



**WORLD ASSOCIATION OF SOIL AND WATER CONSERVATION**

# **HOT NEWS**

Issue 02, 2019



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## WASWAC HOT NEWS No. 02, February, 2019

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For ISWCR paper submission:

<http://www.keaipublishing.com/en/journals/international-soil-and-water-conservation-research/>

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

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## **Just a month left to make abstract submission for WASWAC World Conference IV**

**Soil and Water Resources Management for Climate Smart Agriculture  
and Global Food and Livelihood Security**

*At New Delhi, India, November 5<sup>th</sup>-9<sup>th</sup>, 2019*



Only a month left to make the abstract submission for WASWAC World Conference IV. The deadline is **May 15, 2019**, please make sure your abstract can be submitted before this date. The abstracts should not exceed 500 words, should be typed in double space leaving 2.5 cm margin on all sides on A-4 paper. Three to five key words should be given below the abstract in italics. The font should be Times New Roman in 12 pt. size. The full papers of accepted abstracts shall be evaluated, edited and may be in the conference proceeding book. The full papers must be restricted to 10-12 pages typed in double space, 12 pt size A-4 paper in Times New Roman font including tables and illustrations. The abstract should be sent through e-mail [aticscsi2019@gmail.com](mailto:aticscsi2019@gmail.com) (WASWAC members please also send to [waswac@foxmail.com](mailto:waswac@foxmail.com)) in MS word format.

A committee will review the abstracts and decide about the nature of presentation (oral/poster). Author(s) will be intimated regarding the acceptance of the papers by **June 15, 2019**. Awards will be given for the best paper and poster presentation in each thematic area.

Information contained in the circular and all updates are available at the website of SCS <http://scsi.org.in>, Conference Website: <http://soilconservation.org>, and WASWAC official website: [www.waswac.org](http://www.waswac.org)

## **WASWAC awards (2019) nomination are open**

# **WASWAC Awards (2019) Nomination are open**



According to the BASIC RULES FOR WASWAC AWARDS, the Award Committee (WASWAC AC) issued the Announcement of WASWAC Award (2019) as following:

### **1. Types and number of awards**

- (1) Norman Hudson Memorial Award (NHMA): no more than 3 awardees for this time. (No more than one for very year, between 2017 to 2019.)
- (2) Distinguished Research Award (DRA): no more than 3 awardees for 2019.
- (3) Distinguished Extension Award (DEA): no more than 3 awardees for 2019.
- (4) Special Contribution Award (SCA): no more than 2 awardees for 2019.

### **2. Criteria of Awards**

#### **(1) WASWAC Norman Hudson Memorial Award**

- The candidates should be a member of WASWAC.
- The candidates have made outstanding achievements in soil and water conservation research.

- The candidates have a great reputation over the world.

(2) WASWAC Distinguished Research Award

- The candidates should be a member of WASWAC.
- The candidates have gained distinguished research achievements in soil and water conservation research.

(3) WASWAC Distinguished Extension Award

- The candidates should be a member of WASWAC.
- The candidates have rich extension experiences and great impacts of promoting new technology application.

(4) WASWAC Special Contribution Award

- The candidates have made a great contribution to soil and water conservation in management, study or technique service at global or regional scale.
- The candidates have made a great contribution to WASWAC or ISWCR (International Soil and Water Conservation Research) in association's development, member's attracting, paper's review, academic activities promotion, financial supports, etc.

### 3. Procedures of appraise and choose

(1) Nomination (the deadline is June 30, 2019)

- The WASWAC councilor, advisor and regional representatives (vice president) could make the nomination for all four awards. Each councilor/advisor/vice president can recommend at most one candidate for each award including NHMA, DRA, DEA, SCA.
- The WASWAC members could make the nomination for NHMA, DRA and DEA. Each member could recommend at most one candidate for each award including NHMA, DRA and DEA. To produce a valid nomination, it is necessary to have at least five recommendations from members.
- SCA candidate only be recommended by WASWAC councilor/advisor/vice president.
- A formal recommendation form with handwritten signature and brief introduction about the achievements of the recommended candidate are necessary to submit to [waswac@foxmail.com](mailto:waswac@foxmail.com) or [ndh@mwr.gov.cn](mailto:ndh@mwr.gov.cn) Please mark the subject of your email with "WASWAC award nomination".

## (2) Primary Selection

Primary selection will be made by WASWAC AC based on the results of nomination. The number of official candidates cannot exceed 3 times of the number of final awardees.

## (3) Final Evaluation

The official candidates will be submitted to WASWAC Council for voting to reveal the final awardees.

## (4) Publicity

The award results will be publicized at the WASWAC fourth World Conference on Nov. 5-9, 2019, on the Hot News, and the official website of the Association as well.



April 19, 2019

### Recommendation Form of WASWAC Awards (2019)

Referrer name:  
(with signature)

Date of submitting:

Award type	Recommended Candidate				
	Name	Country	Affiliation	Email	Recommendation reasons
Norman Hudson Memorial Award (NHMA)					
Distinguished Research Award (DRA)					
Distinguished Extension Award (DEA)					
Special Contribution Award (SCA)					

#### Notes:

- (1) Only WASWAC members could be nominated for NHMA, DRA and DEA.
- (2) The WASWAC councilor, advisor and region representatives (vice president) could make the nomination for all four awards. Each councilor/advisor/vice president can recommend at most one candidate for each award including NHMA, DRA, DEA, SCA.
- (3) The WASWAC members could make the nomination for NHMA, DRA and DEA. Each member could recommend at most one candidate for each award including NHMA, DRA, DEA. **To produce a valid nomination, it is necessary to have at least five recommendations from members.**
- (4) SCA candidate only be recommended by WASWAC councilor/advisor/vice president.
- (5) Brief introduction about the achievements of the nominator are necessary to provide.
- (6) Please submit this form and relative documents to [waswac@foxmail.com](mailto:waswac@foxmail.com) or [ndh@mwr.gov.cn](mailto:ndh@mwr.gov.cn) by June 30, 2019. And please mark the subject of your email with "WASWAC award nomination".

The Recommendation Form of WASWAC Awards (2019) is available here:

<http://www.waswac.org/waswac/LatestNews/webinfo/2019/04/1552621427329287.htm>



## IWHR international postgraduate application

### 1. ABOUT IWHR

IWHR was established in 1958 and is a national water and hydropower research institute under China's Ministry of Water Resources with its headquarters in Beijing.

It has about 1400 employees, of which 58% are senior engineers and 6 are Chinese academicians of sciences or engineering.

Total value of annual contracts has exceeded CNY 1.5 billion.



IWHR Campus

### 2. GRADUATE EDUCATION

IWHR started its graduate education in the 1950s and has excellent research facilities and equipment, a large number of cutting-edge research projects, adequate research funding, numerous literature resources, a top-notch team of graduate supervisors (175 master's supervisors and 91 doctoral ones). After more than 6 decades of exploration and development, IWHR has established a complete and unique system of graduate education.







### 3. EXPERIMENTAL FACILITIES



IWHR Experimental Bases



Some Experimental Equipments



#### 4. GLOBAL EXCHANGE

##### Partners with Cooperative Agreement:



##### Hosting of International Organizations:



## 5. DEGREE PROGRAMS IN ENGLISH

(1) 8 programs for master's degree and doctoral degree

- ✧ Geotechnical engineering
- ✧ Hydrology and water resources
- ✧ Hydraulics and river dynamics
- ✧ Hydraulic structure engineering
- ✧ Hydraulic and hydropower engineering
- ✧ Hydro-environment
- ✧ Hydro-informatics
- ✧ Water disaster and security

(2) The applicants must satisfy one of the following language requirements

- ✧ Graduates from universities of English-speaking countries
- ✧ Graduates from universities where English is the official language
- ✧ TOEFL: 68 (internet-based test)/ IELTS: 5.5.

(3) Duration of study:

3 years for both the master's degree and doctoral degree.

## 6. FEES

- ✧ Application Fee: Free in 2019
- ✧ Annual Tuition: CNY 26,000-CNY 39,000
- ✧ Annual Accommodation: CNY 12,000- CNY 24,000
- ✧ Annual Insurance: CNY 800

## 7. SCHOLARSHIPS

IWHR outstanding international student scholarship: In 2019, scholarships of up to CNY 93,800 per year are available for outstanding applicants, including all or part of the following items:

- ✧ Waiver of the fees of tuition, accommodation and medical insurance
- ✧ Living stipend of up to CNY 42,000 per person per year

Category	Scholarship Grade	Waiver of Tuition	Waiver of Accommodation	Waiver of Medical Insurance	Living Stipend	Total
Master (3 years)	I	26000	12000	800	36000	74800
	II	26000	12000	800	18000	56800
	III	26000		800		26800
Ph.D (3 years)	I	39000	12000	800	42000	93800
	II	39000	12000	800	21000	72800
	III	39000		800		39800

Unit: CNY (1USD=6.72CNY)



## 8. HOW TO APPLY

### (1) General information

Application is open only to non-Chinese citizens who are in good health.

### (2) Educational background and age limit

- ✧ The applicant for a master's program must be under the age of 35 and has a bachelor's degree
- ✧ The applicant for a doctoral program must be under the age of 40 and has a master's degree.

### (3) Application Methods

Email to [iwhrgraduateoffice@163.com](mailto:iwhrgraduateoffice@163.com)

Post or submit in person application documents to the Office of International Student Affairs of IWHR Graduate School.

### (4) Required application documents

See details at <http://www.iwhr.com/IWHR-English/index.htm>

### (5) Application Deadline

**No later than 30<sup>th</sup> June 2019.**

### (6) Admission Notice Time

Between 20<sup>th</sup> July and 10<sup>th</sup> August.

### (7) Beginning of the Next Semester

In early October (See the specific date on the admission notice).

## 9. CONTACT US

Office of International Student Affairs, Graduate School

China Institute of Water Resources and Hydropower Research

20 Chegongzhuang West Road, Haidian District, Beijing, P.R.China

Zip Code: 100048

Telephone: +86-10-68785988

Fax: +86-10-68785988

E-mail: [iwhrgraduateoffice@163.com](mailto:iwhrgraduateoffice@163.com)

**Welcome to IWHR! Welcome to Beijing! Good luck for your application!**





Beautiful Beijing

To learn more about IWHR, you can scan following QR Code to follow IWHR on WeChat or to visit IWHR Website <http://www.iwhr.com/IWHR-English/index.htm>



The Brochure is also available here:

<http://www.waswac.org/waswac/uploadfile/2019/04/19/20190419154224711.pdf>

## DEGREE PROGRAMS IN ENGLISH

8 programs for master's degree and doctoral degree

	Geotechnical engineering		Hydrology and water resources
	Hydraulics and river dynamics		Hydraulic structure engineering
	Hydraulic and hydropower engineering		Hydro-environment
	Hydro-informatics		Water disaster and security

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See details at <http://www.iwahr.com/IWHR-English/index.htm>.

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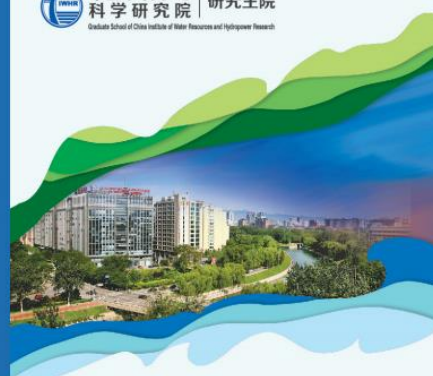


## CONTACT US

Office of International Student Affairs, Graduate School  
China Institute of Water Resources and Hydropower Research  
20 Chongchuan West Road, Haidian District, Beijing, P.R.China  
Zip Code: 100048  
Telephone: +86-10-68785988  
Fax: +86-10-68785988  
E-mail: iwhrgraduateoffice@163.com



中国水利水电科学研究院 研究生院  
Graduate School of China Institute of Water Resources and Hydropower Research



# 2019 Application Brochure for International Students

中国水利水电科学研究院

China Institute of Water Resources and Hydropower Research (IWHR)

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

April, 2019

## ABOUT IWHR

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It has about 1400 employees. 58% are senior engineers.

6 Chinese academicians of sciences or engineering

Total value of annual contracts has exceeded CNY 1.5 billion...



China Institute of Water Resources and Hydropower Research  
中国水利水电科学研究院



## GRADUATE EDUCATION

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## EXPERIMENTAL FACILITIES



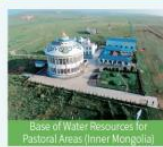
Daxing Experimental Base (Beijing)



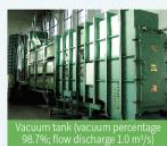
Yanqing Experimental Base (Beijing)



Tianjin Institute of Hydroelectric and Power Research (Tianjin)



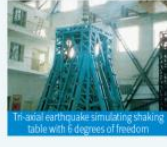
Base of Water Resources for Pastoral Areas (Inner Mongolia)



Vacuum tank (vacuum percentage 98.7%, flow discharge 1.0 m³/s)



1500-ton large-scale tri-axial dynamic material testing system



Tri-axial earthquake simulating shaking table with 6-degrees of freedom



Universal test stand of advanced hydraulic machinery model



445kg geotechnical centrifuge



Multi-functional GC-MS machine

## GLOBAL EXCHANGE

### Partners with Cooperative Agreement



### Hosting of International Organizations



## Rainfall Erosivity Database at European Scale

### Metadata

**Title:** Rainfall erosivity in Europe

**Description:** This map provides a complete rainfall erosivity dataset for European Union (28 member States) and Switzerland based on REDES database with high temporal resolution rainfall measurements of 26,394 years. Gaussian Process Regression(GPR) model was used to interpolate the rainfall erosivity values of single stations and to generate the R-factor map.

REDES is provided as a point database including R-factor for each of the 1,675 stations.

Monthly R-factor maps are also available.

R-factor detailed assessments for Greece and Switzerland are available.

Future projections (2050) of R-factor are available.

**Spatial coverage:** European Union (28 Countries) & Switzerland

**Pixel size:** 500m

**Measurement Unit:** MJ mm ha<sup>-1</sup> h<sup>-1</sup> yr<sup>-1</sup>

**Projection:** ETRS89 Lambert Azimuthal Equal Area

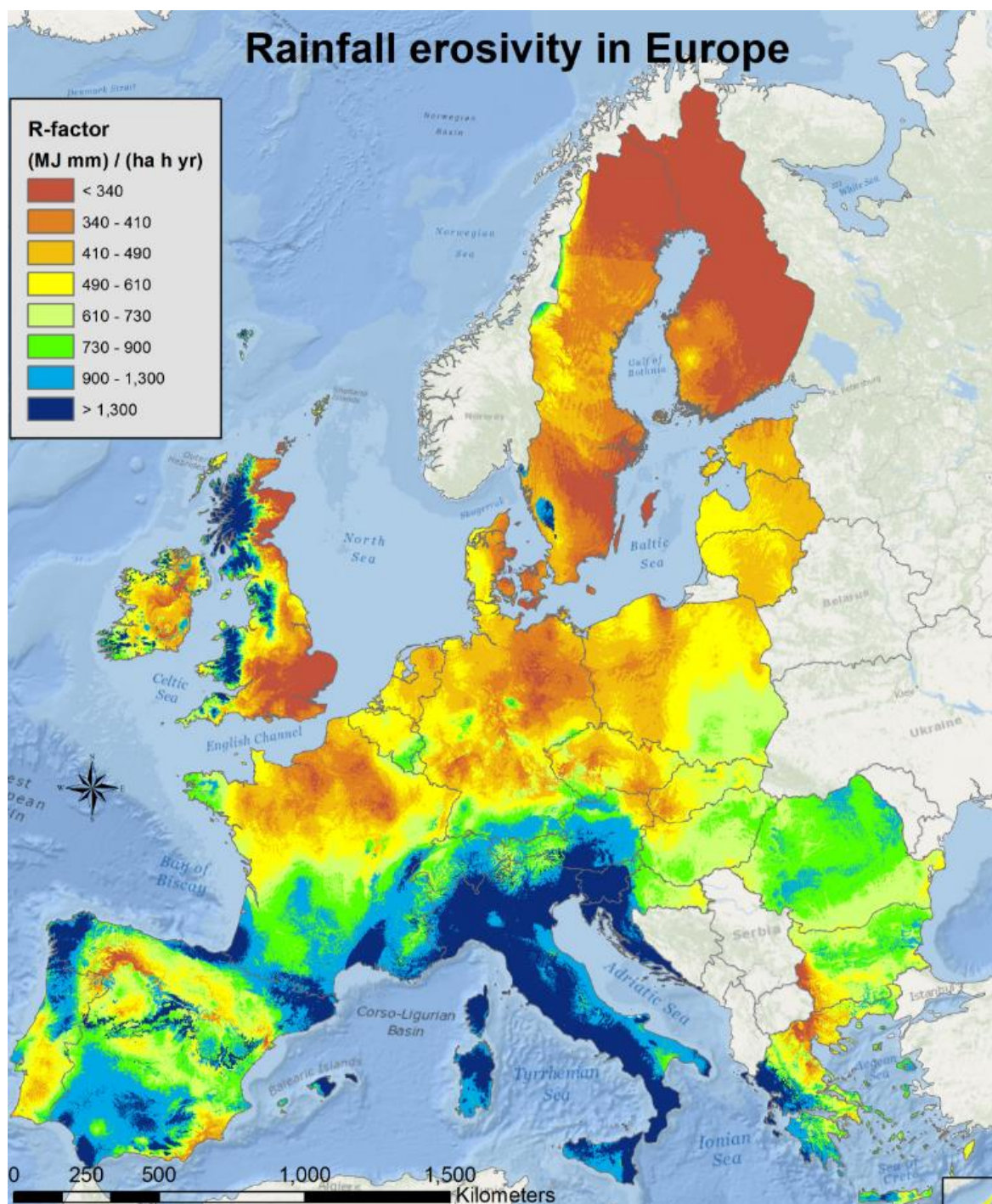
**Temporal coverage:** 40 years - Predominant in the last decade: 2000 - 2010

### R-factor in Europe

The purpose of this study is to assess rainfall erosivity in Europe in the form of the RUSLE R-factor, based on the best available datasets in Europe. We used the Rainfall Erosivity Database on the European Scale(REDES) which contains 1,675 precipitation stations in all European Union(EU) Member States and Switzerland, with temporal resolutions of 5 to 60 minutes. The R-factor values calculated from precipitation data of different temporal resolutions were normalised to R-factor values with temporal resolutions of 30 minutes using linear regression functions. Precipitation time series ranged from a minimum of 5 years to maximum of 40 years. The average time series per precipitation station is around 17.1 years, the most datasets including the first decade of the 21st century. Gaussian Process Regression(GPR) has been used to interpolate the R-factor station values to a European rainfall erosivity map at 1 km resolution. The covariates used for the R-factor interpolation were climatic data (total precipitation, seasonal precipitation, precipitation of



driest/wettest months, average temperature), elevation and latitude/longitude. The mean R-factor for the EU plus Switzerland is 722 MJ mm ha<sup>-1</sup> h<sup>-1</sup> yr<sup>-1</sup>, with the highest values (>1,000 MJ mm ha<sup>-1</sup> h<sup>-1</sup> yr<sup>-1</sup>) in the Mediterranean and alpine regions and the lowest (Less than 500 MJ mm ha<sup>-1</sup> h<sup>-1</sup> yr<sup>-1</sup>) in the Nordic countries. The erosivity density (erosivity normalised to annual precipitation amounts) was also highest in Mediterranean regions which implies high risk for erosive events and floods.



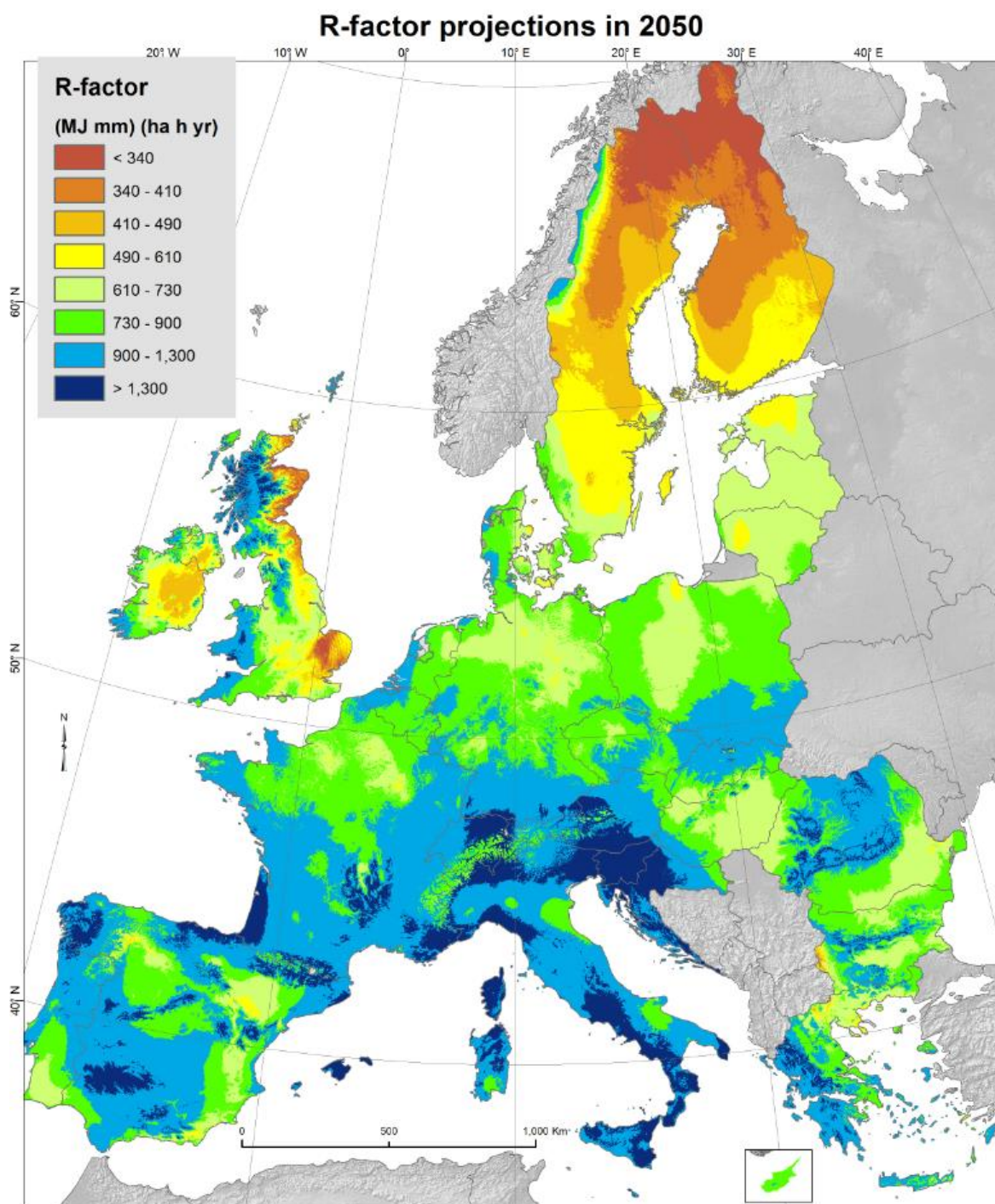


### REDES: Rainfall Erosivity Database on the European Scale

The Rainfall Erosivity Database on the European Scale (REDES) includes high temporal resolution precipitation data and the calculated R-factor from 1,675 precipitation stations within the European Union (EU) and Switzerland. The Rainfall Erosivity Database on European Scale (REDES) of precipitation stations is the result of calculating the R-factor for a total of 26,394 years with a mean value of 17.1 years per station. The data collection exercise of high temporal resolution data began in March 2013 and was concluded in May 2014. Data for additional 134 stations were collected in 2015. For the present rainfall erosivity data collection exercise, a participatory approach has been followed in order to collect data from all Member States (Acknowledgements). The precipitation data collected from the 28 countries across Europe have different temporal resolutions: 60-min, 30-min, 15-min, 10-min and 5-min. In order to homogenise the R-factor results calculated using different time-step data, conversion factors were established to have the data at the 30-min temporal resolution (reference).

### Future Erosivity projections in 2050 based on climate change

The rainfall erosivity in 2050 was modelled based on a moderate climate change scenario (HadGEM RCP 4.5) and using as main data sources the REDES based European R-factors and as covariates the WorldClim climatic datasets. Although the rainfall erosivity projections are based on many uncertainties, this pan-European spatial estimation highlights the areas where rainfall erosivity is projected to undergo substantial changes. The predicted mean increase in R-factor is expected also to increase the threat of soil erosion in Europe. However, climate change might substantially affect land cover and land use, which might counterbalance or enhance some erosional trends. The most prominent increases of R-factors are predicted for North-Central Europe, the English Channel, The Netherlands and Northern France. On the contrary, parts of the Mediterranean basin show a decrease of rainfall erosivity. The mean rainfall erosivity for the European Union and Switzerland is projected to be 857 MJ mm ha<sup>-1</sup> h<sup>-1</sup>yr<sup>-1</sup> till 2050 showing a relative increase of 18% compared to baseline data (2010). The changes are heterogeneous in the European continent depending on the future projections of most erosive months (hot period: April–September). The output results report a pan-European projection of future rainfall erosivity taking into account the uncertainties of the climatic models.



### Monthly Rainfall Erosivity in Europe

The development of Rainfall Erosivity Database at European Scale (REDES) and its 2015 update with the extension to monthly component allowed to develop monthly and seasonal R-factor maps and assess rainfall erosivity both spatially and temporally. During winter months, significant rainfall erosivity is present only in part of the Mediterranean countries. A sudden increase of erosivity occurs in major part of European Union (except Mediterranean basin, western part of Britain and Ireland)

in May and the highest values are registered during summer months. Starting from September, R-factor has a decreasing trend. The mean rainfall erosivity in summer is almost 4 times higher (315 MJ mm ha<sup>-1</sup> h<sup>-1</sup>) compared to winter (87 MJ mm ha<sup>-1</sup> h<sup>-1</sup>). The monthly prediction is an order more difficult than the annual one as it is limited by the number of covariates and, for consistency, the sum of all months has to be close to annual erosivity. The performance of the Cubist models proved to be generally high, resulting in R<sup>2</sup> values between 0.40 and 0.64 in cross-validation. The maps also show a clear delineation of areas with different erosivity seasonal patterns, whose spatial outline was evidenced by cluster analysis. The monthly erosivity maps can be used to develop composite indicators that map both intra-annual variability and concentration of erosive events. Consequently, spatio-temporal mapping of rainfall erosivity permits to identify the months and the areas with highest risk of soil loss where conservation measures should be applied in different seasons of the year.

### Data

The Rainfall Erosivity and the other climatic data is in Raster format. REDES is provided as a shape (and excel) file. The public user can download the following datasets:

- a) Rainfall erosivity in Europe (R-factor);
- b) Erosivity Density;
- c) The standard error of the estimates;
- d) Monthly rainfall erosivity in Europe;
- e) Seasonal erosivity in Europe;
- f) Indicators of rainfall erosivity;
- g) Monthly R-factor maps of Greece and seasonal Erosivity Density;
- h) The R-factor in Switzerland (as calculated in 2012) and the code for calculating R-factor;
- j) The Rainfall Erosivity Database at European Scale (REDES) 1,675 stations with R-factor data.

To get access to the all datasets and the code, please compile the request form; instructions will then follow how to download the datasets.

**Information:** Panos Panagos, Cristiano Ballabio, Pasquale Borrelli\*, Katrin Meusburger\*, European Commission, Joint Research Centre AND \*Institute of Environmental Geosciences, University of Basel.

Details: <https://esdac.jrc.ec.europa.eu/content/rainfall-erosivity-european-union-and-switzerland>

## Online open course

### About this course [Skip Course Description](#)

Soils form the foundation of sustainable development. They grow our food, fiber and fuel, are a habitat for organisms, buffer and purify water and safeguard archaeological legacies. It is therefore of vital importance to understand how soil properties vary across tropical ecosystems and landscapes, and how these properties affect biodiversity and livelihoods. So if you want to understand tropical soils and want to learn how to keep those soils healthy, this course is for you! You'll need basic knowledge of life sciences.

In this course, we will go on virtual excursions to explore the major soils of five biomes: forests, mountains, grasslands, deserts, and wetlands. With the support of JRC and FAO, instructors from KU Leuven and ISRIC will explain which soils develop under certain conditions, what their most important traits are and how those insights can make land use more sustainable. Our partners from different research projects all over the tropics moreover will introduce you to their work and show you real-life examples of how they apply soil knowledge through engaging videos and case studies.

### What you'll learn

Through this course you will:

- ✧ Understand how soils are formed and why they occur in certain climates and landscape positions
- ✧ Learn to recognize and classify the major soils of the world (WRB 2016)
- ✧ Learn to determine the opportunities and challenges of each soil type in relation to biodiversity, livelihoods, and management
- ✧ Learn to interpret soil maps
- ✧ Gain insight into possible solutions and management practices to preserve or restore soil functions and learn to apply these insights by means of case-studies

Details here:

<https://www.edx.org/course/as-above-so-below-soils-ecosystems-and-livelihoods-in-the-tropics>