

## Canada fires spew dust all the way to Switzerland

3 June 2016



Massive forest fires in western Canada have "injected an enormous quantity of dust into the atmosphere," which has now been found in Switzerland, according to the nation's meteorological authorities

Ash and dust particles from the massive forest fires ravaging western Canada for the past month have been found in Switzerland, according to Swiss meteorologists.

Read more at: <http://phys.org/news/2016-06-canada-spew-switzerland.html#jCp>

# COBAR LAND MANAGERS SHOWCASE INNOVATIVE FARMING PRACTICES TO NATIONAL ADVOCATE FOR SOIL HEALTH



Major General Michael Jeffery talking with Ann and John Crossing and other visitors to their property 'Glenace'.

An educational and inspirational day was had by all who came together to recognise the joint Soils for Life, Rotary Club of Sydney and Local Land Services Western Region *Western Division Resilient Landscapes Project* in Cobar on 19 February.

Project sponsors and participants joined Soils for Life founding Chairman and National Advocate for Soil Health, Major General Michael Jeffery, to visit local property *Glenace* and inspect various techniques being applied to build long-term landscape resilience to the impacts of drought.

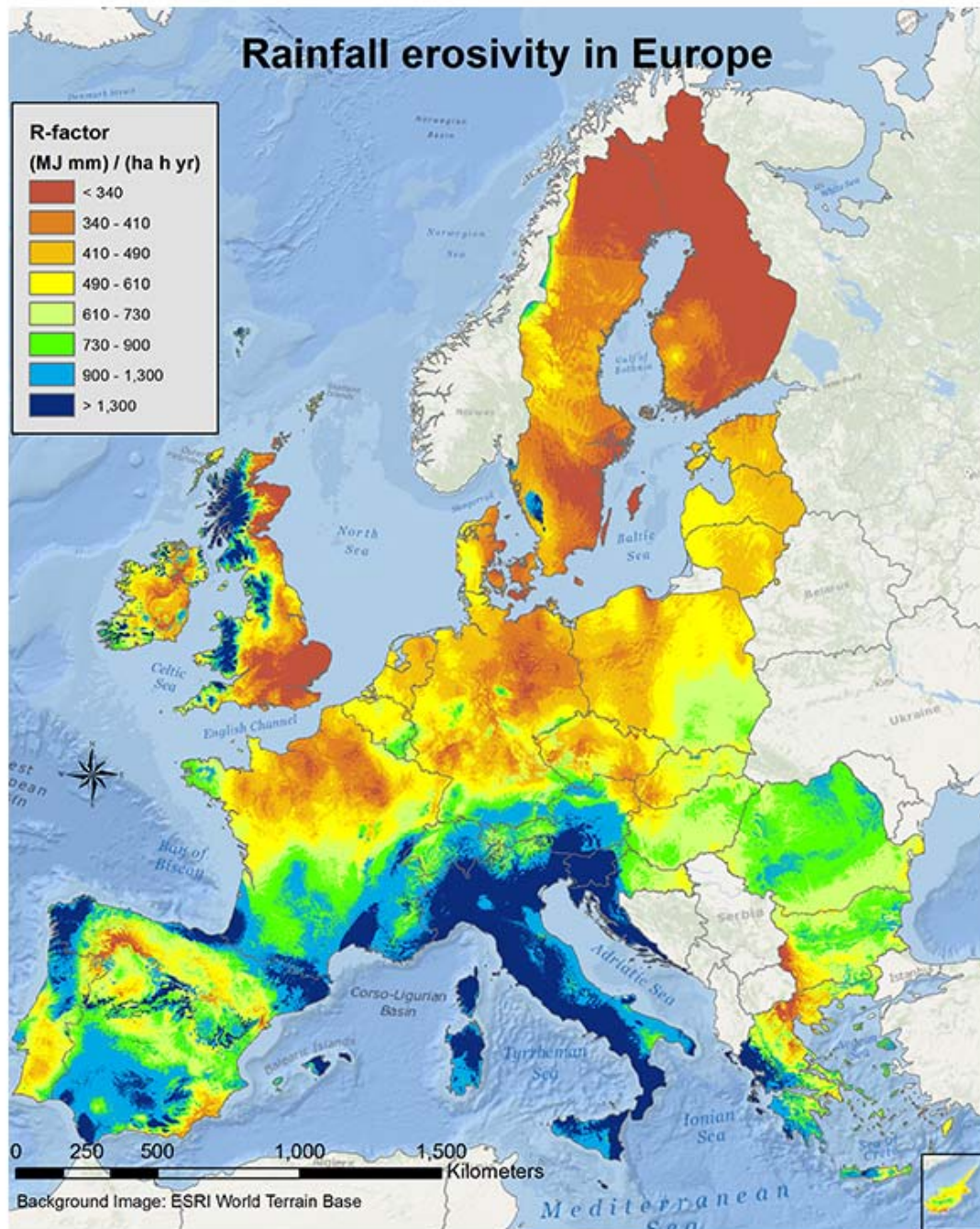
<http://www.soilsforlife.org.au/announcements/cobar-land-managers-showcase-innovative-farming-practices-to-national-advocate-for-soil-health>

# Global Rainfall Erosivity

In the context of developing the **Rainfall Erosivity dataset at Global scale (REDaG)**, the Joint Research Institute for the Environment and Meteorology (JRC) and the World Meteorological Organization (WMO) collect high temporal resolution (5-min, 10-min, 15-min, 30-min, 60-min) rainfall data. The Rainfall Erosivity Dataset at Global Scale (REDES) is also applied for the development of the Global Erosivity Dataset. We invite scientists to contribute to the data collection. In case you have high temporal resolution rainfall data for long-time period, you can be part of the dataset. Please contact Panos Panagos for more information.

More information about REDES:

Panagos, P., Ballabio, C., Borrelli, P., Meusburger, K., Klik, A., Rousseva, S., Tadic, M.P., Michaelides, S., Dumitrescu, A., Beguería, S., Alewell, C. 2015. [Rainfall erosivity in Europe](#). *Sci Total Environ.* 511, pp. 1-12.



<http://esdac.jrc.ec.europa.eu/themes/global-rainfall-erosivity>

## MPs sound alarm on neglected soils

By Roger Harrabin BBC environment analyst

- 2 June 2016
- From the section [Science & Environment](#)



Image copyright **John Boardman** Image caption A large gully opens up in a potato field, post-harvest

**Ministers are failing to protect Britain's soils on farmland and in cities, MPs say.**

The Commons Environmental Audit Committee warns that tracts of polluted soil are a potential health hazard in many towns because the government has stopped grants to decontaminate them. <http://www.bbc.com/news/science-environment-36428361>

# Scientists identify protein which boosts rice yield by fifty percent

7 June 2016



Dr Tony Miller

In collaboration with researchers at Nanjing Agricultural University, Dr Tony Miller from the John Innes Centre has developed rice crops with an improved ability to manage their own pH levels, enabling them to take up significantly more nitrogen, iron and phosphorous from soil and increase yield by up to 54 percent.

Read more at: <http://phys.org/news/2016-06-scientists-protein-boosts-rice-yield.html#jCp>

## More needs to be done to protect UK soils

NEWS

05 JUN 2016

SHARE

Not enough is being done to protect the UK's soils, according to a report released last week.



The report published by the Environmental Audit Committee, warns that failure to prevent soil degradation could lead to increased flood risks, risks to food security and larger carbon emissions.

Mary Creagh MP, chairman of the Committee said: "Whether we realise it or not, society relies on healthy soil for the food we eat."

The UK government had aimed for all UK soils to be sustainably managed by 2030, and the Committee stated it does not believe this is achievable at the present rate of progress.

<https://www.fginsight.com/news/more-needs-to-be-done-to-protect-uk-soils-12616>

# Erosion modelling workshop

**Venue:** Ispra , Italy

**Date:** 20-22 March 2017

**Objective:** This workshop will discuss mainly issues how the local/regional modeling results can be used as a follow-up of recent JRC modelling developments and published maps for soil erosion by water. It will show how local/regional modelling applications can improve the “know-how” at European scale. Emphasis will be on how local/regional modelling applications can improve the “know-how” at European scale. The organisers also invite pan-European projects (e.g RECARE) to show the best management practices at study sites.

**Travel information:** Ispra is well served through 2 airports close to Milan. We recommend you to use the Linate airport is around 90 Km from Ispra. Transfer from/to the airport will be organized by JRC.

**Travel support:** Limited number of young scientists (or Post Docs) will receive financial support for travel.

**Accommodation:** There are plenty of hotels close to Ispra. A group booking will reserve hotels for the workshop.

**Fees:** No Registration fees are applied

**Registration:** Will be open in summer/early autumn

**Next steps:** if you want to apply for travel support or if you want to present/discuss your research, the next page (and current page updates) will further inform you about the developments

**Contact:** Panos Panagos

## Go Back To

<http://esdac.jrc.ec.europa.eu/themes/erosion-modelling-workshop>



# REACHING THE REAL POTENTIAL OF THE NSW RANGELANDS



Graham and Cathy Finlayson have used stock to convert claypans to pastures, significantly improving their carrying capacity, while diversifying into cattle trading and tourism to drought-proof their property, *Bokhara Plains*.

## GO TO:

FARM FACTS  
INTRODUCTION  
PROPERTY BACKGROUND  
CHANGING PRACTICES  
SOIL MANAGEMENT  
WATER MANAGEMENT  
VEGETATION  
MANAGEMENT  
PRODUCTION  
OUTCOMES

[Tweet](#) [Like](#) [Share](#)

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## FARM FACTS

**35 km north of Brewarrina, NSW North West**

**ENTERPRISE:** Cattle, tourism. Beef cattle agistment and trading; accommodation and event venue

**PROPERTY SIZE:** 7200 hectares

**AVERAGE ANNUAL RAINFALL:** 380 mm

**ELEVATION:** 115 m

### MOTIVATION FOR CHANGE

- Identifying the potential to improve the landscape and production

### INNOVATIONS

- Using stock to break up claypan
- Holistic Management techniques to regenerate the rangeland
- Stock trading to balance stocking rate with pasture availability
- Diversifying into tourism
- *Innovations commenced: 2001*

### KEY RESULTS

- Carrying capacity almost doubled to over 100 DSE days per hectare per 100mm rainfall
- Revegetation of claypan landscape
- Strong, positive community relationships



<http://www.soilsforlife.org.au/cs-bokhara-plains>

# Kellogg's new 'Compost Chef' on soil science makes business sense

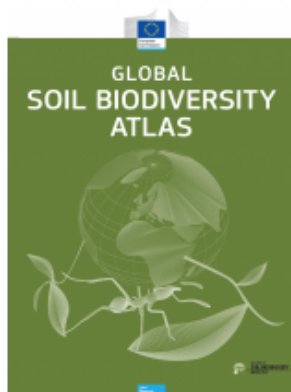


**Renowned soil scientist Anna Becvar says her role advising cereal giant's farmers on organic soils and crop yield could herald a new business trend**

When news surfaced that Kellogg's had enlisted the help of what it called a 'Compost Chef', Cornflakes fans could be forgiven for any initial concern as to what they might start savoring in their cereal...

<http://www.businessgreen.com/bg/feature/2459767/kellogg-s-new-compost-chef-on-why-soil-science-makes-business-sense>

# Global Soil Biodiversity Atlas



- [Description](#)
- [Online Atlas](#)

**Resource Type:** [Maps & Documents](#)  
[Atlases](#)

**Registration is requested:** No

## Download

[Global Soil Biodiversity Atlas \(low-resolution\)](#)

[Global Soil Biodiversity Atlas \(high-resolution\)](#)

**Country:**

**Author:**

Alberto

Barrios,

Jean-Luc

Noah Fie

Jeffery, M

**Year:** 20

**Language:**

## New atlas illustrates global soil biodiversity and thre

**The JRC and GSBI publish the first-ever Global Soil Biodiversity Atlas that maps the soil biodiversity of the soil – the silent engine that keeps the planet alive – by providing a detailed analysis of soil organisms and The Atlas was launched by the JRC and GSBI at the 2nd UN Environment Assembly (UNEA) in Nairobi on 25**

Tibor Navracscs, European Commissioner for Education, Culture, Youth and Sport, responsible for the JRC said: *fragmented knowledge on soil biodiversity. Thanks to the rich scientific evidence, it will become a loud voice helping to pr*

Commissioner Karmenu Vella, responsible for Environment, Maritime Affairs and Fisheries added: *"The Atlas makes which targets halting the loss of biodiversity and ecosystem services in the EU by 2020, and the goals of the 2030 Age production and fighting land degradation. Last but not least it also contributes to the Global Soil Biodiversity Initiative"*.

<http://esdac.jrc.ec.europa.eu/content/global-soil-biodiversity-atlas>

## Berry-producing plant suits all kinds of soils

[Home](#) » [Lifestyle](#) » [Home & Garden](#)

Fri, 3 Jun 2016

[Home & Garden](#) | [Plant Life](#)



Photo by Gregor Richardson.

Often overlooked until the flowers are swarming with bees or berries form, *Cotoneaster* can be very useful in the garden for growing in challenging soils and conditions. In the rose family, *Cotoneaster* is closely related to other berry-producing plants such as rowan, firethorn, hawthorn, and photinia. <http://www.odt.co.nz/lifestyle/home-garden/385475/berry-producing-plant-suits-all-kinds-soils>



## Increase in use of soil enhancers on Australian farms

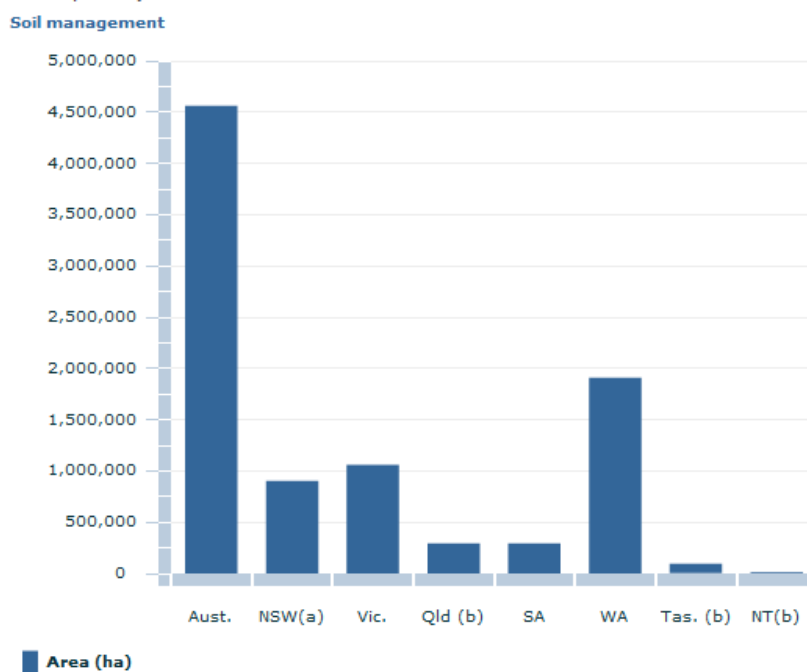
The number of agricultural businesses applying lime, dolomite and other types of soil enhancers in Australia increased 19 per cent between 2013-2014 and 2014-15 figures, according to figures released today by the Australian Bureau of Statistics (ABS). Ms Lauren Binns, ABS Director of Rural Environment and Agricultural Statistics, said that given the importance of Australia's agricultural land holdings to both the environment and the economy it was heartening to see movements towards practices which improve soil condition and help maintain natural resources.

## SOIL ENHANCER USE, Australia, year ended 30 June 2015

	2014-15
	ha
Compost	261 760
Green manure	41 625
Mulch	13 011
Lime and/or dolomite (a)(b)	2 419 064
Gypsum	989 632
Biochar	7 197
Poultry manure	271 270
Other soil enhancers	557 055

(a) Including lime sand and stone

(b) Data for Lime and Dolomite are recorded separately in the datacubes

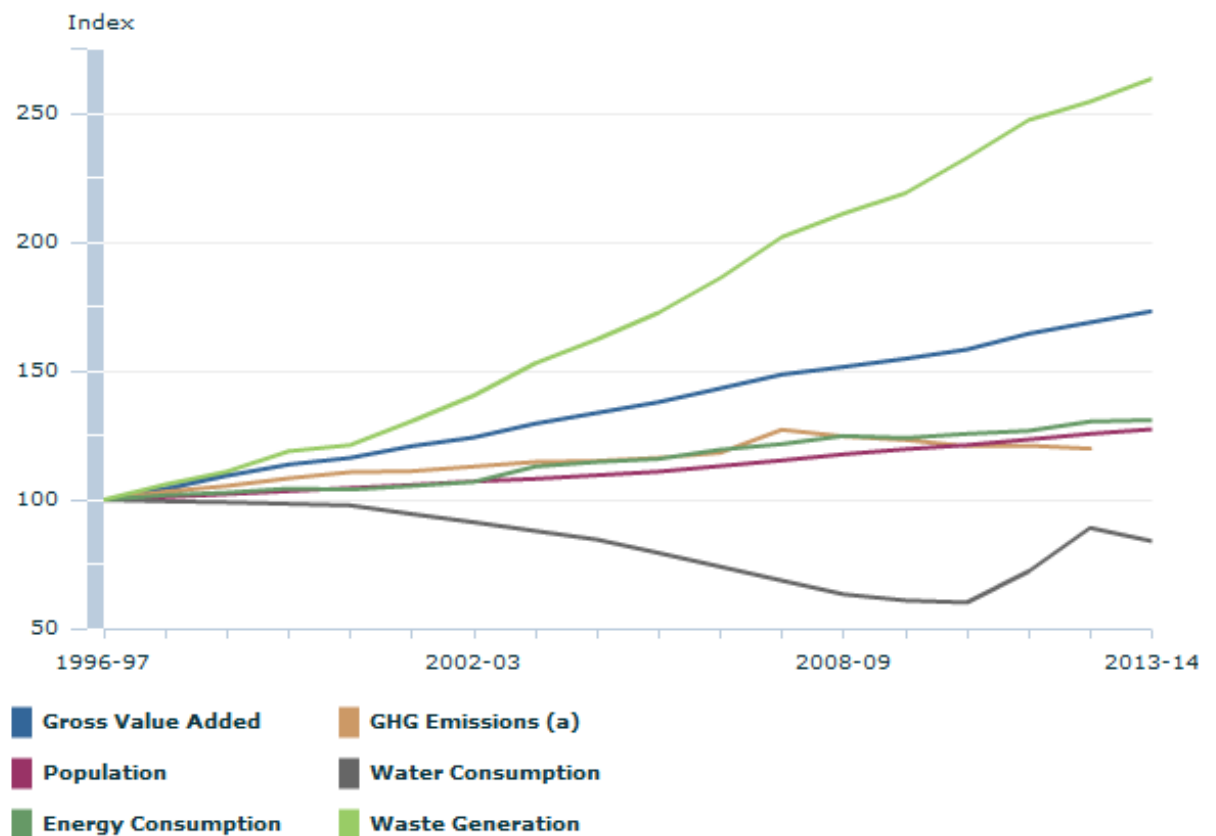


<http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/4627.0Main%20Features62014-15>

## INTEGRATED SOCIOECONOMIC AND ENVIRONMENTAL INDICATORS

Australia's economic production, as measured by Gross Value Added (GVA) in chain volume prices, increased by 73% from 1996-97 to 2013-14. Over the same period, indicators of environmental pressure related to the production of goods and services (GVA) increased, while water consumption fell. Waste production rose 160% since 1996-97. GHG emissions increased 20%. Water consumption in Australia has fallen by 16% since 1996-97. However, over the most recent years, due to higher rainfall, has supported a rise in water consumption (2013-14) and in turn led to a recent increase in the intensity of water use by industry.

SELECTED SOCIO-ECONOMIC AND ENVIRONMENTAL MEASURES, Australia, 1996-97 to 2013-14



<http://www.abs.gov.au/ausstats%5Cabs@.nsf/0/9EF05B385442E385CA257CAE000ED150?Opendocument>

# Slowing of landslide flows reflects California's drying climate

1 June 2016



Photo captures one of the California landslide sites studied by the UO's Georgie Bennett and Joshua Roering. The research team they led found that California's unprecedented drought is reflected in the drying of landslide formations and dramatic reductions in their movement. Credit: Georgie Bennett

Merged data from on-the-ground measurements, aerial photography, satellite imagery and satellite-radar imaging have unveiled an unexpected geological consequence of northern California's ongoing drought.

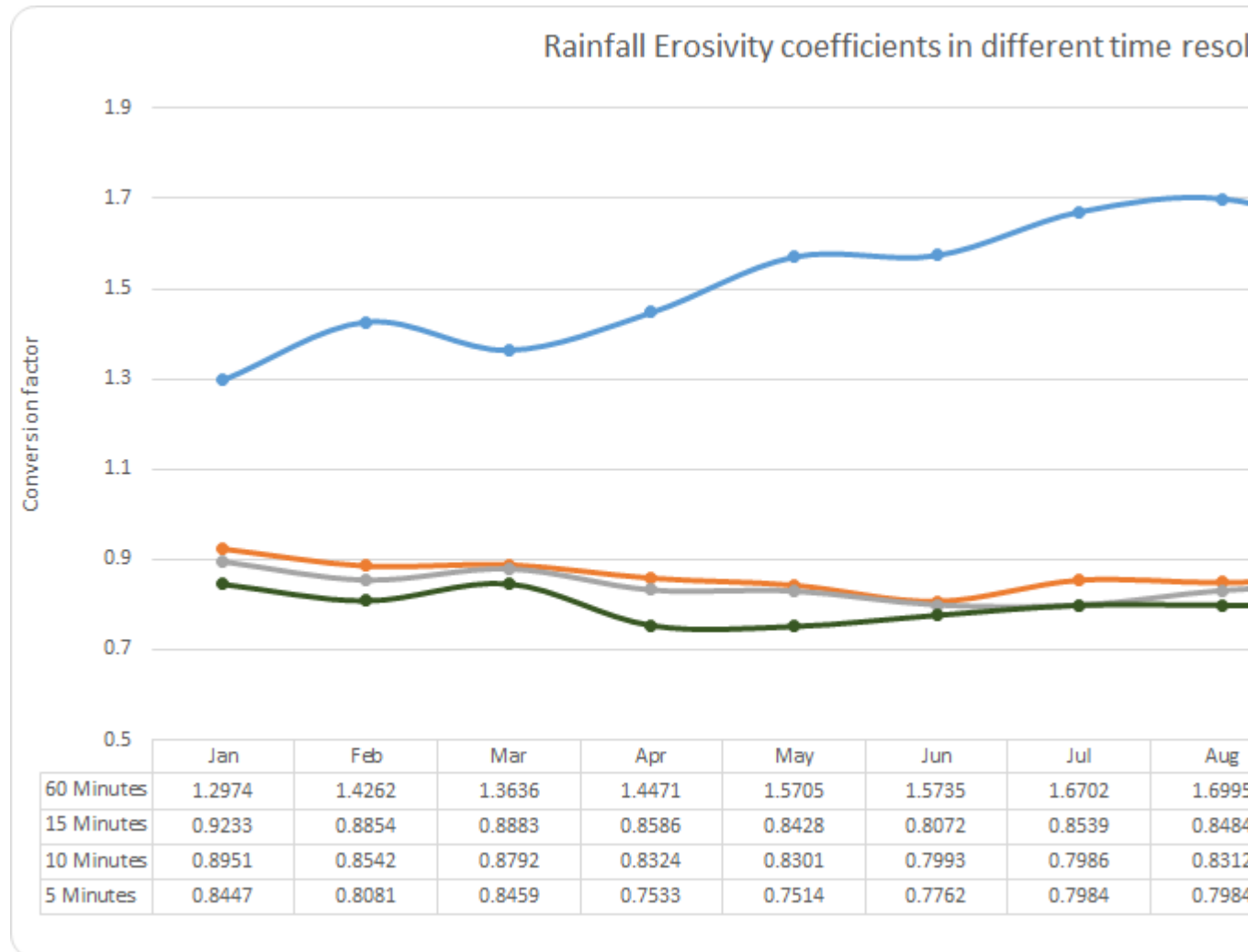
<http://phys.org/news/2016-06-landslide-california-climate.html>

## Monthly R-factor and Conversion factors for different time resolutions

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As a follow up and an advancement of the recently published **Rainfall Erosivity Database at European Scale (REDES)** and the respective mean annual R-factor map, the monthly aspect of rainfall erosivity has been added to REDES. Rainfall

erosivity is crucial to be considered at a monthly resolution, for the optimization of land management (seasonal variation of vegetation cover and agricultural support practices) as well as natural hazard protection (landslides and flood prediction). We



<http://esdac.jrc.ec.europa.eu/themes/monthly-r-factor-and-conversion-factors-different-time-resolutions>





United States  
Department of  
Agriculture

In cooperation with  
the National Technical  
Committee for Hydric Soils



NRCS

Natural Resources  
Conservation  
Service

# Field Indicators of Hydric Soils in the United States

A Guide for Identifying and Delineating  
Hydric Soils, Version 7.0, 2010





# DustWatch Report

March 2016

<b>Dust activity</b>	Similar to February; isolated patches of dust
<b>Wind strength</b>	50% less than March 10-year average
<b>Groundcover</b>	Steady over the last 3 months, changes at paddock level
<b>Rainfall</b>	Good falls in SA and VIC, dry in central NSW
<b>Land management</b>	Paddock crop preparation continuing

## Dust activity

Overall dust activity has reduced across the network. Isolated sites have recorded a high number of hours of dust due to either local cropping activities or in the case of Ivanhoe and Willandra, persistent low rainfall and groundcover in the area.

In New South Wales, dusty sites were Willandra, Ivanhoe and Buronga in the southern part of the Western Local Land Services district.

Across the border into Victoria, the Loddon plains site recorded 19 hours. According to local DustWatchers, groundcover in the area has fallen to exceptionally low levels due to the ongoing dry conditions. In addition, paddock fallowing occurred in preparation of the upcoming cropping season.

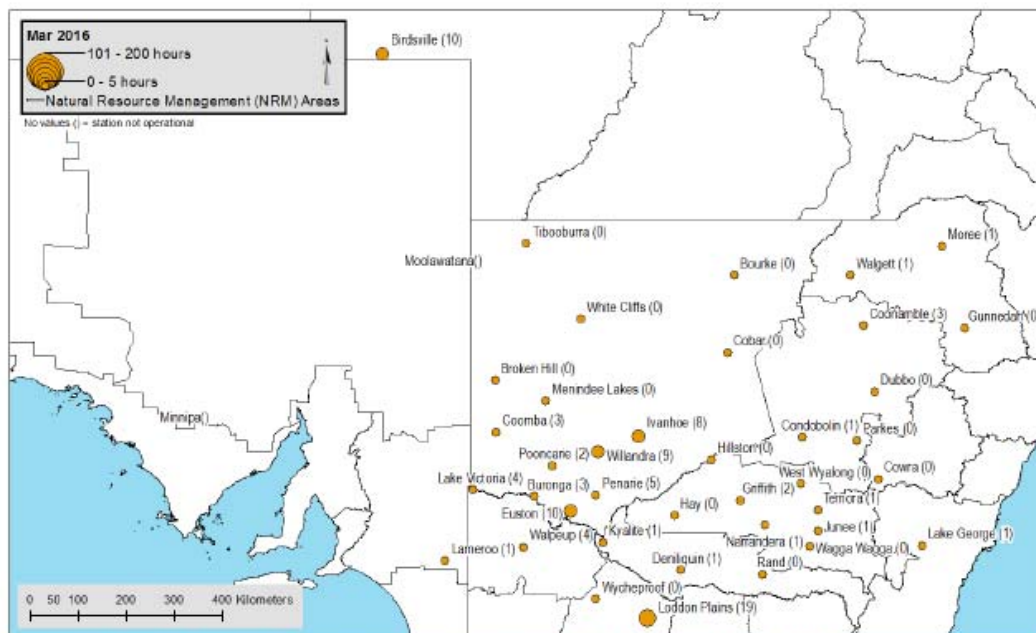


Figure 1: Hours of dust activity (number in brackets) at each DustWatch site in March 2016

# Soil health just needs one first step

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This Business of Farming

Technology has boosted yields, masking the slow and silent draining of our resource base

Published on: 1 June 2016

I admit upfront: While you're trying to figure out how much money you're not going to make on corn or soybeans this year, it may seem like a bad time to talk about trying something new.

Then again, this may be the best time to make changes in your business, because there is no downside to this pitch.

Rebuilding our soil base may seem an idealistic whim during these drastic financial times. But the need to preserve our precious resources has never been more compelling.



Indiana farmer Mark Anson surveys a sea of cover crops: "I'm convinced this is the way we'll farm in the future, and we're just trying to get there," he says.

<http://farmfutures.com/blogs-soil-health-needs-first-step-10989>

## Inside Opportunity: Dust devils, high-altitude clouds, and sulfur-rich soils

JAMES RICE  
2<sup>ND</sup> JUNE 2016



Image Credit: NASA

Since my last update, *Opportunity* has traveled 100 meters westward up a slope in *Marathon Valley* to continue our search for the elusive phyllosilicates (clay minerals) that were detected from orbit by the Compact Reconnaissance Imaging Spectrometers for Mars (CRISM) instrument aboard the *Mars Reconnaissance Orbiter* ([MRO](#)).

Read more at <http://www.spaceflightinsider.com/editorial/inside-opportunity-dust-devils-high-altitude-clouds-sulfur-rich-soils/#2qawbdP6E1YI761E.99>

## Soil water

Plant available soil water graphs show the amount of soil water accumulated from the start of summer (1 November) through the grain growing season and can be used as a tool in the seasonal decision making process.

Plant available soil water is modelled using the Ritchie two-layer fallow evaporation model described in Ritchie, J.T. 1972, Model for predicting evaporation from a row crop with incomplete cover.

While plant available soil water graphs can help create a narrative for the progress of a crop and aid key in-season decision-making, other key factors also need to be considered for any given crop to arrive at an accurate picture. These include:

<https://www.agric.wa.gov.au/climate-weather/soil-water>

## BBC WORLD SERVICE



### Soil



Part two of science documentary exploring the "skin of the Earth".

What happens when soil gets poisoned or compacted, or the surface is stripped of its trees, bushes, grass and the soil erodes? How can...

14 July 1992

Available now

🕒 28 minutes

<http://www.bbc.co.uk/programmes/p03jsdtp>



This programme will be available shortly after broadcast

## Phone masts, soil erosion, maize payments and better beef from grass

There are fears that landowners will be out of pocket from Government plans to speed up improved mobile phone coverage. Could the solution to soil erosion lie in the growing of trees among cereal crops? As...

🕒 13 minutes

[Show more](#)

<http://www.bbc.co.uk/programmes/b07dly5g>



[Print](#) [Email](#) [Facebook](#) [Twitter](#) [More](#)

## Aerial footage shows extent of tree disease

Updated Sat at 1:19pm

Aerial footage from a drone shows the extent of disease on Myrtle trees.

Source: [ABC News](#) | Duration: 47sec

Topics: [forests](#), [environment](#), [environmental-management](#), [environmental-health](#), [old](#)

### TOP STORIES

Fact check: Do carbon emissions always rise



<http://www.abc.net.au/news/2016-06-04/aerial-footage-myrtle-tree-disease/7433380?section=environment>





## Soil health report



It's been described as a 'Cinderella' environmental issue - yet the health of our soil is vital for food production, flood protection and storing carbon. And a report published today accuses the government of not doing enough to protect it.

24 days left to listen

🕒 13 minutes

The Environmental Audit Committee report says without more targeted action from Defra, soil degradation could make our most productive agricultural land unprofitable within a generation. One problem is that funding for local authorities to clear up contaminated land is being stopped.

<http://www.bbc.co.uk/programmes/b07d6qhb>

# Keep score when it comes to your soil health

**The Visual Soil Assessment scorecard can help producers identify whether their soils are degrading**



By **Jennifer Blair**

*Reporter*

Published: 1 June 2016

**Forages, Livestock**



*Photo: File*

An upcoming Foothills Forage and Grazing workshop on June 24 will feature a soil health expert from Down Under talking about what's going on down underground.

“The workshop is an introduction to the role of soil health and microbiology in building forage quality and pasture quality,” said Nicole Masters, director of Integrity Soils in New Zealand. <http://www.albertafarmexpress.ca/2016/06/01/keep-score-when-it-comes-to-your-soil-health/>

# Tea Bag Index

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**Obejctive:** to create a global soil map of tea bag decomposition.

The Tea bag index measures decay of plant material by using two types of tea bags (green and rooibos) as standard plant. Tea bags are placed in the soil and weight loss is determined after three months. As the tea types are composed of different material, their decomposition is indicative for a two phased decomposition model, with a fast initial phase and a slower second phase when weight loss levels off. With the decay of easy to decompose green tea one can determine how much of the labile fraction of the material is decomposed and how much is stabilized (S). Rooibos tea decomposes much slower and after three months, it is still in the first phase of decomposition. Thereby, the weight loss of rooibos tea is a proxy of the initial decomposition rate (k). By this it becomes easy to compare sites in an easy and standardized way and test climatic forcing on decomposition with a high resolution.



## Increasing global cover

If you are interested to join this experiment, and agree with the terms and conditions below, please fill in the table at the bottom of this document and send it to [TBlteam@decolab.org](mailto:TBlteam@decolab.org). Evaluation of the proposed contributions and invitations to become co-author can be expected one month after applying. After 1 February 2017 it is not possible to apply anymore.

<http://esdac.jrc.ec.europa.eu/networkcooperations/tea-bag-index>

# Wet-dry cycle drives up salinity and cuts yields

**Invisible soil salinity affects 22 million acres on the Prairies, cutting yields by a quarter**

AddThis Sharing Buttons

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Share options



By [Jennifer Blair](#)

*Reporter*

Published: 2<sup>nd</sup> May 2016

**Crops**

**Be the first to comment**



Saline seeps don't have to be as serious as this eight-acre one in southern Alberta to cause major yield losses, says agronomist Jack Payne. *Photo: Supplied*

Another dry spring could leave producers feeling salty over increased salinity in their soil.

“This year and part of last year, we've started to see more salinity showing up,” said Jack Payne, western Prairies regional agronomist with Farmers Edge.

“Saline seeps tend to form more readily after we've had a series of wet years followed by dry years. The wet years build up the water table and move the salts, and then when we have dry conditions, we get salts accumulating on the surface.”

<http://www.albertafarmexpress.ca/2016/05/02/the-effects-of-soil-salinity-on-crop-yields/?module=related&pgtype=article&i=>

## SR4 How does farming affect the organic carbon content of arable soils?



The carbon content of arable soil depends very much on how farming is conducted. Photo: Jan Håkan Dahlström/ Bildhuset/ IT.

Agricultural land has great potential to store carbon. With the right choice of cultivation methods and cropping systems, it can be transformed from a source of greenhouse gases into a sink for carbon dioxide. In 2013, EviEM began to review how different farming methods affect the amounts of organic carbon in arable soils.

Review status (Completed 2015)



<http://www.eviem.se/en/projects/Soil-organic-carbon-stocks/>



Soil Health PSA - Astronomer Dr. Laura Danly

 THE ICDAMBS

<https://www.youtube.com/watch?v=6tJkAjDjjo&index=6&list=PL4J8PxoprGZ-uMTxScBBn9nYT6CMX8aD>

## A Century of Conservation

Posted by Paige Buck, Illinois Public Affairs Officer on 31 May 2016 at 10:02 AM

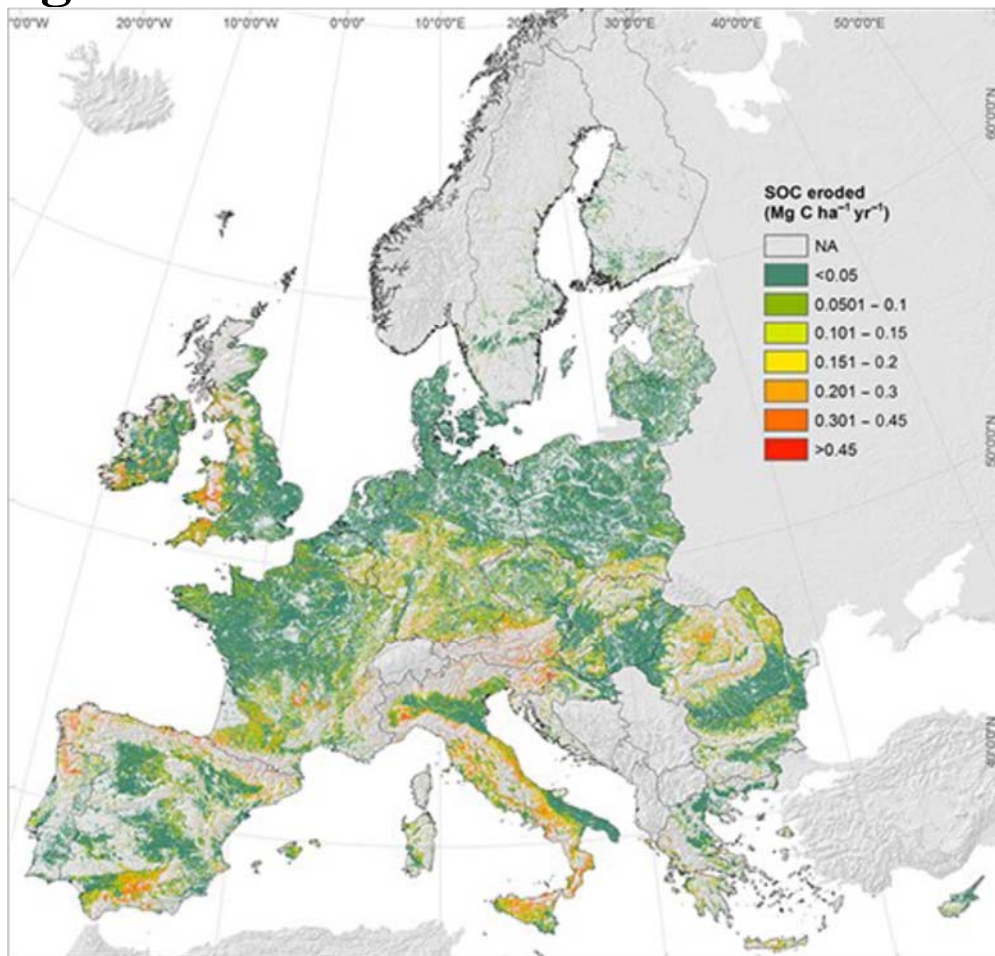


Harold Kraut holds an award presented to him in 1954 by Illinois Governor William Stratton, for his outstanding achievements in soil conservation.

After Harold "Boge" Kraut returned home from World War II in 1945, he purchased his 144-acre farm for \$125 down and a firm handshake as a promise to repay the balance. With that, he became a farmer.

Harold said he'd always had a knack for conservation. Maybe that came from growing up during The Dust Bowl, or perhaps from working on his parents' orchard.  
<http://www.nrcs.usda.gov/wps/portal/nrcs/blogdetail/nrcsblog/home/?cid=NRCSEPRD1086606>

# Pan-European SOC stock of agricultural soils

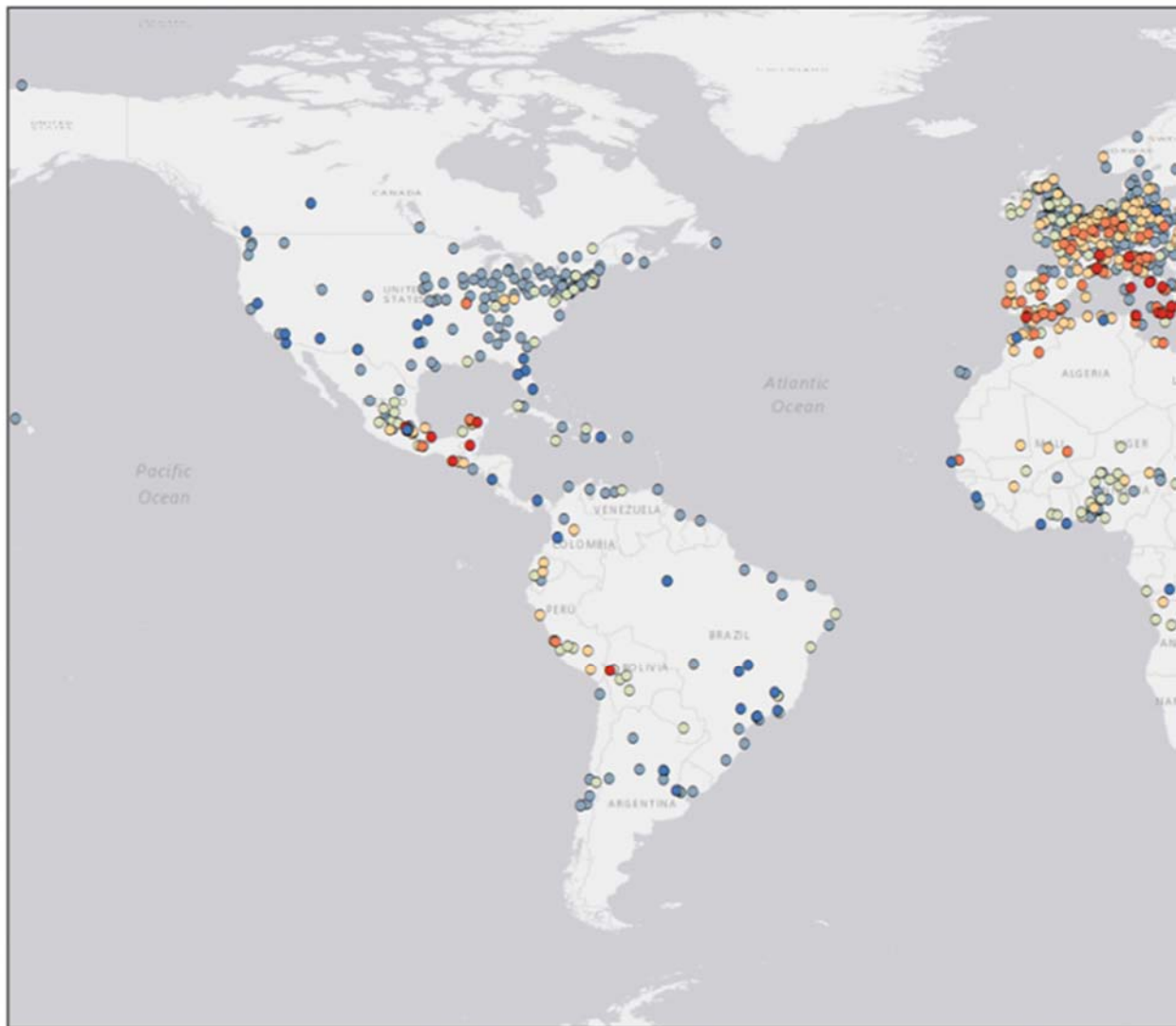


<http://esdac.jrc.ec.europa.eu/content/pan-european-soc-stock-agricultural-soils>



# Researchers map 6,000 years of urban settlements

7 June 2016



The figure shows the year of the first recorded population value for each city in the dataset. Cities recording the earliest first population data point are pictured in red and are centered near Mesopotamia, while cities with the most ...[more](#)

As the growth of cities worldwide transforms humans into an "urban species," many scholars question the sustainability of modern urbanization. But in reality there aren't much data on

long-term historical urbanization trends and patterns.

Read more at: <http://phys.org/news/2016-06-years-urban-settlements.html#jCp>

## **Dead leaves under lake hint at Greenland's past**

Posted by [Charlotte Hsu-Buffalo](#) 27<sup>th</sup> May 2016

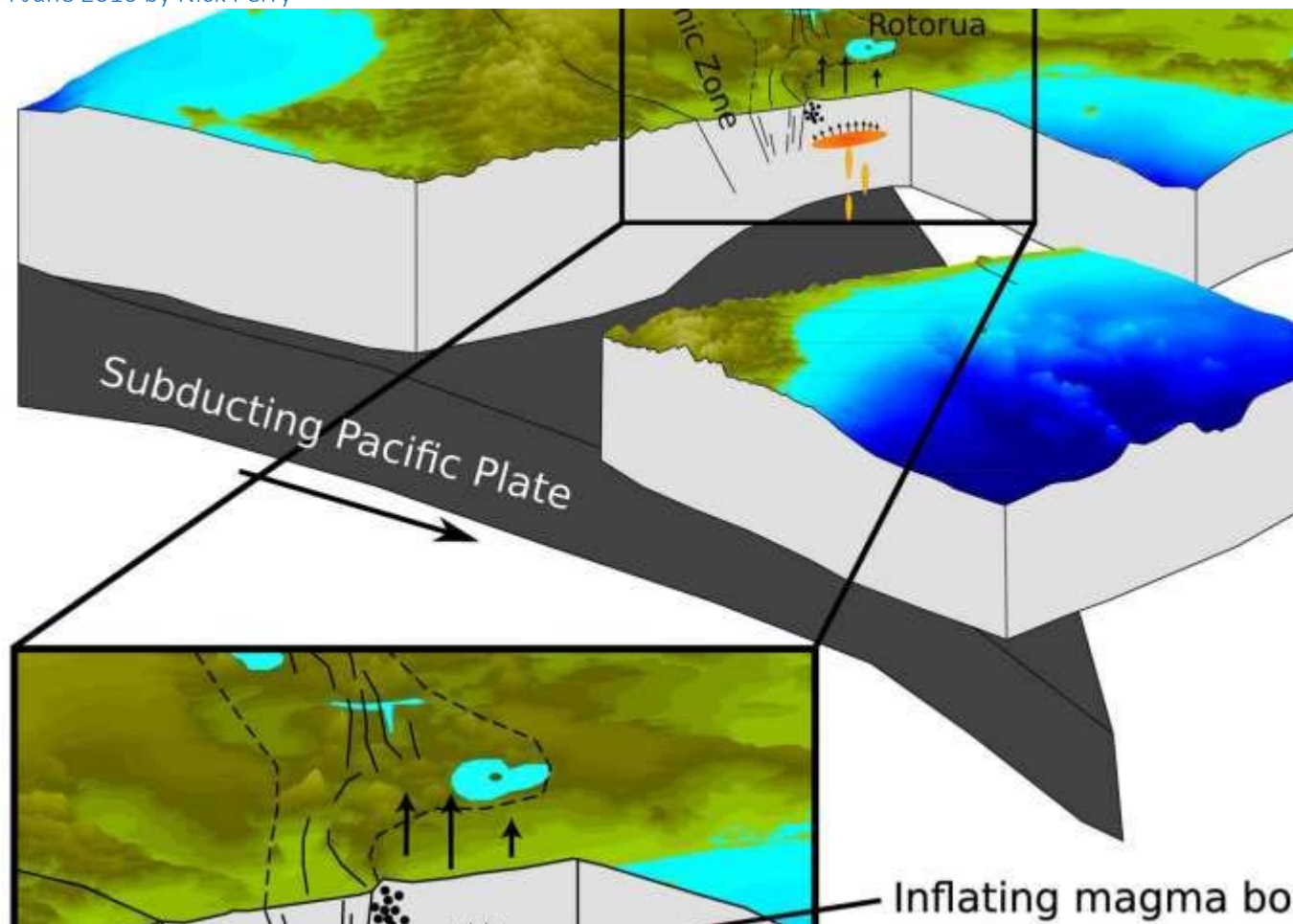
The remains of long-dead aquatic plants, collecting at the bottom of lakes in horizontal layers that document the passing years, chronicle the history of Greenland's snowfall.

Using this ancient record from the bottoms of lakes, scientists are attempting to reconstruct how Arctic precipitation fluctuated over the past several millennia, potentially influencing the size of the Greenland Ice Sheet as the Earth warmed and cooled.

<http://www.futurity.org/leaf-waxes-greenland-snow-1172902-2/>

# Scientists discover magma buildup under New Zealand town

4 June 2016 by Nick Perry



A drawing looking south along the Taupo Volcanic Zone showing the subduction of the Pacific Plate under the North Island of New Zealand. Uplift of the surface measured by satellite radar and GPS suggests the presence of a magmatic body ...[more](#)

Scientists say they've discovered a magma buildup near a New Zealand town that explains a spate of recent earthquakes and could signal the beginnings of a new volcano—although they're not expecting an eruption anytime soon.

Read more at: <http://phys.org/news/2016-06-scientists-magma-buildup-zealand-town.html#jCp>

***“The oldest task in human history -  
To live on a piece of land without  
spoiling it”***—Aldo Leopold