

# NRM on farms



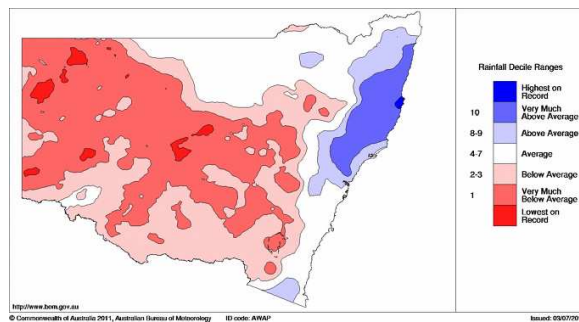
A monthly news summary about climate and natural resources in agriculture.

July 2011

## CLIMATE

### Wet and dry June for NSW

NSW's average June rainfall of 34.1 mm was slightly below the historical average of 38.8 mm, but for the MDB it was the 8th driest June on record. Charlotte Pass and Blayney had their lowest June rainfall on record, while some mid-north coast centres it was their wettest, due to the East Coast Low that flooded the region. Woolgoolga, for instance, received 539 mm, over its average of 126.4. Temperatures were slightly above average for maximums and slightly below average for minimums, but Goulburn and Murwillumbah had their coldest maximum June temperature on record, and Cobar had its lowest June temperature on record.

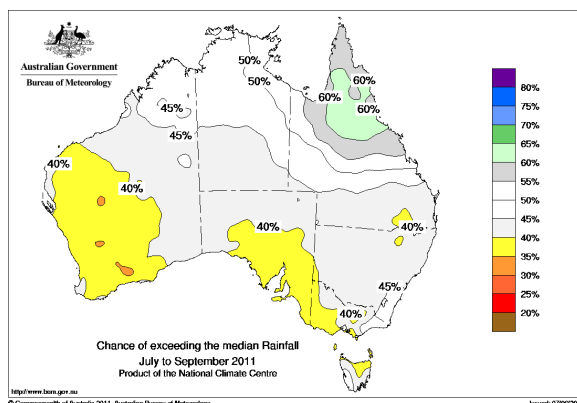


<http://www.bom.gov.au/climate/current/month/nsw/summary.shtml>

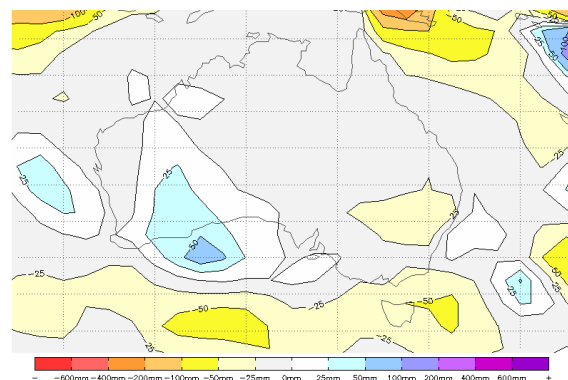
### Seasonal outlook

The national outlook for late winter to early spring (July to September) favours average rainfall over NSW, a drier than normal season over parts of the southwest and southeast of the country, and a wetter season over northern Queensland. The outlook is a result of cool conditions in the central tropical Pacific Ocean, as well as warm conditions in the Indian Ocean.

[http://www.bom.gov.au/climate/ahead/rain\\_ahead.shtml](http://www.bom.gov.au/climate/ahead/rain_ahead.shtml)



Above: This seasonal outlook map for the next three months is derived from a range of models.



Above: This seasonal outlook map has been derived from the experimental POAMA 2 model.

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

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Primary Industries

## Fewer storms mean less rain

Decreasing autumn and winter rainfall over southern Australia has been attributed to a 50-year decrease in the average intensity of storms in the region – a trend forecast to continue for another 50 years. CSIRO climate scientist Jorgen Frederiksen says these changes are due to reductions in the strength of the mid-latitude jet stream and changes in atmospheric temperatures. The jet stream comprises fast moving westerly winds in the upper atmosphere.

<http://www.csiro.au/news/Fewer-rain-storms-across-southern-Australia.html>

## Global drought

Several areas around the world are experiencing exceptional drought as this map shows. Parts of the US, northern Europe, UK, China, Africa and Australia are in drought. The map is updated every month and has a spatial resolution of ~100km. Users can select the period for assessment (1 to 36 months), and can zoom in at several levels.

<http://drought.mssl.ucl.ac.uk>

## 2010 one of the two warmest years on record

Three major independent datasets show 2010 as one of the two warmest years since official record-keeping began in the late 19th century, according to the latest NOAA State of the climate report. Annual average temperatures in the Arctic continued to rise at about twice the rate of the lower latitudes. Arctic sea ice shrank to the third smallest area on record, and the Greenland ice sheet melted at the highest rate since at least 1958. Meanwhile, average sea ice extent in the Antarctic grew to an all-time record maximum in 2010. Average global sea surface temperature was third warmest on record and sea level continued to rise. Carbon dioxide increased by 2.60 ppm, more than the average annual increase seen from 1980-2010.

<http://www.ncdc.noaa.gov/bams-state-of-the-climate/>

## Climate-related disasters occurring around the world

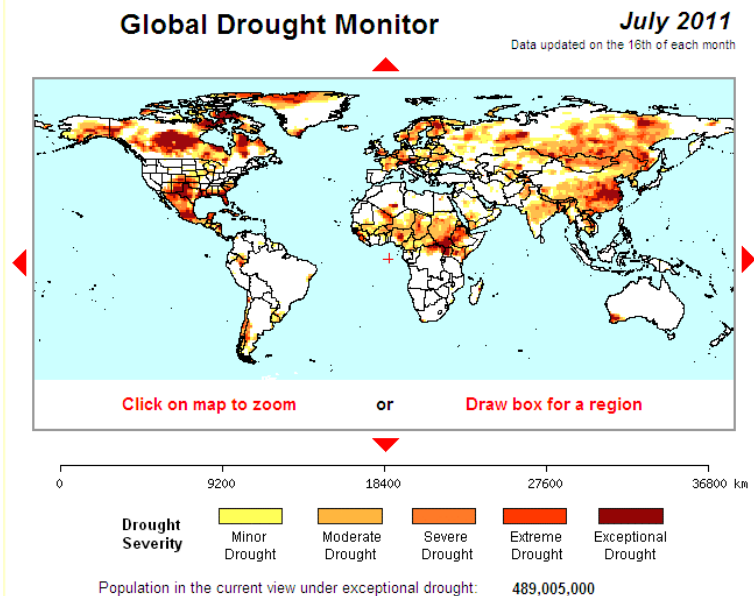
Tornados, wildfires, droughts and floods were once seen as freak conditions. But the environmental disasters now striking the world are signs of 'global weirding' says a UK Guardian article covering the climate anomalies occurring around the world.

<http://www.guardian.co.uk/world/2011/jun/13/extreme-weather-flooding-droughts-fires>

## Climate change and extreme weather

Is climate change causing more extreme weather events? A panel of US scientists asked this question agree that some climate conditions encourage extremes, but the growing human toll from hurricanes, tornadoes, floods, and heat waves is primarily related to burgeoning human population and the related degradation of the environment.

[http://e360.yale.edu/feature/forum\\_is\\_extreme\\_weather\\_linked\\_to\\_global\\_warming/2411/](http://e360.yale.edu/feature/forum_is_extreme_weather_linked_to_global_warming/2411/)



# CLIMATE RESOURCES

## DCCEE climate resources

The Department of Climate Change and Energy Efficiency has produced a series of fact sheets and presentations on Australia's climate.

One series provide an international context for Australia's greenhouse gas emissions and climate change actions (see right).

<http://www.climatechange.gov.au/government/international/global-action-facts-and-fiction.aspx>

Another series provides information on the impacts of climate change in Australia's states and territories.

<http://www.climatechange.gov.au/climate-change/impacts/national-impacts/nsw-impacts.aspx>

A Powerpoint presentation about climate change and emissions includes images that can be used in your own presentations.

<http://www.climatechange.gov.au/government/initiatives/multi-party-committee/~media/publications/committee/mpccc-dccee-climate-change-overview-pdf.pdf>

Country	Carbon Pricing	Clean Energy	Energy Efficiency		Transport	Per cent of Global Emissions*
		Renewables Target	Appliance and Building Standards*	Energy Efficiency Obligation†	Vehicle Performance Standards	
Australia 	●	●	●	●	●	1.5
Brazil		●	●	●		2.7
Canada	●	●	●		●	2.0
China	●	●	●		●	19.1
European Union	●	●	●	●	●	13.4
India coal tax	●	●	●	●	●	4.9
Indonesia		●	●			1.5
Japan pilot	●	●	●		●	3.6
Mexico		●	●		●	1.7
Russian Federation		●	●			5.2
South Africa		●	●	●		1.1
Republic of Korea pilot	●	●	●		●	1.5
United States	●	●	●	●	●	18.3
<b>Total: 76.5%</b>						

Key:  
 ● State-based action  
 ● National action  
 ● Planned nationally

\* Includes residential and commercial buildings. # Includes energy efficiency trading markets.  
 + 2005, excluding land use, land use change and forestry.

## Crop Science Society statement on climate change

The Crop Science Society of America has published its position statement on crop adaptation to climate change which reviews the impacts of variable weather conditions arising from climate change on cropping systems, progress to date in adapting crops and management practices to new conditions, and focus areas for increasing the speed at which global agricultural systems can adapt to climate change.

<https://www.crops.org/files/science-policy/cssa-crop-adaptation-position-statement.pdf>

## Climate change and agricultural ecosystem management

The July issue of Crop & Pasture Science is a special issue on climate change and agricultural ecosystem management in dry areas. It comprises some of the papers presented at an international workshop on ecological assessment and management in July 2010.

<http://www.publish.csiro.au/nid/40.htm>

## Primary Industries Climate Challenges Centre

The Primary Industries Climate Challenges Centre (PICCC) is a collaborative venture between the University of Melbourne and the Department of Primary Industries Victoria. Current projects include the Australian grains free air CO2 enrichment project (AGFACE), enteric methane research, nitrous oxide research, and a component of the climate change adaptation in the southern Australian livestock industries program.

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

## Climate change and human health

The Asia Pacific Journal of Public Health has published a special issue on climate change and public health with papers on rural communities and farmer's mental health.

[http://aph.sagepub.com/content/23/2\\_suppl](http://aph.sagepub.com/content/23/2_suppl)

## Analysis of climate sceptics

Australians have been exposed to a phony public debate about climate change which is not remotely reflected in the scientific literature and community of experts, say a group of Australian scientists, who have joined together to write a series of articles analysing how climate sceptics side-step scientific literature and subvert the peer review process.

<http://theconversation.edu.au/climate-change-is-real-an-open-letter-from-the-scientific-community-1808>

## Global climate change

NASA's climate change site has a wealth of statistics and satellite images related to global climate change.

<http://climate.nasa.gov/>

## CSIRO Carbon Kids adds agriculture

CSIRO has added a unit on 'Agriculture in a changing climate' to their Carbon Kids program.

<http://www.csiro.au/products/CarbonKids-Resource.html#CKUnits>

## EMISSIONS

### Carbon tax package and agriculture

The Australian government's new carbon tax package includes an Australian carbon tax of \$23 a tonne which will come into effect on 1 July 2012. However, a carbon price will not apply to agricultural emissions so there is no requirement for farmers to pay for emissions from livestock or fertiliser use. Agricultural land managers will be supported to reduce carbon pollution and store carbon through the ongoing Biodiversity Fund and the Carbon Farming Initiative. For more detail, see the website below.

<http://www.cleanenergyfuture.gov.au/clean-energy-future/securing-a-clean-energy-future/#content010>

### CFI positive and negative lists

The Department of Climate Change and Energy Efficiency is currently considering submissions for its lists of activities eligible for the Carbon Farming Initiative. The Positive List identified activities that would be considered additional and eligible to participate in the scheme; and the Negative List identified activities ineligible in certain circumstances because they risk adverse impacts on communities and the environment.

<http://www.climatechange.gov.au/government/submissions/cfi-positive-negative-lists.aspx>

### Productivity Commission study of carbon policy measures

A recent Productivity Commission study into effective carbon prices has found that emissions trading schemes are relatively cost effective, while policies encouraging small-scale renewable generation and biofuels generate little abatement for substantially higher cost. The study looked at more than 1000 carbon policy measures in Australia, China, Germany, India, Japan, New Zealand, South Korea, the United Kingdom and the United States. As a proportion of GDP, Germany was found to have allocated more resources than other countries to abatement policies in the electricity generation sector, followed by the UK, with Australia, China and the US mid-range.

<http://www.pc.gov.au/projects/study/carbon-prices/report>

### CFI offsets methodologies

The Domestic Offsets Integrity Committee is currently considering proposed Carbon Farming Initiative offset methodologies for savanna burning, capture & combustion of landfill gas, and management of camels in the Australian rangelands. All three of these focus on avoided

emissions. Methodologies for destruction of methane generated from manure in piggeries, and for environmental plantings, are open for consultation until 26 July.

<http://www.climatechange.gov.au/en/government/initiatives/carbon-farming-initiative/methodology-development/methodologies-under-consideration.aspx>

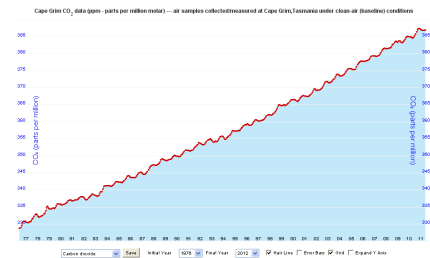
## Cape Grim greenhouse gas record

The CSIRO and Australian Bureau of Meteorology have launched a website showing the monthly data for greenhouse gases measured at Cape Grim station from 1976. Since then, carbon dioxide levels have increased by more than 15 per cent (pictured), methane has increased by 20 per cent and nitrous oxide by 8 per cent.

<http://www.csiro.au/greenhouse-gases/>

Cape Grim Greenhouse Gas Data

The latest greenhouse gas data updated monthly  
From one of the cleanest air sources in the world.



## Carbon footprint of livestock

The first issue of a new livestock journal, Animal Frontiers, focuses on the carbon footprint of animal agriculture from production to marketing.

<http://www.animalfrontiers.org/>

## Opportunities for carbon forestry in Australia

A CSIRO analysis of opportunities for carbon forestry has found that no areas were identified as profitable until a carbon price of \$40 t CO<sub>2</sub>-1 was reached and no areas were ever profitable if the growth rates were all decreased by 30%. However, if a social discount rate of 1.5% was applied then potentially large areas of land are profitable, even for establishment cost of \$3,000 ha<sup>-1</sup>, depending on carbon price. Including a cost for a water license significantly decreased calculated areas of opportunity.

<http://www.csiro.au/files/files/p10tz.pdf>

## Cropland conversion to forests

A US study has found that schemes to convert croplands or marginal lands to forests to store carbon will make almost no inroads against global warming this century, because forests take decades to mature and dark-coloured forests absorb more solar heat than croplands.

<http://www.nature.com/ngeo/journal/vaop/ncurrent/full/ngeo1182.html>

## Calculate your lifestyle's carbon footprint

The Victorian EPA has launched a greenhouse gas calculator for people to check the carbon footprint of their household, food choices and travel patterns.

<http://www.epa.vic.gov.au/AGC/calculator/index.html>

## WATER

### Basin Plan inquiry recommendations

The recent Parliamentary inquiry chaired by Tony Windsor into the impact of the Guide to the Murray-Darling Basin Plan on regional communities has made 21 recommendations for change, including exploration of all options for water savings, higher level of engagement with local landholders and authorities, and greater transparency. The inquiry also recommends that the mining industry be placed under the same obligations as other water users in the Murray-Darling Basin.

<http://www.aph.gov.au/house/committee/ra/murraydarling/report/front.pdf>

## Strengthening Australia's water markets

The National Water Commission has recommended more transparency and more timely information and transactions in water trading particularly relating to trade approval processing, price information and disclosure of allocation determinations. Other areas that need improving are handling of conflicts of interest and the business practices of water market intermediaries, and reforms to open up trade in groundwater.

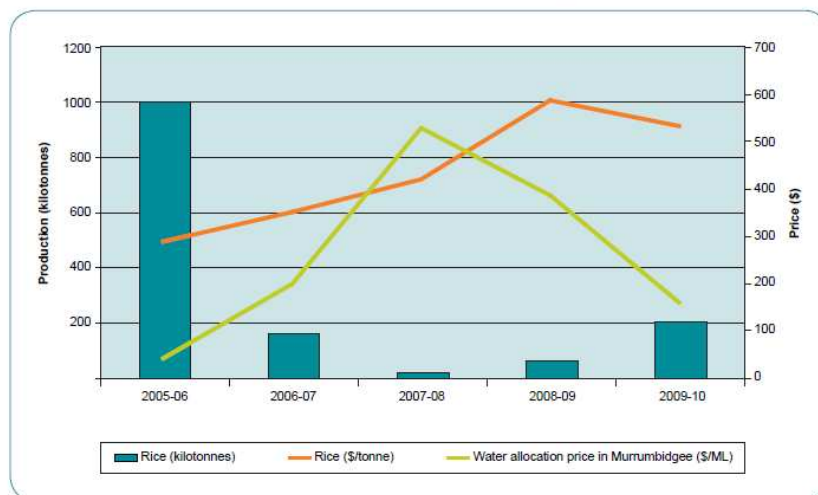
<http://www.nwc.gov.au/resources/documents/StrengtheningAustraliasWaterMarketsReport.pdf>

## Australian water market trends and drivers

A new report on water trading from 2007 to 2010 analyses how much water is being traded, where it is going to, and why it is being traded. The focus is on the southern Murray–Darling Basin where most trades occur, but other areas are covered.

[http://www.nwc.gov.au/resources/documents/AWMR-companion-09-10\\_FA-1.pdf](http://www.nwc.gov.au/resources/documents/AWMR-companion-09-10_FA-1.pdf)

Figure 3.12: Rice production, rice prices and water allocation prices, Murrumbidgee, 2005–06 to 2009–10



## Groundwater trading framework

The National Water Commission has produced a management framework for groundwater trading, which now represents about five per cent of all water entitlement traded in Australia, and 10% of all groundwater allocation trades.

[http://www.nwc.gov.au/resources/documents/52\\_framework3.pdf](http://www.nwc.gov.au/resources/documents/52_framework3.pdf)

## Environmental water for Murrumbidgee

More than 150 gigalitres of water recovered from the environment will be delivered to hundreds of wetlands along the Murrumbidgee Rive from Burrinjuck and Blowering Dams. The flows come from the Commonwealth, NSW Government, and the MDBA Living Murray program and are supported by local landholders with several private water holders contributing water to the Commonwealth and NSW as part of the release.

<http://www.environment.gov.au/minister/burke/2011/mr20110610.html>

## The future of MDB irrigated agriculture

Analysis of the impacts of the recent drought in the MDB shows that farmers could be better prepared to deal with a drier climate if their water management practices were improved and if water allocation and low water availability was more certain. Policy improvements include reduction of barriers and distortions to water trading, optimising environmental water allocation, improvement of the cost-effectiveness water infrastructure, and provision of accurate, accessible and useful water information at different scales.

<http://www.sciencedirect.com/science/article/pii/S0959378011000641>

## SOILS

### Soil carbon tenders open in the Lachlan Valley

A pilot project investigating the most useful incentives to encourage farmers to build soil carbon was launched at Canowindra NSW on 4 July. About 300 farmers in the Cowra Trough soils region of the Lachlan valley have the opportunity to tender for contracts with Lachlan CMA to build soil carbon over five years through conservation tillage, permanent pasture, environmental plantings and other farmer-defined actions. Farmers will be paid for undertaking the actions, or for building soil carbon levels. For more information about the pilot, which was developed by DPI, Office of Environment and Heritage and Lachlan CMA with funding from the NSW Catchment Action Program, go to the website below.

[http://www.lachlan.cma.nsw.gov.au/ourprojects/soil\\_carbon\\_pilot\\_project.aspx](http://www.lachlan.cma.nsw.gov.au/ourprojects/soil_carbon_pilot_project.aspx)

### Compost standards need standardising

A recent article in DPI's Organic News says there is an urgent need to address anomalies between compost standards and Federal and State regulations, particularly contaminant levels, to ensure a high standard product that will improve soil health. Farmers are being encouraged to use composts to improve soil health and to sequester carbon, but inconsistencies in standards and regulations make it difficult for users to assess the quality of the product and ensure its suitability for on-farm use.

[http://www.dpi.nsw.gov.au/\\_data/assets/pdf\\_file/0005/396167/organic-news-winter-2011.pdf](http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0005/396167/organic-news-winter-2011.pdf)

### More work needed on public benefits of soil management

Links between paddock-level soil management and broader public benefits remain under-examined in the Australian context according to a new paper by Bennett et al. In particular, there is minimal information on connections between indicator-based assessments of soil health and broader-scale provision of non-agricultural ecosystem services.

<http://www.sciencedirect.com/science/article/pii/S0167880910001714>

### Soil and farming systems project

This Victorian project began in 2009 and will continue until 2014. It supports the organisation and delivery of data, information and knowledge for modelling and measuring the impacts of farming systems and climate on soil health.

[http://www.dpi.vic.gov.au/dpi/vro/vrosite.nsf/pages/lwm\\_usfs](http://www.dpi.vic.gov.au/dpi/vro/vrosite.nsf/pages/lwm_usfs)

### Landline feature on soil carbon and agriculture

ABC's Landline June 19 program featured a story on the costs and benefits of carbon farming. You can read the transcript at the site below.

<http://www.abc.net.au/landline/content/2010/s3247644.htm>

### DPI biochar work on the ABC Science Show

The ABC's Science show featured DPI's biochar research earlier this year. You can read the transcript at the website below.

<http://www.abc.net.au/rn/scienceshow/stories/2011/3198213.htm>

### Biochar standards

The third version of the biochar standards draft and all other updates are available at the site below.

<http://www.biochar-international.org/characterizationstandard>

## Terra preta Australis

Australian scientists have found that soils developed on the sites of Australian Aboriginal oven mounds along the Murray River in SE Australia have traits similar to the Terra Preta de Indio of the Amazon basin. The existence of these soils demonstrates that Australian soils, in temperate climates, are capable of storing carbon in much higher quantities than has been previously recognised, and the addition of charcoal appears to have improved the physical and chemical properties of these soils.

<http://www.biochar-international.org/node/2602>

## Soil moisture variations affect storm frequency

Variations in soil moisture exert a strong control on storm initiation according to new research in West Africa's semi-arid tropics. The probability of convective storm clouds forming is doubled over strong soil-moisture gradients compared with uniform soil-moisture conditions. A third of all storm initiations analysed occurred over the steepest 25% of soil-moisture gradients. Similar processes may be important throughout the semi-arid tropics.

<http://www.nature.com/ngeo/journal/vaop/ncurrent/full/ngeo1173.html>

## Temperature variability affects soil emissions

A US study has found that variability of temperature plays an important role determining respiration rates of soil organic matter. Changes in temperature variability, without changes in the average temperature, can affect the amount of carbon released through respiration over the long-term.

<http://www.biogeosciences-discuss.net/7/8979/2010/bgd-7-8979-2010.html>

## New US soils reference

The American Society of Agronomy and Soil Science Society of America have recently published a new soils reference, 'Soil management: Building a stable base for agriculture'. The editors, Hatfield and Sauer, say soil is at the root of the challenges facing society over the next several decades.

<http://portal.sciencesocieties.org/resources/files/Downloads/pdf/soil-management-fm.pdf>

## Texan grazing study

A nine-year Texas study comparing multi-paddock short term grazing and continuously grazed land found that the multi-paddock system was dominated by taller more productive grasses with less bare ground, more stable soil aggregates, lower compaction and erosion, high levels of soil organic matter, higher soil moisture and higher fungal/bacterial ratio.

<http://agrilife.org/today/2011/06/15/agrilife-research-multi-paddock-grazing-is-superior-to-continuous-grazing/>

## Carbon Farming Week in Dubbo

Tim Flannery and Greg Combet are on the program for Carbon Farming Conference at Dubbo in September. The conference is part of Carbon Farming Week which includes a festival of fertilisers, a Carbon Farming 101 course and the Carbon Cocky awards.

<http://carbonfarmingconference.com.au/Conference/index.html>

## ENERGY

### Funding for Moree Solar Farm

The Federal Government will contribute \$306.5 million towards the \$923 million Moree Solar Farm where a consortium led by BP Solar will build a 150 MW photovoltaic power plant. The government is also funding the Solar Dawn consortium at Chinchilla in Queensland. . Work

will commence next year and the plants are expected to be completed and commissioned by the end of 2015.

<http://www.moresolarfarm.com.au/>

## Wind farms and human health

A Senate report on the social and economic impact of wind farms has recommended as a matter of priority that the Commonwealth Government initiate epidemiological and laboratory studies of the possible effects of wind farms on human health. It also recommends that wind farm standards include measures to calculate the impact of low frequency noise and vibrations indoors at impacted dwellings, and development of a policy on separation criteria between residences and wind farm facilities. The senate inquiry received 1017 submissions, many more than the average inquiry, with 535 pro-wind, 468 against and 14 neutral.

[http://www.aph.gov.au/Senate/committee/clac\\_ctte/impact\\_rural\\_wind\\_farms/report/report.pdf](http://www.aph.gov.au/Senate/committee/clac_ctte/impact_rural_wind_farms/report/report.pdf)

## Renewable energy consumption increases

Australia's consumption of solar, wind and hydroelectric power grew 17.1 per cent in 2009–10. However, there was a decline of 7.1 per cent in biomass consumption due to a fall in the use of bagasse for electricity generation by sugar manufacturers in Queensland and New South Wales.

[http://adl.brs.gov.au/data/warehouse/pe\\_abares99010610/EnergyUpdate\\_2011\\_REPORT.pdf](http://adl.brs.gov.au/data/warehouse/pe_abares99010610/EnergyUpdate_2011_REPORT.pdf)

## BIODIVERSITY

### NRM on Australian farms 2009-10

In 2009-10, 65% of all agricultural businesses reported having native vegetation on their holding and 55% of these protected their native vegetation for conservation purposes. Similarly, half of all agricultural businesses reported rivers or creeks on their holding with 55% of these protecting their river or creek banks. Wetlands were reported by 12% of all agricultural businesses with 57% of these businesses reporting that they had protected these wetlands.

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4627.0Main+Features12009-10?OpenDocument>

### NSW GM moratorium extended

The NSW Government has passed a bill to extend its moratorium on genetically modified crops for a further ten years until 1 July 2021. The Gene Technology (GM Crop Moratorium) Act 2003, provides a blanket prohibition on the cultivation of all GM food crops in New South Wales, except those which have been specifically approved. In 2008 the Act was amended to remove the moratorium orders on the cultivation of GM canola. In 2010, 24,000 hectares was under GM canola cultivation out of a total canola crop of 308,000 hectares.

<http://parliament.nsw.gov.au/prod/parliament/NSWBills.nsf/d2117e6bba4ab3ebca256e68000a0ae2/44f01ff64b9c60e0ca2578a0001bbb1b?OpenDocument>

### Legumes and herbs of coastal NSW

This new book by Kempsey agronomist Carol Rose, beef officer Trevor Rose and project officer Harry Rose provides a photographic reference to legumes and herbs found in pastures and roadsides in coastal NSW.

<http://www.dpi.nsw.gov.au/aboutus/resources/bookshop/legumes-and-herbs>

## Tasmania drafts regulations for pesticides spraying

The Tasmanian government has released draft regulations for aerial and ground spraying of pesticides to balance the use of agricultural chemicals with community expectations about safety.

<http://www.dpiw.tas.gov.au/inter.nsf/WebPages/CYAA-8H28FH?open>

## PestSmart Toolkit

The PestSmart Toolkit provides comprehensive management information packages on several key vertebrate pest species including rabbits, wild dogs, foxes, feral pigs, feral cats, carp, and tilapia. Information will be provided in various forms such as fact sheets, case-studies, technical manuals and scientific reports.

<http://www.feral.org.au/pestsmart/>

## FeralScan update

FeralScan now offers people the chance to map occurrences of several feral pests, including rabbits, camels, foxes, myna birds.

<http://www.feralscan.org.au/default.aspx>

## Atlas of Living Australia

The Atlas of Living Australia is a biodiversity information resource which has a page for each Australian plant, animal and fungi with photos, descriptions, distribution maps and observations.

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

## Plants of western NSW

This landmark 1992 publication has been reprinted this month. It draws together all of the existing knowledge of the dry pastoral portion of NSW. This new edition includes website addresses where readers can access up-to-date information on botanical name changes.

<http://www.publish.csiro.au/nid/18/pid/6772.htm>

## FOOD

### National food plan

The Federal government has produced an issues paper as the first step in developing a national food plan. The paper covers all parts of Australia's food supply chain from paddock to plate and poses questions for discussion and feedback. The paper also summarises the wide range of food-related government policy and programs and key facts about our food supply chain.

<http://www.daff.gov.au/agriculture-food/food/national-food-plan>

### We need to look at our food imports says Growcom

Despite Australia's domestic and international reputation as a large agricultural producer and exporter we import up to 34 per cent of our fruit and 19 per cent of vegetables, according to a recent report on food security from the Queensland horticultural organisation Growcom. The report says industry organisations need to work collectively to raise awareness that imports may become less available in the future, the implications of import dependence on Australian production and ultimately domestic food security.

[http://www.growcom.com.au/\\_uploads/171320Food\\_Security\\_Report.pdf](http://www.growcom.com.au/_uploads/171320Food_Security_Report.pdf)

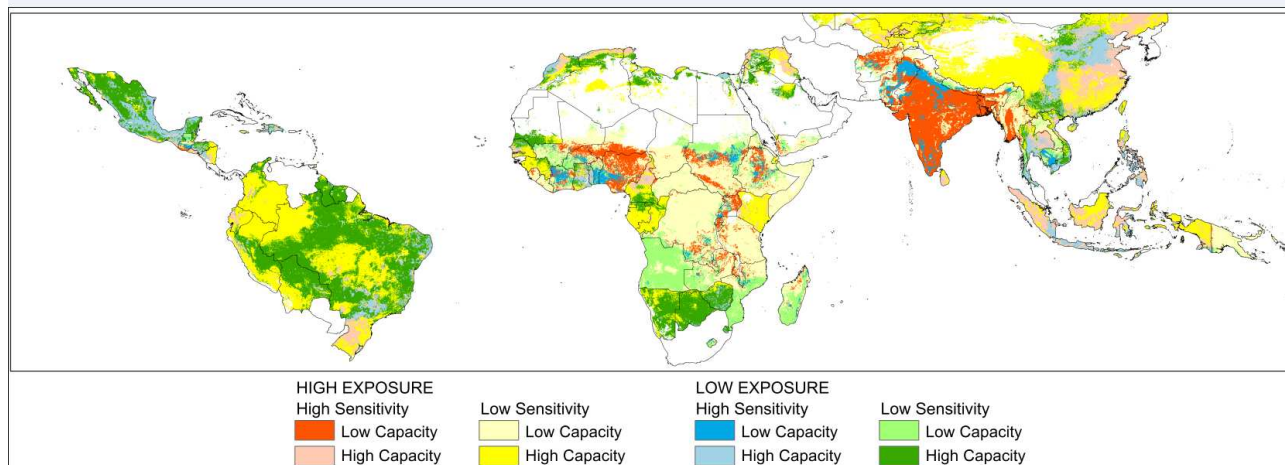
## Food tourism now eligible for FarmReady grants

The Australian Government has expanded the FarmReady reimbursement grants scheme to include training in agritourism and food tourism.

<http://daff.gov.au/climatechange/australias-farming-future/farmready>

## Food security hotspots

A new study has matched future climate change “hotspots” with regions already suffering chronic food problems to identify highly-vulnerable populations, chiefly in Africa and South Asia, but potentially in China and Latin America as well, where in fewer than 40 years, the prospect of shorter, hotter or drier growing seasons could imperil hundreds of millions of already-impooverished people.



<http://ccafs.cgiar.org/news/press-release/study-reveals-future-hotspots-climate-risk>

## SUSTAINABILITY

### Inquiries into foreign ownership of agricultural land

The Senate Standing Committee on Rural Affairs and Transport will report on 30 November on how the Foreign Investment Review Board’s national interest test was applied to agricultural land and agribusiness purchases by foreign companies, foreign sovereign funds and other entities in the past 12 months. The Senate inquiry is additional to the current investigation by the Australian Bureau of Statistics, the Rural Industries Research and Development Corporation and ABARES into the level of foreign ownership in rural land and agri-businesses in Australia.

<http://www.dantehan.com.au/news/165/59/SENATE-INQUIRY-ON-FOREIGN-INVESTMENT-IN-AGRICULTURE-WELCOME-NEWS.html>

### Agriculture facing skills and labour crisis

Australia’s agriculture faces a manpower crisis due to the ageing of its workforce, skilled workers exiting to the resource sectors and poor labour attraction and retention rates. Within seven years, 56.2 per cent of the existing workforce will be over 55; and half of Australia’s agricultural scientists are already nearing retirement. Agrifood Skills 2011 environmental scan of the industry says new business models and a radically new skills base are needed in agriculture to reduce emissions, manage rising energy prices and water costs, biosecurity, animal welfare and natural resources.

<http://www.agrifoodskills.net.au/publications/scan/2011/>

## FAO: Save and grow

A new FAO report, 'Save and grow', has called for greater use of environmentally sustainable techniques to increase crop intensity to feed the world's growing population. The techniques include using plant residues to cover over fields, rotating cereals cultivation with soil-enriching legumes, more precise irrigation for fields and better use of fertilisers.

<http://www.fao.org/ag/save-and-grow/>

## ABARES NRM datasets

The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) has 57 datasets relating to land use, land cover, vegetation, forests, climate, soil, salinity and water, social, fire, pests and invasive species. ABARES has published a report on the value, status and availability of these datasets. Unrestricted datasets and metadata, and metadata pertaining to restricted datasets will be made publicly discoverable in 2011.

[http://adl.brs.gov.au/data/warehouse/pe\\_abares99010701/TR11.2ScienceInfoNRM\\_highres.pdf](http://adl.brs.gov.au/data/warehouse/pe_abares99010701/TR11.2ScienceInfoNRM_highres.pdf)

## SA proposal to protect wine growing areas

The SA Government has released a discussion paper as the first step towards protecting the Barossa Valley and McLaren Vale from urban development.

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

## Linking energy, water and carbon sustainably

In the latest issue of ECOS magazine, CSIRO scientist Michael Raupach looks at ways can link energy, water and carbon pathways that respect environmental constraints on water availability and greenhouse gas emissions, and that combine social wellbeing, economic sufficiency and environmental sustainability – all in the presence of domestic and global uncertainties and shocks.

<http://www.ecosmagazine.com/paper/EC10130.htm>

## EVENTS

- |                 |  |
|-----------------|--|
| July 12-14      | Four degrees or more? Conference, Melbourne<br><a href="http://www.fourdegrees2011.com.au">http://www.fourdegrees2011.com.au</a>   |
| July 13-14      | Carbon forestry, Auckland NZ<br><a href="http://www.carbonforestryevents.com/">http://www.carbonforestryevents.com/</a>  |
| July 18-21      | NSW weeds conference, Coffs Harbour.<br><a href="http://wired.ivvy.com/event/QK8MZBH4Y/">http://wired.ivvy.com/event/QK8MZBH4Y/</a>  |
| July 20-21      | Water Australia Summit, Sydney<br><a href="http://www.halledit.com.au/water2011">www.halledit.com.au/water2011</a>   |
| July 26-28      | Grassland farming –Opportunities, threats and realities, Bathurst<br><a href="http://grasslandnsw.com.au/blog/?page_id=3">http://grasslandnsw.com.au/blog/?page_id=3</a>   |
| August 22-23    | AWA catchment management conference, Wangaratta<br><a href="http://www.awa.asn.au/EventDetail.aspx?id=4294970002">http://www.awa.asn.au/EventDetail.aspx?id=4294970002</a> |
| August 22-25    | Irrigation Australia conference, Launceston<br><a href="http://online.saneevent.com.au/ial2011/">http://online.saneevent.com.au/ial2011/</a>                               |
| September 5-7   | NSW Landcare forum, Parkes<br><a href="http://parkeslandcare.org.au/">http://parkeslandcare.org.au/</a>  |
| September 15-18 | 2nd Asia Pacific Biochar Conference, Kyoto, Japan<br><a href="http://apbc2011.com/">http://apbc2011.com/</a>   |
| September 18-22 | Soil science in a changing world, Wageningen, The Netherlands.<br><a href="http://www.wageningensoilmeeting.wur.nl">www.wageningensoilmeeting.wur.nl</a>                   |
| September 25-29 | 5th World Congress on conservation agriculture: Brisbane   |

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Primary  
Industries

	<a href="http://www.wcca2011.org/index.htm">http://www.wcca2011.org/index.htm</a>
September 25-30	Rhizosphere 3 International Conference, Perth <a href="http://rhizosphere3.com/">http://rhizosphere3.com/</a>
September 27-29	Carbon Farming Week, Dubbo <a href="http://carbonfarmingconference.com.au/Conference/index.html">http://carbonfarmingconference.com.au/Conference/index.html</a>
November 7-9	CarbonExpo Australasia 2011 <a href="http://www.carbonexpo.com.au">http://www.carbonexpo.com.au</a>
November 8-11	20 <sup>th</sup> NSW Coastal Conference, Tweed heads <a href="http://www.coastalconference.com/">http://www.coastalconference.com/</a>
November 24-25	Bioenergy Australia conference, Sunshine Coast <a href="http://www.bioenergyaustralia.org/index.html">http://www.bioenergyaustralia.org/index.html</a>
November 28-30	APEN forum: Sustaining landscapes livelihoods & lifestyles, Armidale <a href="http://www.apen.org.au/default.asp?PageID=70">http://www.apen.org.au/default.asp?PageID=70</a>
December 6-8	Agri-Food: Sustainable, and agriculture in the Asia-Pacific region <a href="http://www.afn.org.au/">http://www.afn.org.au/</a>
March 1-7 2012	3rd national acid sulfate soils conference, Melbourne <a href="http://www.scu.edu.au/nationalassconference">www.scu.edu.au/nationalassconference</a>
December 2 – 7 2012	Soil solutions for diverse landscapes, Hobart <a href="http://www.cdesign.com.au/soilscience2012/">http://www.cdesign.com.au/soilscience2012/</a>

## 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](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

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