10:45-11:00 Opening Session
Organizers

11:00-12:00 Keynote Speech, chaired by Stanley Anak Suab
Integrating GIS, Field Instrumentation and In-Situ Observation for Volcanic Disaster Studies
Sandy Budi Wibowo

12:00-12:30 Break

12:30-13:45 SS05: Assessing the Resilience and Its Application to the Ecosystem Management in Forest Landscape (part 1), chaired by Chihiro Haga, Wataru Hotta, and Junko Morimoto
Introduction of SS05
Chihiro Haga

Exploring Interactions between Vegetation, Fire, and Climate Change across a Latitudinal Gradient in Siberia
Neil Williams, Melissa Lucash

The 30 years' Impacts of Wind Disturbance and Management Approaches on Forest Structure Recovery in Hemi-boreal Forests, Hokkaido
Jing Li, Junko Morimoto, Satoshi N. Suzuki, Toshiaki Owari, Takao Nakane

What are Robust Post-Windthrow Managements for Forest Recovery under the Future Climate Change?
Chihiro Haga, Wataru Hotta, Takahiro Inoue, Takanori Matsui, Masahiro Aiba, Toshiaki Owari, Satoshi N. Suzuki, Yoshihiko Mishima, Junko Morimoto, Hideaki Shibata

13:45-14:00 Break

14:00-15:15 SS05: Assessing the Resilience and Its Application to the Ecosystem Management in Forest Landscape (part 2)

What is the Optimal Post-Windthrow Management to Constitute Higher Resilient Forest Landscape?: Focusing on Tree Species Composition and Carbon Balance
Wataru Hotta, Junko Morimoto, Chihiro Haga, Satoshi N. Suzuki, Takahiro Inoue, Takanori Matsui, Toshiaki Owari, Hideaki Shibata, Futoshi Nakamura

Deer Overbrowsing and Its Impact on Tree Communities: Insights from Long-Term Forest Dynamics and Deer Exclusion Experiment in the Ashiu Research Forest
Kohmei Kadowaki, and Masae Ishihara

12:30-14:00 SS11: Stakeholder Engagement in Land System Science (part 1), chaired by Yu-Pin Lin, Li-pei Peng, Wan-Yu Lien, and Hao-Wei Chiu

Estimation of Sediment Yield in Reservoir Watershed Based on Conceptual Model
Yung-Chau Chen, Shao-Wei Wu, Pei-Ying Shieh, Chao-Yuan Lin

Application of Risk Analysis in the Screening of Flood Disaster Hot Spots and Adaptation Strategies
ErChiang Huang, PeiWen Li, ChaoYuan Lin

Applying Conceptual Model to Optimize Groundwater Recharge Hotspots and Estimate the Recharge Amount to Alleviate Land Subsidence
PeiWen Li, ErChiang Huang, ChaoYuan Lin

Circular Economy Co-Created by Multiple Stakeholders: A Case of Grouper Farming in Taiwan
Hsiu-Mei Huang, Li-Pei Peng

14:00-14:15 Break

14:15-15:45 SS11: Stakeholder Engagement in Land System Science (part 2)

Research on the Promotion of Autonomous Disaster Prevention Communities Based on Risk Assessment
Li-Sheng Kuo, Jing-Yao Lin, Chao-Yuan Lin

Establishment of Sediment Disaster Assessment Model and Resilience Improvement Strategies in a Reservoir Watershed
Yung-Chau Chen, Yu-Chin Chen, Chao-Yuan Lin
Day 1 continued (Tuesday, 14th September)

Study of Forest Encroachment through Forest and Non-Forest Cover Change Analysis and Its Impact on Ecology in the Chure Hills, West Nepal
Motilal Ghimire, Santosh Nepal, Gokarna Jung Thapa, Rajan Regmi, Ashok Raut, Liladhare Sapkota, Suress Balayer, Monika Ghimire

Overall Discussion
Chihiro Haga, Wataru Hotta, Junko Morimoto

15:15-15:30 Break

15:30-17:00 SS14: Linking Environmental Sustainability to Local Economy: Challenges and Opportunities in Tropical Forests for Addressing Climate Change, chaired by Heli Lu and Kazuhiro Harada
Assessing Forest Dynamics towards REDD+ over Space and Time: Case Studies on Shifting Cultivation in Upland Myanmar
Siqi Lu, Chuanrong Zhang, Kazuhiro Harada, Heli Lu
Agroforestry of Arabica Coffee as an Alternative Local Livelihood to Reduce Impacts of Forest Encroachment in Kerinci Seblat National Park, Indonesia
Muhammad Habib, Kazuhiro Harada
Stocktaking of REDD+ Readiness in India and Nepal
Nabin Bhattarai, Michael Richards, Bhaskar Singh Karky, Rajesh Bahadur Thapa, Teiji Watanabe, Ram Avtar

15:45-16:00 Break

16:00-17:30 SS07: Geospatial Data for Terrestrial Ecosystem Monitoring, chaired by Ram Avtar, Yunus P. Ali and Prakhar Misra
Solar Panel Index (SPI) for Monitoring of Solar Farm Expansion in India
Hitesh Supe, Ram Avtar
Gully Erosion Susceptibility and Volume Estimation Using TanDEM-X SAR and Machine Learning Model for Chambal Ravine of India
Raveena Raj, Ram Avtar, Yunush Ali Pulpadan
Geospatial Techniques to Monitor Post-Typhoon Forest Damage
Ram Avtar, Xinyu Chen
Comparison of RGB and Multispectral Unmanned Aerial Vehicle for Landslide Characterization
Flavio Furukawa, Lauretta Andrew Laneng, Hiroaki Ando, Nobuhiko Yoshimura, Masami Kaneko, Junko Morimoto

Day 2 (Wednesday, 15th September)

11:00-12:00 Keynote Speech chaired by Atupelye W. Komba
Integration of Global and Local Activities in Urban Expansion and Heat Island
Yu-Pin Lin

12:00-12:30 Break

12:30-13:45 SS08: Rethinking and Rejuvenating Urban Spaces along Sustainability Practice in Asia, chaired by Ram Avtar, Hari Charan Behera and Netranand Sahu
Socio-Hydrological Approach to Address Water Resource Management and Human Well-Being in Sundarban Region from India and Bangladesh
Pankaj Kumar, Ram Avtar

Preparing Virtual Field Excursion
Teiji Watanabe, Liang Chang, Ting Wang, Shirou Xiang
Field-Course Education in Mountain Fields under COVID-19 Pandemic: On-Line Course, On-Site Course, and Digital Contents
Tanaka Kenta, Fumie Yamanaka, Yousuke Degawa
### Room 1

**14:00-15:30 SS06: Opportunities and Challenges of Land Use/Cover Mapping in the New Remote Sensing Era (part 1)**, chaired by Jinwei Dong, Teiji Watanabe, Wenbin Wu and Xuezhen Zhang

**Long-Term Dynamic Changes in Land Use/Land Cover across Mainland Vietnam**  
Duong Cao Phan, Kenlo Nishida Nasahara  

**Mapping Characteristics of Habitat Disturbance in Tanzania Using Time-Series Landsat Images and Google Earth Engine**  
Atupelye Komba, Teiji Watanabe

**Vegetation Cover Change and Climate Effect in the Yangtze River Economic Belt**  
Xuezhen Zhang, Haonan Cui

**Rapid Surface Water Expansion due to Increasing Artificial Reservoirs and Aquaculture Ponds in North China Plain**  
Yan Zhou

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**14:00-15:30 SS13: Land Resource Planning and Management in Rural Area**, chaired by Chen-Fa Wu and Szu-Hung “Vickey” Chen

**Terrestrial Reptiles in Agricultural Landscape: Assessing Effects of Landscape Structure and Human Interference**  
Szu-Hung Chen, Chen-Fa Wu, Tien-Shui Chen, Te-En Lin, Jung-Hua Lai

**A Preliminary Study on the Strategic Planning of Rural Rejuvenation**  
Pei-Ying Shieh, Yung-Chau Chen, Chao-Yuan Lin

**Mapping Small-Holders Oil Palm, Rubber and Acacia Mangium Plantation Using a Low-Cost UAV System and Open-Source Software**  
Stanley Anak Suab, Albertus Stephanus Louw, Ram Avtar

**A Novel Integrated Approach to Simulate Impacts of Different Farmland Management Strategies on Habitat Quality**  
Chen-Fa Wu, Luu Van Thong Trac, Hsi-Chih Huang, Szu-Hung Chen

| 15:30-15:45 Break |

### Room 2

**14:00-15:30 SS13: Land Resource Planning and Management in Rural Area**, chaired by Chen-Fa Wu and Szu-Hung “Vickey” Chen

**Groundwater Vulnerability Assessment Using DRASTIC and Modified-DRASTIC Methods from Drinking and Agricultural Perspectives in a Part of Northwestern India**  
Lakhvinder Kaur

**Hydropower-Climate-Biodiversity-Community Nexus in Socio-Ecological Production Landscapes of Kinnaur Himalaya, India**  
Himangana Gupta

**Seasonal and Spatial Compensations Mitigated the Effects of Typhoons on Maize in Northeast China in 2020**  
Qiang Zhang

**Integrating Remote Sensing and Big Geo-Data for Urban Land Use Mapping**  
Jiadi Yin

| 13:45-14:00 Break |

**15:45-17:45 SS06: Opportunities and Challenges of Land Use/Cover Mapping in the New Remote Sensing Era (part 2)**

**Mapping Examining Rice Distribution and Cropping Intensity in a Mixed Single- and Double-Cropping Region in South China Using All Available Sentinel 1/2 Images**  
Yingli He

**An Investigation into Community’s Affinity with Tokachi-Shikaoi Geopark, Japan**  
Liang Chang, Teiji Watanabe, Shirou Xiang, Ting Wang

**Morphological Changes and Drainage Network Development after Coseismic Landslides: A Case Study in Hokkaido Eastern Iburi Region**  
Tennyson Lap Wing Lo, Yuichi S. Hayakawa, Yasutaka Nakata, Masato Hayamizu

**Site Sustainability of the Unmanaged Campsites in Daisetsuzan National Park, Japan: An Analysis Based on Areal Camping Impacts and Use Level of the Sites**  
Ting Wang, Teiji Watanabe
Day 3 (Thursday, 16th September)

10:00-11:00 Keynote Speech, chaired by Yujie ‘Cherry’ Sun
GIS to Contribute to the Achievement of the SDGs
Masami Kaneko

11:00-11:15 Break

11:15-12:45 SS03: Glacier and Permafrost Hazards (Part 1), chaired by Dhananjay Regmi, Mohan Chand, Teiji Watanabe
Recent Glacier-Related Flood Events in High Mountain Environments
Alton C. Byers
Glacial Lake Outburst Floods (GLOFs) Modelling of Thulagi and Lower Barun Glacial Lakes of Nepalese Himalaya
Sunwi Maskey, Rijan Bhakta Kayastha, Rakesh Kayastha
Glacier Hazards and Tourism in Nepalese Himalaya
Dhananjay Regmi, Kabindra Bhatta, Sitaram Dahal, Bhabana Thapa
Inundation Mapping and Identification of Emergency Evacuation Routes in Seti River Basin, Nepal
Bhabana Thapa, Teiji Watanabe, Dhananjay Regmi

12:45-13:00 Break

13:00-14:15 SS03: Glacier and Permafrost Hazards (Part 2)
Hazards Experienced in the Glacial and Periglacial Environments in Nepal
Narendra Raj Khanal
Rock Glacier Inventory, Permafrost Probability Distribution Modeling and Associated Hazards in the Hunza River Basin, Western Karakoram, Pakistan
Javed Hassan, Xiaoping Chen, Sher Muhammad, Nazir Ahmed Bazai

Day 2 continued (Wednesday, 15th September)

Room 1

The Rapid Rise of Integrated Rice-Crawfish Farming in China Has Improved Farm Incomes but Involves Environmental Risks
Yanbing Wei, Daniel Müller, Zhanli Sun, Miao Lu, Wenbin Wu

Index-Based Land Use/Land Cover Classification Using a Memory-Efficient Clustering Algorithm
Armstrong Ngolo, Teiji Watanabe

Room 2

11:15-12:30 SS02: Connecting the Dots: Pathways to Integrated Disaster Risk Management and Sustainability, chaired by Amit Kumar Batar and Wahid Ullah
Forest Fire Susceptibility Assessment in the Middle Mountains, Far West Nepal using Analytical Hierarchy Process
Niroj Timalsina, Motilal Ghimire, Kumod Lekhak
Perceived Risks and Barriers in Climate Change Adaptation in Pakistan: A Case Study of Khyber Pakhtunkhwa Province
Wahid Ullah, Ashfaq Ahmad Shah, Syed Irshad Ali Shah
Water-Related Disasters in Asia-Pacific: Challenges and Opportunities
Amit Kumar Batar

12:30-12:45 Break

12:45-14:00 General Session 01 (GS01): Advances in Biosphere Research toward Sustainability under Changing Environments, chaired by Hideaki Shibata and Masae Ishihara
Harnessing Insights from Community-Based Landscape Resilience Assessment for Inducing Sustainability in the Gurage Social-Ecological Landscape in Ethiopia
Mesfin S. Achemo, Osamu Saito
Application of Fuzzy Evaluation Method to Study Farmland Habitat Suitability of Bird
Jung-Hua Lai, Luu Van Thong Trac, Chen-Fa Wu, Szu-Hung Chen, Tien-Shui Chen
Day 3 continued (Thursday, 16th September)

Reconstructing the History of Glacial Lake Outburst Floods (GLOFs) in Nepal
Mohan B. Chand, Teiji Watanabe, Alton C. Byers

General Discussion

14:15-14:30 Break

14:30-16:00 SS10: Outreach and Education of Geography, Hazards, and Disasters, chaired by Yuichi S. Hayakawa and Takuro Ogura

Utilization of High-Definition Topographic Data for Developing Multi-Scale Spatial-Temporal Cognition of Local Environments
Takuro Ogura, Yuichi S. Hayakawa, Hiroyuki Yamauchi, Yasuhiko Tamura, Tatsuto Aoki

Promoting Geographical Thinking Using 3D High-Definition Topographic Data and Handicraft Cardboard Models
Yuichi S. Hayakawa, Takuro Ogura

Effects of 3D Printed Terrain Models and VR Applications on Geography Education
Hiroyuki Yamauchi, Takashi Oguchi, Yuichi S. Hayakawa, Takuro Ogura

Application of High-Resolution Topographic Data for Mountain Trail Management
Yusuke Kobayashi, Teiji Watanabe

Day 4 (Friday, 17th September)

10:00-12:00 Training Session (TS01): Hands-on-Training Session on Extraction of Building Phenotype Using Google Earth Engine
Prakhar Misra, Ram Avtar

12:00-12:30 Break

12:30-13:30 Virtual Field Excursion
Teiji Watanabe, Liang Chang, Ting Wang, Shirou Xiang

13:30-13:45 Break

13:45-14:15 Closing Session
Organizers

Spatiotemporal Image Fusion of UAV Multispectral and Satellite Imagery in Monitoring Crop
Juan Xiao, Ram Avtar

14:00-14:15 Break

14:15-15:30 SS15: Human-nature linkages in the High Asian Mountains (Part 1), chaired by Jiho Han and Kazuyuki Watanabe

Literature Review of Research Development on Nepal’s Tourism
Hanlin Xu, Jiho Han

Role of Socio-Hydrological Relationships in Sustainable Development Planning of Cold Desert Mountainous Region: Case of Ladakh, India
Tusharkanti Kumar, Izuru Saizen

Mountain Tourism, Environment, and Disasters in Khumbu, Nepal: From a Village’s Perspective
Fukachi Furukawa

15:30-15:45 Break

15:45-17:00 SS15: Human-nature linkages in the High Asian Mountains (Part 2)

Changes in Agro-Pastoralism and Settlements by Progress of Tourism Development in Khumbu-Himal, Eastern Nepal
Shigeru Shirasaka, Teiji Watanabe, Ji-ho Han, Yujie Sun

Livestock and Tourism: Preliminary Report about Use of Pack Animals in Case of Nepalese Trekking Route
Kazuyuki Watanabe

Tourism-Led Land Use and Firewood Consumption Transformation in Nepal Himalaya: A Case Study of Sagarmatha National Park and Buffer Zone
Yujie Sun, Teiji Watanabe