



Room 1

Room 2

Day 1 (14th September)

**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, Yoshio  
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

## Room 1

## Room 2

### 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, Liladhar Sapkota, Suresh 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

The Views of Show Cave Managers on Conservation Methods Considering from the Results of Knowledge Questionnaire Survey Originated from Human Impact Studies

Kanato Ando

Stakeholder Engagement on Land Use Change Simulation

Yu-Pin Lin, Wan-Yu Lien, Chen-Jia Huang

*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, Laretta 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

**12:15-13:45 SS16: Education towards Land System Science Using Digital Contents, chaired by Hideaki Shibata and Masae Ishihara**

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

## Day 2 continued (Wednesday, 15th September)

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

*13:45-14:00 Break*

**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

*15:30-15:45 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

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

Multi-Time Scale Environmental Education Using Forest Image Archives since 1995 from the Cyberforest Project  
Kazuhiko W. Nakamura

Challenge to Use Online Digital Contents for Virtual Education on Forest Ecosystem and Biodiversity in Japan LTER Sites  
Hideaki Shibata, Masae Ishihara

*13:45-14:00 Break*

**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*

**15:45-17:00 General Session 02 (GS02): Studies on Abiotic Sphere for Sustainability, chaired by Nobuhiko Yoshimura, Liang Chang and Teiji Watanabe**

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 2 continued (Wednesday, 15th September)

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

## 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, Xiaoqing Chen, Sher Muhammad, Nazir Ahmed Bazai

**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

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

## 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