

Paris agreement at a glance

<https://theconversation.com/the-paris-climate-agreement-at-a-glance-50465>

Soils could help save our climate

https://theconversation.com/eyes-down-how-setting-our-sights-on-soil-could-help-save-the-climate-51514?utm_medium=email&utm_campaign=Latest+from+The+Conversation+for+December+2+2015+-+3913&utm_content=Latest+from+The+Conversation+for+December+2+2015+-+3913+CID_5388d77897a8a118519099e3aba5e083&utm_source=campaign_monitor&utm_term=Eyes%20down%20how%20setting%20our%20sights%20on%20soil%20could%20help%20save%20the%20climate

Climate Change Brews Perfect Storm of Food Woes

Farming will be hard hit by global warming but could also help reduce greenhouse gases
<http://www.scientificamerican.com/article/climate-change-brews-perfect-storm-of-food-woes/>

Status of the World's Soil Resources

<http://www.fao.org/3/a-i5199e.pdf>

Heat stress tolerance in crops

<https://www.grdc.com.au/Research-and-Development/GRDC-Update-Papers/2015/02/Heat-stress-tolerance-of-wheat>

Farmer mental health affected by seasonal variability

WA research has found that wheatbelt farmers have lost confidence in the consistency of weather patterns and their ability to predict them. Lack of rain and resultant land degradation are affecting their mental health.

<http://www.abc.net.au/news/2015-12-14/climate-change-impacts-farmers-mental-health/7026804>

Greenhouse gas mitigation potential and profitability of practices on Australian grain farms

<http://www.agronomy2015.com.au/1145>

Nitrous oxide emissions in southern Australia

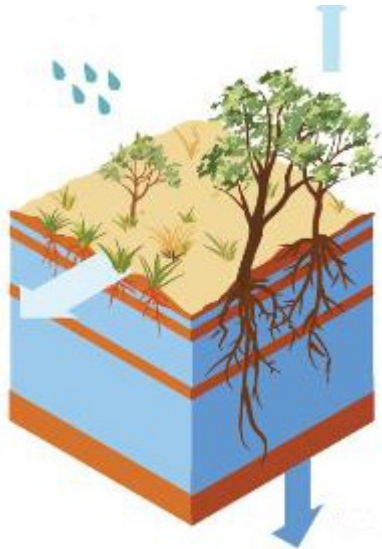
Recent trials investigating nitrous oxide losses across southern Australia showed that adding nitrogen increased emissions, but top-dressing N over the season, rather than applying it at sowing, reduced emissions. Rates of loss were strongly correlated to soil water levels. Loss of N through other pathways such as denitrification to N₂ can be large. Measurements using ¹⁵N tracers have shown a range of loss from 20 to 90 percent of fertiliser applied.

http://carbonfarmingknowledge.com.au/wp-content/uploads/2013/11/Session-4-Horsham_Nitrogen-emissions-from-fertiliser.pdf

Landscape water balance

The landscape water balance is the sum of the hydrological processes that keep water moving through a landscape and determine how much moisture is in the soil. BoM has developed a new interactive website that shows data for key landscape water balance variables—soil moisture, runoff, evapotranspiration, deep drainage and precipitation—which can be aggregated by day, month or year and view to a resolution of 5 by 5 kilometres.

<http://www.bom.gov.au/water/landscape/>



Nitrogen use efficiency must increase

Currently, the global average for nitrogen use efficiency is approximately .4, meaning 40 percent of the total nitrogen added to cropland goes into the harvested crop while 60 percent is lost to the environment. A global analysis suggests that NUE should increase to 70 percent, with only 30 percent lost to the environment, if food production is to be maintained.

<http://www.princeton.edu/news-and-events/news/item/save-earth-better-nitrogen-use-hungrier-planet-must-be-addressed>

WA NUE research focusing on wheat with smaller roots

WA scientists are changing the direction of their breeding efforts to improve nitrogen uptake by wheat, after the release of findings suggesting wheat genotypes with smaller root systems might be better suited to WA's water and nitrogen leaching soils. <http://www.sciencewa.net.au/topics/agriculture/item/3967-size-does-not-always-matter-for-root-systems>

Role of fungi in carbon sequestration

<http://www.futuredirections.org.au/publications/fdi-feature-interviews/2451-soil-carbon-and-the-role-of-fungi-in-the-long-term-sequestering-of-carbon-in-soil-associate-professor-peter-mcgee.html>

Natural capital impacts in agriculture

This FAO report assessing natural capital impacts of cropping and livestock production found that the natural capital costs of global crop production are almost nearly USD 1.15 trillion, over 170 percent of its production value. Natural capital costs of livestock production are over USD 1.18 trillion, 134 percent of its production value. Most of the natural capital costs occur on farm.

http://www.fao.org/fileadmin/templates/nr/sustainability_pathways/docs/Final_Natural_Capital_Impacts_in_Agriculture_-_Supporting_Better_Business_Decision-Making_v5.0.pdf

Fertcare – Soil carbon snapshot

<http://www.fertilizer.org.au/files/pdf/fertcare/Fertcare%20Soil%20Carbon%20Snapshot.pdf>