



**WORLD ASSOCIATION OF SOIL AND WATER CONSERVATION**

# **HOT NEWS**

Issue 03, 2014



---

## WASWAC HOT NEWS No. 3, March, 2014

### Contents

WASWAC News	Call for Pictures Submission	1
Meetings		2-4
Jobs		5-7
Book Introductions		11-12
News and Reports	Three-year project reduces nutrient loads in the great lakes through cover crops	8-10
	Soil Erodibility (K-factor) High Resolution Dataset in Europe	13-15
	President of Chinese Academy of Sciences visits regional knowledge centre to strengthen scientific collaboration and knowledge sharing	16-17
Advertisement		1,4,17
WASWAC Application Form		18

---

**Cover photo:** Measure to control soil loss in slope farmlands, Watershed of Yangtze River, China

This issue is edited by Ms. Mao Juan, contributors including Dr. Amir Kassam, Dr. panos.panagos, Ms Nira Gurung and Dr. Du Pengfei.

---



IRTCES Building

(Where the Secretariat of WASWAC is)

---

The Secretariat of WASWAC

No. 20 Chegongzhuang Road West, Beijing 100044, P. R. China

Tel: +86-10-68786579

Fax: +86-10-68411174

Email: [waswac@foxmail.com](mailto:waswac@foxmail.com)    [waswac@163.com](mailto:waswac@163.com)

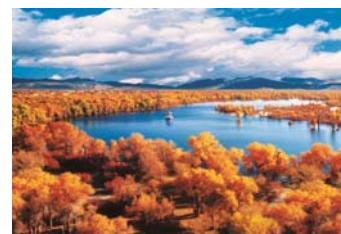
For ISWCR paper submission: [iswcr@foxmail.com](mailto:iswcr@foxmail.com)

WASWAC Website: [www.waswac.org](http://www.waswac.org)

## Call for Pictures Submission

Dear WASWAC members,

As you know, there are some beautiful and meaningful pictures in the covers of ISWCR (our official journal) and Hot News. Currently, almost all pictures are from China.



There is an urgent need to put more pictures international. Under this circumstance, we cordially hope that you, as a member of WASWAC or an author of ISWCR, are able to submit some pictures with the style of soil and water conservation to us. If this is ok, please let us know the position of picture shows, and also make sure that you have the copyright of the pictures. Your contribution will be much appreciated!

Please send pictures to [waswac@foxmail.com](mailto:waswac@foxmail.com) or [waswac@163.com](mailto:waswac@163.com) while available!

Thanks a lot.

The editorial board of ISWCR and Hot News



# MEETINGS

## Remote Sensing for Catchment Management

**Date & Venue:** 1st May, The Leeds Club, Leeds, UK

### Outline

Remote sensing offers water companies a new way to improve planning in water management. The images provide previously invisible detail that can be applied to a range of uses in water catchment and asset management. In spite of the advances of remote sensing technology, its potential has not been fully utilised and there are great opportunities to benefit from increased accuracy in planning, decision making and efficiency.

The conference will focus on presenting a range of remote sensing applications from catchment and asset management, to more unusual applications such as archaeology which is of regulatory relevance to the water and environmental sectors.

Those who will benefit from this conference will include environmental regulators, water utilities and catchment management stakeholders.

### Speakers

- ✧ David Campbell, Principal Remote Sensing Scientist, APEM Ltd
- ✧ Geoff Cooper-Smith, Engineering Delivery Manager, United Utilities
- ✧ Karen Pinkerton, Lecturer, University of Liverpool
- ✧ Josephine Janik, Archaeologist, Mott MacDonald
- ✧ Neasa Revens, Catchment Advisor, Severn Trent Water
- ✧ Remy Schilperoort, Royal HaskoningDHV
- ✧ Crispin Hambidge, Geomatics, Environment Agency

### Delegate Fees

Delegate Rate - £295 (+VAT), Students, Academics and Charities - £100 (+VAT)

Details: <http://www.aquaenviro.co.uk/view-product/Remote-Sensing-for-Catchment-Management>





More details available at: <http://www.rhea-conference.eu/2014/>



DEPARTMENT OF AGROECOLOGY  
AARHUS UNIVERSITY

PhD course:

## Assessing Soil Erosion Risk

**Location:** Aarhus University, Department of Agroecology, AU-Foulum,  
8830 Tjele, Denmark

**Date:** 30<sup>th</sup> August – 6<sup>th</sup> September 2014

**Volume:** 5 ECTS

**Target group:** PhD students within physical geography, soil science, agricultural science,  
environmental science, and engineering or related fields.  
Qualified MSc students are also welcome.

### Instructors:

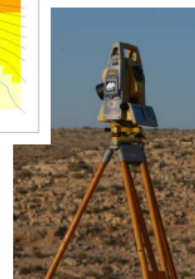
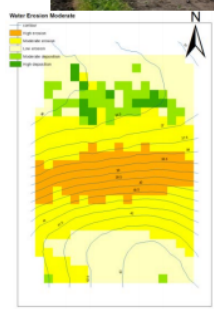
Prof. Dr. Nikolaus J. Kuhn and Dr. Wolfgang Fister, Environmental Sciences, University of Basel, Switzerland  
Associate prof. Dr. Goswin Heckrath, Agroecology, Aarhus University, Denmark

### Course content:

About 80% of the world's land degradation is caused by wind and water erosion. Hence, vital conservation planning in agricultures around the world requires comprehensive erosion risk assessment. This hands-on course introduces students to three important methodological approaches to erosion risk assessment, i.e. experimental measurements, mapping, and modelling, for generating process understanding at different spatial and temporal scales.

Following introductory lectures student teams will conduct field studies, modeling exercises, and erosion risk scenario analyses on the basis of the data collected. Soil erosion measurements will be done *in situ* using the Portable Wind and Rainfall Simulator (PWRS) for investigating interactions between wind and water erosion processes. Additionally, the study area is being surveyed including laser scanning and soil mapping.

The course will thus enable students to interpret key soil erosion risk factors both in a dynamic process and in a landscape context.



For more information: [www.agro.au.dk/soilerosion](http://www.agro.au.dk/soilerosion)



### Abstract Review Notices Sent

All abstracts have been reviewed and acceptance and rejection emails have been sent to the corresponding authors. If you have a question about the status of your abstract please login to check your abstract status.

Specific times have not yet been assigned for the oral and poster sessions, but this will be posted by the end of March.

Below are links to the author instructions for full papers and summary papers for the proceedings. These papers are due April 30, 2014.

Details at: <https://www.ispag.org/ICPA/>



[SOUND PRINCIPLE NO. 31]

Even grown-ups  
play with cool new toys.

**RiverSurveyor**

and the new RiverSurveyor could well be  
your favorite new toy too.

- Continuous shallow-to-deep discharge measurements
- Ideal for extreme flood or drought conditions
- Instant data from your mobile device
- Use in canals, streams and rivers
- Small, portable and easy to use

Complete 3-D velocity  
profiling, bathymetric  
measurement and  
discharge calculation as  
you traverse the channel!

M9  
S5

FREE Technical notes, web-based training and product information at [www.sontek.com](http://www.sontek.com)  
Questions? E-mail: [inquiry@sontek.com](mailto:inquiry@sontek.com) or call +1.858.546.8327  
See the RiverSurveyorS5 in action! [youtube.com/SonTekY3](http://youtube.com/SonTekY3)

Sound Principles. Good Advice.

**SonTek**  
TSI Incorporated

# **JOBS**

## **1. Teagasc Post Doctoral Research Fellow Level 1 - Soil Science (PD1) / Level 2 (PD2) PD1/2/SQ/0414**



### Basic Function

This post-doctoral position is affiliated to the DAFM funded research project: Soil Quality Assessment and Research (SQUARE). This project is a national scale assessment of the status of soil structural quality in Ireland, which includes a 3 year field programme across 160 sites to establish effect of soil management practices on soil structural quality and associated soil functions.

### Duties & Responsibilities specific to this project:

To identify current knowledge gaps in soil structural quality and soil function.

To develop and manage a 2-3 year field programme in grassland systems across the country, providing advice and communication with farmers across 160 sites.

### Person Specification

#### Essential

PhD in (soil science related)

Relevant research experience not to exceed 3 years' post-PhD

#### Desirable

Experience in (soil structural assessment or soil pedology)

Experience in setting own research agenda

Further Information for Candidates

Candidates can access a Fellowship Programme Application form for this post on the Teagasc website at <http://www.teagasc.ie/opportunities/postdoctoral/index.asp>.

Completed application forms should be TYPED and saved in MS WORD format and submitted by email to [teagascjobs@clark.ie](mailto:teagascjobs@clark.ie) no later than 12 midnight on Monday 28th April 2014.

Teagasc is an equal opportunities employer. Canvassing will disqualify.

Teagasc do not accept CV's.

Deadline: Friday, 28 March, 2014

## 2. 12 PhD Student Positions and 2 Postdoc Positions in Novel Stable Isotope Environmental Geochemistry



All positions are full-time and fixed term either for 3 years (Early Stage Researchers (ESR), PhD student) or for 2 years (Experienced Researcher (ER), postdoc). Successful applicants will benefit from an extensive training program delivered jointly by academic and industrial partners. As a result, IsoNose fellows will gain both research experience and complementary skills such as career planning, communicating science, and management techniques. Researchers will mainly work in their host institution, but they will also spend a period of at least 4 months with another IsoNose partner, based either in academia or industry. On completion of their fellowship, successful applicants are expected to be amongst the future leaders in this field.

### IsoNose positions:

- ESR1: Isotope fractionation at the mineral-fluid interface - Géosciences environnement (GET) Toulouse and Université Paul Sabatier, France - Principal Investigator: Eric Oelkers
- ESR2: Experimental determination of equilibrium and kinetic isotope fractionation of alkali-earth metals (Mg, Ca, and Sr) during mineral dissolution - Géosciences environnement (GET) Toulouse and Université Paul Sabatier, France - Principal Investigator: Eric Oelkers
- ESR3: Isotope fingerprints of weathering by plants, fungi, and bacteria - GFZ German Research Centre for Geosciences (GFZ) and Freie Universität Berlin, Germany - Principal Investigator: Friedhelm von Blanckenburg
- ESR4: Elemental fingerprints of microbially induced rock weathering - Federal Institute for Materials



Research and Testing (BAM) and Freie Universität, Berlin, Germany -Principal Investigator: Anna Gorbushina

- ESR5: Isotope fingerprints of groundwater flow in small catchments - Institut de physique du globe de Paris (IPGP), France - Principal Investigator: Julien Bouchez
- ESR6: Isotope fingerprints of estuarine processes in large river systems - Institut de physique du globe de Paris (IPGP), France - Principal Investigator: Jérôme Gaillardet
- ESR7: Movement of Li and Mg from source to sink and associated isotope fractionation - University of Southampton, United Kingdom - Principal Investigator: Rachael James
- ESR8: Isotope fingerprint of metal deposition onto the Earth surface - Trinity College Dublin (TCD), Ireland - Principal Investigator: Emma Tomlinson
- ESR9: Isotope fingerprint of metal deficiency in soils - Trinity College Dublin (TCD), Ireland - Principal Investigator: Balz Kamber
- ESR10: Fingerprinting isotopic signatures for metal enrichment in European trees: developing vectors for mineral exploration - Boliden Tara Mines Ltd. and Trinity College Dublin (TCD), Ireland -Principal Investigator: Sean H. McClenaghan
- ESR11: Characterising dispersed metal plumes in surficial soils and sediments in the Irish Midlands: Using isotope fingerprints to develop vectors in mineral exploration - TECK Ireland and Trinity College Dublin (TCD), Ireland - Principal Investigator: Sean H. McClenaghan
- ESR12: Cr isotopes as a tracer of supergene ore deposits - University of Southampton, United Kingdom - Principal Investigator: Rachael James
- ER1: Developing UV femtosecond laser ablation routines - GFZ German Research Centre for Geosciences (GFZ) - Principal Investigator: Friedhelm von Blanckenburg
- ER2: Developing new application in plasma source mass spectrometry techniques - Thermo Fisher Scientific Bremen, Germany - Principal Investigator: Claudia Bouman

Additional information on the Marie Curie Initial Training Network IsoNose and full job descriptions can be found on our website, [www.isonose.eu](http://www.isonose.eu). For the application it is crucial that you meet the European Commission's eligibility criteria, which you can find at <http://www.isonose.eu/vacancies/eligibility-criteria/>. To apply, please complete the IsoNose application form and upload your documents via our internet platform, at [www.isonose.eu/vacancies/](http://www.isonose.eu/vacancies/), by Wednesday 30th April 2014.

## **THREE-YEAR PROJECT REDUCES NUTRIENT LOADS IN THE GREAT LAKES THROUGH COVER CROPS**

West Lafayette, Ind. (March 31, 2014) – Keeping crop fields covered between growing seasons for corn, soybeans and other cash crops can help improve water quality by keeping nutrients on the farm, a collaborative project led by the Conservation Technology Information Center (CTIC) demonstrated.



Michigan farmers Nathan Clarke (left) and Dave Clarke (middle) examine a field of winter wheat planted as a cover crops with Paul Gross, Michigan State University Extension educator for Isabella County.

The Great Lakes Cover Crop Initiative (GLCCI), which concluded in December, promoted cover crops and conservation farming systems to crop producers in the Lake Erie, Lake Huron and Lake Michigan watersheds. Along with several university partners, agricultural organizations and government agencies, CTIC launched the initiative in 2010 to broaden the knowledge and adoption of cover crops to improve soil and water quality in the Great Lakes Region.

With this purpose in mind, CTIC and partners set out to plant 15,000 acres of cover crops over the three-year span of the initiative. From 2010 to 2013, producers in the Great Lakes Basin planted over 36,970 acres of cover crops, far above the original goal. The cover crops reduced nitrogen by nearly 73,000 pounds, phosphorus by more than 24,100 pounds and sediment by more than 1,440 tons in the Great Lakes.

Chad Watts, CTIC project director, said that establishing cover crops is one way that agriculture can contribute to the goal of cleaner water while making a difference on individual farms.

“Farmers not only can contribute benefits to water quality, but also can improve the soils, beneficial soil biology, nutrient holding capacity, and infiltration on their farms,” Watts said. “If cover crops are properly used over a large enough acreage, farmers can make a significant contribution to the improvement of water quality in the Great Lakes and the rivers and streams that run to them.”

Through GLCCI, farmers received one-on-one technical assistance to identify objectives for their cover crop use, select the right cover crops and crop rotations for their operations and plant and terminate cover crops in a timely manner.



Winter peas are one of the many crops that can be used as a cover crop

“Cover crops are best when used as part of a systems approach to farming,” Watts said. “Having experienced technical assistance from someone who knows how to build a successful conservation cropping system is absolutely necessary to achieve the farm objectives through cover crops. This is the kind of service we provided through GLCCI.”

Les Seiler, a producer from Fayette, Ohio, said participating in GLCCI helped him further develop his use of cover crops.

“GLCCI provided information and connected me with resources for seed selection and data about what would work in my area,” he said. “Also, sharing ideas with others through GLCCI was invaluable.”

To facilitate that sharing of ideas, GLCCI partners hosted several educational opportunities. More than 80 field days reaching 5,500 people demonstrated how farmers were taking steps to improve water quality in the Great Lakes. In November 2013, CTIC hosted the Cover Crop Summit in the Fort Wayne, Ind., area. The summit featured four farms where farmers discussed how they incorporate cover crops in their rotations, the equipment used for planting and terminating cover crops and the soil health changes they experienced when using cover crops.

To understand further the status of cover crop use in the United States, CTIC and the U.S. Department of Agriculture's North Central Region Sustainable Agriculture Research and Education (SARE) program conducted a comprehensive cover crop survey following the drought of 2012 to quantify and promote the benefits of cover crops. More than 750 farmers responded.

Other activities included two focus groups that were held to better understand the views of producers and ag retailers on cover crops. CTIC and partners also provided support to GLCCI producers to attend the 2013 National No-Tillage Conference, CTIC's Conservation in Action Tour and the Ag Media Summit.

Partners in GLCCI were The Ohio State University, Purdue University, Michigan State University, Indiana Conservation Cropping Systems Initiative,

Midwest Cover Crops Council, Ohio No-Till Council and the U.S. Environmental Protection Agency. The project was funded by the Great Lakes Restoration Initiative.

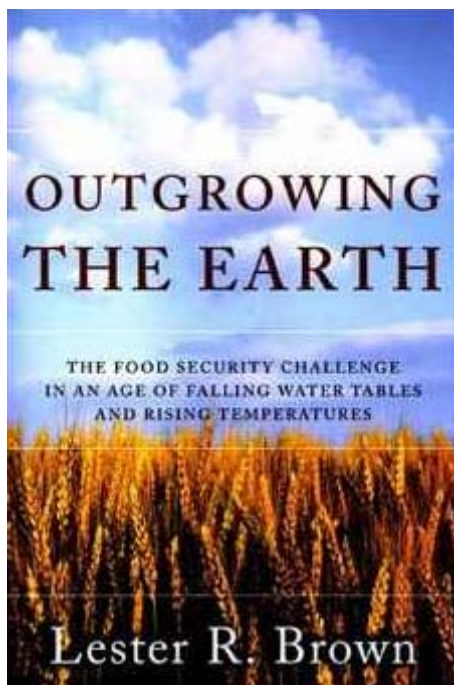
For more information on the project, as well as stories and videos featuring producers who participated in GLCCI, visit [www.ctic.org/GLCCI](http://www.ctic.org/GLCCI). CTIC also captured the lessons learned from the producer focus group and the link between water quality and cover crops through talking to farmers, Extension educators and university researchers. More information on cover crops can be found on CTIC's cover crop page or by contacting Chad Watts at 574-242-0147 or [watts@ctic.org](mailto:watts@ctic.org).

**If you want to advance in your career**

**Make English  
Part Of Your Life**



# Book Introductions



Paperback: 272 pages

Publisher: W. W. Norton & Company (January 17, 2005)

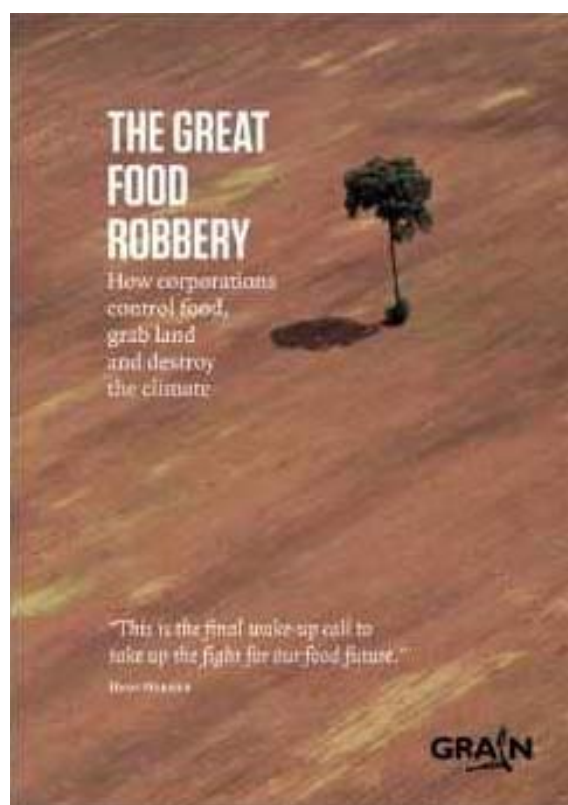
Language: English

ISBN-10: 0393327256

ISBN-13: 978-0393327250

How human demands are outstripping the earth's capacities—and what we need to do about it.

Ever since 9/11, many have considered al Qaeda to be the leading threat to global security, but falling water tables in countries that contain more than half the world's people and rising temperatures worldwide pose a far more serious threat. Spreading water shortages and crop-withering heat waves are shrinking grain harvests in more and more countries, making it difficult for the world's farmers to feed 70 million more people each year. The risk is that tightening food supplies could drive up food prices, destabilizing governments in low-income grain-importing countries and disrupting global economic progress. Future security, Brown says, now depends on raising water productivity, stabilizing climate by moving beyond fossil fuels, and stabilizing population by filling the family planning gap and educating young people everywhere.



Paperback: 164 pages

Publisher: Pambazuka Press (October 1, 2012)

Language: English

ISBN-10: 085749113X

ISBN-13: 978-0857491138

Arguing that corporations are mainly responsible for the expansion of the damaging industrial food system, this discussion focuses on these organizations and the ways they organize and control food production and distribution. Demonstrating how the corporate food system destroys those systems based on local markets, local cultures, and biodiversity, this account highlights how it puts the profits of the few before the needs of people and leads to massive food safety incidents, environmental destruction, labor exploitation, and the decimation of rural communities. Informative and direct, this book aims to inspire individuals to actively take the food system back from corporations and put it in the hands of people.

## **Soil Erodibility (K-factor) High Resolution Dataset in Europe**

### **K-Factor: Background information**

The greatest obstacle to soil erosion modelling at larger spatial scales is the lack of data on soil characteristics. One key parameter for modelling soil erosion is the soil erodibility, expressed as the K-factor in the widely used soil erosion model, the Universal Soil Loss Equation (USLE) and its revised version (RUSLE). The K-factor, which expresses the susceptibility of a soil to erode, is related to soil properties such as organic matter content, soil texture, soil structure and permeability. With the Land Use/Cover Area frame Survey (LUCAS) soil survey in 2009 a pan-European soil dataset is available for the first time, consisting of around 20,000 points across 25 Member States of the European Union.

The high-resolution soil erodibility map (500m) version 2014 incorporates certain improvements over the coarse-resolution map (10km) version 2011:

- High resolution dataset (500m) and application of Cubist regression-interpolation (better spatial accuracy)
- Soil structure was for the first time included in the K-factor estimation
- Coarse fragments were taken into account for the better estimation of soil permeability
- Surface stone content, which acts as protection against soil erosion was for the first time included in the K-factor estimation. This correction is of great interest for the Mediterranean countries where stoniness is an important regulating parameter of soil erosion
- The estimated soil erodibility dataset is verified against local, regional and national data found in the literature (21 Studies)
- Cyprus and Malta have been included in the analysis

### **K-factor High-resolution dataset (500m) - Version 2014**

The aim of this study is the generation of a harmonised high-resolution soil erodibility map (with a grid cell size of 500 m) for the 25 EU Member States. Soil erodibility was calculated for the LUCAS survey points using the nomograph of Wischmeier and Smith (1978). A Cubist regression model was applied to correlate spatial data such as latitude, longitude, remotely sensed and terrain features in order to develop a high-resolution soil erodibility map. The mean K-factor for Europe was estimated at 0.032 t ha h ha<sup>-1</sup> MJ<sup>-1</sup> mm<sup>-1</sup> with a standard deviation of 0.009 t ha h ha<sup>-1</sup> MJ<sup>-1</sup>

mm-1. The yielded soil erodibility dataset compared well with the published local and regional soil erodibility data. However, the incorporation of the protective effect of surface stone cover, which is usually not considered for the soil erodibility calculations, resulted in an average 15% decrease of the K-factor. The exclusion of this effect in K-factor calculations is likely to result in an overestimation of soil erosion, particularly for the Mediterranean countries, where highest percentages of surface stone cover were observed.

The soil erodibility dataset overcomes the problems of limited data availability for K-factor assessment and presents a high quality resource for modellers who aim at soil erosion estimation on local/regional, national or European scale. The new proposed dataset has also been verified against local/regional/national studies with very good results. Soil erosion modellers (and not only) may use it for their applications at any scale.

Title: Soil Erodibility in Europe High Resolution dataset (500m)

Description: This map provides a complete picture of the soil erodibility in the European Union member states. It is derived from the LUCAS 2009 point survey exercise and the European Soil Database.

Spatial coverage: 25 Member States of the European Union where data available (All EU member states except BG, RO and HR).

Pixel size: 500m

Projection: ETRS89 Lambert Azimuthal Equal Area

Temporal coverage: 2014

Input data source: LUCAS point data, European Soil Database

### Data

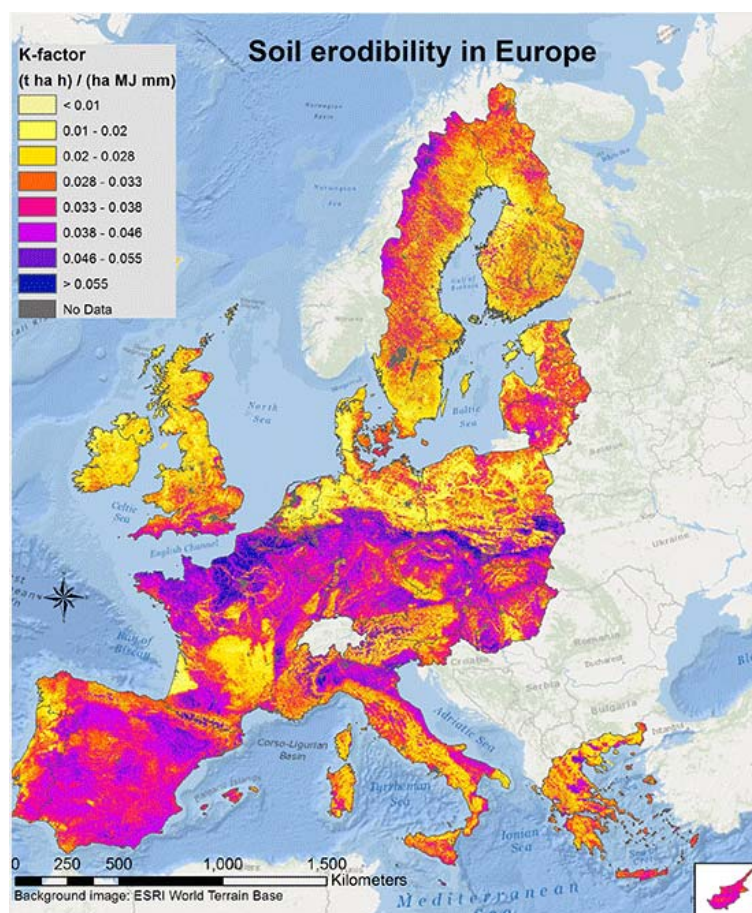
The Soil Erodibility Dataset is in Raster format. The public user can download 3 different datasets:

a) Soil erodibility in Europe (K-factor), b) Soil Erodibility incorporating Stoniness (Kst Factor) and c) the Effect of Stoniness in K-factor (% reduction).

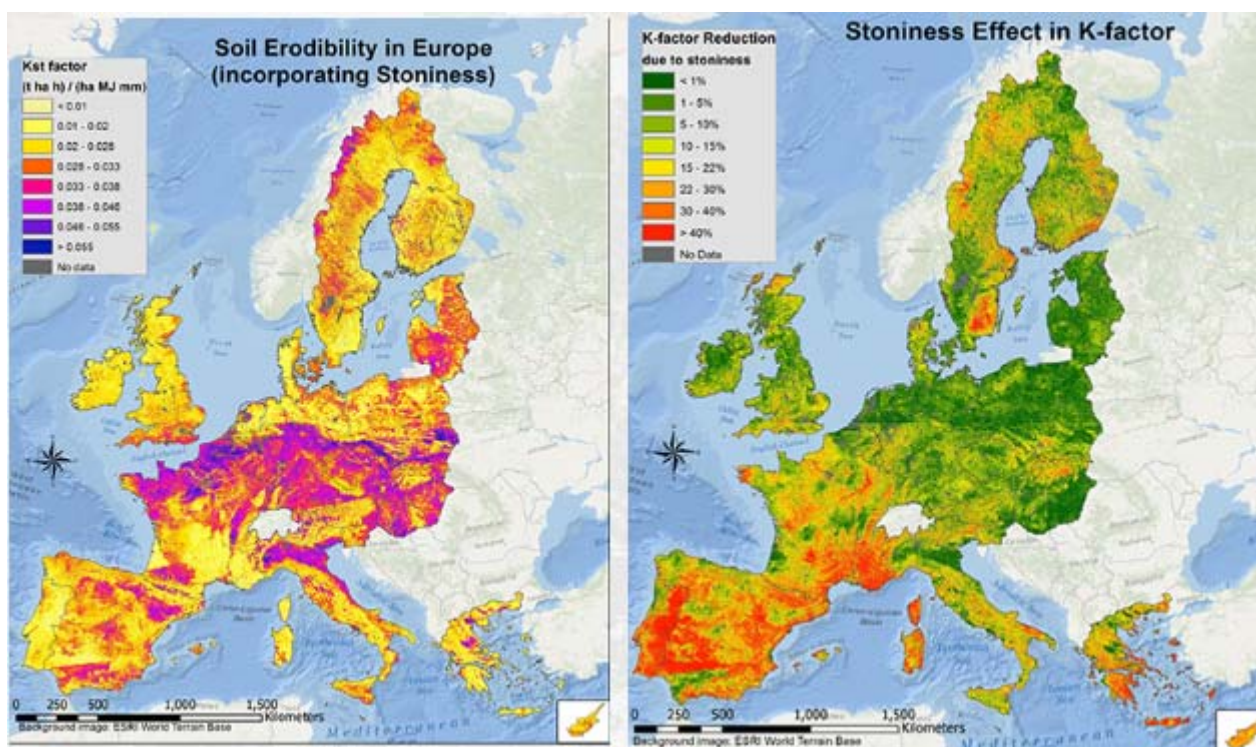
To get access to the data, please compile the online form; instructions will then follow how to download the data .

Details at: <http://eusoils.jrc.ec.europa.eu/library/themes/erosion/Erodibility/>





K-factor high resolution(2014)

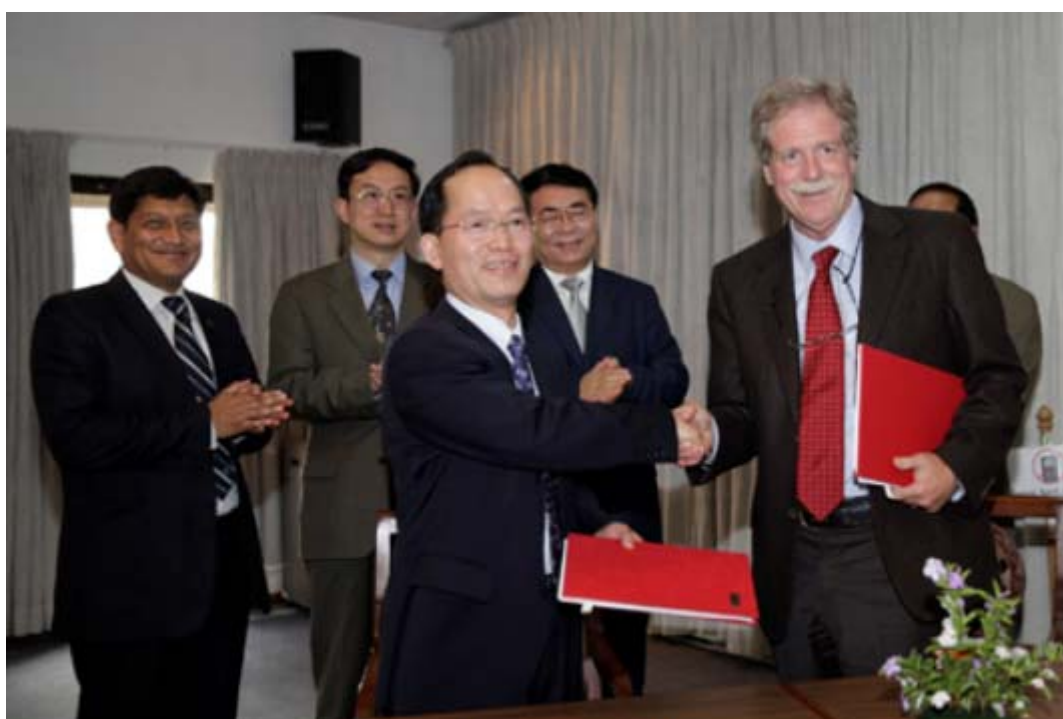


K-factor incorporating Stoniness

Effect of Stoniness in K-factor (% reduction)

## **President of Chinese Academy of Sciences visits regional knowledge centre to strengthen scientific collaboration and knowledge sharing**

On 07 Apr 2014, Prof Bai Chunli, President of Chinese Academy of Sciences (CAS), and an eight-member delegation visited the International Centre for Integrated Mountain Development (ICIMOD) to discuss ways to strengthen the collaboration between the two institutions. ICIMOD and CAS have been strategic partners for decades, working in the areas of scientific research and knowledge sharing for sustainable mountain development.



A Memorandum of Understanding is signed between the Third Pole Environment (TPE) programme of the Chinese Academy of Sciences and ICIMOD, represented by Prof. Yao Tandong, Co-chair of TPE, and Dr David Molden, Director General of ICIMOD.  
Photo: Jitendra Bajracharya/ICIMOD

"CAS looks forward to strengthened collaboration with ICIMOD to address issues of common interest in the countries of the region," said Prof Chunli.

To mark the ongoing cooperation, a memorandum of understanding was signed between the Third Pole Environment programme of CAS and ICIMOD that will help further scientific understanding of climate change in the Hindu Kush Himalayas and bolster cooperation among countries in the region. The agreement outlined areas for cooperation, including cryosphere and atmospheric monitoring; high-altitude wetland and river systems; climate change and anthropogenic impacts;



ecological monitoring and assessment; and policy outreach and the promotion of the Mountain Agenda in regional and global forums. The agreement was signed by Dr David Molden, Director General of ICIMOD, and Prof Tandong Yao, Co-Chair, of the Third Pole Environment.

Established in 1949 in Beijing, the Chinese Academy of Sciences (CAS) is the linchpin of China's drive to explore and harness high technology and the natural sciences for the benefit of China and the world. Comprising a comprehensive research and development network, a merit-based academic society, and a system of higher education, CAS brings together scientists and engineers from China and around the world to address both theoretical and applied problems using world-class scientific and management approaches. The Third Pole Environment programme is a flagship programme of CAS co-initiated by UNESCO-UNEP-SCOPE in 2011. The Chinese Academy of Sciences is ICIMOD's nodal partner organization in China, and represents China, one of ICIMOD's regional member countries, on ICIMOD's Board of Governors.

Details available at: <http://www.icimod.org/?q=13202>

## ICT International Standing Wave Technology

### Soil Moisture Measurement

MPkit





MP306
MP406

<http://www.ictinternational.com/soils.html#soilmoisture>



INTERNATIONAL

**Applications:**

- Volumetric soil moisture content • Forest and catchment hydrology
- Soil columns and geo-engineering • Landfill cover and mine closures
- Irrigation scheduling

**Solutions for soil, plant & environmental monitoring**

[www.ictinternational.com](http://www.ictinternational.com)

Ph: +61 2 6772 6770   sales@ictinternational.com.au



**WASWAC MEMBERSHIP APPLICATION/RENEWAL FORM** (Issued 120501)

(For applicants from all countries)

Name: (Ms./Mrs./Mr./Prof./Dr.)..... Gender: ☐F ☐M  
Institution: .....  
Postal address: .....  
State/Province:..... Zip/Postal code:..... Country:.....  
Phone:..... Fax:.....  
Emails (Please give at least 2 addresses to ensure uninterrupted contact): (1).....  
(2)..... (3).....  
My specialized field(s): .....  
Please sign me up for the WASWAC membership in category\*: ☐1(IM)☐2(LM)☐3(OM)☐4(SM&GM)  
Membership for the year(s).....@US\$.....= US\$ .....  
Donation for developing country membership, etc. US\$ .....  
Donation to the Moldenhauer Fund US\$ .....  
Total US\$ .....

**\*Membership categories & rates** from July 18, 2005, amended March 3, 2007 and March 4, 2010.

- 1.** IM (Individual membership): US\$20 for 5 years for developing countries (In China, members pay 130 yuan RMB); US\$40 for 5 years for developed countries and persons working in international organizations worldwide.
- 2.** LM (Life membership): US\$80 for developing countries (In China, members pay 520 yuan RMB); US\$160 for developed countries and persons working in international organizations worldwide. Persons who have passed their 60<sup>th</sup> birthday pay only half of these LM rates.
- 3.** OM (Organization membership): For universities, research and implemental institutions, government agencies, NGOs, societies, associations and international organizations, etc. Persons belonging to an Organization member will receive the same online products and services as the other two above categories: \$100/year for an organization with up to 150 persons; \$150/year for an organization with up to 300 persons; \$200/year for an organization with up to 500 persons; and \$10/year for an additional 100 persons or part thereof.
- 4.** SM&GM (Student membership & Gift membership): US\$5/year worldwide, to be purchased to give to colleagues, friends, students, etc.

▲ **How and where to submit this form and the money:** You may send this form by e-mail (preferred), fax or post – and membership due – to:

**Dr. Xiaoying Liu.** WASWAC Treasurer, c/o IRTCES. No. 20 Chegongzhuang Road West, Beijing 100048, China. Tel: +86 10 68786413; Fax: +86 10 68411174; Email: [waswac@foxmail.com](mailto:waswac@foxmail.com); [waswac@163.com](mailto:waswac@163.com). Membership fee can be sent through **Check, Bank Draft, Bank Transfer** and **WESTERN UNION**.

For sending money by foreign wires through a bank, please give the following information to your bank:

**Name of Receiver (A/C Holder's Name):** Liu Xiaoying

**Bank Name and Address:** Bank of China Beijing Branch, No. 2 Chao Yang Men Nei Da Jie, Dongcheng District, Beijing, 100010, P R China

**A/C NO.:** 3467 5879 1740; **Swift code:** BKCH CN BJ 110

**Message to write on the Bank Sheet:** WASWAC Membership due for Ms./Mrs./Mr./Prof./Dr. ...., Country .....

**NOTE:** **1.** Do not deduct the bank fee from the amount of money to send. **2.** For sending money by wire/bank transfer or check please add US\$7 per transaction to compensate for the charge at the receiving bank in Beijing. This additional charge does not apply for **WESTERN UNION** or any payment of US\$50 or more.