Terra Australis: soils down under

Dr. Ichsani Wheeler opened the exhibition

A new exhibition has been opened in the World Soil Museum dedicated to the great diversity of soils of Australia. Australian soils have formed on a wide range of rock types and under climatic conditions varying from the wet and dry tropics of Queensland, to the very low rainfall areas of the centre. Highlighted soils include a red soil from the sugar cane area of Bundaberg in Queensland and a desert soil from the central western area.


SOILS OF
AUSTRAL
TERRA AUSTRALIS

http://www.isric.org/content/terra-australis-soils-down-under

Soil Science Society of America | Crop Science Society of America | American Society of Agronomy

The Importance of Soil-Dwelling Animals

Released: 1-Jul-2015 12:05 PM EDT
Source Newsroom: American Society of Agronomy (ASA), Crop Science Society of America (CSSA), Soil Science Society of America (SSSA) more news from this source

Contact Information

Available for logged-in reporters only

Newswise — July 1, 2015-In celebration of the International Year of Soil 2015 (IYS), the Soil Science Society of America (SSSA) is coordinating a series of activities throughout the year to educate the public about the importance of soil. July's theme is "Soils Are Living". In SSSA's July 1 Soils Matter blog post, experts explain the role of larger animals in the soil ecosystem.

According to Mary Stromberger, "none of the services that soils provide could be done without the animals that live in them." Stromberger is a soil scientist with Colorado State University.

« Return to

Translate article text: new Select Lang

Sections: Science

Channels: Agriculture, Ecology and Animals, Environment

Keywords: soil, soil habitat, Environment, Ecosystem Services

Gopher turtles live in the soil and provide ecosyst services.

Print-friend

Like 1

Related Stories

http://newswise.com/articles/the-importance-of-soil-dwelling-animals

DustWatch Australia

Community-based wind erosion monitoring across Australia

DustWatch Report – May 2015

Dust activity – dust storm in NSW and Victoria on 5 May.
Wind strength – windiest May since 2005.
Groundcover – increasing in rangelands, some bare paddocks.
Rainfall – wet in the centre, dry in the south.
Land management – bare paddocks exposed to wind erosion.

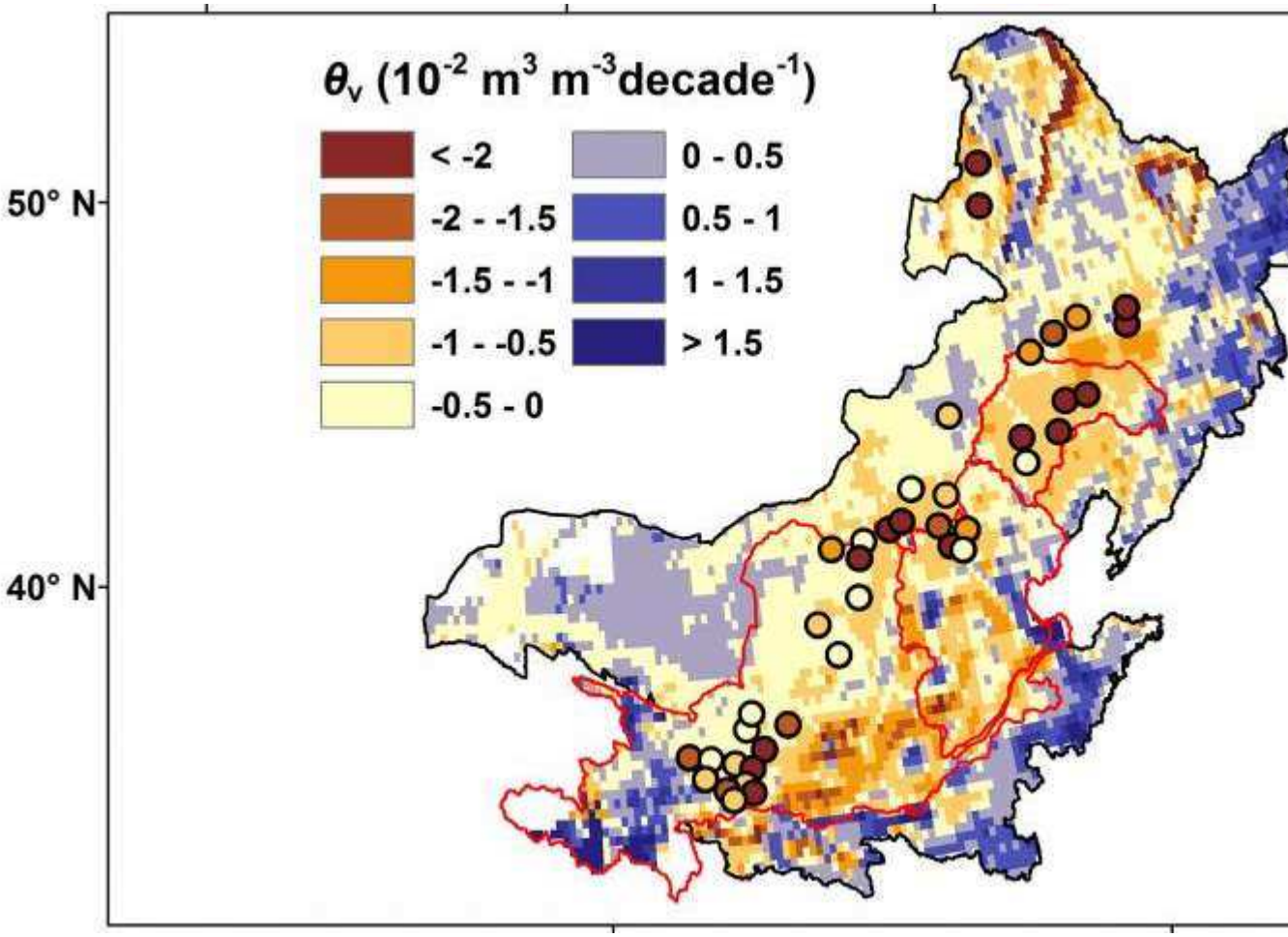
What a difference 30 minutes can make

The photos below were taken by Kirsten Lloyd in the Mildura CBD on 5 May 2015 between 12.00 a
blanketed southern NSW and northern Victoria.

DustWatch Report May 2015

http://www.environment.nsw.gov.au/resources/dustwatch/150435DWNL.pdf

Soil in Northern China is drying out and farming, not climate change, is culprit



This is a map of soil moisture trends in Northern China during the growing seasons from 1983-2012. The shading shows the trend in satellite-observed surface soil moisture, and the circles represent monitoring stations within agricultural plots. A Purdue University-led research team found that farming was more of a driver in the drying of the soil than rising temperatures and declining rainfall. The change in volumetric water content is shown. Credit: Purdue University image/Yaling Liu

An important agricultural region in China is drying out, and increased farming may be more to blame than rising temperatures and less rain, according to a study spanning 30 years of data.

Read more at: http://phys.org/news/2015-07-soil-northern-china-farming-climate.html#jCp

Cluster roots attract phosphorus in nutrient-poor soils

20 July 2015 by Teresa Belcher

A Hakea cucullata. Credit: Hans Lambers

Scientists are one step closer to understanding how plants that naturally occur on soils with very low phosphorus levels manage to acquire this essential nutrient.

Read more at: http://phys.org/news/2015-07-cluster-roots-phosphorus-nutrient-poor-soils.html#jCp

CELEBRATE SOIL SYMPOSIUM 2015

EVENT

EVENT	Celebrate Soil Symposium 2015	
WHEN	Wednesday, 2nd September 2015	
	09:00 - 17:00	
	Dinner: 7pm	
WHERE	Charles Sturt University - Thurgoona. Main Lecture Theatre	
	Dinner - Kinross Woolshed - Thurgoona	
COST	Full Cost	$80
	Day only	$55
	Dinner only	$35
RSVP	Wed 29th August 2015	
	On line registration : http://tinyurl.com/soilsymposium2015	

2015 the United Nations' international year of soils will be celebrated in Southern NSW and North East Victoria in the company of some of Australia's and New Zealand's leading so researchers. The program has been developed to explore current research, extension and on farm practices occurring across Australia into the world of soil. The key topics include, soil chemistry, soil biology and soils physical structure with ke note addresses around soil carbon and legislation / policy to protect soils. This program has been developed in partnershi with Murray Local Land Services, Australian Institute of Soil Scientists and the North East Catchment Management Authority, through funding from the Australian Government National Landcare Programme.

SPEAKERS

Professor Jeff Baldock - CSIRO

Professor Iain Young - University of New England NSW

Associate Prof. Pauline Mele - La Trobe University, ECODEV

Dr Peter Kopittke - University of Queensland

Sam North - Dept. of Primary Industries NSW

Dr. John Leys -NSW Office of Environment and Heritage

Andrew Russell - Farmer, Rutherglen

Dr. Jason Condon - Extension Officer -

Jim Vergona - Grazing Systems Consultant

David Wolfendon - Farmer, Rand

Susan Ogill - NSW Dept. of Primary Industries

Associate Prof. Ben Wilson - Charles Sturt University

Scott McKillop - Dairy Farmer

INTERNATIONAL DINNER SPEAKER

Nathan Heath - Land Manager Hawke's Bay Regional Council New Zealand

For further information please contact:

Lachlan Campbell: lachlan.campbell@necma.vic.gov.au

Australian Government | National Landcare Programme

SOIL SCIENCE AUSTRALIA

Charles Stur University

NSW Local Land Services Murray

NORTH EAS CATCHMEN MANAGEMEN AUTHORIT

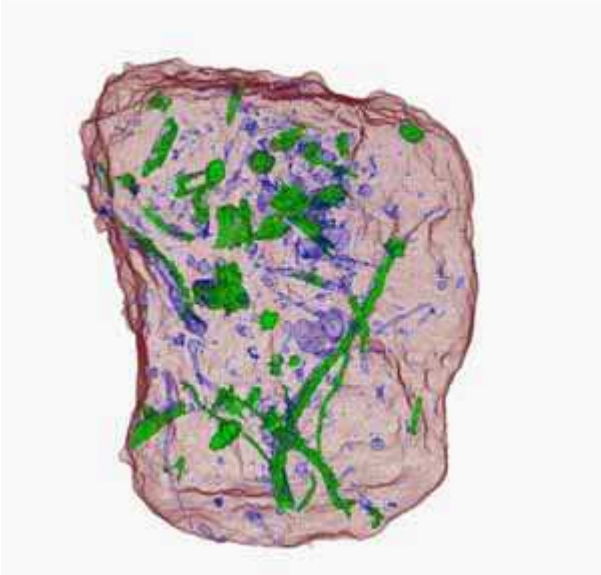
www.necma.vic.gov.au

A tale of two (soil) cities

Use of cover crops increases diversity in pore sizes, organic matter

1 July 2015--As we walk along a forest path, the soil beneath our feet seems like a uniform substance. However, it is an intricate network of soil particles, pores, minerals, soil microbes, and more. It is awash in variety.

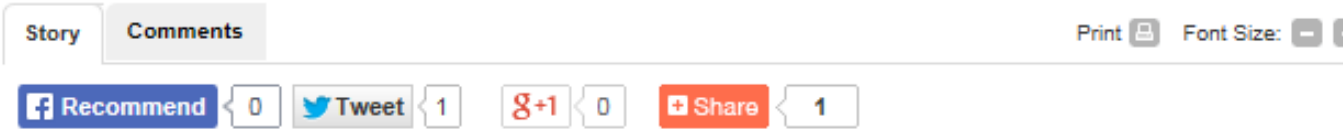
Soil is a living, dynamic substance, and the microbial life within it is crucial to providing plant life with the food they need to grow. The microbes can be bacteria or fungi, but both need space—the pores—for a good living environment.



This aggregate is 4-6 mm in size and is from an organically managed soil with the use of cover crops. Intra-aggregate pores are in blue and particulate organic matter is green. Computed tomography scanning at Advanced Photon Source, Argonne National Laboratory with the help of Dr. Mark Rivers.

https://www.agronomy.org/news/media-inquiries/releases/2015/0701/678/

Drought-resistant soils



Posted: Wednesday, July 1, 2015 12:00 am

Colusa County Master Gardeners

By incorporating 2-4 inches of compost into the soil you will increase the water and nutrient holding capacity of the soil. The compost acts like a sponge.

Compost also increases the activity and diversity of soil micro-organisms.

When planting trees and shrubs do not mix compost or other amendments with the backfill dirt instead use the native soil. The roots do best with the native soil.

Top dressing compost around plants will reduce water needs but do not put the compost up to the plant base. Remember to "space the base."

http://www.appeal-democrat.com/colusa_sun_herald/drought-resistant-soils/article_b5cdea46-1f9f-11e5-8f18-6fbaceada6c6.html

Soil water, microbes influence carbon in world's coldest desert, study finds

Dartmouth Professor Ross Virginia, an expert in polar ecosystem ecology and policy issues, and his colleagues have found that soil water and microbes' respiration contribute to fluctuations of carbon dioxide in the world's coldest desert, …more

Soil water and microbes' respiration contribute to fluctuations of carbon dioxide in the world's coldest desert, where climate change is expected to increase underground moisture and microorganisms, an Arizona State University and Dartmouth College study finds.

Read more at: http://phys.org/news/2015-06-soil-microbes-carbon-world-coldest.html#jCp

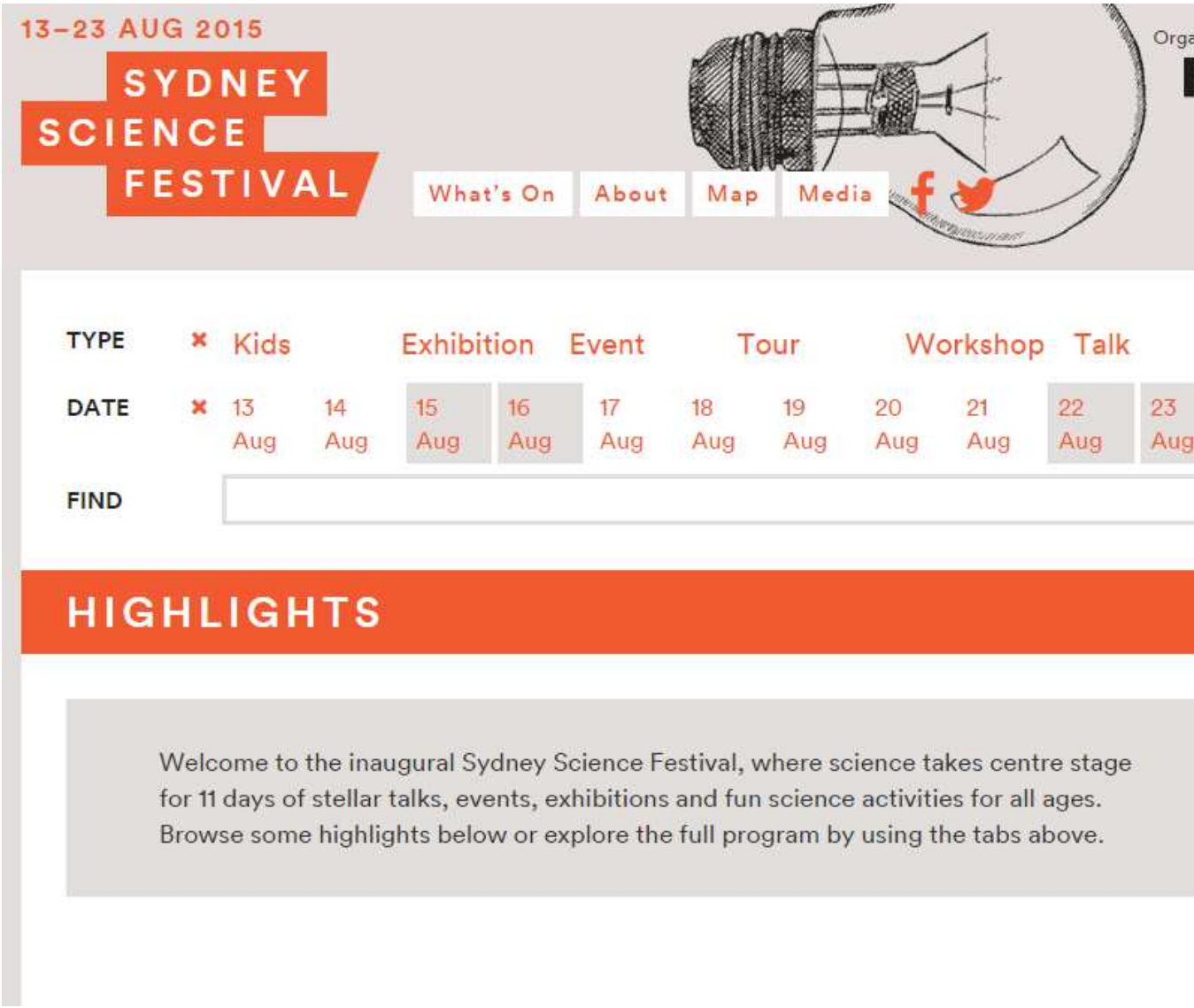
Soils retain and contain radioactivity in Fukushima

By Ken Doyle

Radiation suddenly contaminates the land your family has farmed and lived on for generations. Can soil play a role in protecting crops and human health?

A field near Fukushima, Japan. Stock photo

Research in Fukushima, Japan may lend an answer. On March 11, 2011, a magnitude 9.0 earthquake and tsunami caused wide spread destruction in Japan. This included the Fukushima Daiichi nuclear power plant. The plant's nuclear meltdown released a large amount of radioactivity into the environment. The Japanese government evacuated over 100,000 people in the 30 km zone around the plant. https://www.agronomy.org/science-news/soils-retain-and-contain-radioactivity-fukushima



http://sydneyscience.com.au/#/

Soil deserves a Google Doodle!

Soil Science Society leads effort to get soil recognition on World Soil Day

26 June 2015—The United Nations declared 2015 the International Year of Soils (#IYS2015). Now, the Soil Science Society of America (SSSA) is leading an effort get soil its very own Google Doodle.

“Soils sustain life,” says David Lindbo, a North Carolina State soil science professor and the leader of SSSA’s IYS task force. “It is a precious natural resource, and IYS is doing a good job of getting more public attention for soils. We think a Google Doodle on December 5, World Soil Day, would help us get the message out even more.”

Over 2 billion people use Google each day! Google Doodles are animations of the Google logo that display at the start of a Google search. Users can click on the

animation to learn more about the day's theme. (To learn more about doodles, go to Google Doodles.)

https://www.agronomy.org/news/media-inquiries/releases/2015/0626/676/

Stressed out plants send animal-like signals

Researchers have reported how plants respond to their environment with a similar combination of chemical and electrical responses to animals, but through machinery that is specific to plants (stock image).

Credit: © beinluck / Fotolia

University of Adelaide research has shown for the first time that, despite not having a nervous system, plants use signals normally associated with animals when they encounter stress.

Published in the journal *Nature Communications*, the researchers at the Australian Research Council (ARC) Centre of Excellence in Plant Energy Biology reported how plants respond to their environment with a similar combination of chemical and electrical responses to animals, but through machinery that is specific to plants.

Journal Reference:

1. Sunita A. Ramesh, Stephen D. Tyerman, Bo Xu, Jayakumar Bose, Satwinder Kaur, Vanessa Conn, Patricia Domingos, Sana Ullah, Stefanie Wege, Sergey Shabala, José A. Feijó, Peter R. Ryan, Matthew Gillham. **GABA signalling modulates plant growth by directly regulating the activity of plant-specific anion transporters**. *Nature Communications*, 2015; 6: 7879 DOI: 10.1038/ncomms8879
http://www.sciencedaily.com/releases/2015/07/150729085922.htm

Tropical peatland carbon losses from oil palm plantations may be underestimated

Peatland forest draining exposes the upper peat layer to oxygen, raising decomposition rates and soil carbon losses.

Draining tropical peatlands for oil palm plantations may result in nearly twice as much carbon loss as official estimates, according to a new study by researchers from the University of Minnesota Institute on the Environment and the Union of Concerned Scientists in the journal *Environmental Research Letters*.

http://phys.org/news/2015-07-tropical-peatland-carbon-losses-oil.html

Browne: St. Kitts Soils Rapidly Depleting

Published on Monday, 06 July 2015 18:59
Written by Andre Huie
Hits: 732

Participants at Monday's workshop at the agriculture department building in La Guerite.

St. Kitts and Nevis (WINN): Non compliance to the crop rotation policy is resulting to a rapid depletion of the soil in St. Kitts, according to Oswald Browne from the St. Kitts Agriculture Department. Mr. Browne was delivering a presentation on the soils in the Federation at the opening ceremony of the Training in Soil Management workshop in La Guerite on Monday.

http://www.winnfm.com/news/local/13089-browne-st-kitts-soils-rapidly-depleting

Groundwater from aquifers important factor in food security

Groundwater from three main aquifers in the United States contributes to food shipped across the country and around the globe, says a new study from civil and environmental engineers at Illinois and Lehigh University. Credit: Tom Sears

Thirsty cities, fields and livestock drink deeply from aquifers, natural sources of groundwater. But a study of three of the most-tapped aquifers in the United States shows that overdrawing from these resources could lead to difficult choices affecting not only domestic food security but also international markets.

Read more at: http://phys.org/news/2015-06-groundwater-aquifers-important-factor-food.html#jCp

https://soilsmatter.wordpress.com/

Soil event appeals to global leaders

Last week's Celebrating Soil! Celebrating Life! conference gave a voice to a new generation demanding immediate action to halt the destruction of the world's soils


German TV chef Sarah Wiener leads a guerilla gardening action outside the conference.

Speaking at last week's UN-backed conference on the importance of living soil in securing food supplies, members of the Youth Food Movement demanded that delegates, including ministers, royalty and business leaders, act now to stop soil erosion and degradation.
http://www.fruitnet.com/eurofruit/article/165724/soil-conference-appeals-to-global-leaders

Share

Bristol 24/7 , 2 July 2015

Head for the Create centre every Saturday from 4 July to 22 August 2015 for Soil Saturdays – the UK's summer celebration of soil. Each Soil Saturday is a vibrant happening for a taste of living well with each other and the soils of Earth.
http://www.bristol247.com/channel/news-comment/green-capital-2015/sponsored-feature/soil-saturdays-at-the-create-centre

Learn 5 reasons to promote soil health

Tom Doran, Field Editor

A slake test provides a clear example of how healthy soil holds together when saturated compared to unhealthy soil. Conducting the demonstration at the Schertz Aerial Service crop and soil health seminar near Lexington, Ill., are Mark Baran, LaSalle County's NRCS district conservationist, and Paige Buck, NRCS public affairs officer.

LEXINGTON, Ill. — Thirty-five years ago, the Illinois Erosion and Sediment Control law, often referred to as the “T by 2000” program, became effective in an effort to preserve the long-term productivity of the soils and protect water quality.
http://agrinews-pubs.com/Content/News/MoneyNews/Article/Learn-5-reasons-to-promote-soil-health/8/27/12924

Clear as mud? Dealing with surplus construction soil

by Dianne Saxe with Jackie Campbell

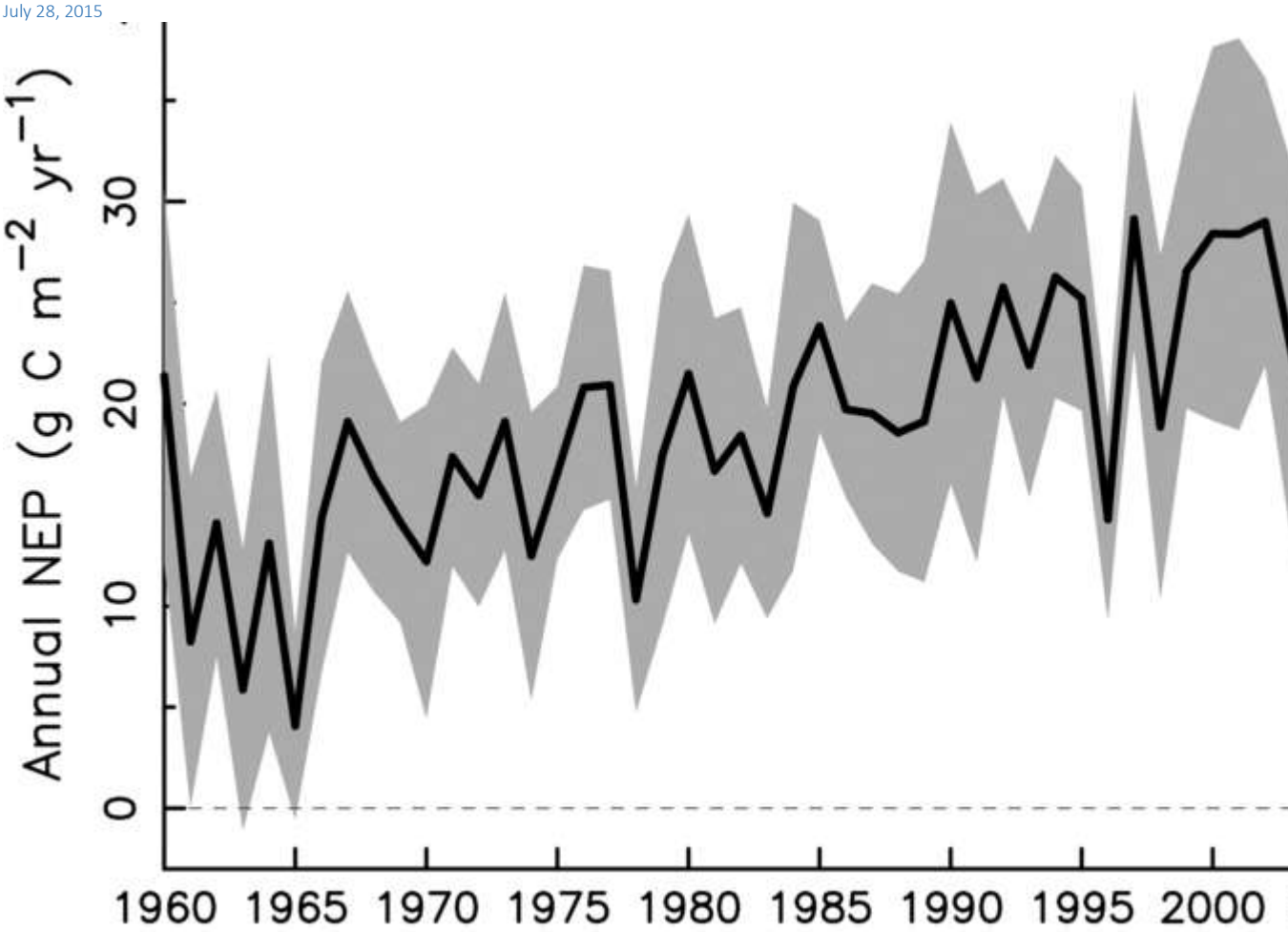
Movement of soils is big business in Canada. Hundreds of millions of tonnes of soil are transported every year, as basements and tunnels are dug, hills are levelled, harbours dredged, and hollows filled. And so it has been for hundreds of years. Soil is a valuable resource, and one not easily replaced. It can take over 500 years to form just two centimetres of topsoil; a single hectare of topsoil contains up to five tonnes of living organisms.

http://www.municipalworld.com/feature-article-july-2015/

https://www.facebook.com/millionsagainst/posts/10152914372956905

Climate models disagree on strength of carbon land sink across northern Eurasia

July 28, 2015



Annual net ecosystem productivity, (NEP, in grams of carbon per square meter per year) across the study region as an average across the nine climate models. Standard error range is shown in gray. Annual NEP, which closely tracks the net CO_2 sink, shows an increase through the first four decades, and remains relatively stable since 2000. Credit: UMass Amherst

In a new assessment of nine state-of-the-art climate model simulations provided by major international modeling centers, Michael Rawlins at the University of Massachusetts Amherst and colleagues found broad disagreement in the amount of atmospheric carbon dioxide (CO2) annually sequestered in tundra and boreal ecosystems of Northern Eurasia, a vast, understudied region of the world. http://phys.org/news/2015-07-climate-strength-carbon-northern-eurasia.html

Volcano cluster thought to be 50 million years old accidentally discovered off coast of Sydney

By Alice Matthews
Updated 14 Jul 2015, 12:58pmTue 14 Jul 2015, 12:58pm

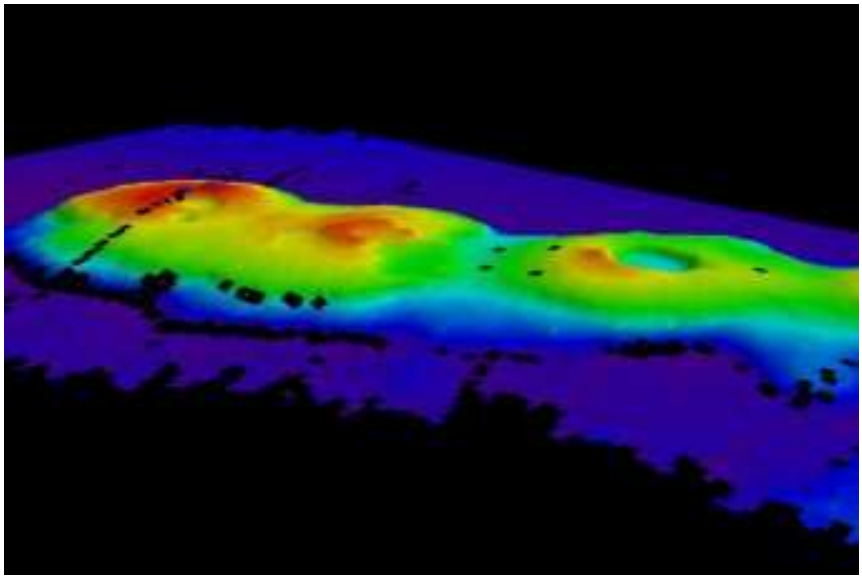


Photo: The CSIRO's Investigator research ship discovered the cluster of volcanos while performing routine mapping of the sea floor. (Supplied: CSIRO)

Four extinct volcanoes likely to be 50 million years old have been accidently discovered about 250 kilometres off Sydney's coast.

Australian research vessel Investigator found the volcanoes nearly five kilometres under the ocean surface while searching for nursery grounds for larval lobsters and fish. http://www.abc.net.au/news/2015-07-13/volcano-cluster-discovered-off-the-coast-of-sydney/6614828

http://inspiringaustralia.net.au/

Drought and climate change fuel high-elevation California fires, study finds

27 July 2015

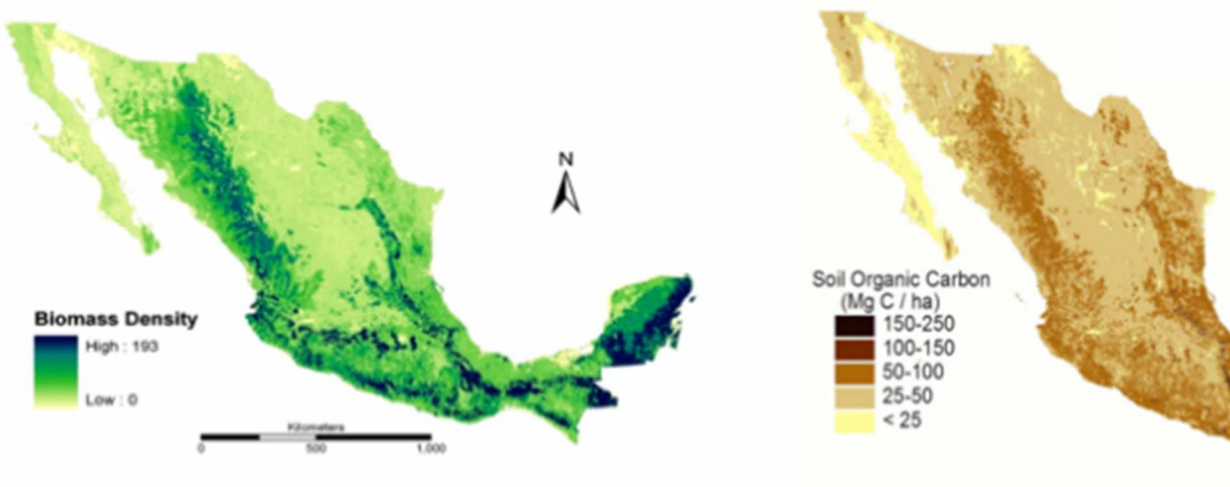
A small fire in this high-elevation Sierra Nevada forest was followed by a beetle infestation, which killed trees and left the forest more vulnerable to an even larger wildfire. Credit: U.S. Forest Service

Wildfires in California's fabled Sierra Nevada mountain range are increasingly burning high-elevation forests, which historically have seldom burned, reports a team of researchers led by the John Muir Institute of the Environment at the University of California, Davis.

Read more at: http://phys.org/news/2015-07-drought-climate-fuel-high-elevation-california.html#jCp

New research will boost grasp of North American carbon cycle

29 July 2015



Above-ground biomass density (Mg C/ha) and soil organic carbon (Mg C/ha). Data was derived from information of >22,000 plots collected by the National Forest and Soil Inventory during the year 2007. Credit: University of Kansas

For centuries, people have transformed and splintered landscapes and ecosystems in North America. This radical altering of nature makes it tough for scientists to analyze the continent's life-sustaining carbon cycle—the biological, geological and chemical routes the element carbon takes to shift among earth, water and atmosphere.

Read more at: http://phys.org/news/2015-07-boost-grasp-north-american-carbon.html#jCp

HOW WILL SYDNEY POWER ITSELF INTO THE FUTURE?

The Geological Society of Australia will ask Sydney if it is ready to tackle alternative energy

A 'Q and A' style public forum, presented by the Geological Society of Australia, features leading scientists & engineers discussing the latest cutting edge science on alternative energy possibilities and their implications for a sustainable Sydney, including 'clean' coal, small thorium reactors, algal farms for biofuels, solar and more.

We invite you to suggest questions to be submitted to the panel on the night. If your question is accepted, you will be notified and will be given the opportunity to ask your question in person on the night. Please submit your question to gsapublicforum@applebysolutions.com including your full name and contact mobile phone and email address.

Panellists include:

- **Prof. Mary O'Kane**, NSW Chief Scientist & Engineer
- **Prof. Ben Hankamer,** University of Queensland, founding director of the Solar Biofuels Consortium
- **Dr Gary Ellem,** Tom Farrell Institute, University of Newcastle.
- **Tony Irwin,** Technical Director SNR Nuclear Technology
- **Sceintia Prof. Deo Prasad**, CEO of the CRC for Low Carbon Living, UNSW

The forum will be moderated by leading ABC science journalist, **Robyn Williams**.

Robyn Williams
ABC
Science Journalist & Broadcaster

http://www.eventbrite.com.au/e/public-forumpowering-sydney-into-the-future-the-science-of-alternative-energy-tickets-16609337977

Salt water quirk key to bubble desalination

The researchers suggest a 150m2 greenhouse could produce up to 30kg of crops daily while providing additional fresh desalinated water through night-time condensation. Credit: ProFlowers

A team of Murdoch University researchers have designed an efficient, small-scale greenhouse combining desalination with food production.

Read more at: http://phys.org/news/2015-07-salt-quirk-key-desalination.html#jCp

New research findings reveal how wildfires spread

21 July 2015

Evidence presented in a recently released study, authored by a team of scientists from the USDA Forest Service, University of Maryland and University of Kentucky, reveals new findings about how wildfires actually spread and could have significant impacts on firefighter safety and fuel hazards mitigation.

Read more at: http://phys.org/news/2015-07-reveal-wildfires.html#jCp

Antidepressant Microbes In Soil: How Dirt Makes You Happy

Image by amoceptum
By Bonnie L. Grant

Prozac may not be the only way to get rid of your serious blues. Soil microbes have been found to have similar effects on the brain and are without side effects and chemical dependency potential. Learn how to harness the natural antidepressant in soil and make yourself happier and healthier. Read on to see how dirt makes you happy.

http://www.gardeningknowhow.com/garden-how-to/soil-fertilizers/antidepressant-microbes-soil.htm

Citizen scientists enlisted for research examining soil moisture conditions and water availability

July 15, 2015 by Arvind Suresh, Plos Blogs

Credit: National Resource Conservation Service

NASA scientists are on a mission to map global soil moisture, and through SciStarter, they're teaming up with citizen scientists to gather valuable data from the ground to complement and validate what is seen from space.

Read more at: http://phys.org/news/2015-07-citizen-scientists-soil-moisture-conditions.html#jCp

Fossils indicate human activities have disturbed ecosystem resilience

13 July 2015

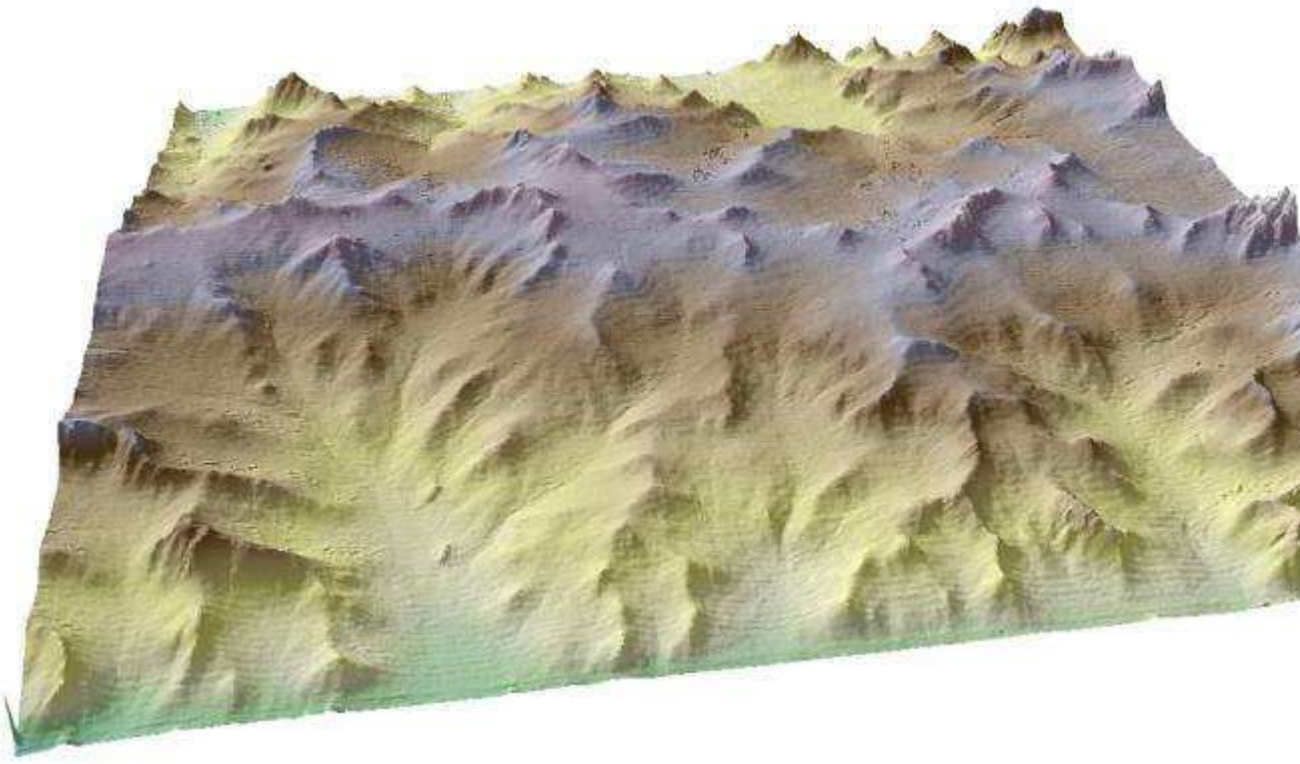
Homestead Cave in Utah is a treasure of tiny fossils that are giving researchers an understanding of local ecology in the distant past. Credit: Oregon State University

A collection of fossilized owl pellets in Utah suggests that when the Earth went through a period of rapid warming about 13,000 years ago, the small mammal community was stable and resilient, even as individual species changed along with the habitat and landscape.

Read more at: http://phys.org/news/2015-07-fossils-human-disturbed-ecosystem-resilience.html#jCp

Experiments open window on landscape formation

2 July 2015



Graphic shows how the combination of hill-slope erosion and precipitation-generated runoff over geological time create a landscape of orderly ridges and valleys. Credit: Joshua Roering

University of Oregon geologists have seen ridges and valleys form in real time and—even though the work was a fast-forwarded operation done in a laboratory setting—they now have an idea of how climate change may impact landscapes.

Read more at: http://phys.org/news/2015-07-window-landscape-formation.html#jCp

SOILS FROM TOP TO BOTTOM

A workshop presented by the NSW Soil Knowledge Network for public and private farm advisors who want to learn more about soils in the Central West

19 and 20th August 2015 – Wellington, NSW

They may have retired, but they have passion for soils in their blood, and are keen to pass on their soils knowledge and skills. Don't miss this opportunity to talk to and learn from the old Soilies.

- Q&A - bring your questions along and see if we can answer them?
- If you have a problem soil or issue – bring along a soil sample with soil analyses if you have any?
- eSPADE - how to find soil information.
- Sampling soils – how to collect soil samples cross a landscape.
- Simple field tests for determining soil health.

Where – The conference room at the Wellington caves tourist information centre (Caves Road Wellington, 1km off the Mitchell Hwy, 8km south of Wellington).

When – Meet us on Wednesday 19th August at 10.00 am for morning tea.

Morning - Question and Answer session with local soil experts.

Afternoon – Field bus tour around the Wellington area.

We will be looking at and discussing -

- Soils and their issues in the Central West;
- Landscapes and geology;
- Describing a soil – texture, colour;
- Land management systems, soil chemistry what the numbers mean on a test? and
- What is soil carbon? and a local soil carbon research project.

Evening BBQ at the caves

Thurs 20th August

Morning - Bus tour focussing on soil structure and irrigation (rainfall simulator, paddock infiltration tests and water use efficiency)

Finish at 12 pm.

Speakers – John Lawrie, Brian Murphy and Ian Packer from the NSW Soil Knowledge Network

***Contact** – confirm your attendance with John Lawrie or Ian Packer on 0428 638 510 (maximum 25 people).*

Cost – $100 plus accommodation at the Wellington Caves Function centre.

Payments NSW Soils Knowledge Network Inc. BSB – 082 534, Account Number – 83 816 6450

Please identify your payment with 'Wellington Workshop and surname'

Accommodation – Get in early to book and pay for your own accommodation at Wellington Caves.

Phone: 0268 452 970 Email: caves@visitwellington.com.au

This workshop is being run by the NSW Soil Knowledge Network (SKN), and Office of Environment and Heritage. It is supported by the Department of Primary Industries, and the Central West and Central Tablelands Local Lands Services.

NSW GOVERNMENT Office of Environment & Heritage

15–23 August 2015 national science week

Coal renaissance is bad news for greenhouse gas mitigation efforts

A coal power plant in Datteln, Germany, that transforms chemical energy into 36%-48% electricity and the remaining 52%-64% into waste heat. Image credit: Arnold Paul. Wikimedia Commons.

(Phys.org)—A trio of researchers in Germany has found that because developing nations have increasing energy needs, they are turning to coal because it is the cheapest option available. In their paper published in *Proceedings of the National Academy of Sciences*, Jan Christoph Steckel, Ottmar Edenhofer and Michael Jakob describe their study of emerging countries and what they found regarding the reasons many of them have for using coal instead of oil or other energy producing options.

Read more at: http://phys.org/news/2015-07-coal-renaissance-bad-news-greenhouse.html#jCp

Snap inspection gives mayor's mine all clear

Photo: An inspection of Mackas Sand has found it has complied with all relevant approvals. (ABC News: Mark Moore)A snap inspection of a sand mine, part-owned by the mayor of Port Stephens, has given the operation the all clear for meeting its conditions of approval.

The Mackas Sand mine was approved in 2013, amid strong community concerns about increased truck movements. http://www.abc.net.au/news/2015-07-30/snap-inspection-gives-mayor27s-mine-all-clear/6658862

Scientists study ways to integrate biofuels and food crops on farms

7 July 2015 by Payal Marathe

In collaboration with the farming community of the Indian Creek Watershed in central Illinois, Argonne researchers are finding ways to simultaneously meet three objectives: maximize a farmer's production, grow feedstock for bioenergy and protect the environment. Credit: Patty Campbell/Argonne National Laboratory.

Read more at: http://phys.org/news/2015-07-scientists-ways-biofuels-food-crops.html#jCp

'Feminist, vegan dinosaur' makes it into circulation with release of new coin

18 July 2015

Bridie Smith

Science Editor, The Age

Palaentologist Tom Rich. *Photo: Simon O'Dwyer*

Leaellyn Rich was first promised a dinosaur as a toddler. Unlike most children, she got her wish.

Granted, the promise took about a decade to fulfil. And the pet she had in mind wasn't exactly flesh and blood - this creature had died more than 100 million years ago.

Read more: http://www.smh.com.au/technology/sci-tech/feminist-vegan-dinosaur-makes-it-into-circulation-with-release-of-new-coin-20150717-gicrar.html#ixzz3hKb1Z31G

World's largest climate research site pilots integrated modelling

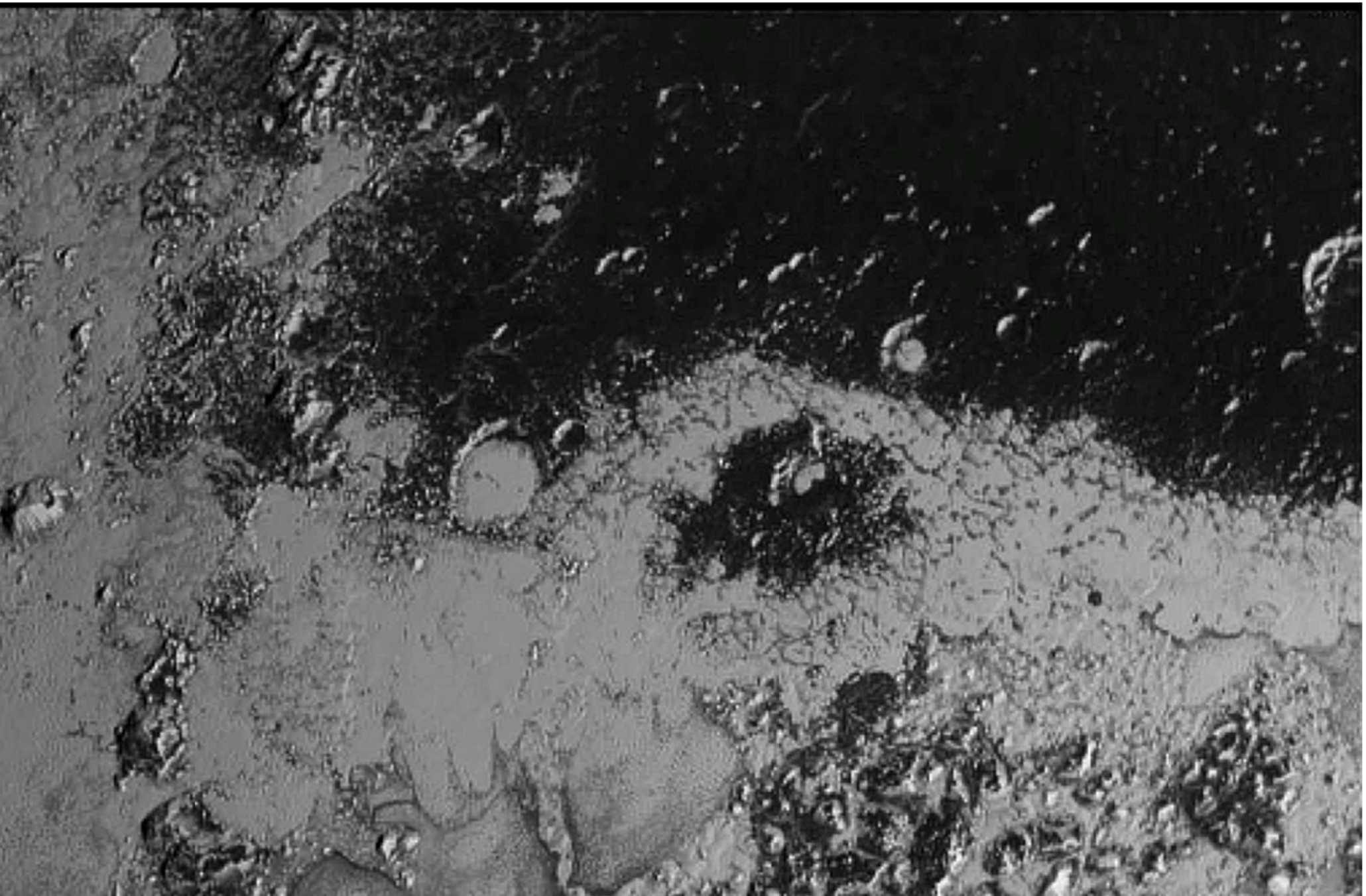
29 July 2015

Radar at the Southern Great Plains field measurement site, which takes climate data for research. Photo courtesy of the U.S. Department of Energy ARM Climate Research Facility.

The next generation of equipment is coming to the world's largest climate research facility, the Southern Great Plains (SGP) field measurement site near Lamont, Oklahoma.

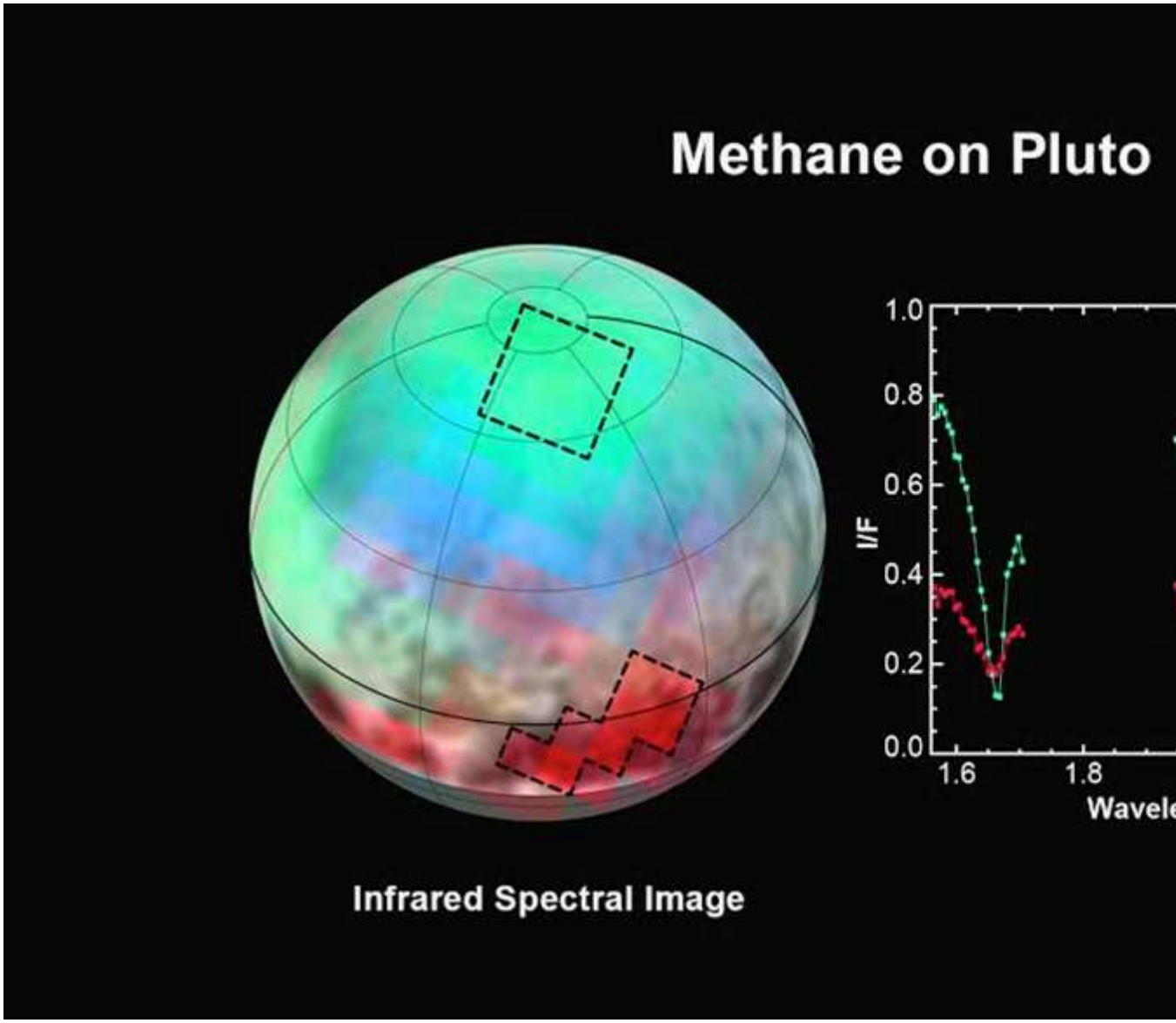
Read more at: http://phys.org/news/2015-07-world-largest-climate-site.html#jCp

NASA’s New Horizons Finds Second Mountain Range in Pluto’s ‘Heart’



A newly discovered mountain range lies near the southwestern margin of Pluto's Tombaugh Regio (Tombaugh Region), situated between bright, icy plains and dark, heavily-cratered terrain. This image was acquired by New Horizons' Long Range Reconnaissance Imager (LORRI) on July 14, 2015 from a distance of 48,000 miles (77,000 kilometres) and sent back to Earth on July 20. Features as small as a half-mile (1 kilometer) across are visible. https://www.nasa.gov/image-feature/nasa-s-new-horizons-finds-second-mountain-range-in-pluto-s-heart

Pluto: The Ice Plot Thickens



The latest spectra from New Horizons Ralph instrument reveal an abundance of methane ice, but with striking differences from place to place across the frozen surface of Pluto.

"We just learned that in the north polar cap, methane ice is diluted in a thick, transparent slab of nitrogen ice resulting in strong absorption of infrared light," said New Horizons co-investigator Will Grundy, Lowell Observatory, Flagstaff, Arizona. In one of the visually

dark equatorial patches, the methane ice has shallower infrared absorptions indicative of a very different texture. “The spectrum appears as if the ice is less diluted in nitrogen,” Grundy speculated “or that it has a different texture in that area.”

https://www.nasa.gov/image-feature/charon-s-surprising-youthful-and-varied-terrain

Animated Flyover of Pluto’s Icy Mountain and Plains

https://www.youtube.com/watch?v=ydU-YrG_INk

NASA's Curiosity Mars Rover Studies Rock-Layer Contact Zone

As Mars emerges from passing nearly behind the sun, NASA has resumed full operations of the Curiosity r reached a site where at least two rock types meet.

Geological Contact Zone Near 'Marias Pass' on Mars

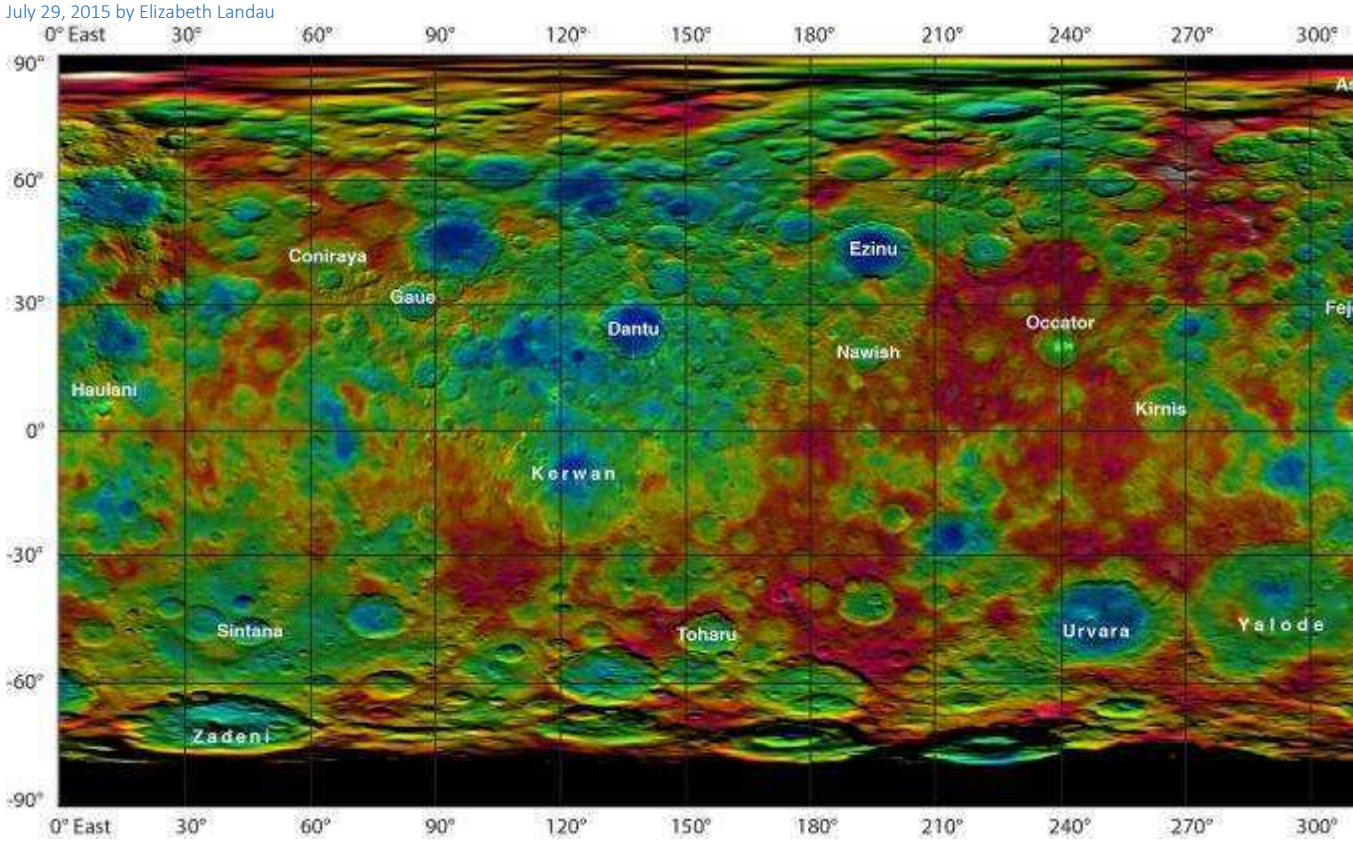
Credit:NASA/JPL-Caltech/MSSS

Fast Facts: -- Rover team members have resumed commanding Curiosity after a moratorium while the sun was between
-- Curiosity is examing a zone where two regional rock units neighbor each other near "Marias Pass."
-- The rover found a sandstone with grains of diverse size, shape and color.

http://mars.jpl.nasa.gov/msl/news/whatsnew/index.cfm?FuseAction=ShowNews&NewsID=1840

New names and insights at Ceres

July 29, 2015 by Elizabeth Landau



This colour-coded map from NASA's Dawn mission shows the highs and lows of topography on the surface of dwarf planet Ceres. It is labelled with names of features approved by the International Astronomical Union. Occator, the mysterious crater containing Ceres' mysterious bright spots, is named after the Roman agriculture deity of harrowing, a method of levelling soil. They retain their bright appearance in this map, although they are colour-coded in the same green elevation of the crater floor in which they sit. The colour scale extends about 5 miles (7.5 kilometres) below the surface in indigo to 5 miles (7.5 kilometres) above the surface in white. Credit: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA

Colourful new maps of Ceres, based on data from NASA's Dawn spacecraft, showcase a diverse topography, with height differences between crater bottoms and mountain peaks as great as 9 miles (15 kilometres).

Read more at: http://phys.org/news/2015-07-insights-ceres.html#jCp

Free ‘Space’ Posters

Earth (with Australia), the Moon, Pluto and Charon scale comparison poster

To download the full size poster, see below.

Download the A3 poster: Pluto_Charon_Moon_Australia_Earth_to_scale_A3_poster
(Scientific convention followed – North at top)

http://nightskyonline.info/?page_id=18227

“Any fool can know. The point is to understand.”
— Albert Einstein