

# Technical Program

## SATURDAY FEBRUARY 20, 2010

- 7:30AM-5:00PM REGISTRATION OPENS
- 8:30AM-5:00PM CPD #1 SWAT Workshop  
*Location: TBA*  
CPD #3 Water Supply, Pond Design and Levee Pond Economic  
*Location: TBA*

## SUNDAY FEBRUARY 21, 2010

- 7:30AM -5:00PM REGISTRATION OPENS
- 8:30AM-5:00PM CPD #3 CEEOT Workshop  
*Location: TBA*
- 8:30AM-12:00PM CPD #4 Field Tour of EARTH Wetlands Project–Function of Small Natural Wetlands in the Humid Tropics  
  
*Location: TBA*
- CPD #5 Agricultural Landscapes as Production Areas for Plentiful, High Quality Water  
*Location: TBA*
- 5:00PM-7:00PM WELCOME RECEPTION / DINNER  
*Location: TBA*

## Monday, February 22, 2010

- 8:30AM-10:00AM OPENING CEREMONY  
10:00AM-10:30AM BREAK  
10:30AM-12:00PM GENERAL SESSION  
12:00PM-1:30PM LUNCH (Provided)  
*Location: TBA*

## Monday, February 22, 2010

- 1:45PM-3:00PM CONCURRENT SESSIONS
- I. Bacterial Monitoring, Source Identification and Control Practices – Part 1***  
*Moderator: Jane Yeomans*
- A Review of Modeling related Microbial Source Tracking Applications in

### **Watershed Management**

Brian Benham, Theo Dillaha, Gene Yagow

### **Re-suspension of E. coli from direct fecal deposits in streams**

Michelle Soupir, Rachel McDaniel, and Chris Rehmman

### **Phosphorus, Escherichia coli and Suspended Solids Reduction from Agricultural Runoff via Steel Slag Filtration**

A. Drizo, E. Twohig

## ***II. Field and Watershed Scale Modeling (BMP Evaluation)***

Moderator: Reza Savabi

### **Assessment of Riparian Buffer Impacts with the Little River Watershed in Georgia USA with the SWAT Model**

D.D. Bosch, J. Cho, R.R. Lowrance, G. Vellidis, T.C. Stickland

### **Measuring and modeling water balance, erosion and hydrological services in a coffee agro forestry watershed of Costa Rica**

F. Gómez-Delgado, O. Rousard, R. Moussa, B. Rapidel, R. Kinoshita, A. Perez, A. Barquero, L. Benegas, C. Jourdan, G. Le Maire, J-M. Harmand, J-M. Bonnefond, P. Vaast

### **Use of CEEOT Modeling System for Cost-effective Targeting and Evaluation Of Environmental Pollutants**

Saleh A., E. Osei, and O Gallego

## ***III. Emerging Tools in Water Quality Analysis – Part 1***

Moderator: Phil Barn

### **AQUARIUS: A Decision Support System for Aquaculture**

Conte, F. S., and Ahmadi, A.

### **Effects of UV light disinfection on tetracycline resistant genes in wastewater treatment plants**

Hannah Childress, R. Karthikeyan

### **Effects of ionic strength on MS2 bacteriophages behavior: implications on the assessment of virus retention by ultra filtration membranes.**

Aurelie Furiga, Gwenaelle Pierre, Mathieu Berge, Marie Glories, Pierre Aimar, Christel Causserand and Christine Roques

## ***IV. Emerging Problems – New Water Quality/Quantity Case Studies***

Moderator: Jose Francisco Aguiler

### **Anthropogenic Influence on Tetracycline Resistance in a Subtropical Watershed**

B. A. Sullivan and R. Karthikeyan

### **Criteria to Prioritize Intervention Areas in Watersheds: The Experience of the Program Focuecnas II**

L. Benegas, J. Leon

### **Aerobic Method of Rice Production: A Promising Cropping System for Improving**

3:00-3:30 PM BREAK

**3:30-4:45PM CONCURRENT SESSIONS**

### ***V. Use of Computer Models for Watershed Planning***

*Moderator: Reza Savabi*

#### **Use of a watershed model in the development of a River Basin Management Plan in a catchment with limited data**

G. Santese, A.M. De Girolamo, A. Lo Porto

#### **Herbicide Sampling in Watersheds: When Enough is Enough**

Elizabeth Pappas and Chi-hua Huang

#### **Modeling the Impacts of Land Use and Vegetation in runoff and sediment in the river basin Tuxpan, Mexico**

Samaria Armenta Montero, Edward A. Ellis, Jose Luis Alanis Méndez

### ***VI. Emerging Tools in Water Quality Analysis – Part 2***

*Moderator: Phil Barn*

#### **Estimating Seasonal Evapotranspiration of Vegetable Crops in Puerto Rico using Satellite Remote Sensing**

E.W. Harmsen, J. Macikalski, M.J. Cardona-Soto, A. Rojas Gonzalez, and R. Vasquez

#### **GIS Land Use Allocation Model Based on Water Quality Criteria**

Christian Villalta Calderon

#### **HIDROESTA, Hydrological Calculus and Statistical Software Applied for Hydrology**

M. Villon

### ***VII. Bacterial Monitoring, Source Identification and Control Practices – Part 2***

*Moderator: Jane Yeomans*

#### **Fluctuation of Vegetable Irrigation Water Quality Sourced from the Colorado River, USA**

J.M. Fonseca, S.K. Fallon, C.A. Sanchez, K.D. Nolte

#### **Variations of Indicator Bacteria in a Large Urban Watershed**

A.Mark Ibekwe

#### **Diversidad Bacteriana En El Perifiton De Raices De Eichhornia sp, Pistia sp. y Azolla sp., En Un Humedal Artificial Del Caribe De Costa Rica**

Tejada, J., Rojas, J., and Montero, V

### ***VIII. Emerging Problems – New Water Quality/Quantity***

## **Case Studies**

*Moderator: Jose Francisco Aguilera*

### **Lysimeter Experiments to Investigate the Fate and Transport of Vinasse Application in Tropical Soils**

J.E. Reyes, O.H. Méndez, B.K. Singh, K.T. Morgan and R.A. Gilbert

### **Pesticide Use and Transport Pathways within a Coastal Watershed in Southeastern Puerto Rico**

Thomas L. Potter, Angel Dieppa, David Whittall, David D. Bosch, Timothy C. Strickland, and Jacqueline Vega

### **Small-Scale Desalination Plants for Growing Crops: An Experience in the United Arab Emirates**

Nurul Akhand, Mohamed AlMulla, Yousif Hedar and Basel AlAraj

**4:45-6:30 POSTER SESSION**

6:30-8:30 Dinner (provided)

**Tuesday, February 23, 2010**

## **8:30-10:10AM CONCURRENT SESSIONS**

### ***IX. Watershed Management***

Moderator: Theo Dillaha

#### **PCJ River Basins Water Availability Caused by Water Diversions Scenarios to Supply SÃO Paulo Metropolitan Area**

Rodrigo M. Sánchez-Román, Alba M. G. Orellana González, Marcos V. Folegatti

#### **PEMSEA Partnership for Watershed Management in East Asia**

Gene Yagow, Karen Kline, Dave Nemazie, Bob Summers, and Brian Benham

#### **LID Decision-Making to Evaluate Impacts of BMP Selection**

John C. Hayes, C.V. Privette III, D. Willis, M. Huber

#### **Institutional determinants of performance of drinking water community organizations in rural areas of Costa Rica: A comparative case studies analysis.**

Róger Madrigal; Francisco Alpízar; Achim Schlüter

### ***X. Performance and Validation of Models for Water Quality/Quantity***

Moderator: Antonio Lo Porto

#### **Distributed Modeling Water Quality in Cypress Creek Water, Houston, Texas**

Teague, A., P. Bedient

#### **A Review of HSPF Evaluations on the Southern United States and Puerto Rico**

Jairo N. Diaz-Ramirez, William H. McAnally, and James L. Martin

#### **Development and Application of a Modified NTT Tool for Water Quality Trading**

Saleh A., O. Gallego, E. Osei, H. Lal, C. Gross, S. McKinney

**Refinement, Validation and Implementation of SWAT Model for Central Texas TMDL**

Houser, James B. (TIAER), Ali Saleh (TIAER), and Larry M. Hauck (TIAER)

***XI. Watershed management in developing countries***

Moderator: Ingo Gentes

**Integrated water resources management in a Micro-basin Scale**

Astorga Espalda, Y.

**Determinant Factors of Soil Erosion Prediction Using Remote Sensing in Small Tropical Area**

Adhi Wibowo, Ishak H Ismullah, Bobby S Dipokusumo, Ketut Wikantika

**Changes in land use patterns in upland watersheds of Eastern Luangwa Valley, Zambia**

Conrad Heatwole, Younggu Her, Victor Nyirongo

**Finding means to promote the integrated management of natural resources in the sub watershed of the Chimbo River, Ecuador**

Víctor Barrera, Elena Cruz, Jeffrey Alwang, Luis Escudero, Carlos Monar

***XII. Pollution Control/Management Practices for Point and Nonpoint Sources – Part 1***

Moderator: Said Mostaghimi

**Biological Treatment Processes to Treat Water Contaminated with Emerging Agriculturally Relevant Compounds**

M. A. Gallagher, R. Karthikeyan

**Reducing Phosphorus Runoff from Biosolids with Water Treatment Residuals**

P.A. Moore, Jr., J.P. de Koff, R.D. Williams, R. Young, and P.J.A. Kleinman

**Depuración de Aguas Residuales Pecuarias con Humedales Construidos, en el Caribe de Costa Rica**

Tejada, J., and Breve, M.

**Economical Anaerobic Digestion of CAFO Animal Waste**

M.J. Germane, T. Menke

**10:10-10:40AM BREAK**

**10:40-12:00PM CONCURRENT SESSION**

***XIII. Payments for Environmental/Hydrologic Services programs***

Moderator: Ingo Gentes

**Water and Payment of Environmental Services in Costa Rica**

Ricardo O. Russo, EARTH University, Costa Rica

**Experiencias prácticas de mecanismos de compensación por los servicios**

**hídricos provenientes del bosque en Centro América y El Caribe**

Boscolo Marco; Eckelmann, Claus; Madrigal Roger; Mendez Boris; Paveri Manuel; Zapata, Jhony

**Synergy between Land Conservation & Water Quality Trading Programs**

Todd Doley, EPA, Washington, DC, USA

***XIV. Field and Watershed Scale Modeling (Nutrients)***

Moderator: Antonio Lo Porto

**Evaluation of Nutrient Modeling by SWAT under Tropical Conditions**

Priscilla Basílio Cardoso Barros Trindade, Luis Felipe Nunes Coutinho, Marco Aurélio Costa Caiado, and Conrad Heatwole

**Coupling nitrogen transformation rates with simple numerical models to determine nitrogen attenuation in soil treatment units**

Maria B. Tucholke, Mengistu Geza, Assaf Wunch, Kathryn Lowe, John McCray

**Modeling Nutrients in the Rio Mannu River Basin: Scenario Analysis**

Anna Maria De Girolamo, Antonio Lo Porto

***XV. Field and Watershed Scale Modeling (Sediment)***

Moderator: Said Mostaghimi

**Riparian Sediment Delivery Ratio Based on Stiff Diagrams and Artificial Neural Networks**

John McCray, Colorado School of Mines, Golden

**Channel Erosion Estimates for Urbanizing Watersheds: Submerged Jet Testing and SWAT-DEG**

Peter M. Allen, Jeff G. Arnold, Stephanie Capello, Dave Coffman

**Experimental Study of Levee Breach Erosion**

W. F. Silva-Araya, L. Alva-Solari, M. H. Chaudhry

***XVI. Watershed Planning – Part 1***

Moderator: Theo Dillaha

**Study of soil erosion process in vegetable crops**

Govaere Georges, Aguilar Jose

**Equity and Transparency: General Principles of the Success of Collective River and Ground Water Management in Valencia, Southeast Spain**

Trawick P., Palau-Salvador G. and Ortega M. V.

**Watershed Protection Plan Development in Rural Texas Watersheds Using Spatial Tools**

K.E. McKee, R. Karthikeyan, P.K. Smith

**12:00-1:30 Lunch (provided)**

**1:45-3:00 CONCURRENT SESSION**

## ***XVII. Watershed Planning – Part 2***

Moderator: Johan Perret

### **Developing watershed protection plans for rural watersheds: Integrating science, policy, and stakeholders**

K. McKee, R. Padia, A. Teague, K. Riebschleager, B. Sullivan, M. Gallagher, Parker, D. Debjani, L. Gregory, M. McFarland, N. Dictson, M. Berg, S. Mukhtar, R. Srinivasan, and R. Karthikeyan

### **Innovative economic analyses for management and restoration of the low lying tide dominated watershed environment for agricultural development**

Md. Monirul Islam, Prof. Bryan W Karney

### **Multi-Objective Optimization Approach for Land Use Allocation Based on Water Quality Criteria**

Christian Villalta Calderón, Luis Pérez-Alegría

## ***XVIII. Bio Remediation Systems for Agriculture – Part 1***

Moderator: Bill Tollner

### **Characterization of the Microbial Ecology in Denitrifying Biofilters**

J. Malia Andrus, Luis F. Rodriguez, R.A.C. Cooke, Yuanhui Zhang, Angela D. Kent, and Julie Zilles

### **Bio remediation system for non point sources**

Cesar Arreaga & Hayro García

### **Relating Hydrologic Metrics to In-Stream Aquatic Life in Semi-Arid Areas**

R.H. Glick, L. Gosselink, C. Herrington, B. Bai

## ***XIX. Data Collection to support Water Quality/Quantity development - Part 1***

Moderator: *Ali Saleh*

### **Proposed Standard for Automatic Calculation of Rainfall Erosivity**

M. Reyes, H. Suda, M. Brooks, and R. Boyles.

### **Water Balance, Seasonal Hydroperiod Variation and Residence Time of a Small Natural Freshwater Wetlands in the Humid Tropics in Costa Rica**

Rafael Muñoz Carpena, Manon Bachelin, David Kaplan

### **Gleaning Information from Multiple Data Sources to Determine Watershed Water Quality Conditions**

D.D. Snethen, T. Stiles, D. Devlin, B. Hargrove

## ***XX. Field and Watershed Scale Modeling (General)***

Moderator: Jeff Arnold

### **New Developments in the SWAT Ecohydrology Model**

Jeffrey G. Arnold, Philip W. Gassman, and Michael J. White

### **Numerical modeling of nitrogen transformations in soil treatment units**

Assaf Wunsch, John McCray, Mengistu Geza, Mia Tuscholke

**Performance and Evaluation of Multisensor Precipitation Estimation Algorithm Using a High Density Rain Gauge Network and Hydrologic Simulation**

Alejandra M. Rojas González, Eric W. Harmsen, Sandra Cruz Pol

**3:00-3:30PM BREAK**

**3:30-4:45PM CONCURRENT SESSION**

***XXI. Education in water resources***

*Moderator: Johan Perret*

**Horticultural Irrigation Project in El Salvador**

Jeffrey Jones, Jan Boll, Erin Brooks

**Children's Participation in Evaluation of Bio-Indicators of Water Quality in Rural Communities**

B. Kohlmann, R.O. Russo, J. Itzep and R. Solís

**Gestion Patricipativa En La Implementation De Un Sistema De Pagos Por Servicios Ambientales En Una Cuenca**

Ralf Schillinger; Natalia Giménez; Alejandra Cau Cattan

***XXII. Field and Watershed Scale Modeling (Soil Erosion)***

*Moderator: Jeff Arnold*

**Estimation of soil erosion using USLE equation in Rio Pirris Watershed in Costa Rica**

Govaere Georges, Aguilar Jose, Sergio

**Estimation of Soil Erosion for Small Watershed Using the WEPP Model under Cagayan Valley Condition, Philippines**

Jeffrey Lloyd Bareng and Orlando Balderam and Larry M. Hauck

**Erosion Modeling in 2-D with RUSLE2**

Seth M. Dabney, Dalmo A. Vieira, Daniel C. Yoder, and David T. Lightle

***XXIII. Water Quality/Quantity Collection to Support Water Quality Development-Part 1***

*Moderator: Ali Saleh*

**Data quality assurance in pressure transducer-based automatic water level monitoring**

Dinku M. Endale, Dwight S. Fisher, Michael B. Jenkins, and Harry S. Schomberg

**Potential Risk of Suspended Particulate Matter in Aquatic Ecosystems**

Sandra M. Tirado, Ian G. Droppo, Lesley A. Warren, and Steven N. Liss

**Water resources in the Republic of Armenia**  
Daniel Alberto Tardito, TIGRE, Buenos Aires, Argentina

## ***XXIV. Bio Remediation Systems for Agriculture – Part 1***

*Moderator: Bill Tollner*

### **Bank filtration: Application in rural areas**

Luis Romero Esquivel, Marcus Bruno Domingues Soares, Bruno Segalla Pizzolatti, Denise Conceição de Gois Santos Michelin, Maurício Luiz Sens

### **Performance Evaluation of Subsurface Bioreactors**

Siddhartha Verma, Dr. Richard Cooke, and Gregory E. Goodwin

### **Vertical Subsurface Flow Constructed Wetland a Facility to Treat Waste-Water from the Banana Production**

Karin Barz and Bert Kohlmann

**6:30-830PM Dinner (provided)**

**Wednesday, February 24, 2010**

**8:30AM -10:10AM CONCURRENT SESSIONS**

## ***XXV. Pollution Control/Management Practices for Point and Nonpoint Sources – Part 2***

*Moderator: Ricardo Russo*

### **Interaction of Rotavirus and Cryptosporidium parvum with Soil Particles and Vegetative Filter Strips**

P. C. Davidson, D. J. Koch, P. K. Kalita, T. B. Kuhlenschmidt, and M. S. Kuhlenschmidt

### **Implementation of Best Management Practices for Atrazine Herbicide in the Little Arkansas River Watershed in the United States**

Daniel Devlin, Philip L. Barnes, and Ron Graber

### **Nutrient and sediment losses in runoff from tropical soils amended with dairy manure sludge**

Ardila-Sierra G., D. Sotomayor-Ramírez. D, G. Martínez, and L. Perez-Alegría

### **Treatment of Nitrate-Contaminated Agricultural Water through Bioremediation**

Bridget Cameron, Gregory Goodwin

## ***XXVI. Performance and Validation of Models for Water Quality/Quantity***

*Moderator: David Bosch*

### **The Worldwide Use of the SWAT Model: Technological Drivers, Networking Impacts, Simulation Trends, and Potential Future Constraints**

Jeff G. Arnold, Ragahavan Srinivasan, and Manuel Reyes

**The USGS SPARROW model as a framework for phosphorus delivery in river basins of the Southeastern United States**

Ana María García, Anne Hoos, Gerald McMahon

**Evaluation of the Soil and Water Assessment in Vietnam, Indonesia and the Philippines**

Reyes, M., N. Alibuyog, V. Ella, L. Nguyen Kim, R. Srinivasan, C. Heatwole, T. Dillaha, and M. Raimadoya

**Filtration BMP Modeling for Water Quantity and Quality**

B. J. Barfield, S.L. Harp, J.C. Hayes, M. Chalavad S. Yeri, and G. A. Brown

***XXVII. Watershed management in Developing Countries (General Issues)***

Moderator: Olivier Roupsard

**Conservation agriculture and ecosystem services**

T. A. Dillaha and K.M. Moore

**Estimation of irrigation water conduction losses in four rivers of the Laja system in Central Chile**

José Luis Arumí1; Diego Rivera; Alfonso Rougier; Ricardo Diaz

**El manejo integral de cuencas en el Sur de Bolivia**

Eduardo Panique

**Water Policy Reforms in Central America: Implications and challenges for Governance and Watershed Management**

Ingo G. Gentes, CATIE, Cartago, Costa Rica

***XXVIII. Wetlands, stream and river restoration, Bio - Monitoring and land use impacts on downstream water bodies***

Moderator: Rafael Carpena

**Creating a financial return-on-investment for constructed treatment wetlands**

Dawn Reinhold

**Influence of buffer strip width, wildlife habitat functions, and protection of quality of depressional wetlands in Minnesota**

Arika, C, Lenhart, C., Nieber, J., Titov, M., Brooks, K., Graeve, K

**Multi-tracer field study in a small, natural wetland in the humid tropics of Costa Rica**

Rafael Muñoz-Carpena

**Rural roads and trails as a source of sediment: Preliminary results from the Alegre watershed in Eastern Brazil**

Marissa Duff, Dr. Conrad Heatwole, Dr. Marco Caiado

**10:10-10:40AM BREAK**

## 10:40AM-11:45PM CONCURRENT SESSIONS

### ***XXIX. Field and Watershed Scale Modeling (Ground Water)***

*Moderator: Olivier Roupsard*

#### **Assessment of groundwater recharge and water fluxes of the Guarani Aquifer System, Brazil**

Jorge Luiz Rabelo; Edson Wendland

#### **Linking the Watershed, River, and Floodplain: Modeling Groundwater in a Bald Cypress Swamp Impacted by Saltwater Intrusion**

David Kaplan, Rafael Muñoz-Carpena, Axel Ritter

#### **Field Scale Monitoring and Modeling of Crop Growth, Surface and Subsurface Flow, and Chemical Transport**

Elizabeth A. Pappas, Douglas R. Smith

### ***XXX. Effects of climate change on water resources and water quality***

*Moderator: Ricardo Russo*

#### **Effects of Climate Change on Hydrology and Nitrogen Transport in an Agricultural Watershed in a Cold Region Using DRAIN-WARMF Model**

Shadi Dayyani, Shiv O. Prasher, Chandra A. Madramootoo, and Ali Madani

#### **Impact of climate change on sustainability of water food systems in 21st century**

Ramesh Kanwar

#### **Modeling to Evaluate the Impact of Prevailing Climate Change on the Great Lakes Water Levels**

Prof. Bryan W Karney, Elizabeth Panicker, Md. Monirul Islam

### ***XXXI. Field and Watershed Scale Modeling (Case Study)***

*Moderator: David Bosch*

#### **Modelling water-harvesting systems in a semi arid catchment (Merguellil-Tunisia)**

A. Abouabdillah, M. White, J.G Arnold, A. M. De Girolamo, O. Oueslati, A. Lo Porto

#### **Natural flows obtained from a simplified model and the influence of rice irrigation in these flows**

A.L.D. da Rosa, E.M.C.D. de Paiva

#### **Classification of Water Resources in River Basins with Lack of Data, Case Study on South of Brasil**

João Batista Dias de Paiva, Eloiza Maria Cauduro Dias de Paiva, Maria do Carmo Cauduro Gastaldini, Lorenza Oppa and Rodrigo Cauduro Dias de Paiva

**12:00PM-2:00PM LUNCH AND CLOSING CEREMONY:  
2:00PM-5:00PM CAMPUS TOURS**

**THURSDAY AND FRIDAY (all day) TECHNICAL TOURS**

**POSTER SESSION**

<i>Poster #</i>	<i>Title and Authors</i>	<i>Poster #</i>	<i>Title and Authors</i>
1.	<b>Cuantificación de Nitrógeno y Fósforo de un Humedal Construido que depura aguas residuales pecuarias, y su re-uso como fertilizante en el Caribe de Costa Rica</b>  Tejada, J., Rojas, J., and Montero, V	2.	<b>Evaluation of Adjustment Environmental Contract to pig production in Pinhal River sub-basin</b>  YJulio C.P. Palhares; Magada R. Mulinari;Ricardo L. R. Steinmetz; Jaqueline B. Klein;Susana Muller
3.	<b>Restoration of Livelihood through Watershed Management in the Southwest Coastal Region of Bangladesh</b>  Quasi Wadud Nawaz	4.	<b>Development of FDA(Filter Disinfection Adsorption) System for Supplying CleanIrrigation Water and Convenience Waterto Farmers</b>  Kyung-Sook Choi, Kwang-Ya Lee, Hae-Do Kim, Min Hong, Jong-Hwa Son
5.	<b>Assessing climate impacts on water resources through monitoring and modeling water balance in an Andean catchment in Ancoraimes, Bolivia</b>  Mirco Penaranda and Conrad Heatwole	6.	<b>Sediment control practices in sloping alpine fields in Korea</b>  Joongdae Choi, Dong-Su Kong, Cheol-Hee Won,Yong-Hun Choi, Kyong-Jae Lim
7.	<b>Water treatment for rural areas by slow sand filtration</b>  Bruno Segalla Pizzolatti; Maurício Luiz Sens; Marcus Bruno Domingues Soares; Luis G Romero; Denise Conceição de Gois Santos Michelan	8.	<b>Validating a Stream Flow Prediction Model for Ungauged Watersheds in Spain</b>  Vicente Guillén J., Otero Cabeza de Vaca D., Chávez J.L., García García A.I.
9.	<b>Backwashed slow sand filtration: Application in rural areas</b>  Bruno Segalla Pizzolatti; Maurício Luiz Sens; Marcus Bruno Domingues Soares; Luis G Romero; Denise Conceição de Gois Santos Michelan	10.	<b>Proper Disposal of Unwanted Medication</b>  Natalie J. Carroll
11.	<b>Soil fertility in riparian zone of</b>	12.	<b>Conservation Effects</b>

	<b>Pinhal Watershed, Concordia, Brasil</b>		<b>Assessment on the on the Jobos Bay Puerto Rico Coastal Watershed</b>
	Julio C.P. Palhares; Juliano Corulli Corrêa,		David D. Bosch, Tom Potter, R. Richard Lowrance, Robert Hubbard, Tim C. Strickland, Edwin Mas, Angel Dieppa, David Sotomayor, William Efland, Mark Walbridge, Mark Monaco
13.	<b>Validation of SWAT for a mixed watershed in Atlantic Canada</b>	14.	<b>Assessing the Impact of Agricultural Practices on Water Resources near the Everglades National Park, Florida</b>
	Hafiz Ahmad, Rob Jamieson, and Ali Madani		Savabi, M. R., R. M. Rojas , D. Chin
15.	<b>Photocatalytic disinfection of water using photocatalyzer immobilized in mortar and solar radiation</b>	16.	<b>Design and Risk Assessment Tool for Vegetative Treatment Areas in Sloping Landscapes</b>
	F De la Hoz; E.R. Bandala; J.L. Arumí; D. Rivera		Joshua W. Faulkner, Zachary Easton, Larry D. Geohring, and Tammo Steenhuis
17.	<b>Develop of the conceptual modeling of the environmental management of a complex swine farm in the Central Valley of Chile.</b>	18.	<b>GLEAMS Evaluation In Potato Fields For Agricultural Nutrient Management In Central Bolivian Highlands</b>
	Héctor Flores, José Luis Arumí, Diego Rivera, Octavio Lagos, Alí Saleh, David Lewis		Sarah Walker, Conrad Heatwole, and Jaime Cossio
19.	<b>Grass Hedges for the Reduction of Overland Flow in Sloping Lands</b>	20.	<b>Development of Multiple Hydraulic Zones during Steady Unsaturated Wastewater Flow through Sandy Soils</b>
	Wu, J.Y.; Ding, H.; Chuanwei, H.; Cozzucoli, P. ; Ingrassia, S.; Sardo, V.I.		M. Geza, J. McCray, K. Lowe, A. Wunsch
21.	<b>The CAFNET/Coffee-Flux project: evaluating water, sediment and carbon ecosystemservices in an agroforestry coffee watershed (Costa Rica)</b>	22.	<b>Participative Hydrological Monitoring of the Illangama and Del Rivers, Bolivar Province, Ecuador</b>
	O. Rroupsard, F. Gómez-Delgado, R. Moussa, B. Rapidel, R. Kinoshita, A. Perez, A. Barquero, L. Benegas, C. Riveira Wilson, C. Jourdan, G. Le Maire, J-M. Harmand, J-M. Bonnefond, P. Vaast		Carlos Montufar, Conrad Heatwole, Victor Barerra
23.	<b>Rural Egypt, Drinking Water and Human Development Index, a GIS Correlation - Thechange over time between two phases 1996-2002 and 2003-2008</b>	24.	<b>Using Remote sensing constructing Hydrological models in watershed without data in Venezuela</b>
	Rania Ramadan Mohamed		Francisco J. Lahoud
25.	<b>Role of Different Land Use Systems on Resource Degradation</b>	26.	<b>Effects of Climate Changes on Bangladesh Agriculture</b>

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| 27. | Lalitha, B.S. Devakumar, N. Jagannath, and Pandurangaiah, K.<br><b>Integrated Watershed planning for water management in San Miguel Allende, Guanajuato, México</b><br>Cantoral, E., Amador, A., Urbán G., Cordova, M. y L. Sanaphre  | 28. | Shaikh Tanveer Hossain and Kazi Monir Mosharof<br><b>Modeling Cover Crop Effectiveness on Maryland's Eastern Shore</b><br>A.M. Sexton, A. Sadeghi, G. McCarty, A. Shirmohammadi, and W.D. Hively                              |
| 29. | <b>Spatial Distribution and Effects of Anthropogenic Pollution Sources on the Quality of IKPA River in Nigeria</b><br>Obot E. Essien and U. E. Etok<br><b>Cambered Soil Mounds Technology Improvement of Soil Conditions for Crop Growth, Productivity, and Land Sustainability in Waterlogged Wetlands</b> | 30. | <b>The Study of Hydrochemistry Dynamic changes</b><br>Liang Wang  |
| 31. | O. E. Essien and E. Ekong   | 32. | <b>Impact of livestock in the water quality of Pinhal River sub-basin, Santa Catarina-Brazil</b><br>YJulio C.P. Palhares; Magada R. Mulinari; Ricardo L. R. Steinmetz; Jaqueline B. Klein; Susana Muller, and Gustavo Plieski |
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| 37. | <b>Using Vetiver Grass as Integrated Agro-forestry Strategy for Watershed Management and for Mitigating Sediment Transport to improve water quality downstream _ A Bioengineering innovation for Agricultural BMP on hilly farms.</b><br>Mohammad H. Golabi, Dwayne Minton, and Clancy Iyekar               |     |   |