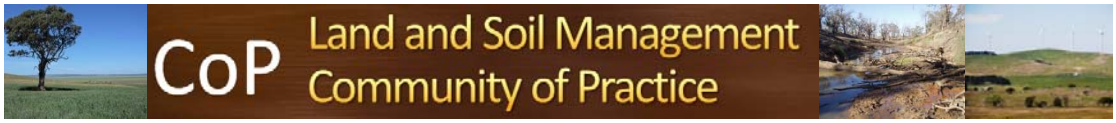


How to Deal With Saline and Sodic Soils

THERE'S LITTLE YOU CAN DO FOR SODIC SOILS. THE NEWS IS BETTER WITH SALINE SOILS.

By
Gil Gullickson
5/7/2016

Tom DeSutter, a NDSU soil scientist, explains ways to endure sodic soils.
Gil Gullickson

Rain makes grain. Yet, too much rain can be too much of a good thing. In eastern North Dakota, northeastern South Dakota, and western Minnesota, rampant rainfall over the past couple of decades has unveiled sodic and saline soils that aren't conducive to growing crops.
http://www.agriculture.com/crops/how-to-deal-with-saline-and-sodic-soils

Soil increasingly at risk from household products

Silver nanoparticles could impact food grown in contaminated soil.
8 July 2016

Changing Australian soil conditions are exposing crops to silver nanoparticles, which are widely used in household products, a study led by The University of Queensland has found.

Study author and senior lecturer in soil science **Dr Peter Kopittke** from the **School of Agriculture and Food Sciences** said silver nanoparticles generally pose a low risk to agricultural food production, however testing in certain soil conditions led to an "unexpected" finding. https://www.uq.edu.au/news/article/2016/07/soil-increasingly-risk-household-products

Additional management practices needed to amend soil

By Selena Yakabe on Jul 8, 2016 at 9:56 a.m.

MITCHELL—No-till isn't enough to fully amend soil, speakers at a workshop on saline/sodic soil said Thursday in Mitchell.

The key idea said the speakers at the workshop hosted by South Dakota State University and South Dakota Corn is to cover the soil and prevent water evaporation or saline and sodic issues will get worse. Another topic covered was how these types of soils affect soil microorganisms.
http://www.mitchellrepublic.com/news/local/4070118-additional-management-practices-needed-amend-soil

Specialists suggest matching almond rootstock to soil

Know the limitations of your soil before selecting trees; bigger isn't always better

8 July 2016 **Todd Fitchette** | ***Western Farm Press***

- to Phytophthora root rot

UCCE Farm Advisor Katherine Pope says no single rootstock for almonds provides a one-size-fits-all approach. Growers should consider soil and climate conditions when selecting rootstock for a new almond orchard.

Almond growers planning their next (or first) orchard are encouraged to fully understand the site-specific soil and wind conditions before placing that nursery order.

Katherine Pope, orchard systems farm advisor with the University of California Cooperative Extension in Yolo, Solano and Sacramento counties, says trials conducted throughout the state suggest some bright spots for certain rootstocks under specific conditions. http://westernfarmpress.com/tree-nuts/specialists-suggest-matching-almond-rootstock-soil

Gas sensors 'see' through soil to analyze microbial interactions

18 July 2016

Rice University graduate student Shelly Cheng prepares soil samples for testing. Credit: Jeff Fitlow/Rice University

Rice University researchers have developed gas biosensors to "see" into soil and allow them to follow the behavior of the microbial communities within.

Read more at: http://phys.org/news/2016-07-gas-sensors-soil-microbial-interactions.html#jCp

700-year-old West African soil technique could help mitigate climate change

Ancient farming practice could be the answer to offsetting carbon dioxide emissions, preventing food shortages

Date:
16 June 2016

Source:
University of Sussex

Summary:
A 700-year-old fertile soil technique could mitigate climate change and revolutionize farming across Africa, say researchers. They discovered that the ancient West African method of adding charcoal and kitchen waste to highly weathered, nutrient poor tropical soils can transform the land into enduringly fertile, carbon-rich black soils which the researchers dub 'African Dark Earths'.

A farming technique practised for centuries by villagers in West Africa, which converts nutrient-poor rainforest soil into fertile farmland, could be the answer to mitigating climate change and revolutionising farming across Africa.

1. Dawit Solomon, Johannes Lehmann, James A Fraser, Melissa Leach, Kojo Amanor, Victoria Frausin, Søren M Kristiansen, Dominique Millimouno, James Fairhead. **Indigenous African soil enrichment as a climate-smart sustainable agriculture alternative**. *Frontiers in Ecology and the Environment*, 2016; 14 (2): 71 DOI: 10.1002/fee.1226
https://www.sciencedaily.com/releases/2016/06/160616105901.htm

How plants can grow on salt-affected soils

UNIVERSITY OF WÜRZBURG

It is common knowledge that salt consists of the cation sodium and the anion chloride. However, the substance used to season food has been a cause of great concern to farmers for some time now: In times of climate change, more and more agricultural areas have to be irrigated. This inevitably leads to the increasing salinisation of soils, that is the accumulation of sodium and chloride ions.

Plants that grow on such soils usually have a hard time. And that is for a reason: Higher doses of chloride have a toxic effect on plant development. In contrast, they need the anion nitrate as an essential source of nitrogen to build proteins and multiply their DNA. The Würzburg plant scientists Dietmar Geiger and Rainer Hedrich have recently studied whether and how plants are capable of distinguishing between the nutrient nitrate and the harmful chloride. They present the results of their research in the current issue of the renowned journal *Current Biology*.
http://www.eurekalert.org/pub_releases/2016-07/uow-hpc071316.php

Ancient crops provide clue to Madagascar’s past

Ancient crops provide clue to Madagascar’s past
31 May 2016

Remnants of ancient crops have provided researchers with clues that could help map the movement of humans across the globe more than 1300 years ago.

The University of Queensland-led international study has uncovered the first direct archaeological evidence that Madagascar was colonised by a Southeast Asian community. https://www.uq.edu.au/news/article/2016/05/ancient-crops-provide-clue-madagascar%E2%80%99s-past

Trees' surprising role in the boreal water cycle quantified

21 July 2016

Young-Robertson found that deciduous trees took up a surprisingly large amount of water in the period between snowmelt and leaf-out. These trees absorbed 21 to 25 percent of the available snowmelt water -- to the point of being completely …more

Approximately 25 to 50 percent of a living tree is made up of water, depending on the species and time of year. The water stored in trees has previously been considered just a minor part of the water cycle, but a new study by University of Alaska Fairbanks scientists shows otherwise.

Read more at: http://phys.org/news/2016-07-trees-role-boreal-quantified.html#jCp

Next generation of plant scientists grow their way to the top

Gabrielle Taylor from St Aidan's Anglican Girls College.

18 May 2016

A giant two kilogram sunflower grown by **Glasshouse Christian College** has topped the 2016 **University of Queensland Sunflower Competition.**

The 2.023kg sunflower topped a weigh-in at UQ Gatton campus on May 17, after 3000 high school students put their plant science skills to the test in the classroom.

Head of Agricultural Science at Glasshouse Christian College Jade King said the winning team of Year 10 students used liquid-soluble fertiliser and applied their new knowledge of nutritional requirements of plants to grow the biggest sunflower.

https://www.uq.edu.au/news/article/2016/05/next-generation-of-plant-scientists-grow-their-way-top

Adelaide weather: Coastal erosion from storms puts sandy beaches at risk

891 ABC Adelaide

Updated about an hour ago

Storms have washed away sand dunes along West Beach. (891 ABC Adelaide)

1 of 7

GALLERY: Storms have damaged sections of Adelaide's West Beach

Autumn and winter storms have been carving away big parts of the Adelaide coastline, a marine geologist has warned.

"I just had a look at the sand dune immediately north of the West Beach surf club this morning and that's receded another metre or so overnight," geologist and coast researcher Dr Ian Dyson told 891 ABC Adelaide.

"The dune there has almost been eroded back to the pathway on the Esplanade."

RELATED STORY: Adelaide beachfront housing 'facing erosion risks' like those in Sydney

RELATED STORY: Power being restored after storms across South Australia

MAP: West Beach 5024

http://www.abc.net.au/news/2016-07-25/storms-and-high-seas-carve-away-adelaide's-sandy-coast/7657518?section=environment

More for less in pastures: Multispecies pastures show productivity, drought tolerant promise

20 July 2016

Cattle grazing multi-species pasture mixtures. Credit: Steve LaMar.

Getting more for less is an attractive concept. But it isn't that easy when it comes to producing more food on less land with fewer resources.

Read more at: http://phys.org/news/2016-07-pastures-multispecies-productivity-drought-tolerant.html#jCp

A young researcher from IRNAS-CSIC and the University of Seville awarded in the Pyro2016

Nicasio, during the award ceremony.

Nicasio T. Jiménez-Morillo, PhD candidate at the University of Seville, has been awarded with the best scientific contribution presented during the XXI International Symposium on Analytical and Applied Pyrolysis (Pyro 2016).

The young researcher was awarded with the Frontier-Labs Young Scientist Award to best scientific contribution in the form of poster presented during Pyro 2016. The young scientist was awarded last May 12th during a ceremony celebrated at the city of Nancy (France) Town Hall.

The work entitled “Soil organic matter alternations resulting from post-fire restoration actions” was made in collaboration between IRNAS-CSIC MOSS (Organic Matter in Soil and Sediments) and the MED_Soil research group (Univ. of Seville).

https://gsoil.wordpress.com/2016/05/24/a-young-researcher-from-irnas-csic-and-the-university-of-seville-awarded-in-the-pyro2016/

DustWatch NEW SOUTH WALES

DustWatch Report

May 2016

Dust activity	Some dust activity in the Victorian Mallee region
Wind strength	Windier than April 2016 and windier than May average
Groundcover	Increasing but still below 50% west of the Darling River
Rainfall	Wettest May since 1983
Land management	Sowing following good rainfall events

Groundcover

Groundcover in May 2016 is greater than 50% for the southern and eastern Natural Resource Management Areas (Figure 2). Groundcover remains largely below 50% cover (yellow and red colours in Figure 2) on the western side of the Darling River and in the agricultural regions of South Australia and Victoria.

Groundcover for the Western LLS in February 2016 was at the lowest level since the end of the drought in 2010 of 52% (red arrow in Figure 3). The wet conditions have improved groundcover and supressed dust emissions and we are expecting even better growth in the coming months.

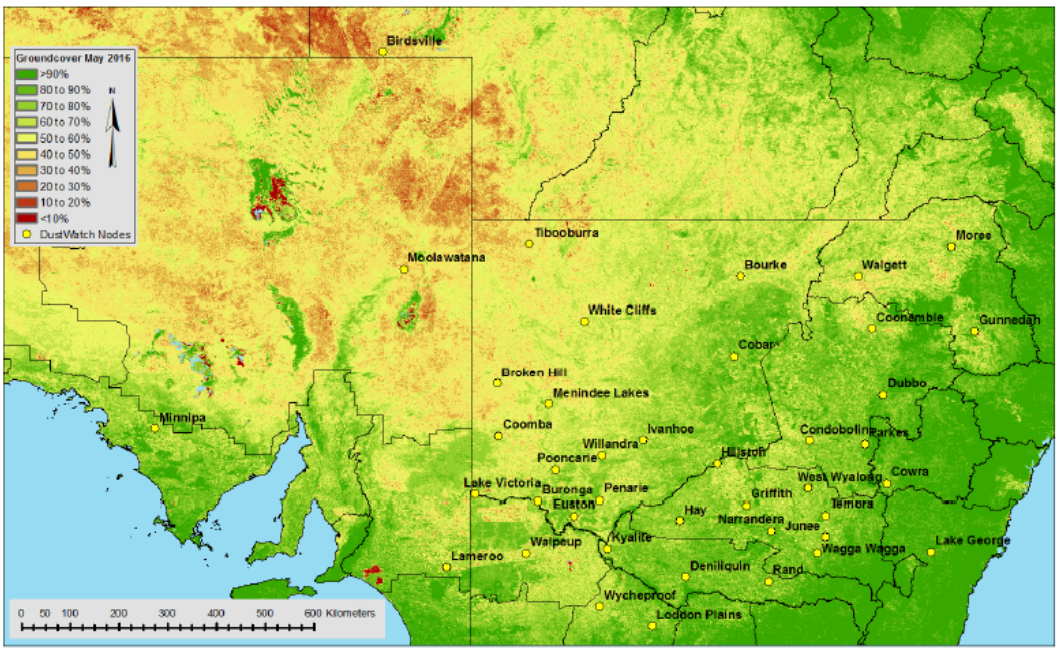
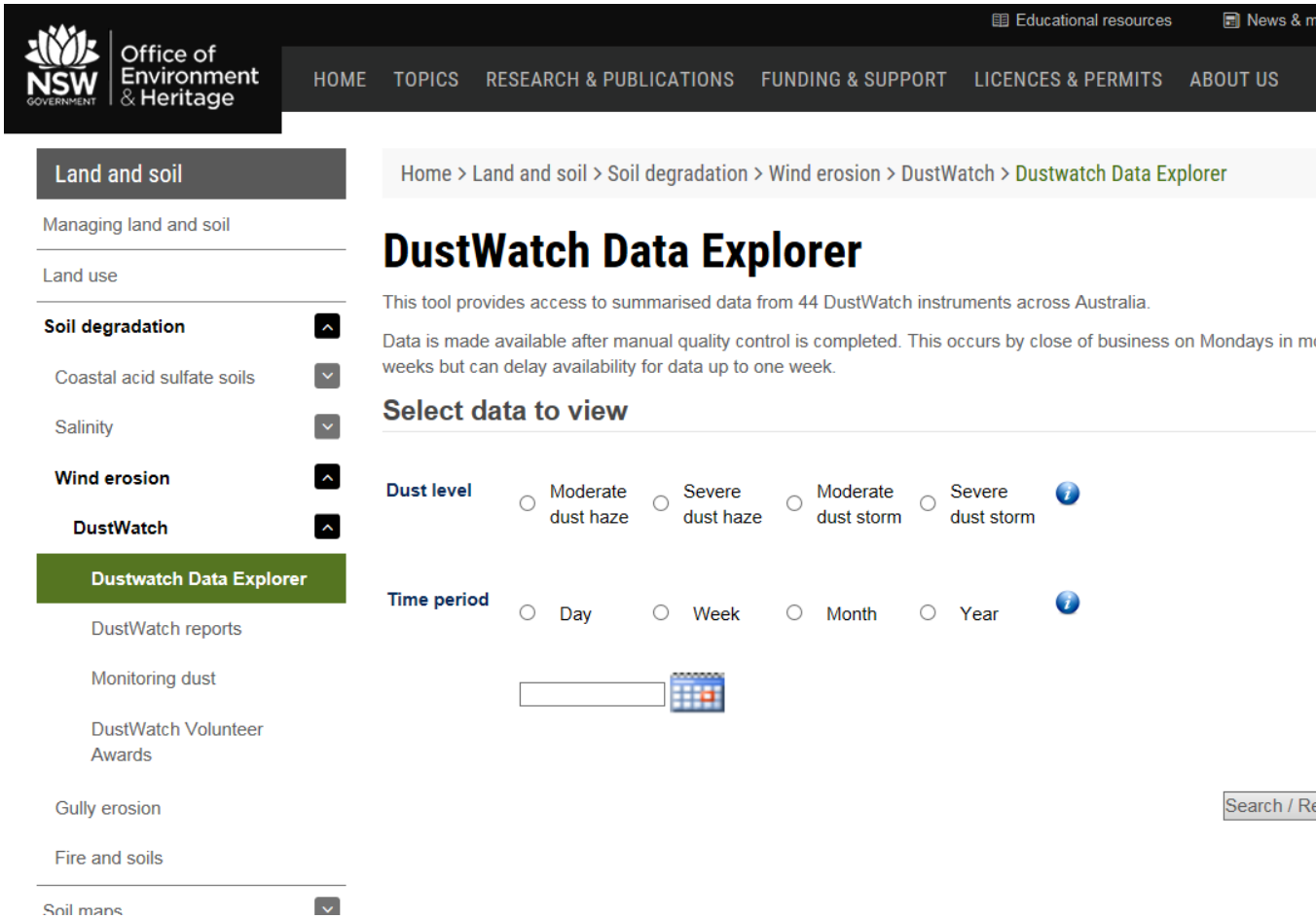


Figure 2: Groundcover for May 2016 as determined from MODIS data.

http://www.environment.nsw.gov.au/resources/dustwatch/160333DWNL.pdf

The DustWatch Data Explorer



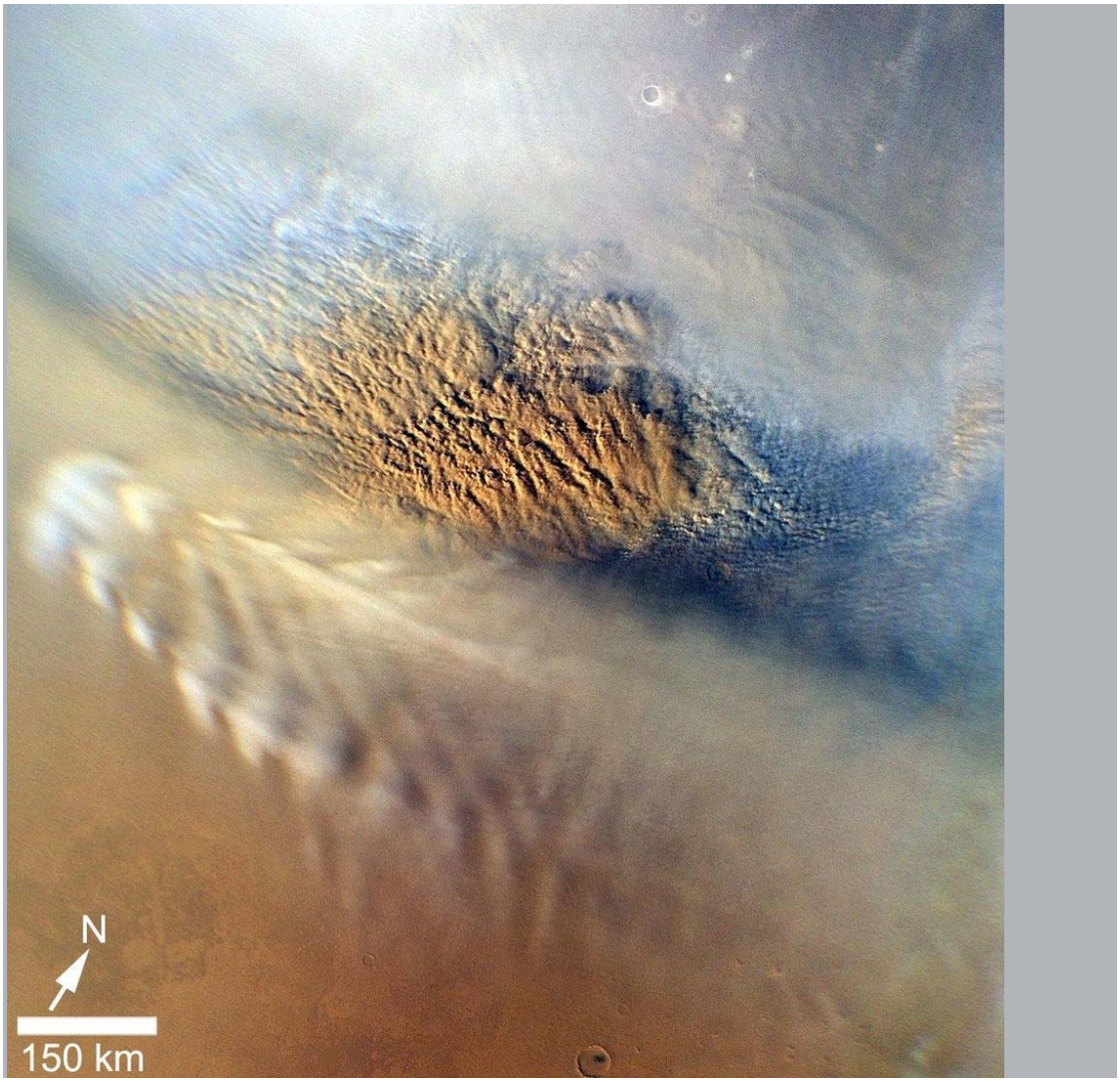
http://www.environment.nsw.gov.au/dustwatchapp/Default.aspx

Spring on Mars is the start of the large dust storm season.

Small dust storms can occur in any season. During southern spring and summer, dust storms can brew in one area of the planet.

They grow into regional events and occasionally become planet-wide storms.

Global dust storms can blanket the whole planet, warming the atmosphere and obscuring all of the surface except the tops of the tallest volcanoes.

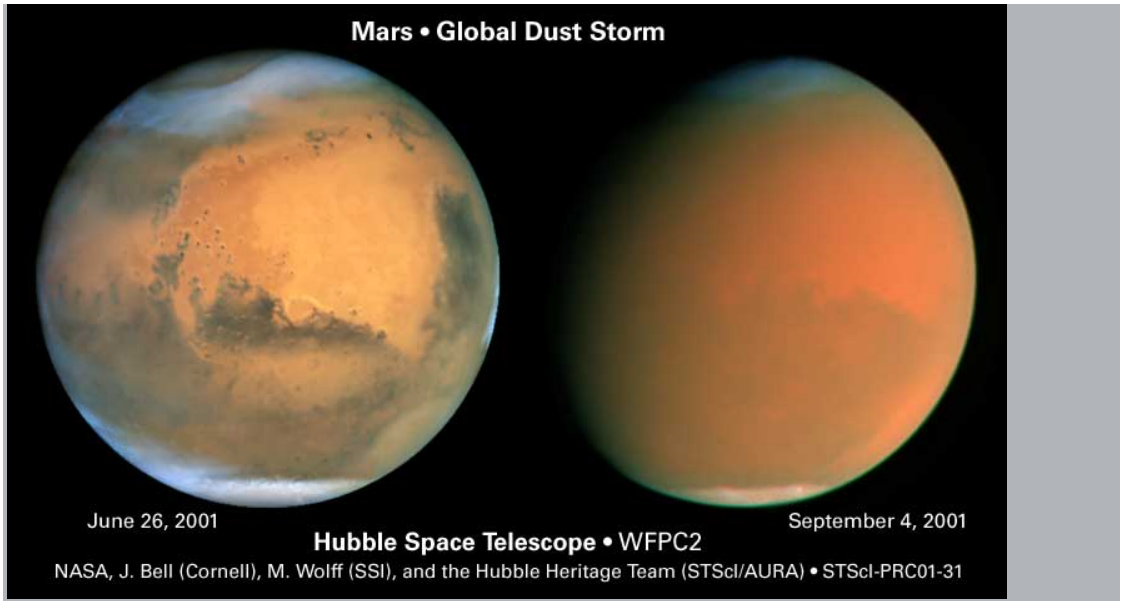


A Regional Martian Dust Storm

Orbiters tell us a lot about the scope and frequency of storms and can provide alerts to solar-powered rovers on the ground.

Scientists are still puzzling over why only a few storms grow into planet-wide events.

It’s an important thing to know for mission planning – especially so we know how to prepare humans when astronauts go to Mars someday.



Dust devils can also swirl across the surface. They lift dust from the surface, revealing darker terrain below.
http://mars.nasa.gov/allaboutmars/Jupiter-Mars-spring-mission-Juno-Curiosity-Opportunity-july-fourth-2016/

New farming strategies can help prevent soil runoff while maintaining high crop yields

Date:
30 June 2016
Source:
University of Missouri-Columbia
Summary:
Scientists found that the most effective tactic to prevent soil runoff yet maintain high crop yields is to utilize Conservation Reserve Program land strategically to create buffers between the trees and crops depending on the size of the trees.

Soil and nutrient loss and runoff from agricultural fields are major problems environmentally and economically in the U.S. and globally. After heavy spring rains, soil and water runoff containing fertilizer and pesticides is washed downstream, carrying the sediment and chemicals to the Gulf of Mexico. This process creates a large oxygen-starved area which is toxic to aquatic organisms and damages the commercial fishing and tourism industries. Tree-based buffers are an effective method for preventing runoff, however they can negatively affect crop yields. Based on years of research, University of Missouri scientists suggest farmers use buffers between crops and trees; this technique reduces soil runoff and maintains good growing conditions, creating economic benefits for farmers and, ultimately, for society in general.

1. Ranjith P. Udawatta, Clark J. Gantzer, Timothy M. Reinbott, Ray L. Wright, Robert A. Pierce. **Yield Differences Influenced by Distance from Riparian Buffers and Conservation Reserve Program**. *Agronomy Journal*, 2016; 108 (2): 647 DOI: 10.2134/agronj2015.0273
https://www.sciencedaily.com/releases/2016/06/160630155409.htm

http://geoetc.com/hawaiifeb17/

DEATH ROW DINGOES SET TO BE THE ENVIRONMENTAL SAVIOUR OF GREAT BARRIER REEF'S PELORUS ISLAND

Landline

Exclusive by national rural and regional correspondent Dominique Schwartz
Updated Sat at 3:52pmSat 23 Jul 2016, 3:52pm

A Queensland council is releasing dingoes onto a Great Barrier Reef island to kill feral goats that are destroying its endangered ecosystem.

The four wild dogs, two of which have already been released on Pelorus Island, will not have a chance to become pests themselves, as they have been implanted with a time-activated poison, Hinchinbrook Shire Council said.

"As a council we have an obligation as the trustees of this land, the custodians of this land, to control or eradicate pests," council Mayor Ramon Jayo said.
http://www.abc.net.au/news/2016-07-23/dingoes-set-to-become-pelorus-island-environmental-saviour/7652424?section=environment

Roxbury: Selectmen Agree to Seek USDA Soils Designation

Posted: Wednesday, 13 July 2016 6:00 am

ROXBURY — The Board of Selectmen agreed to send a letter requesting assistance in the identification of farmland soils of local importance at a meeting on Tuesday, July 5.

The move will eventually benefit Roxbury farmers.

First Selectman Barbara Henry will send the letter of request to the state conservationist of the Natural Resources Conservation Services, part of the U.S. Department of Agriculture.

“There are farmers in Roxbury that are interested in looking into selling the development rights to the state through the Community Farms Program application,” said Ms. Henry.

“The town must first apply for a Local Important Soils Designation from the U.S. Department of Agriculture as the first part of this process.”
http://www.primepublishers.com/voicesnews/news/top_stories/roxbury-selectmen-agree-to-seek-usda-soils-designation/article_9ab18c84-4854-11e6-a025-8f14374e9393.html

Farming Together – It’s a Family Tradition

Posted by Natural Resources Conservation Service, Louisiana Public Affairs on July 06, 2016 at 08:15 AM

Kobe Williams, son of Travis Williams, holds an NRCS partnership sign as Elvadus Fields looks on.

Soil erosion and drainage problems were plaguing Horace Robinson, Calvin Williams, and Travis Williams, a family of soybean farmers in the Mississippi Delta Region of Louisiana. They weren’t quite sure what to do to combat these problems while maintaining a productive farm. http://www.nrcs.usda.gov/wps/portal/nrcs/blogdetail/nrcsblog/home/?cid=NRCSEPRD1187015

Making of “The Hope in Healthy Soil” Video Series

TheUSDANRCS

https://www.youtube.com/watch?v=C3h7s_tJYNQ&index=9&list=PL4J8PxoprpGaCb1k93_Y5pOm9b-9V1pMX

Australia's first Dark-Sky Park named

Warrumbungle National Park in central western NSW has been recognised as Australia's first Dark-Sky Park, where you can see "the full array of visible sky phenomena".

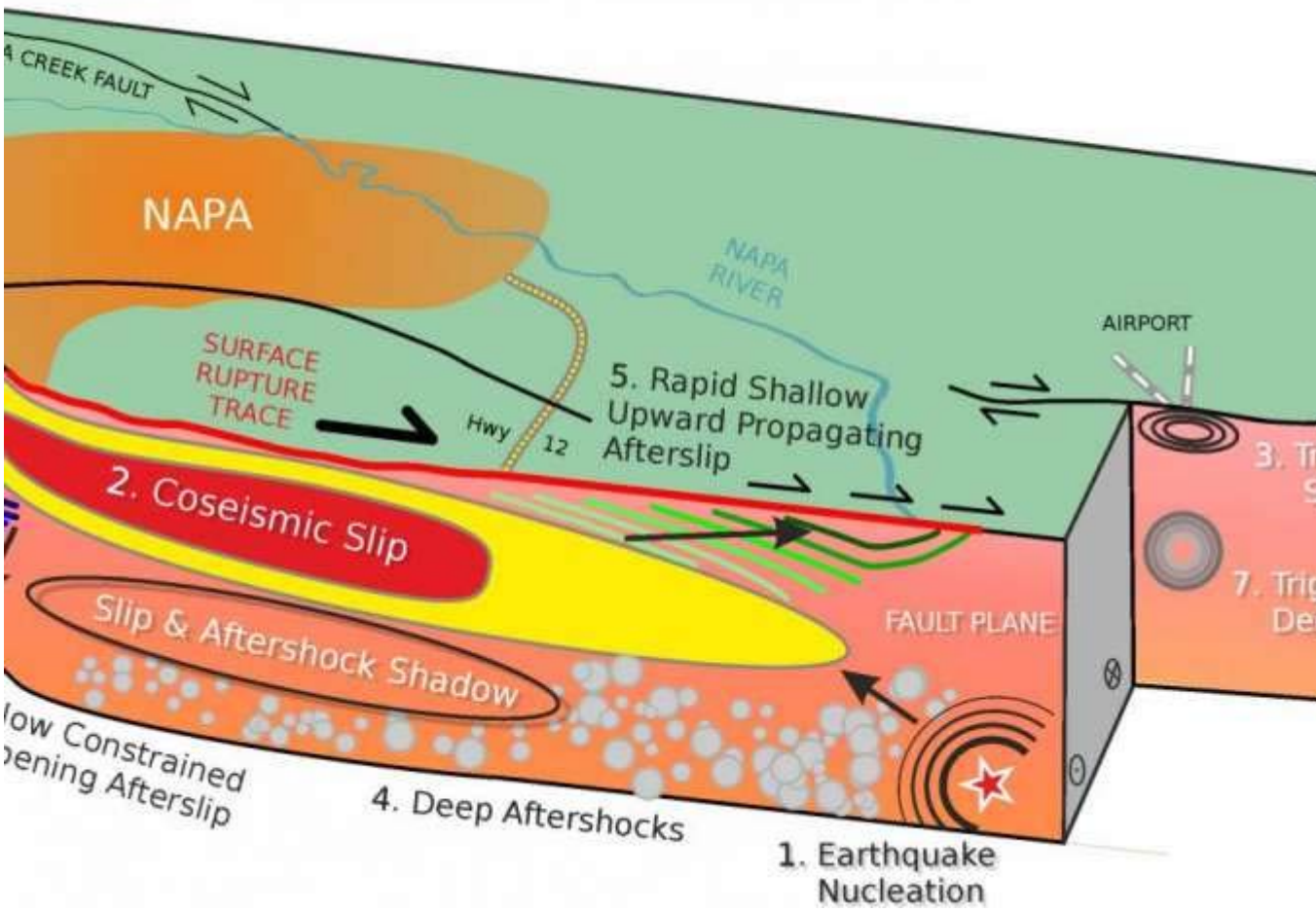
The Milky Way from Warrumbungle National Park. *IMAGE CREDIT: Bill Hatcher*

WARRUMBUNGLE NATIONAL PARK in central western NSW, has been declared Australia's first Dark-Sky Park, following confirmation from the International Dark-Sky Association (IDA).

Since half the world's population lives in cities, half of all humans may never see the Milky Way as their ancestors once did. Although Australia is one of the luckiest countries in this regard, with some of the world's lowest levels of light pollution, the growing glow of artificial light poses health problems for both humans and animals alike. Not to mention dimming the sky's starry spectacle. http://www.australiangeographic.com.au/news/2016/07/warrumbungle-np-declared-australias-first-dark-sky-park

Better understanding post-earthquake fault movement

18 July 2016 by Sean Nealon



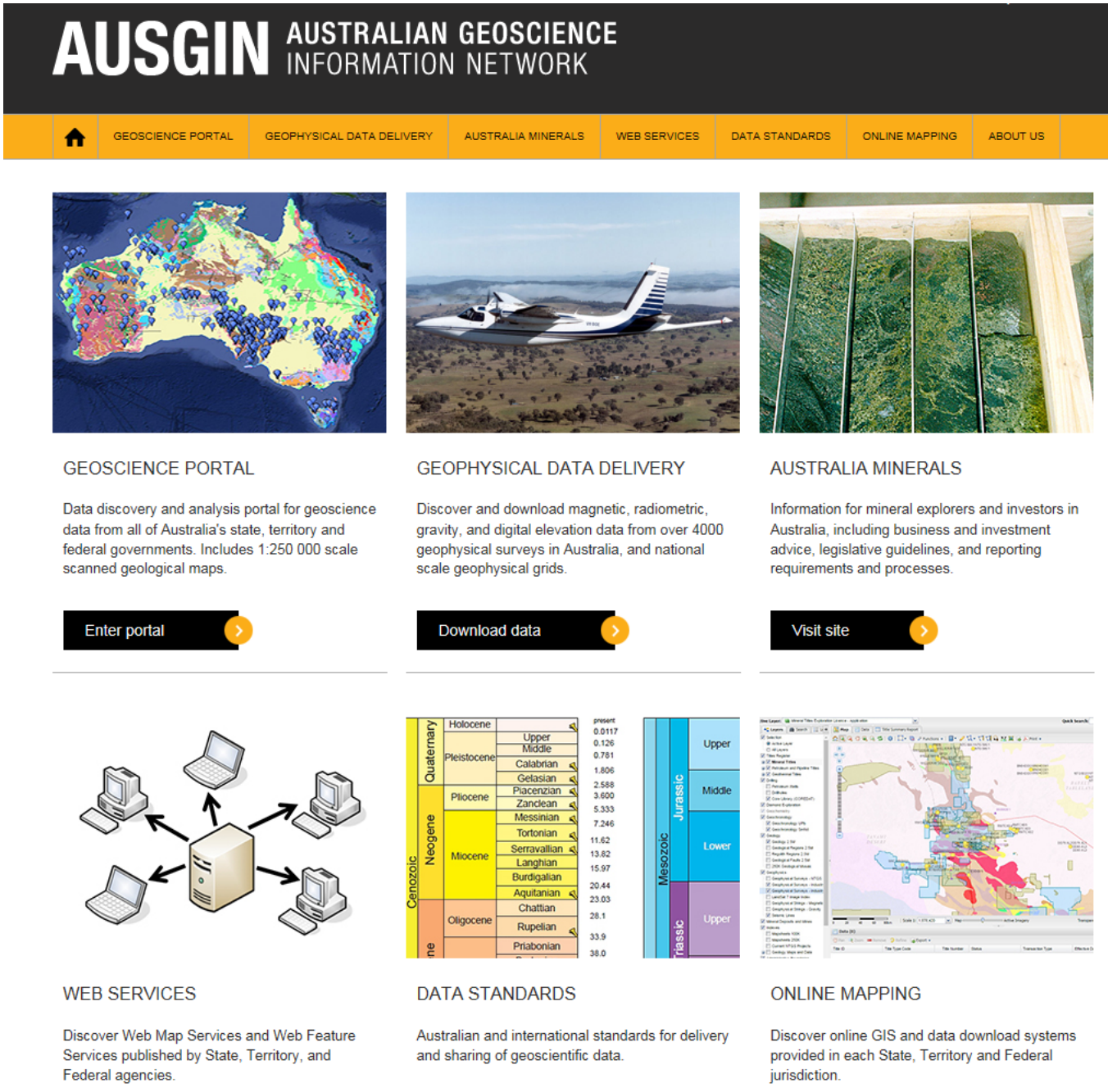
Schematic summary of research findings showing the sequence of slip behavior. Credit: UC Riverside

Preparation and good timing enabled Gareth Funning and a team of researchers to collect a unique data set following the 2014 South Napa earthquake that showed different parts of the fault, sometimes only a few kilometres apart, moved at different speeds and at different times.

Read more at: http://phys.org/news/2016-07-post-earthquake-fault-movement.html#jCp

New AusGIN portal launched

The new Australian Geoscience Information Network (AusGIN) website has been launched by the Australian State, Territory and Commonwealth geological surveys. The completely revamped Geoscience Portal is now a



http://www.geoscience.gov.au/

Uncertainty in soil data can outweigh climate impact signals in global crop yield simulations.

Folberth C[1,2], Skalský R[1,3], Moltchanova E[1,4], Balkovič J[1,5], Azevedo LB[1], Obersteiner M[1], van der Velde M[6].

Author information

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- [4]School of Mathematics and Statistics, University of Canterbury, Christchurch 8140, New Zealand.
- [5]Department of Soil Science, Faculty of Natural Sciences, Comenius University, 84104 Bratislava, Slovak Republic.
- [6]European Commission, Joint Research Centre, 21027 Ispra, Italy.

Abstract

Global gridded crop models (GGCMs) are increasingly used for agro-environmental assessments and estimates of climate change impacts on food production. Recently, the influence of climate data and weather variability on GGCM outcomes has come under detailed scrutiny, unlike the influence of soil data. Here we compare yield variability caused by the soil type selected for GGCM simulations to weather-induced yield variability. Without fertilizer application, soil-type-related yield variability generally outweighs the simulated inter-annual variability in yield due to weather. Increasing applications of fertilizer and irrigation reduce this variability until it is practically negligible. Importantly, estimated climate change effects on yield can be either negative or positive depending on the chosen soil type. Soils thus have the capacity to either buffer or amplify these impacts. Our findings call for improvements in soil data available for crop modelling and more explicit accounting for soil variability in GGCM simulations.

http://www.ncbi.nlm.nih.gov/pubmed/27323866

GRASSES | CARDIFF UNIVERSITY

Cheap catalyst coaxes hydrogen from the lawn

Posted by Cardiff University | July 22nd, 2016

Scientists have shown how sunlight and a cheap catalyst can unlock significant amounts of hydrogen from fescue grass.

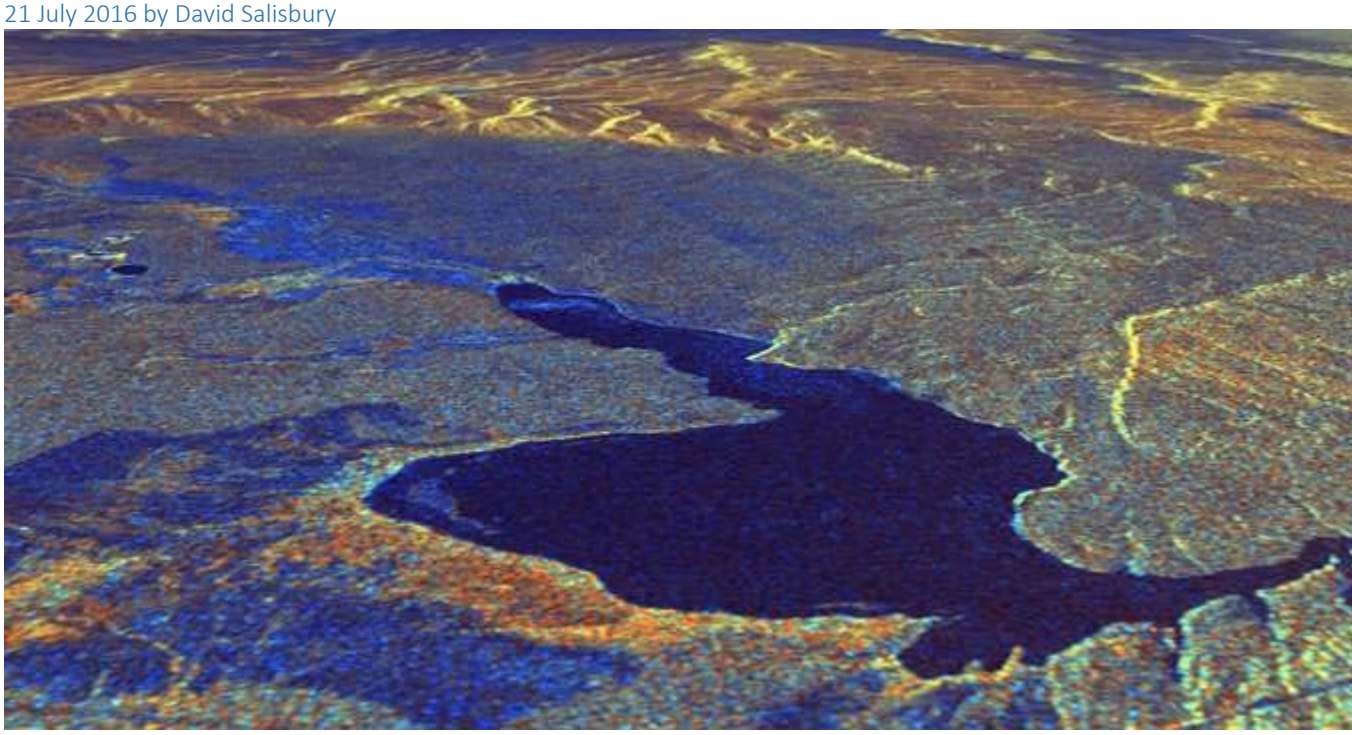
The method, now demonstrated for the first time, could potentially lead to a sustainable way of producing hydrogen, which has enormous potential in the renewable energy industry due to its high energy content and the fact that it does not release toxic or greenhouse gases when it is burned.

"This really is a green source of energy," says coauthor Michael Bowker, a professor at the Cardiff Catalysis Institute. "Hydrogen is seen as an important future energy carrier as the world moves from fossil fuels to renewable feedstocks, and our research has shown that even garden grass could be a good way of getting hold of it."

http://www.futurity.org/grass-hydrogen-catalyst-1209772-2/

Super-eruptions may give a year's warning before they blow

21 July 2016 by David Salisbury



The Long Valley Caldera in eastern California was created by a super-eruption 760,000 years ago. Credit: NASA/JPL

Super-eruptions—volcanic events large enough to devastate the entire planet—give only about a year's warning before they blow. http://phys.org/news/2016-07-super-eruptions-year.html

Deep in the Himalayas sits a remote research station that is tracking an alarming trend in climate change, with implications that could disrupt the lives of more than 1 billion people and pitch the most populated region of the world into chaos.

The station lies in the heart of a region called the Third Pole, an area that contains the largest area of frozen water outside of the North Pole and South Pole.

Despite its relative anonymity, the Third Pole is vitally important; it is the source of Asia's 10 largest rivers including the Yellow, the Yangzi, the Mekong, the Irrawaddy and the Ganges — and their fertile deltas. http://www.abc.net.au/news/2016-07-25/climate-change-the-third-pole-under-threat/7657672?section=environment

Row spacing and planting density effects on the growth and yield of sugarcane. 1. Responses in fumigated and non-fumigated soil

Article *in* Crop and Pasture Science 60(6) · January 2009 *with* 94 Reads
DOI: 10.1071/CP08311 · Source: OAI

Abstract
It has been reported that high-density planting of sugarcane can improve cane and sugar yield through promoting rapid canopy closure and increasing radiation interception earlier in crop growth. It is widely known that the control of adverse soil biota through fumigation (removes soil biological constraints and improves soil health) can improve cane and sugar yield. Whether the responses to high-density planting and improved soil health are additive or interactive has important implications for the sugarcane production system. Field experiments established at Bundaberg and Mackay, Queensland, Australia, involved all combinations of 2-row spacings (0.5 and 1.5 m), two planting densities (27 000 and 81 000 two-eyed setts/ha), and two soil fumigation treatments (fumigated and non-fumigated). The Bundaberg experiment had two cultivars (Q124, Q155), was fully irrigated, and harvested 15 months after planting. The Mackay experiment had one cultivar (Q117), was grown under rainfed conditions, and harvested 10 months after planting. High-density planting (81 000 setts/ha in 0.5-m rows) did not produce any more cane or sugar yield at harvest than low-density planting (27 000 setts/ha in 1.5-m rows) regardless of location, crop duration (15 v. 10 months), water supply (irrigated v. rainfed), or soil health (fumigated v. non-fumigated). Conversely, soil fumigation generally increased cane and sugar yields regardless of site, row spacing, and planting density. In the Bundaberg experiment there was a large fumigation x cultivar x density interaction ($P<0.01$). Cultivar Q155 responded positively to higher planting density in non-fumigated soil but not in fumigated soil, while Q124 showed a negative response to higher planting density in non-fumigated soil but no response in fumigated soil. In the Mackay experiment, Q117 showed a non-significant trend of increasing yield in response to increasing planting density in non-fumigated soil, similar to the Q155 response in non-fumigated

soil at Bundaberg. The similarity in yield across the range of row spacings and planting densities within experiments was largely due to compensation between stalk number and stalk weight, particularly when fumigation was used to address soil health. Further, the different cultivars (Q124 and Q155 at Bundaberg and Q117 at Mackay) exhibited differing physiological responses to the fumigation, row spacing, and planting density treatments. These included the rate of tiller initiation and subsequent loss, changes in stalk weight, and propensity to lodging. These responses suggest that there may be potential for selecting cultivars suited to different planting configurations.
https://www.researchgate.net/publication/29660722_Row_spacing_and_planting_density_effects_on_the_growth_and_yield_of_sugarcane_1_Responses_in_fumigated_and_non-fumigated_soil

Warmer Mediterranean turns the Sahel green

21 July 2016

In the past 20 years, the Sahel has become greener because the West African monsoon brings more rain in the sub-Saharan region. A key reason for this is the strong Mediterranean warming as climate researchers from Hamburg have discovered. Credit: © Daniel Triveau / CIFOR (CC-BY-NC-ND 2.0)

Climate change can have mixed consequences: It would appear that the warming of the Mediterranean region, which has brought greater heat and drought to the countries there for around 20 years, is behind an increase in rainfall in the Sahel region. As researchers from the Max Planck Institute for Meteorology in Hamburg report in the current edition of the journal *Nature Climate Change*, due to higher sea temperatures in the Mediterranean more moisture from the eastern Mediterranean is reaching the southern edge of the Sahara at the start of the West African monsoon in June. Moreover, according to the current study, the future development of precipitation in the Sahel region is crucially dependent on the warming of the Mediterranean.

Read more at: http://phys.org/news/2016-07-warmer-mediterranean-sahel-green.html#jCp

Supercontinents tore apart 'like a thick piece of dough'

After millions of years under strain, land masses ripped apart quickly (in geological terms, that is). Belinda Smith reports.

Around 175 million years ago, the ancient supercontinent Pangea began to break up. New research shows how the continents were sling-shotted off each other, thanks to their strained separation.
MIKKEL JUUL JENSEN / BONNIER PUBLICATIONS / Getty Images

Earth's supercontinents spent millions of years under huge amounts of strain before abruptly lurching apart to form oceans between them, new modelling suggests.

A team at the University of Sydney in Australia revealed the underlying actions of the splitting landmass – a sustained period of slow inching apart followed by a sudden heave – in the journal *Nature*.

https://cosmosmagazine.com/geoscience/continents-tore-apart-like-a-thick-piece-of-dough

WETLANDS | UNIVERSITY OF FLORIDA

Adding water to dry riverbeds comes with a price

Posted by U. Florida | July 14th, 2016

Share Article

Follow Futurity

Deliberately flooding riverbeds left parched by dams has great potential to restore wetlands, but may also have a significant unintended consequence: the release of greenhouse gases.

Despite the findings, the pros of returning rivers to their natural courses and flows generally outweigh the cons, but government officials should consider the research when deciding when and how to alter river flows, says Thomas S. Bianchi, a professor of geological sciences at University of Florida and lead author of a new study.

"We need to understand this as it relates to the global carbon budget," Bianchi says.

A huge amount of water

http://www.futurity.org/rivers-wetlands-greenhouse-gases-1202462-2/

Dormant volcano near Rome is waking up

Posted by bbane

A long-dormant volcano outside Italy's capital is entering a new eruptive cycle, a recently published study finds.

By Elizabeth Deatrick

Scientists previously assumed Colli Albani, a 15-kilometer (9-mile) semicircle of hills outside Rome, was an extinct volcano since there was no record of it having erupted in human history. But in recent years, scientists have observed new steam vents, earthquakes and a rise in ground level in the hills and surrounding area.

Panoramic views of the Colli Albani Volcanic District, south of Rome. *Credit: Fabio Florindo*

These observations, along with new evidence of past eruptions and satellite data, indicate Colli Albani is starting a new eruptive cycle and could potentially erupt in 1,000 years from now, according to a new study published in *Geophysical Research Letters*, a journal of the American Geophysical Union. http://blogs.agu.org/geospace/2016/07/12/dormant-volcano-near-rome-waking/

"We could not have made a bigger mess of the soil of the country if its destruction had been carried out under supervision."

Sir Henry Bolte, 38th and longest serving Premier of Victoria