CHAIRMAN OF EDITORIAL COMMITTEE Liu Ning

VICE CHAIRMAN OF EDITORIAL COMMITTEE

Liu Zhen Kuang Shangfu Tang Xinhua Wu Bin Li Rui Ning Duihu Li Zhongfeng Liu Guangquan

ADVISORS

Des E. Walling, UK Eric Roose, France Rattan Lal, USA Samran Sombatpanit, Thailand Samir El-Swaify, USA Shen Guofang, China Sun Honglie, China Tang Keli, China Wang Lixian, China Winfried Blum, Austria Zheng Du, China

CHIEF EDITOR Li Rui, China

ENGLISH EDITOR-IN-CHIEF

John Laflen, USA

ASSOCIATE CHIEF EDITOR

Chi-hua Huang, USA Fu Bojie, China Hans Hurni, Switzerland José Luis Rubio, Spain Julian Dumanski, Canada Liu Guobin, China Martin Haigh, UK Rachid Mrabet, Morocco Roberto Peiretti, Argentina Surinder Singh Kukal, India William Critchley, Netherlands Miodrag Zlatić, Serbia Wang Guanggian, China Wang Hong, China Yu Bofu, Australia Yu Xinxiao, China

MEMBERS OF EDITORIAL

BOARD Alfred Hartemink, USA Annie Melinda Paz-Alberto, Philippine Cai Chongfa, China Cai Qiangguo, China Carmelo Dazzi, Italy Chen Su-Chin, Taiwan, China Chen Yongqin David, Hong Kong, China Chinapat Sukvibool, Thailand Coen Ritsema, Netherlands Conrado Tobon, Colombia

Cui Peng, China Dong Zhibao , China Doug Wimble, Australia Erhan Akca, Turkey Franco Obando, Colombia Gustavo Merten, Brazil He Binghui, China Ildefonso Pla Sentís, Spain James Owino, Kenya Jorge A. Delgado, USA Jorge Batlle-Sales, Spain José Doerner, Chile

José Miguel Reichert, Brazil Josef Křeček, CZ Karika Kunta, Thailand

Kwong Fai Andrew Lo, Taiwan, China

Lei Tingwu, China Li Dingqiang, China Li Jinyu, Taiwan, China Li Junging, China Li Zhanbin, China Liang Yin, China Liu Baoyuan, China Liu Xia, China Liu Xiaoying, China

Lu Zhang, Australia Machito Mihara, Japan Mary-Beth Kirkham, USA Mark Nearing, USA Matt Romkens, USA Mike Fullen, UK Mirza B. Baig, Saudi Arabia Mohammed H. Golabi, USA Moshood Tijani, Nigeria Muhammad Tahir Anwar.

Pakistan Mu Xingmin, China Nguyen Kim Loi, Vietnam Ni Jinren , China Ning Duihu, China Niu Zhiming, China Paul Hallett, UK Prakash Chandra Tiwari, India Peter Motavalli, USA

Rainer Horn, Germany Rajendra Shrestha, Thailand Selim Kapur, Turkey Shabbir Shahid, UAE Shao Mingan, China Shi Xuezheng, China

Ou Jianiun, China

Stanimir Kostadinov, Serbia Stephen Nortcliff, UK Suraj Bhan, India T. Baumgartl, Australia

T. Francis Shaxson, UK Ted Napier, USA Theo Dillaha, USA Valentin Golosov, Russia

William B. Mahoney, USA Wang Tao, China Wyn Ellis, Thailand Yan Baixing, China Yao Wenyi, China Zhang Kebin, China Zheng Fenli, China

Zhu Axing, USA

The journal publishes 4 issues a year in one volume. The subscription rate is 160 USD for 4 issues if sent by air mail. Claims for missing issues will be honored free of charge within four months after the publication date of the issues. Mail orders and inquiries to: Ms. Xu Lijuan, CWPP, Flat 9, Suite D, 1 South Yuyuantan Road, Haidian District, Beijing 100038, China. Tel: +86-10-68545969, E-mail: xlj@waterpub.com.cn

COPYRIGHT

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of the International Research and Training Center on Erosion and Sedimentation and China Water & Power Press.

SPONSORS INTERNATIONAL RESEARCH AND TRAINING CENTER

> ON EROSION AND SEDIMENTATION (IRTCES) and CHINA WATER & POWER PRESS (CWPP)

CO-ORGANIZERS Chinese Society of Water and Soil Conservation

School of Soil and Water Conservation of Beijing Forestry University Institute of Soil and Water Conservation of CAS and MWR Institute of Desertification Studies of Chinese Academy of Forestry

Department of Soil and Water Conservation of Yangtze River Scientific Research Institute

Guangdong Institute of Eco-environment and Soil Sciences

EDITED BY IRTCES DISTRIBUTOR **CWPP**

ISSN 2095-6339 INTERNATIONAL CN 10-1107/P SOIL AND WATER **CONSERVATION RESEARCH**

(国际水土保持研究) Vol. 2, No. 2, June 2014



■ INTERNATIONAL RESEARCH AND TRAINING CENTER ON EROSION AND SEDIMENTATION

(Secretariat of World Association of Soil and Water Conservation)

■ CHINA WATER & POWER PRESS











INTERNATIONAL SOIL AND WATER CONSERVATION RESEARCH

Volume 2 Number 2 June 2014

Linking landforms and land use to land degradation in the Middle River Njoro Watershed <i>Zackary G. Mainuri and James O. Owino</i>
Long-term hydrological impacts of land use/land cover change from 1984 to 2010 in the Little River Watershed, Tennessee Chunhao Zhu and Yingkui Li 11
Hydrogeological hazards and weather events: Triggering and evolution of shallow landslides Salvatore Monteleone and Maria Sabatino23
Experiment of "no-tillage" farming system on the volcanic soils of tropical islands of Micronesia <i>Mohammad H. Golabi, S. A. El-Swaify, and Clancy Iyekar</i> 30
Salinity status of the 2011 Tohoku-oki tsunami affected agricultural lands in northeast Japan Kingshuk Roy, Katsuhiro Sasada, and Eiichi Kohno40
Investigation of time dependent development of soil structure and formation of macropore networks as affected by various precrop species Sebastian K. Pagenkemper, Daniel Uteau Puschmann, Stephan Peth, and Rainer Horn51
Using meshes to change the characteristics of simulated rainfall produced by spray nozzles <i>Sílvia C. P. Carvalho, João L. M. P. de Lima, and M. Isabel P. de Lima</i> 67
Irrigation capability evaluation of Illushi floodplain, Edo State, Nigeria A. S. Umweni and A. O. Ogunkunle79
Cover photo: Terraced fields in Ming'ao, Yongjia County, Zhejiang Province, China
Map publishing license No.: GS(2013)2863