

THE SIXTH INTERNATIONAL SOIL
AND WATER ASSESSMENT TOOL
SOUTHEAST ASIA CONFERENCE

SWAT 2019



Photo by Sina/CE SAIN

OCTOBER 21-26
SIEM REAP, CAMBODIA
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.

swat.tamu.edu | facebook.com/swatmodel | twitter.com/swat_model

Workshop Overview

Monday, October 21

8:00 – 8:30	Registration and Welcome	
8:30 – 10:00	Workshops start in different rooms	
	Beginners Soil and Water Assessment Tool Modelling Workshop Dr. Nathaniel Alibuyog Department of Agricultural Engineering, Mariano Marcos State University	Kravan Room
	Advanced Soil and Water Assessment Tool Modelling Workshop Dr. Raghavan Srinivasan The Spatial Sciences Laboratory, Texas A&M University	Kulen Room
	Agriculture Policy/Environment eXtender Modelling Workshop Dr. Jaehak Jeong Blackland Research Center (BRC), Texas A&M University	Paradise Lounge Room
10:00 – 10:30	Coffee break	
10:30 – 12:00	Beginners Soil and Water Assessment Tool Modelling Workshop Dr. Nathaniel Alibuyog	Kravan Room
	Advanced Soil and Water Assessment Tool Modelling Workshop Dr. Raghavan Srinivasan	Kulen Room
	Agriculture Policy/Environment eXtender Modelling Workshop Dr. Jaehak Jeong	Paradise Lounge Room
12:00 – 13:30	Lunch	
13:30 – 15:00	Beginners Soil and Water Assessment Tool Modelling Workshop Dr. Nathaniel Alibuyog	Kravan Room
	Advanced Soil and Water Assessment Tool Modelling Workshop Dr. Raghavan Srinivasan	Kulen Room
	Agriculture Policy/Environment eXtender Modelling Workshop Dr. Jaehak Jeong	Paradise Lounge Room
15:00 – 15:30	Coffee Break	
15:30 – 17:00	Beginners Soil and Water Assessment Tool Modelling Workshop Dr. Nathaniel Alibuyog	Kravan Room
	Advanced Soil and Water Assessment Tool Modelling Workshop Dr. Raghavan Srinivasan	Kulen Room
	Agriculture Policy/Environment eXtender Modelling Workshop Dr. Jaehak Jeong	Paradise Lounge Room

Tuesday, October 22

8:00 – 10:00	Beginners Soil and Water Assessment Tool Modelling Workshop Dr. Nathaniel Alibuyog	Kravan Room
	Advanced Soil and Water Assessment Tool Modelling Workshop Dr. Raghavan Srinivasan	Kulen Room
	Agriculture Policy/Environment eXtender Modelling Workshop Dr. Jaehak Jeong	Paradise Lounge Room
	NASA-SWAT Hydrologic Decision Support Tools Workshop (Start at 9:00am) Dr. John Bolten & Dr. Ibrahim Mohammed	Bakheng Room
10:00 – 10:30	Coffee break	
10:30 – 12:00	Beginners Soil and Water Assessment Tool Modelling Workshop Dr. Nathaniel Alibuyog	Kravan Room
	Advanced Soil and Water Assessment Tool Modelling Workshop Dr. Raghavan Srinivasan	Kulen Room
	Agriculture Policy/Environment eXtender Modelling Workshop Dr. Jaehak Jeong	Paradise Lounge Room
	NASA-SWAT Hydrologic Decision Support Tools Workshop (Finish at 12:00pm) Dr. John Bolten & Dr. Ibrahim Mohammed	Bakheng Room
12:00 – 13:30	Lunch	
13:30 – 15:00	Beginners Soil and Water Assessment Tool Modelling Workshop Dr. Nathaniel Alibuyog	Kravan Room
	Advanced Soil and Water Assessment Tool Modelling Workshop Dr. Raghavan Srinivasan	Kulen Room
	Agriculture Policy/Environment eXtender Modelling Workshop Dr. Jaehak Jeong	Paradise Lounge Room
15:00 – 15:30	Coffee Break	
15:30 – 17:00	Certificate Handout and Group Photo Official Closing of the workshops	

8:30 – 10:00	OPENING CEREMONY		Moderator: Manny Reyes
8:30 – 8:40	Welcome By Dr. Huon Thavrak, Vice Rector Royal University of Agriculture		
8:40 – 9:00	Overview of Sustainable Intensification Innovation Lab (SIIL) By Dr. Vara Prasad, Director SIIL, Kansas State University		
9:00 – 9:20	New Developments: SWAT+ By Dr. Raghavan Srinivasan, Texas A&M University		
9:20 – 10:00	Key Note: Mapping the Blue Marble: Using Space-Based Observations for Improved Global Water Security and Sustainability By Dr. John Bolten NASA Goddard Space Flight Center Hydrological Sciences Laboratory		
10:30 – 12:00	SESSION A I: Watershed Management Modelling		Moderator: Jaehak Jeong
10:30 – 10:50	Sameh Adib Abou Rafeev	Assessing the hydrologic impacts of land use change in the Upper Parana River Basin between 1985 and 2015	
10:50 – 11:10	Jaehak Jeong	Simulating wetland hydrology and plant growth: two case studies in the USA	
13:30 – 15:00	SESSION B I: Watershed Management Modeling		Moderator: Chantha Oeurng
13:30 – 13:50	Nitika Mundetia	Hydrologic Impact Assessment of Land-use Change in an Ungauged Semi-arid River basin of Rajasthan, India.	
13:50 – 14:10	Thameemul Hajaj PM	Integrated Hydrologic-Hydraulic Model for Flood Inundation Mapping: A Case Study of Nagavali River, India	
14:10 – 14:30	Samvedya Surampudi	Assessment of Streamflow Prediction for Ungauged Sites Using Altimeter Derived Model and SWAT Distributed Model	
14:30 – 14:50	Yi Lin Tew	Impact of Land Use Changes on Streamflow of the Kelantan River Basin, Malaysia	
15:00 – 15:30	Coffee Break		

15:30 – 17:00

SESSION C: POSTER SESSION**Moderator:** Manny Reyes

Bus Stop: The audience will choose five posters to stop and the poster presenter will be beside her or his poster to explain the poster for five minutes. This will be followed by a question and answer of 10 minutes for a total of 15 minutes. After fifteen minutes, the audience will move to the next poster they are interested to stop in. The process is repeated five times so by the end of the session, the audience will be able to visit five posters.

Poster Number	Presenter	Title
1	Midhun Prasad	Approximation of hydrological phenomena for a coastal watershed using the SWAT+ model
2	Parthiban Loganathan	Assessment of climate change impact on streamflow prediction using SWAT- a case study of Cauvery river basin, Peninsular India
3	Shiyamalagowri Gnanaprakasam	Investigation of Heterogeneity Measure using various Nonlinear approaches by deriving characteristics through the SWAT model
4	Venkatesh Budamala	Assessing the blue and green water dynamics of SWAT hydrologic model using adaptive met simulators
5	Jan Gregar	Avoiding Eutrophication of Bathing Dams in Prague using MEASURES
6	Hui Ying Pak	A spatial and temporal analysis of ammonium pollution within Johor River Basin
7	Ainul Syarmimi Binti Rosli	Simulation of Water Quality for SG. Johor River Basin using the Soil and Water Assessment Tool Model
8	Yem Sokol	Detection and management of tomato leaf curl virus disease and its whitefly vector through plant promoting management approaches for inducing severity and leaf curl
9	Abdul Aziz	QSWAT Identification for Watershed Management Model in Kamundan Watersheds, Papua Barat, Indonesia
10	Laurie Boithias	SWAT modeling of fecal indicator bacteria fate and transport in a rural tropical stream of northern Laos
11	Euiho Hwang	Development of Water Hazard Information Platform in Korea using Satellite Radar

10:30 – 12:00	SESSION A2: Climate Change Applications	Moderator: Manny Reyes
10:30 – 10:50	Khai Loong Chong	Southeast Asia Hydro-Climatic Drought (SEA-HCD) Modelling using SWAT and CORDEX-SEA: A case study of the Kelantan River Basin, Malaysia
10:50 – 11:10	Panha Hok	Assessment of Uncertainties in Hydrological Studies under Climate Change Scenarios: A Case of Chinit River Basin in Cambodia
11:10 – 11:30	Rithysey Houn	Prediction of climate change impacts on runoff, sediment yield and nutrient transports in Stung Sangker Catchment, Cambodia
11:30 – 11:50	Seema Rani	Responses of Streamflow under Future Climate Change Scenarios in the Upper Beas Basin, Western Indian Himalaya
13:30 – 15:00	SESSION B2: Sensitivity Calibration and Uncertainty	Moderator: Nareth Nut
13:30 – 13:50	Nudthawud Homtong	Hydrological Modeling by Using Application of the China Meteorological Assimilation Driving Datasets for the SWAT Model (CMADS) in the Chi-Mun Basin, Thailand
13:50 – 14:10	Leelambar Singh	Streamflow and sensitivity modeling Using SWAT for an Ib watershed of, India

10:30 – 12:00

SESSION A3: Database and GIS Application and Development**Moderator:** Raghavan Srinivasan

10:30 – 10:50

Arivumathi B

Estimation and comparison of discharge using SWAT and HEC-HMS tools for a flood event – A case study for Thamirabarani river basin, India

10:50 – 11:10

Suresh Devaraj

Comparative analysis of INSAT-3D derived precipitation data with IMD data products over Indian Sub-continent

11:10 – 11:30

Venkataraman Lakshmi

Adequacy of satellite derived precipitation estimates for hydrological modeling

11:30 – 11:50

Pierluigi Cau

Development of an Earth Observation System for the management of Water resources based on SWAT

13:30 – 15:00

SESSION B3: Environmental Management**Moderator:** Sok Ty

13:30 – 13:50

Jorge Martins

Land cover dynamics by agricultural activities over the Upper Paraná River Basin

13:50 – 14:10

Hui Ying Pak

A spatial and temporal analysis of ammonium pollution within Johor River Basin

14:10 – 14:30

Nattapong Puangkaew

Water yield estimation for water supply and demand balance analyses

14:30 – 14:50

Sakdanuphol Chan

SWAT modeling of water quality in Stung Prek Thnot Catchment, Cambodia

8:30 – 10:00	CA4SI: Resilience, Adaptation and Mitigation	Moderator: Manny Reyes
8:30 – 9:00	Modeling Resilience, Adaptation and Mitigation By Dr. Vara Prasad	
9:00 – 9:30	Conservation Agriculture for Sustainable Intensification (CA4SI) in Cambodia (Saruth Chan, Lyda Hok, and Florent Tivet)	
9:30 – 10:00	Key Note: Perspectives and experiences of the FAO on Conservation Agriculture for Sustainable Intensification in Southeast Asia (Yuji Niino)	
10:00 – 10:30	Coffee break	
10:30 – 12:00	SESSION D1: Watershed Management Modelling	Moderator: Ibrahim Mohammed
10:30 – 10:50	DanDan Zhang	Tropical Hydrological Modelling of the Muda River Basin using SWAT+
10:50 – 11:10	Panha Hok	Evaluation of SWAT Model Performance in Simulating Hydrology of Southeast Asian River Basins
11:10 – 11:30	Ibrahim Mohammed	Improved Hydrological Modeling Capabilities and Decision Support Tools for the Lower Mekong River Basin Through Integrated Remote Sensing and Ground Observations
11:30 – 11:50	Sok Ty	Assessment of Sediment Erosion and Transport in the Mekong River Basin using SWAT Model
12:00 – 13:30	Lunch	

13:30 – 15:00 **SESSION EI: Watershed Management Modeling** **Moderator:** Lyda Hok

13:30 – 13:50 Parisa Tararam Study of Runoff and Sediment Quantity Affecting Land Use Changes in Nan Basin, Thailand

13:50 – 14:10 Iwan Ridwansyah Sediment and Nutrient Loading from Kurambik sub-watershed to Lake Maninjau with SWAT Hydrological modelling

14:10 – 14:30 Saravanan Subbarayan Landuse landcover impact on water balance components of Noyyal river catchment using SWAT model

14:30 – 14:50 Baobab Kibet Kimengich Evaluation of SWAT Model for Simulation of Discharge and Dissolved Phosphorus Load in Sengari Reservoir Basin, Japan

15:00 – 15:30 Coffee Break

15:30-17:00 **CLOSING SESSION** **Moderator:** Manny Reyes

15:30-16:30 Modeling Resilience, Adaptation and Mitigation in SEA -Panel Discussion [Ibrahim Mohammed, (NASA), Niino Yuji (FAO), Vara Prasad (SIIL), Florent Tivet (CIRAD), and Saruth Chan (MAFF, Cambodia)]

15:30 – 17:00 **What's next? Action Time**

10:30 – 12:00	SESSION D2: Climate Change Applications	Moderator: Mou Leong Tam
10:30 – 10:50	Edmilson Freitas	Effects of climate change and land use on the hydrology of the Paraná River Basin - Brazil.
10:50 – 11:10	Thi Huyen Trang Pham	Quantifying the Impact of Human Activities and Climate Change on Water Resources in the Srepok River Basin, Vietnam
11:10 – 11:30	Mou Leong Tam	A Review of SWAT Applications, Performance and Future Needs for Simulation of Hydro-Climatic Extremes
11:30 – 11:50	Muhammad Touseef	Assessment of Land-use/ Land-cover LULC and Climate change Impacts on future stream run-off trends in the Lower Srepok River Basin, Vietnam.
13:30 – 15:00	SESSION E2: Crop Modelling	Moderator: Vara Prasad
13:30 – 13:50	Kowshika N	Impact of climate change on chilli (<i>Capsicum annum L.</i>) yield in major chilli growing districts of Tamilnadu
13:50 – 14:10	Arul Prasad S	Projected impacts of climate change on irrigated groundnut crop yield over Tamil Nadu
14:10 – 14:30	Sopheap Lim	Impacts of Land use and Climate Change on Streamflow and Sediment Using SWAT Model Application for the Mekong Basin

10:30 – 12:00	SESSION D3: Environmental Management	Moderator: Tewodros Assefa
10:30 – 10:50	Kowshika Nagarajan	Test of AquaCrop model in simulating yield and water use efficiency of tomato crop under varied climatic conditions at Ponnaniyar basin of Tamil Nadu
10:50 – 11:10	Nareth Nuth	Evaluation of soil carbon sequestration in conservation agriculture production and tillage systems in Cambodia using APEX
11:10 – 11:30	Adam Szymkiewicz	Prediction tool for nitrate transport in groundwater in Puck region (northern Poland) based on SWAT, MODFLOW and MT3D
11:30 – 11:50	Tewodros Assefa	Impact of Conservation Agriculture with Drip Irrigation in the Sub-Humid Ethiopian Highlands: An Experiment and Modeling Study
13:30 – 15:00	SESSION E3: Environmental Applications	Moderator: Nathaniel Alibuyog
13:30 – 13:50	Bisrat Ayalew Yifru	Groundwater Potential Mapping Using SWAT and GIS-based Multi-Criteria Decision Analysis
13:50 – 14:10	Rabia Dars	Groundwater Investigations with Electrical Resistivity in District Matiari, Pakistan
14:10 – 14:30	Nathaniel Alibuyog	Hydro-renewable Energy Resource Assessment using LiDAR derived Digital Elevation Model

swat.tamu.edu/conferences/sea/2019-cambodia/



Collaborative Research on Sustainable Intensification



KANSAS STATE
UNIVERSITY

TEXAS A&M
AGRILIFE
RESEARCH



USAID
FROM THE AMERICAN PEOPLE