

NRM on farms



A monthly news summary about climate and natural resources in agriculture.

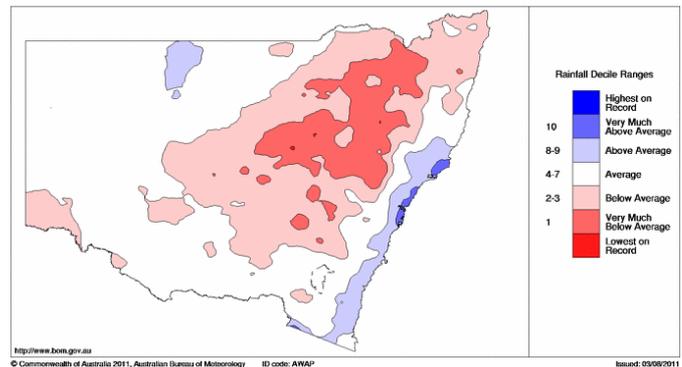
August 2011

CLIMATE

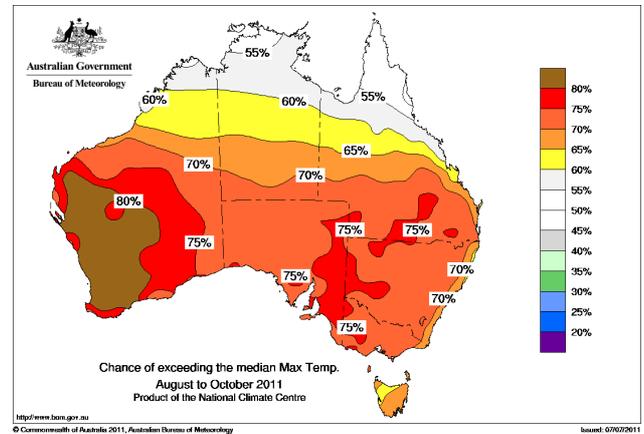
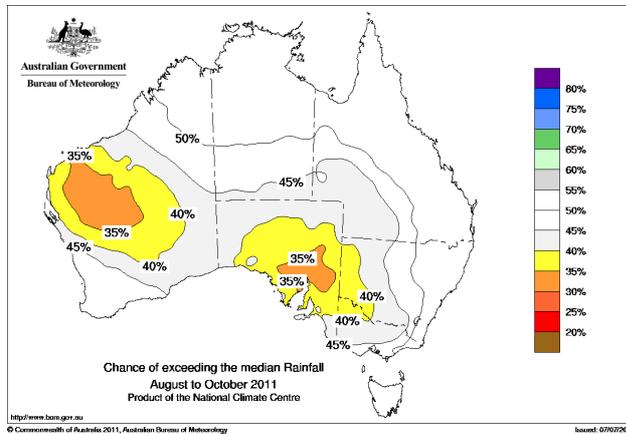
July rainfall below average

NSW recorded an average rainfall of 23.0 mm during July, below the historical average of 39.4 mm. Inland rainfall totals were well below average particularly in the northern tablelands. An East Coast Low brought well above average rain to coastal Sydney and the central coast. July temperatures were around average.

<http://www.bom.gov.au/climate/current/month/nsw/summary.shtml#maps>



Seasonal outlooks



The BoM rainfall outlook (above left) favours a drier than normal season over parts of the west and south of the country for the next three months, but no strong shift in the odds across the north or east, including most of NSW. The outlook factors in the decline of La Niña conditions across the Pacific and the persistence of above average temperatures over key parts of the Indian Ocean. The temperature outlook favours warmer temperatures across most of the country due mainly to warm conditions in the Indian Ocean.

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

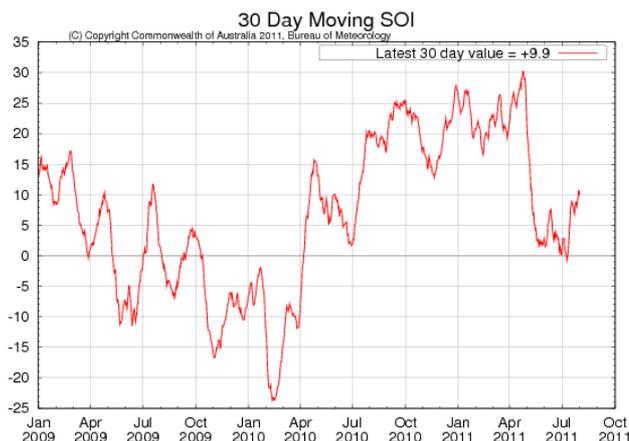
http://www.bom.gov.au/climate/ahead/temps_ahead.shtml

Climate models suggest cooling Pacific

Most international climate model forecasts for El Niño Southern Oscillation (ENSO) show that neutral conditions are likely to continue for the remainder of the southern winter and into spring with the chances of an El Niño developing now considered unlikely. In fact, more models are now predicting further cooling over the coming season. The POAMA model suggests there is a chance of a positive Indian Ocean Dipole (IOD) event forming during late winter.

In the past, positive IOD events have been associated with drier conditions over parts of Australia, particularly in the southeast, during winter and spring.

<http://www.bom.gov.au/climate/enso/>



Carbon Farming Futures funding

As part of the Clean Energy Future plan, the Australian Government has developed a \$429 million Carbon Farming Futures (CFF) Program. This program comprises

- \$201 million for research in abatement technologies, strategies
- \$99 million for onground activities
- \$64 million for coordinated communication
- \$20 million for the development of offset methodologies for the CFI.

Other elements of the Clean Energy land sector package include:

- \$250 million Carbon Farming Initiative non-Kyoto Carbon Fund
- \$946 million Biodiversity Fund
- \$22 million Indigenous Carbon Farming Fund
- \$44 million Regional Natural Resource Management Planning for Climate Change Fund
- \$4.2 million Carbon Farming Skills Program
- \$4.4 million Land Sector Carbon and Biodiversity Advisory Board

<http://www.daff.gov.au/climatechange/carbon-price-mechanism-land-sector-package>

Victoria floods review

An interim report into Victoria's severe floods earlier this year says there is no doubt that many people and organisations located in flood prone areas had been distracted from the threat of floods by devoting their energies to dealing with the dramatic consequences of the long term drought preceding the floods.

http://www.floodsreview.vic.gov.au/images/stories/documents/Review_of_the_2010_11_Flood_Warnings_and_Reponse_INTERIM_REPORT.pdf

Queensland floods review

The interim report of the Queensland Floods Commission inquiry has made several recommendations, including improved forecasting and warning services, to ensure that a disaster of the scale of the January floods does not occur again.

<http://www.floodcommission.qld.gov.au/publications/interim-report>

BoM FEATURE: POAMA 2

POAMA stands for **Predictive Ocean Atmosphere Model for Australia**.

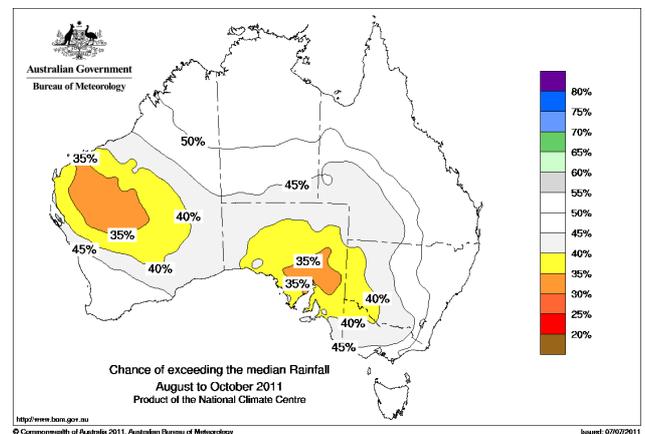
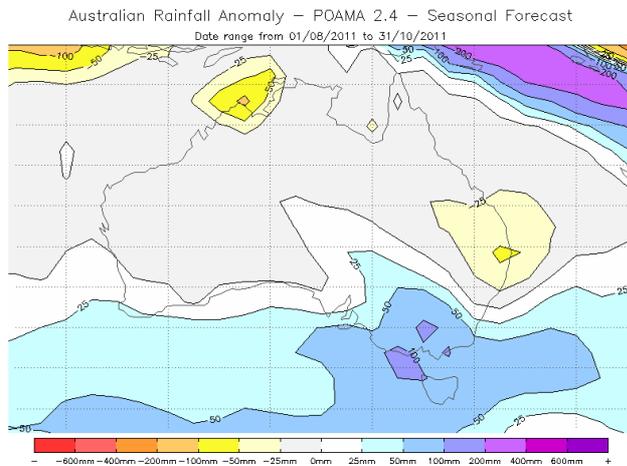
POAMA 2 is a new suite of experimental products developed by BoM and CSIRO. At this stage they are experimental only, but can be accessed for research purposes.

They are also of interest to agricultural users as some of the products provide monthly and seasonal rainfall and temperature anomaly forecasts and, soon, multiweek forecasts.

What is of real interest is the difference between these forecasts, based on ocean-atmosphere interactions, compared with BoM's current outlooks based on statistical relationships between rainfall and climate indicators.

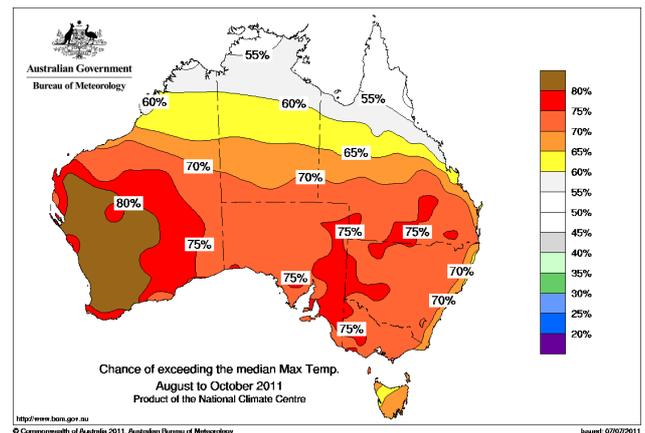
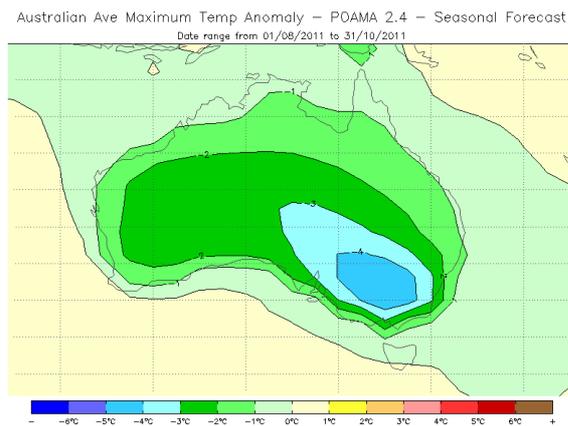
Rainfall

For instance the POAMA 2 rainfall outlook for August to October indicates higher than average rainfall in Victoria and southern NSW, while the BoM outlook indicates average chances of rainfall for most of NSW, and slightly drier in the west of the state.



Temperature

The POAMA 2 temperature outlook indicates cooler temperatures across Australia particularly in south-eastern Australia, but the BoM outlook indicates warmer temperatures across the country.



It is worth having a look at the POAMA 2 outlooks regularly as they provide an alternative view, and you can check how well the outlook matches actual weather as the year progresses. Other POAMA 2 products featuring ocean temperatures may also be of interest.

<http://poama.bom.gov.au/poama2.shtml>

CLIMATE RESOURCES

Four Degrees or more? conference

The 'Four Degrees or more? Australia in a hot world' conference in Melbourne last month included a presentation on agriculture's future in a hotter climate by CSIRO scientist Mark Howden. You can access the presentations and MarkHowden's paper at the websites below.

<http://www.fourdegrees2011.com.au/presentations/>

<http://www.piam.org.au/sites/piam.boab.info/files/Howden%20and%20Henry%20Four%20Degrees%20or%20More%20paper.pdf>

Australian perceptions of climate change

This CSIRO report provides findings of an internet survey conducted in October 2010. Climate change was rated the fifth most important issue facing Australia, after the cost of living, the global financial crisis, employment and the health system. Most survey participants believe climate change is happening but many are unsure of its causes or believe that it results from a combination of anthropogenic and natural causes.

<http://www.csiro.au/files/files/p11fh.pdf>

Scientific guide to climate scepticism

This guide looks at the evidence that human activity is causing global warming and the ways that climate sceptic arguments can mislead by presenting only small pieces of the puzzle rather than the full picture.

<http://www.skepticalscience.com/The-Scientific-Guide-to-Global-Warming-Skepticism.html>

EMISSIONS

Emissions profile of wheat production

A DPI lifecycle analysis of wheat production has found that each tonne of wheat produced emits 200kg CO₂. Greenhouse gases emitted during the production process are from pre-farm production and transport of fertiliser and lime (37%), nitrous oxide emissions from nitrogenous fertiliser applied to the crop (26%), use of fertiliser and lime (15%), production, transport and use of diesel (16%) and minor emissions (6%).

<http://www.dpi.nsw.gov.au/aboutus/news/recent-news/agriculture-news-releases/carbon-footprint-of-key-commodities>

Carbon price will affect agriculture

The Farm Institute says a carbon price has the potential to have a significant negative impact on farm business profitability due to higher energy costs on farm (electricity, freight, fertiliser etc) and on downstream processors such as meatworks that face higher energy costs and potential emission costs, which will transfer to farmers in higher processing costs or lower prices for farm products.

http://www.farminstitute.org.au/newsletter/August_featurearticle.html

A Clean Energy Future: What's in it for the land?

The University of Melbourne's Rod Keenan has written a short analysis of the implications of the Clean Energy Future package for agriculture and forestry.

<http://theconversation.edu.au/a-clean-energy-future-whats-in-it-for-the-land-2278>

SOILS

Soil organisms emit methane and nitrous oxide

A new study suggests that soil microorganisms negate almost 17 percent of the Earth's ability to absorb heat-trapping emissions by emitting methane and nitrous oxide. Overall, the methane and nitrous oxide released from methanogens and denitrifiers -- the types of microbes that emit the gases -- cancelled out 16.6 percent of the terrestrial carbon sink.

<http://www.nature.com/nature/journal/v475/n7355/full/nature10176.html>

Guide to managing inland acid sulfate soils

A national management guide is now available to help people to manage acid sulfate soils in a range of aquatic environments in a drying climate. Until recently, it had been assumed that ASS in Australia were located only in coastal regions but they have now been identified in lakes, wetlands, creeks, rivers, and drainage channels.

<http://www.environment.gov.au/water/publications/quality/pubs/guidance-for-management-of-acid-sulfate-soils.pdf>

ENERGY

New rules for NSW coal and coal seam gas

All new coal and coal seam gas exploration and mining licence applications in NSW are now subject to new rules:

- a ban on the use of benzene, toluene, ethylbenzene and xylenes as additives during coal seam gas drilling.
- an extended moratorium until 31 December 2011 on the use of hydraulic fracturing or 'fracking' during coal seam gas drilling;
- a water access licence requirement for extraction of more than 3 megalitres per year from groundwater sources
- a ban on the use of evaporation ponds relating to coal seam gas
- new public consultation guidelines to increase transparency and accountability.

The new conditions will be applied to all coal and coal seam gas applications referred to the Division of Resources and Energy.

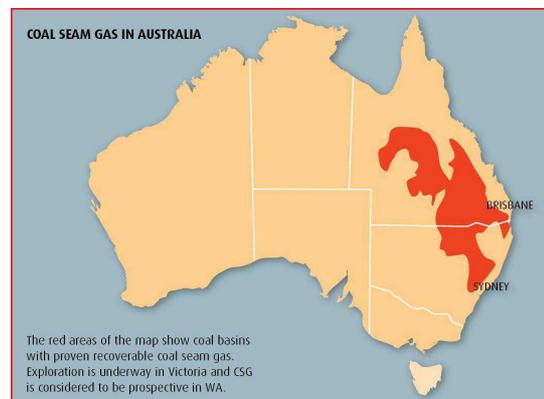
The NSW Government is currently developing online access to details of licence approval and conditions documents, and stricter protocols for the Review of Environmental Factors (REF) process are also being developed.

http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0003/400728/Minister-Hartcher-med-rel-end-of-moratorium.pdf

Development of Australia's coal seam gas resources

The Australian Parliamentary Library has published a briefing paper on the development of Australia's coal seam gas resources. The briefing covers uses, production, recovery, reserves and environmental aspects of coal seam gas.

<http://www.aph.gov.au/library/pubs/bn/sci/CoalSeamGas.pdf>



Coal seam gas developments

The NSW Farmers Association is replacing its mining taskforce with a mining reference group in recognition of the breadth and depth of mining and coal seam gas issues now being raised right across the state.

http://www.nswfarmers.org.au/_data/assets/pdf_file/0011/71876/Member_Update_July_2011.pdf

The National Farmers' Federation has established a mining and coal seam gas taskforce.

<http://www.nff.org.au/read/2098/mining-coal-seam-gas-focus-for.html>

The Senate's Rural Affairs and Transport Committee is currently investigating the impacts of mining coal seam gas on water aquifers, future water licensing arrangements; property rights; sustainability of prime agricultural land, regional towns and human health,

http://www.aph.gov.au/senate/committee/rat_ctte/mdb/info.htm

Global renewable energy report

In 2010, renewable energy supplied an estimated 16% of global final energy consumption and delivered close to 20% of global electricity production.

<http://www.worldwatch.org/node/8588>

BIODIVERSITY

New book: Planting for wildlife

'Planting for wildlife' by ANU researchers Nicola Munro and David Lindenmayer provides the latest information on restoring woodlands to provide habitat for wildlife. It covers planting locations, site preparation, and maintenance and management in NSW's south-eastern cropping/grazing region where there has been significant loss of biodiversity.

<http://www.publish.csiro.au/nid/18/pid/6716.htm>

Identification guide: Weeds of the south-east

This is the second edition of an illustrated weeds guide by Richardson et al covering 2500 plant species in Australia's south-east region, including weeds of agriculture, bushland, waterways, gardens, roadsides, wasteland and amenity areas, and new and emerging problem species.

<http://www.publish.csiro.au/nid/18/pid/6820.htm>

Queensland biodiversity and climate change

A new report on climate change and Queensland biodiversity warns that extreme heatwaves in arid Australia may cause the deaths of thousands of birds and other wildlife. Another conclusion is that large numbers of species with small distributions are probably more resilient to climate change than their distributions might suggest. The report, published by the Queensland Government, provides an overview of climate change threats, then reviews the plants and animals at most risk in each of Queensland's 13 bioregions.

<http://www.derm.qld.gov.au/wildlife-ecosystems/biodiversity/climate-change-report.html>

Feral photographs wanted

The Invasive Animals CRC is looking for photos of Australia's pest animals, their impacts and control or monitoring activities for its feral photos competition. There are prizes for the best photos and finalists will be featured in a 2012 calendar. Deadline is 31 October.

<http://www.invasiveanimals.com/feral-photos/>

FOOD

\$2 million for Victorian farmers' markets

The Victorian government has allocated \$2 million to build the state's farmers' markets. Rural and regional councils will receive 1.4 million to undertake feasibility studies, establish new farmers' markets and expand existing farmers' markets. The Victorian Farmers' Markets Association will be allocated \$600,000 to provide stallholder training and accreditation, consumer research and consumer information

<http://www.premier.vic.gov.au/media-centre/media-releases/1395-coalition-delivers-2-million-to-enhance-victorias-popular-farmers-markets.html>

Footprint for growing more food

Of all human activities, food production has the biggest impact on earth's resources. At current rates of growth, there will be 2 billion to 3 billion more people on Earth in 2050, and we may need three Earths to meet the demands of our consumption. This Nature article outlines eight steps to producing more food with less resources.

http://www.nature.com/nature/journal/v475/n7356/full/475287a.html?WT.ec_id=NATURE-20110721

EVENTS

- | | |
|-----------------|--|
| August 22-23 | AWA catchment management conference, Wangaratta
http://www.awa.asn.au/EventDetail.aspx?id=4294970002 |
| August 22-25 | Irrigation Australia conference, Launceston
http://online.saneevent.com.au/ial2011/ |
| September 5-7 | NSW Landcare forum, Parkes
http://parkeslandcare.org.au/ |
| September 15-18 | 2nd Asia Pacific Biochar Conference, Kyoto, Japan
http://apbc2011.com/ |
| September 18-22 | Soil science in a changing world, Wageningen, The Netherlands.
www.wageningensoilmeeting.wur.nl |
| September 25-29 | 5th World Congress on conservation agriculture: Brisbane
http://www.wcca2011.org/index.htm |
| September 25-30 | Rhizosphere 3 International Conference, Perth
http://rhizosphere3.com/ |
| September 27-29 | Carbon Farming Week, Dubbo
http://carbonfarmingconference.com.au/Conference/index.html |
| October 13-14 | 2nd Climate change adaptation congress, Melbourne
http://www.3pillarsnetwork.com.au/p3_Events-Resources.html?&event=75 |
| November 7-9 | CarbonExpo Australasia 2011
http://www.carbonexpo.com.au |
| November 8-11 | 20 th NSW Coastal Conference, Tweed heads
http://www.coastalconference.com/ |
| November 24-25 | Bioenergy Australia conference, Sunshine Coast
http://www.bioenergyaustralia.org/index.html |
| November 28-30 | APEN forum: Sustaining landscapes livelihoods & lifestyles, Armidale
http://www.apen.org.au/default.asp?PageID=70 |
| December 6-8 | Agri-Food: Sustainabilities, and agriculture in the Asia-Pacific region |

- <http://www.afrn.org.au/>
March 6-7 2012 3rd national acid sulfate soils conference, Melbourne
www.scu.edu.au/nationalassconference
May 1–4 2012 Water and beyond, Griffith NSW
www.waterandbeyond.com.au
December 2 – 7 2012 Soil solutions for diverse landscapes, Hobart
<http://www.cdesign.com.au/soilscience2012/>

OTHER NRM NEWSLETTERS

ASSAY - acid sulfate soils

<http://www.dpi.nsw.gov.au/aboutus/resources/periodicals/newsletters/assay>

Climate Institute newsletter

<http://www.climateinstitute.org.au/>

Murray Darling Basin Commission e-letter

http://www.mdba.gov.au/media_centre/mdba_eletter

National Water Commission e-letter

<http://www.nwc.gov.au/www/html/171-subscribe.asp>

Newstreams- aquatic habitat

<http://www.dpi.nsw.gov.au/aboutus/resources/periodicals/newsletters/newstreams>

NRM Notes (invasive animals)

<http://www.invasiveanimals.com/research/goals/goal-11/11t1/>

Water matters

<http://www.environment.gov.au/water/publications/watermatters/index.html>

MAILING LIST

To subscribe to NRM on farms, email Rebecca Lines-Kelly at rebecca.lines-kelly@industry.nsw.gov.au.