

Land Use/Cover Changes, Environment and Emissions in South/Southeast Asia – An International Regional Science Meeting, 22-24th July, 2019

AGENDA

DAY 1 (22ND JULY, MONDAY)

9:00-10:15 Session-1. Inaugural Session Chair: Kasturi Kanniah (UTM, Malaysia)
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7:30 Registration

9:00 Welcome Introduction – Kasturi Kanniah, Local Host (University of Technology, Malaysia)

9:05 Welcome Remarks – Mohd Hamdan Ahmad, Dean (University of Technology, Malaysia)

9:20 Welcome Remarks - Garik Gutman (NASA HQ, USA)

9:25 Welcome Remarks – Chris Justice (University of Maryland College Park, USA)

9:30 Welcome Remarks – Krishna Vadrevu (NASA Marshall Space Flight Center, USA)

9:35 Welcome Remarks – Matsunaga Tsuneo (National Institute of Environmental Studies, Japan)

9:40 South/Southeast Asia Research Initiative (SARI) and Meeting Objectives – Krishna Vadrevu (NASA Marshall Space Flight Center, USA)

10:00 Welcome Remarks – Wahid Omar, Vice Chancellor (University of Technology, Malaysia)

10:15 *Group Picture*

10:25 *Coffee Break*

10:55-2:15 Session-2. Regional Programs And Space Agency Presentations Chair: Garik Gutman (NASA HQ, USA)

Keynote Presentation (20-Minutes)

10:55 NASA Land Cover/Land Use Change Science in SE Asia - Garik Gutman (NASA HQ, USA)

Technical Presentations (15-Min Presentations; 5-Min Discussion)

11:15 Malaysia Space Activities – Nordin Ahmed (PEJUTA, Association of Authorized Malaysian Land Surveyors, Malaysia)

- 11:30 Indian Space Research Organization (ISRO) Remote Sensing Activities – Prakash Chauhan (Indian Institute of Remote Sensing, India)
- 11:45 Vietnam National Space Center (VNSC) Remote Sensing Activities – Lam Dao Nguyen (VNSC Ho Chi Minh City, Vietnam)
- 12:00 Philippines Remote Sensing Society And Remote Sensing Activities – Gay Perez (University of the Philippines, Philippines)
- 12:15 Indonesian National Institute of Aeronautics and Space (LAPAN) Remote Sensing Activities – Rokhis Komruddin (LAPAN, Indonesia)
- 12:30 *Lunch*
- 1:30 Geo-Informatics and Space Technology Development Agency (GISTDA) Remote Sensing Activities – Pakorn Petchprayoon (GISTDA, Thailand)
- 1:45 *Discussion on Space Agency Presentations*

2:15-3:35 Session-3. Agricultural LCLUC
 Chair: **Chris Justice (University Of Maryland College Park, USA)**

Keynote Presentation (20-Minutes)

- 2:15 GEOGLAM Activities – Chris Justice (University of Maryland College Park, USA)

Technical Presentations (15-Min Presentations; 5-Min Discussion)

- 2:35 Geospatial Technology in Agricultural Applications in Malaysia - Tn. Hj. Ismail bin Hashim (Department of Agriculture, Malaysia)
- 2:55 Agricultural Research at IRRI – Tri Setyono (International Rice Research Institute (IRRI), Philippines)
- 3:15 Big Earth Data For High Resolution Cropland Mapping – Miao Zhang (State Key Laboratory Of Remote Sensing, China)
- 3:35 *Coffee Break*

4:05 –5:25 Session-4. Land, Atmospheric Remote Sensing and Emissions
Chair: Ivan Csiszar (NOAA, USA)

Keynote Presentation (20-Minutes)

4:05 The Launch Of GOSAT-2 And GHG/Air Quality Monitoring By GOSAT Satellite Series – Tsuneo Matsunaga (National Institute of Environmental Studies (NIES), Japan)

Technical Presentations (15-Min Presentations; 5-Min Discussion)

4:25 VIIRS Product Updates – Chris Elvidge (Colorado School of Mines, USA)

4:45 Land Surface Reflectance Code (LASRC), Generic Atmospheric Correction for Coarse-to-High Spatial Resolution Sensors: Description And Validation– Eric Vermote (NASA Goddard Space Flight Center, USA)

5:05 Investigating Aerosol Properties in Penang Island Using AERONET Data – Hwee San Lim (University Sains, Malaysia)

5:25 **Poster Viewing**

7:00 *Welcome Dinner*

DAY 3 (24TH JULY, WEDNESDAY)

9:00-9:30 Session-5.Report Back on Panel Discussions From Day-2 Sessions
Agriculture:Chris Justice (University of Maryland, USA)
Atmosphere:Tsuneo Matsunaga (NIES, Japan)

9:00 Agricultural Remote Sensing Summary – Chris Justice (University of Maryland College Park, USA)

9:15 Land Atmospheric Interactions Summary – Tsuneo Matsunaga (National Institute Of Environmental Studies (NIES), Japan)

9:30-12:00 Session-6. Land-Use/Cover Change and Forestry
Chair: Randolph Wynne (Virginia Tech, USA)

Keynote Presentation (20-Minutes)

9:30 National Mapping Efforts in Malaysia - Sr. Dr. Azhari bin Mohamed (Department of Survey and Mapping, Malaysia)

9:50 Expansion of Rubber (*Hevea Brasiliensis*) and its Implications For Water, Carbon, and Livelihoods in Montane Mainland Southeast Asia – Jeff Fox (East West Center, Hawaii, USA)

Technical Presentations (15-Min Presentation; 5-Min Discussion)

10:10 Remote Sensing for Forest Resources Assessment, Inventory, Mapping And Monitoring – Hamdan Omar (Forest Research Institute of Malaysia, Malaysia)

10:30 *Coffee Break*

11:00 30-Years Change of Natural Forests Under Human Activities in Indochina Peninsula - Case Study in Vietnam, Laos and Cambodia- Nguyen Dinh Duong (Vietnam Academy of Science and Technology, Hanoi, Vietnam)

11:20 Annual Land-Use/Land-Cover Analysis of India Using Multi Temporal AWIFs Data - Sreenivas Kandrika (National Remote Sensing Center, Hyderabad, India)

11:40 Optical-Radar Synergy for Wetland Characterization and Surface Water Monitoring – Chengquan Huang (Univ. Of Maryland College Park, USA)

12:00-2:40 Session-6. Continued. Land-Use/Cover Change and Forestry Chair: Jeff Fox (East West Center, Hawaii, USA)

Keynote Presentation (20-Minutes)

12:00 Biomass Mission to Observe Tropical Forests – Thuy Le Toan (CESBIO, France)

12:20 *Lunch*

Technical Presentations (15-Min Presentation; 5-Min Discussion)

1:20 Use of Geoinformatics to Monitor Environmental Impacts of Naturally Regenerated Oil Palm In Kalutara District Of Sri Lanka - Ajith Gunawardane (Central Environmental Authority, Sri Lanka)

1:40 Mapping Smallholder Forest Plantations in Andhra Pradesh: Machine Learning Using Multitemporal Harmonized Landsat-Sentinel 2 S10 Data –Randolph Wynne (Virginia Tech, USA)

2:00 Remote Sensing Sensors and Applications for Forests Mapping and Modelling in Malaysia – Zulkiflee Latif (Universiti Teknologi Mara, UiTM)

2:20 A Multi Sensor Approach to Improving Forest Classification in Myanmar – Sumalika Biswas (Smithsonian Institute, USA)

2:40-4:40 Session-7. Urban Land-Use/Cover Change
Chair: Kasturi Kanniah (UTM, Malaysia)

Keynote Presentation (20-Minutes)

2:40 Urban Land Use and the Application of Geospatial Technology in Malaysia – Muhammad Hakimi bin Mohd Hussain (PLAN Malaysia)

Technical Presentations (15-Min Presentation; 5-Min Discussion)

3:00 Does the Spatial Configuration of Urban Landscape Matter? Examples of Urban Warming and Cooling – Soe Myint (Arizona State University, USA)

3:20 *Coffee Break*

4:00 Detecting Brick Kilns Around New Delhi Using PALSAR-2 Imagery With Deep Learning – Prakhar Misra (University of Tokyo, Japan)

4:20 Development of Vietnam National Address Database Platform Using Remote Sensing and Spatial Data – Bui Hung (Vietnam National University, Vietnam)

4:40-5:20 Session-8. Discussion: Regional Science Summary, Research and Capacity Building Priorities
Chair: Chris Justice (Univ. of Maryland); Rapporteur: Krishna Vadrevu (NASA MSFC)

5:20 Closing Remarks – Garik Gutman (NASA HQ, USA) and Chris Justice (Univ. of Maryland, USA)

5:40 Vote of Thanks – Kasturi Kanniah (University of Technology, Malaysia)

6:00 *Adjourn*

**Atmospheric Science and Land-Use/Cover Change
July 23rd, 2019**

**9:00-10:20 Session-1. Emission Inventories and Modeling of Air pollutants
Chair: Toshimasa Ohara (NIES, Japan)**

- 9:00 Historical Analysis and Inverse Modeling of Air Pollutant Emissions in Asia – Toshimasa Ohara – Toshimasa Ohara (National Institute Of Environmental Studies, Japan)
- 9:20 Estimates of Greenhouse Gas Emissions Associated With Food Production in South And Southeast Asia – Atul Jain (University of Illinois at Urbana Champaign, USA)
- 9:40 Evaluation of Methane Emission Status From Tropical Rice Paddies With Optical and SAR Imagery and Validation Scheme Using GHG Observation Data – Hiranori Arai (The University of Tokyo, Riken, Japan)
- 10:00 Mapping the Health Impact of Atmospheric Pollution in Quezon City, Philippines – Mylene Cayetano (University Of Philippines)

*10:20-10:40
Coffee Break*

**10:40-12:20 Session-1. Continued. Emission Inventories and Modeling of Air Pollutants, SLCP's and GHG's
Chair: Krishna Vadrevu (NASA MSFC, USA)**

- 10:40 Monitoring of Air Pollution From Space by GOSAT, GOSAT-2 and Himawari-8 – Makiko Hashimoto (Japan Aerospace Exploration Agency (JAXA) Japan)
- 11:00 Greenhouse Gas Emissions in Tropical Land Use Gradient – Justin Sentian (Asia Pacific Network (APN) and University Malaysia, Sabah, Malaysia)
- 11:20 Characteristics of PM_{0.1} and Carbon Components in Southern Thailand – Worradorn Phairuan (Prince Songkla University, Thailand)
- 11:40 Emissions Projections of GHG's and Air Pollutants in ASEAN: Toward the Global 2 Degree Centigrade Target– Tatsuya Hanaoka (National Institute of Environmental Studies, Japan)

12:20 – 1:10 Lunch

1:10 – 3:00 Session-2. Biomass Burning Including Aerosols
Chair: Matsunaga Tsuneo (NIES, Japan)

- 1:10 NOAA Fire Products From New Generation Polar and Geostationary Satellite Missions – Ivan Csiszar (NOAA, USA)
- 1:30 Biomass Burning, Air Quality and Land Cover Change in Southeast Asia – Soo Chin Liew (National University of Singapore, Singapore)
- 2:00 Estimation of Global CO₂ Emissions Caused by Biomass Burning Using Satellite Data - Tomohiro Shiraishi and Ryuichi Hirata (National Institute of Environmental Studies, Japan)
- 2:20 Trends in Vegetation Fires in South/Southeast Asia - Krishna Vadrevu (NASA Marshall Space Flight Center, USA)
- 2:30 Different peat depth and ground water level influence on the potential Greenhouse gas emission release during peat fires – Bambang Saharjo (IPB University, Indonesia)
- 2:40 A High-Resolution and Multi-Year Emission Inventory From Biomass Burning in Tropical Continents During 2001-2017 – Yusheng Shi (Chinese Academy of Sciences, China)

3:00 – 5:10 Session-2. Continued. Biomass Burning Including Aerosols
Chair: Hwee San Lim (Universiti Sains, Malaysia)

- 3:00 Atmospheric Aerosols and Their Driving Factors/Meteorology in South Asia: The Case of Dust Storms – Dimitris Kaskaoutis (Institute of Environmental Research and Sustainable Development, National Observatory of Athens, Greece)
- 3:20– 3:50
Coffee Break
- 3:50 Atmospheric Aerosol Studies in Malaysia – Known and Unknown – Kasturi Kanniah (University Technology, Malaysia)
- 4.10 Climate And Human-Induced Biomass Burning in Indonesia With Aerosol Emission Characteristics – Edvin Aldrian (Agency For Assessment and Application of Technology (BPPT), Indonesia)
- 4:30 Aerosol-PBL Interactions During the Profiling With Lidar and UAV Multi-Scale Experiment (PLUME)– Ronald Macatangay (NARIT, Thailand)
- 4:50 Characteristics of Light Absorbing Carbonaceous Aerosols in Southeast Asia - Max Gerrit Adam (National University of Singapore, Singapore)

5:10 – 5:40 - Session-3. Panel Discussion – Atmospheric Research Needs and Priorities

Chairs: Matsunaga Tsuneo (NIES, Japan) and Krishna Vadrevu (NASA MSFC, USA)

Rapporteur – Kasturi Kanniah (UTM)

Panel members: TBD

5:40 Adjourn

Remote Sensing and Agricultural Land Use
July 23th, 2019

9:00-12:20 Session-1. Agricultural Land-Use Change and Geoinformatics Chair: Chris Justice (UMD, USA)
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- 9.00 GEOGLAM – Chris Justice (University of Maryland, College Park, USA)

- 9.20 Is Precision Agriculture the Game Changer in Malaysia? - Siva Balasundaram (Universiti Putra Malaysia).

- 9.40 Very High Resolution Mapping and Modeling of Agricultural Land-Cover/Land-Use Change in An Giang and Dong Thap, Viet Nam – Jessica McCarty (Miami University, Ohio, USA)

- 10.00 Changing Agricultural Land-Use Patterns and the Drivers of These Changes in Vietnam’s Red River Delta - Stephen Leisz (Colorado State University, USA) and Nghiem Thi Phuong Tuyen (Vietnam National University, Vietnam)

10.20-11:00
Coffee Break

- 11:20 Geo-Informatics for Agricultural 5M’s - Monitoring, Measuring, Mapping, Modelling, and Managing – Pakorn Petchprayoon (GISTDA, Thailand)

- 11:40 Water-Energy-Food Nexus in Mekong Countries – Jaguo Qi (Michigan State University, USA)

- 12:00 Disentangling Facets of Food Insecurity in Economically Depressed Regions of India – Aditya Singh (University of Florida, USA)

12.20 – 1:10 *Lunch*

1:10-2:50 Session-2. Rice Mapping And Monitoring In Asia Chair: Nguyen Lam Dao (VNSC, Vietnam)

- 1:10 Regional Rice Monitoring in South East Asia Using Sentinel-1 Data: The GEORICE Project – Thuy Le Toan (CESBIO, France)

- 1:30 Rice Monitoring in Vietnam and 2019 CEOS Chair Initiative– Nguyen Lam Dao (VNSC, Vietnam)

- 1:50 Mapping Paddy Rice Agriculture in Monsoon Asia – Jinwei Dong (Chinese Academy of Sciences, China)
- 2:10 Paddy Fields Area Classification Using Multi-Temporal Sentinel-1 Data (Case Study Subang, West Java) – Kustiyo (LAPAN, Indonesia)
- 2:30 Holistic Approach for Assessing Tropical Cyclone Damage on Rice Crop: The Case Of Cyclone Titli in Srikakulam District, Andhra Pradesh, India –Emma Quicho (International Rice Research Institute, Philippines)

2:50-5:00 Session-3. Modeling and Decision Support Systems
 Chair: Tri Setiyono (IRRI, Philippines)

- 2:50 The Crop Monitor – Christina Justice (NASA HARVEST, UMD)
- 3:10 An Overview of Remote Sensing Applications for Agricultural Mapping and Monitoring in Malaysia – Helmi Z.M. Shafri (University Putra, Malaysia)
- 3:30-4:00
Coffee Break
- 4:00 Wheat Yield Mapping and Prediction: Empirical to Simulation Modeling Using Satellite Remote Sensing- Vinay Sehgal (Indian Agricultural Research Institute, India)
- 4:20 Agricultural Drought Impacts of The 2019 El Nino in the Philippines – Gay Jane Perez (University of the Philippines, Diliman – Philippines)
- 4:40 Drought, Irrigation and Food Security in the Lower Mekong Basin – Sridhar Venkataramana (Virginia Tech, USA)

5:00 – 5:30 - Session-4. Panel Discussion – Agricultural Research Needs And Priorities
 Chair: Chris Justice (UMD, USA)

5:30 *Adjourn*
