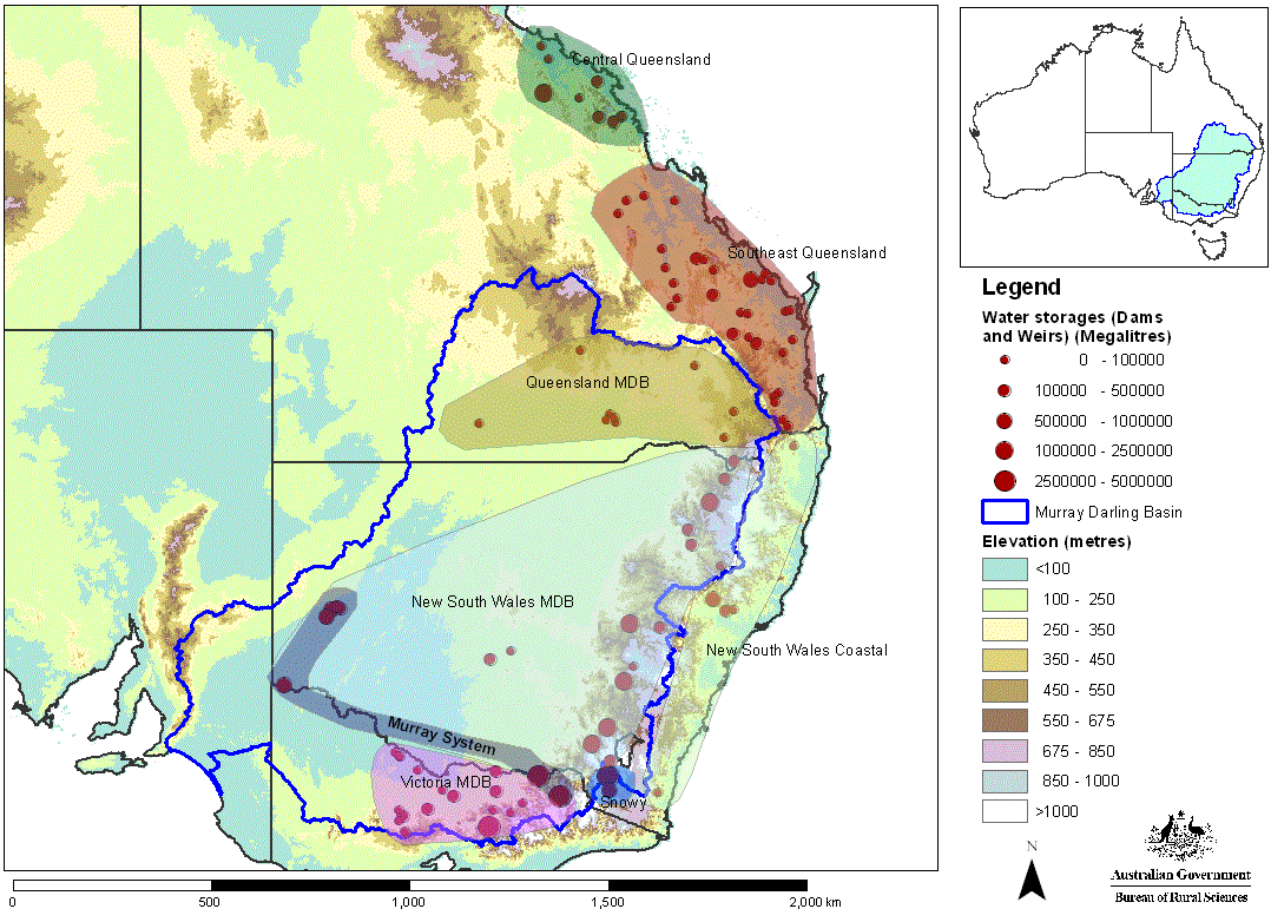
http://www.bom.gov.au/climate/ahead/.

2.0 Water

2.1 Water storages

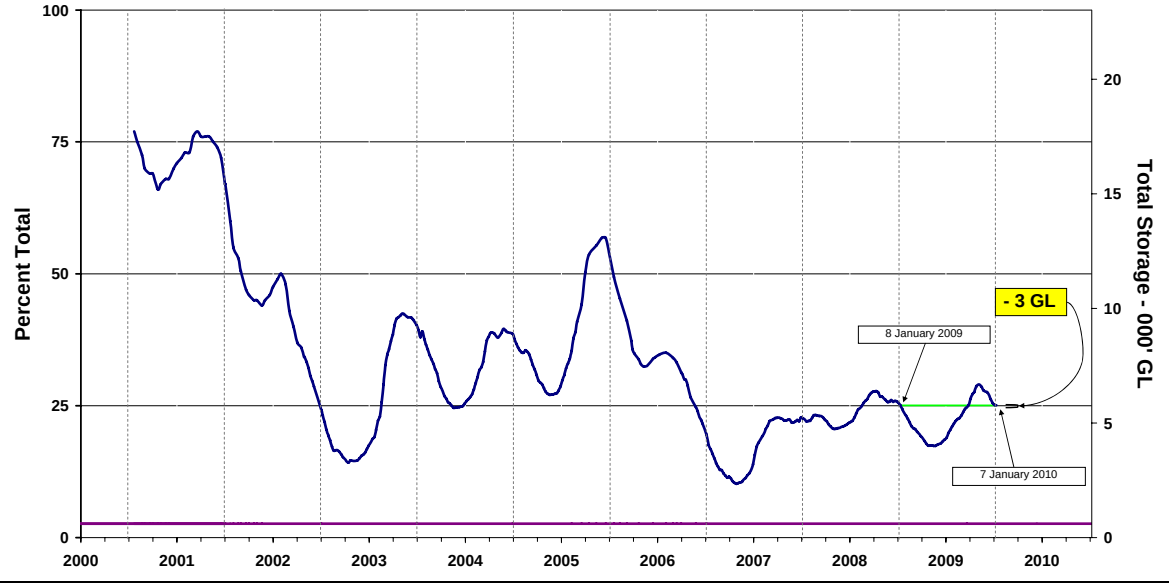
Water storage changes for December 2009 and the previous 12 months are summarised in the table and graphs below (current at 7 January 2010).

Region	Total Capacity (GL)	Current Volume (GL)	Current Volume (%)	Monthly Change (GL)	Monthly Change (%)	Annual Change (GL)
Murray Darling Basin (MDB)	23 020	5 773	25	-452	-2	-3
Snowy Scheme	5 744	2 007	35	-61	-1	+342
Murray Darling Basin Authority (MDBA)	7 621	2 137	25	-254	-3	+401
Queensland MDB	185	42	23	-2	-1	-91
Central Queensland	3 155	2 309	73	-68	-2	-476
South-east Queensland	3 517	1 610	46	+40	+1	-330
New South Wales MDB	13 884	2 978	21	-377	-3	-615
Coastal New South Wales	1 073	783	73	-4	0	+49
Victoria MDB	8 903	2 743	31	-73	-1	+708

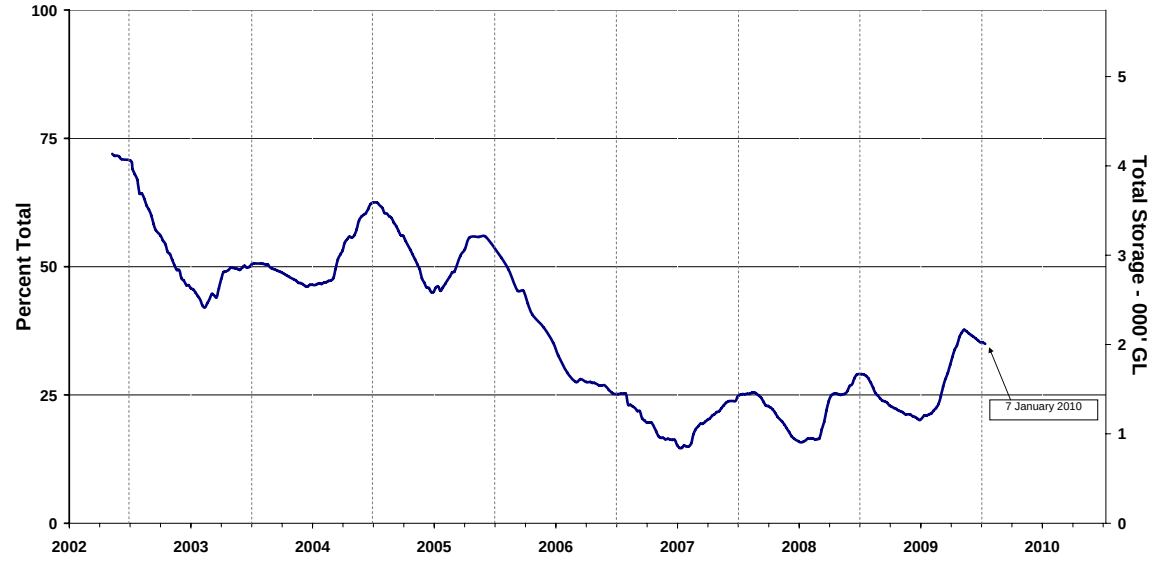


Water storages in Queensland, New South Wales and Victoria. The blue line indicates the extent of the Murray–Darling Basin. The shaded areas denote the coverage of the individual reporting regions. Source: Bureau of Rural Sciences

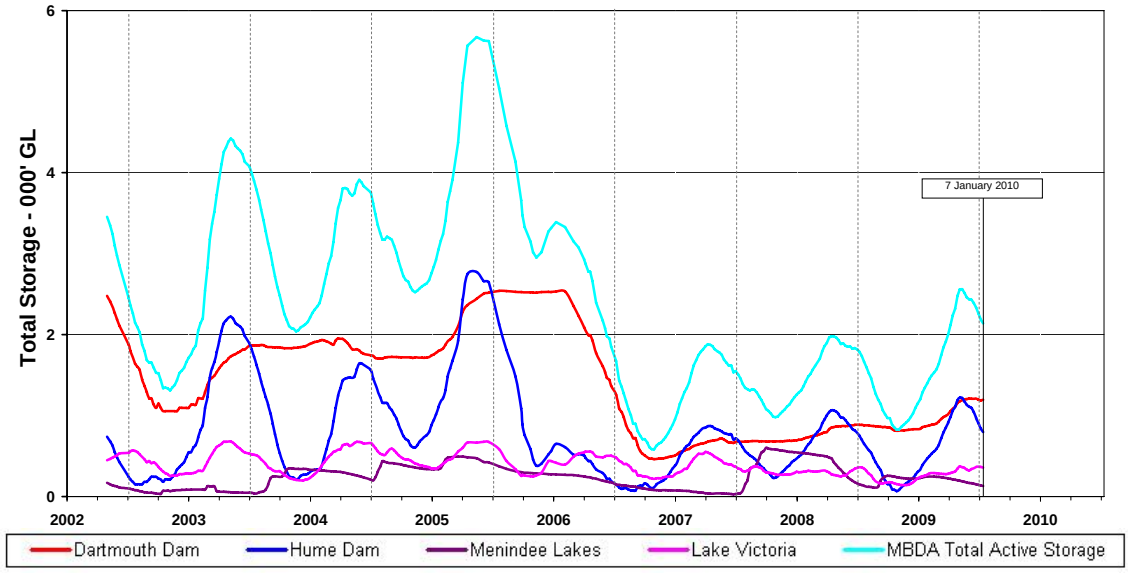
MDB (New South Wales, Victoria and Queensland)



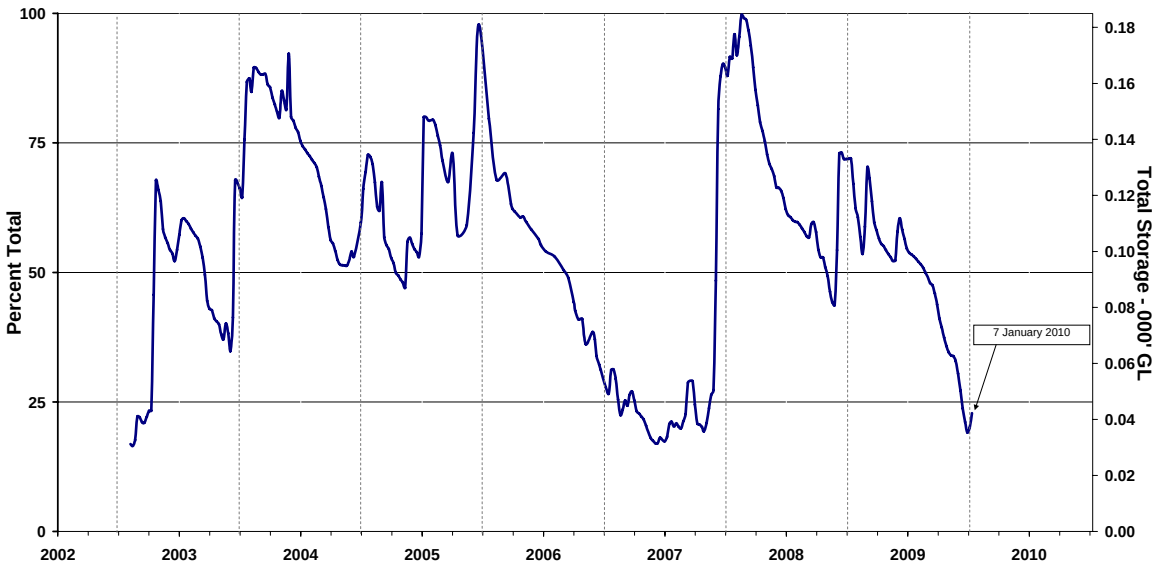
Snowy Scheme



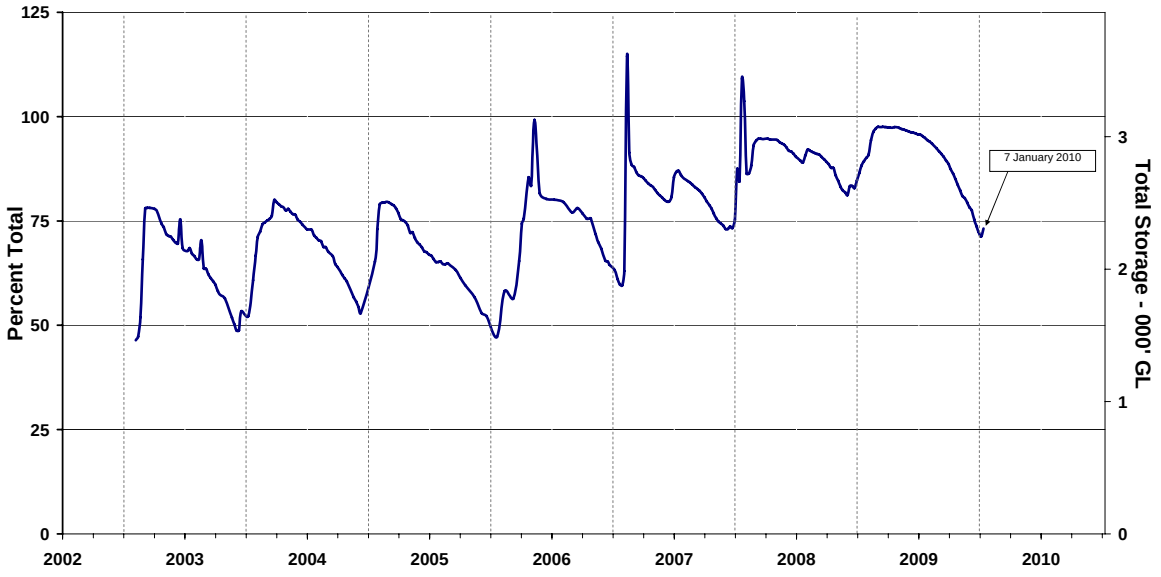
MDBA



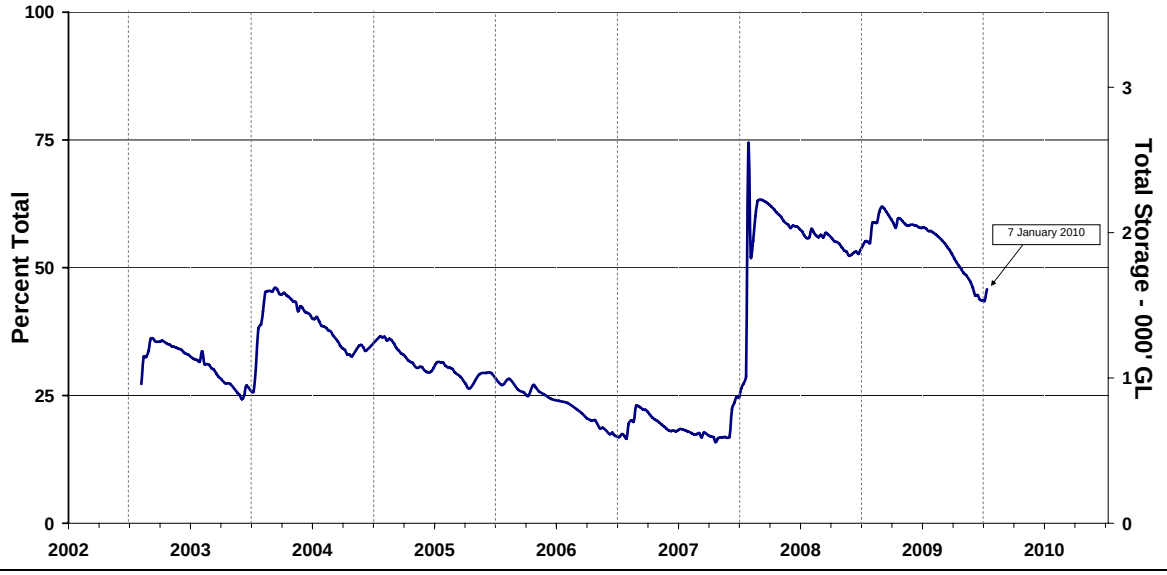
Queensland MDB



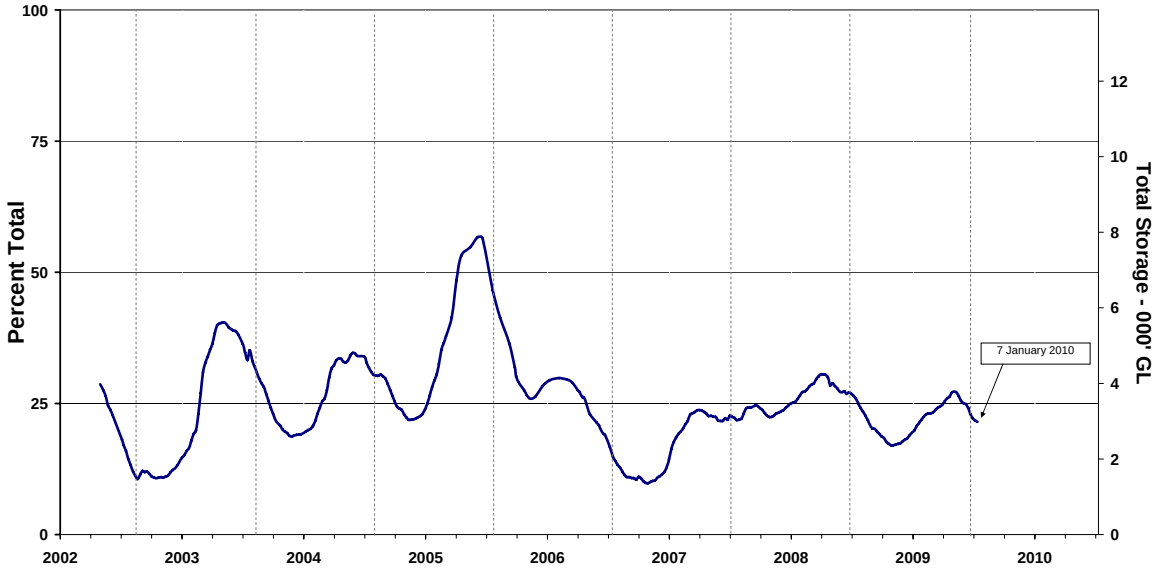
Central Queensland



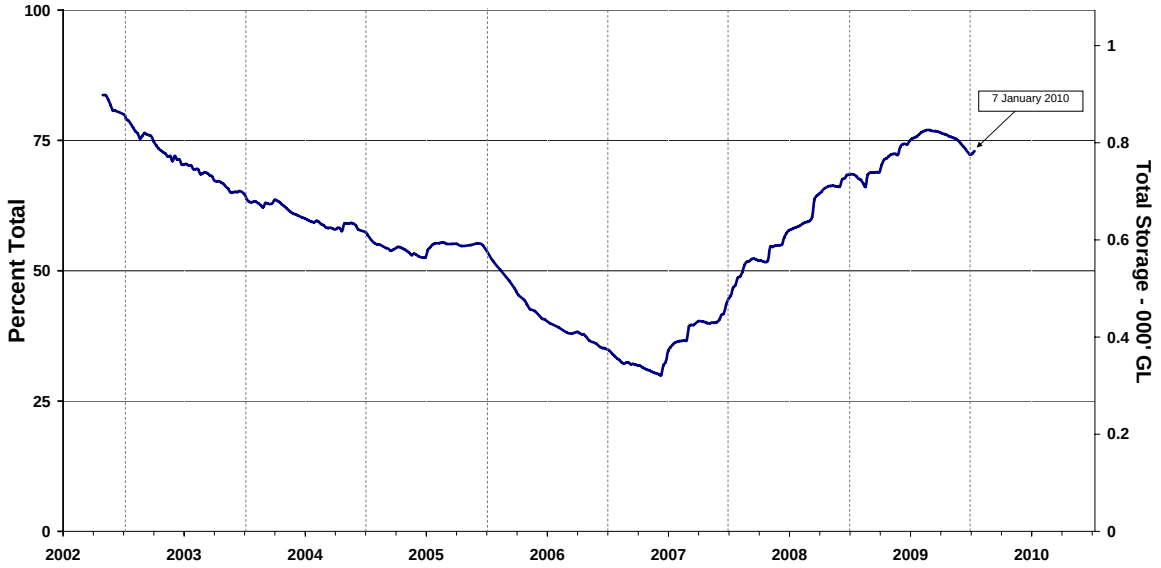
South-east Queensland



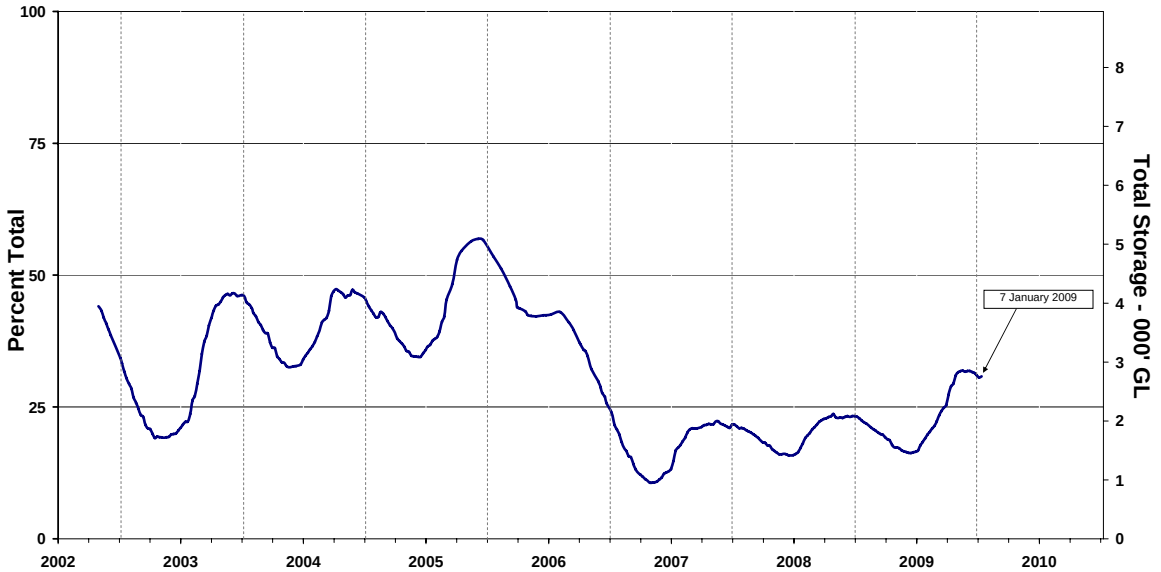
New South Wales MDB



Coastal New South Wales



Victoria MDB



For further information on water storages, go to:

Snowy 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 allocations

Announcements for New South Wales (current at 13 January 2010)

There was no announcement in early January 2010 regarding general security water allocations for water systems in New South Wales. The water allocations for all licence holders are summarised in the table below. The units of water allocation changed at the start of the 2009–10 water year from percentage allocations to share units of the available water determination (AWD). They are expressed as a percentage of the share component, where share is expressed as a volume on the licence, or as megalitres (ML) per unit share, where the licence share is expressed in unit shares.

Water system	High Security Licences (ML per share unit or %)	Change (ML per share unit or %)	General Security Licences (ML per share unit or %)	Change (ML per share unit or %)
NSW Murray Valley	97%	0	10%	0
Murrumbidgee Valley	95%	0	15%	0
Lower Darling	100%	0	25%	0
Macquarie Valley	1 ML	0	0	0
Hunter Valley	1 ML	0	1 ML	0
Lachlan Valley	0.1 ML	0	0	0
Border Rivers	1 ML	0	0	0
Peel Valley	100%	0	80%	0

Announcements for Victoria (current at 13 January 2010)

On 4 January 2010, Goulburn–Murray Water announced improvements in the seasonal allocations for the Goulburn and Bullarook systems, while allocations in all other systems remained unchanged, as shown in the table below.

Water system	High-Reliability Water Share (%)	Change (%)	Low-Reliability Water Share (%)	Change (%)
Murray	60	0	0	0
Broken	0	0	0	0
Goulburn	50	+1	0	0
Campaspe	0	0	0	0
Loddon	0	0	0	0
Bullarook	11	+5	0	0

Announcements for South Australia (current at 13 January 2010)

On 4 January 2010 the Government of South Australia announced allocations for River Murray licence holders would remain unchanged at 48 per cent of their entitlement. While there was above average rainfall in the upper Murray catchment in late December 2009, inflows are not expected to reach South Australia for months, if at all, due to the dryness of the catchment and upstream requirements.

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/

Goulburn-Murray Water
http://www.g-mwater.com.au/news/media-releases/

South Australian Department of Water, Land and Biodiversity Conservation
http://www.dwlbc.sa.gov.au/media.html

Murray-Darling Basin Authority
http://www.mdba.gov.au/

3.0 Production

3.1 Crops

Winter Crops

Australia

No new information is available.

New South Wales

No new information is available.

Queensland

No new information is available.

South Australia

At the end of December 2009, approximately 90 per cent of the harvest had been completed. Unseasonably high temperatures in the first half of November prematurely dried out grain in later maturing districts reducing both yield and quality. Widespread rainfall in late November together with further rainfall in December interrupted harvesting and caused some weather damage, with reports of sprouting, low protein levels and low test weights. Frost damage in combination with the heat in November caused yield losses in some areas. Crop yields have been highly variable across the state ranging from exceptional on much of Western Eyre Peninsula to well below average in parts of the Northern Mallee. Total crop area is estimated to be 4.02 million hectares, with crop production estimated to be 7.7 million tonnes, making it South Australia's second largest crop on record.
http://www.pir.sa.gov.au/__data/assets/pdf_file/0003/123978/Jan10cpr.pdf

Victoria

No new information is available.

Western Australia

No new information is available.

Summer Crops

Australia

No new information is available.

Queensland

Below average December 2009 rainfall in most parts of the Queensland cropping region has resulted in poor recharge of soil moisture levels and less than favourable planting conditions for most areas. Most areas in south-eastern Queensland are showing a 30 to 50 per cent chance of exceeding the long-term median shire sorghum yield, while for most areas in central Queensland, the probability is only 20 to 40 per cent.
http://www.dpi.qld.gov.au/documents/PlantIndustries_FieldCropsAndPasture/Sorghum-Report-Jan10.pdf

New South Wales

Above average December 2009 rainfall recorded in most parts of northern New South Wales induced some late sorghum plantings and improved the crop yield outlook for the region. The forecast median sorghum yields for northern New South Wales are above the long-term expectation with yields estimated to be around 3.13 tonnes/hectare.
http://www.dpi.qld.gov.au/documents/PlantIndustries_FieldCropsAndPasture/Sorghum-Report-Jan10.pdf

The extremely high rainfall in late December 2009 in the northern agricultural areas of inland New South Wales was too late for most early summer crop plantings, although some farmers in the Liverpool Plains have made late plantings. It is expected that the rainfall will be favourable for planting later summer crops (e.g. sunflower) which generally are not as profitable as sorghum, but could be considered this year because of good prices. There could be additional benefit for graziers from stubbles remaining after the grain harvest in May or June. http://theland.farmonline.com.au/news/state/grains-and-cropping/general/what-the-rain-means-for-grain-growing-options/1720051.aspx?src=enewshttp://theland.farmonline.com.au/news/state/grains-and-cropping/general/what-the-rain-means-for-grain-growing-options/1720051.aspx?src=enews

3.2 Livestock

Flooding in parts of northern New South Wales and central Queensland from extremely high rainfall received in late December 2009 will replenish water supplies and provide a boost to production conditions for sheep and cattle producers. There were some stock losses and infrastructure damage as a result of the flooding. Rainfall received during this time was patchy in the central and southern regions of New South Wales, and due to previous dry conditions, these areas will have received little runoff. The heavy rainfall received in western New South Wales, which resulted in flooding, restricted livestock movements with markets receiving reduced numbers.

Producers from areas in central Queensland and northern New South Wales receiving rainfall in late December 2009 will provide increased competition in local stock markets in the coming month, as production conditions improve.

Dry and warmer than average conditions during December 2009 in southern areas of Western Australia has put further pressure on declining water supplies. As a result, carrying capacity of grazing areas has declined. http://www.mla.com.au/TopicHierarchy/News/MarketNews/2010/

Beef cattle

Competition for beef cattle during December 2009 across Australian markets was low, influenced by local production conditions, the high Australian dollar and the global financial crisis. As a result, current prices for beef cattle are generally low (Meat and Livestock Australia web site, Market News).

Australian beef and veal exports in 2009 totalled 927 277 tonnes shipped weight, a 3 per cent decrease on 2008 and a 1 per cent decrease on the average for the past five years. A contraction in beef production throughout the second half of the year, the high Australian dollar and recession conditions in key export markets all contributed to the decline in shipments in 2009.
http://www.mla.com.au/TopicHierarchy/News/MarketNews/2010/Aussie+beef+exports+lower+in+2009.htm

Sheep and lambs

Demand for sheep and lamb remained high in December 2009 due to the small Australian sheep flock and interest from key export countries. As a result prices are good and holding firm (Meat and Livestock Australia web site, Market News).

Australian lamb exports for 2009 were 9 per cent above 2008 levels at 165 038 tonnes shipped weight, a 2 per cent increase on the previous record set in 2007. The strong export demand for lamb was underpinned by declining global sheep supplies, reduced New Zealand competition and strong consumer demand in some key export markets, along with an increase in Australian lamb production. These factors, combined, helped offset the impact of the high Australian dollar during the second half of the year and the record lamb prices that continue to challenge Australian exporters.
http://www.mla.com.au/TopicHierarchy/News/MarketNews/2010/Strong+demand+drives+record+lamb+exports.htm

Australian mutton exports during 2009 declined 15 per cent year-on-year, to 133 979 tonnes shipped weight—the lowest export volume since 2004. This decrease is primarily due to the small Australian sheep flock, as fewer Merino ewes and wethers were culled.
http://www.mla.com.au/TopicHierarchy/News/MarketNews/2010/Smaller+flock+reduces+mutton+exports+in+2009.htm

Goats

Australian goat meat exports hit a new high in 2009, with a total of 24 752 tonnes shipped weight exported, a 36 per cent increase on the previous year. The United States remains the major export market for Australian goat meat.
http://www.mla.com.au/TopicHierarchy/News/MarketNews/2010/Goat+meat+exports+rise+in+2009.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