

INTERNATIONAL SOIL AND WATER ASSESSMENT TOOL CONFERENCE

SWAT 2017

June 28 – 30 | Warsaw, Poland



Agenda



The Soil and Water Assessment Tool (SWAT) is a public domain model jointly developed by USDA Agricultural Research Service (USDA-ARS) and Texas A&M AgriLife Research, part of The Texas A&M University System.

SWAT is a small watershed to river basin-scale model to simulate the quality and quantity of surface and ground water and predict the environmental impact of land use, land management practices, and climate change. SWAT is widely used in assessing soil erosion prevention and control, non-point source pollution control and regional management in watersheds.

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Campus Map



- Water Centre - Workshops (registration and courses), Conference sessions
- Kryształowa (Crystal) Hall - Conference registration, Inaugural session, Dinner gala
- Rectorate - Reception
- Conference lunches
- Workshop lunches (Basement)
- Bus stops from Metro STOKŁOSY
(1 - SGGW-REKTORAT, 2 - CISZEWSKIEGO)
- Bus stops from Metro SŁUŻEW

Conference Overview

Time	Wednesday, June 28	Thursday, June 29	Friday, June 30
8:00 - 9:00	Registration and check-in		
9:00 - 10:30	Inaugural session	D1 gSWATCloud Workshop D2 Sediment, Nutrients, and Carbon D3 Sensitivity Calibration and Uncertainty D4 Large Scale Applications	G1 Sediment, Nutrients, and Carbon G2 Climate Change Applications G3 Environmental Applications G4 Hydrology
10:30 - 10:50	Coffee break and group photo	Coffee break	Coffee break
10:50 - 12:20	A1 SWAT+	E1 Database and GIS Application and Development E2 Environmental Applications E3 Climate Change Applications E4 EPIC/APEX Modeling System	H1 Large Scale Applications H2 Sensitivity Calibration and Uncertainty H3 BMPs
12:20 - 13:40	Lunch	Lunch	Lunch
13:40 - 15:10	B1 Environmental Applications B2 Climate Change Applications B3 Hydrology B4 SWAT Review Papers and Large Scale Applications	F1 Poster session (coffee will be served) F2 HAWQS World demonstration	I1 Climate Change Applications I2 Hydrology I3 Environmental Applications
15:10 - 15:30	Coffee break		Coffee break
15:30 - 17:00	C1 Model Development C2 SWAT Remote Sensing Applications C3 Climate Change Applications C4 Sediment, Nutrients, and Carbon	Tours	Closing discussions
18:00 - 20:00	Reception		
20:30		Dinner gala	

Wednesday, June 28

8:00 – 9:00	PARTICIPANT CHECK-IN AND REGISTRATION Kryształowa (Crystal) Hall	
9:00 – 10:30	INAUGURAL SESSION Kryształowa (Crystal) Hall	
9:00 – 9:10	Welcome Address	Prof dr hab. Kazimierz Banasik , Vice Rector for Development, Warsaw University of Life Sciences, Poland
9:10 – 9:35	Keynote Address Water management challenges in Central and Eastern Europe – implications for hydrological modelling	Prof dr hab. Tomasz Okruszko , Head of Division of Hydrology and Water Resources, Warsaw University of Life Sciences, Poland
9:35 – 9:50	Model Development	Dr. Jeffrey G. Arnold , USDA-ARS, USA
9:50 – 10:05	Closing	Dr. Raghavan Srinivasan , Texas A&M, USA
10:05 – 10:30	Intercomparison of climate change impacts and uncertainties simulated by multiple hydrological models in 12 large river basins worldwide	Dr. Valentina Krysanova , Potsdam Institute for Climate Impact Research, Germany
10:30 – 10:50	COFFEE BREAK AND GROUP PHOTO Kryształowa (Crystal) Hall	
10:50 – 12:20	SESSION A1: SWAT+ Kryształowa (Crystal) Hall	Moderator: Jeffrey G. Arnold, USDA-ARS, USA
10:50 – 11:00	Jeffrey G. Arnold Raghavan Srinivasan	Overview
11:00 – 11:15	Katrin Bieger	Watershed Configuration
11:15 – 11:30	Mike White	Land Management
11:30 – 11:45	Raghavan Srinivasan Chris George	QGIS Interface
11:45 – 12:00	Peter Allen	New Modules - Lite Approaches
12:00 – 12:20	Questions and discussion	

12:20 – 13:40	LUNCH Limba Dormitory	
13:40 – 15:10	SESSION B1: ENVIRONMENTAL APPLICATIONS Water Centre / Assembly Hall 1 / Upstairs	Moderator: Paul Wagner, Kiel University, Germany
13:40 – 14:00	Chih-Mei Lu	Integration of TUSLE in SWAT model for sediment prediction at a small mountainous catchment, Chenyulan watershed, Taiwan
14:00 – 14:20	Paul Wagner	Dynamic versus static representations of land use change in SWAT
14:20 – 14:40	Tommaso Pacetti	Evaluating the supply of hydrologic ecosystem services to support the water–food–energy Nexus in the Arno river basin (Italy)
14:40 – 15:00	João Rocha	Impacts of climate and land use changes on the water quality of a vineyard-dominated Mediterranean catchment
13:40 – 15:10	SESSION B2: CLIMATE CHANGE APPLICATIONS Water Centre / Exhibition Hall / Main Floor	Moderator: Hiroaki Somura, Shimane University, Japan
13:40 – 14:00	Yousef Hassanzadeh	Assessment of climate change impacts on blue and green water resources availability in a large scale basin by using CMIP5 model (Case Study: Kashafrud River Basin, Iran)
14:00 – 14:20	Kristian Näschen	Applying the Soil and Water Assessment Tool (SWAT) to estimate impacts of land use and climate change on water resources in a data scarce catchment in Tanzania
14:20 – 14:40	Ina Pohle	Can water resources management alleviate the uncertainty of projected climate change impacts on river discharge? - A comparative study in two hydrologically similar catchments with different level of management
14:40 – 15:00	Jesus Uresti-Gil	Data generation on the impact of climate change and adaptation measures to support the development of an intensive and sustainable agriculture in the peninsula of Yucatan, México.

Wednesday, June 28

13:40 – 15:10	SESSION B3: HYDROLOGY Water Centre / Basement Hall	Moderator: Jaehak Jeong, Texas A&M AgriLife Research, USA
13:40 – 14:00	Roger Glick	Innovations in Urban Application of SWAT
14:00 – 14:20	Jaehak Jeong	Estimation of streamflow and sediment yield for Watershed Prioritization in the Upper Blue Nile River Basin, Ethiopia
14:20 – 14:40	Majid Delavar	Basin-wide water accounting based on modified SWAT model (SWAT-FARS): an application for the Tashk-Bakhtegan Basin, Iran.
14:40 – 15:00	Markhi Amal	Application of SWAT model to assess snowpack development and streamflow in the Nfis watershed, Marakesh, Morocco
13:40 – 15:10	SESSION B4: SWAT REVIEW PAPERS AND LARGE SCALE APPLICATIONS Water Centre / Assembly Hall 2 / Upstairs	Moderator: Philip Gassman, Iowa State University, USA
13:40 – 14:00	Philip Gassman	The Soil and Water Assessment Tool (SWAT); Review of Global Use and Application Trends Circa 2017
14:00 – 14:20	Michael Strauch	Modifying global precipitation data for enhanced hydrologic modeling of tropical Andean watersheds
14:20 – 14:40	Fred Fokko Hattermann	Intercomparison of climate change impacts simulated by regional and global hydrological models in eleven large river basins including quantification of uncertainties using ANOVA
15:10 – 15:30	COFFEE BREAK Water Centre / Main Floor	

Wednesday, June 28

15:30 – 17:00	SESSION C1: MODEL DEVELOPMENT Water Centre / Assembly Hall 1 / Upstairs	Moderator: Mike White, USDA-ARS, USA
15:30 – 15:50	Seshu Tirupathi	Software Development Tools for SWAT
15:50 – 16:10	Dong Jun Lee	Development Web-based SWAT LUC with SWAT BFlow Alpha Factor
16:10 – 16:30	Christoph Schürz	Bringing two open source worlds closer together - execution and processing of SWAT projects in R
16:30 – 16:50	Befekadu Tadesse Woldegiorgis	A Comparison of Different Solution Schemes for CSTR-Based Instream Water Quality Simulators Using Hypothetical Experiments and a Real Data
15:30 – 17:00	SESSION C2: SWAT REMOTE SENSING APPLICATIONS Water Centre / Assembly Hall 2 / Upstairs	Moderator: Jarosław Chormański, WULS-SGGW, Poland
15:30 – 15:50	Suzana Montenegro	Calibration of a Brazillian watershed using MODIS evapotranspiration data
15:50 – 16:10	Thomas Poméon	Hydrologic modeling of sparsely gauged West African river basins using SWAT – a remote sensing approach
16:10 – 16:30	Aklilu Teklesadik	Multi- step distributed SWAT model calibration using remote sensing ET and gauge flow data. Case study of the Upper Blue Nile basin.

Wednesday, June 28

15:30 – 17:00	SESSION C3: CLIMATE CHANGE APPLICATIONS Water Centre / Exhibition Hall / Main Floor	Moderator: Mikołaj Piniewski, WULS-SGGW, Poland
15:30 – 15:50	João Rocha	Impacts of climate change on water availability in Alentejo (Portugal)
15:50 – 16:10	Mikołaj Piniewski	Projected climate change and its effects on mean and extreme runoff in Poland
16:10 – 16:30	Balaji Narasimhan	Multi Model Ensemble for Assessing the Impact of Climate Change on the Hydrology of a South Indian River Basin
16:30 – 16:50	Hiroaki Somura	SWAT application for water resources management in Khulm watershed, Afghanistan
15:30 – 17:00	SESSION C4: SEDIMENT, NUTRIENTS, AND CARBON Water Centre / Basement Hall	Moderator: Sabine Sauvage, CNRS-ECOLAB, France
15:30 – 15:50	Matjaz Glavan	Effective catchment management of soil erosion for long-term improvement of surface water bodies quality
15:50 – 16:10	Stefan Julich	The impact of load estimation procedures on the simulation of nitrogen fluxes in a small mountainous watershed in Germany.
16:10 – 16:30	Clément Fabre	An assessment of organic carbon exports in an Arctic watershed presenting permafrost using the coupled SWAT model and Carbon modules.
16:30 – 16:50	Clément Fabre	Organic carbon and nitrate transfers at a watershed scale with the SWAT + model using landscape units: application to a large watershed in France
18:00 – 20:00	RECEPTION Rectorate Building	

9:00 – 10:30

SESSION D1: gSWATCloud WORKSHOP

SWAT Models Calibration over Cloud Infrastructures

[Water Centre / Exhibition Hall / Main Floor](#)

This workshop presents the gSWATCloud application as a solution for calibration and execution of multiple SWAT models, by multiple users, in a parallel and distributed manner, through the Web browser.

Presented by Dorian Gorgan and Victor Bacu from the Computer Science Department at the Technical University of Cluj-Napoca, Romania.

9:00 – 10:30

SESSION D2: SEDIMENT, NUTRIENTS, AND CARBON

[Water Centre / Assembly Hall 2 / Upstairs](#)

Moderator: Nicola Fohrer,
Christian-Albrechts-
University, Germany

9:00 – 9:20

Nicola Fohrer

How to improve the representation of nitrate processes and their dynamics in eco-hydrological models?

9:20 – 9:40

Natalja Čerkasova

Development of the Nemunas River watershed model for hydrology, sediment and nutrient calculations

9:40 – 10:00

Jeong Ho Han

Application of measured channel cross-section geometries data for flow and water quality estimation

9:00 – 10:30

SESSION D3: SENSITIVITY CALIBRATION AND UNCERTAINTY

[Water Centre / Basement Hall](#)

Moderator: Antonio Lo
Porto, IRSA-CNR, Italy

9:00 – 9:20

Björn Guse

How do hydrological processes change in their spatio-temporal relevance under changing climatic conditions?

9:20 – 9:40

Christoph Schürz

A comprehensive sensitivity analysis for discharge and nitrogen loads involving multiple model input factors

9:40 – 10:00

Asim Jahangir Khan

Correction and informed Regionalization of Precipitation Data in a high mountainous Region (Upper Indus Basin) and its Effect on SWAT-modelled Discharge

9:00 – 10:30	SESSION D4: LARGE SCALE APPLICATIONS Water Centre / Assembly Hall 1 / Upstairs	Moderator: Balaji Narasimhan, IIT-Madras, India
9:00 – 9:20	Balaji Narasimhan	Analytic Element Method (AEM) and its Relevance with Subbasin/ HRU Concept of SWAT for Potential Integration of AEM Based Simple Ground Water Model
9:20 – 9:40	Prasad Daggupati	Development SWAT model for contributing basins to Lake Erie from Canadian side and evaluate the effects of inputs on hydrological budgets and streamflow
9:40 – 10:00	Talal Alharbi	Impact of climate change over Saudi Arabia
10:00 – 10:20	Tien-Viet Nguyen	SWAT application in Economics of Hydropower - a national assessment
10:30 – 10:50	COFFEE BREAK Water Centre / Main Floor	
10:50 – 12:20	SESSION E1: DATABASE AND GIS APPLICATION AND DEVELOPMENT Water Centre / Assembly Hall 2 / Upstairs	Moderator: Ignacy Kardel, WULS-SGGW, Poland
10:50 – 11:10	Ignacy Kardel	Open data for climate impact modelling in Poland: geoportal ClimateImpact.sggw.pl
11:10 – 11:30	Arthur Hrast Essenfelder	SWAT Weather Database: A Support Tool for the Long-Term Analysis of Climate Scenarios with SWAT
11:30 – 11:50	Thais Fujita	Response of Randomized Subsets of Rainfall Gauges Over a Paraná River Sub-basin
11:50 – 12:10	Thais Fujita	Hydrological Response of a Brazilian Catchment to Different Land Use and Land Cover Products

10:50 – 12:20	SESSION E2: ENVIRONMENTAL APPLICATIONS Water Centre / Assembly Hall 1 / Upstairs	Moderator: Ann van Griensven, UNESCO-IHE, Netherlands
10:50 – 11:10	Ann van Griensven	An adaptation to the vegetation growth module of SWAT for tropical condition
11:10 – 11:30	Joanna O'Keeffe	Index-based analysis of climate change impact on ecologically relevant flow regime
11:30 – 11:50	Hien Ha Ngoc	Integration of SWAT and QUAL2K for water quality modeling in a data scarce basin: a case study of Cau River basin of Vietnam
10:50 – 12:20	SESSION E3: CLIMATE CHANGE APPLICATIONS Water Centre / Exhibition Hall / Main Floor	Moderator: Valentina Krysanova, PIK, Germany
10:50 – 11:10	Paweł Marcinkowski	Effect of climate change on hydrology, sediment and nutrient losses in two lowland catchments in Poland
11:10 – 11:30	Fred Fokko Hattermann	Quantification of risks and costs of climate change impacts on floods and droughts in the Danube basin
11:30 – 11:50	Bahareh Kamali	Climate change impacts on meteorological, hydrological, and agricultural droughts in semi-arid regions of Iran
11:50 – 12:10	Manish Shrestha	Application of SWAT model to compare simple and complex bias correction techniques for climate change analysis
10:50 – 12:20	SESSION E4: EPIC/APEX MODELING SYSTEM Water Centre / Basement Hall	Moderator: Claire Baffaut, USDA-ARS, USA
10:50 – 11:10	Claire Baffaut	APEX model simulation of edge-of-field water quality benefits from upland buffers
11:10 – 11:30	Jaehak Jeong	The Agricultural Policy/Environmental eXtender (APEX) Model: Recent activities, model development, and plans
11:30 – 11:50	Jeff Arnold	Nutrient Delivery and Agricultural Conservation Effects on Water Quality in the Des Moines River Watershed
12:20 – 13:40	LUNCH Limba Dormitory	

13:40 – 15:10

SESSION F1: POSTERS

Coffee will be served during the session.

[Water Centre / Main Floor](#)

Sameh Abou Rafee	Analysis of spatial distribution of observed ground-based data and large scale modelling of the Parana River Basin
Claire Baffaut	Predicting Drought in an Agricultural Watershed given Climate Variability
Mojgansadat Azimi	Simulation of the effects different rangeland improvements scenarios on evapotranspiration of Case study: Gorganrud Watershed-Golestan-Iran
Sbaa Boubeker	Hydrological modeling with SWAT under contrasting climate in a semi - arid zone: case of the wadi wahrane, Algeria.
Carla Camargos	How uncertainty of simulating water resources is affected by different input data information content
Kyunghwa Cho	Developing a SWAT Sub-Module for Simulating Dynamics of Cyanobacteria, Green algae, and Diatom
Il-Moon Chung	Hydrologic component analysis at the Water Curtain Cultivation site according to annual rainfall pattern
Cenk Donmez	Determination of the Environmental Impacts of Agricultural Land Use on Lower Seyhan Plain using SWAT Model
Vanessa Cristina Dos Santos	Land use change effects on hydrological regime in the Xingu watershed - Brazil
Marc Fasel	Blue water scarcity in the Black Sea catchment: identifying key actors in the water-ecosystem-energy-food nexus
Josicleda Galvincto	Parallelization of SWAT calibration: a Windows HPC approach
Josicleda Galvincto	Challenges of Hydrological Modeling in a Basin in Northeast Brazil
Matjaz Glavan	Understanding of water and nitrogen cycle in an irrigated Mediterranean area in southern Turkey
Matjaz Glavan	Modelling diffuse and point source pollution risks in the case of transboundary Sotla river basin
Joanna Gudowicz	Application of the Soil and Water Assessment Tool for hydrological modeling in a High-Arctic catchment: Brøggerelva watershed, NW Spitsbergen
Marilen Haver	Modelling mountain hydrology using the SWAT model to understand the impact of abiotic environmental variables on the health of high altitude aquatic ecosystems
Qianwen He	Streamflow calibration of a semi-distributed hydrological model by single and multi-site measured data on the Yuan River Catchment, China

Jaehak Jeong	Water Resource Assessment, Gaps, and Constraints of Vegetable Production in Ethiopia
Chul-gyum Kim	Changes in runoff characteristics of streams in Jeju Island, Korea due to climate change
Petr Krpec	Assessment of SWAT model performance in case of Olešná reservoir watershed, Czech Republic
Juan Luis Lechuga-Crespo	Modelling potential impacts of Climate Change on hydrology of a small urban catchment on the North of Spain
Amina Mami	Assessing the Impact of Regional Climate Models on Hydrology of a Semi-Arid Watershed Using SWAT Model: The Case of the Wadi Tafna (Algeria)
Julio Perez-Sanchez	Impact of temporal resolution of rainfall inputs on the performance of the SWAT model in Peninsular Spain
Giovanni Francesco Ricci	Comparison between SWAT and AnnAGNPS model simulations in a Mediterranean watershed
Hande Sagir	SWAT Modeling of Seasonal Differences in Nitrate Leaching
José Miguel Sánchez-Pérez	Modelling nitrate in-stream retention using SWAT model and STATISTICAL model at watershed scale: the case of the Garonne watershed (France)
Carlos Amilton Santos	Hierarchical Calibration of SWAT Model in Paraguaçu Basin River.
Sabine Sauvage	Modelling flash floods at hourly time-step: relevance of the SWAT model evaluated with the MARINE model
Sabine Sauvage	Using a SWAT and a GIS coupled approach to assess the role of Amazonian wetlands in carbon and nitrogen biogeochemical cycles.
Christoph Schürz	SWATpasteR: Parallel SWAT execution and sensitivity testing in R
Christoph Schürz	SWATfarmR: A simple rule-based scheduling of management operations for SWAT
Javier Senent-Aparicio	Forecast of Instantaneous Peak Flow using SWAT and ANN
Zhenyao Shen	Identifying critical source areas for the control of nonpoint source pollution using the SWAT model
Pin-Chih Shih	Assessment of SWAT sediment export and transport prediction in watersheds of different geomorphological and hydroclimatic conditions in Taiwan
Pavel Terskii	SWAT applications for transboundary river management between EU, Ukraine and Russian Federation

Ye Tuo	Joint use of snow and discharge time series for SWAT model calibration
Janja Vrzel	Using SWAT in a coupled modeling framework for the development of renewable gases in the heating market
Xi Wei	Modelling self-purification in rivers from hydro-morphological units to watershed scale
Paweł Wilk	Evaluation of climate change and land use impact on suspended sediment production and its quality in different catchments of Poland
Michał Wróbel	Determination of the CN parameter in the forest catchment area on the example of Łutownia river in Białowieża Primeval Forest
Amin Zettam	Application of the SWAT model to investigate hydrology, sediment and nitrate flux towards the Mediterranean Sea: case of the North Africa catchments

13:40 – 15:10

SESSION F2: HAWQS WORLD DEMONSTRATION

[Water Centre / Exhibition Hall / Main Floor](#)

Dr. Raghavan Srinivasan from Texas A&M University, USA will demo HAWQS World: a web-based interactive application that allows users to run customized SWAT models based on existing, calibrated models around the world. (HAWQS World is an expansion of the HAWQS application developed for the USA.)

15:30 – 20:30

TOUR: CRUISE ON THE RIVER VISTULA (WISŁA)

Buses will depart campus at 15:30 and return by 20:30 for the dinner gala.

The tour will last from 16:00 to 20:00.

The River Vistula is the longest waterway in Poland. It is about 1000 km long, and flows through natural greenery, islands, and the habitats of birds and other animals. The Vistula is a delight for those who love nature and wild rivers. Even in Warsaw, the Vistula is a wild river with limited regulation (only a few dikes have been built) and limited apparent 'use'. The water levels fluctuate by more than 6 meters between the extreme low and high zones. The river has several sandy beaches, which are used intensively during the summer days. See more information about the route at swat.tamu.edu/conferences/2017.

20:30

DINNER GALA

[Kryształowa \(Crystal\) Hall](#)

9:00 – 10:30	SESSION G1: SEDIMENT, NUTRIENTS, AND CARBON Water Centre / Basement Hall	Moderator: Peter Allen, Baylor University, USA
9:00 – 9:20	Damian Badora	The influence of the DEM resolution on the LS factor and SWAT estimates of soil erosion on the example of upland loess watershed in Poland.
9:20 – 9:40	Bano Mehdi	Improved understanding of the impacts of hydroclimate, land use and agricultural management practices on nitrate concentration dynamics using SWAT
9:40 – 10:00	Valeriy Osypov	SWAT Model Application for Simulating Nutrient Emission from Small Agricultural Catchment in the Desna River Basin (Ukraine)
9:00 – 10:30	SESSION G2: CLIMATE CHANGE APPLICATIONS Water Centre / Assembly Hall 1 / Upstairs	Moderator: Fred Fokko Hattermann, PIK, Germany
9:00 – 9:20	Farzad Emami	Modeling the Projected Impact of Climate Change on Boukan Dam Inflow and Water Availability in the Zarrine River Basin of Iran
9:20 – 9:40	Majid Fereidoon	An integrated MODSIM- PSO Model for optimal Multi-Crop Planning in the agricultural Areas of the Karkheh River Basin, Iran, under the Impacts of Climate Change
9:40 – 10:00	Saeed Morid	Assessing the impact of climate variability and human activities on the drawdown of Lake Urmia (Iran) using SWAT-LU
10:00 – 10:20	Javier Senent Aparicio	Climate Change effects on the hydrological regime in the Ladra River Basin (NW Spain)

9:00 – 10:30	SESSION G3: ENVIRONMENTAL APPLICATIONS Water Centre / Assembly Hall 2 / Upstairs	Moderator: Michael Strauch, Helmholtz Centre, Germany
9:00 – 9:20	Anna Maria De Girolamo	Modelling streamflow to set an environmental flow
9:20 – 9:40	Chunggil Jung	Evaluation of the Groundwater Use Impact on the Drying Stream by Modifying SWAT Groundwater Balance Equation
9:40 – 10:00	Michael Strauch	Towards multifunctional agricultural landscapes in Europe: SWAT as a key to asses synergies and trade-offs between ecosystem services and biodiversity
10:00 – 10:20	Michel Rahbeh	Evaluation of Soil Water Assessment Tool for the simulation of preferential contaminant transport in cultivated lands near Zarqa river
9:00 – 10:30	SESSION G4: HYDROLOGY Water Centre / Exhibition Hall / Main Floor	Moderator: José Miguel Sánchez-Pérez, CNRS-ECOLAB, France
9:00 – 9:20	Leonardo Domingues	Field Observations and Model Simulations of an Extreme Drought Event in the Southeast Brazil
9:20 – 9:40	Asim Jahangir Khan	Comparison of Interpolation Methods for Precipitation Data in a mountainous Region (Upper Indus Basin)
9:40 – 10:00	Abelardo Montenegro	Hydrological analysis for representative small catchments in Caatinga and Cerrado biomes using SWAT model
10:00 – 10:20	Thanapon Piman	Impacts of climate variability and water resources development on river flows and water balance of Huai Luang Watershed, Thailand
10:30 – 10:50	COFFEE BREAK Water Centre / Main Floor	

10:50 – 12:20	SESSION H1: LARGE SCALE APPLICATIONS Water Centre / Assembly Hall 1 / Upstairs	Moderator: Prasad Daggupati, University of Guelph, Canada
10:50 – 11:10	Anthony Lehmann	Sharing input and outputs data for large scale applications of SWAT with OGC web services
11:10 – 11:30	José A. F. Monteiro	Overcoming challenges of large-scale SWAT applications with R: Modelling of the Amazon basin
11:30 – 11:50	Kausila Timsina	Assessment of Changes in Hydrologic Regime of the Teesta River by Teesta –V Hydroelectric Power Project in Sikkim India
11:50 – 12:10	Celray James Chawanda	Automated implementation of irrigation in SWAT
10:50 – 12:20	SESSION H2: SENSITIVITY CALIBRATION AND UNCERTAINTY Water Centre / Assembly Hall 2 / Upstairs	Moderator: Saeed Morid, Tarbiat Modares University, Iran
10:50 – 11:10	Daniel Hawtree	Using Multi-Criteria Calibration Methods to Estimate Nitrate Pollution in a Large Basin with Limited Data
11:10 – 11:30	Gerald Corzo Pérez	Hydrological modeling of a tropical basin with SWAT: A study case of Cauto River, Cuba
11:30 – 11:50	Guoyuan Wei	A NSGA-II based calibration platform for the SWAT and other universal models

10:50 – 12:20	SESSION H3: BMPs Water Centre / Exhibition Hall / Main Floor	Moderator: Natalia Uribe, IHE Delft, The Netherlands
10:50 – 11:10	Natalia Uribe	SWAT modelling approach to assess the effect of Potato Conservation Tillage (CT) on nutrients concentration and losses in runoff water in Fuquene watershed.
11:10 – 11:30	Lei Chen	A new tool for optimizing best management practices by integrating SWAT and NSGA
11:30 – 11:50	Arthur Hrast Essenfelder	Evaluating Impacts of Alternative Adaptation Strategies on the Dynamics of Human-Water Systems: A Methodological Framework for an Integrated Modular SWAT and Multi-Attribute Revealed Preference Model
11:50 – 12:10	Slim Mtibaa	Technical-economic analysis of best management practices for appropriate control of sediment yield: Case of Joumine river basin, Tunisia
12:20 – 13:40	LUNCH Limba Dormitory	
13:40 – 15:10	SESSION I1: CLIMATE CHANGE APPLICATIONS Water Centre / Assembly Hall 1 / Upstairs	Moderator: Karim Abbaspour, EAWAG, Switzerland
13:40 – 14:00	Karim Abbaspour	Introducing Climate Change Toolkit (CCT): a modular toolkit for climate change and extreme weather analysis
14:00 – 14:20	Stephan Kpoti Gunn	Assessing the impacts of climate change on discharge and nutrient losses from a karstic agricultural sub-basin in the Upper Chesapeake Bay watershed
14:20 – 14:40	Olga Nasonova	Climate change impact on streamflow in ISI-MIP large-scale river basins: projections and their uncertainties
14:40 – 15:00	Zohreh Poorkarimi	Using real runoff instead of natural runoff to evaluate impact of climate change on hydrological drought in order to consider human activity by SWAT

13:40 – 15:10	SESSION I2: HYDROLOGY Water Centre / Exhibition Hall / Main Floor	Moderator: Suzana Montenegro, UFPE, Brazil
13:40 – 14:00	Joanna Suliga	A comparison between SWAT and WETSPA hydrological models for riparian fen modelling at the catchment scale
14:00 – 14:20	Suzana Montenegro	Comparative hydrology using the SWAT model in Pernambuco State watersheds, Northeast of Brazil for SUPer system development
14:20 – 14:40	Gokhan Cuceloglu	Assessing the Influence of Climate Datasets for Quantification of Water Balance Components in Black Sea Catchment: Case Study for Melen Watershed in Turkey
14:40 – 15:00	Ann van Griensven	A methodology for calculating the Water Accounting and Water Productivity based on SWAT-T simulations. Case Study: Mara Catchment
13:40 – 15:10	SESSION I3: ENVIRONMENTAL APPLICATIONS Water Centre / Assembly Hall 2 / Upstairs	Moderator: Katrin Bieger, Texas A&M AgriLife Research, USA
13:40 – 14:00	Nina Zarrineh	Impact analysis of land sharing vs. land sparing strategies on catchment-scale agroecosystem services using SWAT
14:00 – 14:20	Rafael Magris	Modelling vulnerability of coastal ecosystems to land-based mining pollution: a case study from Brazil
14:20 – 14:40	Darae Kim	Parameter Calibration of SWAT Hydrology and Water Quality Focusing on Long-term Drought Periods
14:40 – 15:00	Ji Wan Lee	Discussion of a Decade Accumulative Assessment from Baseline for Future Climate Change Impact on Watershed Hydrology and Water Quality Using SWAT
15:10 – 15:30	COFFEE BREAK Water Centre / Main Floor	
15:30 – 17:00	CLOSING DISCUSSIONS Water Centre / Assembly Hall 1 / Upstairs	

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