NAMS
NATIONAL AGRICULTURAL MONITORING SYSTEM

Climate and Agricultural Update

National Report

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Contacts

For further information visit www.nams.gov.au, or for enquiries/feedback relating to this report contact the NAMS helpdesk at NAMS@nams.gov.au.

Contributors

The information in this report was sourced from the following organisations:

ORGANISATION

Bureau of Meteorology	www.bom.gov.au
Bureau of Rural Sciences	www.brs.gov.au
Department of Primary Industries, New South Wales	www.dpi.nsw.gov.au
Snowy Hydro Limited	www.snowyhydro.com.au
Australian Bureau of Agricultural and Resource Economics (ABARE)	www.abare.gov.au
Department of Agriculture and Food, Western Australia	www.agric.wa.gov.au
Goulburn Murray Water	www.g-mwater.com.au
Queensland Department of Primary Industries and Fisheries	www.dpi.QLD.gov.au
New South Wales Department of Natural Resources	www.dnr.nsw.gov.au
Meat and Livestock Australia	www.mla.com.au

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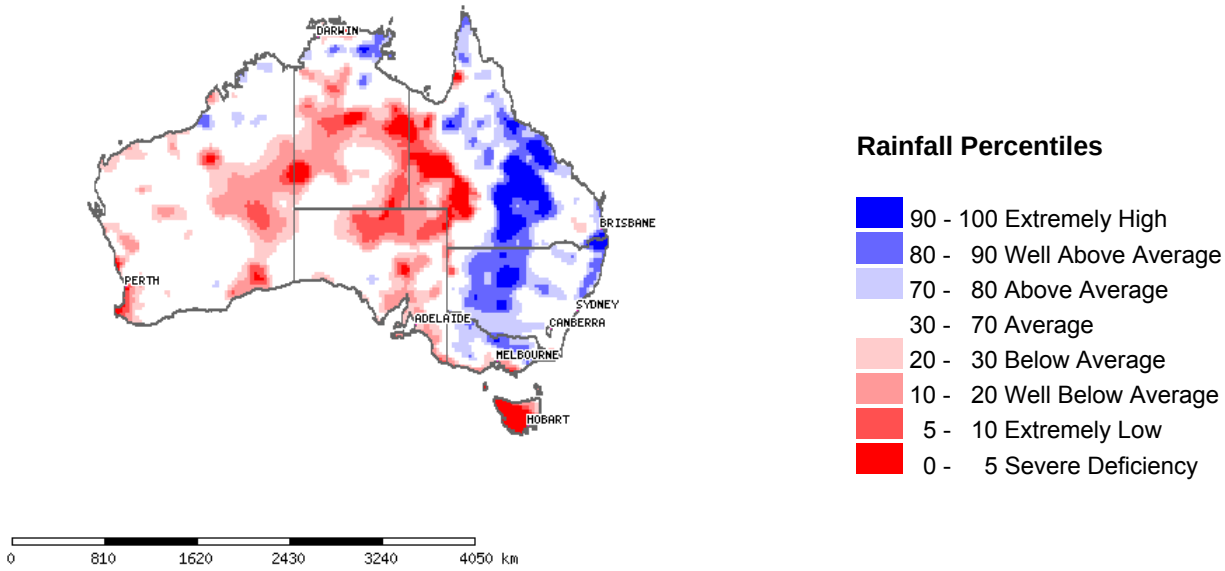
1.0 Rainfall and temperature

1.1 Rainfall

Spatial rainfall analyses are based on historical monthly rainfall data provided by the Bureau of Meteorology. For further information on rainfall data and the interpretation of percentile analyses, go to http://www.bom.gov.au/climate/austmaps/.

Rainfall over the last month (January 2008)



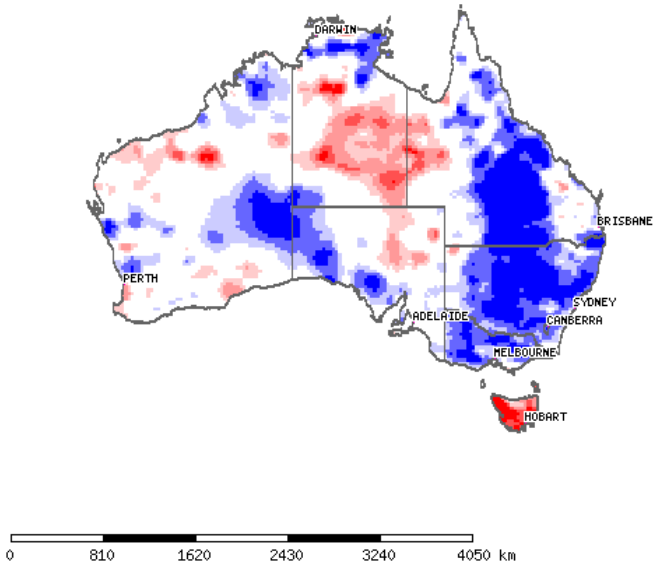
Rainfall percentiles for January 2008

Australian rainfall was 16% below average for January, with most of eastern mainland Australia being generally wet and the remainder below average. Above average rainfall covered most of Queensland (QLD), except for the western border areas west of a line from Mount Isa to Thargomindah, parts of the north tropical coast, and the Darling Downs. Wet conditions also covered most of western New South Wales (NSW), northern Victoria, and the east coast north of Newcastle. Only a few stations set monthly records, but extremely high rainfalls covered parts of the Warrego and Central Highlands regions in QLD, along with the Gold Coast and adjoining border areas of NSW. All of these areas experienced substantial flooding during the month. Some patches of extremely high rainfall also occurred in inland NSW and northern Victoria.

In contrast, January was a dry month in southern Victoria and exceptionally dry in Tasmania, with almost all of the state being severely rainfall deficient. A number of long-standing stations in the south-east, including Hobart, recorded their driest January on record. It was also a generally dry month in most of South Australia (SA), the Northern Territory (NT) and Western Australia (WA), except for a narrow band across the NT Top End near the path of Tropical Cyclone *Helen*, and a few areas in the far north of WA favoured by seasonal thunderstorms. In marked contrast with the flooding further east, it was particularly dry in the far west of QLD, with records set in a few locations.

Long-term deficiencies remain, especially in Tasmania, southeast QLD, the west coast of WA and central Victoria into southern NSW. Short-term deficiencies remain in parts of southern Australia, excluding Victoria, and have increased slightly in SA and the southern NT. Deficiencies in rainfall have occurred against a backdrop of decade-long rainfall deficits and record high temperatures that have severely stressed water supplies in the east and southwest of the country. Several years of above average rainfall are required to remove the very long-term deficits. Furthermore, the combination of heat and drought during the past five to ten years over the Murray Darling Basin and south-eastern Australia is outside the typical range of variability experienced during the previous 100 years.

Ongoing or emerging rainfall situations

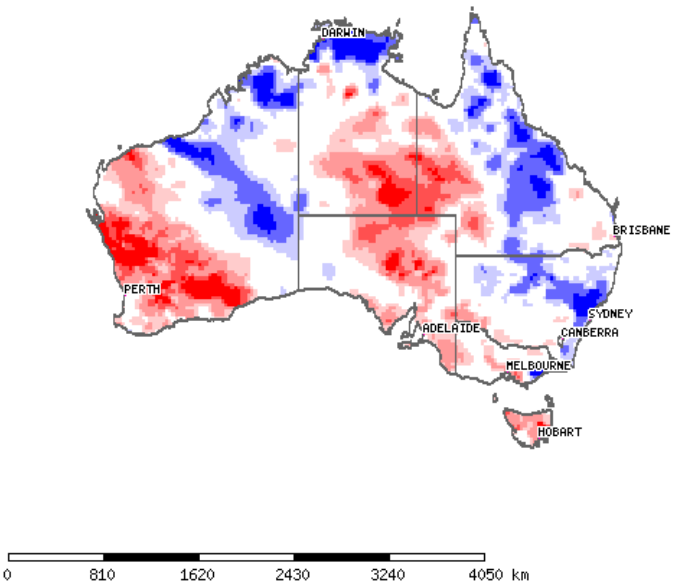


Rainfall Percentiles

90 - 100 Extremely High
80 - 90 Well Above Average
70 - 80 Above Average
30 - 70 Average
20 - 30 Below Average
10 - 20 Well Below Average
5 - 10 Extremely Low
0 - 5 Severe Deficiency

Rainfall percentiles for the last three months (November 2007 – January 2008)

During the last 3 months, above average rainfall was recorded in central and southern QLD and in most of NSW and Victoria, with patches of extremely high rainfall in central QLD and central north of NSW. Above average to extremely high rain was also recorded in a band from central-east WA, through eastern to southern SA. Patches of above average rainfall occurred also in the south west and far north of QLD and north of NT. In contrast, below average to extremely low rainfall was recorded in most of NT, in the central and northern SA, and in all of Tasmania. Some areas with below average rain occurred in the north-west of WA and in the west of QLD.



Rainfall Percentiles

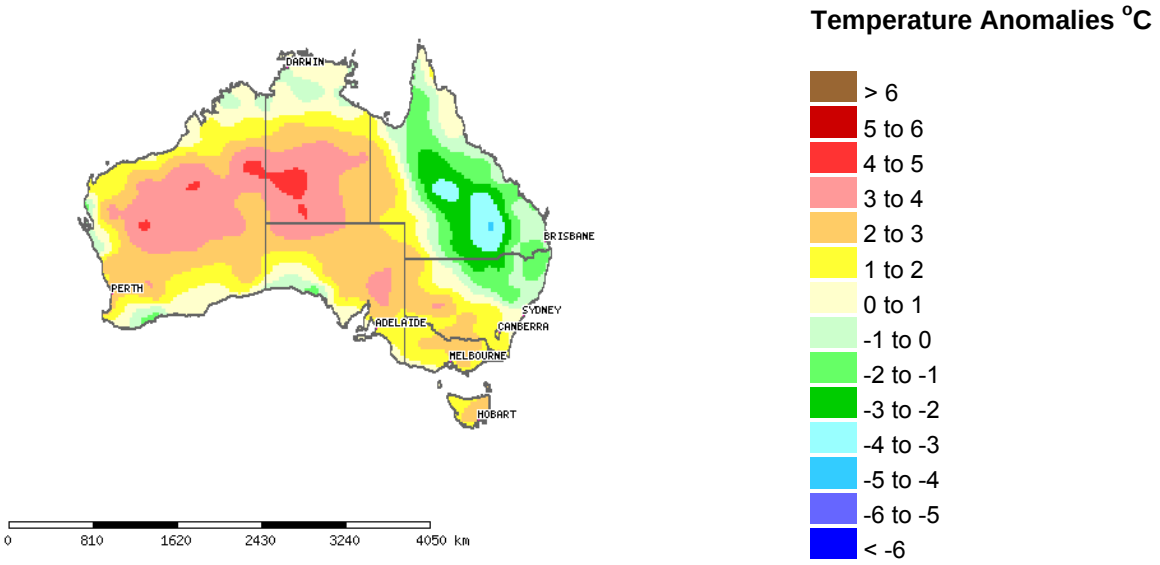
90 - 100 Extremely High
80 - 90 Well Above Average
70 - 80 Above Average
30 - 70 Average
20 - 30 Below Average
10 - 20 Well Below Average
5 - 10 Extremely Low
0 - 5 Severe Deficiency

Rainfall percentiles for the last 12 months (February 2007 – January 2008)

Twelve-month rainfall deficiencies strengthened last month over an extensive area from south and south west NT into the west of QLD and northern and central SA. The pattern of below average rainfall in the west, south west and central parts of the country, as well as in SA, Victoria and Tasmania indicates that long-term droughts persist in these areas. The remainder of the country recorded average to above average rainfall.

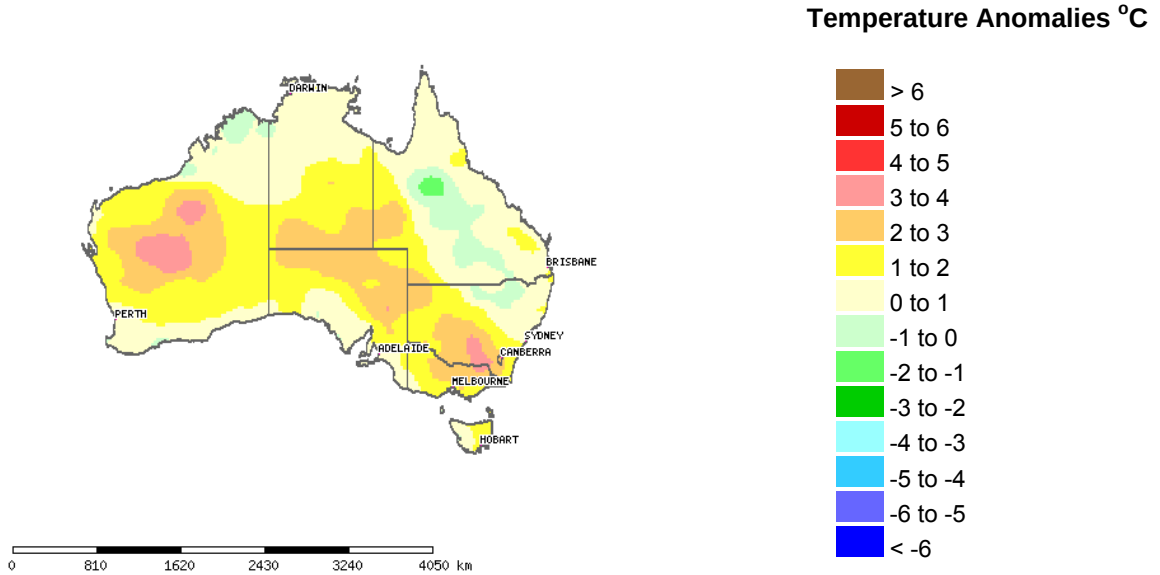
1.2 Maximum and minimum temperature anomalies

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 maxima and minima 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/



Monthly mean maximum temperature anomalies for January 2008

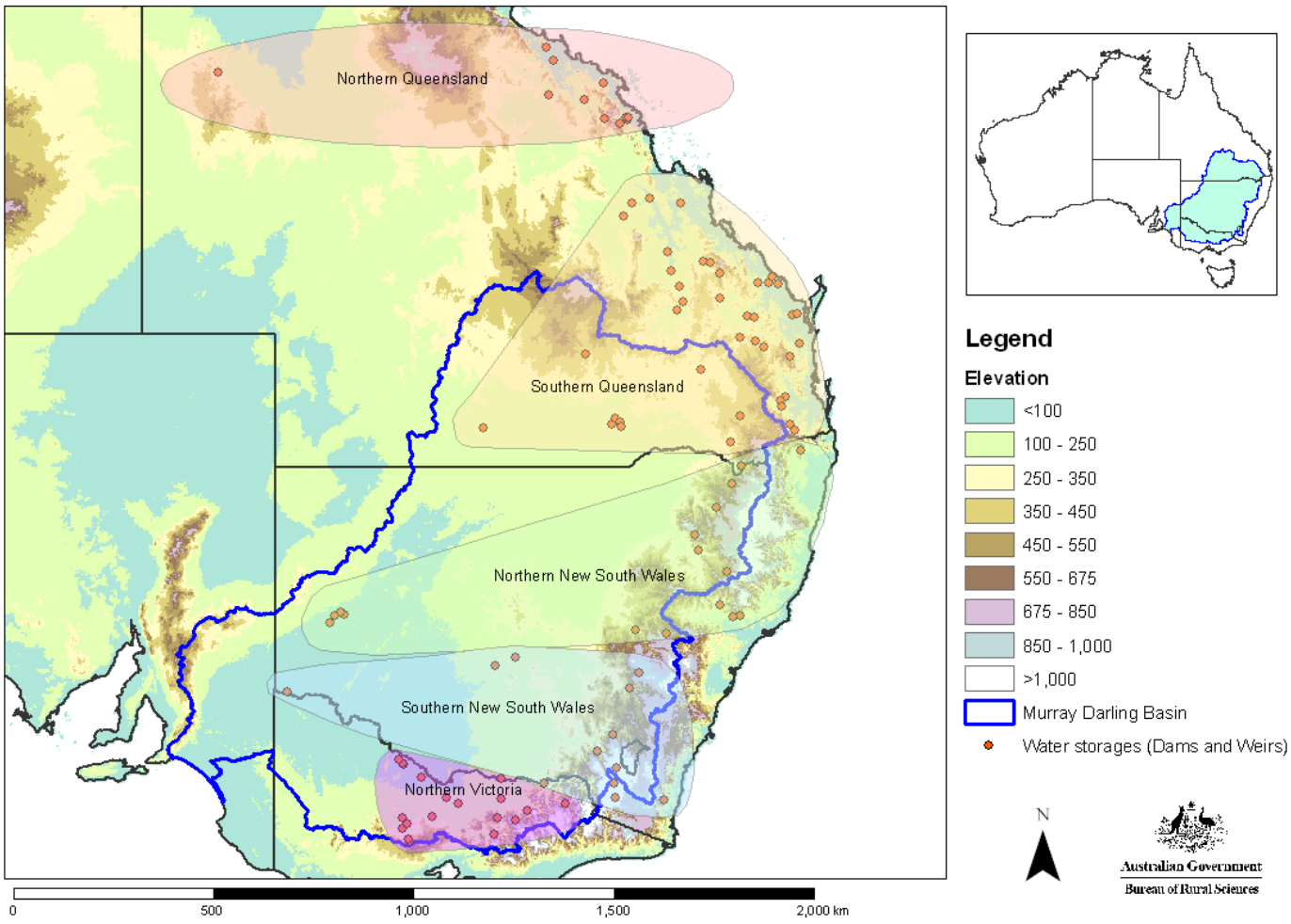
January 2008 was Australia's warmest January on record, with a mean temperature 1.23°C above the reference (1961−90) average. Maximum temperatures 2−4°C above average covered most of WA, SA and the NT, south of Katherine. Maxima were also 2−3°C above average in parts of southern and western NSW, western QLD, the east coast of Cape York Peninsula, north-central Victoria and eastern Tasmania. In contrast, maxima were 2−4°C below average in a belt extending from central inland QLD to the northern border areas of NSW. Below average maxima also occurred in parts of the NT Top End and the northern Kimberley, and a few locations in coastal WA and SA with strong local sea-breeze effects.



Monthly mean minimum temperature anomalies for January 2008

Minima followed the same general pattern as maxima, except that anomalies were generally weaker (1–4°C above average) in most of WA, and NSW. Anomalies were 1–3°C above average in southern NT, most of SA and Victoria, south west QLD and Tasmania. The area of cool conditions in QLD and NSW was much less extensive and ranged from 1–2°C below average.

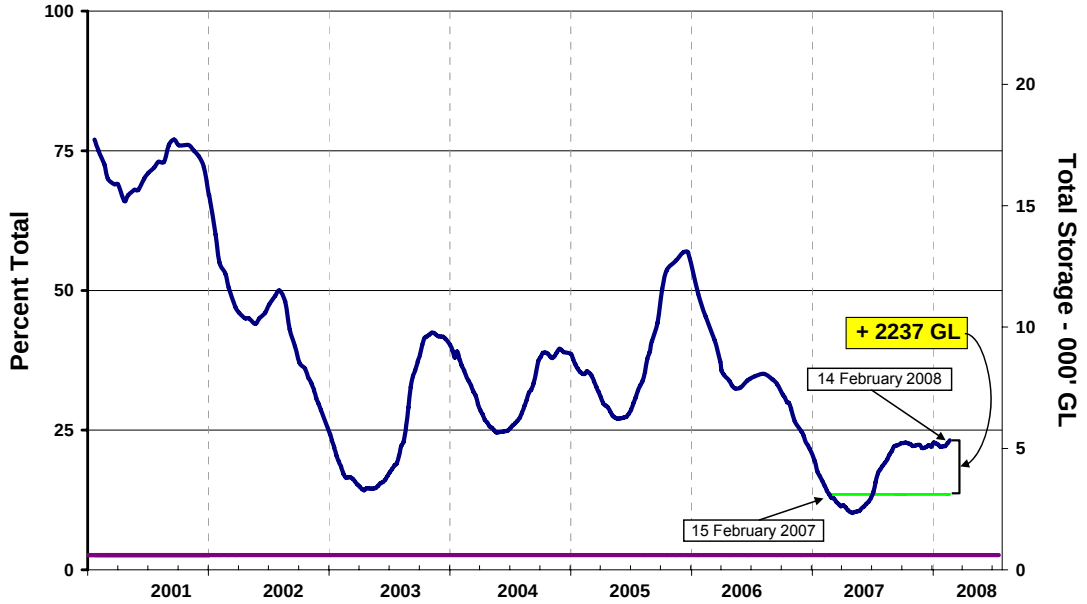
2.0 Water storages and announcements



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

2.1 Water storages (current to 7 February 2008)

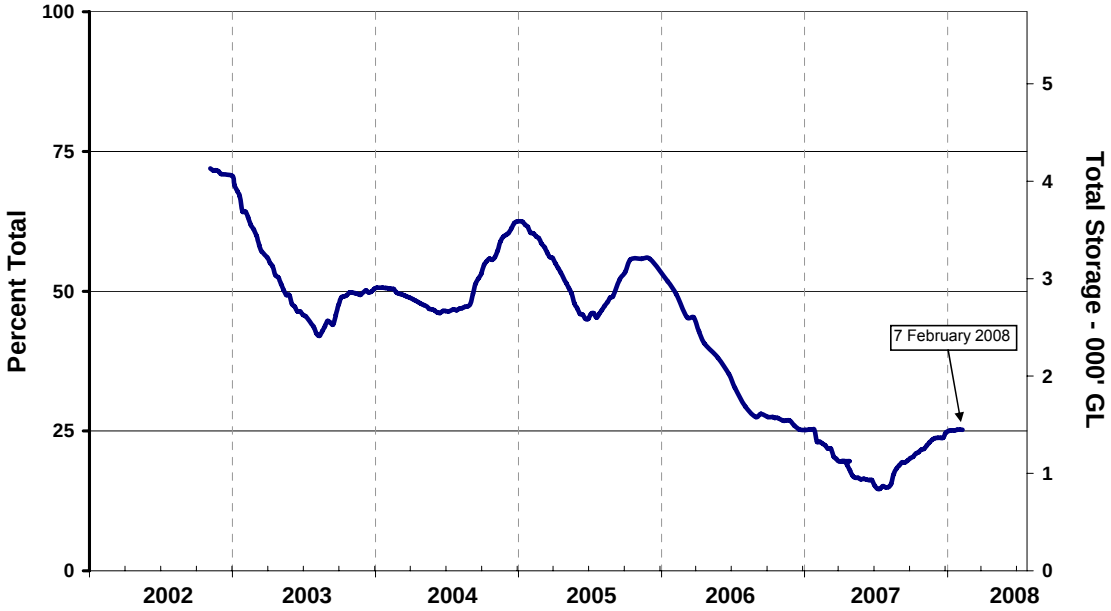
Water storage in the MDB (New South Wales, Victoria and Queensland)



Water storage levels in the Murray-Darling Basin from 1 January 2001 to 14 February 2008. The green line indicates the storage level at the same time last year. Source: Bureau of Rural Sciences.

Over the past 5 months the storage levels within the Murray-Darling Basin have remained relatively stable, with releases being virtually matched by inflows. At 14 February 2008 storage levels for irrigated agriculture were at 5,337 GL (23.2 % of a total capacity of 23,020 GL), an increase of 60 GL (0.2 % of total capacity) over the month. Current storage levels are approximately 1,958 GL greater than at the same time last year.

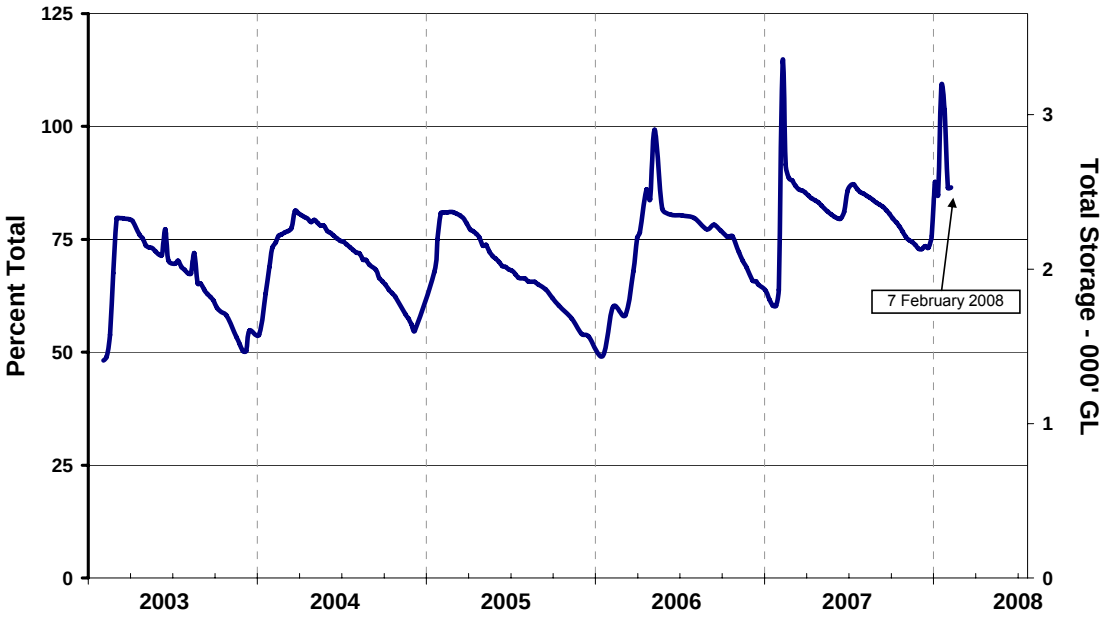
Water storage in the Snowy Scheme



Water storage levels in the Snowy Scheme from 6 November 2002 to 7 February 2008. Source: Bureau of Rural Sciences

The figure 'Water storage in the MDB' figure (above top) does not include the capacities of Lake Eucumbene, Tantangara Reservoir and Lake Jindabyne which are reserved for hydro-electricity generation and irrigation purposes, collectively The Snowy Scheme. Current levels in The Snowy Scheme storages (directly above) are 1,448 GL (25.2 % of a total capacity of 5,744 GL).

Water storage in Queensland



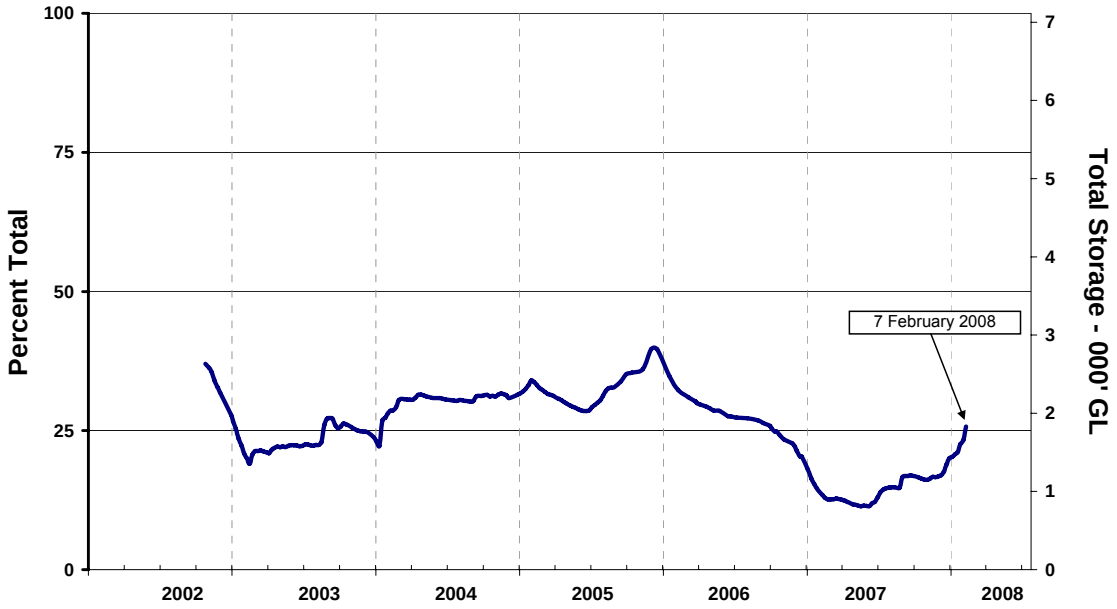
Water storage levels in northern Queensland from 3 February 2003 to 7 February 2008.
Source: Bureau of Rural Sciences

Storage levels in northern QLD increased by 50 GL to 2,767 GL (86.5% of a total capacity of 3,199 GL) over the last month (see figure above). This storage level is approximately 888 GL lower than at the same time last year.

Water storage levels in southern Queensland from 3 February 2003 to 7 February 2008.
Source: Bureau of Rural Sciences

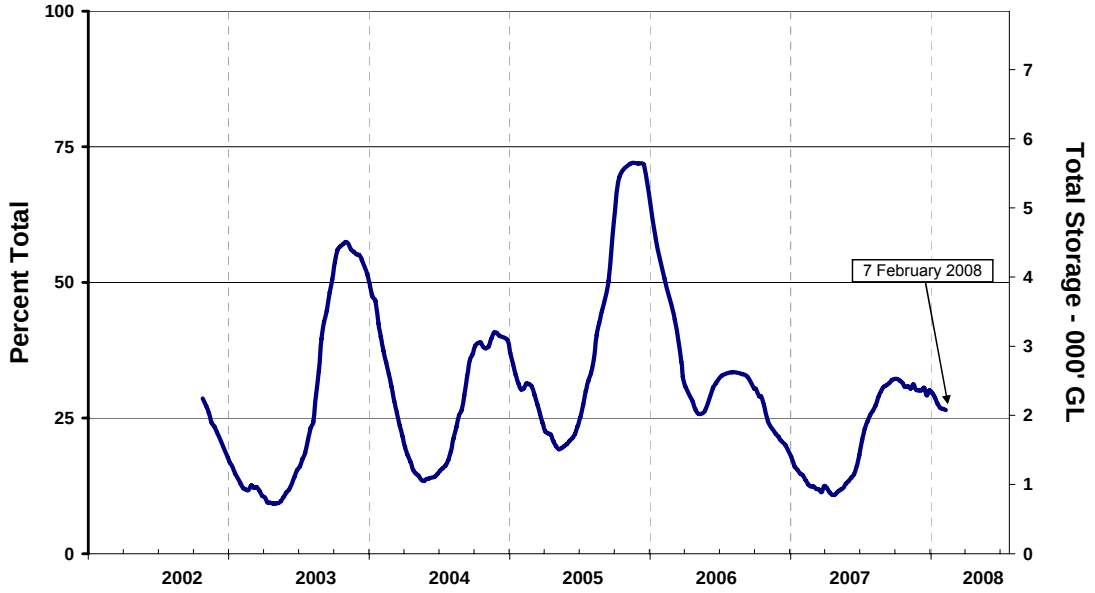
In southern QLD storage levels increased by 1,000 GL to 2,509 GL (59.7% of a total capacity of 4,203 GL) over the last month (see figure above). This storage level is approximately 1,357 GL higher than at the same time last year.

Water storage in New South Wales



Water storage levels in northern New South Wales from 28 October 2002 to 7 February 2008.
Source: Bureau of Rural Sciences

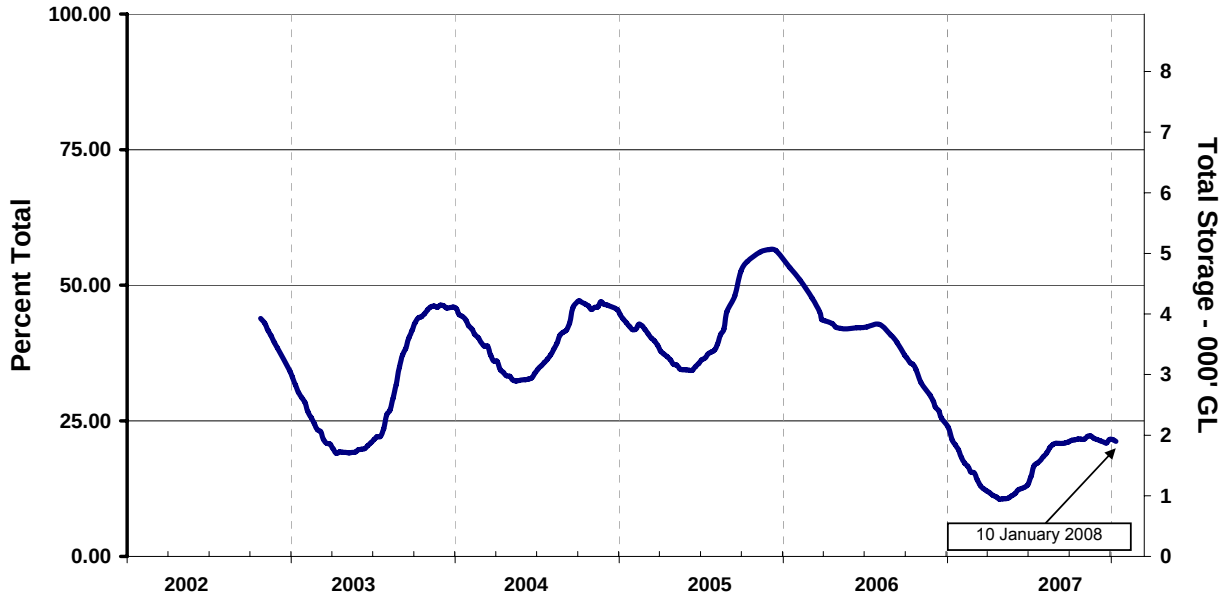
Storage levels in northern NSW increased by 354 GL to 1,829 GL (25.7% of a total capacity of 7,114 GL) over the last month (see figure above). This storage level is approximately 875 GL higher than at the same time last year.



Water storage levels in southern New South Wales from 28 October 2002 to 7 February 2008.
Source: Bureau of Rural Sciences

In southern NSW storage levels decreased by 179 GL to 2,077 GL (26.5% of a total capacity of 7,844 GL) over the last month (see figure above). This storage level is approximately 1,013 GL higher than at the same time last year.

Water storage in Victoria



Water storage levels in northern Victoria from 28 October 2002 to 7 February 2008.
Source: Bureau of Rural Sciences

Storage levels in northern Victoria decreased by 67 GL to 1,900 GL (20.5% of a total capacity of 8,950 GL) over the last month (see figure above). This storage level is approximately 296 GL higher than at the same time last year.

Murray-Darling Basin update

- Rainfall in the Basin was generally above average in January, particularly in the north where heavy rainfall covered most of Queensland. Parts of the Warrego and Central Highlands regions in QLD experienced major flooding. Wet conditions were also experienced over most of western inland NSW and northern Victoria. The heavy rains in QLD and northern NSW has led to significant inflows into Menindee Lakes.
- The January inflow to the River Murray System (excluding inflow to Menindee Lakes) was about 130 GL, which is below the long term average of 235 GL. However, if inflows to Menindee Lakes are included, the January inflow was about 510 GL which is above the long term average of 360 GL.
- The storage level of Dartmouth Reservoir has remained steady for the last 2 months, and is currently 678 GL (17.4 % of capacity). Dartmouth Reservoir is the preferred site for storing water that will be carried over into next season as it has lower evaporative losses and less chance of spilling than either Hume Reservoir or Lake Victoria. Hume Reservoir continues to supply the bulk of downstream requirements along the mid-Murray and is currently holding 537 GL (18 % capacity).
- Releases from the Menindee Lakes system into the Lower Darling River recommenced on the 7 January 2008. As at 7 February, the total amount released was approximately 108,000 megalitres (ML). These releases have given the Murray River its first flow of natural water from the Darling since 2004. Flows are now being reduced to the minimum required to maintain the river and meet irrigation demand.

2.2 Water announcements

Announcements for New South Wales (current at 15 February 2008)

- On 8 February the Department of Water and Energy announced a 50% allocation for general security licence holders in the Upper Namoi in the state's North West. Continuing good rainfalls across the region and inflows to Split Rock Dam have enabled the increased allocation. This allocation will benefit local irrigators and landholders and provide greater certainty and security for agricultural producers. The allocation for town water supplies, stock and domestic, and High Security users is 100% of entitlement.
- The NSW Department of Water and Energy announced on the 4th February, that water supplies for towns and industries in the State's Central West have been secured for another year and General Security licence holders have been granted their first water allocation for 2007/08. Water storages in the Macquarie region have been boosted by recent summer rainfall and there is now sufficient water to give General Security licence holders their first water allocation in 2007/08—2% of entitlement. The allocation for town water supply, stock and domestic, and High Security users remains at 100% of entitlement.
- The NSW Department of Water and Energy announced on 15 February that in the Murrumbidgee Valley despite the very good rainfall, system inflows were well short of the average monthly flow during January. However, the wet conditions have caused a significant reduction in river losses and irrigation demand. As a result, General Security allocations have been increased by 4% to 13% for this water year. High Security allocations remain at100%. In addition, a reserve of 50 gigalitres (GL) of water is being set aside as allocations increase, to ensure that water supply for critical requirements and carry over in 2008/09 can be delivered.
- The NSW Department of Water and Energy also announced on 15 February a forecast of water availability in the Murrumbidgee Valley by late winter next year. There is sufficient water under a repeat of the worst recorded inflow sequence to provide for carry over, basic human needs, and critical industry requirements for 2008/09. However, continuous supply for all sections of the regulated system could not be initially guaranteed. There is a 9 in 10 chance that there will be a total availability of 50 per cent for High Security licence holders. There is a 3 in 4 chance that all high security requirements will be available, and a 1 in 2 chance that General Security licence holders will receive modest initial allocations.
- For the Murray Valley, the NSW Department of Water and Energy announced on 15 February that inflows into the system have been sufficient to allow for full repayment of all suspended water from 2006 and to reserve the 75 GL required to meet basic human needs for next year. Town water allocations in the Murray Valley will remain at 50 per cent of entitlement.
- In the Lower Darling, the NSW Department of Water and Energy announced on 15 February that flooding across the catchment and subsequent flows have made their way into the Darling River and Menindee Lakes. As a result, all water that was suspended in accounts in 2007 is now available for use. All High Security licence holders now have access to 100 % of their licensed entitlement for use in the 2007/08 season, while a General Security allocation of 50 % has been made available for licence holders in the Lower Darling.
- At this stage in the Lower Darling, there is enough water in storages to secure Broken Hill's Water supply for 21 months, but not enough to guaranteed High Security allocations for 2008/09. However, it is expected that High Security allocations will be available in 2008/09 during the growing season. Unless further significant inflows occur, river management in 2008/09 will occur under a drought management strategy and there is a low risk that General Security allocations will not be available.
- On 21 January the Department of Water and Energy announced an increase in water allocations for General Security and High Security water users in the Hunter Valley. General Security allocations are now 84%, while the High Security allocations are now 100%. These allocation increases are the result of recent rainfall increasing storage levels in both Glenbawn and Glennies Creeks dams, as well as reduced demand for water and environmental flow requirements.

Announcements for Victoria (current at 15 February 2008)

- An increased allocation for the Goulburn, Murray, Broken and Campaspe systems was announced by Goulburn-Murray Water on 15 February 2008 (see below). The seasonal allocations in all other systems remained unchanged.

Water system	High-reliability share (%)	Change (%)
Murray	42%	+6%
Broken	68%	+3%
Goulburn	53%	+2%
Campaspe	16%	+2%
Loddon	5%	0%
Bullarook Creek	0%	0%

- Final 2007/08 seasonal allocations have been updated using most recent inflow trends and historic data. Based on likely inflows during February and March, the possible final 2007/08 seasonal allocation ranges are: 51% to 60% of high-reliability water shares in the Goulburn system; and 36% to 42% of high-reliability water shares in the Murray system. Goulburn Murray Water reports that the factors such as efficiency gains and lower than forecast evaporation can increase allocations above the predicted range. There will be no reduction of seasonal allocations from current levels. The final seasonal allocations for 2007/08 will be announced on 1 April 2008.
- Carryover of unused allocations has been approved as a resource management measure for all regulated water systems in northern Victoria. Customers in the Murray, Broken, Goulburn, Campaspe, Loddon and Bullarook Creek water systems may now use carryover to help manage the risks of low allocations. Irrigators are encouraged to implement such management practices due to the likelihood of zero allocations at the start of the next season.
- The next allocation announcement will be available on Monday, 3 March 2008.

Announcements for South Australia (current at 6 February 2008)

- Minister for the River Murray Karlene Maywald announced on 5 February that SA River Murray water allocations will remain at 32% for 2007/08, until imbalances in the way water has been shared between Murray-Darling Basin states are settled.
- On 6 February the Minister for the River Murray announced that SA irrigators will be able to carry-over all of their allocations not used in 2007/08 into the 2008/09 water year. While the provision of carry-over depends on climate conditions and the ability to deliver it from interstate storages to SA, the government is confident carry-over can be supplied, although an absolute guarantee cannot be given. Water carried over into 2008/09 will be tradeable in SA and interstate, previously, carry-over water could only be traded in SA.

For further information on water announcements, go to:

Murray-Darling Basin Commission
http://www.mdbc.gov.au/

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

New South Wales Department of Natural Resources
http://www.naturalresources.nsw.gov.au/

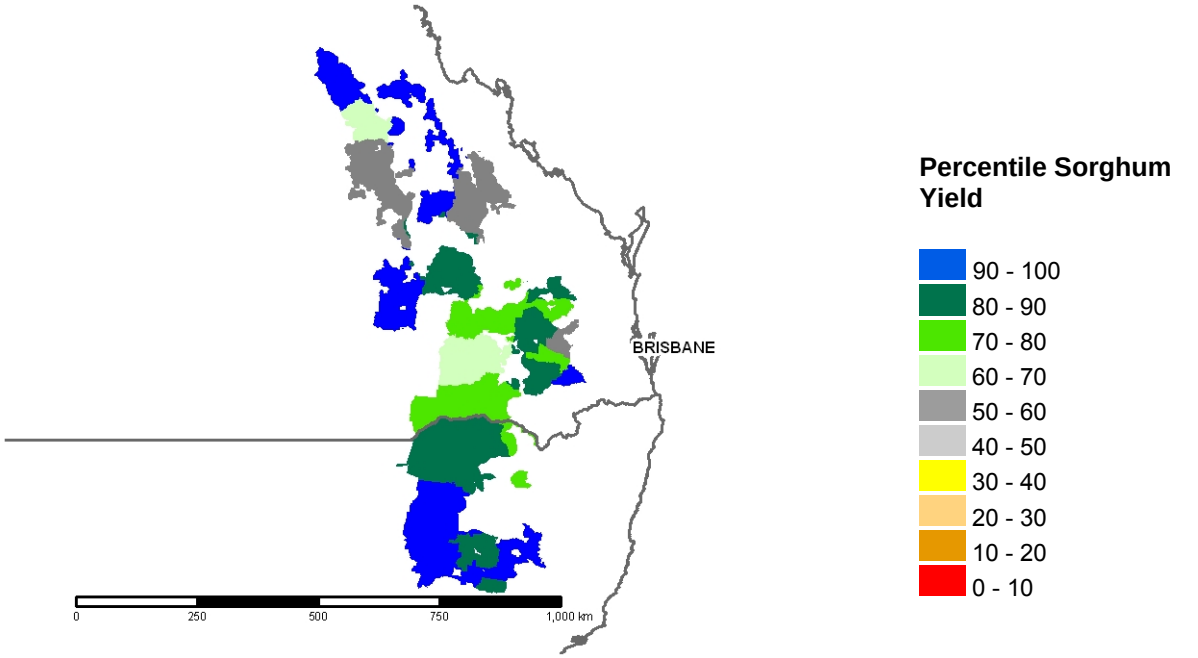
SA water
http://www.sawater.com.au/SAWater/WhatsNew/NewsRoom/

3.0 Crop and livestock production

3.1 Crops

Summer Crops

Predicted sorghum yields are provided by the Queensland Government Department of Primary Industries and Fisheries. The following figure shows sorghum yield forecasts as percentiles of a 100 year historic data set. For further information on predicted sorghum yields, go to www.dpi.qld.gov.au/fieldcrops.



Predicted shire sorghum yields for the 2007/08 cropping season ranked relative to all years (1908-2007) based on rainfall to date (31 January 2008)

- Current predictions for shire level sorghum yields for the 2007/08 growing season are generally above average reflecting the above average rainfall conditions during December and January.
- Steady rain has fallen across most of NSW throughout December and January, particularly in the northern and central regions, leading to increased summer crop potential. Summer crop sowings are estimated at 271,485 ha (excluding rice) compared to last season where approximately 276,763 ha were harvested. The improvement in prices and seasonal conditions has brought about late sowings of sorghum and sunflower.
- More recently, the north coast of NSW has experienced severe flooding which is expected to result in significant crop losses in some parts. Other regions experienced reduced rainfall, with late planted crops needing more rain if they are to produce predicted yield levels.
- In NSW sorghum sowings are estimated at 176,400 ha, an increase on earlier forecasts of 154,990 ha and the yield potential is expected to be above average when harvest starts on early sown sorghum. Sunflower plantings are predicted at 21,410 ha, which is greater than last year where approximately 10,515 ha were harvested. Mungbean plantings are currently approximately 5,000 ha and exceed the earlier forecast of 4,300 ha. NSW is expected to produce 65% of the national cotton crop.
- NSW has had its smallest rice planting since the 1920s, although the recent rain has provided excellent conditions for growth. Maize plantings are predicted to be 18,740 ha, which is significantly less than the December prediction of 24, 710 ha. Soybean harvest will likely be below last year's harvest, primarily due to the severe flooding in the north.
- Overall, the favourable conditions across most of NSW have allowed a majority of the summer crop to be planted. Subsoil moisture levels are reasonable at 30-50 cm to 100 cm. An additional 100-150 mm is required in February and March to ensure good moisture levels to finish summer crops and prepare for winter crops.

- QLD has experienced favourable conditions recently, with a majority of the state receiving above average rainfall. This increase in rainfall, particularly in the central and southern regions has lifted production estimates for both sorghum and cotton. Soil moisture levels have improved due to the recent heavy rainfall. However further rain will be required throughout April and May to ensure a good winter crop for 2008/09.
- The heavy rainfall across central QLD has brought about a significant increase in water storages, bringing about a positive outlook for cotton in 2008/09.
- As a result of flooding rains in QLD, up to 20,000 hectares of high production farmland has been severely damaged. It is reported that sorghum crops in the Emerald shire of QLD have been affected and yields will have been severely reduced, with some cases of complete destruction.

Winter Crops

- In SA, returns from winter crop production were mixed. Producers in the south-east recorded average to above average yields due to decent spring rainfall, while crop development in other parts of the state struggled due to a lack of significant rainfall. The increasing cost and supply difficulties for fertilisers and herbicides are proving to be a problem for farmers as they prepare for the coming season. Farmers on the Yorke Peninsula are currently experiencing issues with grain contamination caused by snails.
- The winter crop production in WA increased in 2007/08, primarily as a result of increased production in the southern and central regions of the state. However, a lack of rainfall led to below average yields in the north.
- In January, above average rainfalls were received across most of northern and central Victoria which has increased dam levels and improved soil moisture for 2008/09 crops. Unfortunately below average rainfall was received in the south, with BoM Drought Statement (February 5) indicating that long-term rainfall deficiencies across Victoria will remain. Challenging seasonal conditions and the high cost of pesticides is contributing to major weed problems for farmers, many resorting to cultivation in order to control weeds which may increase the possibility of erosion. Each of these challenges making it very difficult for farmers to prepare for the coming season.

3.2 Livestock

Beef cattle

- Due to favourable rainfall across eastern Australia, particularly in QLD, NSW and Victoria, the weight of young cattle yarded during January was generally higher than cattle yarded in January 2007. Thirty four percent of vealer heifers yarded fell into the heavy weight category, compared with 23% during January 2007. Similarly, 53% of vealer steers fell into the heavyweight category, compared with 39% during January 2007. While yearling heifers mainly consisted of medium weights, the percentage of heavy weights increased by 4% and accounted for 24% of yearling heifers yarded. As a result of improved growing conditions, increased demand for heavier weights, and improved prices for heavy cattle, the proportion of yearling steers penned in the heavy weight category increased to 39% during January compared to 33% in January 2007.
- While above average rainfall has occurred in the far north of WA over the last few months, the remainder of the state continues to be hot and dry. Feed stocks in paddocks continue to dwindle and supplementary feeding has begun in some areas. Hot to very hot conditions in SA during January, combined with minimal rainfall has resulted in reduced ground cover, and a loss of clover from pasture paddocks. Feed is generally adequate in cereal stubble paddocks, due to slow breakdown of cereal stubbles under low rainfall conditions. Perennial pastures continue to provide good feed following the December rains, although supplementary feeding is now occurring in many districts.
- The generally favourable rainfall across the eastern states has restored confidence in both lamb and cattle markets, with many producers now looking to capitalise on increased pasture feed. While the rain in central QLD brought flooding and damage to several areas, there will be significant long term benefits from the filling of water storages, flooded rivers and channel country and the return of irrigation flows. Costs for producers included an estimate of up to 100, 000 cattle being lost. A large number of properties reported stock losses of up to 90%. At the time the estimates were made, it was difficult to assess exactly the number of livestock that were lost because cattle could either have died or just have been swept down stream. Cattle producer incomes are expected to recover due to improved farm productivity, the elimination of drought-related costs, better local grain availability and some easing in grain costs.

Sheep and lambs

- Due to improved seasonal conditions over the majority of lamb producing areas, the overall quality of lambs entering saleyards has been very good with steady numbers being recorded mostly in the trade and heavy weights. During January, national re-stocker purchases were 26% more than the same time last year. However, national feeder lamb purchases were only 1% more than January 2007, as the cost of grain remains high. Old lambs made up 53% of all lambs sold nationally during the first few weeks of January, down from the 70% for the same period in 2006.
- The repeated years of drought, which lead to high turn-off, has now resulted in a limited number of wethers available to be yarded nationally. In 2007, the seasonal improvement to parts of the eastern states in late spring and early summer resulted in producers keeping wethers. This resulted in a 27% fall in the number of wethers yarded in January 2008 compared with the January five year average. In contrast, national ewe yardings for January 2008 were 15% higher than the January five year average.

For further information go to:

Australian Bureau of Statistics
http://www.abs.gov.au

ABARE Australian Crop report and ABARE Australian Commodities forecast and issues
http://abareonlineshop.com/

Meat and Livestock Australia
http://www.mla.com.au/

Department of Agriculture Western Australia
http://www.agric.wa.gov.au/

New South Wales Department of Primary Industries
http://www.dpi.nsw.gov.au/aboutus/news/newsletters/grains-report-nsw

Queensland Department of Primary Industries and Fisheries
http://www.dpi.qld.gov.au/fieldcrops/

South Australian Department of Primary Industries and Resources
http://www.pir.sa.gov.au/grains/cpr

'Dry Seasonal Conditions in Rural Victoria', Report 74 (7 Feb, 2008)
Victorian Department of Primary Industries
http:www.dpi.vic.gov.au

Bureau of Meteorology's Drought Statement (5 Feb, 2008)
www.bom.gov.au/climate/drought/drought.shtml

Farm Online
http://www.farmonline.com.au

4.0 Climate Outlook

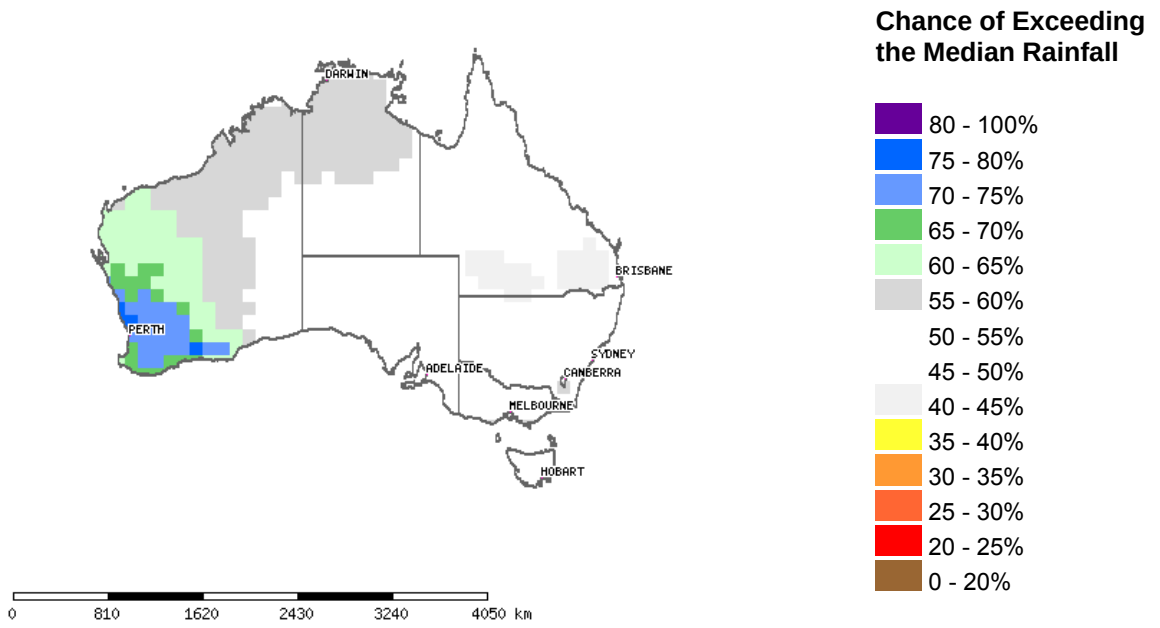
4.1 El Niño & Southern Oscillation Index

On 13 February the Bureau of Meteorology reported that the La Niña event in the Pacific basin is mature and continues to influence the climate of eastern Australia. One of the main features of the event is that cooler than average sea surface temperatures (SSTs) continue to extend across the central equatorial Pacific. When combined with enhanced Trade Winds, suppressed cloudiness in the central Pacific and a strongly positive Southern Oscillation Index (SOI), it is clear that the atmosphere and ocean are firmly reinforcing each other, sustaining the La Niña event. SOI continues to remain above La Niña thresholds, with the approximate 30-day value of +12. Although there have been fluctuations in the moving 30-day value, the SOI has been on a generally rising trend since mid-2007, especially since October.

Some warming has occurred in the western Pacific sub-surface in response to a weakening of the Trade Winds during January. While this warming has shown some signs of eastward propagation, it has not yet had any noticeable impact on central Pacific SSTs, which have in fact continued to cool. However, a gradual weakening of these cool anomalies would be consistent with the latest outlooks from computer models. These show Pacific temperatures gradually warming over the next few months, although remaining below La Niña thresholds until at least the end of the southern autumn.

4.2 Rainfall Outlook

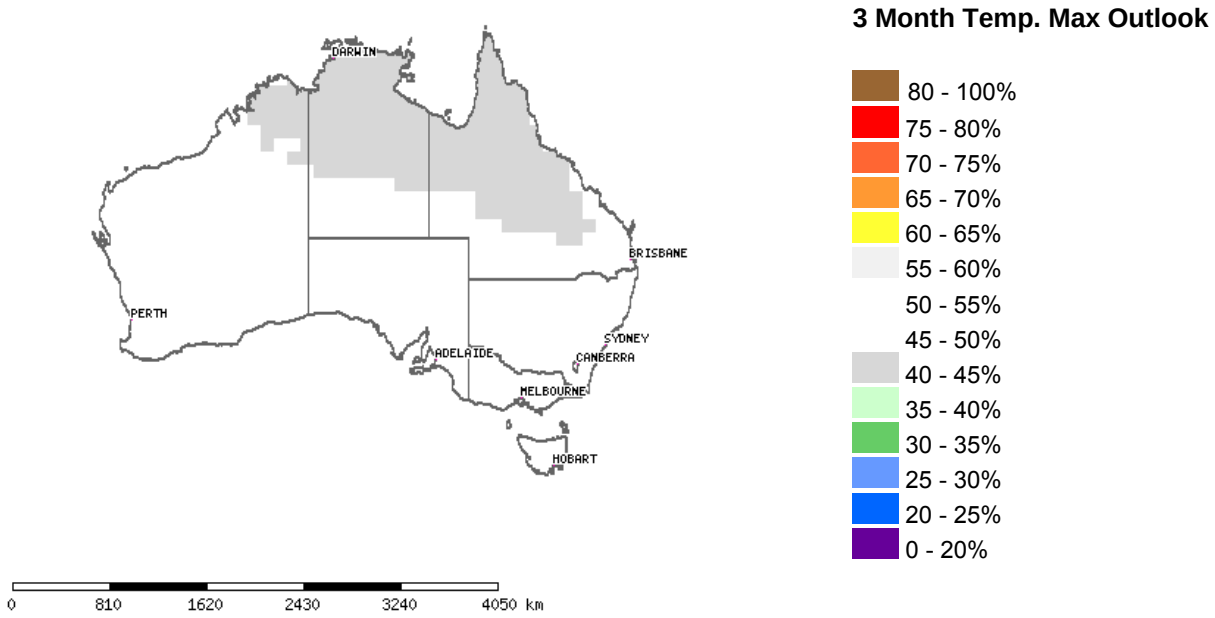
The Bureau of Meteorology provides seasonal outlooks that are statements about the probability of wetter or drier than average weather over a three-month period. The outlooks are based on the statistics of chance (the odds) taken from Australian rainfall/temperatures and sea surface temperature records 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. For further information on this rainfall outlook, go to http://www.bom.gov.au/climate/ahead/rain_ahead.shtml.



The chance of exceeding median rainfall between February 2008 and April 2008

The national outlook for late summer to mid-autumn rainfall (February to April), shows a moderate to strong chance of exceeding the seasonal median in western WA, with 60 to 75% chance in the southwest. There are no strong swings towards below or above median rainfall over the rest of the country. The pattern of seasonal rainfall odds across Australia is a result of cooler than average waters across the equatorial Pacific in association with La Niña, and continuing higher than average temperatures in the central to southeastern Indian Ocean.

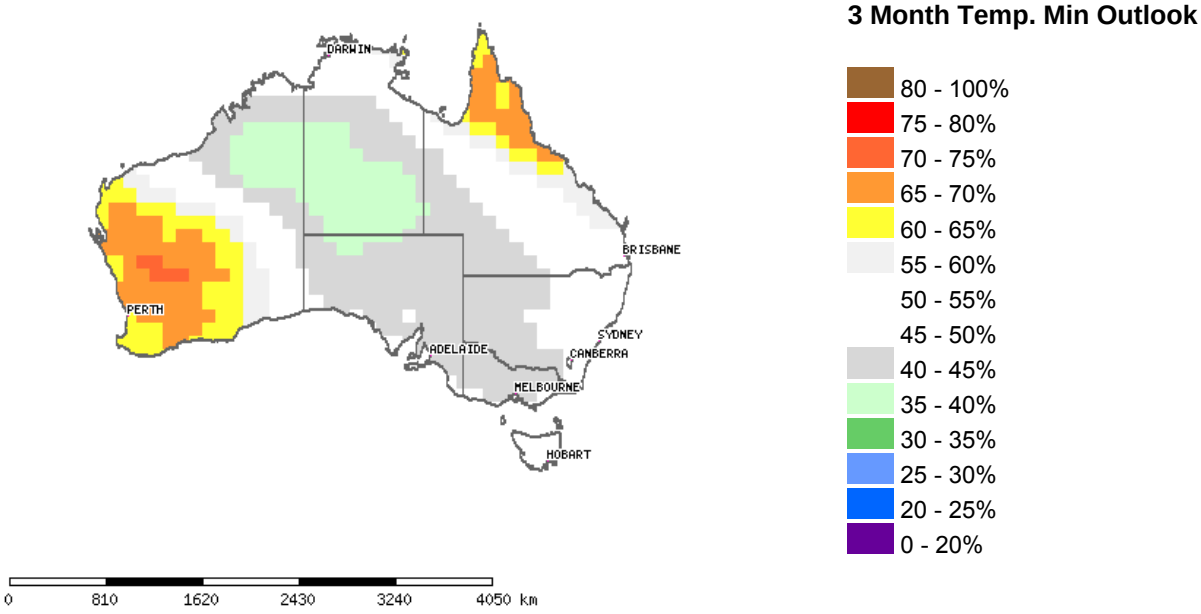
4.3 Temperature Outlook



The chance of exceeding median maximum temperatures between February 2008 and April 2008

The national outlook for maximum temperatures averaged over the late summer to mid-autumn (February to April) shows no strong shifts in the odds towards higher than average temperatures over Australia.

The neutral pattern of seasonal maximum temperature odds in northeast Australia is a result of effects from the Indian and Pacific Oceans cancelling each other out: below-average temperatures are promoted by the La Niña pattern (cooler than average temperatures in the equatorial Pacific), while above-average temperatures are promoted by continuing higher than average temperatures in the central to south eastern Indian Ocean.



The chance of exceeding median minimum temperatures between February 2008 and April 2008

Minimum temperatures for the February to April period are favoured to be warmer than average across much of the north eastern and south western corners of Australia. The chances of increased overnight warmth (averaged over the coming three months) are mainly between 60 and 70% in these areas. Across the rest of the country, the chances of the seasonal mean minimum being above the long-term average are typically between 40 and 60%, except in an area in southern NT and north eastern WA where there is only a 35 to 40% chance of exceeding the median.

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