



Hi All,

I can think of only one other occasion that a CoP missive has concluded with a quote from one of our (Australian) contemporary politicians. I was rather taken by today's quote (see end).

Regards

Brian

Amazon's diversity loss shows up in the soil

[Michigan State University](#) → [Original Study](#)

Posted by [Tom Oswald-Michigan State](#)



MICHIGAN STATE (US) — Researchers worry that a loss of genetic variation in microbial communities in the Amazon's converted agricultural land could negatively affect the entire ecosystem.

An international team of researchers has identified a new concern about deforestation in the Amazon rainforest—a troubling loss in the diversity among the microbial organisms responsible for a functioning ecosystem.

The group sampled a 100 square kilometer area, about 38 square miles, in the Fazenda Nova Vida site in Rondônia, Brazil, a location where rainforest has been converted to agricultural use. <http://www.futurity.org/amazons-diversity-loss-shows-up-in-the-soil/>

Huge increase of 'at risk' farmland to salinity in northern Victoria

[ABC RuralWarwick Long](#) Tue at 11:07am



Photo

Irrigation water being sprayed onto crops in northern Victoria.

The area considered 'at risk' to salinity in northern Victoria has grown by 142,000 hectares in just four years.

Surveys monitoring the water table are continuing this year, with authorities worried about the outcome.

<http://mobile.abc.net.au/news/2014-08-19/nrn-salinity/5680708>

To cut emissions, match fertilizer to soil

[University of California, Davis](#) → [Original Study](#)

Posted by [Kat Kerlin-UC Davis](#)

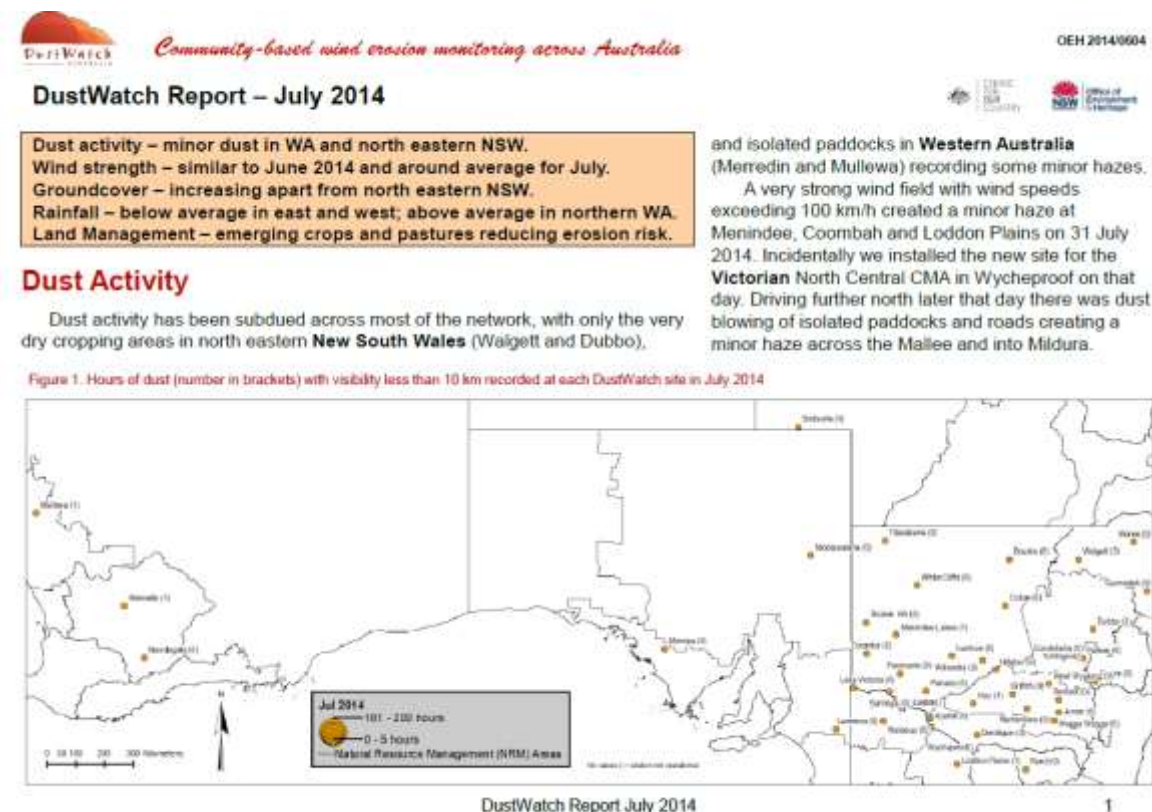


UC DAVIS (US) — Changes in agricultural practices could reduce soil emissions of the greenhouse gas nitrous oxide and the atmospheric pollutant nitric oxide, report scientists.

“Agriculture is the main source of nitrous oxide globally, so this study is a starting point to help us understand how to manage and control it,” says University of California, Davis, professor of soil biogeochemistry William Horwath, whose lab conducted the study.

The study, published in the *Proceedings of the National Academy of Sciences*, was an effort to understand the sources of nitrous oxide and nitric oxide by different microbial processes, especially following the application of certain fertilizer nitrogen types

<http://www.futurity.org/to-cut-emissions-match-fertilizer-to-soil/>



<http://www.environment.nsw.gov.au/resources/dustwatch/140604DWNL.pdf>

Soil mites rescued by rapid evolution

[University of Leeds](#) → [Original Study](#)

Posted by [Richard Mellor-Leeds](#)



U. LEEDS (UK) — A recent study involving soil mites overturns the common assumption that evolution only occurs gradually over hundreds or thousands of years.

Researchers found significant genetically transmitted changes in laboratory populations of soil mites in just 15 generations, leading to a doubling of the age at which the mites reached adulthood and large changes in population size. <http://www.futurity.org/soil-mites-rescued-by-rapid-evolution/>

Tiny dust grains may be from interstellar space

Stuart Gary
ABC

Friday, 15 August 2014

Scientists believe they have captured the first samples of space dust that comes from beyond our solar system.

With the help of citizen scientists, the researchers have identified seven tiny particles of dust that are consistent with interstellar dust, they report in the journal *Science*.

Dr Andrew Westphal of the University of California Berkley, who led the international team, says the diverse chemical compositions and structures of these potential visitors from beyond our solar system is surprising.

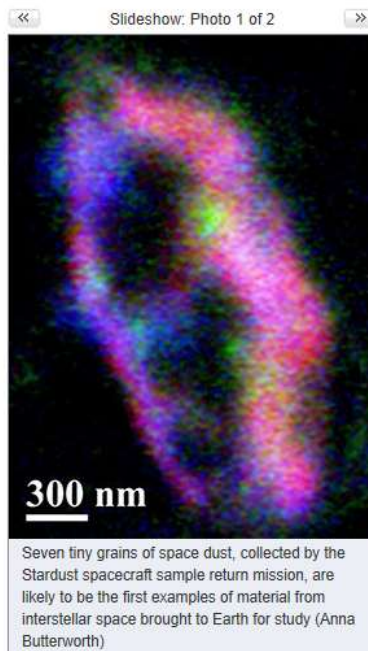
The discovery implies that the space between stars churns and mixes material together from different parts of the galaxy.

The preliminary findings are based on an analysis of microscopic particles collected by NASA's Stardust mission launched in 1999 to collect dust samples from the comet Wild 2 and return them to Earth for study.

"We believe that we have found the first samples of interstellar dust, and it's much more complicated, richer, and far more diverse than we expected," says Westphal.

"For the first time, this lets us get an idea of what interstellar dust is like on a particle by particle basis."

The Stardust spacecraft used giant tiles made out of aerogel and aluminium foil to collect dust samples. Aerogel is an extremely low density lightweight synthetic material, often described as solid smoke.



<http://www.abc.net.au/science/articles/2014/08/15/4067220.htm>

Solution for worst affected soils from last year's storm

12 August 2014 | By Barry Alston



John Thomas

John Williams, principal research scientist at ADAS (right) investigates the soil with farmer John Thomas, of Morfa Mawr.

FARMERS in parts of Gwynedd where land was submerged by seawater during last winter's storms and high tides are being advised that gypsum could help restore the calcium balance in the worst affected soils.

Gypsum – otherwise known as calcium sulphate — improves soil drainage if the land is not compacted. It should be applied at different rates depending on the soil conditions and quality. <http://www.farmersguardian.com/home/latest-news/solution-for-worst-affected-soils-from-last-years-storm/66651.article>

Soil microbe secrets could help halt superbugs

[Washington University in St. Louis](#) ➔ [Original Study](#)

Posted by [Michael Purdy-WUSTL](#)



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"We suspect that one of the primary factors that drives the sharing of antibiotic resistance genes is exposure to new antibiotics," says Gautam Dantas. "Because soil bacteria need many thousands of years to develop new antibiotics, the bacteria in that community don't encounter these threats anywhere near as often as disease-causing bacteria, which we regularly treat with different antibiotics." (Credit: Ian Searle/Flora)

Microbes in soil may help identify ways to reduce gene-sharing among infectious bacteria, which could slow the spread of drug-resistant superbugs.

Drug-resistant bacteria annually sicken 2 million Americans and kill at least 23,000. A driving force behind this growing public health threat is the ability of bacteria to share genes that provide antibiotic resistance. <http://www.futurity.org/soil-knows-halt-superbug-spread/>

Make your soils resilient to climate change

Tuesday 12 August 2014 07:00

Liz Robinson

UK climate projections have been well documented over recent years and are likely to have a significant effect on our soils. Rising temperatures and reduced rainfall in summer are expected to increase soil drying and lead to greater levels of wind erosion, while wetter, warmer winters and more regular extreme rainfall events may increase erosion through water run-off, cause increased waterlogging and raise the risk of compaction.



<http://www.fwi.co.uk/articles/12/08/2014/146076/make-your-soils-resilient-to-climate-change.htm>

KNOW OUR VALLEY: Soil series: An introduction to Palo Verde Valley soils

Ann Tan, Soil Conservation Tech
NRCS - Soil Conservation

PALO VERDE VALLEY, Calif. - The Palo Verde Valley's stark contrast between the stunningly rugged surroundings mountains and the vibrant green valley floor is often the first thing that catches one's eye as they drive through the desert (if it's not the lovely "Do Not Pick Up Hitchhikers" sign first). However, did you know that underground there is something equally intriguing? The various soils laid down in the area can be just as dramatically different from each other as the landscape.



Photo courtesy of www.basinandrangewatch.org

This column will cover various aspects of the soils right under our feet. The soils will affect what types of crops are able to grow on the land, the type of buildings able to be constructed, even the type of animals living on there. Join me as we embark on this underground journey together.

<http://paloverdevalleytimes.com/main.asp?SectionID=219&SubSectionID=761&ArticleID=20438>

Should Australian farms store carbon in soil?

[University of Florida](#), [University of Melbourne](#) → [Original Study](#)

Posted by [Nerissa Hannink-Melbourne](#)



U. MELBOURNE (AUS) — Offsetting greenhouse gas emissions by increasing carbon storage in Australian agricultural soils is not likely to be effective, say researchers.

A team has analyzed 56 papers to understand the effects of agricultural management practices on soil carbon sequestration in Australia <http://www.futurity.org/should-australian-farms-store-carbon-in-soil/>

Summer Research Scholarship digs the good dirt on soil

Thursday, 14 August 2014, 12:18 pm
Press Release: [University of Waikato](#)

14 August 2014

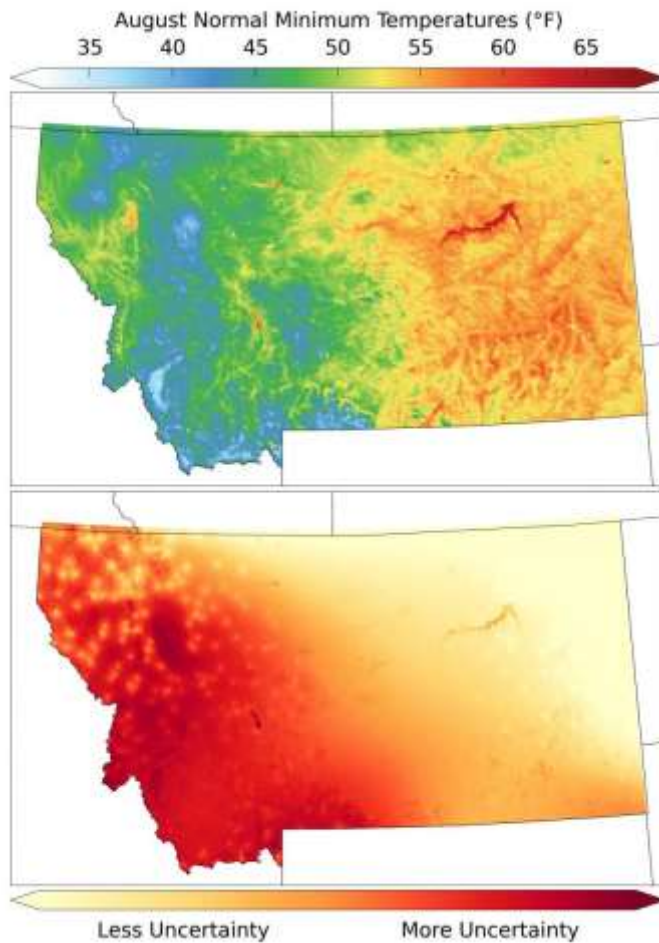
Summer Research Scholarship digs the good dirt on soil

Dr Megan Balks loves soil. She loves it so much, the University of Waikato Earth and Ocean Sciences Senior Lecturer is co-authoring a book about soil with Professor Darlene Zabowski from the University of Washington, Seattle.

“We wanted to say something positive about soil as we are critically dependent on it,” Dr Balks says. “Our food is derived from soil and we’re feeding more people than ever before. There are a lot of great things happening with soil, but we tend to only hear about the negative.” <http://www.scoop.co.nz/stories/ED1408/S00074/summer-research-scholarship-digs-the-good-dirt-on-soil.htm>

Study improves temperature modeling across mountainous landscapes

Aug 18, 2014



This figure shows estimates of August normal minimum temperatures (T_{min}) for the Montana portion of the dataset (top) and the corresponding uncertainty of the estimates (bottom). The crescent of colder T_{min} values in the southwestern corner of Montana is the Big Hole Valley, which often collects cold air. Credit: Jared Oyler/University of Montana

New research by University of Montana doctoral student Jared Oyler provides improved computer models for estimating temperature across mountainous landscapes.

Read more at: <http://phys.org/news/2014-08-temperature-mountainous-landscapes.html#jCp>

Rock turns into soil at a ‘shockingly fast’ pace

[California Institute of Technology](#), [University of Washington](#) → [Original Study](#)

Posted by [Hannah Hickey-UW](#)



Isaac Larsen hikes down the ridge at Rapid Creek to collect soil samples. The dense bush and heavy soil samples of 20 pounds (10 kg) meant researchers walked back up the slope at less than 200 yards (200 meters) per hour. (Credit: Andre Eger)

Geologic time is shorthand for slow-paced. But new measurements from steep mountaintops in New Zealand show that rock can transform into soil more than twice as fast as previously believed possible.

“Some previous work had argued that there were limits to soil production,” says first author Isaac Larsen, who did the work as part of his doctoral research in Earth sciences at the University of Washington. “But no one had made the measurements.”

<http://www.futurity.org/rock-morphs-soil-shockingly-fast-pace/>

New satellite data will help farmers facing drought

Date:

20 August 2014

Source:

NASA/Jet Propulsion Laboratory

Summary:

NASA's Soil Moisture Active Passive (SMAP) satellite mission, scheduled to launch this winter, will collect the kind of local data agricultural and water managers worldwide need. SMAP uses two microwave instruments to monitor the top 2 inches (5 centimeters) of soil on Earth's surface. Together, the instruments create soil moisture estimates with a resolution of about 6 miles (9 kilometers), mapping the entire globe every two or three days.



About 60 percent of California is experiencing "exceptional drought," the U.S. Drought Monitor's most dire classification. The agency issued the same warning to Texas and the southeastern United States in 2012. California's last two winters have been among the driest since records began in 1879. Without enough water in the soil, seeds can't sprout roots, leaves can't perform photosynthesis, and agriculture can't be sustained.

<http://www.sciencedaily.com/releases/2014/08/140820172537.htm>

Rain wakes your senses and your soil

By Anna Evangelì

Autumn rains are more than just relief after a long, hot summer. The Geeky Gardener explains how rain triggers that delicious smell, and turns your soil into a carbon factory.

Autumn rains after a dry summer trigger an instant transformation of our surroundings. If you have a backyard, you don't have to step too far to appreciate it.

One of the first things you notice — apart from puddles, darkened soil and wet, glossy leaves — is the distinctive smell.

We talk about the scent of newly fallen rain but it's not the rain itself that smells. It's the interaction between rain and the soil that releases volatile compounds into the air.

Best known of these compounds is geosmin, meaning 'earth odour'. Soil microorganisms make it then release it into the soil when they die. But it's not until it rains that geosmin is aerosolised and wafts up our noses.

Our bodies have evolved to be highly sensitive to geosmin and can pick up a few molecules a trillion. Why? Because where there's geosmin, there's water. Think of early humans searching for a drink in a parched landscape and you understand why having a nose for geosmin is important for our survival.



Water mobilises carbon and nutrients in the soil
(Source: amenic181/f/StockPhoto)

Related Stories

Rain brings Red Centre's desert landscape to life, ABC Rural 8 May 14

<http://www.abc.net.au/science/articles/2014/05/14/4004155.htm>

Thousands of intense earthquakes rock Iceland

19 Aug 2014



This is a Saturday 8 May 2010 file image taken from video of a column of ash rising from Iceland's Eyjafjallajokul volcano. It was reported Tuesday Aug. 19, 2014 that thousands of small intense earthquakes are rocking Iceland amid concerns that one of the country's volcanoes may be close to erupting. Iceland has raised its aviation alert level for the risk of a possible volcanic eruption to orange _ the second-most severe level. The alert is worrisome because of the chaos that followed the April 2010 eruption of Eyjafjallajokul, when more than 100,000 flights were cancelled because volcanic ash floating in the atmosphere is considered an aviation safety hazard. (AP Photo/ APTN)

Thousands of small intense earthquakes are rocking Iceland amid concerns that one of the country's volcanoes may be close to erupting.

Read more at: <http://phys.org/news/2014-08-thousands-intense-earthquakes-iceland.html#jCp>

Know the soil in your backyard at the click of a mouse

THIRUVANANTHAPURAM: The soil survey and soil conservation department is set to launch a Web-based Soil Information System (WBSIS) which will assist farmers to find the nature of soil in their backyard.

The information, if used properly, will go a long way in helping farmers in deciding the optimum crop and fertilizer usage for increasing crop productivity.

Out of the 11 major orders of soils across the world classified by the department of agriculture soil classification system, USA, Kerala is endowed with nine soil orders ranging from black alkaline soil to extreme acidic soil.

<http://timesofindia.indiatimes.com/City/Kochi/Know-the-soil-in-your-backyard-at-the-click-of-a-mouse/articleshow/40304870.cms>

Carbon capture a prize-winning idea

Capturing carbon dioxide emissions just became cheaper thanks to the work of Dr Matthew Hill, winner of the 2012 Eureka Prize for 'Emerging Leader in Science'.

Until now, carbon capture and storage has been an uneconomic solution to reducing emissions - capturing the CO₂ emissions from a power station currently requires about 30 per cent of the total electricity it produces.

This has all changed with the work of Dr Matthew Hill, the 2012 'Eureka Prize for Emerging Leader in Science' and a researcher at CSIRO Materials Science and Engineering.

Hill's research concentrates on ultraporous, crystal-like materials known as metal organic frameworks or MOFs.

Made from very lightweight atoms, Hill's specially developed MOFs are capable of storing an incredible 300 per cent more carbon dioxide than currently used materials. This is a 160-fold increase in storage density compared to the atmosphere, and represents a huge energy cost saving.



Matthew Hill in the lab (Source: CSIRO)

<http://www.abc.net.au/science/articles/2012/08/29/3577770.htm>

Living life in the dirt

By [Onen Markuson](#) on 13 Aug 2014 at 2:13 a.m.

There are many intriguing relationships between what we grow in our gardens, farms and lawns and the complex web of simple life forms that live essentially entirely underground.

One teaspoon of healthy soil contains 100 million to 1 billion individual bacteria, although the quantity is likely to be in the lower limits in soils that are primarily sand or clay.

<http://www.bemidjipioneer.com/content/living-life-dirt>

Soil health success for local food production

By *Penny Kothe*

30 July 2014, 10:19 a.m.

Over 30 participants from all areas of the district turned out for the Micro to Macro soil health workshop at Caroola Farm on Saturday. Organised by the Upper Shoalhaven Landcare Council as part of their producers project, the feedback on the day was enthusiastically positive with many practical ideas for producers to take home.



Maarten Stapper from BioLogic AgFood set the foundation of understanding for the day with his passionate and knowledgeable information about the fundamental principles of soil biology and foodwebs, and the link therefore between soil health and human health. Maarten outlined the influences of degenerative and regenerative farming practices on living soil and provided some strategies for participants to use to improve their own soils.

<http://www.braidwoodtimes.com.au/story/2451776/soil-health-success-for-local-food-production/?cs=12>

Survival in salty alkaline soils

By Susan Williamson | Posted in [Plant biology](#) on 31 July, 2014

Australian wattles are tough, especially when it comes to growing and thriving in salty and alkaline soils.

In an attempt to shed more light on the evolution of this salt and alkalinity tolerance, Dr Elisabeth Bui and colleagues from [CSIRO](#) found that acacias have repeatedly and often together evolved salinity and alkalinity tolerance.

Australia's soils are old and contain large, sometimes overlapping, areas of high salt and alkalinity.

Saline or alkaline soils place a lot of stress on plants. When a plant faces these conditions together this can be even more deleterious than dealing with them alone.

- See more at: <http://lifescientist.com.au/content/life-sciences/news/survival-in-salty-alkaline-soils-923102908#sthash.qXfnmzGL.dpuf>

Has the puzzle of rapid climate change in the last ice age been solved?

19 Aug 2014

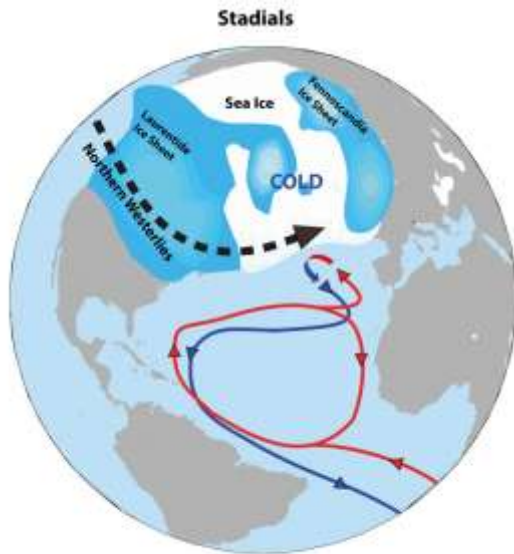


Figure A: The Northern Hemisphere in a cold (stadial) phase During the cold stadial periods of the last ice age, massive ice sheets covered northern parts of North America and Europe. Strong northwest winds drove the Arctic sea ice southward, even as far as the French coast. Since the extended ice cover over the North Atlantic prevented the exchange of heat between the atmosphere and the ocean, the strong driving forces for the ocean currents that prevail today were lacking. Ocean circulation, which is a powerful “conveyor belt” in the world’s oceans, was thus much weaker than at present, and consequently transported less heat to northern regions. Map: Alfred-Wegener-Institut Figure A: The Northern Hemisphere in a cold (stadial) phase

Over the past one hundred thousand years cold temperatures largely prevailed over the planet in what is known as the last ice age. However, the cold period was repeatedly interrupted by much warmer climate conditions. Scientists have long attempted to find out why these drastic temperature jumps of up to ten degrees took place in the far northern latitudes within just a few decades. Now, for the first time, a group of researchers at the Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research (AWI), have been able to reconstruct these climate changes during the last ice age using a series of model simulations. The surprising finding is that minor variations in the ice sheet size can be sufficient to trigger abrupt climate changes. The new study was published online in the scientific journal *Nature* last week and will be appearing in the 21 August print issue.

Read more at: <http://phys.org/news/2014-08-puzzle-rapid-climate-ice-age.html#jCp>

Clear material on windows harvests solar energy

[Michigan State University](#) → [Original Study](#)

Posted by [Tom Oswald-Michigan State](#) on 20 August 2014



A new type of “transparent” solar concentrator can be used on windows or mobile devices to harvest solar energy without obscuring the view.

Past efforts to create similar materials have been disappointing, with inefficient energy production or highly colored materials. <http://www.futurity.org/solar-energy-windows-750202/>

How the Asian monsoon affects methane emissions

20 hours ago



The Tibetan Plateau experienced strong climate variations over the past six thousand years.

(Phys.org) —Scientists at the University of Bristol's Cabot Institute have shown how changes in the Asian monsoon affected emissions of methane, a prominent greenhouse gas, from the Tibetan Plateau.

Read more at: <http://phys.org/news/2014-08-asian-monsoon-affects-methane-emissions.html#jCp>

Climate change: Soil respiration releases carbon

Date:

23 July 2014

Source:

Carnegie Institution

Summary:

The planet's soil releases about 60 billion tons of carbon into the atmosphere each year, which is far more than that released by burning fossil fuels. Short-term warming studies have documented that rising temperatures increase the rate of soil respiration. As a result, scientists have worried that global warming would accelerate the decomposition of carbon in the soil, releasing more carbon dioxide into the atmosphere and accelerating global warming.

The planet's soil releases about 60 billion tons of carbon into the atmosphere each year, which is far more than that released by burning fossil fuels. This happens through a process called soil respiration. This enormous release of carbon is balanced by carbon coming into the soil system from falling leaves and other plant matter, as well as by the underground activities of plant roots.

Short-term warming studies have documented that rising temperatures increase the rate of soil respiration. As a result, scientists have worried that global warming would accelerate the decomposition of carbon in the soil, and decrease the amount of carbon stored there. If true, this would release even more carbon dioxide into the atmosphere, where it would accelerate global warming.

New work by a team of scientists including Carnegie's Greg Asner and Christian Giardina of the U.S. Forest Service used an expansive whole-ecosystem study, the first of its kind, on tropical montane wet forests in Hawaii to sort through the many processes that control soil carbon stocks with changing temperature. Their work is published in *Nature Climate Change*.

Journal Reference:

1. Christian P. Giardina, Creighton M. Litton, Susan E. Crow, Gregory P. Asner. **Warming-related increases in soil CO₂ efflux are explained by increased below-ground carbon flux.** *Nature Climate Change*, 2014; DOI: [10.1038/nclimate2322](https://doi.org/10.1038/nclimate2322)

<http://www.sciencedaily.com/releases/2014/07/140723114140.htm>

Changes to Renewable Energy Targets cast shadow of doubt on Australia's largest windfarm

By [Matthew Doran](#)

Updated about 3 hours ago Thu 21 Aug 2014, 1:58pm



Photo: [Turbines for the proposed Ceres wind farm in South Australia. \(ceresproject.com.au\)](http://ceresproject.com.au)

Map: [SA](#)

Changes to the Renewable Energy Target (RET) would cast a shadow of doubt over the future of Australia's largest wind farm development, the company behind the project has said.

The Abbott Government announced a review of the scheme in February this year, which has thrown the future of the renewable energy sector into doubt with fears the scheme may be reduced or scrapped. <http://www.abc.net.au/news/2014-08-21/ret-changes-cast-shadow-doubt-australias-largest-windfarm/5686420>

Lucky heather plant earns its name in carbon study

Date:

August 6, 2014

Source:

Lancaster University

Summary:

Researchers have found that heather has an important role to play in keeping carbon locked in the earth. The findings show that the type of plants growing on the surface of our peaty moorlands can change how quickly dead plant material is broken down, influencing the speed with which carbon from dead plant matter is released back into the air we breathe.

Researchers have found that heather has an important role to play in keeping carbon locked in the earth.

The findings, published online this week in the journal *Ecology*, show that the type of plants growing on the surface of our peaty moorlands can change how quickly dead plant material is broken down, influencing the speed with which carbon from dead <http://www.sciencedaily.com/releases/2014/08/140806124940.htm>

Soil workshop at Jamberoo

3:17 p.m.



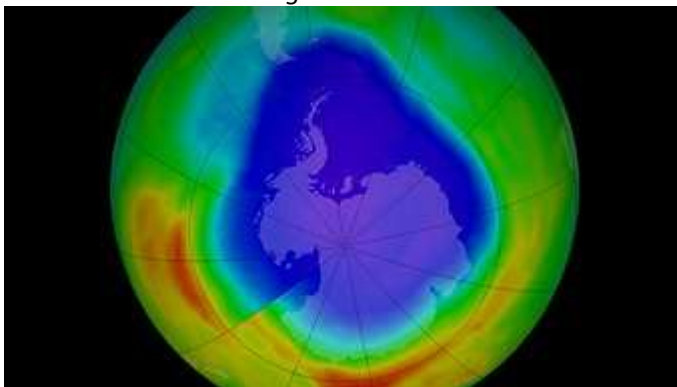
Paul Taylor at one of his workshops.

AS farmers, food growers and land managers, we are reluctant to ask the real questions: where has our topsoil gone and how do we get it back?

How do we grow better food for less cost and what are we leaving our grandchildren — deserts or fertile soil? <http://www.kiamaindependent.com.au/story/2449234/soil-workshop-at-jamberoo/?cs=12>

Mysterious source of ozone-depleting chemical baffles NASA

ABC Environment 21 Aug 2014



Ozone hole image 22 Sep 2012 *Credit: NASA/Goddard Space Flight Center*

A chemical known to damage the Earth's ozone layer is being released from an unknown source, according to NASA.

A CHEMICAL USED IN dry cleaning and fire extinguishers may have been phased out in recent years but NASA said on Wednesday that carbon tetrachloride (CCl₄) is still being spewed into the atmosphere from an unknown source.

The world agreed to stop using CCl₄ as part of the Montreal Protocol, which aims to phase out the use of gases which damage the Earth's protective layer of ozone.
<http://www.abc.net.au/environment/articles/2014/08/21/4071818.htm>

'Sell the water back': Irrigators frustrated by Gwydir wetland environmental water management

NSW Country Hour David Cloughton

Print Email Facebook Tweet More 2

Updated about 2 hours ago



PHOTO: Magpie Geese at Gwydir Wetlands, north west New South Wales. The area is protected by a RAMSAR agreement and the Australian Government is spending billions to water the wetlands, part of the Murray-Darling Basin Plan. [Read more.](#) (Daryl Albertson NSW Office of Environment and Heritage)

Irrigators in the Gwydir Valley say they are victims of water "theft", the wetland is as healthy as it every was, and that environmental water should be sold back to industry.

The Murray-Darling Basin Plan was created to save one of the worlds great river systems and food production areas from environmental disaster.

Billions have been spent buying water back from



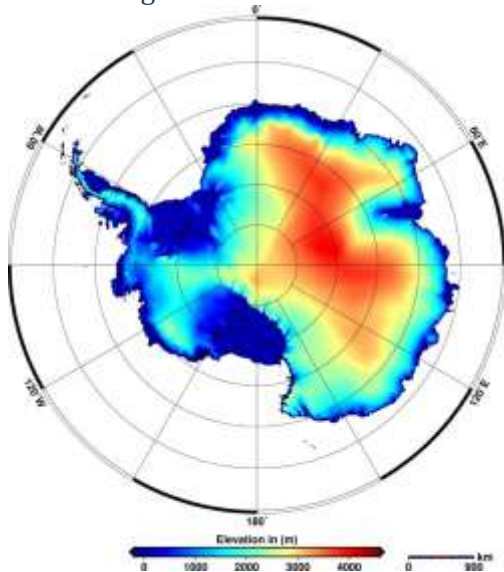
AUDIO: Environmental water management in the Gwydir Valley, NSW (ABC Rural)



<http://www.abc.net.au/news/2014-08-21/gwydir-wetland/5618620>

For the first time scientists map elevation changes of Greenlandic and Antarctic glaciers

17 hours ago



This new elevation model of Antarctica was derived from CryoSat-2. Credit: Helm et al., The Cryosphere, 2014

"The new elevation maps are snapshots of the current state of the ice sheets. The elevations are very accurate, to just a few metres in height, and cover close to 16 million km² of the area of the ice sheets. This is 500,000 square kilometres more than any previous elevation model from altimetry", says lead-author Dr. Veit Helm, glaciologist at the Alfred Wegener Institute in Bremerhaven.

Read more at: <http://phys.org/news/2014-08-scientists-elevation-greenlandic-antarctic-glaciers.html#jCp>

Peru's carbon quantified: Economic and conservation boon

Date:

30 July 2014

Source:

Carnegie Institution

Summary:

Today scientists unveiled the first high-resolution map of the carbon stocks stored on land throughout the entire country of Peru. The new and improved methodology used to make the map marks a sea change for future market-based carbon economies. The new carbon map also reveals Peru's extremely high ecological diversity and it provides the critical input to studies of deforestation and forest degradation for conservation, land use, and enforcement purposes.

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of carbon stores throughout the country, which is essential for decision makers. The mapping project is a joint effort among the Carnegie Airborne Observatory (CAO), led by Carnegie's Greg Asner, the Ministry of Environment of Perú, and Wake Forest University. <http://www.sciencedaily.com/releases/2014/07/140730094037.htm>

Earthquake in Chile was not the 'big one'

[Penn State](#) → [Original Study](#)

Posted by [A'ndrea Elyse Messer-Penn State](#) on 14 August 2014



"There can still be a big earthquake there," says Kevin Furong. "It didn't release the total hazard, but it told us something about this large earthquake area. That an 8.2 rupture doesn't always happen." (Credit: [Mónica Minzack/Flickr](#))

The recent 8.2-magnitude earthquake in Iquique, Chile, did not relieve all the stress on the fault, and researchers say that means another quake is possible.

The quake occurred in a gap on a fault line that's held since 1877.

<http://www.futurity.org/chilean-quake-big-one-747542/>

Vote on Tasmanian Government's signature policy to scrap forest peace deal delayed

Updated about 7 hours ago Thu 21 Aug 2014, 9:27am



[Photo: Tasmanian upper house delays a vote to scrap the forest peace deal. \(Fiona Breen: ABC News\)](#)

[Map: TAS](#)

Tasmania's independent-dominated Upper House has delayed a final vote on the Government's signature policy to tear up the forest peace deal.

The bid to reclassify 400,000 hectares of native forest so it can be reopened to broad-scale logging in six years' time was set to be debated in the Upper House from today.

<http://www.abc.net.au/news/2014-08-20/vote-to-tear-up-forest-peace-deal-delayed/5684846>

Biochar in soil interrupts microbe chit-chat

[Rice University](#) → [Original Study](#)

Posted by [Jade Boyd-Rice](#)



Graduate student Shelly Hsiao-Ying Cheng shows the tool she created with Rice biochemist Jeff Silberg to conduct two experiments in the same dish, one where biochar had a chance to interfere with a microbial conversation and another where it didn't. (Credit: Jeff Fitlow/Rice University)

Biochar can interfere with chemical signals that some microbes use to communicate, including those used by plant pathogens to coordinate an attack.

Biochar is charcoal that is produced—typically from waste wood, manure, or leaves—for use as a soil additive. Previous studies have found it can improve both the nutrient- and water-

holding properties of soil, but its popularity in recent years also owes to its ability to reduce greenhouse gases by storing carbon in soil—in some cases for many centuries.

The new study, published online this month in the journal [*Environmental Science and Technology*](#), is the first to examine how biochar affects the chemical signaling that's routinely used by soil microorganisms that interact with plants <http://www.futurity.org/biochar-interrupts-plant-microbe-conversation/>

How the Asian monsoon affects methane emissions

20 hours ago



The Tibetan Plateau experienced strong climate variations over the past six thousand years.

(Phys.org) —Scientists at the University of Bristol's Cabot Institute have shown how changes in the Asian monsoon affected emissions of methane, a prominent greenhouse gas, from the Tibetan Plateau.

read more at: <http://phys.org/news/2014-08-asian-monsoon-affects-methane-emissions.html#jCp>

The light at the top of the smokestack

Christopher Doyle ABC Environment 20 Aug 2014



The plan is to replace Port Augusta's coal fired power stations with a solar-thermal power station like this. *Credit: Torresol Energy*

The industrial town of Port Augusta is being watched by energy giants and environmentalists alike to see if it can lead the way to a clean-energy Australia.

ON A LONG FLAT ROAD out of the South Australian town of Port Augusta along the coast, a couple of chimneys rise up in the distance. Out here, where the Spencer Gulf, roads, rail and airports come together, smokestacks are pretty common. Port Augusta is an industrial hub where the salt marsh and outback meet

<http://www.abc.net.au/environment/articles/2014/08/20/4070244.htm>

“...we are one people, one community, sharing common resources and living in a shared landscape.” -- Rob Stokes, NSW Minister for the Environment 2014