



Session Descriptions of All Division 8 Meeting

5. Invasive Species and Forest Ecosystems under Changing Climate: Ecological, Economic and Social Impacts

Organizers: Daizy R. Batish (Panjab University, Chandigarh, India) and Shibu Jose (University of Missouri, USA)

Format: Oral presentations and posters

The main focus of the session is to highlight the impact of changing climate on the invasive species of forest ecosystems and their ecological, economic and social impacts.

24. Operational methods for monitoring and assessment of forest landscapes

Organizers: Peter Vogt (European Commission) & Sandra Luque (IRSTEA, France)

Format: Oral presentations and posters

This session will focus on generic land cover analysis schemes for the adequate assessment of landscape dynamics induced by climate change and increased human pressure.

33. Advancing on ecohydrological processes and watershed management

Organizers: Shirong Liu (Chinese Academy of Forestry, China), Adam Wei (British Columbia University, Canada), Ge Sun (USDA Forest Service, USA) and Kevin Bishop (University of Uppsala, Sweden)

Format: Oral presentations and posters

This session will explore ecohydrological processes and responses to accelerated environmental and forest changes for the development of adaptive and mitigating strategies ensuring the continued security of water supplies and ecological values. The session will provide a forum for experts specialising in forest hydrology, ecohydrology, geomorphology, watershed management and climate change in forested environments around the world to share research progress, exchange ideas, and develop international research collaborations.

42. Forest biodiversity and resilience under changing environmental conditions

Organizers: Anne Oxborough (Edge Hill University, UK) & Kimiko Okabe (Forestry and Forest Products Research Institute, Japan)

Format: Oral presentations and posters

This session will explore the relationship between forest biodiversity, ecosystem functioning and

resilience in the context of supporting forest management for silviculture and conservation. This session will include perspectives from a range of taxon groups, spatial scales and forest ecosystems across the globe, which have varying management challenges.

43. Managing invertebrate diversity for forest function and resilience

Organizers: Anne Oxborough (Edge Hill University, UK) & Kimiko Okabe (Forestry and Forest Products Research Institute, Japan)

Format: Oral presentations and posters

Most research exploring the relationships between forest biodiversity and ecosystem function has focused on forest structure, plant communities or those of mammals or birds. Less research has been carried out on invertebrates, which often require greater taxonomic expertise. This session will begin bridging this knowledge gap by focusing on forest invertebrates across the range of spatial scales that are relevant to them.

46. Wind disturbance and forest sustainability under a changing climate

Organizers: Dr. Barry Gardiner (INRA, France); Dr. John Moore (SCION, New Zealand); Prof. Stephen Mitchell (University of British Columbia, Canada)

Format: Oral presentations and posters

This session will focus on understanding the crucial role of wind disturbance in forest dynamics and how this will change in a changing climate. The focus will then shift to the predictive tools for calculating wind risk and how such tools can be used to plan sustainable forests. Session themes include: wind as a natural disturbance agent in forests; effect of forest dynamics on forest succession; current and future levels of wind disturbance in different forest ecosystems; incorporating wind disturbance in landscape modelling; and mitigating the impacts of wind damage in sustainable forest management.

48. Social dimension of wildlife conservation and management

Organizers: Maciej Skorupski (University of Life Sciences in Poznań, Poland), Adrian Łukowski (University of Life Sciences in Poznań, Poland) & Michał Zasada (Warsaw University of Life Sciences, Poland)

Format: Oral presentations only

This session will focus on the social (human) dimensions of wildlife conservation and management. The strong effect of humans on wildlife management motivates managers to consider social structure (individuals, groups, institutions etc.) and cultural system (how humans value wildlife). The scope of social dimension of wildlife conservation and management is very wide; therefore we hope that this conference will be an excellent platform for sharing findings in this area.

53. Response of forest ecosystems to climate change: Results from experimental manipulations

Organizers: Andreas Schindlbacher (Forest Research Centre, Austria) & Hui Wang (Chinese

Academy of Forestry)

Format: Oral presentations and posters

This session will focus on advances in experimental climate manipulations (temperature, precipitation, humidity, CO₂) and ecosystem research in forest ecosystems.

56. Using tree rings to study events and morphological changes: relevance, methods and recent advances in dendrogeomorphic research

Organizers: Christophe CORONA (GEOLAB) & Jérôme LOPEZ-SAEZ (IRSTEA)

Format: Oral presentations and posters

Dendrogeomorphology offers a particularly interesting component to historical and geomorphic approaches focusing on natural hazards and risks. The session will explore the potential of using tree rings to study events and morphological changes and processes in mountainous regions. It will focus on recent advances and methods in dendrogeomorphic research and dendrogeomorphology.

57. The concept of insurance value of risk disaster reduction/mitigation as a forest ecosystems service - how to use this concept, which methodologies and tools for providing the economical evaluation of risk reduction nature based solutions?

Organizers: Frédéric Berger (IRSTEA, France), Marc Hanewinkel (Switzerland)

Format: Oral presentations

This session will focus on the concept of insurance value of forest ecosystems particularly in mountainous regions. The session will explore the current concepts, methodologies and tools used for economic evaluation and operationalization of risk mitigation nature based solutions.

58. Remote sensing and modelling tools for hazard mapping and risk management

Organizers: Jean-Matthieu Monnet (IRSTEA, France), Markus Hollaus (Technical University of Munich), Frédéric Berger (IRSTEA, France), Luuk KA Dorren (Switzerland)

Format: Oral presentations and posters

This session will focus on the integration of forest remote sensing data into hazard mapping and risk management, from scientific-oriented contributions to more technical examples of operational implementations. The focus will then shift to the development and uses of 3D process based models, integrating trees and forest stands effects on natural hazard dynamics, for protection forest zoning and risk prevention in mountainous regions.

66. Enhancing connections between forest ecology and management

Organizers: Dan Binkley, Mark Adams, Todd Fredricksen, Jean-Paul Laclau, Harri Mäkinen, Cindy Prescott

Format: Oral presentations

The ecology of forests is the foundation for all forest dynamics and management. Advances in the science of forest ecology provide insights into forest changes, and support more successful management operations. The practice of managing forests can also provide reciprocal insights in the ecology of forests, especially for regional-scale issues that span diverse conditions. This

session will focus on explicit ways that ecological science benefits management, and also on how operational management can lead to improved understanding of the ecology of forests.

79. Designing Forest Ecosystem Services Programs: Institutions to Support Sustainable Forests and Communities

Organizers: William Nikolakis and John Innes (University of British Columbia, Canada)

Format: Oral presentations only

The purpose of this session is to draw on empirical research that evaluates the performance of forest ecosystem services (FES) programs. The emphasis is on inter-disciplinary perspectives that are instructive for the design of institutional and governance approaches to support FES.

81. Old-growth forests in a changing world: Relict of the past or ecosystem service generator for the future?

Organizers: William S. Keeton (University of Vermont, U.S.A); Sabina Burrascano (University of Rome – La Sapienza, Italy); Miroslav Svoboda (Czech University of Life Science, Czech Republic); Frederik Doyon (University of Québec en Outaouais, Canada); and Grant Wardell-Johnson (Curtin University, Australia)

Format: Oral presentations and posters

This session will explore the question of resilience of old growth forests in the face of global changes, the effects of altered disturbance regimes on the provision of ecosystems services and how can forest management be adapted to enhance these. The session will bring together top researchers in the fields of disturbance and successional ecology, old-growth forest science, and ecologically-based silviculture from around the world.

90. Nutrient Dynamics in Forest Soils: The Foundation of Sustainable Forest Environments

Organizers: Thomas Fox (Virginia Tech, USA), Peter Clinton (SCION, New Zealand), Liisa Ukonmaanaho (Natural Resources Institute of Finland), Liu Shirong (Chinese Academy of Forestry); Hailong Wang (Zhejiang A & F University, China)

Format: Oral presentations and posters

Forest soils influence ecosystem properties including nutrient availability and cycling which determine forest composition, site quality, and response to silvicultural manipulations. This session will include invited oral presentations, volunteer oral presentations and volunteer poster presentations on nutrient dynamics in forest soils. The session will address the fundamental processes in forest soils that determine sustainable productivity of forests in changing environments.

92. From East to West: Managing Ecosystem Services in Mountain Forests Around the World

Organizers: Alexia Stokes (INRA, Montpellier, France), Frédéric Berger (IRSTEA Grenoble, France), Zhun Mao (INRA, Montpellier, France)

Format: Oral presentations and posters

Today, mountain forests must provide several ecosystem services to efficiently offset extreme climatic and anthropogenic events. In this session, forest managers from East to West will

exchange on and discuss the management of ecosystem services provided by mountain forests. The session will focus on the conflicts and synergies between services and the development of tools for predicting interactions. Similarities and disparities will be identified in a variety of problems in both eastern and western contexts, and solutions adapted to different scales of time and space will be shared.

93. Forest carbon sequestration

Organizers: Hailong Wang (Zhejiang A & F University, China), Guomo Zhou, Thomas Fox, Nuyun Li.

Format: Oral presentations and posters

Forest carbon sequestration is currently an important way to respond to climate change. The spatial and temporal dynamics of deforestation, forest degradation, afforestation, and reforestation are complex, and there is a need to accurately document these changes in order to fully understand the carbon cycle of forest ecosystems and their roles in climate change. This session includes but is not limited to (1) Carbon cycle in forest ecosystems (2) Methods for forest biomass estimation (3) Forest carbon trading.

95. Nature-based solutions to climate change mitigation and adaptation

Organizer: Xiaoquan ZHANG, Scott Bearer (The Nature Conservancy); Yongsheng LEI (Lao Niu Foundation), Quansheng ZHAO(Hesheng Ecological Silviculture Co., Ltd.

Format: Oral presentations and posters

This session will focus on exploring ways on how nature can cost-effectively provide solutions to both mitigation and adaptation of climate change for wildlife, freshwater, rural community and city

96. Dynamics of radiocesium and its influence on forest ecosystem and forestry -- the future direction

Organizers: Shinji Kaneko and Satoru Miura (Forestry and Forest Products Research Institute, Japan)

Format: Oral presentations and posters

This session will focus on radiocesium contamination in the forest ecosystem. After the Fukushima nuclear power plant accident, a lot of studies have been done for radioactive contamination in the off-site of the power plant. Hence, we will share the achievements of researches for monitoring, behavior, mechanisms modeling as for radiocesium in the forest ecosystems. This will bring the future direction of the research for radioactive contamination in forests, forest products and forestry.

110. Co-existence of human and wildlife in changing landscapes and climate

Organizers: Chabi Djagoun (University of Abomey-Calavi, Benin), Hugues Akpona (National Forest Office, Benin, African Wildlife Foundation, DRC), Edward Wiafe (Presbyterian University College Environmental and Natural Resources Management, Ghana)

Format: Oral and poster presentations

A key question to be addressed is under what conditions coexistence between humans and wildlife

is still possible in the twenty-first century, as population and resource pressures and climate change become ever more intense. The section will further look at the efforts to reduce human wildlife conflict (HWC) but harmonize peaceful co-existence between human and wildlife as well as policy implications.