

CGU_H_04: Impacts of forest disturbances and climate change on watershed hydrology and biogeochemistry

Conveners: Qiang Li¹, M. Altaf Arain², Michael Pisaric³, Fan-Rui Meng⁴, Adam Xiaohua Wei⁵

Co-chairs: Qiang Li¹, M. Altaf Arain², Michael Pisaric³, Fan-Rui Meng⁴

¹Department of Earth Environmental and Geographic Sciences, University of British Columbia, Okanagan campus, Kelowna, BC, V1V 1V7, Phone: 250-807-8779, E-mail: qiang.li@ubc.ca or liqiang1205@gmail.com

²School of Geography and Earth Sciences and McMaster Centre for Climate Change, McMaster University, Hamilton, ON, Canada; Email: arainm@mcmaster.ca

³Department of Geography, Brock University, St. Catharine, ON, Canada, Email: mpisaric@brocku.ca

⁴Faculty of Forestry and Environmental Management, University of New Brunswick, Fredericton, NB, E3B 5A3 Phone: 506-453-4921, E-mail: fmeng@unb.ca

⁵Department of Earth Environmental and Geographic Sciences, University of British Columbia, Okanagan campus, Kelowna, BC, V1V 1V7, Phone: 250-807-8779, E-mail: adam.wei@ubc.ca

Session Description

In forested watersheds, changes in forest cover due to natural and anthropogenic disturbances such as wildfire, insect infestation, thinning, harvesting, planting, and urbanization are considered as the most important drivers for biogeochemical and hydrological processes. Future climate change and extreme events such as droughts, flooding and heatwaves are also expected to exert major influences on forest ecosystems through altering rates of growth, evapotranspiration, runoff, catchment-scale water balance, soil-plant nutrient cycling and associated feedbacks. Understanding how these drivers influence forest growth and hydrological processes are pivotal for sustainable management of forest ecosystems and water resources. This session focuses on the effects of natural and anthropogenic disturbances and land cover change on biogeochemical and hydrological cycles in forested watersheds. We encourage submissions that employ field observation, statistical analysis, and hydrological and ecosystem modelling. We welcome contributions from researchers involved in large network projects such as Global Water Futures Program (GWF). All accepted abstracts will have the opportunity to submit a research paper in a special issue in *Forests* (http://www.mdpi.com/journal/forests/special_issues/Hydrology_Watershed).

Primary Affiliation: Hydrology, Biogeosciences

Joint Session Submission: none