Humans Erode Soil 100 Times Faster Than Nature

Humans reportedly erode soil 100 times faster than nature, an astonishing new study revealed. (Photo : Pixabay)

Humans reportedly erode soil 100 times faster than nature, an astonishing new study revealed.

Through activities such as logging and the cutting down of native forests to make way for agricultural land, we are doing damage that would normally occur over thousands of years in just a matter of decades.

"Soils fall apart when we remove vegetation," study co-author Paul Bierman said in a statement, "and then the land erodes quickly."

"Earth doesn't create that precious soil for crops fast enough to replenish what the humans took off," researcher and geologist Dylan Rood added. "It's a pattern that is unsustainable if continued." http://www.natureworldnews.com/articles/11874/20150112/humans-erode-soil-100-times-faster-than-nature.htm

Searching Soil for an Antibiotic Savior

Researchers from across the globe are on their hands and knees, digging through the dirt in search of something precious. But it's not gold, diamonds, or even oil that they are after - it's the next effective antibiotic. (Photo : Oregon Department of Transportation)

Researchers from across the globe are on their hands and knees, digging through the dirt in search of something precious. But it's not gold, diamonds, or even oil that they are after - it's the next antibiotic.

It's no secret that we are becoming utterly surrounded by bacteria and other microbes that can resist the everyday drugs we use.

As put ever-so-calmly by the World Health Organization, a "post-antibiotic era - in which common infections and minor injuries can kill - far from being an apocalyptic fantasy, is instead a very real possibility for the 21st Century."
http://www.natureworldnews.com/articles/12100/20150120/searching-soil-antibiotic-savior.htm

Going underground to understand Australia's past climate variability

16 hours ago

Given the importance of water in Australia, surprisingly, there is relatively little information about the past variability of rainfall on this continent. Although there is a good annual record of the past 100 years in Australia, there is nothing much before that period and no known cave deposit records exist for New South Wales.

Read more at: http://phys.org/news/2015-05-underground-australia-climate-variability.html#jCp

Nepal's Earthquake was So Intense it Changed Both Land and Air, Says NASA

By **Brian Stallard**

4 May 2015 04:40 PM EDT

(Photo : Hilmi Hacaloğlu)

It's been more than a week since the developing world of Nepal was struck by a devastating 7.8-magnitude earthquake. Aid and recovery efforts are now in full swing, and NASA, of all groups,

seems to be one of the first to provide information that's uniquely valuable to responders.
http://www.natureworldnews.com/articles/14489/20150504/nepals-earthquake-intense-changed-both-land-air-nasa.htm

Loss of fertile soils a food security risk

Massive amounts of fertile agricultural land are lost every year. Yet we depend on such topsoil as the basis for feeding the world. So, what needs to be done to assure healthy soils and thus food security?

Going underground

The number of organisms living in a handful of soil outnumber all humans on the planet. They ensure that the humus layer stores nutrients and water. After oceans, soils represent the planet's largest carbon bank. Soils store more carbon than all the world's forests combined.

http://www.dw.de/loss-of-fertile-soils-a-food-security-risk/a-18395856

Slowdown after Ice Age sounds a warning for Great Barrier Reef's future

17 hours ago by Verity Leatherdale

Environmental factors similar to those affecting the present day Great Barrier Reef have been linked to a major slowdown in its growth eight thousand years ago, research led by the University of Sydney shows.

Read more at: http://phys.org/news/2015-05-slowdown-ice-age-great-barrier.html#jCp

How Oil and Gas Development Transforms **Landscapes**

By **Jenna Iacurci**

30 Apr 2015 02:12 PM EDT

(Photo : Flickr: Simon Fraser University)

Oil and gas development, though it has met our demanding energy needs, also transforms landscapes, impacting both the environment and wildlife, new research says.

As of late, roughly 50,000 new wells have been drilled annually in central North America, in areas such as the Bakken, Eagle Ford and the Marcellus Shale. And though well drilling has been linked to methane emissions, dirty groundwater and even earthquakes, now it also reportedly plays a role in changing landscapes. http://www.natureworldnews.com/articles/14420/20150430/how-oil-and-gas-development-transforms-landscapes.htm

Going with the flow? Research provides better understanding of soils and water

23 Apr 2015

Observed preferential flow pathways at the Shale Hills Catchment along a hillslope includes fractured shale in the upslope area. Credit: Henry Lin

When it comes to soil and water, predictability is important—but difficult.

Soil scientists have struggled with accurately measuring water flow through soil for years. Even the smallest soil details can sway water's path from the straight, sequential line gravity alone might demand. These minute differences contribute to water's "preferential flow." For farmers' crops dependent on moisture, or chemical spills needing containment, preferential flow can be a matter of life or death. http://phys.org/news/2015-04-soils.html

Forests could be the trump card in efforts to end global hunger, report says

54 minutes ago

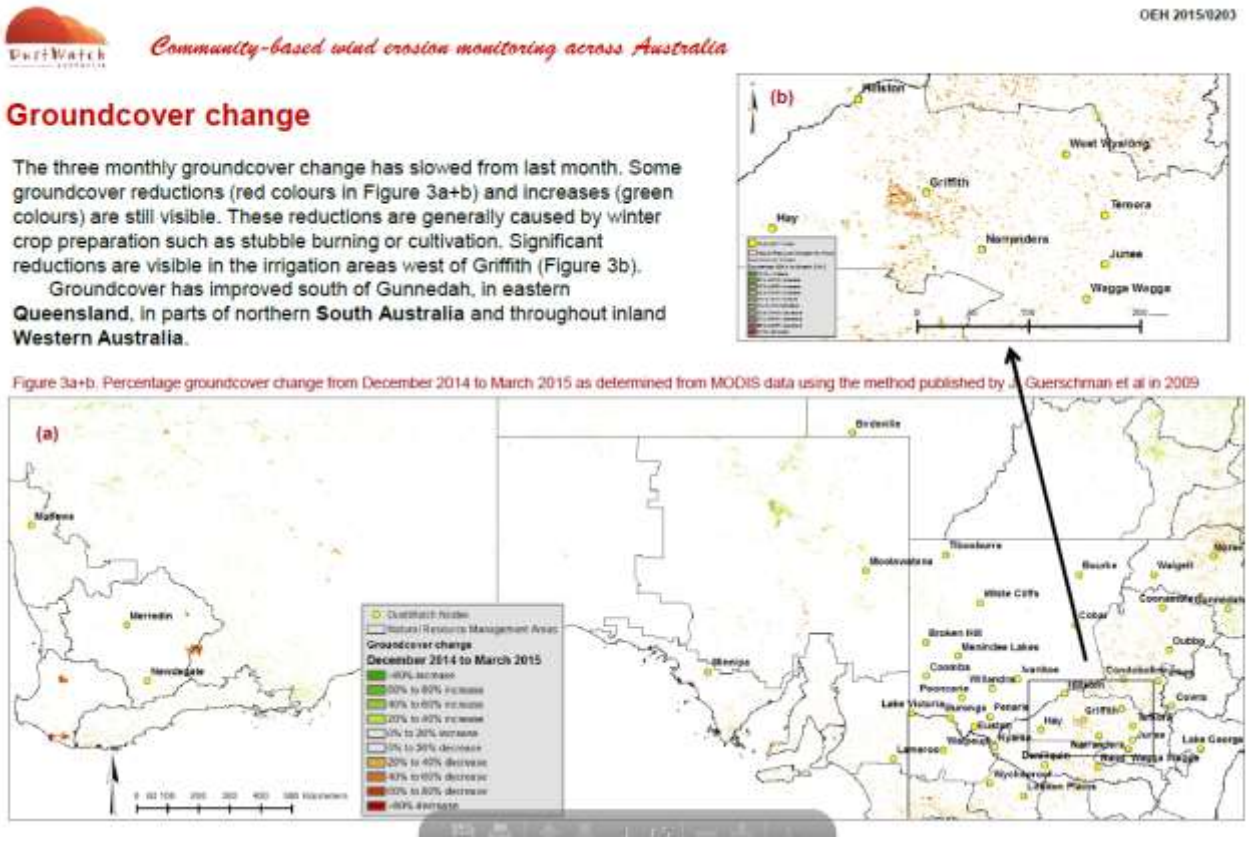
A child's daily requirement for vitamin A can be met by around 25 g of a deep orange-fleshed mango variety. Credit: Terry Sunderland

About one in nine people globally still suffer from hunger with the majority of the hungry living in Africa and Asia. The world's forests have great potential to improve their nutrition

and ensure their livelihoods. In fact, forests and forestry are essential to achieve food security as the limits of boosting agricultural production are becoming increasingly clear.

Read more at: http://phys.org/news/2015-05-forests-trump-card-efforts-global.html#jCp

DustWatch reports



http://www.environment.nsw.gov.au/resources/dustwatch/150203DWNL.pdf

Warming Climate May Release Massive Carbon Storehouse from Arctic Soils

By **Jenna Iacurci** Apr 28, 2015 11:54 AM EDT

(Photo : Flickr: Bering National Park Reserve)

It's no secret that our warming climate is causing ice everywhere to melt, but now new research shows that this thaw may release a massive storehouse of carbon in long-frozen Arctic soils. This could potentially have a catastrophic effect on climate change, which is already wreaking havoc on the environment and wildlife around the world.

http://www.natureworldnews.com/articles/14367/20150428/warming-climate-may-release-massive-carbon-storehouse-from-arctic-soils.htm

International Year of Soils: March 2015

Soils support agriculture

By Diego Flammini, Farms.com

The Food and Agriculture Organization of the United Nations declared 2015 as the International Year of Soils.

The year-long ode to soil will focus on understanding its importance for food and environmental security.

Some specific objectives throughout the year include:

- Raising full awareness among civilians and decision makers about the importance of soil for human life

- Promoting investments in soil protection
- Advocating for rapid capacity enhancement for soil information collection at global, national and regional levels

Every month will have a specific theme relating to soil's importance. January focused on how soils sustain life whereas February looked at how soil supports urban life.

The theme for the month of March is "*Soils Support Agriculture"*.

http://www.farms.com/ag-industry-news/international-year-of-soils-march-2015-788.aspx

Western Australian landscape isn't as tectonically stable as previously thought

4 May 2015 by Cristy Burne

Beau Whitney at Cape Range. Credit: Martha Whitney

Earthquakes may be rare in Australia, but an analysis of WA coastline suggests our landscape isn't as tectonically stable as previously thought. http://phys.org/news/2015-05-western-australian-landscape-isnt-tectonically.html

Fjords Act as Major Carbon Sinks, Study Says

By Jenna Iacurci May 05, 2015 11:08 AM EDT

(Photo : Candida Savage)

Fjords, such as those in Norway, don't just make for beautiful landscapes but also act as major carbon sinks that likely play an important role in regulating the planet's climate, a new study says.

http://www.natureworldnews.com/articles/14509/20150505/fjords-act-as-major-carbon-sinks-study-says.htm

Researchers share the dirt on Year of Soils

John Carberry

John Carberry

Senior research associate Julie Lauren points to "nodules" on legume roots during "Dig It?" a celebration of soil hosted by faculty and researchers from Soil and Crop Sciences April 29 at Mann Library.

John Carberry

Doctoral candidate Mike Schmidt demonstrates the filtration qualities of different soil types.

We walk on it, we eat from it, we draw our water through it, and we send our waste into its depths to return clean once more.

But what do we really know about soil?

Faculty and graduate researchers from Cornell's Soil and Crop Sciences section took over the first floor lobby of Mann Library April 29 to spread the dirt on the power – and vulnerability – of that thin terrestrial layer upon which all land-borne life depends.
http://www.news.cornell.edu/stories/2015/05/researchers-share-dirt-year-soils

Researchers explain mystery of India's rapid move toward Eurasia 80 million years ago

May 04, 2015 by Jennifer Chu

In this artist's rendering, the left image shows what Earth looked like more than 140 million years ago, when India was part of an immense supercontinent called Gondwana. The right image shows Earth today. Credit: iStock (edited by MIT News)

In the history of continental drift, India has been a mysterious record-holder.

More than 140 million years ago, India was part of an immense supercontinent called Gondwana, which covered much of the Southern Hemisphere. Around 120 million years ago, what is now India broke off and started slowly migrating north, at about 5 centimeters per year. Then, about 80 million years ago, the continent suddenly sped up, racing north at about 15 centimeters per year—about twice as fast as the fastest modern tectonic drift.
http://phys.org/news/2015-05-mystery-india-rapid-eurasia-million.html

Snow deposits: A soil disturbance in urban areas

Snow stores a great amount of sediments during the winter. After this season snow melt transports a large amount of sediments to floodplains and water bodies. This natural process depends of the land-use, and is accelerated in urban areas, due soil sealing, which facilitates runoff and sediment transport. Here, sediments very often contain a high amount of sodium, due the salt spreading in the roads to break the ice. These sediments with high levels of sodium can induce an additional disturbance in the place where they are deposited. When leached into the soil, they will contribute to soil clay dispersion, sediment production and the increase of erosion potential. In urban areas as Vilnius, Lithuania (Figure 1), the sediment produced after the snow melt is a problem for the municipality and a cause of soil degradation in urban areas.

Figure 1. Snow Deposits in urban parks.

https://gsoil.wordpress.com/2015/03/08/snow-deposits-a-soil-disturbance-in-urban-areas/

Climate Changes Affect Greenland First, Antarctica in 200 Years

By **Jenna Iacurci**

30 Apr 2015 02:08 PM EDT

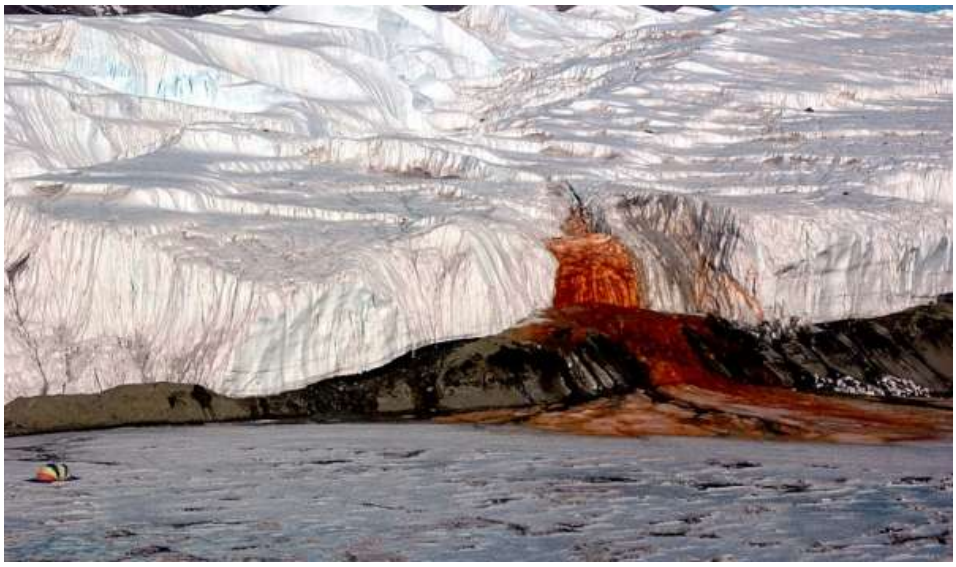
(Photo : Pixabay)

No, I'm not talking about 200 years from present day. But new research has shown evidence of a 200-year lag between climate events in Greenland and Antarctica during the last ice age, and it could possibly help shed light on the consequences of climate change in the future.
http://www.natureworldnews.com/articles/14419/20150430/climate-changes-affect-greenland-first-antarctica-in-200-years.htm

Why is Antarctica Hemorrhaging 'Blood'? Experts Claim Unknown Life

By Brian Stallard

29 Apr 2015 04:01 PM EDT

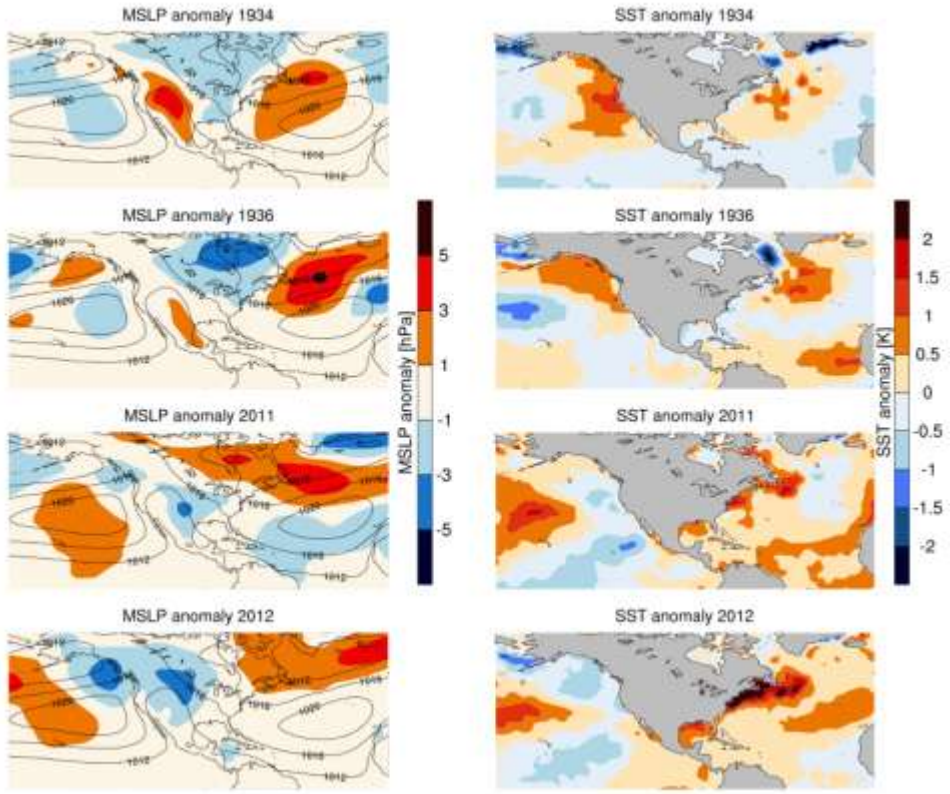


(Photo : National Science Foundation/Peter Rejcek)

Antarctica is often referred to as the White Continent, and aptly so. Covered in vast sheets of ice and pure packed snow, it is a dazzling wonderland that often get's no darker than a light and stony gray. That's why the infamous Blood Falls is so disturbing to see. Located at the tongue of the Taylor Glacier, a slushy waterfall flows a vivid crimson - not unlike the color of blood. Now, using state of the art technologies and their own intuition, researchers are using the Falls to find new life.
http://www.natureworldnews.com/articles/14403/20150429/why-antarctica-hemorrhaging-blood-experts-claim-unknown-life.htm

Warm oceans caused hottest Dust Bowl years in 1934/36

4 May 2015



This figure shows the unusual ocean anomalies of 1934 and 36 compared to 2011 and 2012.

Two ocean hot spots have been found to be the potential drivers of the hottest summers on record for the Central US in 1934 and 1936. The research may also help modern forecasters predict particularly hot summers over the central United States many months out.
http://phys.org/news/2015-05-oceans-hottest-bowl-years.html

Is 2015 The Year Soil Becomes Climate Change's Hottest Topic?

by Natasha Geiling Posted on 29 April 2015 at 8:00 am

Is 2015 The Year Soil Becomes Climate Change's Hottest Topic?

Environmental groups want to make soil a red hot climate change issue.

CREDIT: SHUTTERSTOCK

Last week, 650 people from 80 countries gathered in Germany for a week-long discussion about an increasingly important topic in climate change: soil. Dubbed Global Soil Week by the Global Soil Forum — an international body dedicated to achieving responsible land use and soil management — the conference brought together scientists and environmental advocates from all over the world who hoped to translate scientific research about soil into tangible policies for its management.
http://thinkprogress.org/climate/2015/04/29/3652020/global-soil-week-forum-recap/

Chemicals from Shale Drilling Discovered in Pennsylvania Tap Water

By Jenna Iacurci

5 May 2015 01:53 PM EDT

Pictured: Marcellus shale gas-drilling site. (Photo : Flickr: Nicholas A. Tonelli)

Chemicals commonly used for shale drilling were discovered in the tap water of three Pennsylvania homes, according to a new analysis.

This wouldn't be the first time that fracking - which involves drilling into the earth and injecting a high-pressure water and chemical mixture to release natural gas - has been associated with contaminated water. Previous research has suggested that the flowback fluid from this process can leach out of the soil and into groundwater.
http://www.natureworldnews.com/articles/14522/20150505/chemicals-from-shale-drilling-discovered-in-pennsylvania-tap-water.htm

Stop treating soil like dirt, scientists say

Posted on 30 April 2015 | By John Burgeson

Jessica Gosney digs out her car after rocks and mud inundated her home in the mountain community of Forest Falls in the San Bernardino Mountains Monday, Aug. 4, 2014. (AP Photo/Nick Ut)

From a press release:

In celebration of the International Year of Soil 2015 (IYS), the Soil Science Society of America (SSSA) is coordinating a series of activities throughout to educate the public about the importance of soil. May's theme is "Soils Support Buildings and Infrastructure."

According to May's IYS monthly leader Larry Baldwin, "No matter what type of home you live in, it's connected to the soil. Even schools, offices and stores are built on soil, and often with it."

Here are some facts about soils, buildings and infrastructure:

1. 50% of the world's population lives in buildings made from soil components. In addition, lumber frames for construction come from trees grown in soil.

http://blog.ctnews.com/connecticutpostings/2015/04/30/stop-treating-soil-like-dirt-scientists-say/

Australia—riding on the insect's back

17 hours ago by David Yeates, The Conversation

True Australians: hard workers, quiet achievers and generally underappreciated labourers.

As you may have spotted, the title of this article is a cheeky reference to the famous saying that Australia rides on the back of a particular woolly ruminant. The reference dates back to 1894, when the wool industry was one of the primary sources of Australia's prosperity.
http://phys.org/news/2015-05-australiariding-insect.html

US cleanup would leave some asbestos in contaminated town

22 hours ago by By Matthew Brown

In this Feb. 17, 2010, file photo, the W.R. Grace mine is shown, outside of Libby, Mont. Libby, the town of 3,000 along the Kootenai River has emerged as the deadliest Superfund site in the nation's history. At least 400 people have been killed so far from W.R. Grace mine workers and family members who breathed in the dust they brought home in their clothes, to kids who played in waste tailings by the community baseball field. A cleanup proposal for a Montana town where thousands have been sickened by asbestos exposure calls for leaving some of the dangerous material in place rather than removing it. (AP Photo/Rick Bowmer, File)

A long-delayed cleanup proposal for a Montana community where thousands have been sickened by asbestos exposure would leave some of the dangerous material inside houses rather than remove it, as government officials seek to wind down an effort that has lasted more than 15 years and cost $540 million.

Read more at: http://phys.org/news/2015-05-cleanup-superfund-town-asbestos.html#jCp

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

Summary:

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

FULL STORY

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

Ocean Currents Hinder Methane-Eating Bacteria

By **Jenna Iacurci**

4 May 2015 05:58 PM EDT

(Photo : Pixabay)

Methane comes from a variety of sources, both natural and man-made. This includes methane-munching microbes that live in rocks in the deep sea, helping to control this potent greenhouse gas. But now new research shows that ocean currents may be hindering these critical methane-eating bacteria, thus contributing to global warming.
http://www.natureworldnews.com/articles/14506/20150504/ocean-currents-hinder-methane-eating-bacteria.htm

Dry West African Soils Reverse Course of New York Cocoa Traders

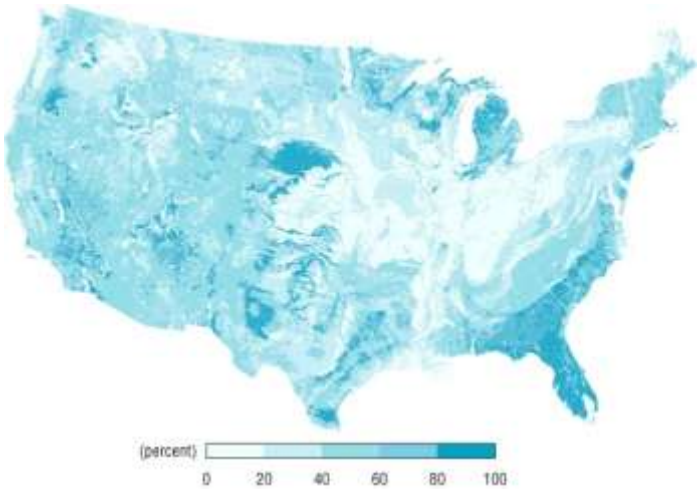
by Megan Durisin

4 May 2015

Speculators are adding to bullish cocoa wagers at the fastest pace in two years as dry weather threatens crops in parts of West Africa, the source of 70 percent of global supply.

About a fifth of the growing regions in Ghana, the top producer after Ivory Coast, got half the normal rainfall in the past 45 days, according to MDA Weather Services. Showers have also been sporadic in Nigeria, the region's next biggest grower.
http://www.bloomberg.com/news/articles/2015-05-03/dry-west-african-soils-reverse-course-of-new-york-cocoa-traders

Deforestation in Sandy Soil Ecosystems Releases Most CO_2 into Atmosphere



The disruption of underground microbial communities caused by deforestation and the effects of climate change on forest ecosystems will be greater in some soil types, such as sandy soils, than in others, according to a new study led by Yale University researchers. The map shows the distribution of sandy soil across the US. (Photo : http://www.soilinfo.psu.edu/)

The disruption of underground microbial communities caused by deforestation and the effects of climate change on forest ecosystems will be greater in some soil types, such as sandy soils, than in others, according to a new study led by Yale University researchers.
http://www.natureworldnews.com/articles/6496/20140401/deforestation-in-sandy-soil-ecosystems-releases-most-co2-into-atmosphere.htm

Volcanic soils produce unique wines

Volcanic soil produces top-quality wines with rich flavours and aromas, writes Daniel Scheffler

IN SICILY, ON THE SLOPES OF MOUNT EDNA, AMONG VOLCANIC SOIL AND HIGH ALTITUDE LIES ITALY'S MOST INTERESTING WINES.

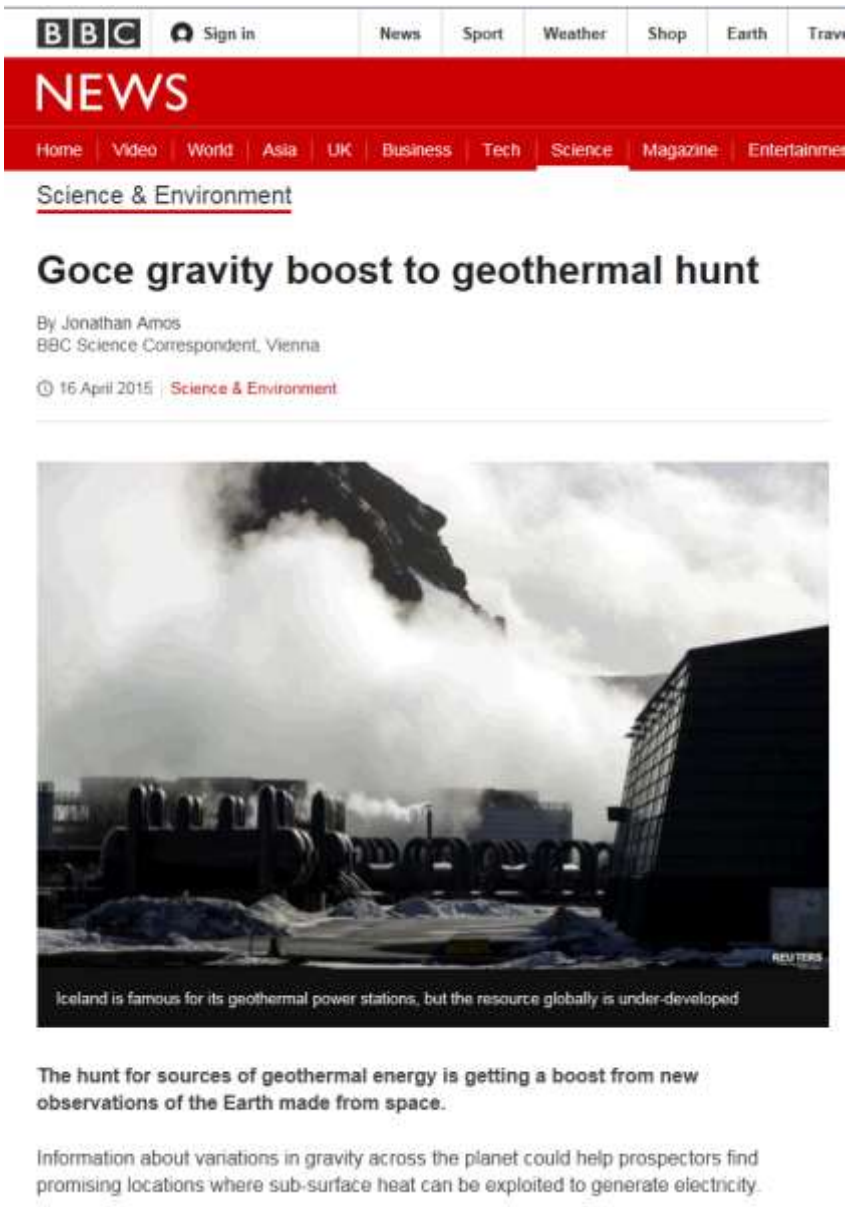
The essence of wine is romance. Apart from its ancient roots, it is the visceral production process and that deep enjoyment of the final product that lend it its ardour and mystique. Most of us are familiar with the long trusted wine regions of the world - Bordeaux, Napa Valley, Stellenbosch - but lesser known are the small groups of vintners rediscovering alternative fountainheads to wine creation, such as vineyards located in regions known primarily for their volcanic activity.

http://www.scmp.com/magazines/style/article/1723887/volcanic-soils-produce-unique-wines

Crater collapse causes lava explosion on Hawaii's Kilauea

May 05, 2015 by By Caleb Jones

In this May 3, 2015 photo provided by U.S. Geological Survey Hawaiian Volcano Observatory, smoke and lava explode from Kilauea volcano on Hawaii's Big Island. Molten lava and rocks went flying through the air after part of the crater wall collapsed and caused the explosion. (USGS Hawaiian Volcano Observatory via AP)Molten lava, rocks and gas went flying through the air on Hawaii's Kilauea volcano after an explosion was caused by the partial collapse of a crater wall. http://phys.org/news/2015-05-crater-collapse-lava-explosion-hawaii.html



http://www.bbc.com/news/science-environment-32337378

Ag Secretary Vilsack announces $235 million for conservation

4 May 2015

U.S. Agriculture Secretary Tom Vilsack on Monday announced up to $235 million in funding for conservation projects to protect water quality and combat the drought that is ravaging parts of the West.

The money is the second phase of the Agriculture Department's Regional Conservation Partnership Program, which was created by last year's farm bill. In January, the agency distributed $394 million in the program's first round. http://phys.org/news/2015-05-ag-secretary-vilsack-million.html

Cloud chamber suggests pollen causes rain

Texas A&M University, University of Michigan ➦Original Study

Posted by Nicole Casal Moore-Michigan on 4 May 2015

"It's possible," says Allison Steiner, "that when trees emit pollen, that makes clouds, which in turn makes rain and that feeds back into the trees and can influence the whole growth cycle of the plant." (Credit: Cesar Lopez Rivadeneira/Unsplash)

Pollen’s main job is to create the next generation of trees and plants, but the grains might also seed clouds, a new study shows.

The unexpected findings demonstrate that pollen might have an effect on the planet’s climate. And they highlight a new link between plants and the atmosphere.

Atmospheric scientists who study aerosols—particles suspended in the air that scatter light and heat and play a role in cloud formation—have largely ignored pollen.
http://www.futurity.org/pollen-seed-clouds-rain-913352/

Can the North Sea Wind Boom And Seabird Colonies Coexist?

Offshore wind farms have been proliferating in the North Sea, with more huge projects planned. But conservationists are concerned this clean energy source could threaten seabird colonies that now thrive in the sea's shallow waters.

BY FRED PEARCE

Thousands of white-winged gannets soared above the cliffs as our boat circled the Bass Rock. The island, a steep-side volcanic edifice off the east coast of Scotland, is home each year to the world's largest colony of northern gannets (*Morus bassanus*). More than 150,000 birds nest on an island of three hectares — or five birds per square meter. Since the birds have a wingspan not far short of two meters, that makes for cramped

Bass Rock, off the coast of Scotland, is home to the world's largest northern gannet colony.

http://e360.yale.edu/feature/can_the_north_sea_wind_boom_and_seabird_colonies_coexist/2869/

With Too Much of a Good Thing, Europe Tackles Excess Nitrogen

In Germany, the Netherlands, Denmark and other countries, European governments are beginning to push farmers, industry, and municipalities to cut back on fertilizers and other sources of nitrogen that are causing serious environmental harm.

BY CHRISTIAN SCHWAGERL

Only seconds after Claudia Wiedner drops the metallic rod into the gray waters of Lake

Scharmützel, 30 miles southeast of Berlin, the probe starts sending signals back to her computer. On a cold, foggy day in March, Wiedner, a limnologist at the Brandenburg University of Cottbus-Senftenburg, and a research technician are out on the water in their small vessel to investigate nitrogen pollution.

The water samples they pull up tell an encouraging tale — at least in this lake. "We have been measuring reactive nitrogen and phosphorus in this

Claudia Wiedner

Scientists use a net to collect plankton in the waters of Lake Scharmützel in Germany.

lake since 1993 and what we see is a change for the better — levels have dropped considerably," Wiedner says. Her colleague, Ingo Henschke, an avid diver and former fisherman, can attest to this, saying that better sewage treatment and a decrease in nearby farming have significantly improved water quality.
http://e360.yale.edu/feature/with_too_much_of_a_good_thing_europe_tackles_excess_nitrogen/2865/

Massive Mississippi Floods May Have Wiped Out Ancient Civilization

By Jenna Iacurci

5 May 2015 12:32 PM EDT

(Photo : Flickr: Randen Pederson)

Massive floods in the Mississippi River valley may have wiped out an ancient civilization, according to a new study.

Cahokia were the largest prehistoric settlement in the Americas north of Mexico until the year 1200 AD, when the once thriving population began to decline, ultimately disappearing by 1400. Many factors have been blamed for their decline - from extreme droughts to social unrest - but new findings suggest the rise and fall of rivers contributed to the ultimate downfall of the Cahokia civilization.

http://www.natureworldnews.com/articles/14512/20150505/massive-mississippi-floods-may-have-wiped-out-ancient-civilization.htm

Meteorites pinpoint the age of the Moon

Friday, 17 April 2015 Stuart Gary
ABC

(Source: Lick Observatory)

Moon age **The Moon was created 4.47 billion years ago, according to a new study of meteorites containing ancient fragments from the giant collision that formed the Earth and its lunar companion.**

The findings reported in the journal *Science*, also provide astronomers with a new tool for determining the age of major events in the early history of the solar system.

The giant impact hypothesis or 'Big Splash' implies that the Moon coalesced from debris flung into orbit after a Mars-sized planet called Theia collided with the early proto-Earth.
http://www.abc.net.au/science/articles/2015/04/17/4217724.htm

"Abuse it and the soil will collapse and die, taking humanity with it". *Sanscrit text written in around 1500 BC*