

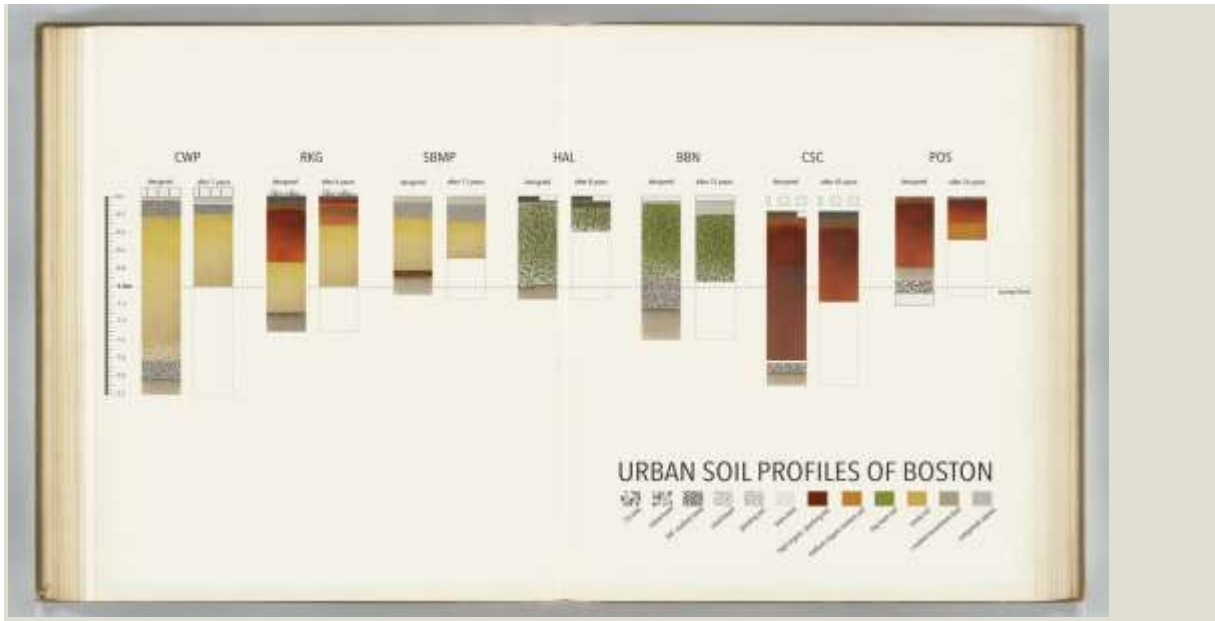


Soil Knowledge Network (SKN) on YouTube

A screenshot of the NSW Soil Knowledge Network YouTube channel page. The page shows the channel name, a subscribe button, and a list of recent video uploads. The first video is 'Saline & Sodic Soils v05 youtubeHD' with 4 views. The second is 'Your Soils From Top To Bottom v06 youtubeHD' with 2 views. The third is 'Paddock Tests For Soil Health v04 youtubeHD' with 2 views. On the right, there is a sidebar titled 'Popular channels on YouTube' listing channels like JennaMarbles, HolaSoyGerman, Smosh, OneDirectionVEV..., RihannaVEVO, and PewDiePie.

<http://www.youtube.com/channel/UCYR2Z1c1kEO2hUJs7PHuiuw>

State of City Soils



The city subsurface is mysterious and remote, but it's not unknowable. Principal Eric Kramer and Stephanie Hsia spent the summer examining the soils of Boston's urban parks, performing a study whose results will appear at ASLA 2014.



http://www.reedhilderbrand.com/practice/state_of_city_soils

Drayton, Coalpac knockbacks a 'brutal double blow' for coal miners in NSW

Mining and Resources Carbon Economy NSW Environment

Date

21 October 2014 - 2:13PM



Saved from the coal mine expansion at South Drayton. *Photo: Peter Stoop*

The coal industry in NSW has suffered a "brutal double blow" following the rejection by the Planning Assessment Commission of two open-cut mine expansions in the Hunter Valley and the Blue Mountains, the NSW Minerals Council said.

The commission dismissed plans to expand the Drayton mine south-east of Muswellbrook and the "Coalpac Consolidation Project" near the Gardens of Stone National Park, northwest of Lithgow.

Read more: <http://www.smh.com.au/business/mining-and-resources/drayton-coalpac-knockbacks-a-brutal-double-blow-for-coal-miners-in-nsw-20141021-11974o.html#ixzz3GkWm8EfS>

Hunter horses triumph over coal

MIKE FOLEY

21 Oct, 2014 09:23 AM

Comments Share Tweet



“
The project does not provide sufficient buffer to protect Coolmore and Darley from mining impacts
”

UPDATED 12.40pm IT'S A bad day for big coal - and a massive about face for planning policy in NSW.

A big expansion to an existing Hunter Valley coal project, perched on the doorstep of some of Australia's premier Thoroughbred studs, was torpedoed today by NSW's independent approvals body.

The Planning and Assessment Commission (PAC) unequivocally rejected Anglo American's pitch to expand its Drayton open cut coal mine.

Hunter Valley Thoroughbred Breeders Association president Cameron

LATEST

Infrastructure dollars failing farmers

Ag workers in the line of fire

Joko sworn in as Indonesia's new president

Duopoly facing further losses in ACCC

<http://www.theland.com.au/news/agriculture/general/news/hunter-horses-triumph-over-coal/2715434.aspx>

Automated imaging system looks underground to help improve crops

An automated imaging technique for measuring and analysing the root systems of mature plants has been developed by researchers. The work could help plant scientists improve food crops to help meet the needs of a growing world population.



Researcher James Burridge of Penn State University determines root phenotypes manually and with a prototype of the imaging system.

Credit: Penn State

Plant scientists are working to improve important food crops such as rice, maize, and beans to meet the food needs of a growing world population. However, boosting crop output will require improving more than what can be seen of these plants above the ground. Root systems are essential to gathering water and nutrients, but understanding what's happening in these unseen parts of the plants has until now depended mostly on lab studies and subjective field measurements.

Journal Reference:

1. A. Bucksch, J. Burridge, L. M. York, A. Das, E. Nord, J. S. Weitz, J. P. Lynch. **Image-Based High-Throughput Field Phenotyping of Crop Roots**. *PLANT PHYSIOLOGY*, 2014; 166 (2): 470 DOI: [10.1104/pp.114.243519](https://doi.org/10.1104/pp.114.243519)

<http://www.sciencedaily.com/releases/2011/02/110216120509.htm>

News



Protect Soils and Safeguard Global Food Security

15 October 2014

GLOBAL - BBSRC and NERC are working together, with partners, to fund three new initiatives to improve our understanding of soils, which are key to tackling many of today's global challenges, including food, water, and energy security, and climate change.



Soil science is a key strategic priority for the Global Food Security (GFS) programme, of which BBSRC and NERC are both partners.

Soil is fundamental to our life support system, providing food, storing and filtering water, cycling nutrients and providing a habitat for many species. It is at the heart of our interaction with the environment and central to the responsible management of our planet. The world will need to produce 50% more food by 2030 to feed a growing world population and soil science is crucial to meeting this challenge.

<http://www.thecropsite.com/news/16917/protect-soils-and-safeguard-global-food-security>

Potential of autochthonous bacteria for use as biofertilizers

Date: October 10, 2014

Source: Elhuyar Fundazioa

Summary: Scientists are working to select autochthonous bacteria with a biofertilizing potential as a result of the stimulating effect they have on the take-up of nutrients by plants, phytohormone production and phytopathogen control. The research is of great interest for farmers because bacteria-based biofertilizers constitute an alternative to conventional chemical fertilizers that are expensive and less sustainable from an environmental point of view.

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Earth & Climate

Neiker-Tecnalia, the Basque Institute for Agricultural Research and Development, is working to select autochthonous bacteria with a biofertilizing potential as a result of the stimulating effect they have on the take-up of nutrients by plants, phytohormone production and phytopathogen control. The research is of great interest for farmers because bacteria-based biofertilizers constitute an alternative to conventional chemical fertilizers that are expensive and less sustainable from the environmental point of view.

<http://www.sciencedaily.com/releases/2014/10/141010100850.htm>

ECOLOGIST
SETTING THE ENVIRONMENTAL AGENDA SINCE 1971

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SEARCH

Farmers lead composting revolution to heal African soils

Fernando Naves Sousa

19th October 2014

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The soils on which African farmers depend are getting poorer, writes Fernando Naves Sousa, depleted of nutrients and organic matter. This creates a huge challenge: to reverse the trend in an environmentally responsible way, while feeding a growing population. But it can be done - using organic composting techniques.

When it rains, the muddy runoff builds up behind the earthen. Over time they grow to form effective and rapidly vegetating catchment barriers, reducing erosion and helping rainwater to infiltrate into

Moussa Konate has a secret. His fields of sorghum, millet and cotton are verdant and productive. Some neighbours are puzzled: they find it hard to believe he does not apply mineral fertilisers and other agro-chemicals.

"We have to feed the earth, so that it gives us what we need", says the farmer of Niama, a village in southern Mali.

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http://www.theecologist.org/blogs_and_comments/Blogs/2559683/farmers_lead_composting_revolution_to_heal_african_soils.html

Soils SOS as cities gobble up our best growing land

20 Monday Oct 14 12:00pm



New Zealand is allowing its elite soils to be eaten up by cities – despite signing up to a new global campaign to protect valuable agricultural land.

New Zealand launched its [membership of the 17-country Pacific Soil Partnership](#) on Wednesday – the same day that the Government announced it would push ahead with plans to ease planning rules to allow our cities to spread. <http://www.carbonnews.co.nz/story.asp?storyID=8214>

Soil Association goes back to its roots with soil campaign

10 October 2014 | By [Alistair Driver](#)

THE Soil Association will be going back to its roots, literally, next year with a new focus on reversing what it claims to be the 'severe damage' done to Britain's soils by farming in parts of the country.

The association unveiled a new logo at its annual conference, in Swindon, this week.



The new Soil Association logo puts the emphasis on 'soil'

Putting the emphasis back on the word 'soil', it will be part of a rebrand for the organic body in 2015, at the heart of which, according to Soil Association chief executive Helen Browning, will be a renewed emphasis on the value of, and need to protect, soil.

<http://www.farmersguardian.com/home/latest-news/soil-association-goes-back-to-its-roots-with-soil-campaign/67958.article>

Taking infestation with a grain of salt: Salinity plays role in insect grazing

Salinity plays a major role in salt marsh grass's response to insect grazing, new research shows. Plants are always trying to deal with infestation by overcompensating and growing more, researchers say. "But when the plant gets too stressed by the salt, it doesn't care about the insects anymore."



Scale insects form white protective coatings on the blades of cordgrass while they sap sugars and nutrients from the plant.

Credit: Image courtesy of San Diego State University

Twenty years ago, biologists Kathy Boyer and Joy Zedler, then researchers at San Diego State University, speculated that too many insects feeding on cordgrass in the marshes of San Diego Bay could endanger the grass, and in turn endanger the bay wildlife that relies on it.

Journal Reference:

1. Jeremy D. Long, Laura D. Porturas. **Herbivore Impacts on Marsh Production Depend upon a Compensatory Continuum Mediated by Salinity Stress.** *PLoS ONE*, 2014; 9 (10): e110419
DOI: [10.1371/journal.pone.0110419](https://doi.org/10.1371/journal.pone.0110419)

<http://www.sciencedaily.com/releases/2014/10/141014124311.htm>

The screenshot shows the homepage of the Ecologist website. At the top, the logo 'ECOLOGIST' is displayed with the tagline 'SETTING THE ENVIRONMENTAL AGENDA SINCE 1970'. Below the logo is a navigation menu with categories: CLIMATE CHANGE, FOOD + FARMING, ENERGY, HEALTH, POLITICS + ECONOMICS, SCIENCE + TECHNOLOGY, NATURAL WORLD, SOCIETY, and WASTE + RECYCLING. A secondary menu includes: NEWS, GREEN LIVING, CAMPAIGNING, BLOGS & COMMENTS, INTERVIEWS, MAGAZINE, VIDEO, ARCHIVE, EXTRAS, DIRECTORY, and ECO DATING. The main content area features the article 'For healthy food we need living, organic soils' by Hannah Bewsey & Katherine Paul / OCA, dated 6th October 2014. The article text states: 'Soils are naturally alive with complex 'food webs' of micro-organisms that sustain plants with moisture and nutrients, making them good to eat. But once the biota have been blitzed with agro-chemicals under industrial farming regimes, it's our health that suffers. One more reason to grow, and eat, organic!'. A quote from Christine Jones is included: 'The Earth's soil is a dynamic mixture of rock particles, water, gases, and microorganisms. Just one cup of soil contains more microorganisms than there are people on the planet.' A sidebar on the right contains an 'ECOLOGIST COOKIES' notice and a 'More information here...' link. Below the article, there is a 'More articles about' section with tags for 'health | food | farming | natural world |'. A small image of a potato field is also visible.

http://www.theecologist.org/blogs_and_comments/Blogs/2565795/for_healthy_food_we_need_living_organic_soils.html

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Clay soils

Soils rich in fine clay particles are called 'heavy soils' and, although hard to manage, are also potentially very fertile when treated in the right way.



Quick facts

- Clay soils contain more than 30 percent fine clay particles
- Clays swell and shrink as they wet and dry, effectively cultivating themselves
- Clay soils take longer to warm up in spring
- Wet clay soils are easily damaged when dug or walked on
- Drought is much less damaging on clay soils than others soil types

<https://www.rhs.org.uk/Advice/Profile?pid=620&cid=614>

New tracers can identify frack fluids in the environment

16 hours ago



Acid mine drainage flows through a stream in western Pennsylvania. Credit: Nathaniel Warner

Scientists have developed new geochemical tracers that can identify hydraulic fracturing flowback fluids that have been spilled or released into the environment.

Read more at: <http://phys.org/news/2014-10-tracers-frack-fluids-environment.html#jCp>

Farmer's 'ecstatic' win - gas licence revoked

By Ross Tyson

15 Oct 2014, 4 a.m.

A FARMER'S tireless four-year campaign against a cowboy coal seam gas exploration company has finally paid dividends.



VICTORY: Gurley farmer Penny Blatchford is thrilled that her four-year campaign has resulted in a cowboy company being stripped of its coal seam gas exploration licence.

Penny Blatchford was “ecstatic” after learning that Leichhardt Resources had been stripped of its licence over land south of Moree.

The Queensland-based company had just \$100 in share capital when it was granted a petroleum exploration licence (PEL) for the 670sq km area in 2009.

Liberal MP Chris Hartcher last year renewed the PEL for five years despite concerns the company had neither the financial nor technical expertise to meet its obligations, but Mrs Blatchford's tenacity yesterday resulted in new Minister for Resources and Energy Anthony Roberts ruling that Leichhardt had “contravened or failed” conditions of the PEL.

The Gurley farmer said her great fear – and the fear of many other farmers – was that the pop-up company's activities would threaten her family's livelihood.

“We've got **soils** that are quite unique and we were concerned that they would be compromised to the detriment of our productivity,” she said.

<http://www.northerndailyleader.com.au/story/2625218/farmers-ecstatic-win-gas-licence-revoked/?cs=159>

Little experience, little money but the gas minnows sure have a lot of land

THE AUSTRALIAN | SEPTEMBER 30, 2013 12:00AM



SAVE



Anthony Klan

Journalist
Sydney



Follow @Anthony_Klan



Tim Frost says issuing massive exploration permits to small companies is outrageous and he is seriously concerned those companies could damage aquifers. Picture: James Croucher Source: TheAustralian

PRIME LAND



Source: TheAustralian

SMALL-TIME coal-seam gas companies with little equity - and some with no previous industry experience - hold exploration rights over more than 10,000sq km of prime NSW farmland.

One company holding CSG exploration licences over 5500sq km of prime land - more than twice the size of the ACT - is a \$100 company run by a Queensland lawyer in his spare time.

Another company, which in 2009 was granted approval to drill 16 CSG exploration wells in greater Sydney's drinking water catchment area, has no senior employees with any CSG or mining experience and \$12.3 million in accumulated losses.

The revelations come after federal Resources Minister Ian Macfarlane last week called for the fast-tracking of CSG extraction in the state and increased his criticism of CSG opponents, labelling some of them "anarchists".

<http://www.theaustralian.com.au/news/investigations/little-experience-little-money-but-the-gas-minnows-sure-have-a-lot-of-land/story-fn8p9s2m-1226729603384>

National Water Commission releases final report, warns government not to backtrack on water reform

By [Carl Smith](#)

Updated yesterday at 6:21pm Mon 20 Oct 2014, 6:21pm



Photo: [NWC chair Karlene Maywald said the report urged governments to learn from the mistakes of the past. \(ABC News\)](#)

In its final report, the National Water Commission (NWC) has found the country's water is now being used effectively after years of reform, but is warning governments not to drop the ball on the issue.

<http://www.abc.net.au/news/2014-10-20/final-national-water-commission-report-advises-against-changes/5826790>

Predicting volcanic eruptions and coping with ash rain

17 Oct 2014 by Mirzam Abdurrachman



Sumatra volcano Sinabung has been releasing hot ash and gravel in the past week. Credit: EPA/DEDY SAHPUTRA

Living alongside active volcanoes in places like Japan, the Philippines and especially Indonesia can be uncomfortable.

Read more at: <http://phys.org/news/2014-10-volcanic-eruptions-coping-ash.html#jCp>

Massive debris pile reveals risk of huge tsunamis in Hawaii

Date:

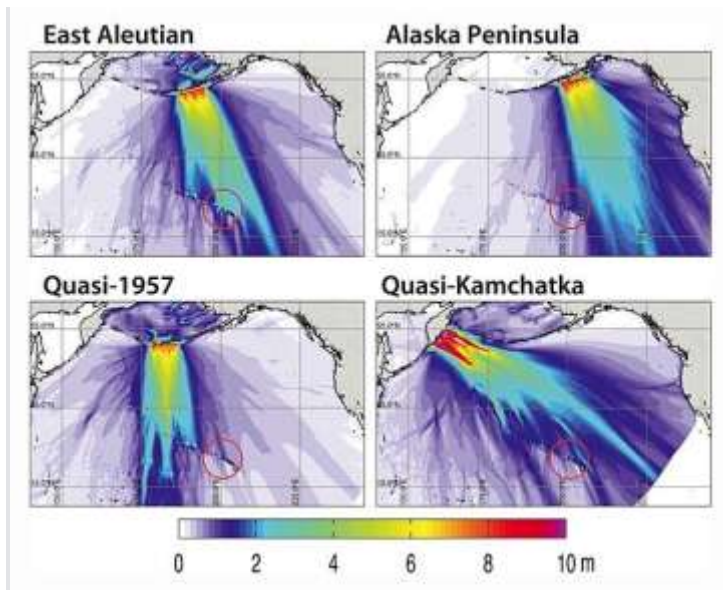
20 October 2014

Source:

American Geophysical Union

Summary:

A mass of marine debris discovered in a giant sinkhole in the Hawaiian islands provides evidence that at least one mammoth tsunami, larger than any in Hawaii's recorded history, has struck the islands, and that a similar disaster could happen again, new research finds. Scientists are reporting that a wall of water up to nine meters (30 feet) high surged onto Hawaiian shores about 500 years ago. A 9.0-magnitude earthquake off the coast of the Aleutian Islands triggered the mighty wave, which left behind up to nine shipping containers worth of ocean sediment in a sinkhole on the island of Kauai.



The researchers simulated earthquakes with magnitudes between 9.0 and 9.6 originating at different locations along the Aleutian-Alaska subduction zone, and found that the unique geometry of the eastern Aleutians would direct the largest post-earthquake tsunami energy directly toward the Hawaiian Islands. The red circles are centered on Kaua'i and encircle the Big Island.

Credit: Rhett Butler

A mass of marine debris discovered in a giant sinkhole in the Hawaiian islands provides evidence that at least one mammoth tsunami, larger than any in Hawaii's recorded history, has struck the islands, and that a similar disaster could happen again, new research finds. Scientists are reporting that a wall of water up to nine meters (30 feet) high surged onto Hawaiian shores about 500 years ago. A 9.0-magnitude earthquake off the coast of the Aleutian Islands triggered the mighty wave, which left behind up to nine shipping containers worth of ocean sediment in a sinkhole on the island of Kauai.

Journal Reference:

1. Rhett Butler, David Burney, David Walsh. **Paleotsunami evidence on Kaua'i and numerical modeling of a great Aleutian tsunami.** *Geophysical Research Letters*, 2014; DOI: [10.1002/2014GL061232](https://doi.org/10.1002/2014GL061232)

<http://www.sciencedaily.com/releases/2014/10/141020121529.htm>

Mediterranean, semi-arid ecosystems prove resistant to climate change

12 hours ago



Climate change predictions for the Middle East, like other arid regions of the world, are alarming. In an area known for its water scarcity, rainfall is expected to decrease even further in the near future, spelling disaster for the functioning of unique ecosystems—hotspots of biodiversity and rich genetic fodder for essential crops.

Read more at: <http://phys.org/news/2014-10-mediterranean-semi-arid-ecosystems-resistant-climate.html#jCp>

NASA Soil Moisture Mapper arrives at launch site

16 Oct 2014 by Steve Cole



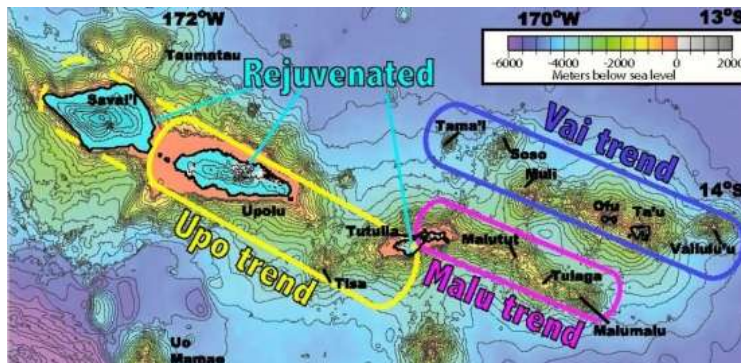
NASA's Soil Moisture Active Passive (SMAP) spacecraft is delivered by truck to the Astrotech payload processing facility at Vandenberg Air Force Base in California on Wednesday, Oct. 15, 2014. Credit: NASA

A NASA spacecraft designed to track Earth's water in one of its most important, but least recognized forms—soil moisture—now is at Vandenberg Air Force Base, California, to begin final preparations for launch in January.

Read more at: <http://phys.org/news/2014-10-nasa-soil-moisture-mapper-site.html#jCp>

Geochemist uses helium and lead isotopes to gain insight into the makeup of the planet's deep interior

16 Oct 2014



This map of the Samoan hotspot shows its division into three parallel volcanic lineaments. Credit: UCSB

A UC Santa Barbara geochemist studying Samoan volcanoes has found evidence of the planet's early formation still trapped inside the Earth. Known as hotspots, volcanic island chains such as Samoa can ancient primordial signatures from the early solar system that have somehow survived billions of years.

Read more at: <http://phys.org/news/2014-10-geochemist-helium-isotopes-gain-insight.html#jCp>

Where has all the soil gone? Focusing on soil loss important to researchers

During these times of high drought and potential dust storms (or torrential rain and flash flooding), focusing on soil loss is important. Soil erosion is expensive. It costs the United States about \$44 billion per year. Preventing erosion means taking care of the soil. That means protecting it with mulch and plants, not plowing on steep slopes, and maximizing the amount of water that enters the soil while minimizing the water that runs over the soil



This concrete post was driven to bedrock in 1924 in the Everglades by University of Florida staff. The soil has subsided more than 6 feet in 90 years. Luckily, the rate of soil loss has been cut in 1/2 due to best management practices.

Credit: Ramesh Reddy, University of Florida

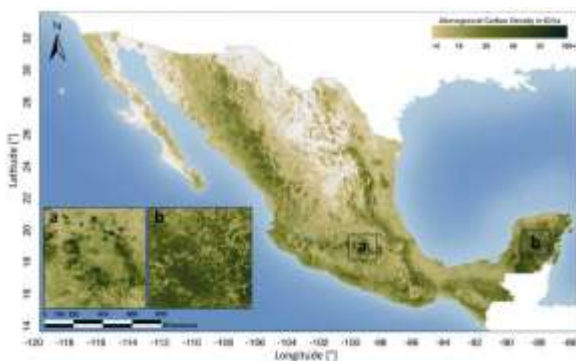
You may hear the phrase: "We are losing our soil." Sounds serious...but how do we lose soil? Nick Comerford, a member of the Soil Science Society of America (SSSA) and professor at the University of Florida, provides the answer.

Soil erosion is the movement of soil by wind or water, and it's through erosion that soil is "lost." If it is an organic soil, we also lose it by subsidence which happens when an organic soil is drained and its organic matter decomposes.

<http://www.sciencedaily.com/releases/2014/06/140618163922.htm>

First detailed map of aboveground forest carbon stocks in Mexico unveiled

16 Oct 2014



This is a map of forest aboveground carbon stocks derived from national forest inventory and satellite (Landsat and ALOS PALSAR) data sets. Credit: Woods Hole Research Center

Available for download today, the Woods Hole Research Center (WHRC) and Alianza MREDD+ released the first detailed map of aboveground forest carbon stocks of Mexico. This carbon stock inventory is very valuable for Mexico, as one of the first tropical nations to voluntarily pledge to mitigation actions within the context of the United Nation's Reducing Emissions from Deforestation and forest Degradation (REDD+) program.

Read more at: <http://phys.org/news/2014-10-aboveground-forest-carbon-stocks-mexico.html#jCp>

Researchers embark on longest space simulation on U.S. soil

16 Oct 2014 by Talia Ogliore



The current team of HI-SEAS crew members, with UH Manoa's Brian Shiro (left).

Six astronaut-like crew members have embarked on the longest dedicated space travel simulation ever conducted on U.S. soil.

Read more at: <http://phys.org/news/2014-10-embark-longest-space-simulation-soil.html#jCp>

"Global Catch 22: Mankind seems hell bent on being the only species left on earth; the problem is that our survival and continued existence relies on the very biodiversity we destroy. "

DR JIM FRAZIER